

Our ref: 11229262-01

April 14, 2023

Mr. Ben Rossetto
2546229 Ontario Ltd., c/o Achille Developments
141 Bathurst Street, Suite 101
Toronto, Ontario
M5V 2R2

**Compatibility Between Industrial Facilities and Sensitive Land Uses
Proposed Condominiums Development – Scarborough, Ontario
4570 Sheppard Avenue East, Scarborough, Ontario**

Dear Mr. Rossetto

1. Introduction

GHD was retained by 2546229 Ontario Ltd. (Applicant) to complete a Land-Use Compatibility Study (Study) in support of the proposed development at 4570 Sheppard Avenue East in Scarborough, Ontario (Site). The study would be completed in accordance with the Ministry of Environment, Conservation, and Parks (MECP) Guideline D-6 – "Compatibility Between Industrial Facilities and Sensitive Land Uses".

The objective of this guideline is to prevent or minimize encroachment of sensitive land use upon industrial land use and vice versa, as these two types of lands are incompatible, due to possible adverse effects on sensitive land use created by industrial applications. The D-6 Guideline defines a recommended minimum separation distance and potential influence area between industrial facilities and sensitive land uses for each class as presented in Table 1 below:

Table 1 MECP Guideline D-6 Recommended Setback Distances and Areas of Influence

Industry Classification	Recommended Minimum Setback Distance (m)	Potential Area of Influence (m)
Class I: Light industry	20	70
Class II: Medium Industry	70	300
Class III: Heavy Industry	300	1,000

The Site is located just north side of Sheppard Avenue East and west of McCowan Road. The zoning for this property is Employment Industrial (EO). The subject Site is surrounded by lands zoned as Employment Industrial (EO), Residential (RS), Commercial Residential (CR), Open Space (ON), and Commercial (C). GHD evaluated the potential adverse impacts of the surrounding industries/facilities on the proposed development to assess the proposed development to the MECP land use planning guidelines and requirements. In addition, the

zoning classification of the current land parcel will be changed from Employment Industrial to Residential to assist with the construction of multiple condominiums and office/commercial buildings.

As part of the Study an ambient air quality study was also completed. The Study was completed from March 20 to March 31, 2023. The ambient air quality study had an air monitoring station located at the North end of the Site close to the neighbouring Dufferin Concrete operations. This location was chosen to identify if there was an impact from various size fractions of particulate matter at Site.

The following attachments will support GHD with the study:

- Attachment A – Site Plan Map
- Attachment B – Land Use Zoning Designation Plan
- Attachment C – Location Plan of Nearby Sensitive Receptors
- Attachment D – Wind Rose Plot – 4570 Sheppard Avenue East, Scarborough, Ontario

2. D-Series Land Use Planning Guidelines

The MECP D-series guideline provides minimum setback distances and potential areas of influence based on the class of the industrial facility. Recommended minimum separation distances are provided based on the industry size and operation type. The guideline provides direction for land use planning to maximize compatibility of industrial uses with adjacent land uses. The goal of Guideline D-6 is to minimize encroachment of sensitive land uses on industrial facilities and vice versa, to address potential incompatibility due to adverse effects such as noise, odour, and dust.

Guideline D-6 separates industry into three broad categories, depending on the nature of their operations and the types of potential impacts:

- Class I facilities are small scale, self-contained plants, or buildings, which produce and store products internally, and have low probability of fugitive emissions. They have daytime operations only, with infrequent movements of products and/or heavy trucks.
- Class II facilities perform medium scale processing, with some outdoor storage of wastes and materials, frequent movement of products and/or heavy trucks, and shift work.
- Class III facilities conduct large scale manufacturing, and are characterized by their large size, continuous operations and movements of products, outdoor storage of materials, and a high probability of fugitive emissions.

Guideline D-6 provides criteria for classifying industrial land uses, based on their outputs, scale of operations, processes, schedule, and intensity of operations. Often an industry will fall between two Classes. Guideline D-6 states that no incompatible development should occur within the recommended minimum separation distance.

3. Ambient Air Monitoring Study

The Dufferin Concrete plant was identified as the nearby facility of greatest potential concern, including by the City of Toronto. The concern was with respect to the potential for ambient air quality concerns arising from operations at the Dufferin Concrete plant.

As a result, a specific program of ambient air quality monitoring was undertaken to determine if the actual conditions exceeded MECP ambient air quality standards. The findings, set out below, indicated that the results of the PM_{2.5}, PM₁₀, and TSP are all well below the MECP standards. PM_{2.5}, PM₁₀, and TSP are the fractions of particulate matter that the MECP have ambient air quality criteria for.

An ambient air monitoring study was completed at the Site from March 20 to March 30, 2023. The air monitoring was completed using a DustTrak DRX air monitor. The DustTrak DRX was located at the North end of the Site close to the property boundary. The location of the DustTrak DRX was chosen to comply with the requirements of the MECP Operations Manual for Air Quality Monitoring in Ontario. The location of the DustTrak DRX was also chosen to likely experience the greatest impact from the Dufferin Concrete facility and was closer than the closest proposed residential receptor on the Site.

The DustTrak DRX is able to simultaneously monitor the concentration of 2.5 micron particulate matter (PM_{2.5}), 10 micron particulate matter (PM₁₀), and total suspended particulate matter (TSP). For this study the follow air quality criteria was used (MECP Ambient Air Quality Criteria):

Table 2 *Air Quality Criteria*

Contaminant	Air Quality Limit (µg/m ³)	Averaging Period
PM _{2.5}	27	24 hours
PM ₁₀	50	24 hours
TSP	120	24 hours

The results of the ambient air monitoring are as follows (24-hour averages):

Table 3 *Ambient Air Monitoring Results*

Date	PM _{2.5}	PM ₁₀	TSP
March 20, 2023	2.14	3.91	4.73
March 21, 2023	3.61	5.87	6.77
March 22, 2023	0.39	1.81	2.15
March 23, 2023	5.75	6.00	6.00
March 24, 2023	1.75	1.40	2.25
March 25, 2023	3.5	4.81	5.31
March 26, 2023	5.67	5.67	6.00
March 27, 2023	13.40	14.67	14.87
March 28, 2023	1.08	2.13	2.63
March 29, 2023	1.96	3.35	3.70

As provided in the above tables, the concentration of all contaminants is well below their respective MECP criteria for the entire ambient air monitoring program.

4. Land Development and Site Conditions

The proposed development will consist of a series of residential, commercial, and office buildings. The proposed developments at the Site are listed as follows:

- 1 Storey Commercial Building
- 40 Storey Residential Tower 'A' with a six Storey Podium
- 40 Storey Residential Tower 'B'
- 40 Storey Residential Tower 'C' with a six Storey Podium
- 10 Storey Office Building 'D'

The proposed development Site is flanked by Sheppard Avenue to the South, existing commercial properties and McCowan Road to the East, a fire station and Commercial Properties to the West, and Green Open Space to the North. To the East of the proposed building developments, just before McCowan Road. The Site Plan Map is provided in Attachment A.

The Land Use Zoning Plan is provided in Attachment B and the existing nearby sensitive land use patterns are as follows:

- 4560 Sheppard Avenue East – Toronto Paramedic Service Station No. 29 and Toronto Fire Station 243 – Commercial located immediately west of the development.
- 4650 Sheppard Avenue East – Canadian Tire Gas Bar – located immediately east of the development.
- 4548 Sheppard Avenue East – Toronto Adventist Church – Commercial (C) located approximately 70 m west of the development.
- 4544 Sheppard Avenue East – One Life Wellness Centre – Commercial (C) located approximately 107 m west of the development.
- 4559-4571 Sheppard Avenue East – Multiple Commercial Residential Businesses, including grocery store, clothing and boutique gift store, auto and truck repair service, spa service, and Office of MPP (CR) located approximately 88 m southwest of the development.
- 4630 Sheppard Avenue East – Canadian Tire – Commercial (C) located immediately east of the development.
- 4500 Sheppard Avenue East Unit #43 – Multiple Employment Industrial businesses, including a garden centre, medical supply store, delivery/courier services, and fitness studio – Employment Industrial (EO) located approximately 142 m west of the development.
- Green Open Space (ON) located approximately 200 m north of the development.
- 1940 McCowan Road – Dufferin Concrete – Employment Industrial (EO) located approximately 30 m northeast of the development.
- 67 Commander Boulevard, Unit #4 – Celplast Crawford Packaging – Employment Industrial (EO) located approximately 250 m north of the development.
- 67 Commander Boulevard, Unit #4 – Celplast Metalized Products – Employment Industrial (EO) located approximately 208 m northwest of the development.
- 95 Commander Boulevard – Leland Industries Inc. – Employment Industrial (EO) located approximately 234 m northwest of the development.
- 105 Commander Boulevard – Grain Processing Facility – Employment Industrial (EO) located approximately 295 m northwest of the development.

This list is not exhaustive but covers the neighbouring operations that have the potential to have an impact at the proposed development.

There are no planned developments that would impact the findings of the Study. There are also no recent complaints to air quality or odour in the study area. GHD contact the City and the MECP to identify if any air quality or odour complaints were present in the area around the Site. The City indicated that they had no record of complaints regarding odour or air quality. The MECP has not responded to the request to date. It is expected that if there was a history of complaints that the MECP would have provided information in a timely manner.

4.1 Limited Concern Facilities

Facilities analyzed in this D-6 Compatibility Assessment were categorized as either facilities of limited concern or facilities of potential concern with respect the Site and surrounding environment. Limited concern facilities include supplier stores, auto repair shops, offices, and distribution centers. Facilities of potential concern include industries such as manufacturing, storage facilities, and heavy equipment suppliers, and concrete

manufacturers. The facilities/businesses that surround the proposed development with the exception of the Dufferin Concrete to the North and the Fire/Paramedic station to the West areas are all small-scale commercial properties which include, auto repair shops, grocery stores, restaurants, residences, small commercial plazas, and retail. These facilities can all be classified under Class I for Air, Noise, and Dust and are classified as Light Industry under the MECP Guideline D-6. All of these facilities are well beyond the Recommended Minimum Setback Distances of 20 m.

4.2 Potential Facilities of Concern

4.2.1 Dufferin Concrete

The closest of the Potential Facilities of Concern is Dufferin Concrete, located approximately 30 meters (property line to property line) Northeast of the development. The existing Dufferin Concrete operations are approximately 120 meters from the nearest proposed residential tower. The facility is located in the Employment Industrial zone. Based on the Guideline D-6, this facility can be defined as a Class II based on the size of the facilities, concrete trucks frequently coming in and out of the facility, possible noise, vibration, and dust generated due to the activities at the facility. Dust issues due to concrete storage would be frequent and at times intense depending on the wind direction. The possibility of fugitive emissions is low as the trucks would be the only source of emissions. The facility is located approximately 120 m Northeast of the development which is well beyond the 70-m minimum set back distance recommended by the Guideline D-6.

The operations at the Dufferin Concrete are regulated by the Ministry of Environment, Conservation, and Parks (MECP) under Regulation 419/05. This location operates under Certificate of Approval (Air) Number 5084-757LAM. The Certificate of Approval (Air) requires that the emissions from all operations on the property meet the stringent MECP air quality criteria.

The MECP requirements have evolved over time and have become more stringent on the operator of industrial operations. Some of these changes have included the requirement for facilities to have fugitive dust management plans as part of their operational plans or to have plans in place to minimize all fugitive emissions. Condition 6 of the ECA for this operation requires Dufferin to have operating procedures and maintenance plan program plans in place that shall specify, at a minimum, procedures to minimize all fugitive emissions.

Dufferin Concrete also incorporates a fugitive dust management plan as part of their operations. The fugitive dust management plan limits the potential for fugitive emissions from the operations from truck track and all of fugitive sources, such as storage piles.

An ambient air monitoring program was completed on the Site at a location near the Dufferin operations. The results of the ambient air monitoring program demonstrated that there were no concerns from the Dufferin operations on the Site.

Based on the separation distance, the implementation of a fugitive dust management plan, and the Dufferin Concrete operations operating under the Certificate of Approval (Air) the proposed development is compatible with the existing operations and any future expansions.

4.2.2 Toronto Paramedic Service Station No. 29 and Toronto Fire Station 243

Toronto Paramedic Service Station No. 29 and Toronto Fire Station 243 operate directly West of the proposed development. Toronto Paramedic Service Station No. 29 has no air or odour emissions and no further assessment is warranted.

Toronto Fire Station 243 previously had fire training services at the site. This includes a burn tower, a "fire" container, and small fire training. The burn tower is infrequently used (once every couple of years) and is planned to coincide with meteorological conditions that take any emissions from the training exercise to the

West. This is away from the existing residences as well as the proposed development. During the use of the burn tower there is smoke generated for a short period of time for training purposes. The use of the burn tower is not for an extended period and the air emissions are minimized.

The "fire" container is where staff are required to train as part of their fire fighting duties. The training consists of lighting a fire in half of the container and having staff in the other half of the container to understand the conditions during actual fires. Similar to the burn tower, the use of the container is timed with meteorological conditions where the wind is blowing to the West, away from the existing residences and proposed development. The container is used more frequently than the burn tower but is not a daily operation. It typically occurs one to two times per month.

The small fire training operations include barbeque fires and similar small fires that staff extinguish. The expected emissions from these operations are insignificant and would be similar to typical residential barbeque emissions.

Based on information from the Fire chief in the summer of 2021 the use of the burn tower and fire container were to be discontinued in 2022.

The activities occurring at 4560 Sheppard Avenue East are scheduled to occur when the wind direction is blowing away from the existing residential and proposed development. The activities at this location that potentially have emissions that could have an impact off site are infrequent in nature and have a short duration.

4.2.3 Celplast Crawford Packaging

Another potential facility of concern would be Celplast Crawford Packaging which is located approximately 250m north from the area of development. The facility is located in the Employment Industrial zone and can be classified as a Class II designation based on the MECP Guideline D-6. The facility operates as a packaging facility that provides a variety of packaging and shipping products such as:

- Stretch Film
- Shrink Film
- Protective/Void Fill Packaging
- Packaging Tape
- Marking and Labelling
- Corrugated Cardboard and Paper
- Vapor Corrosive Inhibitor (VCI) Packaging
- Plastic and Poly Products

The reason for the Class II designation is the frequent movement of trucks during the daytime hours. There is a very low probability of fugitive emissions from this facility with occasional audible sound/noise from the truck traffic during the busier times of the day. There is not expected to be air or odour emissions from this operation that would have an impact at the Site.

4.2.4 Celplast Metallized Products

The Celplast Metallized Products are a steel and metal distribution facility located in the Employment Industrial Zone, approximately 208 m northeast of the development. The facility can be classified as a Class II based on the MECP Guidelines D-6 as it is a distribution facility supplying:

- Metalized Films
- Metalized Barrier and High Adhesion Films
- Transparent Barrier Films
- Barrier Sealants

- Top Coated Barrier Films
- Stripe Metallizing

Based on the Class II designation, the facility is well beyond the 70-m minimum recommended set back distance. The reason for the Class II designation is the frequent movement of trucks during the daytime hours. There is a very low probability of fugitive emissions from this facility with occasional audible sound/noise from the truck traffic during the busier times of the day.

4.2.5 Leland Industries

Leland Industries Inc. are a manufacturing facility that specializes in manufacturing bolts, nuts, screws, washers, roofing products, and custom specialty fasteners. The facility is in an Employment Industrial Zone, approximately 234 m Northeast of the area of development. The facility can be classified as a Class III designation due to the metal manufacturing/fabrication nature of the facility. The facility is located within the 300-m minimum recommended setback distance and the 1,000-m potential area of influence. Leland Industries manufactures the following products:

- Bolts
- Nuts and Washers
- Screws
- Threaded and Formed Parts
- Roofing Products
- Custom Specialty Fasteners

The Class III designation to this facility is mainly due to the constant manufacturing and transportation of products to and from the facility, large area of the facility, involving large production capacities and storage of raw materials, and the noise along with a high probability of fugitive emissions.

Leland Industries currently operations under Environmental Compliance Approval (ECA) No. 7611-AJTSLV issued March 21, 2017. The sources that have the potential to release odours include the painting process and curing oven. These sources are required to be treated by the regenerative thermal oxidizer (RTO). The use of an RTO would provide odour control and therefore there is not expected to be any odour impact from the Leland operations at the Site. Leland Industries is required to demonstrate compliance with the remaining air compounds at the property boundary and therefore is compatible with the proposed development.

4.2.6 Grain Process Enterprise Limited

This facility is a Grain Processing and Distribution Centre that is in the Employment Industrial Zone, located approximately 295 m northwest of the development area. This facility stores, processes, and distributes multiple types of grains, seeds, and dry foods. This facility can be classified as Class II as per the MECP Guideline D-6, primarily due to its size of the facility and the frequency of trucks entering and leaving the facility. There is low probability of fugitive emissions and occasional noise due to truck traffic.

The above-mentioned facilities can all be seen in Attachment C – Location Plan of Near-By Sensitive Receptors. Attachment C contains the distance from property boundary to property boundary as well as the location of the proposed residential buildings to the existing industrial/commercial operations.

5. Site Specific Meteorological Data

A Wind Rose plot was prepared to calculate wind speed (m/s) and wind direction at the Site (4570 Sheppard Avenue East) with the closest weather station being in Toronto – Climate ID 6158409. The Wind Rose plot was

prepared from 2016 to 2020 to determine dominant wind direction and wind speed as this data can help determine adverse effects of dust, odour, and any fugitive emissions from the nearby facilities on the proposed development. The Wind Rose plot show winds prevailing primarily from a North-Northwesterly and a Westerly trend.

All the facilities located west of the area of development are categorized as Class I, thus having no fugitive emissions and a very low probability of odour and noise issues. There are five facilities located northwest of the area of development, four of them have been classified as Class II and one has been classified as Class III. All of these facilities are well beyond the minimum set back distance requirement of 70 m (Class II). The Class III facility is within the 300 meter set back distance. Based on the review of the potential facilities of concern there is a low probability of adverse impacts from odour and fugitive emissions from the facilities.

6. Summary of Potential Impacts

The Land Use Designation Zones that are surrounding the area of development are comprised primarily of:

- Residential (RS)
- Commercial Residential (CR)
- Employment Industrial (EO)
- Commercial (C)

Majority of the facilities located in close proximity to the area of development are designated as either Class I or Class II facilities and are located well beyond the minimum recommended set back distances of 20 m and 70 m respectively. The one facility categorized as Class III, Leland Industries Inc. is located 418 m northwest of the area of development, well beyond the 300-m minimum setback distance. Although, this facility does fall within the potential area of influence of 1,000 m. Overall, there seems to be a low probability of adverse impact of the surrounding areas on the proposed development.

7. Conclusions and Recommendations

The results of this Study indicate that potential impacts of the surrounding land use zones would have a low probability of adverse impact on the proposed development.

Table 4 *Potential Impacts of Stationary Sources on Nearby Developments*

Zone Category	Sensitive Location	Separation Distance (m)	Potential Area of Influence (m)	Recommended Minimum Separation Distance (m)	Comment
C	4560 Sheppard Avenue East	Adjacent	70	20	Within area of influence and minimum separation distance. No adverse impact expected.
C	4548 Sheppard Avenue East	70	70	20	Beyond area of influence. Meets recommended minimum separation distance. No adverse impact expected.

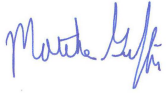
Zone Category	Sensitive Location	Separation Distance (m)	Potential Area of Influence (m)	Recommended Minimum Separation Distance (m)	Comment
C	4544 Sheppard Avenue East	107	70	20	Beyond area of influence. Meets recommended minimum separation distance. No adverse impact expected.
CR	4559-4571 Sheppard Avenue East	88	70	20	Beyond area of influence. Meets recommended minimum separation distance. No adverse impact expected.
C	4630/4650 Sheppard Avenue East	Adjacent	70	20	Within area of influence and minimum separation. distance No adverse impact expected.
EO	4500 Sheppard Avenue East	111	70	20	Beyond area of influence. Meets recommended minimum separation distance. No adverse impact expected.
EO	1940 McCowan Road	30	70	20	Within area of influence. Meets recommended minimum separation distance. No adverse impact expected.
EO	67 Commander Boulevard, Unit#4	250	300	70	Within area of influence. Meets recommended minimum separation distance. No adverse impact expected
EO	95 Commander Boulevard	234	1000	300	Within area of influence and minimum separation. distance No adverse impact expected.
EO	105 Commander Boulevard	295	300	70	Within area of influence. Meets recommended minimum separation distance. No adverse impact expected

Based on the Study of the nearby receptor locations, there is a very low probability of having any adverse impacts (Odour, Dust, Fugitive Emissions) from the nearby facilities on the proposed development. Preliminary screening indicates that the subject Site could be developed for residential, retail, and office user per the concept plan without adverse impacts.

An ambient air monitoring study was completed at the Site on the North end, closest to the Dufferin operations, that demonstrated that the air quality for PM_{2.5}, PM₁₀, and TSP are all well below their respective MECP ambient air quality criteria.

Should you have any question on the above, please do not hesitate to contact us.

Regards

A handwritten signature in blue ink, appearing to read "Matt Griffin".

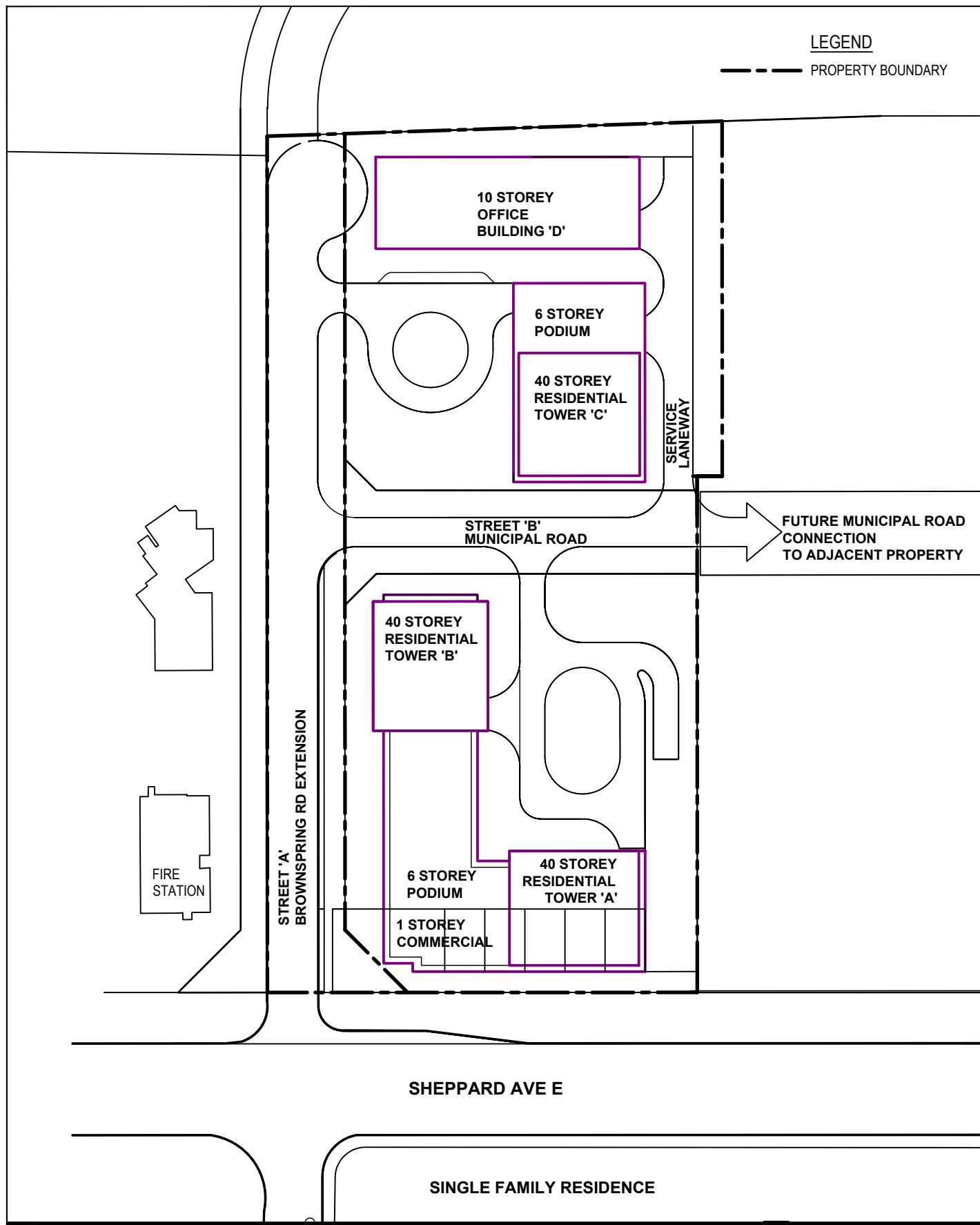
Matt Griffin P. Eng.
+1 519 340-3794
matthew.griffin@ghd.com

Encl.

Attachments

Attachment A

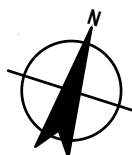
Site Plan Map



0 12.5 25 37.5m

1:1250

Coordinate System:
UTM, Nad83, Zone 17



ROSSBRO GROUP
4570 SHEPPARD AVE. E, SCARBOROUGH, ON
LAND USE COMPATIBILITY STUDY

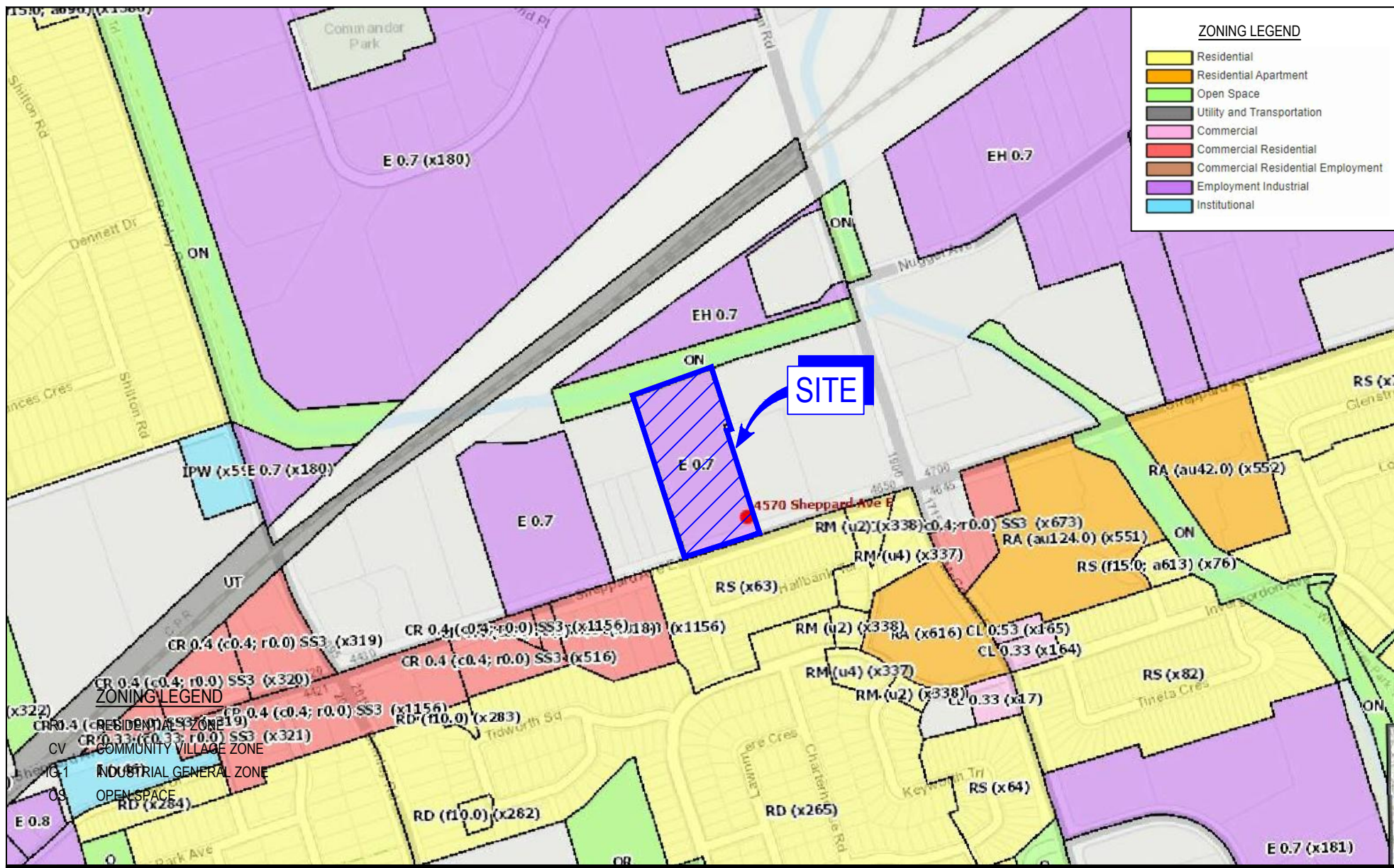
Project No. 11229262
Date June 2021

SITE PLAN MAP

Attachment A

Attachment B

Land Use Zoning Designation Plan



ZONING LEGEND	
	Residential
	Residential Apartment
	Open Space
	Utility and Transportation
	Commercial
	Commercial Residential
	Commercial Residential Employment
	Employment Industrial
	Institutional

0 70 140 210m
1:7000
Coordinate System:
UTM, Nad83, Zone 17

ROSSBRO GROUP
4570 SHEPPARD AVE. E, SCARBOROUGH, ON
LAND USE COMPATIBILITY STUDY

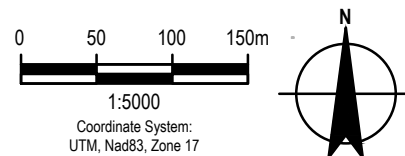
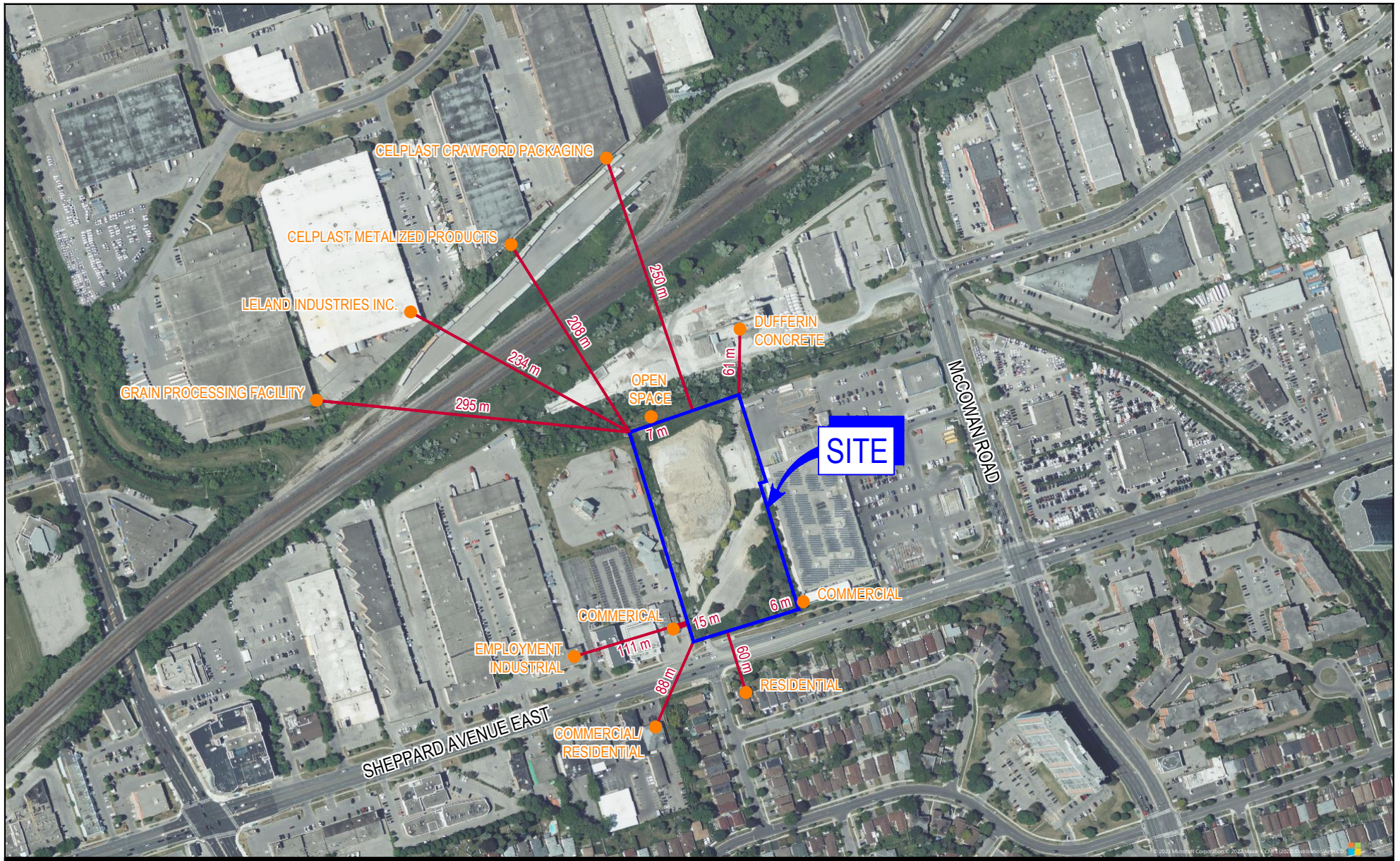
**LAND USE ZONING
DESIGNATION PLAN**

Project No. 11229262
Date June 2021

Attachment B

Attachment C

Location Plan of Nearby Sensitive Receptors

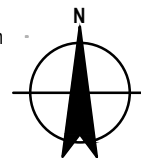
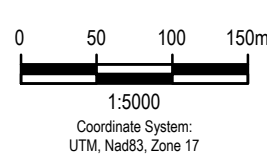
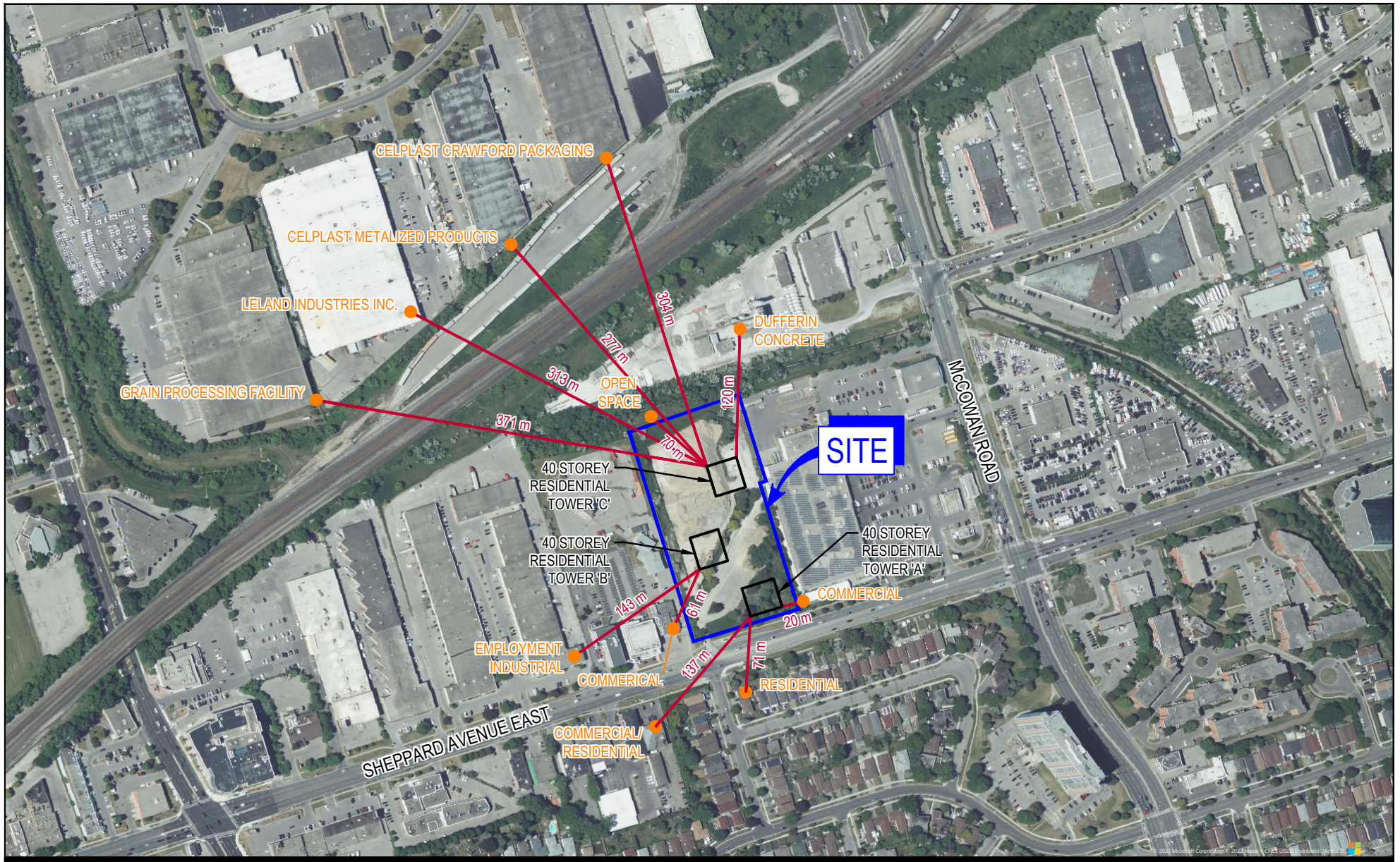


ROSSBRO GROUP
 4570 SHEPPARD AVE. E, SCARBOROUGH, ON
 LAND USE COMPATIBILITY STUDY

**SURROUNDING LAND
 USES - PROPERTY LINE**

Project No. 11229262
 Date March 2023

Attachment C.1



ROSSBRO GROUP
4570 SHEPPARD AVE. E, SCARBOROUGH, ON
LAND USE COMPATIBILITY STUDY

**SURROUNDING LAND
USES - SITE TO USE**

Project No. 11229262
Date March 2023

Attachment C.2

Attachment D

Wind Rose Plot

4570 Sheppard Avenue East

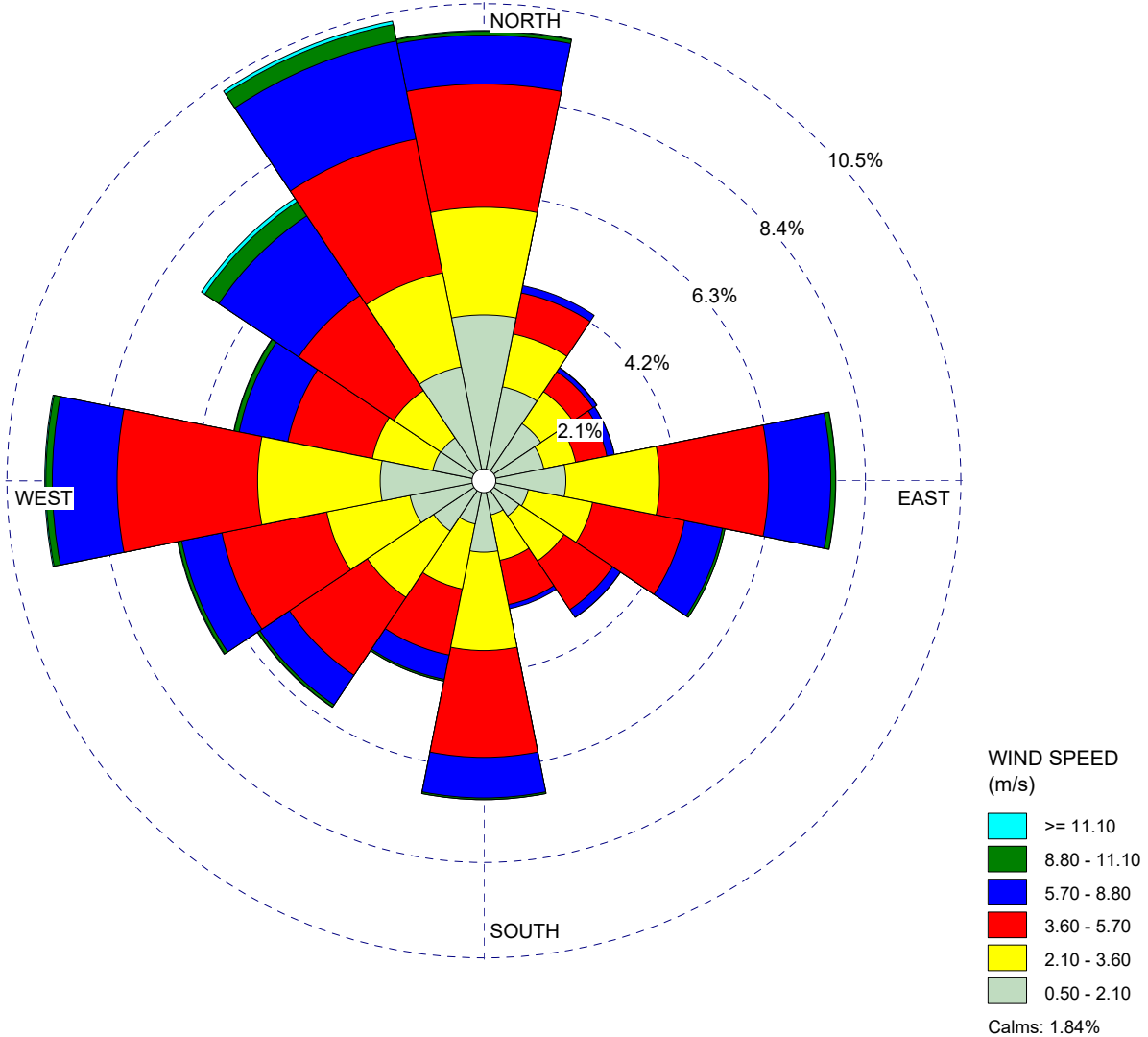
Scarborough, Ontario

WIND ROSE PLOT:

Wind Rose Plot - 2016-2020
Toronto, Ontario - Climate ID 6158409

DISPLAY:

Wind Speed
Direction (blowing from)



COMMENTS:

Source: Environment Canada

DATA PERIOD:

Start Date: 1/1/2016 - 00:00
End Date: 12/31/2020 - 23:00

COMPANY NAME:

Rossbro Group

MODELER:

A. Buchenauer

CALM WINDS:

1.84%

TOTAL COUNT:

43382 hrs.

AVG. WIND SPEED:

3.52 m/s

DATE:

6/30/2021

PROJECT NO.:

11229262