



**re: Potential Impacts to Existing Watermain and Sewer Infrastructure
Proposed Development
342 Roosevelt Avenue – Ottawa, Ontario**

to: Concorde Management – Mr. Jordan Tannis – jt@concorde-properties.ca

date: August 30, 2024

file: PG4210-MEMO.04

Further to your request and authorization, Paterson Group (Paterson) prepared the current memorandum to document our geotechnical review for potential impacts to the existing watermain and sewer infrastructure, which is located at the northern end of the subject site, as a result of the proposed development.

This memo should be read in conjunction with the current Geotechnical Investigation Report (Paterson Group Report PG4210-1 dated August 30, 2024).

The potential impacts to the existing services are considered to include the following:

- Proposed buildings loads inducing additional stresses on these services,
- Vibrations from construction activities impacting these services, and
- The proposed development limiting access to these services for future repairs and maintenance.

Proposed Development and Adjacent Services

The proposed development will have a partial basement level which will extend to approximate geodetic elevation 65 m, which is about 2 m below the existing ground surface. From the completed test pits, bedrock was encountered at about geodetic elevation 66 m, and accordingly, approximately 1 m of bedrock removal will be required during construction of the proposed development.

Based on available drawings, the West Nepean Collector sewer line is located within the northern site boundary, and has an approximate invert elevation of 50 m within the vicinity of this site.

The proposed building will be setback 4.5 m from the West Nepean Collector sewer line. Further, an existing 1200 m diameter watermain is located approximately 10 m from the northern limit of the proposed building, and has an invert at approximate geodetic elevation 64 m.





Geotechnical Review and Recommendations

Based on a conservative zone of influence of 6 Vertical to 1 Horizontal extending downward and outward from the bottom exterior edge of the proposed building footing, which will be supported directly on sound bedrock, no additional loading will be induced on the West Nepean Collector sewer line or 1200 mm diameter watermain.

However, given the 4.5 m setback to the West Nepean Collector sewer line, bedrock removal will be completed with hoe ramming, which generally produces lower vibration levels as compared to blasting.

Nonetheless, continuous vibration monitoring will be conducted along the West Nepean Collector sewer alignment during the bedrock removal and foundation construction, to monitor that the adjacent services are not impacted by elevated vibration levels resulting from construction activities.

With regards to future maintenance and repair considerations, given the shallow bedrock present at the site, a vertical excavation could be completed, if required, down to the West Nepean Collector sewer line and 1200 mm diameter watermain without needing to extend beyond the 4.5 m setback to the proposed building.

We trust that this information satisfies your immediate request.

Best Regards,

Paterson Group Inc.

Scott S. Dennis P.Eng.

