PATERSON GROUP

memorandum

re: **Geotechnical Review of Grading Plan**
Proposed Commercial Development
801 Eagleson Road – Ottawa, Ontario

to: Urbandale Corporation – **Vincent Denomme** – vdenomme@urbandale.com

date: July 29, 2025

file: PG2574-MEMO.04

Further to your request and authorization, Paterson Group (Paterson) prepared the current memorandum to provide a review of the grading plan for the subject development, from a geotechnical perspective. The current memorandum should be read in conjunction with Paterson Group Report PG2574-1 Revision 1 dated June 25, 2025.

Grading Plan Review

Paterson reviewed the following grading plan prepared by Arcadis for the aforementioned development:

- ❒ Project No. 148792 – Grading Plan – Sheet Number C-200 – Issue No. 3 dated July 9, 2025.

Due to the presence of a silty clay deposit at the site, the development is subject to grade raise restrictions. As noted in Section 5.3 of the above-mentioned geotechnical report, a permissible grade raise restriction of **96.7 m** (geodetic) is recommended for finished grading within 6 m of building footprints, and a permissible grade raise restriction of **97.7 m** (geodetic) is recommended for car parking areas and access lanes beyond 6 m of building footprints.

Based on our review, the proposed grading for the subject site is generally within the permissible grade raise recommendations provided in the geotechnical report with the exception of portions of Buildings A-1 to A-3, within the northern half of the property. Where localized grade raise exceedances are proposed, placement of lightweight fill (LWF), such as expanded polystyrene (EPS) geofoam blocks, is recommended below the floor slab and for areas adjacent to the subject commercial buildings. Reference should be made to Figure 2 – Markups for Lightweight Fill Placement, attached to this memorandum, for the recommended thicknesses and extents of LWF for the subject buildings.

Reference should be made to Figure 1 – Typical EPS Block Installation for Slab-on-Grade Buildings, attached to this memorandum, for a general detail depicting the recommended LWF placement. The EPS blocks should be placed on a level, well-prepared subgrade, with a geotextile separation layer to prevent soil intrusion and to promote drainage. The EPS blocks should be installed in a staggered, interlocking pattern and should be protected with a granular cover layer. The LWF placement should be conducted under the supervision of a geotechnical engineer.

Protection of Footings Against Frost Action

It should be noted that underside of footing (USF) information was not available at the time of preparation of the current memorandum.

Perimeter footings of heated structures are required to be insulated against the deleterious effects of frost action. A minimum 1.5 m thick soil cover (or insulation equivalent) should be provided in this regard. Other exterior unheated footings should be provided with a minimum 2.1 m thick soil cover (or insulation equivalent).

Paterson should review USF design elevations when available to provide recommendations for placement of rigid insulation, where required.

We trust that the current submission meets your immediate requirements.

Best Regards,

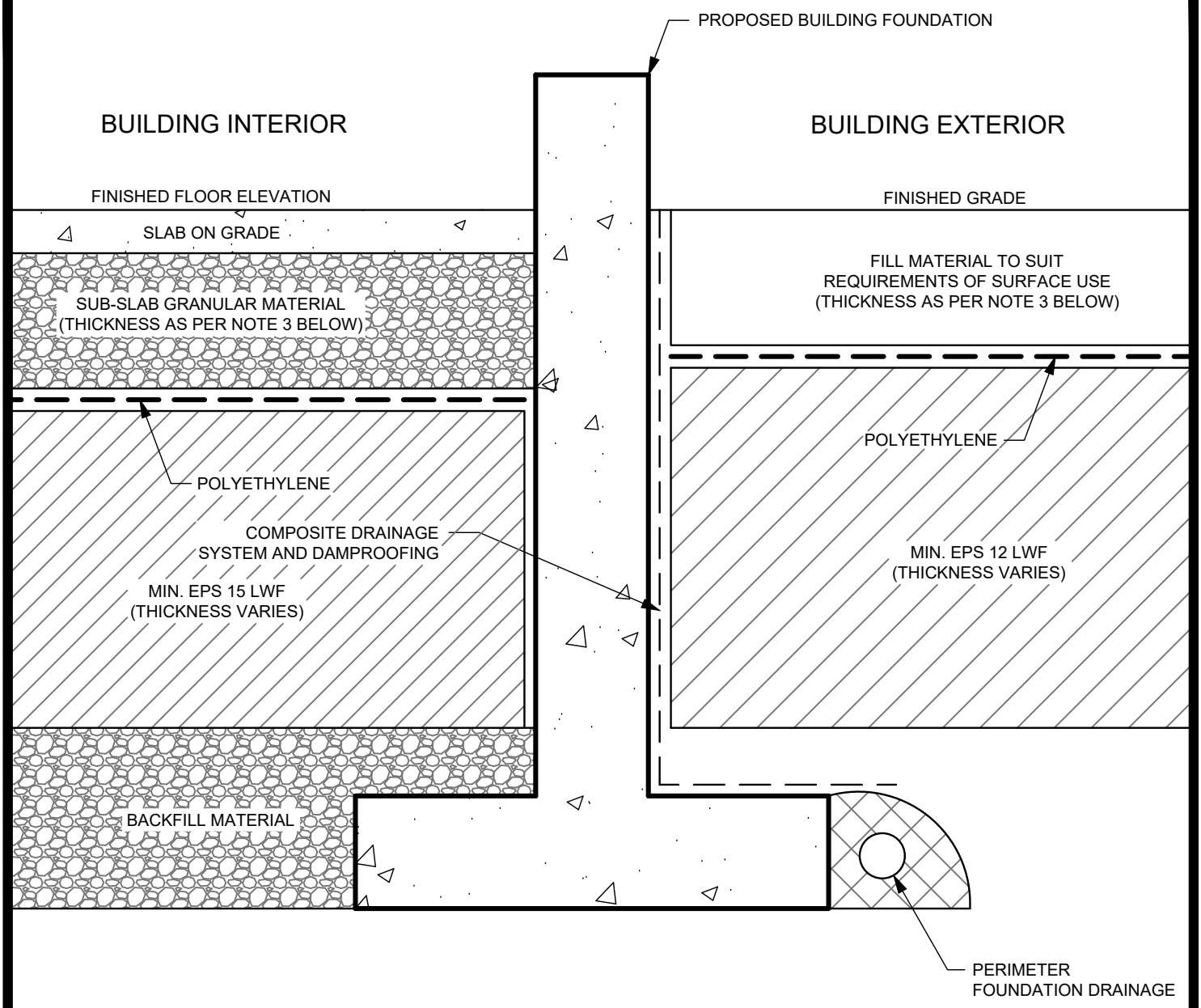
Paterson Group Inc.

Nicole Patey, P.Eng.

Kevin A. Pickard, P.Eng.

Attachments

- ❒ Figure 1 – Typical EPS Block Installation for Slab-on-Grade Buildings
- ❒ Figure 2 – Markups for Lightweight Fill Placement



NOTES:

1. USE EPS12 BELOW LANDSCAPED AREAS
2. USE EPS15 BELOW INTERIOR SLAB
3. REFERENCE SHOULD BE MADE TO PATERSON GROUP MEMORANDUM PG2574-MEMO.04 FOR MINIMUM GRANULAR THICKNESS OVER LWF
4. PLACEMENT OF LWF SHOULD BE ON A LEVELED SURFACE (SAND CAN BE USED TO PROVIDE AN ADEQUATE LEVELLING SURFACE).

PATERSON GROUP

Title:

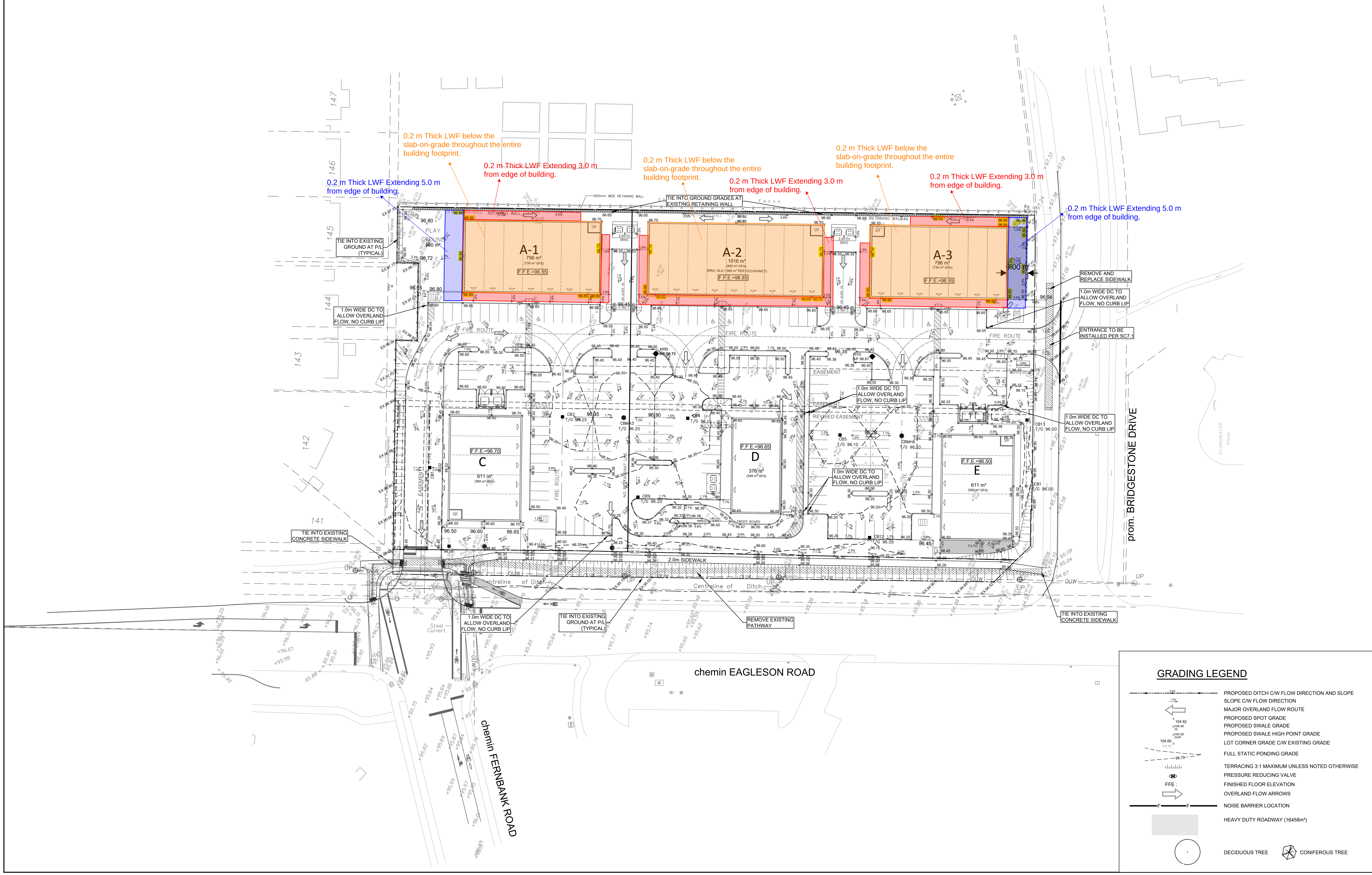
TYPICAL EPS BLOCK INSTALLATION FOR SLAB-ON-GRADE BUILDINGS

Scale:	Date:
N.T.S.	07/2025

Drawn by:	Checked by:	Drawing No.:
NFRV	NP	FIGURE 1

p:\autocad drawings\geotechnical\pg25xx\pg2574\pg2574 - eps lwf figure.dwg

FIGURE 2 - Paterson Markups for Lightweight Fill
PG2574-MEMO.04 dated July 29, 2025



0.2 m Thick LWF below the slab-on-grade throughout the entire building footprint.
0.2 m Thick LWF Extending 3.0 m from edge of building.
0.2 m Thick LWF Extending 5.0 m from edge of building.
A-1
A-2
A-3
C
D
E
TIE INTO EXISTING GROUND AT P/L (TYPICAL)
1.0m WIDE DC TO ALLOW OVERLAND FLOW, NO CURB LIP
TIE INTO GROUND GRADES AT EXISTING RETAINING WALL
REMOVE AND REPLACE SIDEWALK
ENTRANCE TO BE INSTALLED PER SC7.1
TIE INTO EXISTING CONCRETE SIDEWALK
REMOVE EXISTING PATHWAY
2.0m SIDEWALK
FIRE ROUTE
EASEMENT
REVISED EASEMENT
prom. BRIDGESTONE DRIVE
chemin EAGLESON ROAD
chemin FERNBANK ROAD
GRADING LEGEND
PROPOSED DITCH C/W FLOW DIRECTION AND SLOPE
SLOPE C/W FLOW DIRECTION
MAJOR OVERLAND FLOW ROUTE
PROPOSED SPOT GRADE
PROPOSED SWALE GRADE
PROPOSED SWALE HIGH POINT GRADE
LOT CORNER GRADE C/W EXISTING GRADE
FULL STATIC PONDING GRADE
TERRACING 3:1 MAXIMUM UNLESS NOTED OTHERWISE
PRESSURE REDUCING VALVE
FINISHED FLOOR ELEVATION
OVERLAND FLOW ARROWS
NOISE BARRIER LOCATION
HEAVY DUTY ROADWAY (16458m²)
DECIDUOUS TREE
CONIFEROUS TREE

CLIENT

URBANDALE CORPORATION

ISSUES

No.	DESCRIPTION	DATE
1	ISSUED FOR REVIEW	2024-12-19
2	CITY SUBMISSION No. 1	2025-01-22
3	CITY SUBMISSION No. 2	2025-07-09

KEY PLAN

CONSULTANTS

SEAL

LICENSED PROFESSIONAL ENGINEER
S. E. LABADIE
100214983
2025-07-09
PROVINCE OF ONTARIO

PRIME CONSULTANT

ARCADIS

333 Preston Street - Suite 500
Ottawa ON K1S 5N4 Canada
tel 613 225 1311
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PROJECT

COMMERCIAL SITE

801 EAGLESON ROAD

PROJECT NO: 148792

DRAWN BY: D.D.	CHECKED BY: M.P.
PROJECT MGR: T.R.B.	APPROVED BY: S.E.L.

SHEET TITLE

GRADING PLAN

SHEET NUMBER C-200 | ISSUE 3

CITY PLAN No.19247

CITY FILE No. D07-12-25-0014