

March 27, 2024

VIA clerks@vaughan.ca

Office of the City Clerk  
Vaughan City Hall  
2141 Major Mackenzie Dr.  
Vaughan, ON L6A 1T1  
Canada

To Whom it May Concern:

**RE: 8261 HWY 50, VAUGHAN, ON – PROPOSED RETAINING WALL ENCROACHMENT**  
**(A160/22 - REQUEST FOR ADJOURNMENT)**

We act on behalf of Anatolia Capital Corp. (“Anatolia”), the owner of 8300 Huntington Road. In respect of Minor Variance application A160/22, we notify the Committee of Adjustment of an encroachment proposed along the entire western portion of Anatolia’s property. As identified and described by GEI Consultants Ltd. (“GEI”) in their letter dated March 26, 2024 (appended hereto), the encroachment (of up to 2.9m) is proposed to accommodate a retaining wall structure. At the present time, the applicant has not notified Anatolia of such proposed encroachment, nor has Anatolia agreed to such encroachment.

In light of the foregoing, and further to our meeting with City of Vaughan planning staff on March 27, 2024, we respectfully request an adjournment to Minor Variance Application A160/22 to allow the applicant to consult with staff to sufficiently revise their application materials (in respect of both application A160/22 and Site Plan Application DA.18.078) to remove the proposed encroachment on Anatolia’s property, and to adequately setback the retaining wall structure from Anatolia’s property to address those concerns identified by GEI.

Should you have any questions, please feel free to contact me at [REDACTED]



Sincerely,  
**The Lakeshore Group**

**David Ashbourne, MES(PI.), MCIP, RPP**  
Vice President

CC:

David Harding, City of Vaughan  
Joshua Cipolletta, City of Vaughan  
Judy Jeffers, City of Vaughan  
Chris Metaxas, GEI Consultants Ltd.  
Rick Pennycooke, Lakeshore Group

Consulting  
Engineers and  
Scientists

March 26, 2024  
Project 2403235

Anatolia Capital Corp  
8300 Huntington Road  
Vaughan, ON L4H 4Z6

To Whom it May Concern;

**Re: Engineering Opinion (r1) – Proposed Retaining Wall  
ZZEN Vultra Storage Facility, 8261 Hwy 50  
Vaughan, ON**

GEI Consultants Ltd. (GEI) has been retained by Anatolia (landowner at 8300 Huntington Road) to provide an expert technical opinion regarding the City of Vaughan Site Plan Application DA.18.078 and Minor Variance Application A160/22.

This report is based on the following information provided via Anatolia as part of the retainer assignment:

- MVA Meeting Document Notice of Hearing
- NOH\_A160\_22\_8261HWY50
- ZZEN Drawing by UEL Titled SP-1 dated January 2022
- Geotechnical Report by Soil Probe dated May 5, 2010
- Cross-Section drawing SEC-2

This report has been prepared as expert advice and technical opinion by a Professional Engineer under the Professional Engineers Act of Ontario (the Act) and is providing these services under the auspices of a Certificate of Authorization provided by Professional Engineers Ontario (PEO). Furthermore, this report has been prepared under the general guidance of the September 2011 PEO Guideline titled “The Professional Engineer as an Expert Witness” and October 2011 PEO Guideline titled “Professional Engineers Reviewing Work Prepared by Another Professional Engineer”.

### UEL Drawing SP-1 Misrepresents the Retaining Wall Dimensions

UEL Drawing SP-1 misrepresents the depth of the retaining wall in their plan view drawing. The plan view depicts a shaded (grey) area that is scaled (1:250) to be approximately 1.2m deep. The back of the 1.2m wall shown on the plan is at 0.0m zero clearance from the property line. Drawing SP-1 includes a structural sealed design for a “Typical Armour Stone Retaining Wall (SK-2)” by LMS Engineering Inc. dated October 2021. This detail limits the height of the wall to 1.8m finished exposed height. The wall is designed with armourstone block which are denoted as 1.2m depth and a 0.15m setback for each armourstone. Therefore, the actual finished depth from plan view would range from 1.5m (1.0m height with 2 step backs at 0.15m each) to 1.8m (1.8m high wall with 4 step backs at 0.15m each). This results in a permanent encroachment of the armourstone onto the Anatolia property up to 0.6m.

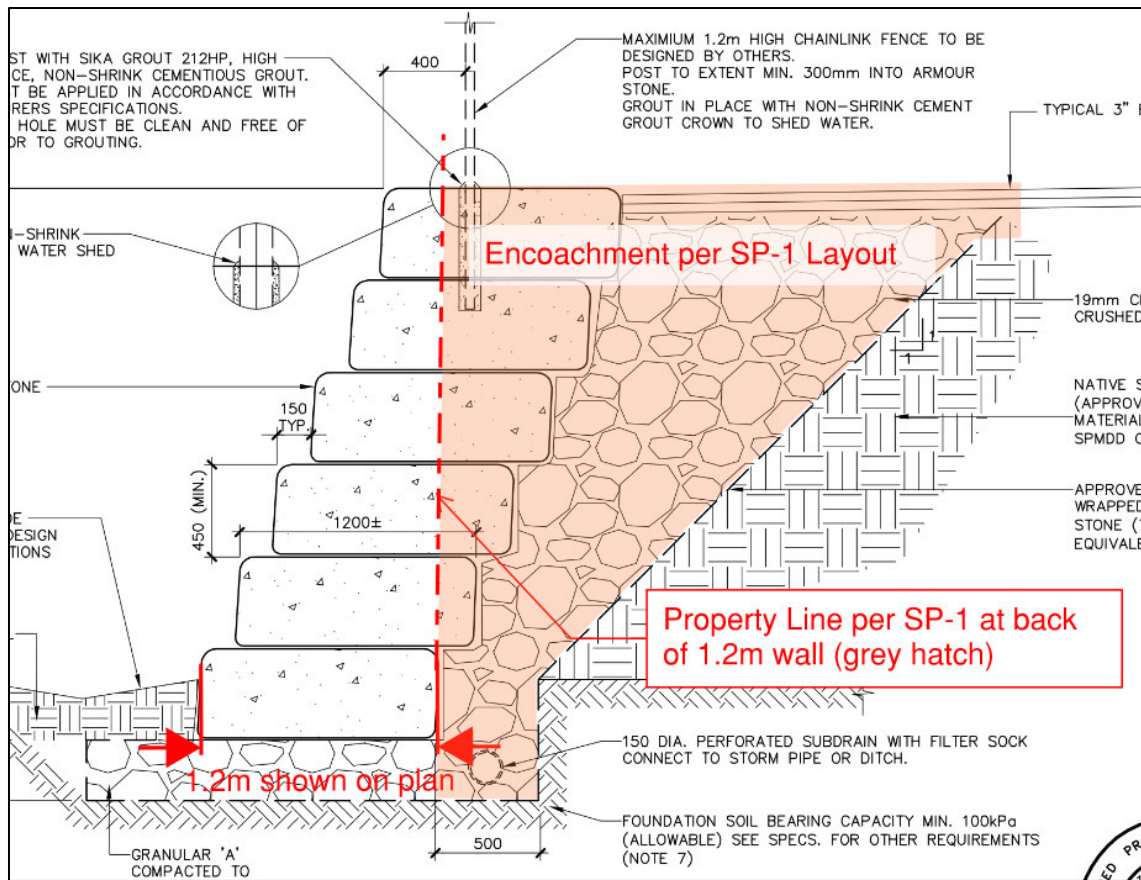


Figure 1 - SK-2 by LMS encroachment per SP-1 wall layout

## SEC-2 Cross-Sections do not match SP-1

Section 5-5 and 6-6 from drawing SEC-2 represent the retaining wall along the Anatolia property line. The retaining wall depicted omits the 0.15m set back per block row as shown on SK-2 design; therefore the actual wall if constructed to match SK-2 may permanently encroach on the Anatolia property line, including the drainage granulars and subdrain behind the wall. Furthermore, SEC-2 confirms that the total cut of minimum 2.05m would be required to construct the wall, resulting in grading impacts to the Anatolia property to accommodate O.Reg. 213/91 requirements for construction safety.

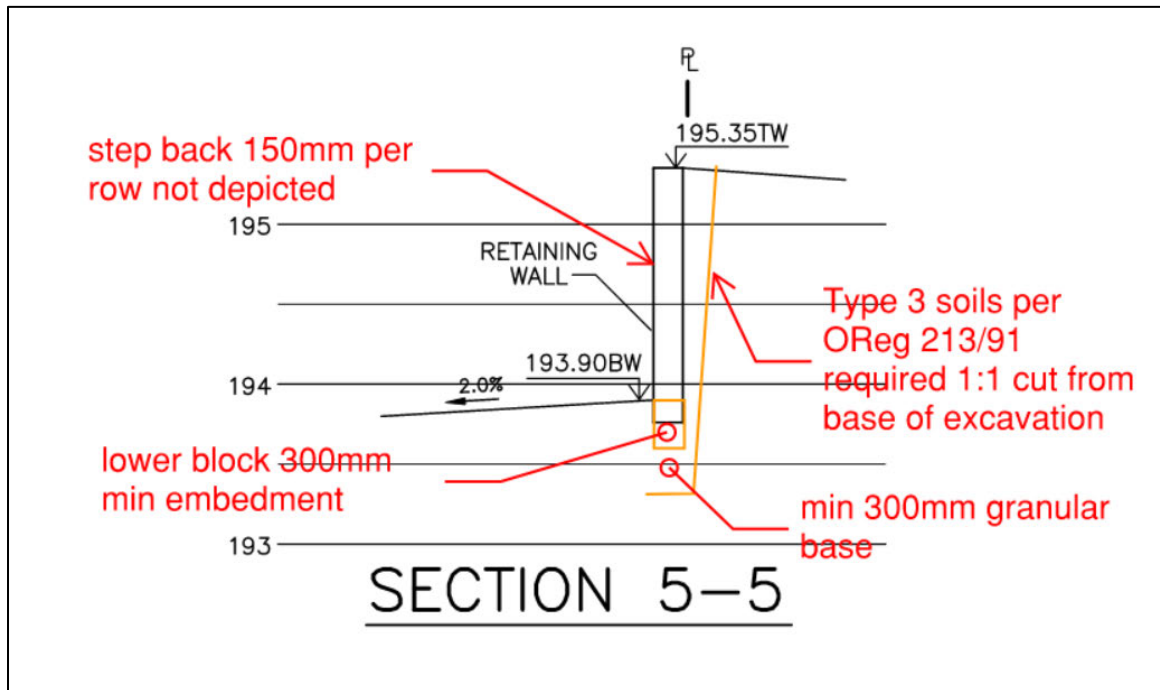


Figure 2 - SEC-2 Cross-Section at Anatolia property

## Ontario Regulation 213/91 Construction Projects

UEL omits construction grading details within the SP-1 drawing to depict the necessary grading to construct the wall in accordance with the LMS detail at SK-2. Furthermore, the typical retaining wall sketch by LMK misrepresents the excavation limits behind the retaining wall required to meet the legal requirements of Ontario Regulation (O.Reg.) 213/91 for safe excavation.

The temporary excavation required to construct the retaining wall would encroach up to 2.9m onto the Anatolia property based on the shown layout, as follows; The excavation would occur within soils classified as Type 3 soils per O.Reg. 213/91. Type 3 soils require a 1:1 sloped excavation under the Regulations from the bottom of the excavation. The vertical excavation required to construct the wall would be up to 2.4m in height. Therefore, from the back of the 1.2m deep armourstone block (SP-1 alignment at 0m setback to property line) the 0.5m wide subdrain trench plus the 2.4m cut at 1:1 slope would total 2.9m encroachment on the Anatolia property. In addition, the LMS typical detail incorrectly depicts a vertical excavation at the base of the wall, which would not be permitted under O.Reg. 213/91 for Type 3 soils – the backslope of 1:1 would need to be from the base of excavation to meet O.Reg. 213/91 requirements.

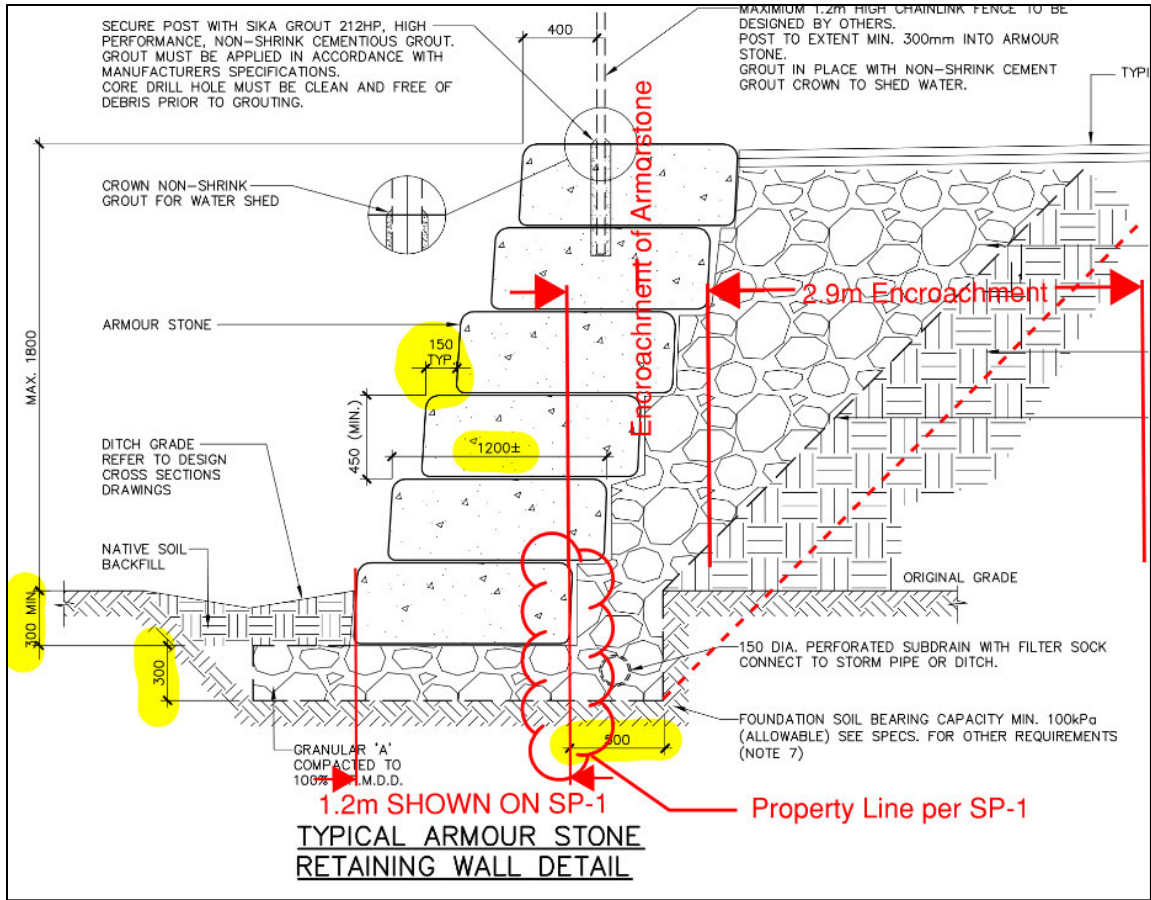


Figure 3 - Property Encroachment per UEL Drawing SP-1 & LMS SK-2

Therefore, the back of the wall is required to be located 2.9m from the Anatolia property line to accommodate safe excavation under O.Reg. 213/91. This results in a total offset from property line to the front face of the wall of 4.1m (1.2 deep armourstone plus 2.9m excavation).

## **By-Law 001-2021, Ontario Building Code, and Structural Maintenance**

The City of Vaughan By-Law 001-2021 limitations for the setback of a retaining wall with respect adjacent lot lines is reasonable to meet industry norms for geotechnical design and maintenance of the retaining wall, as outlined below:

### ***Geotechnical Design & Structural Loading***

The setback specified by the City of Vaughan By-law results in the wall being located outside of the zone of influence of the Anatolia property. By permitting construction of the wall within the setback, Anatolia would be negatively restricted in the future for placing any surcharge load within the zone of influence of the wall that was not considered by LMS within their design. The LMS design omits surcharge design loads from their drawing, nor does the SK-2 detail contain limitations/restricted covenants for the area on top of the wall (Anatolia property). It would be industry norm that the wall design only accommodates relatively low surcharge loads; in other words as it is not explicitly denoted by LMS, heavy commercial vehicles or other surcharge loading may induce a surcharge on top of the wall which would exceed the wall design, resulting in a failure of the wall.

The Anatolia property sits above the ZZEN property and proposed retaining wall (i.e. the retaining wall supports the Anatolia property). Anatolia would be unreasonably restricted, and potentially liable for, impacts to the neighboring wall resulting from surcharge loads induced by heavy commercial vehicles, future loading for Anatolia building maintenance (i.e. crane outrigger loading for hoisting mechanical equipment, and future construction of designated structures and/or other built features which would add surcharge to the retaining wall).

### ***OBC***

The Anatolia property, and lands adjacent to the proposed retaining wall, are expected to have public access for the purposes of commercial deliveries. Therefore, the wall would be classified as a Designated Structure under the OBC subject to Part 4 of the Code. The wall would need to be designed to accommodate these requirements of the OBC including, but not limited to, the guard at the top of the wall must be designed per OBC (industry standard chain-link fence denoted by LMS **does not** meet the design requirements for a guard under the OBC), and surcharge loading per Section 4 to accommodate all loading combinations from the Anatolia property. Therefore, there is a risk to traveling public on Anatolia property based on the current UEL/LMS design for the top of wall per the OBC.

### ***Maintenance***

The setback specified by the City of Vaughan By-law reasonably provides for access to the wall for future maintenance and rehabilitation of the structure without impacting the adjacent properties. Retaining wall maintenance and rehabilitation can consist of repair of the subdrain system, replacement of the backfill drainage layer, and allowance for excavation to replace/realign the armourstone blocks. The subdrain and drainage layer are critical elements for addressing hydrostatic pressures which would negatively impact the wall capacity. Migration of soil fines into the drainage layer would result in build up of the hydrostatic pressures behind the wall. When rehabilitation of the wall is required, temporary excavation in accordance with O.Reg. 213/91 would be required as denoted above.

## Summary

The City of Vaughan By-Law 001-2021 limitations for the setback of a retaining wall with respect adjacent lot lines is reasonable to meet industry norms for geotechnical design and maintenance of the retaining wall. Deviation from the setback requirements for this OBC designated structure would negatively impact the use of the Anatolia property. Furthermore, the UEL and LMS design drawings misrepresent the proposed conditions and omit critical design elements required by the OBC.

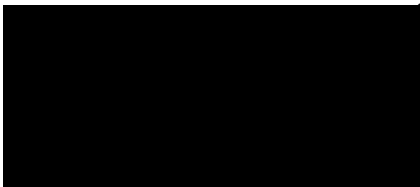
The proposed UEL/LMS design as shown in SP-1 would encroach and impact up to 2.9m into the Anatolia property, resulting in future liabilities for Anatolia and limitations to the safe use of their existing property.

Furthermore, the designers UEL/LMS should consider the relocation of the wall to not only accommodate By-Law 001-2021, but also the current and future use of the Anatolia property and associated surcharge loads; these would include, but not be limited to, commercial vehicles, maintenance vehicles (crane loading, etc.), and future structures within the zone of influence of the wall, to meet the OBC requirements as a designated structure.

Finally, the wall location must consider O.Reg. 213/91 for worker safety during construction and grading impacts to avoid encroachment onto the Anatolia property. At a minimum, the face of the wall would be expected at **4.1m or greater** to allow for constructability and worker/public safety – the open excavation would need to be guarded from public access at the Anatolia property by use of temporary fencing and/or guards in accordance with O.Reg. 213/9, resulting in additional offset beyond the 4.1m safe excavation limit to face of wall.

If you have any questions, please feel free to contact me at 800-810-3281.

Sincerely,



Chris Metaxas, P.Eng.  
VP & Canadian Practice Leader – Geotechnical/Structural

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