

2507517 ONTARIO INC.

LAND USE COMPATIBILITY STUDY 642 DUNLOP STREET WEST, BARRIE

APRIL 11, 2022

FINAL





LAND USE COMPATIBILITY STUDY

642 DUNLOP STREET
WEST, BARRIE

2507517 ONTARIO INC.

FINAL

PROJECT NO.: 221-01730-00

DATE: APRIL 11, 2022

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April 11, 2022

FINAL

2507517 ONTARIO INC.
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Attention: Manjit Banwait, President

Subject: 642 Dunlop Street West, Barrie Land Use Compatibility Study

WSP Canada Inc. (WSP) was retained to complete a Land Use Compatibility Study, to assess potential air quality, dust, odour, noise, and vibration concerns for the property located at 642 Dunlop Street West in Barrie, Ontario (the 'Site'). The study is being completed in support of a Site Plan Approval ('SPA') and minor variance application as requested by the City of Barrie ('City').

The study was conducted in accordance with the "Compatibility between Industrial Facilities and Sensitive Land Uses", published by the Ontario Ministry of the Environment, Conservation, and Parks (MECP) Guideline D-6 by the Ontario Ministry of the Environment, Conservation and Parks (MECP).

The purpose of the study was to assess potential impacts that the surrounding industrial facility operations could have on the Proposed Development and vice versa. The objective was to review compatibility of land uses and flexibility for growth in developing the community.

Sincerely,

WSP Canada Inc.

A handwritten signature in black ink, appearing to read 'Stephanie Clarke'.

Stephanie Clarke
Environmental Consultant - Air Quality

WSP ref.: 221-01730-00

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1 INTRODUCTION

WSP Canada Inc. (WSP) was retained by 2507517 Ontario Inc. to prepare a Land Use Compatibility Study for the potential introduction of sensitive land uses at the property located 642 Dunlop Street West in Barrie, Ontario (the ‘Site’ or the ‘Proposed Development’). WSP has reviewed the surrounding land uses with respect to the Ministry of the Environment, Conservation, and Parks (MECP) Guideline D-6 – Compatibility Between Industrial Facilities and Sensitive Land Uses (‘D-6 Guideline’).

The purpose of the study is to assess potential air quality, dust, odour, noise, and vibration (nuisance) impacts that the surrounding land uses could have to the introduction of new sensitive land use at the Proposed Development, and vice versa. The objective is to evaluate compatibility of land uses and flexibility for growth in developing the community. This report describes the surrounding industrial and commercial facilities, specifically addressing the neighbouring businesses and industries within proximity of the Site as having the potential to cause a nuisance.

The methodology, findings, conclusions, and recommendations of this Land Use Compatibility Study are presented in the subsequent sections of this report.

1.1 PROPOSED DEVELOPMENT

The Proposed Development is located at the intersection of Miller Drive and Dunlop Street West, situated on the east side of Miller Drive and north of Dunlop Street West in Barrie, Ontario, as shown in **Figure 1**. A copy of the Site Plan can be found in **Figure 2**, as provided by the client. The Site is located on a Secondary Intensification Corridor and within a Secondary Intensification Node. It is understood that this Land Use Compatibility Study is required for the Site Plan Approval (‘SPA’) and minor variance application to the City of Barrie.

1.2 ZONING

The Site is located within the city of Barrie, in Simcoe County, Ontario. The Site is currently zoned General Commercial, which permits mixed-use residential development in accordance with Section 6.2.1 of the City of Barrie Zoning By-law. The area surrounding the Site consists primarily of general commercial and general industrial. A zoning map of the land surrounding the Site is shown in **Figure 3**.

A review of the Site location shows that there are several existing businesses and buildings at the Site. The information on the existing businesses are summarized in **Table A1, Appendix A**. Based on the Site Plan, it is assumed that the structures will be removed/demolished during the development of the Site, and as a result it is not included in this study.

1.3 EVALUATION OF SURROUNDING LAND USES

Following the D-6 Guidelines, a Study Area of 1 000 m around the Site was established. The D-6 Guideline outlines a recommended minimum separation distance and potential influence area between industrial facilities and sensitive land uses based on an industrial classification system. The minimum separation distance is the distance (property line to property line) between the incompatible land uses, where industrial use has the potential to cause an adverse effect. The potential influence area is a greater distance in which the industrial operations may have the potential to cause an adverse effect, depending on site operations and meteorological conditions. Additionally, the facilities that are outside of their respective recommended minimum separation distance and potential influence area are expected to have minimal potential for creating nuisance issues that would give rise to complaints.

In this assessment, facilities of potential concern were assessed based on the Ontario Environmental registry, the Environment Activity and Sector Registry (EASR) and Environmental Compliance Approval (ECA) data, aerial photography, facility websites and other publicly available data sources.

2 APPLICABLE GUIDELINES

The following guidelines have been reviewed and applied in the assessment and relate to the potential for adverse impacts from industry on sensitive land uses:

- MECP Environmental land use planning guide, D-6 Compatibility between Industrial Facilities and Sensitive Land Uses (D-6 Guideline)
- Ontario Environmental Protection Act, R.S.O. 1990, c.E19;
- Ontario Regulation 419/05: Air Pollution – Local Air Quality.
- Ontario Regulation 524/98: Air Pollution – Environmental Compliance Approvals – Exemptions from Section 9 of the Act;
- Ontario Regulation 1/17: Registrations Under Part II.2 of The Act – Activities Requiring Assessment of Air Emissions; and
- Ontario Ministry of Transportation (MTO) “Environmental Guide for Assessing and Mitigating the Air Quality Impacts and Greenhouse Gas Emissions of Provincial Transportation Projects” (May 2020).

3 D-6 GUIDELINE

The objective of the D-6 Guideline is to prevent or minimize the encroachment of sensitive land uses upon industrial land uses and vice versa. These two land uses are normally incompatible due to possible adverse effects on sensitive land uses created by industrial operations. For this study a commercial or employment land use is considered an industrial operation in terms of potential to adversely impact a sensitive land use. The D-6 Guideline categorizes industrial facilities into three classes according to their size, volume of operations, and nature of their emissions and defines what a sensitive land use is.

The D-6 Guideline provides definitions and examples to illustrate the three industrial classes, provided in **Appendix B**. Facilities that do not meet the definition of any one of the three industrial classes have little potential for creating nuisance issues that would give rise to complaints. The definitions and examples in the D-6 Guideline relevant to nuisance concerns were used to characterize the nearby facilities. The D-6 Guideline defines a recommended minimum separation distance and potential influence area between industrial facilities and sensitive land uses for each industrial classification, presented in **Table 3-1**.

Table 3-1 Guideline D-6 Recommended Minimum Separation Distance and Potential Influence Areas for Industrial Land Uses

INDUSTRIAL CLASSIFICATION	RECOMMENDED MINIMUM SEPARATION DISTANCE (m)	POTENTIAL INFLUENCE AREA (m)
Class I – Light Industrial	20	70
Class II – Medium Industrial	70	300
Class III – Heavy Industrial	300	1 000

3.1 POTENTIAL IMPACT OF SURROUNDING FACILITIES ON THE PROPOSED DEVELOPMENT

After reviewing maps and aerial imagery of the area, a comprehensive list of commercial and industrial facilities within the Study Area was generated. These facilities were divided into four categories:

- Class 0 facilities (WSP identifier, not listed in the D-6 guideline) assessed to be of negligible concern to sensitive land uses at the Proposed Development, and consisting of minor operations;
- Class I facilities determined to be of limited concern to sensitive land uses at the Proposed Development;
- Class II facilities determined to have a potential adverse impact to sensitive land uses at the Proposed Development; and,
- Class III facilities determined to have a potential adverse impact to sensitive land uses at the Proposed Development.

Table A2 in **Appendix A** provides the name of each of the identified facilities which have been included in this study for further assessment, while **Figure 4** identifies the location of these facilities. The assessment was based on publicly available information (*i.e.*, facility websites, environmental registry, aerial photography, etc.).

3.2 FACILITIES WITH NEGLIGIBLE CONCERN FOR IMPACT

Facilities reviewed in this D-6 Compatibility Assessment were categorized as of negligible concern, of limited concern, or facilities of potential concern with respect to the Site and the surrounding environment. Facilities of negligible concern include retailers, restaurants, suppliers, and professional services located outside the recommended minimum separation distance and potential influence area. **Table A2** in **Appendix A** presents 13

facilities that were either identified as industrial Class 0 or are located outside the recommended minimum separation distance and the potential influence area for their respective class. These facilities included small-scale operations including restaurants, small scale suppliers, auto services, and commercial shopping. Therefore, adverse nuisance impacts to sensitive land uses at the Site are not expected from current and future operations at these facilities. The introduction of sensitive land uses at the Site are also not expected to adversely impact operations at these facilities.

3.3 FACILITIES OF POTENTIAL CONCERN

Facilities reviewed in this study and identified as having the potential to adversely impact sensitive land uses at the Site are located within the recommended minimum separation distance or potential influence area. A total of five (5) facilities was identified within the 1000 m Study Area.

3.3.1 FACILITIES WITHIN THE MINIMUM SEPARATION DISTANCE

The Site is located within the minimum separation distance of two (2) facilities as shown in **Table 3-2**.

Table 3-2 Facilities Identified Within the MECP D-6 Minimum Separation Distance

FACILITY	INDUSTRIAL CLASS	APPROXIMATE DISTANCE FROM SITE (M)	MECP D-6 MINIMUM SEPARATION DISTANCE (M)	MECP D-6 POTENTIAL INFLUENCE AREA (M)
United Rentals	I	Shared Property Boundary with Site	20	70
Carr Landscape Depot	II	62	70	300

United Rentals is an equipment rental facility located at 630 Dunlop Street West, having a shared property boundary with the Site. The facility has been classified a Class I facility due to expected operations associated with a small-scale equipment rental facility including daytime operations, outdoor storage with low probability of fugitive emissions and potential for infrequent road dust from moving equipment in the storage yard, posing potential dust, and noise impacts. Noise generated at the facility may be occasionally audible off site during operating hours within the recommended minimum separation distance of 20 m. No environmental permits are registered with the facility; however, fugitive emissions and noise from operations are expected to be minimal.

Carr Landscape Depot is a landscaping facility located at 653 Dunlop Street West, approximately 62 metres south of Site. The facility has been classified as a Class II facility due to expected operations associated with a medium-scale supplier facility of landscaping materials including frequent movement of products (aggregate materials such as sand and gravel, as well as salt during the winter months) and equipment on unpaved roadways, outside storage, material crushing using a mobile crusher, and potential for dust and noise impacts. Noise generated at the facility may be occasionally audible off-site during operation hours within the recommended minimum separation distance of 70 m. No environmental permits are registered with the facility; therefore, operations at the facility have the potential to impact sensitive land uses at the Proposed Development.

3.3.2 FACILITIES WITHIN THE POTENTIAL INFLUENCE AREA

The Site is located within the potential influence area of three (3) facility; however, this facility is located outside the recommended minimum separation distance as shown in **Table 3-3**.

Table 3-3 Facilities Identified Within the MECP D-6 Potential Influence Area

FACILITY	INDUSTRIAL CLASS	APPROXIMATE DISTANCE FROM SITE (M)	MECP D-6 MINIMUM SEPARATION DISTANCE (M)	MECP D-6 POTENTIAL INFLUENCE AREA (M)
MacEwen Barrie	I	30	20	70
Miller Lumber	II	189	70	300
Lafarge Aggregates	III	341	300	1000

MacEwen Barrie is a gas station, convenience store, and carwash located at 652 Dunlop Street West, approximately 30 m west of the Site. The facility has been classified as a Class I facility due to expected operations associated with a small-scale gas station and car wash including frequent movement of passenger vehicles, small scale storage of contained materials, and potential for infrequent fugitive dust and odour emissions. Noise generated at the facility due to the carwash operations may be occasionally audible off site during daytime and evening hours. No environmental permits are registered with the facility; however, the Site is located outside of the recommended minimum separation distance for a Class I facility. Due to the close proximity from the carwash to the Proposed Development, there is the potential for noise impacts due to the carwash (dryers) and associated car maintenance activities (i.e. vacuums, tire inflator).

Miller Lumber is a lumber supplier located at 662 Dunlop Street West, approximately 189 m west of the Site. The facility has been classified as a Class II facility due to expected operations associated with the outdoor storage, use of a mobile grinder for material grinding/crushing and movement of wood products (shavings, lumber, mulch, and firewood), and frequent movement of vehicles and equipment posing potential dust and noise nuisance. The materials stored outdoors include wood products which are expected to have a low probability of fugitive emissions compared to finer materials such as sand, gravel, and other aggregates; however, unpaved roadways, wood shavings, and crushed materials have the potential for fugitive dust emissions. No environmental permits are registered with the facility; however, based on the location of the facility and expected operations there is potential for dust and noise nuisance impacts at the Proposed Development.

Lafarge Aggregates is an aggregate supplier located at 701 Dunlop Street West, approximately 341 m south southwest of the Site. The facility has been classified as a Class III facility due to expected operations associated with an aggregates products and services facility including frequent movement of products on unpaved roadways using mobile equipment, and vehicles, outdoor storage of materials such as sand, gravel, and rock which pose a high potential for fugitive emissions, and potential for operations outside of daytime hours. No environmental permits are registered with the facility; however, based on the location of the facility and expected operations there is potential for dust nuisance impacts at the Proposed Development. For noise nuisance impacts at the Proposed Development, due to closer existing sensitive receptors (1-storey dwellings) located directly across Dunlop Street West to the north, northwest it is expected that the Facility meets ministry sound level limits at those existing close receptors and thus would meet and not have a noise impact at the Proposed Development which is located much farther away to the northeast.

4 TRANSPORTATION SOURCES

In the absence of specific guidance related to the emissions from vehicles travelling on nearby roadways, WSP followed the guidance provided in the Ministry of Transportation Environmental Guide for Assessing and Mitigating the Air Quality Impacts and Greenhouse Gas Emissions of Provincial Transportation Projects (May 2020) to review the roadways within 500 m of the Site. These roadways were reviewed for their potential to generate dust and noise nuisance at the Site based on Annual Average Daily Traffic (AADT). Noise impacts from roadways will be addressed in a noise impact study. There are no major highways within 500 m of the Site. Roadways with the potential to experience high volumes of traffic (AADT greater than 15,000 vehicles) within 500 m of the Site include Dunlop Street West and Miller Road.

Table 4-1 Summary of Traffic Data

ROAD	CURRENT TRAFFIC VOLUME (AADT)	ANNUAL GROWTH RATE TO 2031 (%)	ANNUAL GROWTH RATE 2031-2041 (%)	HEAVY TRUCKS (%)	MEDIUM TRUCKS (%)
Miller Road	4,000	1	1	3	3
Dunlop Street West	15,000	4.5	2	6	6

The City of Toronto's technical report "Avoiding the TRAP: Traffic-Related Air Pollution in Toronto and Options for Reducing Exposure" recommends a separation distance of 100 m between roads with 15,000 or more AADT and sensitive land uses. Based on current traffic volumes and annual growth rates, vehicle traffic on Miller Road is not expected to have significant air quality impacts to sensitive land uses at the Proposed Development; however, there is potential for noise impacts. Current traffic volumes on Dunlop Street West are 15,000 AADT and are expected to increase into 2041. As a result, traffic volumes on Dunlop Street West have the potential to impact air quality and noise to sensitive land uses at the Proposed Development.

5 SITE VISIT

WSP completed a site visit on February 18, 2022, at approximately 10:30 am. Meteorological conditions at the time of the site visit were overcast, light snow, wind speeds of less than 10 km/h, and a temperature of -13°C. The WSP technician also noted that the ground was snow covered. Facilities surrounding the Site were visually assessed for potential dust sources as well as any odours and noise from site operations at the time of the site visit, as shown in **Table 5-1**.

Table 5-1 Site Visit Observations

FACILITY	WITHIN MSD OR PIA?	DESCRIPTION OF OPERATIONS	SUMMARY OF OBSERVATIONS
MacEwen Barrie	Yes	Gas station with convenience store, Subway restaurant, and car wash	<ul style="list-style-type: none"> Gas bar includes 10 pumps, 2 pumps are for larger trucks. Mainly passenger vehicles at gas bar. One delivery truck delivering supplies to Subway/convenience store. Touchclass Carwash (5:30am – 11pm) 2 Vaccums and Tire Air Filler No odour detected or visible dust noted.
Access Storage	No	Storage Facility	<ul style="list-style-type: none"> 21 overhead doors on east side of facility. Minimal site traffic. No odour detected or visible dust noted.
Miller Lumber	Yes	Lumber yard	<ul style="list-style-type: none"> Two front end loaders park at front of facility. Forklift at the front of the facility 1 mobile grinder No odour detected or visible dust noted.
Carr Landscape Depot	Yes	Landscape supplier	<ul style="list-style-type: none"> Some FedEx delivery trucks parked on-site. 5 Overhead bay doors on east side of main building. 1 forklift operating. 1 small boom truck. 1 mobile grinder No odour detected, some dust noted in the back loading area and observed with the snow coloration.
<ul style="list-style-type: none"> Wamco Waterworks Simcoe Hose and Hydraulics HIAB Di Monte Holdings 	No	Multiple facilities (industrial with some heavy truck movement)	<ul style="list-style-type: none"> Low traffic. Some heavy trucks parked on site. No odour detected or visible dust noted.

FACILITY	WITHIN MSD OR PIA?	DESCRIPTION OF OPERATIONS	SUMMARY OF OBSERVATIONS
Commercial Fleet Parking	No	Parking lot for commercial vehicles	<ul style="list-style-type: none"> Truck traffic on site (one tractor trailer entered site during visit). 1 forklift/front end loader parked near site entrance. No odour detected or visible dust noted.
Lafarge Aggregates/Coco Paving	Yes	Aggregate facility	<ul style="list-style-type: none"> Dump truck traffic in and out of site. Multiple front end loaders on site, 4 parked and none were operating. Potential for dust from aggregate loading. Multiple heavy equipment parked on site. 1 large overhead bay door on east side of Coco Paving. No odour detected.
United Rentals	Yes	Equipment rentals	<ul style="list-style-type: none"> Some small equipment associated with facility on site (i.e., mule, pallet loader). 4 overhead bay doors in east side of west building. 5 overhead bay doors on west side of east building. No odour detected or visible dust noted.

Notes: MSD – Minimum Separation Distance

PIA – Potential Influence Area

During the site visit, fugitive odour was not detected nor were visible dust emissions from surrounding facilities; however, the WSP technician noted potential for dust emissions from Carr Landscape Depot and Lafarge Aggregates/Coco Paving. It should be noted that timing of the site visit in February and the meteorological conditions at the time of the site visit were not the optimal for highest potential for dust and odour emissions; therefore, fugitive dust and odour from surrounding facilities could potentially be detected or observed particularly during hot and dry conditions experience in the summer months. Noise and vibration generated at surrounding facilities could be more notable off site during busier seasons such as spring and summer.

6 METEOROLOGICAL DATA ANALYSIS

Localized meteorological data was reviewed to assess the frequency of winds blowing from the potential facilities of concern to the Site. WSP obtained historical climate data from the Environment and Climate Change Canada (ECCC) website and prepared reviewed the meteorological data for the frequency analysis.

The wind data averaged from 2017 to 2021 compiled from the Barrie station, Station # 27604, approximately 16 km south southwest from the Site, was analyzed and reviewed in relation to the Proposed Development location to assess the frequency that the wind could contribute to nuisance issues such as fugitive dust and odour as potential concerns for the Site. A 'blowing from' wind rose was produced for the aforementioned period and the frequency data is presented in **Table 6-1**. The 'blowing from' wind rose plot is below in **Figure 6-1**.

Figure 6-1 Wind Rose Plot

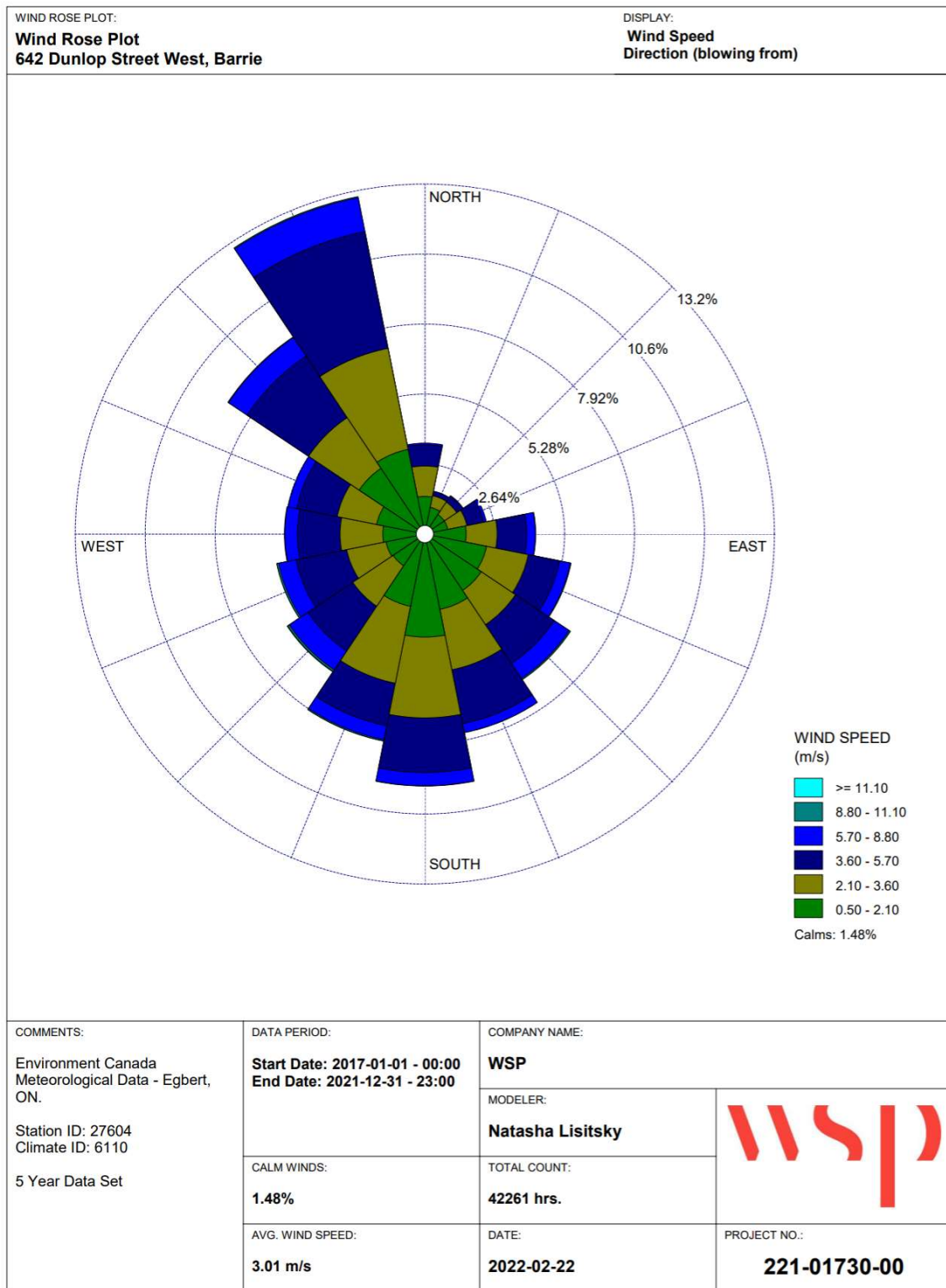


Table 6-1 Wind Data for Station #27604

WIND BLOWING FROM	FREQUENCY (%)	EQUIVALENT DAYS PER YEAR
N	3	13
NNE	2	6
NE	2	6
ENE	2	9
E	4	15
ESE	6	20
SE	7	24
SSE	8	28
S	9	35
SSW	8	29
SW	6	23
WSW	6	21
W	5	19
WNW	5	19
NW	9	33
NNW	13	47

The prevailing wind direction at the Site is blowing from the northwest through the north northwest, accounting for 22%, or 80 equivalent days of the year.

United Rentals is located east of the Site, outside the prevailing wind direction. The frequency of wind blowing from the east towards the Site is 4%, or 15 equivalent days of the year.

MacEwan Barrie and Miller Lumber are located west of the Site, outside the prevailing wind direction. The frequency of wind blowing from the west towards the Site is 5%, or 19 equivalent days of the year.

Carr Landscape Depot is located south of the Site, outside the prevailing wind direction. The frequency of wind blowing from the south towards the Site is 9%, or 35 equivalent days of the year.

Lafarge Aggregates is located south southwest of the Site, outside the prevailing wind direction. The frequency of wind blowing from the south southwest towards the Site is 8%, or 29 equivalent days of the year.

7 SUMMARY OF POTENTIAL IMPACTS

United Rentals is an equipment rental facility located at 630 Dunlop Street West, having a shared property boundary with the Site. The facility has been classified a Class I facility with a low probability of fugitive emissions, primarily associated with road dust from moving equipment in the storage yard during dry days with elevated wind speeds blowing from the east. The Site is located within the recommended minimum separation distance of the facility; however, fugitive dust emissions from operations are expected to be minimal and prevailing winds are not blowing from the facility towards the Site. Noise generated at the facility may be occasionally audible off site but are not expected to generate nuisance impacts to sensitive land uses at the Site. Future operations at the facility which could require an environmental permit would require that the facility demonstrate compliance at the property boundary, or nearest sensitive receptor for odour and noise. Based on expected facility operations, vibration impacts to the Proposed Development are not a concern. As a result, current and future operations at United Rentals are not expected to have adverse air quality, odour, or noise and vibration impacts to new sensitive land uses at the Site. The introduction of sensitive land uses at the Site are also not expected to impact operations at the facility.

MacEwan Barrie is gas station located at 652 Dunlop Street West, approximately 30 m west the Site. The facility has been classified a Class I facility with a low probability of fugitive emissions, primarily associated with odour from vehicles accessing gas pumps when elevated wind speeds are blowing from the west. The Site is located outside the recommended minimum separation distance of the facility and fugitive odour emissions from operations are expected to be minimal as prevailing winds are not blowing from the facility towards the Site. Noise generated at the facility may be occasionally audible off site and can be further assessed if required. Future operations at the facility which could require an environmental permit would require that the facility demonstrate compliance at the property boundary, or nearest sensitive receptor for odour and noise. Based on expected facility operations, vibration impacts to the Proposed Development are not a concern. As a result, current and future operations at MacEwan Barrie are not expected to have adverse air quality, odour impacts to new sensitive land uses at the Site. The introduction of sensitive land uses at the Site are also not expected to impact operations at the facility regarding odour, however potential noise impacts will be addressed further in a noise impact study.

Miller Lumber is a lumber supplier located at 662 Dunlop Street West, approximately 189 m west of the Site. The facility has been classified as a Class II facility with a low probability of fugitive emissions, primarily associated with road dust from vehicles travelling on unpaved roadways and crushed material when elevated wind speeds are blowing from the west. The Site is located outside the recommended minimum separation distance of the facility and fugitive dust emissions from operations are expected to be minimal as prevailing winds are not blowing from the facility towards the Site. Noise generated at the facility, mainly from the mobile grinder, may be occasionally audible off site. There are existing sensitive receptors (1-storey dwellings) located along Dunlop Street West to the south, southwest of the lumber yard, however in almost equal distance the Proposed Development (5-storey) is located to the southeast. Confirmation that Ministry sound levels from activities and a mobile grinder if used at the north part of their facility can be further assessed if required. It may not be expected to generate dust nuisance impacts to sensitive land uses at the Site as the Site is located outside the recommended minimum separation distance, however it may generate noise impacts due to being within the potential area of influence. Future operations at the facility which could require an environmental permit would require that the facility demonstrate compliance at the property boundary, or nearest sensitive receptor for odour and noise. Based on expected facility operations, vibration impacts to the Proposed Development are not a concern. As a result, current and future operations at Miller Lumber are not expected to have adverse air quality, or odour impacts to new sensitive land uses at the Site. The introduction of sensitive land uses at the Site are also not expected to impact operations at the facility, however potential noise impacts can be further assessed if required.

Carr Landscape Depot is a landscaping facility located at 653 Dunlop Street West, approximately 62 metres south of Site. The facility has been classified as a Class II with potential for fugitive dust emissions, primarily associated with road dust from vehicles travelling on unpaved roadways and handling of materials such as sand, gravel, and salt when elevated wind speeds are blowing from the south. Fugitive dust emissions from operations are expected to be minimal as prevailing winds are not blowing from the facility towards the Site. Noise generated at the facility may be occasionally audible off site and will be assessed in a noise impact study to confirm if it will generate nuisance impacts to sensitive land uses at the Site. Future operations at the facility which could require an environmental permit would require that the facility demonstrate compliance at the property boundary, or nearest sensitive receptor for odour and noise. Based on expected facility operations, vibration impacts to the Proposed Development are not a

concern. As a result, current and future operations at Carr Landscape Depot are not expected to have adverse air quality and odour impacts to new sensitive land uses at the Site. The introduction of sensitive land uses at the Site are also not expected to impact operations at the facility regarding dust or odour, however potential noise impacts can be further assessed if required.

Lafarge Aggregates is an aggregate supplier located at 701 Dunlop Street West, approximately 341 m south southwest of the Site. The facility has been classified as a Class III facility with potential for fugitive dust emissions, primarily associated with road dust from vehicles travelling on unpaved roadways and handling of materials such as sand and gravel, when elevated wind speeds are blowing from the south southwest. The Site is located outside the recommended minimum separation distance of the facility and fugitive dust emissions from operations are expected to be minimal as prevailing winds are not blowing from the facility towards the Site. Noise generated at the facility may be occasionally audible off site but are not expected to generate nuisance impacts to sensitive land uses at the Site as the Site is located outside the recommended minimum separation distance and there are closer existing sensitive land uses to the facility and the Proposed Development. Future operations at the facility which could require an environmental permit would require that the facility demonstrate compliance at the property boundary, or nearest sensitive receptor for odour and noise. Based on expected facility operations, vibration impacts to the Proposed Development are not a concern. As a result, current and future operations at Lafarge Aggregates are not expected to have adverse air quality, odour, or noise and vibration impacts to new sensitive land uses at the Site. The introduction of sensitive land uses at the Site are also not expected to impact operations at the facility.

8 CONCLUSIONS AND RECOMMENDATIONS

Based on an assessment of the Proposed Development and surrounding facilities, WSP concludes the following:

- The Proposed Development was identified to be within recommended minimum separation distance of two (2) facilities, United Rentals and Carr Landscape Depot. Based on the site visit completed by WSP and a review of the frequency of winds blowing from the facilities to the Proposed Development or from the Proposed Development to the facilities, indicates that current and future operations at these facilities are not expected to adversely impact air quality, odour, noise, and vibration at new sensitive land uses at the Site. Sensitive land uses at the Site are also not expected to impact operations at these facilities.
- The Proposed Development was identified to be within the potential influence area of three (3) facilities, MacEwen Barrie, Miller Lumber, and Lafarge Aggregates. An assessment of prevailing winds and surrounding land uses around the Site indicates that current and future operations at these facilities are not expected to significantly impact air quality, odour, noise, and vibration however, the potential is limited and these instances (if any) would be very infrequent at new sensitive land uses at the Site. Sensitive land uses at the Site are also not expected to impact operations at these facilities.
- Based on existing traffic volumes and projected growth rates, Miller Road and Dunlop Street West have the potential to impact noise at the Proposed Development. Dunlop Street West also has the potential to impact air quality at the Proposed Development.
- An air quality impact assessment is recommended to assess air quality impacts from Dunlop Street West to the Proposed Development.
- Potential noise impacts from Carr Landscape Depot, United Rentals, MacEwen Barrie, Miller Lumber, Miller Road, and Dunlop Street West can be confirmed through a future noise impact study if required.
- Based on the Land Use Compatibility Study, the introduction of new sensitive land uses at the Site could be implemented with adequate receptor-based mitigation.
- Additional air quality and noise impact studies may be required if commercial or employment uses are introduced within the Site, as these uses could impact air quality and noise for sensitive uses within the Site, as well as surrounding sensitive receptors.

Based on the Land Use Compatibility Study, the introduction of new sensitive land uses at the Site could be implemented with adequate controls and therefore we find that the site can be designed to be compatible with the surrounding land uses. .

9 REFERENCES

City of Toronto. Avoiding the TRAP: Traffic-Related Air Pollution in Toronto and Options for Reducing Exposure. Technical Report. October 2017.

MECP D-6 Guideline: “Compatibility between Industrial Facilities and Sensitive Land Uses”

MECP Regulation 419/05 Air Pollution – Local Air Quality.

Ontario Regulation 524/98 Air Pollution – Environmental Compliance Approvals – Exemptions from Section 9 of the Act;

Ontario Environmental Protection Act, R.S.O. 1990, c.E19;

MTO “Environmental Guide for Assessing and Mitigating the Air Quality Impacts and Greenhouse Gas Emissions of Provincial Transportation Projects” (May 2020); and

MECP Traffic Related Air Pollution: Mitigation Strategies and Municipal Road Class Environmental Assessment Air Quality Impact Assessment Protocol Draft (July 25, 2017).

FIGURES





LEGEND
[Red Box] APPROXIMATE SITE LOCATION
[Dashed Circle] 1000m STUDY AREA



CLIENT:
2507517 ONTARIO INC.

PROJECT:
LANDUSE COMPATIBILITY ASSESSMENT
642 DUNLOP STREET WEST
BARRIE, ONTARIO

PROJECT NO: 221-01730-00	DATE: MARCH 2022
-----------------------------	---------------------

DESIGNED BY:
-

DRAWN BY:
TP

CHECKED BY:
-

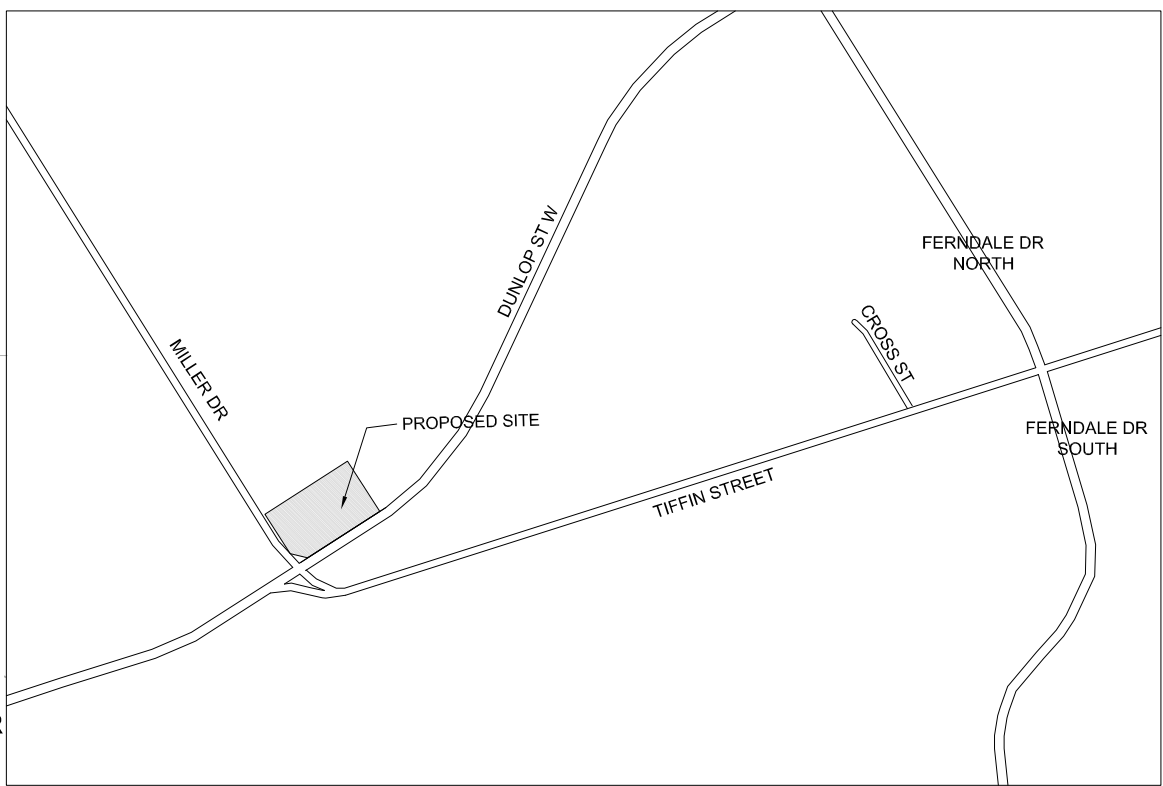
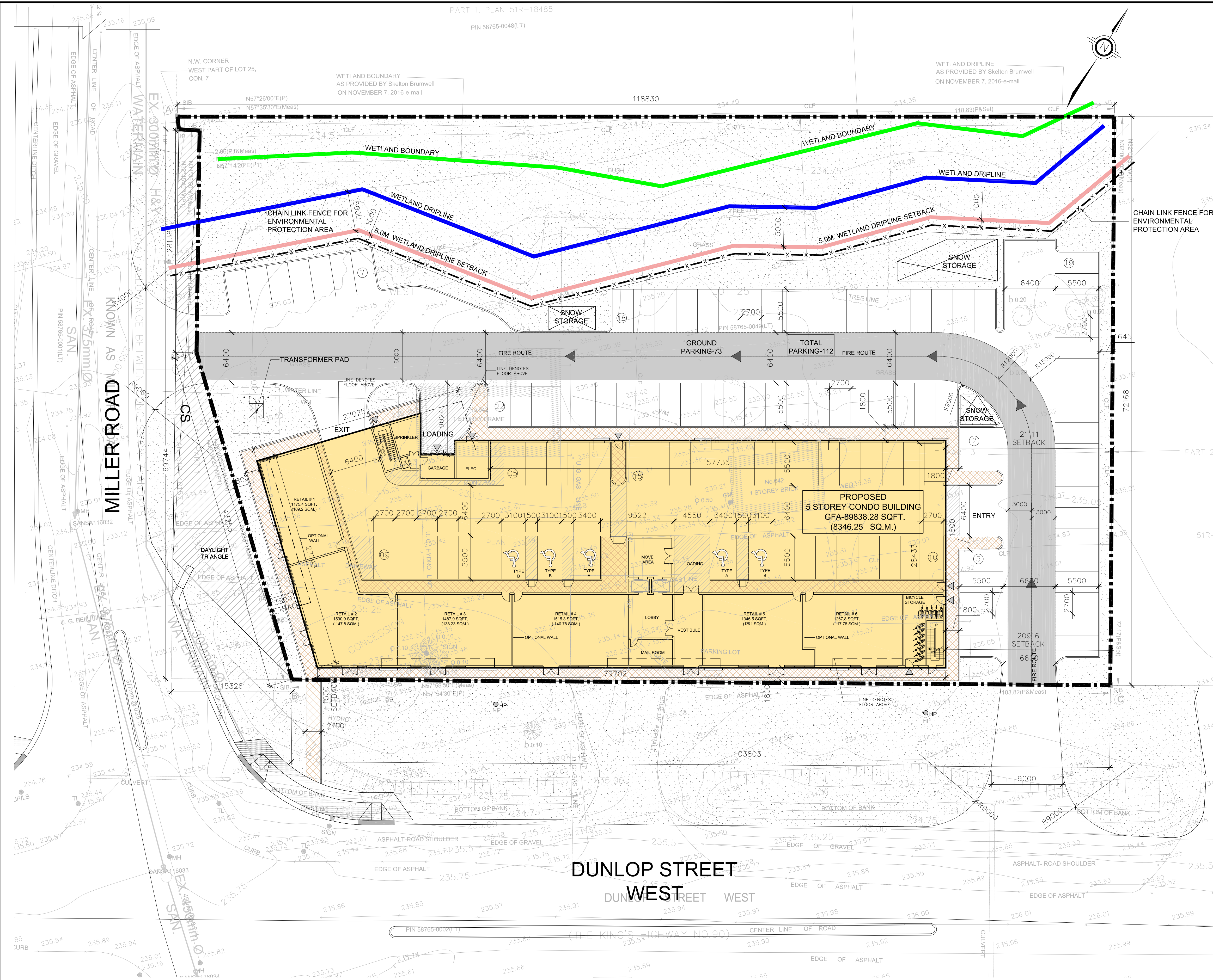
FIGURE NO: 1	SCALE: 1:10,000
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TITLE:
SITE LOCATION

DISCIPLINE:
ENVIRONMENT

ISSUE:	REV.:
	-

Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



KEY PLAN

PROJECT STATISTICS

ADDRESS	642 DUNLOP STREET WEST, BARRIE, ON.	
ZONING	GENERAL COMMERCIAL (C4)	
	REQUIRED	PROPOSED
LOT(SITE) AREA (m ²)	450 SQ.M.	8084.59 SQ.M.
RETAIL		778.99 SQ.M.
RESIDENTIAL UNITS		6857.65 SQ.M.
AMENITY AREA		499.27 SQ.M.
TOTAL GFA		7365.92 SQ.M.
COVERAGE	50% MAX	2420.23 SQ.M. (29.93%)
LANDSCAPE AREA		2791.68 SQ.M. (34.53%)
PAVED AREA		496.52 SQ.M. (6.24%)
BUILDING HEIGHT (MAX.)	14.0 M.	18.0 M.
TOTAL PARKING (MIN.)	130 CARS	112 CARS
BARRIER FREE PARKING (MIN.)	5 CARS	5 CARS
BICYCLE PARKING (MIN.)	4	12
LOADING SPACE (MIN.)	1	3
LOT FRONTAGE (MIN.)	15 M.	103.80 M.
DUNLOP STREET WEST		

BUILDING SETBACKS	REQUIRED	PROPOSED
FRONT YARD (WEST)	6.0M	3.5 M.
EXTERIOR SIDE YARD (SOUTH)	5.0M	1.5 M.
INTERIOR SIDE YARD (NORTH)	3.0M	37.63 M.
REAR YARD (EAST)	7.0M	21.11 M.

PARKING CALCULATIONS				
ITEM	AREA(SQ.M.)	RATE	REQUIRED	PROVIDED
RETAIL	778.99	1 PER 30 SQ.M.	25.96 (26)	8
RESIDENTIAL UNITS (79)	7174.79	1.25 PER DWELLING	99	99
H/C PARKING (OVER 100 - 1+3% OF REQ. PARKING)			5	5
TOTAL			130	112
CAR SPACE SIZE			2.7X5.5M	2.7X5.5M
H/C CAR SPACE SIZE (TYPE-A)			3.4X5.5M	3.4X5.5M
(TYPE-B)			3.1X5.5M	3.1X5.5M

MUNICIPAL ADDRESS & LEGAL DESCRIPTION:
PART 3 OF LOT 25 REGISTERED PLAN F45 CITY OF BARRIE, COUNTY OF SIMCOE

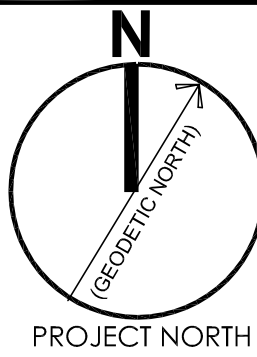
APPLICANT:
n Architecture Inc., 9120 Leslie St., Suite 208, Richmond Hill, Ontario L4B 3J9
T: 905.597.5937 F: 1.866.340.5265
E: info@narchitecture.com
WEB: www.narchitecture.com

SURVEY INFORMATION TAKEN FROM:
OMARI MWINI SURVEYING LTD.
1905 PINE GROVE AVENUE PICKERING
ONTARIO, L1V 6T1
Ph: (905) 728-8863
Fax: (905) 492 5485

TOTAL UNITS:	
TWO BED ROOM UNITS	45
ONE BED ROOM UNITS	39
TOTAL	84

LEGEND
[Yellow Box] NEW BUILDING
[Grey Box] ASPHALT
[Light Green Box] LANDSCAPE
[Dark Green Box] CONC. PAVEMENT, TYPED MARKED
[Blue Box] HANDICAP PARKING
[Triangle] MAIN ENTRANCE
[Circle] OVERHEAD DOOR
[Dot] TREE
[Line] BARRIER CURB
[Line] BARRIER FREE CURB

n Architecture Inc
PRINCIPAL: NITIN MALHOTRA, ARCHITECT.
9120 Leslie Street, Suite-208
Richmond Hill, Ontario. L4B 3J9
T : 4 1 6 . 3 0 3 . 4 8 2 1
E: info@narchitecture.com
www.narchitecture.com



24th JAN. 2022
NOT FOR CONSTRUCTION

No.	Date	Version	Dwn.
3.		ISSUED FOR SPA	SB
2.	13-JUN-2018	ISSUED FOR PRE-CONSULTATION	SB
1.	04-APR-2016	ISSUED FOR PRE-CONSULTATION	FK

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PROJECT:

PROPOSED 5-STOREY CONDO BUILDING
642 DUNLOP STREET W
BARRIE, ON.

DRAWING TITLE:

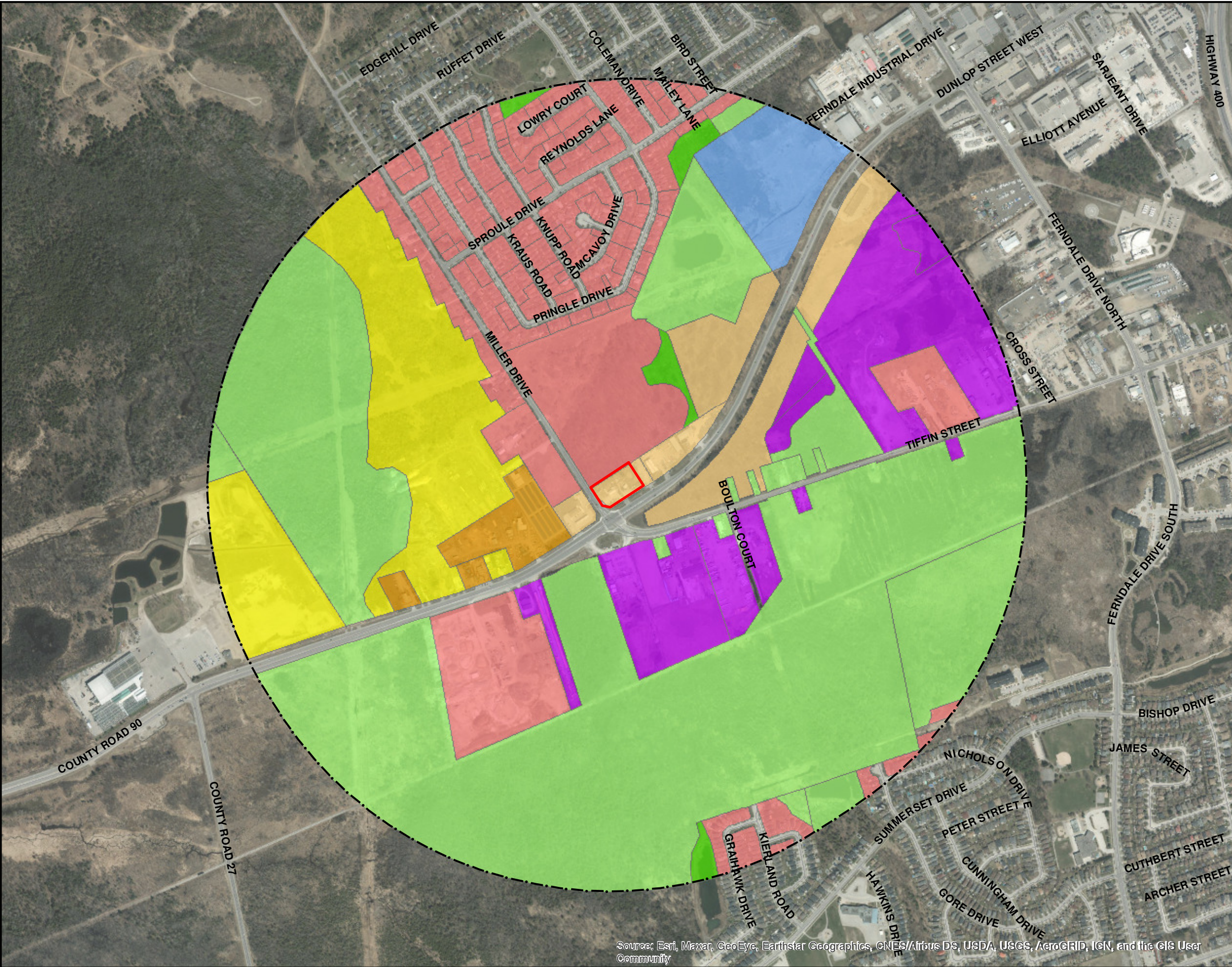
SITE PLAN

DRAWN BY: FK	DATE: DEC 02 2015
CHECKED BY: NM	SCALE: AS NOTED
PROJECT NO.:	DRAWING NO.:

15-48

A-1.0

1 SITE PLAN
A-1.0 SCALE- 1:250



- LEGEND**
- APPROXIMATE SITE LOCATION
 - 1000m STUDY AREA
 - AGRICULTURAL
 - COMMERCIAL
 - ENVIRONMENTAL PROTECTION AREA
 - GENERAL COMMERCIAL
 - GENERAL INDUSTRIAL
 - LIGHT INDUSTRIAL
 - OPEN SPACE
 - RESIDENTIAL



CLIENT:

2507517 ONTARIO INC.

PROJECT:

LANDUSE COMPATIBILITY ASSESSMENT
642 DUNLOP STREET WEST
BARRIE, ONTARIO

PROJECT NO: 221-01730-00	DATE: MARCH 2022
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DESIGNED BY: -

DRAWN BY: TP

CHECKED BY: -

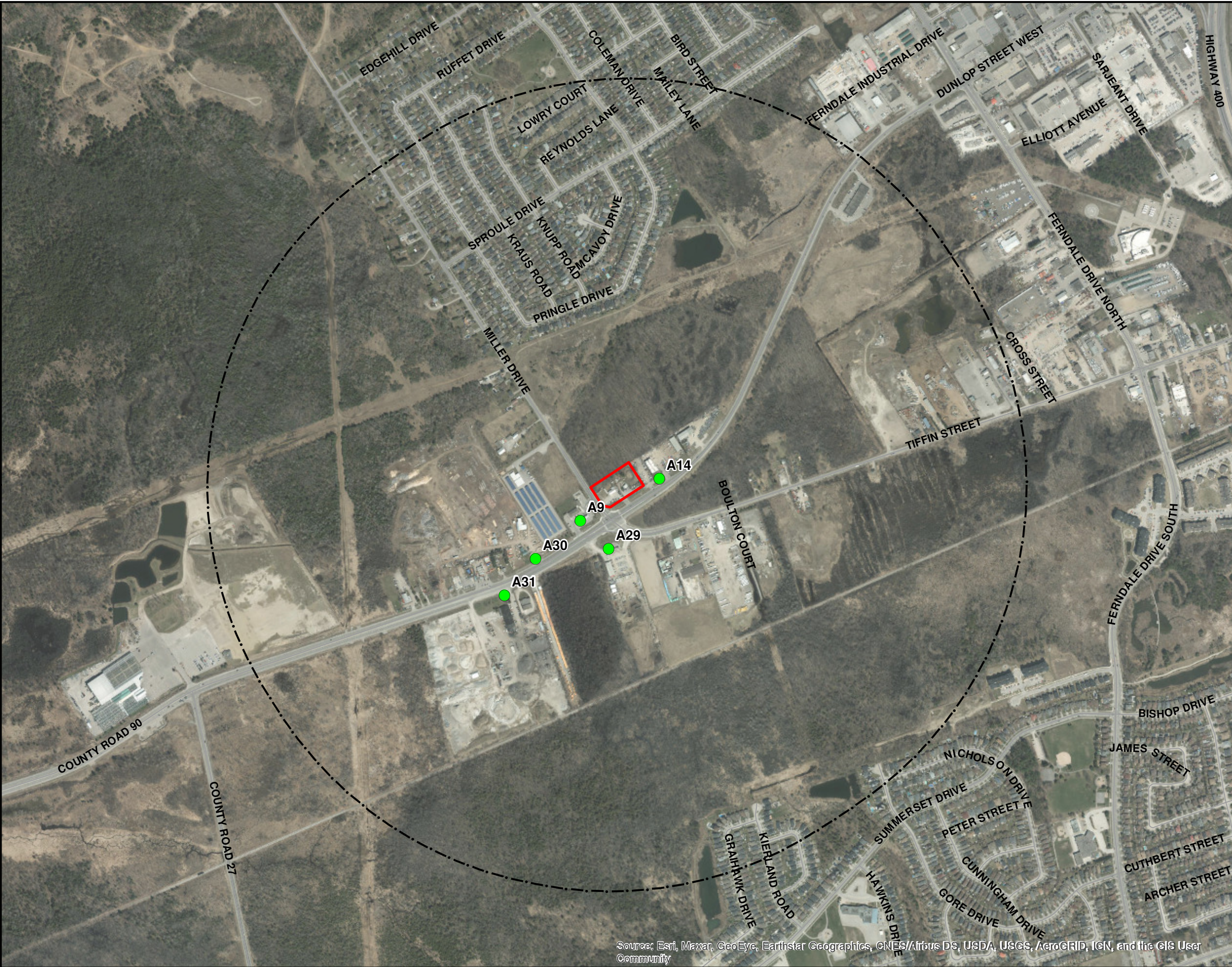
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TITLE: ZONING

DISCIPLINE: ENVIRONMENT

ISSUE:	REV.: -
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Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



- LEGEND
- APPROXIMATE SITE LOCATION
 - 1000m STUDY AREA
 - FACILITIES OF CONCERN

100 50 0 100 Metres



CLIENT:
2507517 ONTARIO INC.

PROJECT:
LANDUSE COMPATIBILITY ASSESSMENT
642 DUNLOP STREET WEST
BARRIE, ONTARIO

PROJECT NO: 221-01730-00	DATE: MARCH 2022
-----------------------------	---------------------

DESIGNED BY: -

DRAWN BY: TP

CHECKED BY: -

FIGURE NO: 4	SCALE: 1:10,000
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TITLE: FACILITIES OF CONCERN

DISCIPLINE: ENVIRONMENT

ISSUE:	REV.:
	-

Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

APPENDIX

A

SUMMARY OF
FACILITIES

Project Name: Land Use Compatibility Assessment
Site Addresses: 642 Dunlop Street West, Barrie, Ontario

Table A1: Existing Businesses on the Proposed Development Property

Facility	Description of Operations	Address
The Potato Patio	Restaurant	6 Miller Dr, Barrie
Smart Wheels Used Car Sales	Car Dealer	A-642 Dunlop St W, Barrie
Loan Approval Centre	Loan Agency	B-642 Dunlop St W, Barrie
Rallyworks	Auto Repair Shop	642 Dunlop St W, Barrie

Project Name: Land Use Compatibility Assessment
Site Addresses: 642 Dunlop Street West, Barrie, Ontario

Table A2: Facilities within the Study Area of the Proposed Development

ID	Facility	Address	Description of Operations	MECP D-6 Industrial Class #	Minimum Distance from Site (Property-Line to Property-Line)	MECP D-6 Minimum Separation	MECP D-6 Potential Area of Influence	Potential Issues
					(m)			
A1	Subway	652 Dunlop St. W, Barrie	Restaurant	0	N/A	N/A	N/A	N/A
A2	Access Storage - Barrie Miller Drive	30 Miller Dr, Barrie	Self Storage Facility	0	N/A	N/A	N/A	N/A
A3	Heavy's BMX Shop	514 Tiffin St, Barrie	Bicycle Shop	0	N/A	N/A	N/A	N/A
A4	Barrie Auto Action	434 Tiffin St, Barrie	Auction House	0	N/A	N/A	N/A	N/A
A5	Homegrown Hydroponics Inc.	521 Dunlop St W, Barrie	Hydroponics Supplier	0	N/A	N/A	N/A	N/A
A6	Highway 90 Signs & Printing	521 Dunlop St W, Barrie	Sign Shop	0	N/A	N/A	N/A	N/A
A7	Bradford Greenhouse Garden Centre	4346 County Rd 90, Springwater	Garden Centre	0	N/A	N/A	N/A	N/A
A8	ASE Mobile Storage	687 Dunlop St W, Barrie	Storage Facility	0	N/A	N/A	N/A	N/A
A9	MacEwen Barrie	652 Dunlop St. W, Barrie	Gas Station	I	30	20	70	Odour/Noise
A10	MacEwen Car Wash	652 Dunlop St. W, Barrie	Car Wash	0	N/A	N/A	N/A	N/A
A11	Simcoe Hose & Hydraulic	551 Tiffin St, Barrie	Hydraulic Repair Service	I	122	20	70	Dust/Odour/Noise/Vibration
A12	United Rentals	830 Dunlop St. W, Barrie	Equipment Rental Agency	I	Shared Property Boundary	20	70	Dust/Noise/Vibration
A13	Bobcat of Barrie	614 Dunlop St. W, Barrie	Construction Equipment Supplier	I	143	20	70	Dust/Noise/Vibration
A14	D & A Towing & Storage	462 Tiffin St, Barrie	Towing Equipment Supplier	I	710	20	70	Dust/Noise/Vibration
A15	A & A Auto Wreckers	456 Tiffin St, Barrie	Auto Wrecker	I	754	20	70	Dust/Noise/Vibration
A16	Abrams Towing Service Ltd.	442 Tiffin St, Barrie	Towing Service	I	793	20	70	Dust/Noise/Vibration
A17	Black Tie Executive Limo Barrie	452 Tiffin St, Barrie	Limousine Service	I	781	20	70	None
A18	RSA Auto Parts	521 Dunlop St W, Barrie	Auto Parts Store	I	841	20	70	Dust/Noise/Vibration
A19	USA Auto Parts	521 Dunlop St W, Barrie	Auto Parts Store	I	841	20	70	Dust/Noise/Vibration
A20	Muffler Medic	521 Dunlop St W, Barrie	Auto Repair Shop	I	841	20	70	Dust/Odour/Noise/Vibration
A21	Radiant Auto Repair	521 Dunlop St W, Barrie	Auto Repair Shop	I	841	20	70	Dust/Odour/Noise/Vibration
A22	Marshall Automotive - Auto Service Centre	521 Dunlop St W, Barrie	Auto Repair Shop	I	841	20	70	Dust/Odour/Noise/Vibration
A23	The Tire Guys	692 Dunlop St W, Barrie	Tire Shop	I	325	20	70	Dust/Odour/Noise/Vibration
A24	RAES Auto Sales	692 Dunlop St W, Barrie	Used Car Shop	I	325	20	70	Dust/Noise/Vibration
A25	Mits Airconditioning Inc. Barrie Branch	691 Dunlop St W, Barrie	General Contractor	I	285	20	70	Dust/Noise
A26	Commercial Fleet Parking	545 Tiffin St, Barrie	Parking Lot (Fleet)	I	152	20	70	Dust
A27	Carr Landscape Depot	653 Dunlop St. W, Barrie	Landscaping Supplier	II	62	70	300	Dust/Noise/Vibration
A28	Miller Lumber	662 Dunlop St W, Barrie	Lumber Supplier	II	189	70	300	Dust/Noise/Vibration
A29	Lafarge Aggregates	701 Dunlop St W, Barrie	Aggregate Supplier	III	341	300	1000	Dust/Noise/Vibration

Notes:
1) * - indicates the facility operates under an ECA or EASR. ECA and EASR documents can be found in Appendix C.
2) ** - indicates the company identified at the facility's location does not match the company name of the ECA or EASR filed.
3) N/A – indicates 'Not Applicable'.

- Indicates that the proposed development is within the minimum separation distance of the facility.
- Indicates that the proposed development is within the area of influence of the facility.

APPENDIX

B

INDUSTRIAL CLASS DEFINITIONS

APPENDIX

DEFINITION OF CLASSES FROM D-6 GUIDELINE

CLASS I INDUSTRIAL FACILITY

A place of business for a small scale, self-contained plant or building which produces and/or stores a product which is contained in a package and has a low probability of fugitive emissions for any of the following: noise, odour, dust, and/or vibration. There are daytime operations only, with infrequent movement of products and/or heavy trucks and no outside storage.

CLASS II INDUSTRIAL FACILITY

A place of business for medium scale processing and manufacturing with outdoor storage of wastes or material (i.e. it has an open process) and/or there are periodic outputs of minor annoyance. There are occasional outputs of either point source or fugitive emissions of any of the following: noise, odour, dust, and/or vibration, and low probability of fugitive emissions. Shift operations are permitted and there is frequent movement of products and/or heavy trucks during daytime hours.

CLASS III INDUSTRIAL FACILITY

A place of business for large scale manufacturing or processing, characterized by: large physical size, outside storage of raw and finished products, large production volumes and continuous movement of products and employees during daily shift operations. It has frequent outputs of major annoyance and there is a high probability of fugitive emissions.

APPENDIX

Table A-1 Industrial Class Definitions and Specifications as outlined in D-6 Guideline

INDUSTRIAL CLASSIFICATION	OUTPUTS	SCALE	PROCESS	OPERATION/INTENSITY
Class I – Light Industrial	<p>Noise” Sound not audible off property</p> <p>Dust and/or Odour: infrequent and not intense</p> <p>Vibration: No ground borne vibration on plant property</p>	<p>No outside storage</p> <p>Small scale plant or scale is irrelevant in relation to all other criteria for this Class</p>	<p>Self-contained plant or building which produces/stores a packaged product. Low probability of fugitive emissions</p>	<p>Daytime operations only</p> <p>Infrequent movement of products and/or heavy trucks</p>
Class II – Medium Industrial	<p>Noise: Sound occasionally audible off property</p> <p>Dust and/or Odour: Frequent and occasionally intense</p> <p>Vibration: Possible ground borne vibration, but cannot be perceived off property</p>	<p>Outside storage permitted</p> <p>Medium level of production allowed</p>	<p>Open process</p> <p>Periodic outputs of minor annoyance</p> <p>Low probability of fugitive emissions</p>	<p>Shift operations permitted</p> <p>Frequent movement of products and/or heavy trucks with the majority of movements during daytime hours</p>
Class III – Heavy Industrial	<p>Noise: sound frequently audible off property</p> <p>Dust and/or Odour: Persistent and/or intense</p> <p>Vibration: Ground-borne vibration can frequently be perceived off property</p>	<p>Outside storage of raw and finished products</p> <p>Large production levels</p>	<p>Open process</p> <p>Frequent outputs of major annoyances</p> <p>High probability of fugitive emissions</p>	<p>Continuous movement of products and employees</p> <p>Daily shift operations permitted</p>