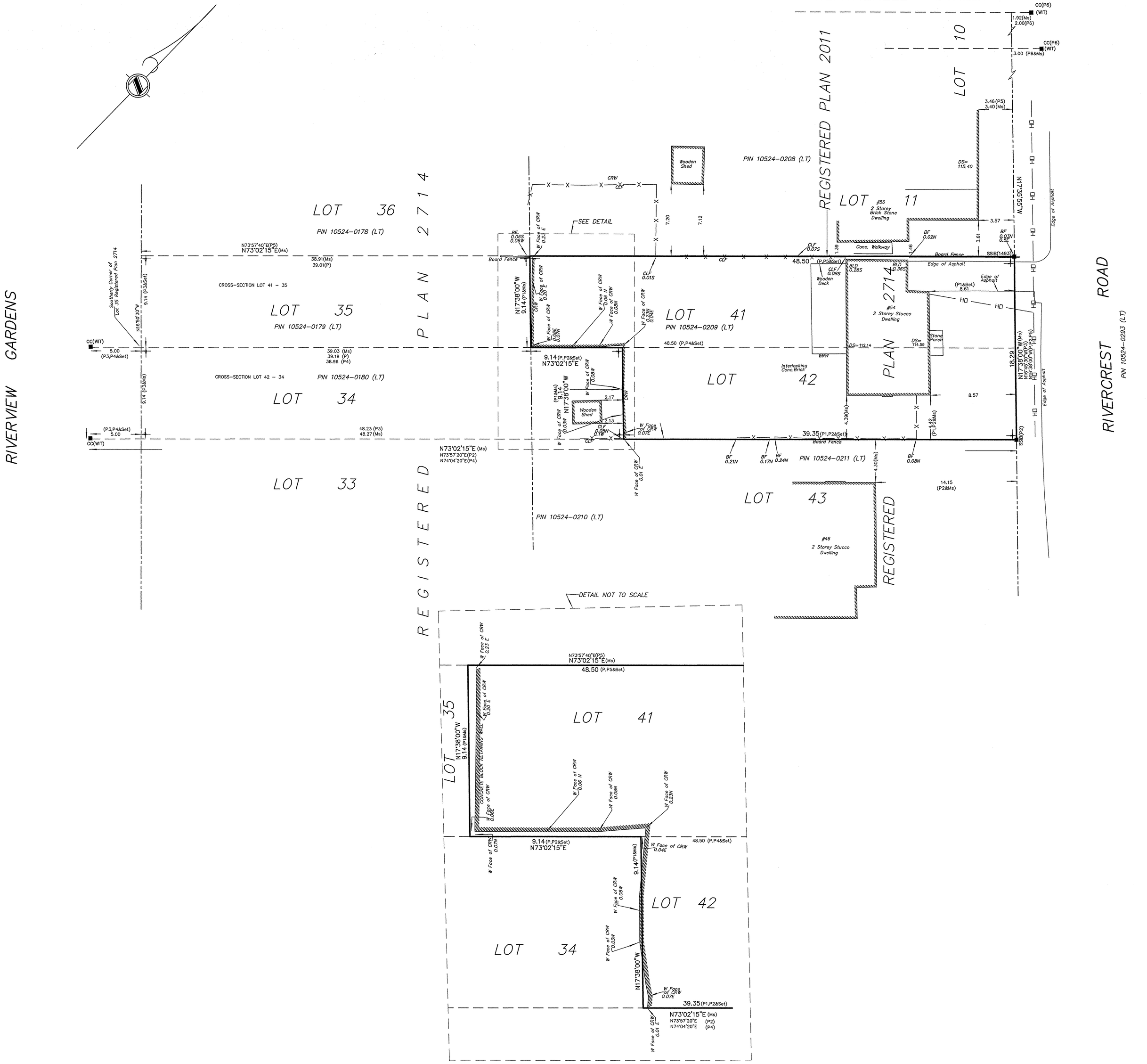


SURVEYOR'S REAL PROPERTY REPORT (PART 1)
(SHOWING LOCATION OF RETAINING WALL)

LOTS 41 AND PART OF LOT 42 REGISTERED PLAN 2714

CITY OF TORONTO
(FORMERLY CITY OF YORK)

SCALE 1:200
5 4 3 2 1 0 5 10 Metres

MAURO GROUP INC.
ONTARIO LAND SURVEYORS

METRIC

DISTANCES AND COORDINATES SHOWN ON THIS PLAN ARE IN METRES AND CAN BE CONVERTED TO FEET BY DIVIDING BY 0.3048.

PART 2
DESCRIPTION OF LAND
PART OF LOTS 41 AND PART OF LOT 42 REGISTERED PLAN 2714 CITY OF TORONTO (FORMERLY CITY OF YORK)
COMPLIANCE WITH MUNICIPAL ZONING
NOT CERTIFIED BY THIS REPORT
REGISTERED EASEMENTS
SEE PARCEL REGISTER
ADDITIONAL REMARKS
NOTE THE LOCATION OF THE FENCES, RETAINING WALLS,HEDGES AND TREES IN RELATION TO THE BOUNDARY LIMITS.

LEGEND

■	DENOTES FOUND BAR
□	DENOTES PLANTED BAR
SIB	DENOTES STANDARD IRON BAR
SSIB	DENOTES SHORT STANARD BAR
IB	DENOTES IRON BAR
CC	DENOTES CUT CROSS
OU	DENOTES UNKNOWN
Ms	DENOTES MEASURED
WIT	DENOTES WITNESS
P	DENOTES REFERENCE PLAN 2714
P1	DENOTES BROWNE & COVELL, O.L.S. DATED APRIL 23, 1945.
P2	DENOTES PLAN BY UNWIN, MURPHY & ESTEN LTD, DATED AUGUST 13, 1993.
P3	DENOTES SURVEYOR'S REAL PROPERTY REPORT BY LAND SURVEY GROUP O.L.S.
P4	DENOTES SURVEYOR'S REAL PROPERTY REPORT BY UNWIN, MURPHY & ESTEN LTD, DATED JUNE 7, 2013.
P5	DENOTES SURVEY BY R.C.RABIDEAU SURVEYING LTD.,O.L.S. DATED JUNE 24, 2003.
P6	DENOTES SURVEY BY MITSCHE & AZIZ INC., O.L.S. DATED OCTOBER 03, 2012.
D	DENOTES INSTRUMENT No. CY658054
D1	DENOTES INSTRUMENT No. TB534565
HP	DENOTES HYDRO POLE
—OH—	DENOTES OVERHEAD HYDRO LINES
N	DENOTES NORTH
E	DENOTES EAST
W	DENOTES WEST
S	DENOTES SOUTH
BF	DENOTES BOARD FENCE
CLF	DENOTES CHAIN LINK FENCE
CRW	DENOTES CONCRETE RETAINING WALL
SRW	DENOTES STONE RETAINING WALL
WRW	DENOTES WOOD RETAINING WALL
1493	DENOTES YOUNG & YOUNG SURVEYING INC.

DISTANCE NOTE

DISTANCES ARE GROUND AND CAN BE CONVERTED TO GRID BY MULTIPLYING BY THE COMBINED SCALE FACTOR OF 0.999771

BEARING NOTE

BEARINGS ARE UTM GRID, BY REAL TIME NETWORK (TOPNET) OBSERVATIONS, UTM ZONE 17, NAD83 (CSRS)(2010).

BEARING ROTATION NOTE

FOR BEARING COMPARISONS, A ROTATION OF 0°52'30" COUNTER CLOCKWISE WAS APPLIED TO P2 TO CONVERT TO GRID BEARINGS.

NOTE

THE CONCRETE BLOCK RETAINING WALL WAS MEASURED AT GROUND LEVEL

SURVEYOR'S CERTIFICATE

I CERTIFY THAT:

1. THIS SURVEY AND PLAN ARE CORRECT AND IN ACCORDANCE WITH THE SURVEYS ACT, THE SURVEYORS ACT, AND THE REGULATIONS MADE UNDER THEM.
2. THE SURVEY WAS COMPLETED ON THE 22nd DAY OF JULY, 2022.

AUGUST 5/2022
DATE

JAMES A. AGYEMANG B.Eng.
ONTARIO LAND SURVEYOR

ASSOCIATION OF ONTARIO LAND SURVEYORS
PLAN SUBMISSION FORM
V-30050

THIS PLAN IS NOT VALID UNLESS IT IS AN EMBOSSED ORIGINAL COPY ISSUED BY THE SURVEYOR
In accordance with Regulation 1026, Section 29(3).

MAURO GROUP INC.
ONTARIO LAND SURVEYORS
2 HOLLAND DRIVE, UNIT 5, BOLTON, ONTARIO L7E 1E1
PHONE 905.951.6000 – FAX 905.857.4811
www.youngsurveying.ca – info@youngsurveying.ca

PARTY CHIEF: DB | DRAWN BY: LV | CHECKED BY: JA
CLIENT: I.YOUNG & CO. LTD.
PATH=F:\PROJECTS\2021\B7675\MSCAD\B7675_SRPR_T_v7.DWG

PROJECT No. 21-B7675 B

FOUNDATION SUPPORTWORKS® of Ontario

August 29, 2022

Paul and Jill Dallas
Email: jilldallas@rogers.com. pdallas@ocadu.ca
Cell: 416 317 2789
54 Rivercrest Road. Toronto, Ontario.

SUBJECT Access to remove and replace the existing rear lot line concrete retaining wall at the above location.

Mr./Mrs. Paul and Jill Dallas,

As noted in our proposal and quote to remove and replace the existing concrete retaining wall on the rear lot lines of 54 Rivercrest Road, we would like to highlight the need to access the work area from the bordering properties on 67/69 Riverview Gardens.

Due to the very limited access on your side lots, the steep decline from the existing rear patio, and mature undergrowth and trees, our mini excavators needed to perform our scopes of work cannot access the work area, (existing concrete retaining wall).

The relatively flat to minimal slope conditions at 67/69 Riverview Gardens, from the street, up and through the driveways, and into the rear yards, allow for a safe and efficient work environment for our employees and equipment. This access route is also less intrusive to the existing landscaping and vegetation.

In closing, we would require access through 67/69 Riverview Gardens to proceed with our scope of work.

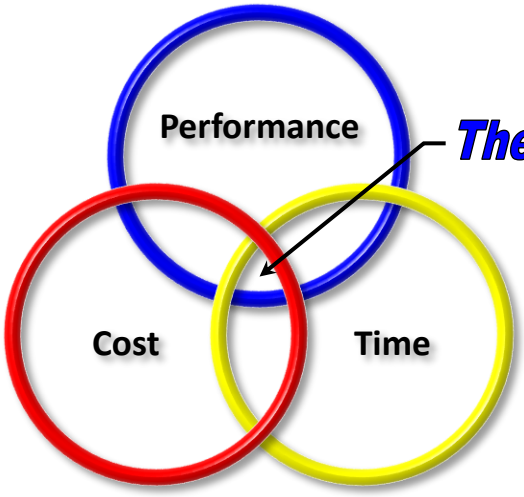
Sincerely,

Ken Pistritto, C.E.T
Commercial Project Manager
Foundation Supportworks of Ontario
Mobile: 416 716 0294

PERZIA GeoSolutions

Review Report R1	Date:	2022 09 04
	Project #:	P21 0412Y

Prepared for:	Project:
54 Rivercrest Road Toronto, ON, M6S 4H3 **Attn: Paul and Jill Dallas**	54 Rivercrest Road Toronto, ON, M6S 4H3 **Re: Retaining Wall Review** **Forensic Report Review**



The PERZIA Solution

24 Deanecourt Road • Toronto ON Canada M9B 3K7 • 416-201-1800 • www.Perzia.Pro

Powerful & Innovative Solutions for Your Earthworks Challenges

Table of Contents

1. Introduction & Background

1.1 Introduction

PERZIA GeoSolutions has been retained by Paul and Jill Dallas (the Owners), co-owners of 54 Rivercrest Road (the Site), to provide this revised Engineering Report (the Report) regarding the retaining wall (the Wall) along the rear property line of the Site. The requested Engineering Scope of Work is to review and comment on the:

- condition of the Wall and its possible movement, and
- forensic report (the Envista Report) prepared by Envista Forensics (Envista) dated April 6, 2022.

1.2 PERZIA GeoSolutions Background

For 20 years, PERZIA GeoSolutions (PERZIA) has specialized in providing powerful and innovative solutions for earthworks challenges including reinforced soil structures (RSS), especially retaining walls. We build upon advances in engineering technology to develop and implement innovative structures to stabilize walls & slopes and maximize the performance of pavement structures. From transit systems and highways to site development and ravines, these unique solutions have helped meet the performance, cost, and time criteria of our clients.

As the Founder and Principal at PERZIA, Phil Perzia, P.Eng., has 30 years of experience in the design, construction, quality verification engineering, and repair of RSS. As a driving force for RSS advancement, he has helped evolve the technology and applications while developing unique and powerful innovations. Due to his level of experience and expertise, Phil is a member of the:

- *Canadian Standards Association* serving on the *Canadian Highway Bridge Design Code - MSE (mechanically stabilized earth) Wall Task Force* for the development of the 2019 edition and the upcoming 2025 edition, and
- *Canadian Foundation Engineering Manual - Reinforced Soil Walls Group* for the development of the 2021 edition.

As one of the most experienced engineers in Canada (as outlined above), Mr. Perzia is one of the few engineering consultants approved by the Ministry of Transportation of Ontario (MTO) to evaluate proprietary retaining wall systems and steep slope systems to assist with their approval by MTO's Retained Soil Systems Committee for use on MTO highway projects.

PERZIA has assisted both public and private owners with the repair of retaining wall and slope failures especially in ravine environments and, in particular, along the Humber River ravine from Vaughan to Lake Ontario. PERZIA regularly works with the City of Toronto (the City) and the Toronto and Region Conservation Authority (TRCA). Mr. Perzia has been an expert witness in several cases including a similar situation with a failing retaining wall along a shared property line in the Humber River ravine.

Please see Mr. Perzia's CV in Appendix A for more information.

2. Project Background

2.1 Property Standards Orders

The City issued a Property Standards Order (PSO) to 54 Rivercrest Road on July 24, 2020 regarding the rear yard retaining wall to “Repair / replace retaining wall”. The City then issued similar PSO’s to 67 and 69 Riverview Gardens on December 9, 2021.

In the two most recent PSOs, the City identified the Wall as being shared between the three properties. The best case scenario in light of these three PSOs would require that all three parties:

- cooperate in the decision-making process for the design and construction of the Wall replacement,
- contribute to the cost of the:
  - engineering: e.g., geotechnical investigation, wall design, and slope stability,
  - arborist report,
  - associated permitting, approvals, etc.: e.g., TRCA and Urban Forestry,
  - construction for removal and replacement, and
- cooperate in allowing construction access for the removal and replacement of the Wall.

2.2 PERZIA Involvement

PERZIA originally became involved with the Owners in April 2021 to provide a full service solution as part of the team with the contractor, I. Young and Co. Ltd. (the Contractor), to comply with the PSO issued to 54 Rivercrest Road.

After meeting with the Owners in April, PERZIA and the Contractor met in May 2021 with the owners of the two neighbouring properties (the Neighbours), i.e., 67 and 69 Riverview Gardens (the Lower Properties), adjacent to the rear of the Site.

The main purposes of the above meetings included:

- review of the Wall,
- discuss the preference to have the three parties (i.e., the Owners and the Neighbours) cooperate to facilitate the removal and replacement of the Wall, and
- determine the safest and most cost effective way to remove and replace the Wall.

More recently, PERZIA has been asked to comment on the:

- possible movement of the Wall, and
- Envista Report.

The Envista Report was received by PERZIA on Thursday, June 9, 2022. This left only three days prior to the meeting with the City at 9:30 AM on Monday, June 13, 2022 to work on this report. Due to this extremely limited timeframe, the original Report dated June 12, 2022, was preliminary in nature (i.e., less detailed and with less supporting documentation such as photos).

PERZIA was informed on June 16, 2022, that the meeting with the City was adjourned again until September 12, 2022.

On August 23, 2022, PERZIA was informed that there may be some discrepancies in the survey that had been previously provided. The revised survey dated 2022-08-05 (the Survey) and prepared by Young & Young Surveying Inc. (the Surveyor) was provided to PERZIA on August 25, 2022. PERZIA was asked to review and comment on the Survey with particular consideration to its potential impact on the original Report.

3. Review of the Wall

The Wall appears to have been built about 80 years ago. The purpose of the Wall was to increase the usable, horizontal space in the rear yards of the Lower Properties. The Wall provides no benefit to the Site. Based on the Wall benefiting only the Lower Properties, it was likely constructed by the owners at that time of the Lower Properties.

The Wall is a gravity wall constructed of mortared, unreinforced, concrete masonry block. It ranges in height from about 1.4 to 2.0 m. It is in poor condition and leaning past vertical in several locations. The Wall is failing / has failed. The current condition of the Wall is unsafe. It should be removed and replaced. Repair is not recommended.

The poor condition of the Wall is also covered in the Envista Report.

All parties, i.e., the City, the three property owners, and both Engineers, are in agreement regarding the need to remove and replace the Wall.

4. Review of the Revised Survey

According to the Survey, the Site consists of Lots 41 & 42. The Lower Properties consist of Lots 34 & 35 (67 & 69 Riverview Gardens respectively).

According to the Detail (not to scale) of the Wall along the rear property lines, the Wall sits mostly within the Site and crosses the property line only between Lot 42 and Lot 34.

The position of the Wall relative to the property lines does not impact this Report relative to its comments, conclusions, and recommendations regarding the structural condition, removal, and replacement of the Wall.

5. Review of the Envista Report

Following are our comments on the questions and answers addressed in the Envista report taking into consideration the following excerpt from the email from Chris Ellis, Manager, Toronto/East York District, Investigation Services, Municipal Licensing & Standards, City of Toronto, to Paul and Jill Dallas dated December 2, 2021:

"Please note that Chapter 629, Property Standards, addresses non-compliance on properties where that non-compliance exists currently. Historic responsibility for this non-compliance, for example for the shifting of a retaining wall over time, is a civil matter among the property owners and the City takes no position on this." (the City Requirement)

Question 1

Although retaining walls are typically required, especially more recently, to be constructed on only one side of a property line, it has been our experience that many retaining walls, especially older ones, along property lines are situated on both properties. According to the Survey, following are the positions of the Wall along the property lines:

- along Lots 42 and 34: approx. 50% of the run of the Wall crosses the property line, and
- along Lots 41, 34, & 35: the Wall does not cross the property line.

According to the City Requirement, it is irrelevant whether the Wall has shifted laterally or not, only its current position is relevant. To address the question of whether the Wall has moved or not, it is clear that most sections of the Wall are leaning past vertical resulting in cracks, gaps, and bowing.

Question 2

Based on the City Requirement, the causes of the movement are irrelevant. To answer the question, there are different failure modes for gravity retaining walls: overturning, sliding, and tilting/bearing. Global stability of the slope above the Wall could also impact the Wall. Please see Figure 1 for the corresponding diagrams.

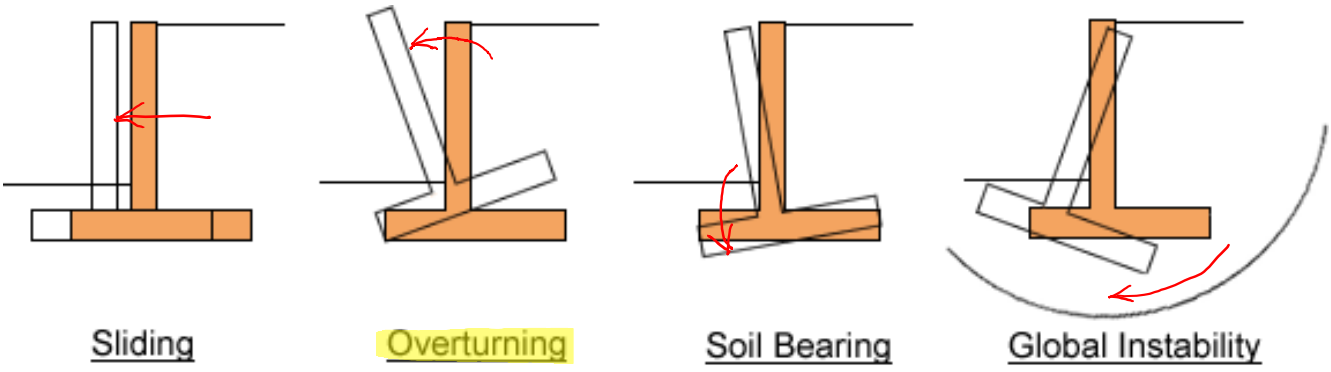


Figure 1. Retaining wall failure mechanisms.

In comparing the above diagrams with the Wall, please ignore the horizontal wall component (i.e., cantilever) underground which the Wall does not appear to have. Based on the leaning of the wall, it appears that overturning is the primary failure mechanism. Due to the low height and low applied bearing pressure of the Wall, the leaning of the Wall is less likely to be due to poor soil bearing capacity. Due to the passive resistance of the soil in front of the toe of the Wall, it is less likely that sliding has occurred.

We concur with the Envista Report that the Wall was not properly designed nor properly constructed.

Question 3

Based on the City Requirement, the effect of regular maintenance is irrelevant. To answer the question, we concur with the Envista Report that the Wall is weak and that maintenance would not have prevented the Wall from leaning (and eventually failing).

Question 4

Based on the City Requirement, the location of the Wall in 2013 is irrelevant. To answer the question, we agree with the Envista Report that the position of the Wall in the June 7, 2013, survey by Land Survey Group is inaccurate. The Wall should have been shown across the property lines into Lot 34 of the Lower Properties.

Question 5

Based on the City Requirement, the location of the Wall in 2017 is irrelevant. To answer the question, we agree with the Envista Report that the position of the Wall would have been shown across the property lines into Lot 34 of the Lower Properties. However, we do not understand the statement that “the retaining wall was not even close to the property line of 67 Riverview Gardens at the northeast rear corner”. According to the Survey, the Wall is close to the property line at the northeast rear corner. This proximity is confirmed by all of the other surveys.

Question 6

We concur with the Envista Report that the entire run of the Wall can be considered as failed (or failing). Some sections are particularly unsafe with the potential for collapse.

Question 7

As a ballpark figure, we agree with the cost estimate in the Envista Report. Please bear in mind that this is only for the portion of the run along 67 Riverview Gardens. The run along 69 Riverview Gardens will also need to be considered.

One of the most influential components on the cost for the removal and replacement of the Wall is access to the work and stockpiles areas. Based on the Envista cost estimate, it appears that they are assuming access from and on the Lower Properties. If access was only granted from 54 Rivercrest Rd., then the construction cost would be significantly higher. The difficulty of access from the upper property would make construction both technically and economically much less feasible to the point of being impractical.

6. Discussion

The Envista Report addresses some questions that are beyond the scope and relevance of the PSOs. As per the City Requirement, these extraneous questions are related to a potential civil matter. The following is intended to assist with the matter should it extend beyond the PSOs.

Establishment of Facts

The Wall was built for the benefit of the Lower Properties. It was likely built by whomever were the owners of the Lower Properties at the time of construction. It was built well before any of the current owners purchased their properties.

If the Wall was indeed constructed entirely within the Site as claimed by the Neighbours, then the owners of the Lower Properties at that time constructed the Wall beyond their properties and encroached into the Site.

Construction access was almost certainly through the Lower Properties. This also supports the position that the owners of the Lower Properties constructed the Wall.

The Wall provides no benefit to the Site. The location of the Wall is too far away from the house located at the top of the Site to provide any support to the house. On the contrary, the Wall increases the risk and responsibility to the Owners. The failure of the Wall will damage the property of the Owners.

If the Wall were to collapse, the greatest risk and danger would be to the Lower Properties and the Neighbours. Therefore, the greatest benefit is to the Lower Properties and the Neighbours to get the Wall removed and replaced as soon as possible.

7. Conclusions and Recommendations

Conclusions

It is understood that the Neighbours claim that the Wall was built entirely within the Site. Therefore, it is the position of the Neighbours that only the Owners should pay for the removal and replacement of the Wall. It is understandable that the Neighbours would feel that it is not fair and reasonable that they should have to pay for a wall that was not originally constructed on their properties.

The Owners claim that the Wall only benefits the Lower Properties while encroaching into and harming the Site. Therefore, it is the position of the Owners that all three parties should share in the responsibility and cost for the removal and replacement of the Wall in accordance with the PSOs. It is understandable that the Owners would feel that it is not fair and reasonable that they should have to contribute anything at all for a wall that was encroached onto their property and does not benefit them.

Common sense and logic dictate that it would not be fair and reasonable for the Owners to pay for the removal and replacement of the Wall which was originally built for the benefit of the Neighbours and to the detriment of the Owners.

If the Wall was to be built now from scratch by cutting into the toe of the slope, it would only be initiated and paid for by the Neighbours to benefit the Lower Properties. The entire Wall including its excavation would have to be positioned entirely within the Lower Properties without encroaching into the Site. Therefore, the Neighbours would not gain as much horizontal usable space at the rear of their yards as they have now with the current position of the Wall.

Removal and replacement of the Wall is technically and economically most feasible and safest with access from the Lower Properties. Attempting the removal and replacement with access from above the Wall through the Site would significantly increase the costs, duration, and safety risks. It is highly unlikely that any qualified contractor would be willing to perform the removal and replacement with access only through the Site.

Recommendations

It is in the best interest of all three parties to cooperate to get the Wall removed and replaced as soon as possible with construction access from the Lower Properties. Delays will increase the costs, risks, and potential damage while prolonging an unsafe situation.

It is our understanding that the Owners are willing to contribute to the costs in accordance with the PSOs. If this were to become a civil matter, it could be argued that the Owners should not be held responsible for the Wall since it provides benefit only to the Lower Properties and the Neighbours and it was constructed by encroaching onto their property.

Based on the engineering, permits, approvals, and construction requirements, it is recommended that all three parties comply with the PSOs and cooperate through the process to get the Wall safely removed and replaced.

We trust this report meets with your satisfaction. Please feel free to contact our office with any questions or comments.

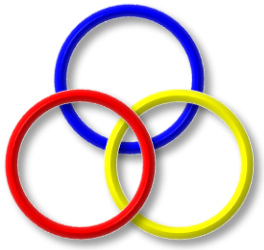
Best Regards,

PERZIA GeoSolutions

Per: Phil Perzia, P.Eng.
GeoStructural Engineer

Appendix A

CV of Phil Perzia, P.Eng.



PERZIA GeoSolutions

Phil Perzia, P.Eng.

Phil Perzia is a GeoStructural Engineer, inventor, and entrepreneur specializing in powerful & innovative solutions for:

- Earthworks construction, especially involving geosynthetics, e.g., reinforced soil structures, low impact development (LID), erosion & sediment control, drainage, containment facilities, and
- Foundation and wall support with helical piles, helical anchors, and push piers.

Phil is recognized by his peers as one of the most experienced engineers in North America in the design, construction, and quality verification engineering of reinforced soil structures (RSS). As such, he serves on the **Canadian Highway Bridge Design Code - MSE (Mechanically Stabilized Earth) Task Force** and the **Canadian Foundation Engineering Manual - Reinforced Soil Walls Group**. He is also one of the few engineers approved by the Ministry of Transportation of Ontario (MTO) for the evaluation of proprietary RSS retaining wall and steep slope systems for approval by MTO.

RSS include retaining walls, steep slopes, embankments over soft soils, pavement structures, and foundations. Phil has been involved in over 1,000 projects in Canada and internationally. For most projects, he is in the unique position of being involved in the full project process from conceptual design right through to the completion of construction. This has allowed him to gain invaluable practical insight into the design and construction of earthworks construction projects. For over 30 years, Phil's clients have benefitted from his expertise with these unique, powerful, and innovative solutions.

Industries:

- Transportation – highways, airports, rail, transit, and ports
- Environmental – LID, ravine slope stabilization, riverbank and shoreline protection, erosion & sediment control, solid & liquid waste containment
- Municipal – site development, roads, water & waste management
- Industrial – mining & quarries, forestry, pulp & paper, chemical, petro-chemical, manufacturing
- Commercial & Residential – site development

Applications:

- Grade separations requiring retaining walls and/or steep slopes
- Reinforced pavement structures for highways, runways, railways, industrial yards, parking lots, and permeable pavements
- Building structure foundation support – new & retrofit
- Liquid & solid waste containment – municipal and industrial landfills, sewage lagoons, storm water management ponds, tailings ponds, and secondary containment
- Slope stability, embankments over soft soils, erosion control, and drainage
- Repair of retaining wall failures and slope failures

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Project Highlights:

- Highway walls, slopes, embankments & pavement structures: MTO Highways 400, 401, 402, 403, 404, 407 ETR, 409, 410, 416, 417, 427, 11, 17, 35, 69, Herb Gray Parkway; Kingston Third Crossing, ON - up to 11 m high, totalling over 6 km run
- Railway walls & slopes: CN Rail, Georgetown, ON; Union Station, Stouffville Rail Corridor, Eglinton Crosstown LRT, Toronto, ON - up to 16 m high, totalling over 3 km run
- Airport walls, runway & tarmac pavement structures, GTAA Pearson International Airport, Mississauga, ON - up to 8 m high, over 2 km run
- Landfill cap with vegetated steep slope soil veneer, Rennie Street Landfill, Hamilton, ON - 13 m high, 500 m run, 35° RSS, awarded International Outstanding Achievement Award by IFAI
- Slope failure repair, Etobicoke Creek, Mississauga, ON - 12 m high, 100 m run, 45° to 60° RSS, for the City of Mississauga and approved by the TRCA
- Dam support slopes, Ontario Hydro & Inco, ON - up to 16 m high, 300 m run, 60° RSS
- Industrial liquid & solid waste containment, berms & walls, southern Ontario - up to 6 m high, 8.1 km run, 80° RSS & concrete segmental block RSS
- CIP concrete retaining walls supported by helical piles & helical tiebacks, Ontario Science Centre, Toronto, ON - 3 tiers totalling 6 m high, 300 m run

Approvals Phil has gained for the use of various RSS systems:

- DOTs: Ministry of Transportation Ontario (MTO), New Brunswick, Newfoundland & Labrador
- Metrolinx, GO Transit, Toronto Transit Commission (TTC)
- Greater Toronto Airport Authority (GTAA)
- Various municipalities

Agencies with whom Phil has worked:

- Federal – Public Works Canada, Department of National Defence, Department of Fisheries and Oceans, National Capital Commission, Canadian International Development Agency
- Provincial: Ontario – Ministries of Transportation, Environment, Natural Resources; Metrolinx/GO Transit; Other Departments of Transportation - New Brunswick, Newfoundland & Labrador, Nova Scotia, Prince Edward Island, Quebec
- Municipal: City of Toronto, TTC, Durham Transit, Mississauga Transit, Toronto and Region Conservation Authority (TRCA), plus numerous other municipalities
- Other: GTAA, Ontario Hydro (Ontario Power Generation), Caribbean Development Bank

Clients:

- Geotechnical consultants, civil consultants, architects, contractors, owners (government and private), manufacturers & distributors of wall systems, geosynthetics, and helical piles
- Owners and contractors – 407 ETR, Aecon, Alliance Verdi Civil, Brennan Paving, CN Rail, Crosslinx Transit Solutions, Domtar, Dow Chemical, Dufferin Aggregates, Dufferin Construction, Ellis-Don, Falconbridge, General Chemical, George Brown College, Home Depot, Inco, Kiewit, Lowe's, Macassa Gold Mine, Miller Concrete, Petro-Canada, Roni/Orin, Smart Centres, Unit Park

Teaching & Publishing:

- Delivered over 1,000 educational presentations to consultants, owners, and contractors
- Guest lecturer at universities, colleges, and continuing engineering education: University of Toronto, Ryerson University, University of Western Ontario, University of New Brunswick, Fanshawe College, Sir Sanford Fleming College, Canadian Geotechnical Society, EPIC
- Technical papers: GeoOttawa 2017 CGS Geotechnical Conference, GEO2011 Pan-Am CGS Geotechnical Conference, 2001 North American Geosynthetics Conference
- Educational papers in various trade magazines

Employment:

GeoStructural Engineer, Principal, PERZIA GeoSolutions – 2001 to present
- Applying practical experience as described above to provide powerful and innovative solutions to engineering consultants, owners, contractors, manufacturers, and distributors
- Expert witness as recognized by the Superior Court of Justice Ontario

Regional Manager, Eastern Canada, Tensar Earth Technologies, Inc. – 2000 to 2001
- Manufacturer's representative in Eastern Canada
- Tensar manufactures geogrids and related geosynthetics, and provides engineered systems based on geogrid reinforced soil structures
- Managed sales and distribution through distributor network
- Provided technical support to distributors and clients (engineering consulting firms, owners, contractors) including design and on-site technical assistance during construction
- Provided sales support and training to distributor network and technical training

Senior Geosynthetics Engineer, Terrafix Geosynthetics Inc. – 1991 to 2000
- Managed Tensar systems including technical support, sales, and approvals
- Managed Bentofix geosynthetic clay liners including technical support, sales, and approvals
- Provided technical and sales support to staff and customers for full line of geosynthetics
- Provided technical support to distributors and clients (engineering consulting firms, owners, contractors) including design and on-site technical assistance during construction
- Provided sales support and training to distributor network and technical training

Project Manager, Vedo Construction Limited – 1988 to 1991
- Managed sales and construction of pre-engineered steel buildings
- Managed maintenance of several apartment buildings

Patents:

Geocellular confinement system:
- MonuGrid+® stiff geocell for monument foundation support in cemetery industry

Organizations:

- Member of:
  - Canadian Standards Association (CSA) Group
    - **Canadian Highway Bridge Design Code - MSE Task Force**
      - Subject Matter Expert for online course
  - **Canadian Foundation Engineering Manual - Reinforced Soil Walls Group**
  - Canadian Geotechnical Society
  - Professional Engineers Ontario
  - Ontario Society of Professional Engineers
  - International Geosynthetics Society (IGS)
  - IGS North America
- Served on:
  - Canadian Geotechnical Society – Executive committee, Southern Ontario Section
  - Canadian General Standards Board – Subcommittee on geosynthetic clay liners
  - Canadian Society of Civil Engineers – Executive committee, Toronto
  - Toastmasters International, Communication and Leadership - Executive committees
- Volunteering:
  - Coach – children's and men's sports: soccer, hockey, and baseball
  - Canadian Cancer Society – Volunteer Presenter, Seven Steps to Health

Education:

- Continuing Engineering Education – internal company training and at events & conferences
- Landfill Design, University of Western Ontario, London, Ontario
- Designing with Geosynthetics, Drexel University, Philadelphia, Pennsylvania
- Bachelor of Applied Science, Civil Engineering, University of Toronto, 1988

MAURO GROUP INC.

August 05, 2022

I. Young & Co. Ltd

RE: SURVEY REPORT – 54 RIVERCREST ROAD, TORONTO

We have completed our survey of the property known as No. 54 Rivercrest Road, in the city of Toronto and have attached the pdf and CAD files of the Surveyor's Real Property Report Showing the location of the base of the concrete retaining wall.
The base of the Concrete Block Retaining wall was surveyed on July 22, 2022, with the following results,

1) The west face of the base of the Concrete Bock Retaining Wall lies 0.23m and 0.06m East of the Property Line between Lots 35 and 41 on Registered Plan 2714.
2) The west face of the base of the Concrete Bock Retaining Wall meanders along the Property Line between Lots 34 and 42. At certain points the wall is 0.01m, 0.04m and 0.07m East of the Property Line and at some points, 0.03m and 0.08m **West** of the Property Line between Lots 34 and 42.
3) There is a foundation to the aforementioned retaining wall that was not located and may also meander along the above property lines.

We trust you will find the above satisfactory. Please do not hesitate to contact me should any questions or concerns arise.

Respectfully,
MAURO GROUP INC.

James Agyemang, B.Eng., OLS

Ontario Land Surveyors 2 Holland Drive, Unit 5, Bolton, Ontario L7E 1E1
Tel: (905) 951-6000 Fax: (905) 857-4811 Email: info@maurogroup.ca Web: www.maurogroup.ca

MAURO GROUP INC.

August 12, 2022

Paul Dallas

RE: SURVEY – 54 RIVERCREST ROAD, TORONTO

The original PDF copy of the Surveyors Real Property Report showing Topographic Features (SRPR) dated July 15, 2021 is correct as nothing shown on this Plan has changed from our original survey. During the original survey, our field crew was not able to access the neighbour's property as the gates were locked and no one answered the door. They measured elevations to the base while standing on top of the retaining wall but could not accurately measure the location relative to the property line.

We returned on July 22, 2022 and have since provided you with a new PDF copy of the SRPR to reflect the location of the base of the retaining wall and have updated the original CAD drawing (DWG file attached) to show the retaining wall location relative to the property line.
Regarding the retaining wall foundation, we did not dig to locate the foundation, so its location is not known at this time.

We have not proceeded with the Reference Plan but, if you want this done, we will have to comeback on site to set monuments at the rear of the property line before the R-Plan can be deposited in the Registry Office.

Please do not hesitate to contact us if you have any concerns or require additional information (we can be reached by this email or phone # 905-951-6000)

Respectfully,
MAURO GROUP INC.

James Agyemang, B.Eng., OLS

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