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SUMMARY OF THE GEOTECHNICAL REPORT

630 Montreal Road, Ottawa, Ontario

Project No.: E2021-3260

May 3rd, 2023

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1 Summary of the Geotechnical Report

This note summarizes the report of the geotechnical study conducted by Enviro-Experts (Ref. E2021-3260 dated January 17th, 2022) on the property located at 630 Montreal Road in Ottawa, Ontario.

This geotechnical study was carried out as part of the project to construct a nine (9) storey residential building with three basement levels.

1.1 Geotechnical investigation

The investigation work at the site was carried out on September 25th, 2020. This work consisted of the realization of four (4) stratigraphic boreholes to depths between 1.83 and 12.04 m from the current ground level.

1.2 Soil, rock and groundwater conditions

According to the information collected in the boreholes, the soils in place generally consist of a surface layer of backfill whose thickness varies between ±1.2 and 2.4 m. The backfill is of medium compactness. It rests on a granular natural soil deposit composed of sand with varying proportions of silt and gravel. This deposit is of variable compactness depending on the depth, compact on the surface, loose in the center and dense in depth. The rock was encountered under the granular soil deposit at depths between 5.2 and 9.0 m.

The groundwater level has not been reached to the depth of the boreholes (dry boreholes up to 12 m).

1.3 Geotechnical recommendations

According to the data collected, shallow foundations (strip or isolated footings) can be considered to take up the loads applied by the proposed building.

These foundations should rest directly on the rock. The bearing capacity of the rock at the Serviceability Limit State (SLS) is **500 kPa** and will need to be reduced to **250 kPa** if the rock is cracked and altered. The bearing capacity at ultimate limit state (ULS) is **750 kPa**.

If required, any raising from the rock to reach the level of the foundations must be carried out using a granular material compacted to 95% of the modified Proctor density, or a concrete of at least 35 MPa of resistance in compression after 28 days.

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The analysis performed shows that the soils in place are not susceptible to liquefaction during a reference seismic event.

A seismic site category "C" may be associated with the project site, according to Table 4.1.8.4.A of the National Building Code of Canada (NBCC, 2015 edition).

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