PATERSON GROUP

memorandum

re: **Geotechnical Review of Site Servicing Plans**
Proposed Residential Development
5618 Hazeldean Road – Abbott's Run – Block 13 – Ottawa, Ontario

to: Minto Communities Inc. – **Erin Harrington** – eharrington@minto.com
date: December 18, 2025
file: PG7640-MEMO.03 Revision 1

Further to your request and authorization, Paterson Group (Paterson) has prepared the current memorandum to document our review of the site servicing plans, and to provide associated recommendations from a geotechnical perspective for the aforementioned project. The present memorandum should be read in conjunction with Paterson Group Geotechnical Report PG7460-1 Revision 1 dated May 28, 2025.

Site Servicing Plan Review

Paterson reviewed the following site servicing drawings set prepared by DSEL for the aforementioned development:

- Abbott's Run Block 13 Site Plan - Project No. 1295_Block13, Sheet No. 1 to 19, Revision 2 dated October 24, 2025.

Based on our review of the above-noted site service plans, the majority of the design details are considered to be acceptable from a geotechnical perspective. However, additional geotechnical precautions are recommended for the following items:

- Design recommendations for lateral support zone interferences

Paterson noted several areas in which underground services are proposed within the lateral zone of influence of the adjacent proposed buildings (i.e. within the plane extending 1 Horizontal:1 Vertical down and outwards from the edge of proposed footing). To ensure that the proposed services do not incur additional loading due to the adjacent proposed dwellings, and to permit future maintenance of the underground services without causing detrimental effects to the adjacent structures, Paterson has provided additional construction recommendations in subsequent sections of the present memorandum

Geotechnical Recommendations

Lateral Zone of Influence Protection with Adjacent Services

It is recommended that the lateral zones of influence be lowered in the affected areas such that the influence plane (1H:1V) extending down and outwards from the edge of the proposed footings do not contain any underground services. This may be accomplished by extending the underside of footing (USF) for impacted strip footings to the elevations provided in Table 1 below.

Table 1 – Design Recommendations for Lateral Support Zone Interferences

Block / Lot Number	Current USF Elevation (m)	Revised USF/ Underside of Lean-Concrete Trench Elevation (m)	USF Concrete Trench Depth (m)
Block 1 – Unit 1 & 10 Northern Footing	101.51	101.21	0.30
Block 1 – Unit 1, 2, 3, 4 Staircase Footing	101.51*	100.31	1.20
Block 1 – Unit 5 & 6 Staircase Footing	101.51*	100.11	1.40
Block 1 – Unit 7 & 8 Staircase Footing	101.51*	100.61	0.90
Block 2 – Unit 7, 8, 9, 10 Staircase Footing	101.64*	101.04	0.60
Block 2 – Unit 11 & 12 Staircase Footing	101.64*	100.44	1.20
Block 3 – Unit 7 & 8 Staircase Footing	101.80*	100.90	0.90
Block 3 – Unit 9, 10, 11, 12 Staircase Footing	101.80*	100.60	1.20
Block 4 – Unit 5, 6, 7, 8 Staircase Footing	102.02*	100.52	1.50
Block 4 – Unit 4 Eastern Footing	102.02	101.72	0.30
Block 5 – Unit 4 & 5 Staircase Footing	102.01*	101.01	1.00
Block 5 – Unit 8, 9, 10, 11, 12 Staircase Footing	102.01*	102.71	0.30
Block 6 – Unit 1 Staircase Footing	101.70*	100.50	1.20
Block 6 – Unit 2 & 3 Staircase Footing	101.70*	100.80	0.90

* Staircase pier footing USF elevation was assumed to match the overall building USF elevation based on preliminary plans provided by the client depicting both footings placed at the same elevation.

Alternatively, this may be accomplished by casting a near-vertical lean-concrete (minimum 15 MPa, 28-day strength) in-filled trench extending between the design underside of footing elevation to the recommended elevations provided in Table 1 to a depth which would be unaffected by service trench works. The near vertical, zero-entry trench should extend horizontally a minimum 150 mm beyond the overlying footing faces. The zero entry, near-vertical trench sidewalls are intended to act as the formwork to cast the concrete. The bottom of the excavation should be reviewed by Paterson personnel prior to placing concrete. Once the trench excavation is approved by Paterson, lean concrete can be poured up to the design underside of footing elevation.

The extents of the trench running below a strip footing and adjacent to a site service pipe should be terminated by extending the trench upwards and back up to the design underside of footing elevation at an incline of 1H:2V along the opposite oriented-running strip footings. Reference should be made to the attached Figure 1 – Recommended Lateral Zone of Influence Protection Areas for approximate locations in which the above-noted recommendations should be carried out.

Frost Protection for Sewer Alignments

Based on our review, the subject site services have been provided with sufficient frost cover to their obverts (i.e., a minimum of 2.1 m). Therefore, the proposed frost protection measures for the proposed service pipes at the aforementioned site are considered acceptable from a geotechnical perspective. Based on this, additional frost protection in the form of rigid insulation is not required.

Frost Protection for Watermains Adjacent to Catch-Basins

Further to our review, there are several areas where the proposed watermain alignment is proximity (i.e., less than 2.4 m between watermain face and manhole structure outer face) to a nearby manhole structure. Based on the methodology provided in the latest version of the City of Ottawa's Standard Detail *Drawing W23 – Thermal Insulation of Watermains at Open Structures*.

Where there is between 900 and 750 mm of horizontal clearance between these structures, a minimum thickness of 150 mm of rigid insulation should be considered for the purpose and methodology identified in the aforementioned detail for the subject site. For up to 400 mm of horizontal clearance, a minimum 200 mm wide layer of OPSS Granular A crushed stone should be placed adjacent to the watermain and the remainder of the thickness should consist of rigid insulation. The rigid insulation layer should extend a minimum of 1.8 m in each direction of the manhole in these scenarios.

All of these efforts are recommended to be verified by Paterson field personnel for all instances of the implementation of the above-noted detail.

Construction Inspections

It is recommended that the above-noted items, as well as service bedding/spring-line/cover placement, clay seal installation (for roadways and service laterals), lateral support zone reinstatement, roadway subgrade fill placement and roadway subbase, base and asphalt layer placement should be reviewed at the time of construction by Paterson personnel.

We trust that this information is satisfactory for your immediate requirements.

Best Regards,

Paterson Group Inc.

Nicholas F. R. Versolato, CPI, B.Eng

Drew Petahtegoose P.Eng.

Attachments:

- ❑ Figure 1 – Recommended Lateral Zone of Influence Protection Areas