PATERSON GROUP

memorandum

re: **Grading and Site Servicing Plan Review**
Proposed Self Storage Development
75 Michael Cowpland Drive – Ottawa, Ontario

to: Huntington Properties – **Mr. Mathieu Desjardins –** mdesjardins@huntingtonproperties.ca

to: IBI Group – **Ms. Amy Zhuang** – Amy.Zhuang@ibigroup.com

date: November 24, 2023

file: PG3798-MEMO.02 Revision 3

Further to your request and authorization, Paterson Group (Paterson) prepared the current memorandum to document our review of the grading and servicing plans, and to provide associated recommendations from a geotechnical perspective for the aforementioned project. The following memorandum should be read in conjunction with the current Geotechnical Investigation Report Paterson Group Report PG3798-2 Revision 3, dated November 23, 2022.

Site Servicing Plan Review

Paterson reviewed the following site servicing plans prepared by IBI Group for the aforementioned development:

- ❒ General Plan of Services – Project No. 135470, Sheet No. C-001, Revision 6, dated November 13, 2023.
- ❒ Cross Sections – Project No. 135470, Sheet No. C-011, Revision 6, dated November 13, 2023.

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. All proposed service pipes are sufficiently covered by adequate soil cover with no frost protection required.

Thickened Edge Slab Lateral Support Zone Lowering and Foundation Insulation

Upon discussions with the design team, the proposed thickened edge slabs are now proposed to be placed on vertical, concrete in-filled trenches where adjacent service pipes are proposed with the lateral support zone of the proposed structures. These trenches would lower the lateral support zone of the slabs below the service trenches ensuring that the proposed buildings are protected should future excavation be required for the proposed services for maintenance purposes.

Due to the anticipated depth and proximity of the proposed service pipes to the proposed thickened edge slab footprints, it is expected the lateral support zones for the proposed structures will be negatively impacted by the service installation works. Further, future maintenance that could be considered throughout the proposed service alignments would require trenches that would impact the proposed buildings lateral support zones. Based on this, it is recommended to lower the lateral support zones for thickened edge footings located adjacent to impacting service alignments. This may be accomplished by sub-excavating a near-vertical trench located directly below the overlying footing footprint and in-filled with minimum 17 MPa lean-concrete.

It is recommended the near-vertical trenches extend a minimum of 150 mm horizontally beyond the overlying footing footprint. Based on our review, the lean-concrete trench detail has been incorporated satisfactorily into the above-noted site servicing plans. The recommended perimeter thickened-edge slab foundation insulation detail is depicted below for the proposed storage structures and has been incorporated satisfactorily in the above-noted site servicing plans. The placement of the lean-concrete trench and rigid insulation should be reviewed and approved by Paterson personnel at the time of construction.

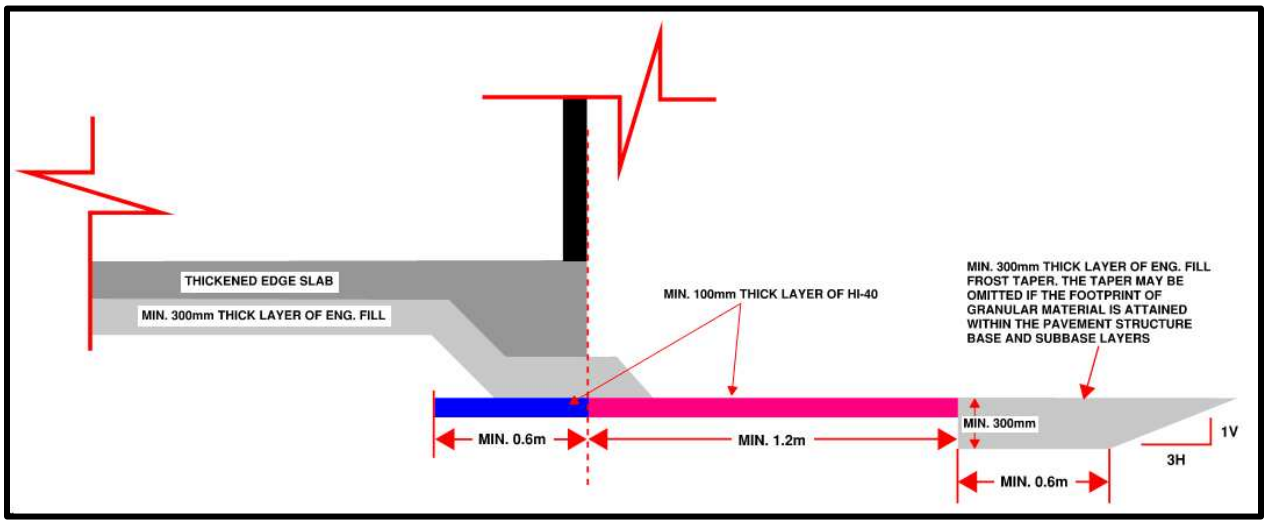


Figure 1 - Proposed Thickened Edge Slab Foundation Insulation Detail

Stormtech Underground Storage Tanks

Paterson reviewed the locations and founding depths for the proposed Stormtech Underground Storage MC-3500 units to be located throughout the subject site. Based on our review of the subsurface profile and associated geotechnical information for the subject site, the stormwater chambers will be founded upon a native, in-situ, stiff brown silty clay layer. Further, it is expected the proposed tank inverts will be located above the seasonally high and the long-term groundwater table throughout the subject site. Based on this, it is not anticipated localized dewatering of the groundwater table will take place throughout the subject site by the implementation of the proposed tanks. Therefore, the proposed storage tanks considered acceptable from a geotechnical perspective.

Grading Plan Review

Paterson reviewed the following grading plans prepared by IBI Group for the aforementioned development:

- ❒ Grading Plan – Project No. 135470, Sheet No. C-200, Revision 6, dated November 13, 2023.

Based on our review of the aforementioned grading plan, the proposed grades around the proposed buildings and throughout the subject site are within the permissible grade raise restriction provided. Based on this, since grade raises are within our recommended grade raise restriction no lightweight fill will be required to accommodate the proposed grading. Therefore, the proposed grading is considered acceptable from a geotechnical perspective.

We trust that this information satisfies your immediate requirements.

Best Regards,

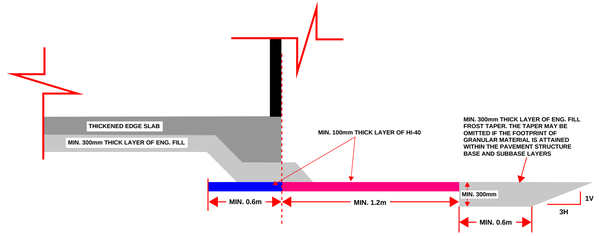
Paterson Group Inc.

Drew Petahtegoose, P.Eng.

Faisal I. Abou-Seido, P.Eng.

PG3798-MEMO.02 REVISION 2 - FIGURE 1 - THICKENED-EDGE SLAB INSULATION DETAILS AND PLAN

TYPICAL THICKENED EDGE SLAB INSULATION DETAIL



NOTE: IT IS RECOMMENDED TO PLACE A MINIMUM 100mm THICK LAYER OF HI-40 EXTENDING A MINIMUM OF 900mm FROM THE BUILDING FOOTPRINT IN THE AREAS DEPICTED IN BLUE, WHERE THE UNDERLYING LEAN-CONCRETE TRENCH WILL NOT EXTEND BELOW THE DPETH OF FROST.

STM STRUCTURE TABLE

NAME	RIM ELEV.	INVERT IN	INVERT IN AS-BUILT	INVERT OUT	INVERT OUT AS-BUILT	DESCRIPTION
CBMH101	101.75			NW99.247		1500mmØ OPSD-701.011
CBMH103	102.00	S99.174		W99.114		1800mmØ OPSD-701.012
CBMH104	102.00	E99.090		W99.070		1500mmØ OPSD-701.011
CBMH105	101.90	E99.024 N98.984		SE98.964		1800mmØ OPSD-701.012
CBMH106	101.90	NW98.930		E98.900		1500mmØ OPSD-701.011
CBMH115	101.85	N99.057		S99.027		1500mmØ OPSD-701.011
CBMH120	101.75			S99.190		1500mmØ OPSD-701.011
CBMH121	101.80	N99.125 E99.165		S99.105		1500mmØ OPSD-701.011
CBMH140	101.80	S99.152		NW98.885		1200mmØ OPSD-701.010
MH102	102.07	SE99.226		N99.196		1500mmØ OPSD-701.011
MH107	102.12	W98.758 SE98.833		SW98.698		1500mmØ OPSD-701.011
MH110	102.21			N99.426		Eccentric Cylinder Metric
MH111	102.23			S99.387		1500mmØ OPSD-701.011
MH112	102.20	N99.334 S99.334		W99.274		1800mmØ OPSD-701.012
MH113	102.13	E99.245		W99.225		1500mmØ OPSD-701.011
MH114	102.08	E99.206		W99.186		1500mmØ OPSD-701.011
OGS	102.04	NE98.680		SW98.660		1500mmØ OPSD-701.011

MANHOLE FRAME AND COVERS PER CITY STD S25 AND S24.1

SAN STRUCTURE TABLE

NAME	RIM ELEV.	INVERT IN	INVERT IN AS-BUILT	INVERT OUT	INVERT OUT AS-BUILT	DESCRIPTION
MH2A	102.06	N99.773		SW99.713		1200mmØ OPSD-701.010
MH3A	101.98	NE99.463		SW99.433		1200mmØ OPSD-701.010
MH4A	100.92	NE99.300 SE98.298		NW98.021		1200mmØ OPSD-701.010
MH8A	102.02	W100.067 N100.384		S99.857		1200mmØ OPSD-701.010

MANHOLE FRAME AND COVERS PER CITY STD S25 AND S24

CLIENT
HUNTINGTON PROPERTIES

ISSUES

No.	DESCRIPTION	DATE
1	ISSUED FOR CITY REVIEW	2022-12-09
2	REVISED PER CITY COMMENTS	2023-03-09
3	REVISED PER CITY COMMENTS	2023-06-30

SEE 010, 011, 012 FOR NOTES, LEGEND, CB TABLE, STREET SECTIONS AND DETAILS

KEY PLAN

CONSULTANTS

Project Coordinator:
Huntington Properties
Architect:
A49 Architecture
Landscape:
Fotenn
Mechanical & Electrical:
Goodkey, Weedmark & Associates Limited
Surveyor:
Annis O'Sullivan Vollebekk Ltd.
Geotech:
Paterson Group

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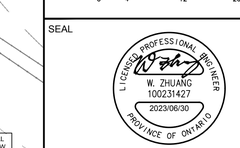
SEAL



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PROJECT
PROPOSED SELF STORAGE DEVELOPMENT
75 MICHAEL COWPLAND

PROJECT NO: 135470	
DRAWN BY: **S.L. / D.D.**	CHECKED BY: **T.R.B.**
PROJECT MGR: **R.M.**	APPROVED BY: **T.R.B.**

SHEET TITLE
GENERAL PLAN OF SERVICES

SHEET NUMBER	ISSUE
C-001	3

CITY PLAN NO. 18885 CITY FILE No. D07-12-22-0174

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