

December 18, 2017

Project No. 1788882

Mr. Shane Fenton
Reserve Properties Ltd.
110 Eglinton Avenue East, Suite 500
Toronto, Ontario
M4P 2Y1

**GEOTECHNICAL EVALUATION
BRANT STREET AND JOHN STREET
BURLINGTON, ONTARIO**

Dear Mr. Fenton,

Golder Associates Ltd. (Golder) was requested by Reserve Properties Ltd. (Reserve) to provide a geotechnical assessment of the property located at Brant Street and John Street in Burlington, Ontario (the Site) as shown on the Key Plan, Figure 1. The evaluation was requested to support the feasibility of the proposed development concept in the planning process that is currently underway. This letter provides our comments and recommendations based on currently available data which includes published data, data provided by Reserve and our experience locally. This study was carried out at the request of Mr. Shane Fenton of Reserve.

This report provides the results of the review of the available background information and should be read in conjunction with the *“Important Information and Limitations of This Report”* (attached). The reader’s attention is specifically drawn to this information, as it is essential for the proper use and interpretation of this report. The factual data, interpretations and recommendations contained in this report pertain to a specific project as described in the report and are not applicable to any other project or site location.

Site and Project Description

The Site consists of a 0.465 acre parcel of land, currently developed with several interconnected two-storey commercial buildings with a total floor area of approximately 35,000 ft². The two-storey buildings are structures with basements and crawl spaces within a commercial neighbourhood located in downtown Burlington. The buildings include 401 to 413 Brant Street, 444 to 450 John Street, and 2012 James Street. The Site buildings occupy the majority of the Site area, with the exception of a paved-driveway located north of 448 John Street, leading to the rear of 403 Brant Street.

Based on the conceptual design drawings provided to Golder and prepared by Graziani Corazza Architects Inc., dated October 12, 2017, the proposed development is a 23 storey residential condominium structure which includes a 4 storey retail/commercial podium that will occupy essentially the entire footprint of the Site. The structure will also have five underground parking levels. Based on a legal survey prepared by R. Avis Surveying Inc., dated November 2, 2017, the existing ground surface elevation across the Site ranges from 85.30 metres above sea level (masl) in the northeast corner to 84.85 masl in the southwest corner and the topography slopes very gently from the northwest towards the southwest.

At present, final design drawings including finished grade elevations are not available, but for the purposes of this geotechnical assessment, Golder has assumed that finished grade will be approximately at elevation 85.00 masl. The top of the fifth level of underground parking ("P5") floor slab is designed to be approximately 16 m below the finished ground surface (or at an assumed elevation of 69.00 masl). It has been assumed that the actual excavation of the P5 parking level building foundation/sub-slab drainage system will be 2 m lower, or approximately 18 m below the finished ground surface (at elevation 67 masl).

Background Information and Available Data

In addition to published reports for the area and our local experience, Golder has completed several reports for this site that were reviewed as part of this assessment. In addition, a geotechnical report was provided for an adjacent property by Reserve. The following are the reports that were reviewed as part of this assessment:

- Golder Report entitled "*Phase II Environmental Site Assessment, Brant Street and James Street, Burlington, Ontario*" project number 1788882, dated November 2017 (Phase II Report).
- Golder Report entitled "*Hydrogeological Assessment, Proposed Residential Development, Brant and James Streets, Burlington, Ontario*" project number 1788882(1000), dated December 1, 2017 (Hydrogeological Report).
- Terra Probe Inc. Report entitled "*Hydrogeological Investigation, 421, 425, 427, 429, 431 Brant Street and 2007,2009, 2011 James Street, Burlington, Ontario*" File number 1-16-0593-46, dated December 1, 2016. (the "Terra Probe Hydrogeology Report").
- Terra Probe Inc. Report entitled "*Geotechnical Engineering Report, 421, 425, 427, 429, 431 Brant Street and 2007, 2009, 2011 James Street, City of Burlington, Ontario*" File number 1-16-0593-01, dated December 1, 2016 (the "Terra Probe Geotechnical Report")

In addition, for the purpose of this evaluation, additional information about the subsurface conditions was obtained from published geological maps and reports, and Golder's experience in the general vicinity of this Site.

Subsurface Conditions

A total of six boreholes were advanced as part of the Phase II Report using the "direct push" method at the locations shown on Figure 1. The majority of the boreholes were advanced through basement floors with only two being advanced from ground surface. In general, the subsurface soils encountered in the boreholes consisted of silty clay over lain by surficial sands or sand and sand and gravel fills. Bedrock was inferred by refusal at depths ranging between about 2.4 and 3.2 m below ground surface. Beyond this data, the description of the subsurface conditions are based on a review of existing available published surficial geology and bedrock geology maps and Golder's previous experience in the area.

Regional Geology

The physiographic region and surficial geology aspects of the general site area are presented in the following publications:

- Ontario Geological Survey 2010, “*Surficial Geology of Southern Ontario; Ontario Geological Survey, Miscellaneous Release – Data 128 – Revised*”; and
- Chapman, L.J. and Putnam, D.F. 2007, “*The Physiography of Southern Ontario*”; Ontario Geological Survey, *Miscellaneous Release – Data 228*”.

Physiographic Regions

According to the above noted references, physiographic mapping indicates that the Site lies within a physiographic region known as the Iroquois Plain. The Iroquois Plain region covers the border of the lake shore extending from the City of Trenton in the east to the city of St. Catharines in the southwest. The Iroquois Plain refers to an area of lowland that borders the present day Lake Ontario which was formed within the basin of Glacial Lake Iroquois which was a larger and higher version of Lake Ontario. Lake Iroquois sediments consist both of granular soils (silt and sand) and finer-grained silt and clay soils. Apart from the naturally deposited soils within the study area, fills such as engineered fills and landscape fills are to be expected within the study area. The overburden within the Iroquois Plain in the vicinity of the study area is underlain by shale bedrock of the Queenston Formation which contains occasional limestone interlayers.

Surficial Geology

Based on the surficial geology mapping, the Site lies within an area of Sand Plains which is generally consistent with the limited soils information obtained on site.

Bedrock

Borehole information in the local area obtained from the Ontario Geological Survey – Ontario Geotechnical Borehole database as well as other reports indicate bedrock being encountered at depths of between 2.7 m and 4.6 m below ground surface. This is generally consistent with the conditions inferred by the Phase II works on site.

The bedrock underlying the site is referred to as the Queenston formation. The bedrock of the Queenston formation consists of a brick red thickly bedded to massive shale of the Ordovician age with occasional limestone layers. The shale is calcareous with harder and more durable shale bands parallel with the bedding and occasionally at right angles.

Based on a Ministry of Transportation and Communications document, Document No. RR229, titled, “*Evaluation of Shales for Construction Projects – An Ontario Shale Rating System*,” dated March 1983, a summary of general parameters for Queenston shales are given on Page 20, Figure 10 and Page 21, Figure 11 as presented below:

Table 1: General Parameters of Queenston Shale (Figure 10/11 pg. 20/21 of RR229)

	Uniaxial Compressive Strength (MPa)	Young’s Modulus (GPa)	Dynamic Modulus (GPa)	Poisson’s Ratio
Average	8.7	1.3	-	0.32
Range	7.2 to 9.6	0.5 to 2.3	-	0.28 to 0.35

Document RR229 also indicated that for the Queenston Shale; *“Typically, as a result of weathering, the upper 2 to 5 metres is characteristically much weaker and less durable than the unweathered rock. Foundations are typically founded in the underlying slightly weathered to fresh bedrock”*

Groundwater Conditions

Golder completed a preliminary assessment of the groundwater conditions on site in our Hydrogeological Report. In that report it was noted that shallow perched groundwater has been observed between elevation 82.76 masl and 83.15 masl however no hydrogeological information has yet been obtained from within the shale bedrock on the Site. A hydrogeological study has been completed for the property located immediately north of the Site across James Street at 421 to 431 Brant Street and 2009 to 2011 James Street, prepared in December, 2016 by Terra Probe Inc. (the “Terra Probe Hydrogeology Report”). This report indicates a groundwater elevation within the shale at the location of about 83.3 masl.

Geotechnical Considerations

General Comments

Based on our discussions with Reserve, we understand that the underside of the slab at the lowest underground parking will be at a depth of about 16 m below existing ground surface and as such we anticipate that the foundations will be founded in sound shale bedrock.

The proposed basements may be designed as “drained” structures, which would not require full waterproofing nor structural resistance to full hydrostatic pressure (i.e. the basement structure would not need to be “tanked”).

Foundations

Based on the preliminary drawings available, the proposed structure may be founded on strip or spread footings in fresh bedrock below the highly weathered zone. Although shallow foundations bearing capacities in Queenston shale can range considerably, the Terra Probe Geotechnical Report prepared for the property located across James Street from the site recommended using a maximum factored geotechnical resistance of 5 MPa at Ultimate Limit States (ULS) and maximum net geotechnical reaction of 4 MPa at Serviceability Limit States (SLS) for an estimated total settlement of 25 mm. We would anticipate that design geotechnical resistances for the proposed development founded on shallow footings constructed on sound Queenston shale at an approximate elevation of about 67 masl would be similar, subject to confirmation by coring the rock at the site.

Excavations and Temporary Support

The excavation for the proposed structure will extend through the shallow overburden and into the shale bedrock. The soils in the vicinity of this site are glacially derived and as such should be expected to contain cobbles and boulders, which could affect the excavation and installation of the temporary shoring.

Given the nature of the subsoils, the presence of adjacent structures/roadways, the assumed groundwater level and depth of excavation (approximately 18 m) for the underground parking, unsupported open-cut excavations through the upper soils are not anticipated to be feasible at this site and temporary shoring will be needed to support the excavations through the overburden for the proposed buildings. It is anticipated that the excavations through the rock can be completed as open-cut, vertical excavations provided that proper scaling and maintenance of the vertical surfaces is completed to avoid spalling or other rock falls. Long term weathering of the exposed bedrock face should be expected and as such some additional support or protection of the exposed rock will need to be considered

All excavations should be carried out according to Occupation Health and Safety Act for construction projects. The shoring methods selected to support the excavation must take into account the soil stratigraphy, the groundwater conditions, the methods adopted to control the groundwater, effects of weather and the ground movements associated with the shoring system and their impact on adjacent settlement sensitive structures and utilities. Based on the existing ground conditions, consideration could be given to the use of soldier piles and lagging can be considered for temporary support if there are no sensitive infrastructure/structures and if groundwater lowering will not have any adverse effects on the adjacent buildings/structures.

Where sensitive infrastructure/structures are present, continuous concrete walls (secant piles) at the locations adjacent to sensitive infrastructure should be considered for excavation support. Continuous concrete walls would also provide a means of groundwater control at this site, as they would extend through the fill and native layers and terminate in bedrock, providing a reasonable groundwater “cut-off” from the overburden such that the lowering of the groundwater level outside the excavation is materially reduced. The presence of boulders and cobbles must be anticipated during drilling of the secant piles. Loss of ground during drilling may impact adjacent paved roadways and utilities, and will need to be controlled. Based on our knowledge of the area, it is expected that minimum rock socket depths ranging from approximately 1.5 m to 3 m into slightly weathered to fresh bedrock (typically through the more weathered rock) would be required for the secant pile wall to adequately limit horizontal groundwater inflow from the overburden.

Support of the secant pile wall/soldier pile and lagging wall could be provided by the use of tiebacks with the anchor zone formed within the native cohesive soils and bedrock. These tiebacks would likely extend beyond the property limits and as such temporary easements would be required. In addition, a damage assessment of adjacent utilities and structures is recommended to determine potential impacts associated with the use of tiebacks. Alternatively the support system could be internally braced.

It is anticipated that the rock excavation can be carried out to limited depths using a large excavator; however the harder limestone/siltstone layers which can be present will likely require hoe ramming.

Seismic Site Class

Seismic hazard is defined in the 2012 Ontario Building Code (OBC, 2012) by uniform hazard spectra (UHS) at spectral coordinates of 0.2 second, 0.5 second, 1.0 second and 2.0 seconds and a probability of exceedence of 2% in 50 years. The OBC method uses a site classification system defined by the average soil/bedrock properties (e.g. shear wave velocity, Standard Penetration Test (SPT) resistance, undrained soil shear strength, etc.) in the 30 m below the foundation level. There are 6 site classes from A to F, decreasing in ground stiffness from A, hard rock, to E, soft soil; with site class F used to denote problematic soils (e.g. sites underlain by thick peat deposits and/or liquefiable soils). The site class is then used to obtain acceleration and velocity-based site coefficients F_a and F_v , respectively, used to modify the UHS to account for the effects of site-specific soil conditions in design.

Based on the preliminary drawings, for footings founded on sound shale, **Site Class B** may be considered for preliminary planning purposes subject to geophysical testing which will need to be performed during detailed design stage.

General Comments

If a tanked design is not adopted for the below ground levels then some form of drainage will be required for the structure. The subfloor drainage system (i.e., below the lowest garage level) may consist of a network of robust sub-drain pipes conveying collected groundwater to a sump or sumps from which the groundwater can be pumped to a municipal sewer. The drainage system would consist of interconnected perforated drain pipes (bedded and

backfilled with free draining granular soils) installed around the perimeter and within the building footprint. The details of the drainage system will have to be assessed during detail design stage. The capacity of the subfloor drainage system should be based on a hydrogeological assessment.

During the excavation for the underground levels of the proposed building, lateral deformation and vertical settlement of the adjacent ground will occur as a result of installation and deflection of the retaining/shoring system and dewatering activities. The ground movements induced could affect the stability or performance of buildings or underground utilities adjacent to the excavation. Therefore, the magnitude and extent of ground movement and impact on surrounding infrastructure should be assessed and monitored during construction.

Hydrogeological Considerations

If the upper excavation is shored with continuous secant pile wall socketed into the bedrock, groundwater inflow from the sides of the excavation is expected to be minor if waterbearing fracture zone(s) is not encountered. Seepage from the lower portion of the excavation will then depend on the degree of fracturing of the exposed bedrock. Should excessive groundwater inflow originating from the bedrock be encountered during excavation, rock grouting may be used to control the flow.

Even with the use of a continuous secant pile wall, there will be a requirement for pumping to remove:

- Existing groundwater stored in the overburden and bedrock within the groundwater cut-off perimeter;
- Upward groundwater seepage from bedrock through the base of the excavation; and
- Direct storm water (i.e. precipitation) inflow.

The use of a soldier pile and lagging system would require more extensive dewatering to reduce the loss of ground through the lagging, and reduce the lateral pressures. The rate of groundwater removal would be expected to be initially high (i.e., to eliminate existing storage) but would attain a lower rate steady state level.

A more focussed preliminary assessment of the hydrogeological conditions was provided in our Hydrogeology Report noted above.

Limitations

This report has been prepared for the exclusive use of Reserve and their agents for the Site. The findings presented in this report were prepared in accordance with generally accepted geotechnical engineering practice at the time of this study. It is stressed that the information in this report is provided for preliminary planning purposes of the proposed high rise development at the Site and is intended for this project only. This report is not intended for preparation of preliminary or detailed design or construction purposes.

The professional services retained for this project include only the geotechnical/hydrogeological aspects of the subsurface conditions at this site. The presence or implication(s) of possible surface and/or subsurface contamination resulting from previous activities or uses of the site and/or resulting from the introduction onto the site of materials from off-site sources are outside the terms of reference for this project and have not been investigated or addressed.

Yours truly,

GOLDER ASSOCIATES LTD.

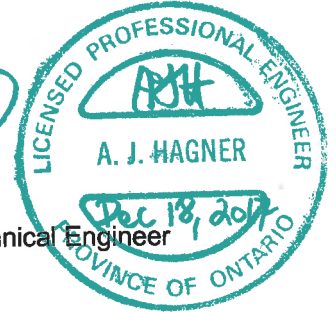


Steven D. Keenan, C.E.T.
Principal

SDK/AJH/sv



Andrew J. Hagner, P.Eng.
Associate, Senior Geotechnical Engineer





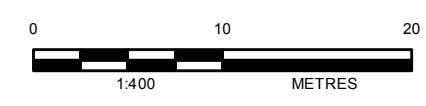
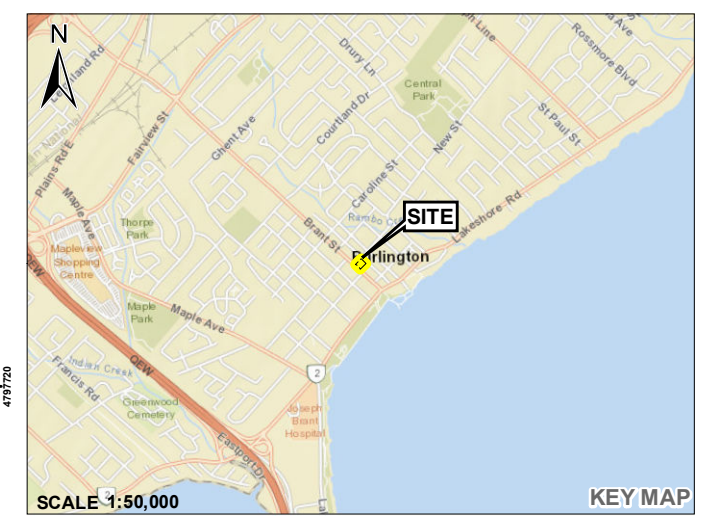
Attachments: Figure 1 – Borehole Location Plan
Important Information and Limitations of This Report

[https://golderassociates.sharepoint.com/sites/19528g/deliverables/geotechnical/reports/final/1788882 let 2017'12'14 preliminary geotechnical evaluation - reserve \(final - rev.1\).docx](https://golderassociates.sharepoint.com/sites/19528g/deliverables/geotechnical/reports/final/1788882%202017%2012%2014%20preliminary%20geotechnical%20evaluation%20-%20reserve%20(final%20-%20rev.1).docx)



LEGEND

-  BOREHOLE LOCATION
-  APPROXIMATE SITE BOUNDARY



NOTE(S)
1. ALL LOCATIONS ARE APPROXIMATE

REFERENCE(S)
BASE DATA - MNR LIO, OBTAINED 2017
PRODUCED BY GOLDER ASSOCIATES LTD UNDER LICENCE FROM ONTARIO MINISTRY OF NATURAL RESOURCES, © QUEENS PRINTER 2017
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PROJECTION: TRANSVERSE MERCATOR DATUM: NAD 83 COORDINATE SYSTEM: UTM ZONE 17N

CLIENT
RESERVE PROPERTIES LTD.

PROJECT
PHASE II ENVIRONMENTAL SITE ASSESSMENT
BRANT STREET AND JAMES STREET, BURLINGTON, ONTARIO

TITLE
BOREHOLE LOCATION PLAN

CONSULTANT	DATE	REVISION
	YYYY-MM-DD	2017-11-03
	DESIGNED	JT
	PREPARED	JT
	REVIEWED	KB
	APPROVED	

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IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: 26mm



IMPORTANT INFORMATION AND LIMITATIONS OF THIS REPORT

Standard of Care: Golder Associates Ltd. (Golder) has prepared this report in a manner consistent with that level of care and skill ordinarily exercised by members of the engineering and science professions currently practising under similar conditions in the jurisdiction in which the services are provided, subject to the time limits and physical constraints applicable to this report. No other warranty, expressed or implied is made.

Basis and Use of the Report: This report has been prepared for the specific site, design objective, development and purpose described to Golder by the Client. The factual data, interpretations and recommendations pertain to a specific project as described in this report and are not applicable to any other project or site location. Any change of site conditions, purpose, development plans or if the project is not initiated within eighteen months of the date of the report may alter the validity of the report. Golder can not be responsible for use of this report, or portions thereof, unless Golder is requested to review and, if necessary, revise the report.

The information, recommendations and opinions expressed in this report are for the sole benefit of the Client. No other party may use or rely on this report or any portion thereof without Golder's express written consent. If the report was prepared to be included for a specific permit application process, then upon the reasonable request of the client, Golder may authorize in writing the use of this report by the regulatory agency as an Approved User for the specific and identified purpose of the applicable permit review process. Any other use of this report by others is prohibited and is without responsibility to Golder. The report, all plans, data, drawings and other documents as well as all electronic media prepared by Golder are considered its professional work product and shall remain the copyright property of Golder, who authorizes only the Client and Approved Users to make copies of the report, but only in such quantities as are reasonably necessary for the use of the report by those parties. The Client and Approved Users may not give, lend, sell, or otherwise make available the report or any portion thereof to any other party without the express written permission of Golder. The Client acknowledges that electronic media is susceptible to unauthorized modification, deterioration and incompatibility and therefore the Client can not rely upon the electronic media versions of Golder's report or other work products.

The report is of a summary nature and is not intended to stand alone without reference to the instructions given to Golder by the Client, communications between Golder and the Client, and to any other reports prepared by Golder for the Client relative to the specific site described in the report. In order to properly understand the suggestions, recommendations and opinions expressed in this report, reference must be made to the whole of the report. Golder can not be responsible for use of portions of the report without reference to the entire report.

Unless otherwise stated, the suggestions, recommendations and opinions given in this report are intended only for the guidance of the Client in the design of the specific project. The extent and detail of investigations, including the number of test holes, necessary to determine all of the relevant conditions which may affect construction costs would normally be greater than has been carried out for design purposes. Contractors bidding on, or undertaking the work, should rely on their own investigations, as well as their own interpretations of the factual data presented in the report, as to how subsurface conditions may affect their work, including but not limited to proposed construction techniques, schedule, safety and equipment capabilities.

Soil, Rock and Ground water Conditions: Classification and identification of soils, rocks, and geologic units have been based on commonly accepted methods employed in the practice of geotechnical engineering and related disciplines. Classification and identification of the type and condition of these materials or units involves judgment, and boundaries between different soil, rock or geologic types or units may be transitional rather than abrupt. Accordingly, Golder does not warrant or guarantee the exactness of the descriptions.



IMPORTANT INFORMATION AND LIMITATIONS OF THIS REPORT

Special risks occur whenever engineering or related disciplines are applied to identify subsurface conditions and even a comprehensive investigation, sampling and testing program may fail to detect all or certain subsurface conditions. The environmental, geologic, geotechnical, geochemical and hydrogeologic conditions that Golder interprets to exist between and beyond sampling points may differ from those that actually exist. In addition to soil variability, fill of variable physical and chemical composition can be present over portions of the site or on adjacent properties. The professional services retained for this project include only the geotechnical aspects of the subsurface conditions at the site, unless otherwise specifically stated and identified in the report. The presence or implication(s) of possible surface and/or subsurface contamination resulting from previous activities or uses of the site and/or resulting from the introduction onto the site of materials from off-site sources are outside the terms of reference for this project and have not been investigated or addressed.

Soil and groundwater conditions shown in the factual data and described in the report are the observed conditions at the time of their determination or measurement. Unless otherwise noted, those conditions form the basis of the recommendations in the report. Groundwater conditions may vary between and beyond reported locations and can be affected by annual, seasonal and meteorological conditions. The condition of the soil, rock and groundwater may be significantly altered by construction activities (traffic, excavation, groundwater level lowering, pile driving, blasting, etc.) on the site or on adjacent sites. Excavation may expose the soils to changes due to wetting, drying or frost. Unless otherwise indicated the soil must be protected from these changes during construction.

Sample Disposal: Golder will dispose of all uncontaminated soil and/or rock samples 90 days following issue of this report or, upon written request of the Client, will store uncontaminated samples and materials at the Client's expense. In the event that actual contaminated soils, fills or groundwater are encountered or are inferred to be present, all contaminated samples shall remain the property and responsibility of the Client for proper disposal.

Follow-Up and Construction Services: All details of the design were not known at the time of submission of Golder's report. Golder should be retained to review the final design, project plans and documents prior to construction, to confirm that they are consistent with the intent of Golder's report.

During construction, Golder should be retained to perform sufficient and timely observations of encountered conditions to confirm and document that the subsurface conditions do not materially differ from those interpreted conditions considered in the preparation of Golder's report and to confirm and document that construction activities do not adversely affect the suggestions, recommendations and opinions contained in Golder's report. Adequate field review, observation and testing during construction are necessary for Golder to be able to provide letters of assurance, in accordance with the requirements of many regulatory authorities. In cases where this recommendation is not followed, Golder's responsibility is limited to interpreting accurately the information encountered at the borehole locations, at the time of their initial determination or measurement during the preparation of the Report.

Changed Conditions and Drainage: Where conditions encountered at the site differ significantly from those anticipated in this report, either due to natural variability of subsurface conditions or construction activities, it is a condition of this report that Golder be notified of any changes and be provided with an opportunity to review or revise the recommendations within this report. Recognition of changed soil and rock conditions requires experience and it is recommended that Golder be employed to visit the site with sufficient frequency to detect if conditions have changed significantly.

Drainage of subsurface water is commonly required either for temporary or permanent installations for the project. Improper design or construction of drainage or dewatering can have serious consequences. Golder takes no responsibility for the effects of drainage unless specifically involved in the detailed design and construction monitoring of the system.

December 27, 2017

Project No. 1785585

Rosalind Minaji, Coordinator of Development Review
City of Burlington
City Hall
426 Brant Street
P.O. Box 5013
Burlington, Ontario
L7R 3Z6

RE: GOLDER ASSOCIATES LTD. ENVIRONMENTAL, GEOTECHNICAL AND HYDROGEOLOGICAL REPORTS, BRANT LAND ASSEMBLY, BURLINGTON, ONTARIO - RELIANCE LETTER

Dear Ms. Minaji

The City of Burlington (the "City") has requested that Golder Associates Ltd. ("Golder") provide reliance upon the environmental, geotechnical and hydrogeological reports, including attachments (the "Reports") referenced below prepared by Golder for Reserve Properties Ltd. ("Reserve"), the developer of the properties located at 401, 403, 405, 409, 411 and 413 Brant Street, 444, 448 and 450 John Street, and 2012 James Street in Burlington, Ontario (collectively, the "Site") at the time the below mentioned Reports were published.:

- *"Phase I Environmental Site Assessment, Brant Street and James Street, Burlington, Ontario"* dated November, 2017, Golder Project No.: 1788882;
- *"Phase II Environmental Site Assessment, Brant Street and James Street, Burlington, Ontario"* dated November, 2017, Golder Project No.: 1788882 (2000);
- *"Geotechnical Evaluation, Brant Street and John Street, Burlington, Ontario"*, dated December 18, 2017, Golder Project No.: 1788882; and
- *"Hydrogeological Assessment, Proposed Residential Development, Brant and James Streets, Burlington, Ontario"*, dated December 1, 2017, Golder Project No.: 1785582 (3000).

In order to facilitate this request and to establish privity between the City and Golder, this reliance agreement, and any reliance on the Report, is conditioned upon the City (i) agreeing to the terms, conditions, and limitations stipulated in the attached General Terms & Conditions and in the Reports, and (ii) agreeing to only rely on the Reports in their entirety. In the event that the City does not agree with these conditions, which are the pre-conditions to any reliance on the enclosures, please immediately return this letter with the enclosures attached.

The scope and the period of Golder's assessment are described in the Reports, and are subject to restrictions and limitations. Golder did not perform a complete assessment of all possible conditions or circumstances that may exist at the Site referenced in the Reports. Conditions may therefore exist which were undetectable given the limited nature of the inquiry Golder was retained to undertake with respect to the Site. Accordingly, additional environmental, geotechnical and/or hydrogeological studies and actions may be required. In addition, it is recognized that the passage of time affects the information provided in such reports. Golder's opinions are based



upon information that existed at the time of the writing of the Reports. It is understood that the services provided for in the scopes of work allowed Golder to form no more than an opinion of the known conditions of the Site at the time the Site was visited and cannot be used to assess the effect of any subsequent changes in any laws, regulations, the environmental, geotechnical and/or hydrogeological quality of the Site or its surroundings. If a service is not expressly indicated, do not assume it has been provided.

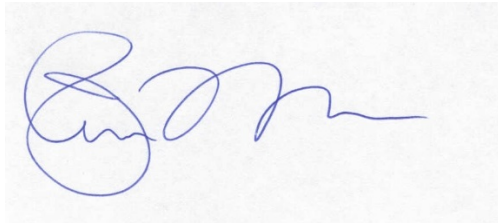
Except as required by law, the City agrees not to disclose or distribute the agreement or Reports furnished hereunder to any third party, or make any reproductions (except for those required by its accountants, regulators, and legal advisors, which shall include a copy of this reliance agreement). This reliance agreement is not assignable and does not confer any right or benefit upon any third party unless advance written agreement is made between Golder and the third party.

Subject to each and every of the foregoing conditions the City may rely on the information, data and opinions contained in the Reports.

If you have any questions, please do not hesitate to contact me directly at (905) 723-2727 x 6615.

Yours truly,

GOLDER ASSOCIATES LTD.



T.A. Mclellain, P.Eng.
Principal, Environmental Management Division

TAM/tm

CC: Shane Fenton, Reserve Properties Ltd.

Attachments: Authorization to Proceed and Consulting Services Agreement

c:\users\tmcielwain\desktop\burlington reliance reeserve brant assembly 2017\12\27.docx

December 27, 2017

Project No. 1785585

Curt Benson, Commissioner of Planning
Halton Region
1151 Bronte Road
Oakville, Ontario
L6M 3L1

RE: GOLDER ASSOCIATES LTD. ENVIRONMENTAL, GEOTECHNICAL AND HYDROGEOLOGICAL REPORTS, BRANT LAND ASSEMBLY, BURLINGTON, ONTARIO - RELIANCE LETTER

Dear Mr. Benson

Halton Region (the "Region") has requested that Golder Associates Ltd. ("Golder") provide reliance upon the environmental, geotechnical and hydrogeological reports, including attachments (the "Reports") referenced below prepared by Golder for Reserve Properties Ltd. ("Reserve"), the developer of the properties located at 401, 403, 405, 409, 411 and 413 Brant Street, 444, 448 and 450 John Street, and 2012 James Street in Burlington, Ontario (collectively, the "Site") at the time the below mentioned Reports were published.:

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- "Phase II Environmental Site Assessment, Brant Street and James Street, Burlington, Ontario" dated November, 2017, Golder Project No.: 1788882 (2000);
- "Geotechnical Evaluation, Brant Street and John Street, Burlington, Ontario", dated December 18, 2017, Golder Project No.: 1788882; and
- "Hydrogeological Assessment, Proposed Residential Development, Brant and James Streets, Burlington, Ontario", dated December 1, 2017, Golder Project No.: 1785582 (3000).

In order to facilitate this request and to establish privity between the Region and Golder, this reliance agreement, and any reliance on the Report, is conditioned upon the Region (i) agreeing to the terms, conditions, and limitations stipulated in the attached General Terms & Conditions and in the Reports, and (ii) agreeing to only rely on the Reports in their entirety. In the event that the Region does not agree with these conditions, which are the pre-conditions to any reliance on the enclosures, please immediately return this letter with the enclosures attached.

The scope and the period of Golder's assessment are described in the Reports, and are subject to restrictions and limitations. Golder did not perform a complete assessment of all possible conditions or circumstances that may exist at the Site referenced in the Reports. Conditions may therefore exist which were undetectable given the limited nature of the inquiry Golder was retained to undertake with respect to the Site. Accordingly, additional environmental, geotechnical and/or hydrogeological studies and actions may be required. In addition, it is recognized that the passage of time affects the information provided in such reports. Golder's opinions are based



upon information that existed at the time of the writing of the Reports. It is understood that the services provided for in the scopes of work allowed Golder to form no more than an opinion of the known conditions of the Site at the time the Site was visited and cannot be used to assess the effect of any subsequent changes in any laws, regulations, the environmental, geotechnical and/or hydrogeological quality of the Site or its surroundings. If a service is not expressly indicated, do not assume it has been provided.

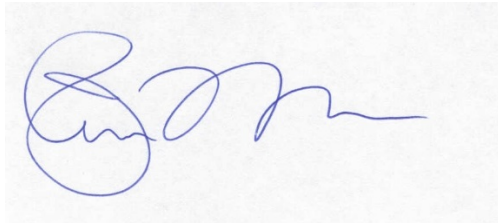
Except as required by law, the Region agrees not to disclose or distribute the agreement or Reports furnished hereunder to any third party, or make any reproductions (except for those required by its accountants, regulators, and legal advisors, which shall include a copy of this reliance agreement). This reliance agreement is not assignable and does not confer any right or benefit upon any third party unless advance written agreement is made between Golder and the third party.

Subject to each and every of the foregoing conditions the Region may rely on the information, data and opinions contained in the Reports.

If you have any questions, please do not hesitate to contact me directly at (905) 723-2727 x 6615.

Yours truly,

GOLDER ASSOCIATES LTD.



T.A. Mclellain, P.Eng.
Principal, Environmental Management Division

TAM/tm

CC: Shane Fenton, Reserve Properties Ltd.

Attachments: Authorization to Proceed and Consulting Services Agreement

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