

50 Sherwood Heights Drive

Land Use Compatibility Assessment Air Quality, Dust, Odour, Noise, and Vibration Oakville, ON

SLR Project No: 241.30431.00000

March 2022

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Oakville, ON**

SLR Project No.: 241.30431.0000

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EXECUTIVE SUMMARY

SLR Consulting (Canada) Ltd. (SLR), was retained by Infrastructure Ontario to conduct an air quality, noise and vibration study to inform the conceptual site plan that has been prepared to support the Official Plan Amendment for the lands at 50 Sherwood Drive Heights Drive in Oakville, Ontario (“the Project”). This study focused on the compatibility of the proposed land uses with the existing and future surrounding land uses in support of an Official Plan Amendment (OPA) application to the Town of Oakville.

SLR has reviewed the surrounding land uses in the area with respect to the following guidelines:

- The Provincial Policy Statement;
- The Provincial Growth Plan;
- The Halton Region’s *Regional Official Plan – Land Use Compatibility Guidelines; Air Quality Guidelines; and Noise Abatement Guidelines*;
- The Ministry of the Environment, Conservation and Parks (MECP) land use compatibility guideline (D-Series) including Guideline D-6 – Compatibility Between Industrial Facilities and Sensitive Land Uses (MECP 1995);
- Ontario Regulation 419/05: *Air Pollution – Local Air Quality* and its associated air quality standards and assessment requirements;
- The MECP’s draft policies on odour impacts and assessment;
- Environmental Noise Guideline – Stationary and Transportation Sources – Approval and Planning (NPC-300); and

Based on the review completed, adverse impacts are not anticipated, and the Project site is anticipated to be compatible with the surrounding land uses from an air quality, noise and vibration perspective.

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1. INTRODUCTION

SLR Consulting (Canada) Ltd. (SLR), was retained by Infrastructure Ontario to conduct an air quality and noise study to inform the conceptual site plan that has been prepared to support the Official Plan Amendment application for the lands at 50 Sherwood Heights Drive in Oakville, Ontario (“the Project”).

SLR has reviewed the surrounding land uses in the area with respect to the following guidelines:

- The Provincial Policy Statement;
- The Provincial Growth Plan;
- The Halton Region’s *Regional Official Plan Guidelines – Land Use Compatibility Guidelines*;
- The Ministry of the Environment, Conservation and Parks (MECP) land use compatibility guideline (D-Series) including Guideline D-6 – Compatibility Between Industrial Facilities and Sensitive Land Uses (MECP 1995);
- The Halton Region’s *Regional Official Plan Guidelines – Air Quality Guidelines*;
- Ontario Regulation 419/05: *Air Pollution – Local Air Quality* and its associated air quality standards and assessment requirements;
- The MECP’s draft policies on odour impacts and assessment;
- The Halton Region’s *Regional Official Plan Guidelines – Noise Abatement Guidelines*; and
- Environmental Noise Guideline – Stationary and Transportation Sources – Approval and Planning (NPC-300).

The purpose of this report is to assess the compatibility of the illustrative concept plan with the existing and future surrounding land uses in support of an Official Plan Amendment (OPA) application to the Town of Oakville.

2. DESCRIPTION OF DEVELOPMENT AND SURROUNDING AREA

2.1 AREA CONTEXT

The illustrative concept plan is currently vacant land classified as Parkway Belt and requires an OPA to reclassify to Business Employment to accommodate the proposed light industrial/industrial and office space land uses.

The Project site is bounded by Sherwood Heights Drive to the north, Ford Drive to the south, the Queen Elizabeth Way to the west, and Kingsway Drive to the east. Existing residential land uses are located across Sherwood Heights Drive to the north, with a 100 m wide green space located between the subject property and the residences.

A context plan of the site and surroundings is shown in **Figure 1**.

2.2 ILLUSTRATIVE CONCEPT PLAN

The Project site is located at 50 Sherwood Heights Drive.

The illustrative concept plan will consist of light industrial/industrial and office space land uses. A copy of the current Project Illustrative Concept Plan is provided in **Figure 2**. The Illustrative Concept Plan was prepared to demonstrate the development potential of the subject lands and to provide a framework for this study; however, the Illustrative Concept Plan is not being submitted for approval.

The Illustrative Concept Plan includes three (3) industrial buildings (Buildings 'A', 'B' and 'C') and one office building (Building 'D'). The industrial buildings will be one storey in height, and back towards Sherwood Heights Drive. Building 'A' shows an area of 9,290 m², and Buildings 'B' and 'C', 3500 m² each. The office building (Building 'D') will be two storeys in height, with a footprint of 1,800 m².

The main access routes to the site are from Sherwood Heights Drive, which will serve employee/visitor cars and potential truck traffic, if applicable.

2.3 TOWN OF OAKVILLE OFFICIAL PLAN

The Town of Oakville Official Plan Map for the area can be seen in **Figure 3**. The Project site and lands to the west, north, and south are designated Parkway Belt Areas. The lands to the east are designated Parks and Open Space.

3. ASSESSMENT FRAMEWORK

The intent of this report is to assess land use compatibility of the Project with the surrounding area, and evaluate options to achieve appropriate design, buffering and/or separation distances between the Project site and the existing sensitive land uses, if necessary.

The requirements of Ontario's planning regime are organized such that generic policy is informed by specific policy, guidance, and legislation, as follows:

- The Ontario Planning Act, Section 2.1 – sets the ground rules for land use planning in Ontario, whereby planning decisions have regard to matters of provincial interest including orderly development, public health, and safety; then
- The Provincial Policy Statement (“PPS”) sets out goals to ensure adjacent land uses are compatible from a health and safety perspective and are appropriately buffered); then
- The Provincial Growth Plan, Section 2.2.5 – builds on the PPS to establish a unique land use planning framework for the Greater Golden Horseshoe, where the development of sensitive land uses will avoid, or where avoidance is not possible, minimize and mitigate adverse impacts on industrial, manufacturing, or other uses that are particularly vulnerable to encroachment; then
- The Halton Region *Regional Official Plan Guidelines - Land Use Compatibility Guidelines* provide guidance on the implementation of the Regional Official Plan’s land use compatibility policies to minimize and mitigate potential conflict between noncompatible land uses, and sets out the additional guidelines which must be considered; then
- The Ministry of the Environment, Conservation & Parks (“MECP”) D-series of guidelines set out methods to determine if assessments are required (areas of influence, recommended separation distances, and the need for additional studies); then

-
- MECP and Municipal regulations, policies, standards, and guidelines then set out the requirements of additional air quality, noise and vibration studies and the applicable policies, standards, guidelines, and objectives to ensure that adverse effects do not occur.

3.1 ONTARIO PLANNING ACT

The Ontario Planning Act is “provincial legislation that sets out the ground rules for land use planning in Ontario. It describes how land uses may be controlled, and who may control them. The purpose of the Act is to:

- provide for planning processes that are fair by making them open, accessible, timely and efficient
- promote sustainable economic development in a healthy natural environment within a provincial policy framework
- provide for a land use planning system led by provincial policy
- integrate matters of provincial interest into provincial and municipal planning decisions by requiring that all decisions be consistent with the Provincial Policy Statement and conform/not conflict with provincial plans
- encourage co-operation and coordination among various interests
- recognize the decision-making authority and accountability of municipal councils in planning”

Section 2.1 of the Ontario Planning Act describes how approval authorities and Tribunals must have regard to matters of provincial interest including orderly development, public health, and safety.

3.2 PROVINCIAL POLICY STATEMENT

The PPS “provides policy direction on matters of provincial interest related to land use planning and development. As a key part of Ontario’s policy-led planning system, the Provincial Policy Statement sets the policy foundation for regulating the development and use of land. It also supports the provincial goal to enhance the quality of life for all Ontarians.”

The PPS is a generic document, providing a consolidated statement of the government’s policies on land use planning and is issued under section 3 of the Planning Act. Municipalities are the primary implementers of the PPS through policies in their local official plans, zoning by-laws, and other planning related decisions. Policy direction concerning land use compatibility is provided in Section 1.2.6 of the PPS (2020).

“1.2.6 Land Use Compatibility

1.2.6.1 Major facilities and sensitive land uses shall be planned and developed to avoid, or if avoidance is not possible, minimize and mitigate any potential adverse effects from odour, noise, and other contaminants, minimize risk to public health and safety, and to ensure the long-term operational and economic viability of major facilities in accordance with provincial guidelines, standards, and procedures.

1.2.6.2 Where avoidance is not possible in accordance with policy 1.2.6.1, planning authorities shall protect the long-term viability of existing or planned industrial, manufacturing, or other uses that are vulnerable to encroachment by ensuring that the planning and development of proposed adjacent sensitive land uses are only permitted if the following are

demonstrated in accordance with provincial guidelines, standards, and procedures:

- a) there is an identified need for the proposed use;
- b) alternative locations for the proposed use have been evaluated and there are no reasonable alternative locations;
- c) adverse effects to the proposed sensitive land use are minimized and mitigated; and
- d) potential impacts to industrial, manufacturing, or other uses are minimized and mitigated.”

The goals of the PPS are implemented through Municipal and Provincial policies, as discussed below. Provided the Municipal and Provincial policies, guidelines, standards, and procedures are met, the requirements of the PPS will be met.

3.3 HALTON REGION’S REGIONAL OFFICIAL PLAN GUIDELINES – LAND USE COMPATIBILITY GUIDELINES

The purpose of Land Use Compatibility Guidelines development by the Region (LUCG) is to “identify how land use compatibility issues may be addressed by municipalities during a development proposal...” The LUCG were developed by the Region in consideration of the Provincial D-Series of Guidelines, prepared by the Ontario Ministry of the Environment, Conservation and Parks (MECP) in 1995 for planning guidance in evaluating land use compatibility. Section 2 of the LUCG identifies the relevant provincial guidelines and regulations which are to be considered in conducting air quality assessment in Ontario:

“The D-Series are used for development applications that require the re-designation (Official Plan Amendment) or rezoning of land uses (Zoning By-law amendment). The MOE’s D-Series are only applicable when a:

- *New sensitive land use requires a land use amendment and is proposed to be located within the influence, or potential influence, area of an impacting use, such as an existing industrial land use; or when a*
- *New industrial use requires a land use amendment and is proposed to be located near an existing sensitive residential use.”*

Included in the Region’s summary is a discussion of the “potential areas of influence” approach, as presented in the D-series of guidelines when assessing compatibility of industrial uses with more sensitive uses such as residences.

3.4 D-SERIES OF GUIDELINES

The D-series of guidelines were developed by the MECP in 1995 to assess Recommended Minimum Separation Distances and other control measures for land use planning proposals to prevent or minimize ‘adverse effects’ from the encroachment of incompatible land uses where a facility either exists or is proposed. D-series guidelines address sources including sewage treatment (Guideline D-2), gas and oil pipelines (Guideline D3), landfills (Guideline D-4), water services (Guideline D-5) and industries (Guideline D-6).

For this project, the applicable guideline is Guideline D-6 - Compatibility *between Industrial Facilities and Sensitive Land Uses*. The guidelines specifically address issues of air quality, odour, dust, noise, and litter.

Adverse effect is a term defined in the Environmental Protection Act and “means one or more of

- impairment of the quality of the natural environment for any use that can be made of it,

- injury or damage to property or to plant or animal life,
- harm or material discomfort to any person,
- an adverse effect on the health of any person,
- impairment of the safety of any person,
- rendering any property or plant or animal life unfit for human use,
- loss of enjoyment of normal use of property, and
- interference with the normal conduct of business”.

3.4.1 GUIDELINE D-6 REQUIREMENTS

This guideline specifically addresses issues of air quality, odour, dust, noise, and litter. To minimize the potential to cause an adverse effect, potential Areas of Influence and Recommended Minimum Separation Distances are included within the guidelines. The potential Areas of Influence and Recommended Minimum Separation Distances from the guidelines are provided in the table below.

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

Industry Classification	Area of Influence	Recommended Minimum Separation Distance
Class I – Light Industrial	70 m	20 m
Class II – Medium Industrial	300 m	70 m
Class III – Heavy Industrial	1000 m	300 m

Industrial categorization criteria are supplied in Guideline D-6-2, and are shown in the following table:

Table 2: Guideline D-6 - Industrial Categorization Criteria

Category	Outputs	Scale	Process	Operations / Intensity	Possible Examples
Class I Light Industry	<ul style="list-style-type: none"> • Noise: Sound not audible off-property • Dust: Infrequent and not intense • Odour: Infrequent and not intense • Vibration: No ground-borne vibration on plant property 	<ul style="list-style-type: none"> • No outside storage • Small-scale plant or scale is irrelevant in relation to all other criteria for this Class 	<ul style="list-style-type: none"> • Self-contained plant or building which produces/ stores a packaged product • Low probability of fugitive emissions 	<ul style="list-style-type: none"> • Daytime operations only • Infrequent movement of products and/ or heavy trucks 	<ul style="list-style-type: none"> • Electronics manufacturing and repair • Furniture repair and refinishing • Beverage bottling • Auto parts supply • Packaging and crafting services • Distribution of dairy products • Laundry and linen supply

Category	Outputs	Scale	Process	Operations / Intensity	Possible Examples
Class II Medium Industry	<ul style="list-style-type: none"> Noise: Sound occasionally heard off-property Dust: Frequent and occasionally intense Odour: Frequent and occasionally intense Vibration: Possible ground-borne vibration, but cannot be perceived off-property 	<ul style="list-style-type: none"> Outside storage permitted Medium level of production allowed 	<ul style="list-style-type: none"> Open process Periodic outputs of minor annoyance Low probability of fugitive emissions 	<ul style="list-style-type: none"> Shift operations permitted Frequent movements of products and/ or heavy trucks with the majority of movements during daytime hours 	<ul style="list-style-type: none"> Magazine printing Paint spray booths Metal command Electrical production Manufacturing of dairy products Dry cleaning services Feed packing plants
Class III Heavy Industry	<ul style="list-style-type: none"> Noise: Sound frequently audible off property Dust: Persistent and/ or intense Odour: Persistent and/ or intense Vibration: Ground-borne vibration can frequently be perceived off-property 	<ul style="list-style-type: none"> Outside storage of raw and finished products Large production levels 	<ul style="list-style-type: none"> Open process Frequent outputs of major annoyances High probability of fugitive emissions 	<ul style="list-style-type: none"> Continuous movement of products and employees Daily shift operations permitted 	<ul style="list-style-type: none"> Paint and varnish manufacturing Organic chemical manufacturing Breweries Solvent recovery plants Soaps and detergent manufacturing Metal refining and manufacturing

3.4.2 REQUIREMENTS FOR ASSESSMENTS

Guideline D-6 requires that studies be conducted to assess impacts where sensitive land uses are proposed within the potential Area of Influence of an industrial facility. This Addendum report is intended to fulfill this requirement.

The D-series guidelines reference previous versions of the air quality regulation (Regulation 346) and noise guidelines (Publications NPC-205 and LU-131). However, the D-Series of guidelines are still in force, still represent current MECP policy and are specifically referenced in numerous other current MECP policies. In applying the D-series guidelines, the current policies, regulations, standards, and guidelines have been used (e.g., Regulation 419, Publication NPC-300).

3.4.3 REQUIREMENTS FOR MINIMUM SEPARATION DISTANCES

Guideline D-6 also *recommends* that no sensitive land use be placed within the Recommended Minimum Separation Distance. However, it should be noted that this is a recommendation, only. Section 4.10 of the Guideline allows for development within the Recommended Minimum Separation Distance, in cases of redevelopment, infilling, and transitions to mixed use, provided that the appropriate studies are conducted and that the relevant air quality and noise guidelines are met.

4. LAND USE CLASSIFICATION OF THE PROPOSED USE

The Illustrative Concept Plan calls for light industrial/industrial and office space land uses. These uses would have the following characteristics:

- Outputs: Minimal dust, odours or vibration; sound occasionally heard off property
- Scale: No outside storage;
- Process: Closed process, self-contained plant, low probability of fugitive emissions
- Operations/ Intensity: Shift operations permitted, frequent movements of products and/ or heavy trucks with the majority of movements during daytime hours

Based on the above, the proposed uses have the characteristics of both Class I Light and Class II Medium scale industries. For this assessment, the Project site is conservatively considered a Class II Medium Scale industry, with a 70 m Recommended Minimum Separation Distance, and a 300 m Area of Influence. The Guideline D-6 potential Area of Influence and Recommended Minimum Separation Distance for the Project site can be seen in **Figure 4**.

There are residences within the 300 m potential Area of Influence of the Project site. As such, under Guideline D-6 requirements, an assessment of the potential for noise and air quality impacts from Site is required.

Subsequent sections of this report assess the potential for air quality and noise emissions from the Project site. Provided that the air quality from the Project site meet the applicable air quality and noise regulations, the requirements of Guideline D-6 will be met.

5. AIR QUALITY, DUST AND ODOUR ASSESSMENT

5.1 GUIDELINES AND REGULATIONS

5.1.1 HALTON REGION'S REGIONAL OFFICIAL PLAN GUIDELINES: AIR QUALITY GUIDELINES

The Region's Air Quality Guidelines (AQG) were developed along with a number of other guidelines for land use planning which came out of the Regional Official Plan Amendment (ROPA 38). In general terms, the AQG recommends consideration of local industrial sources and transportation features when evaluating the siting of a residential land use.

The AQG acts as a summary document of the applicable guidelines for a particular undertaking.

"2.1 Under the Region's policy 143(12), any source emission studies may only be applicable when sensitive land uses (residential, natural heritage) are proposed with these 3 conditions present:

- Within 30 m of a major arterial road or provincial highway or within 150 m of provincial

-
- freeway;
 - In proximity to an industrial use; and a
 - Utility use”

As the proposed Project includes potential industrial uses within the 300 m Area of Influence of existing sensitive uses, an assessment of potential air quality effects is required, and is shown below.

5.1.2 MECP AIR QUALITY REGULATIONS, STANDARDS AND GUIDELINES

Within Ontario, facilities which emit significant amounts of contaminants to the environment are required to obtain and maintain an Environmental Compliance Approval (an “ECA”) from the MECP or submit an Environmental Activity and Sector Registry (“EASR”). Facilities with an ECA/EASR should already meet the MECP guidelines for air quality contaminants at their property line.

5.1.2.1 Air Quality Contaminants

Under O.Reg. 419/05, a facility is required to meet prescribed standards for air quality contaminants at their property boundary line and any location off-site ground level, or elevated sensitive receptor.

5.1.2.2 Odour

There are a select few compounds that are provincially regulated from an odour perspective; however, there is no formal regulation with respect to mixed odours. Impacts from mixed odours produced by industrial facilities are generally only considered and regulated by the MECP in the presence of persistent complaints (ECO 2010).

The MECP assesses mixed odours, in Odour Units, following draft guidelines. One odour unit (1 OU) has been used as a default threshold. This is the concentration at which 50 % of the population will just detect an odour (but not necessarily identify/recognize or object to it). Recognition of an odour will typically occur between 3 and 5 odour units. The following factors may be considered:

- **Frequency** – How often the odour occurs. The MECP typically allows odours to exceed 1 OU with a 0.5 % frequency.
- **Intensity** – The strength of the odour, in odour units. 1 OU is often used in odour assessments in Ontario.
- **Duration** – How long the odour occurs.
- **Offensiveness** – How objectionable the odour is. The MECP may allow for a higher concentration of pleasant smells such as baking as opposed to off-putting smells such as rotting garbage or rancid meat.
- **Location** – Where the odour occurs. The MECP assesses at odours where human activity is likely to occur.

The MECP has decided to apply odour-based standards to locations “where human activities regularly occur at a time when those activities regularly occur,” which is generally accepted to be places that would be considered sensitive such as residences and public meeting places. As a guide, the MECP has provided proposed clarification of human odour receptors, as shown in the following table:

Table 3: Proposed Clarification of Human Receptors (MECP 2008)

Receptor Category	Examples	Exposure Type	Type of Assessment
Permanent potential 24-hour sensitivity	Anywhere someone could sleep including any resident or house, motels, hospitals, senior citizen homes, campgrounds, farmhouse, etc.	Individual likely to receive multiple exposures	Considered sensitive 24 hours per day
Permanent daily hours but with definite periods of shutdown/closure	Schools, daycares, community centres, soccer fields, farmland, churches, bicycle paths, hiking areas, lakes, commercial or institutional facilities (with consideration of hours of operation such as night clubs, restaurants, etc.)	Individual could receive multiple exposures	Nighttime or daytime exclusion only (consider all other hours)
Seasonal variations with clear restrictions on accessibility during the off season	Golf courses, amusement parks, ski hills, other clearly seasonal private property	Short term potential for exposure	Exclusions allowed for non-seasonal use
Transient	Open fields, roadways, easements, driveways, parking lots, pump houses	Very short-term potential for exposure, may not be a single resident exposed to multiple events	Generally, would not be included as human receptors unless otherwise specified.

Note that commercial facilities are considered to be odour sensitive points of reception, as well as community spaces and residences.

5.1.2.3 Dust

Ontario Regulation 419/05 also provides limits for dust, including limits for suspended particulates and dust fall. Under Reg. 419/05, these air quality limits must be met at the property line and all points beyond.

5.1.2.4 Cumulative Assessments

Cumulative impact assessments, examining the combined effects of individual industries, or the combined effects of industry and roadway emissions, are generally not required. Neither the PPS, the D-Series of Guidelines, Regulation 419/05, or the current MECP odour assessment protocols require an assessment of cumulative impacts.

Which is not to say that such assessments are never warranted; rather, the need to do so must be considered on a case-by-case basis, depending on the nature and intensity of the industrial operation(s), and the nature of the pollutants released. Based on the types of pollutants released by the industries in this area, cumulative effects assessments are not warranted.

5.2 ASSESSMENT OF POTENTIAL AIR QUALITY EFFECTS

There are no large sources of air quality dust, odour or litter emissions associated with the proposed use of the lands. The potential sources of air emissions are:

-
- Emissions sources associated with light industry;
 - Rooftop heating, ventilation, and air conditioning (HVAC) units for the office areas; and
 - Emissions from moving and idling trucks.

As previously discussed above, facilities which emit significant amounts of contaminants to the environment are required to obtain and maintain an ECA from the MECP or submit an EASR. If any tenants of the proposed facility have air emissions they will be required to maintain an ECA or EASR. In addition, Ontario Regulation 524/98 sets out ECA approval exemptions for source which are known to have negligible impacts and a low probability for adverse effects. These exemptions include:

- Air conditioning units (Regulation 524/98, Section 1. (1) 5.)
- General ventilation exhausts (Regulation 524/98, Section 1. (1) 7.)
- HVAC systems (Regulation 524/98, Section 1. (1) 25.)
- Moving motor vehicles (*Environmental Protection Act*, Section 9(3))

A wind frequency distribution diagram (a wind rose) is provided in **Figure 5**. Prevailing winds are from the northwest, which will generally direct emissions from the Project site away from the majority of residences in the area.

Considering the above, adverse air quality impacts from the Project site sources are not anticipated at the nearby sensitive receptors. Therefore, further study related to air quality is not warranted.

5.3 SUMMARY OF AIR QUALITY, DUST AND ODOUR CONCLUSIONS AND RECOMMENDATIONS

The potential air quality emissions from the Project site, including dust and odour, have been assessed. Based on the review completed, the Project site is anticipated to be compatible with the surrounding land uses from an air quality perspective.

6. ENVIRONMENTAL NOISE ASSESSMENT

6.1 NOISE GUIDELINES

6.1.1.1 Halton Region Guidelines

The applicable guidelines for Halton Region are summarized in the publication *Regional Official Plan Guidelines – Noise Abatement Guidelines*. The document provides direction regarding required noise control for existing development, new development, and Regional Road projects. Guidelines for new development in the Halton Region guidelines generally follow those of the MECP.

Notably, future developers are required to abate noise originating from traffic, industrial/commercial plazas, and/or other noise sources which exceed the MECP guidelines, for noise sensitive land use areas including:

- All types of residential buildings, including apartments and condominiums
- Institutional buildings such as hospitals, old age homes, places of worship
- Certain park locations and recreational areas which have been designated for quiet environment; and

- Other noise sensitive areas to be defined at the time of the development application.

Points of reception for noise assessments are also defined in the guideline, with notable exclusions including apartment balconies above ground level, public/private parks and picnic areas, all commercial areas, and all industrial areas.

6.1.2 MECP PUBLICATION NPC-300 GUIDELINES FOR STATIONARY NOISE SOURCES

The applicable MECP noise guidelines for new industrial/commercial land uses adjacent to existing noise-sensitive lands uses are provided in MECP Publication NPC-300. NPC-300 revokes and replaces the previous noise assessment guideline, Publication LU-131 and Publication NPC-205, which was previously used for assessing noise impacts.

The NPC-300 guidelines set out noise limits for two main types of noise sources:

- Non-impulsive, “continuous” noise sources such as ventilation fans, mechanical equipment, and vehicles while moving within the property boundary of an industry. Continuous noise is assessed using 1-hour average sound exposure levels (L_{eq} (1-hr) values), in dBA; and
- Impulsive noise, which is a “banging” type of noise characterized by rapid rise time and decay. Impulsive noise is measured using a logarithmic mean (average) level (L_{LM}) of the impulses in a one-hour period, in dBAI.

Furthermore, the guideline requires an assessment at, and provides separate guideline limits for:

- Outdoor points of reception (e.g., back yards, communal outdoor amenity areas); and
- Façade points of reception such as the planes of windows on outdoor façades which connect onto noise sensitive spaces such as living rooms, dens, eat-in kitchens, dining rooms and bedrooms/sleeping quarters.

For large lots/properties, under the noise guidelines, outdoor points of reception are defined as being any point within 30 m of the façade of the main dwelling.

The applicable noise limits at a point of reception due to the operation of nearby industrial/commercial land uses are the higher of:

- The existing ambient sound level due to road traffic, or
- The exclusion limits set out in the guideline.

The nearest existing noise-sensitive points of reception in proximity to the subject property are located in a Class 1 area as defined by NPC-300. Ambient sound levels in the Project area are expected to be dominated by road traffic on the Queen Elizabeth Way (QEW) and Ford Drive. **Table 4** summarizes the exclusion limits from the guidelines for non-impulsive continuous noise sources, and **Table 5** summarizes the limits for impulsive noise.

Sound level limits for assessing noise produced by emergency equipment operating in non-emergency situations, such as during routine monthly testing or maintenance, are 5 dB greater than the limits otherwise applicable to stationary sources. Additionally, emergency equipment operating in non-emergency situations is to be assessed independently of all other stationary noise sources.

Table 4: NPC-300 Exclusion Limits for Non-Impulsive Sounds (L_{eq} (1-hr), dBA)

Time of Day	Class 1 Area	
	Plane of Windows of Noise Sensitive Spaces	Outdoor Points of Reception
Daytime (7 am to 7 pm)	50	50
Evening (7 pm to 11 pm)	50	50
Night-time (11 pm to 7 am)	45	n/a

Table 5: NPC-300 Exclusion Limits for Impulsive Sounds (L_{LLM} , dBAI)

Time of Day	No. of Impulses in a 1-hour Period	Class 1 Area	
		Plane of Windows of Noise Sensitive Spaces	Outdoor Points of Reception
Daytime and Evening (7 am to 11 pm)	9 or more	50	50
	7 to 8	55	55
	5 to 6	60	60
	4	65	65
	3	70	70
	2	75	75
	1	80	80
Night-time (11 pm to 7 am)	9 or more	45	n/a
	7 to 8	50	n/a
	5 to 6	55	n/a
	4	60	n/a
	3	65	n/a
	2	70	n/a
	1	75	n/a

Notes:

n/a Not Applicable. Outdoor points of reception are not considered to be noise sensitive during the overnight period.

The stationary noise guidelines apply only to residential land uses and to noise-sensitive commercial and institutional uses, as defined in NPC-300 (e.g., schools, daycares, hotels). For the Project, the stationary noise guidelines are expected to apply only to the nearest residences to the subject property, and not to any locations within the development itself.

6.2 POINTS OF RECEPTION

The nearest existing noise-sensitive points of reception to the Project are low density residential dwellings located to the northeast along Winterbourne Drive, Eddie Shain Drive, and Kingsway Drive. Refer to **Figure 3**, which identifies the low-density residential land use areas in proximity to the Project, and **Figure 4**, which shows the location of the nearby residential dwellings.

The residences noted above are generally two-storey detached dwellings with rear yards (OLAs) facing towards the Project. The distance to the nearest noise sensitive points of reception is approximately 105 m, measured from the Project property line to the back yards of the residences along Winterbourne Drive.

As noted above, the points of reception in proximity to the Project are in a Class 1 area. Sound levels from the Project will be required to meet the minimum exclusion limits for a Class 1 area during daytime, evening and night-time hours. Due to high anticipated traffic volumes on the nearby QEW and Ford Drive, it is expected that the ambient sound environment at the nearest noise sensitive land uses would be

dominated by road traffic noise. It is possible that ambient sound levels during daytime, evening and/or night-time hours could be higher than the minimum exclusion limits for the noise sensitive points of reception most exposed to the Project along Winterbourne Drive, Eddie Shain Drive, and Kingsway Drive, due to traffic on the surrounding roadways.

Land use designations for the Project area as shown in the Town of Oakville Official Plan (**Figure 3**), and Town of Oakville zoning designations, do not appear to accommodate potential future noise-sensitive land uses closer to the Project than the existing residences noted above.

6.3 ASSESSMENT OF POTENTIAL NOISE IMPACTS

The subject property is expected to contain a mix of light industrial/industrial and office space buildings. Based on the concept plan shown in **Figure 2**, Buildings A, B and C are planned for light industrial/industrial uses, and Buildings D is planned for office space uses. At this stage in the planning and development process, specific uses for the buildings are not known.

Noise sources potentially associated with the office employment building include the following:

- HVAC systems; and
- On-site vehicle movements.

Noise sources potentially associated with the light industrial/industrial uses could include the following:

- HVAC systems;
- Mechanical equipment associated with light industrial/industrial operations;
- On-site vehicle movements including delivery trucks;
- Activity at loading bays/loading docks including idling trucks; and
- Emergency generators.

The light industrial and office space classifications would be considered Class I under the D-6 land use compatibility guidelines. As shown in **Figure 4**, the nearest noise sensitive land uses are located at least 105 m from the Project, outside of the 70 m zone of influence for Class I industries. Therefore, adverse noise impacts from those aspects of the Project are not anticipated.

Industrial buildings associated with the Project could conceivably be considered Class II based on the D-6 land use compatibility guidelines, and Class II industries have a 300 m potential area of influence. Due to the setback distance of more than 100 m and the high ambient noise environment, along with appropriate design of potential industrial uses on the Project site, it is expected that any potential Class II industries could be operated in compliance with the applicable guidelines.

It is likely that future industrial buildings associated with the Project site would require detailed noise assessments later in the planning process, such as for a zoning by-law amendment, or at the site plan application/building permit stages. Specific facility sources associated with the Project should be assessed at that time.

Furthermore, it is likely that should any of the Project buildings be constructed for an industrial use, they would be required to obtain and maintain an Environmental Compliance Approval (an “ECA”) from the MECP, or apply to the Environmental Activity and Sector Registry (“EASR”). In order to obtain an ECA or apply to the EASR, prior to operation, a new facility must be shown to comply with the applicable MECP

noise guidelines based on assessment by a qualified acoustic practitioner.

6.4 PROJECT DESIGN RECOMMENDATIONS

The illustrative concept plan includes four (4) buildings on the west side of Sherwood Heights Drive, that have the potential to contain Class I or Class II industrial facilities as defined by the D-6 land use compatibility guidelines. Considerations that could be incorporated in the design process to minimize potential noise impacts from the Project include the following:

- Locating truck delivery and loading/unloading areas on the sides of the buildings facing away from the noise-sensitive land uses. It should be noted the current Concept Plan shows building footprints that are already planned to accommodate this in the Project site design.
- Selecting appropriate HVAC systems and mechanical equipment, and having these selections reviewed by a qualified acoustic practitioner prior to final design and construction.
- Implementing no idling policies for delivery trucks.
- Directing exhaust stacks/openings associated with mechanical systems or emergency generators away from the noise-sensitive land uses.
- Implementing physical noise control measures such as silencers or noise barriers, if necessary.

With consideration of the additional design recommendations above, it is expected that future facilities associated with the Project can be operated in compliance with applicable MECP and Halton Region guidelines.

6.5 SUMMARY OF ENVIRONMENTAL NOISE ASSESSMENT

Based on the setback distance of the Project to noise-sensitive points of reception, a high ambient sound level in the area due to traffic on the surrounding roadways, and procedures in place to develop the site in compliance with MECP/Halton Region guidelines prior to construction and operation of any potential industrial facilities, the Project is anticipated to be compatible with existing and future surrounding land uses.

7. VIBRATION ASSESSMENT

The Project is not anticipated to contain any significant industrial vibration sources, such as large stamping presses or forges, and is more than 100 m to the closest residence. Under applicable MECP guidelines, a detailed vibration assessment is not required. Adverse impacts from industrial vibration from the subject property are not anticipated.

8. CONCLUSIONS

SLR Consulting (Canada) Ltd. (SLR), has assessed the compatibility of the proposed light industrial/industrial and office space uses with respect to air quality, noise and vibration.

The potential effects of air quality, noise and vibration emissions from the Project site have been assessed. Based on the review completed, adverse impacts are not anticipated, and the applicable MECP regulations, standards, guidelines and policies will be met. The Project site is anticipated to be compatible with the surrounding land uses from an air quality, noise and vibration perspective.

9. REFERENCES

Environmental Commissioner of Ontario (ECO, 2010), *Review of Posted Decision: Developing an Odour Policy Framework*, April 2010.

Halton Region, *Regional Official Plan Guidelines – Land Use Compatibility Guidelines*, 2009.

Halton Region, *Regional Official Plan Guidelines – Air Quality Guidelines*, 2009.

Halton Region, *Regional Official Plan Guidelines – Noise Abatement Guidelines*, 2009.

Ontario Ministry of the Environment, Conservation & Parks (MECP, 1995), Guideline D-1: *Land Use Compatibility*

Ontario Ministry of the Environment, Conservation & Parks (MECP, 1996), Guideline D-2: *Compatibility Between Sewage Treatment and Sensitive Land Uses*

Ontario Ministry of the Environment, Conservation & Parks (MECP, 1994) Guideline D-3: *Environmental Considerations For Gas Or Oil Pipelines And Facilities*

Ontario Ministry of the Environment, Conservation & Parks (MECP, 1994), Guideline D-4: *Land Use On or Near Landfills and Dumps*

Ontario Ministry of the Environment, Conservation & Parks (MECP, 1996), Guideline D-5: *Planning for Sewage & Water Services*

Ontario Ministry of the Environment, Conservation & Parks (MECP, 1995), Guideline D-6: *Compatibility Between Industrial Facilities and Sensitive Land Uses*

Ontario Ministry of Municipal Affairs and Housing (MMAH, 2014). *Provincial Policy Statement*
<http://www.ontario.ca/document/provincial-policy-statement-2014>

Ontario Ministry of Municipal Affairs and Housing (MMAH, 2019). *Draft Provincial Policy Statement*.
[https://prod-environmental-registry.s3.amazonaws.com/2019-07/EN_PPS Proposed Policies_July2019.pdf](https://prod-environmental-registry.s3.amazonaws.com/2019-07/EN_PPS_Proposed_Policies_July2019.pdf)

Ontario Regulation 419/01 – *Local Air Quality*.

10. STATEMENT OF LIMITATIONS

This report has been prepared and the work referred to in this report has been undertaken by SLR Consulting (Canada) Ltd. (SLR) for Infrastructure Ontario, hereafter referred to as the “Client”. It is intended for the sole and exclusive use of the Client. The report has been prepared in accordance with the Scope of Work and agreement between SLR and the Client. Other than by the Client and as set out herein, copying or distribution of this report or use of or reliance on the information contained herein, in whole or in part, is not permitted unless payment for the work has been made in full and express written permission has been obtained from SLR.

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 **Figures**



50 Sherwood Heights Drive

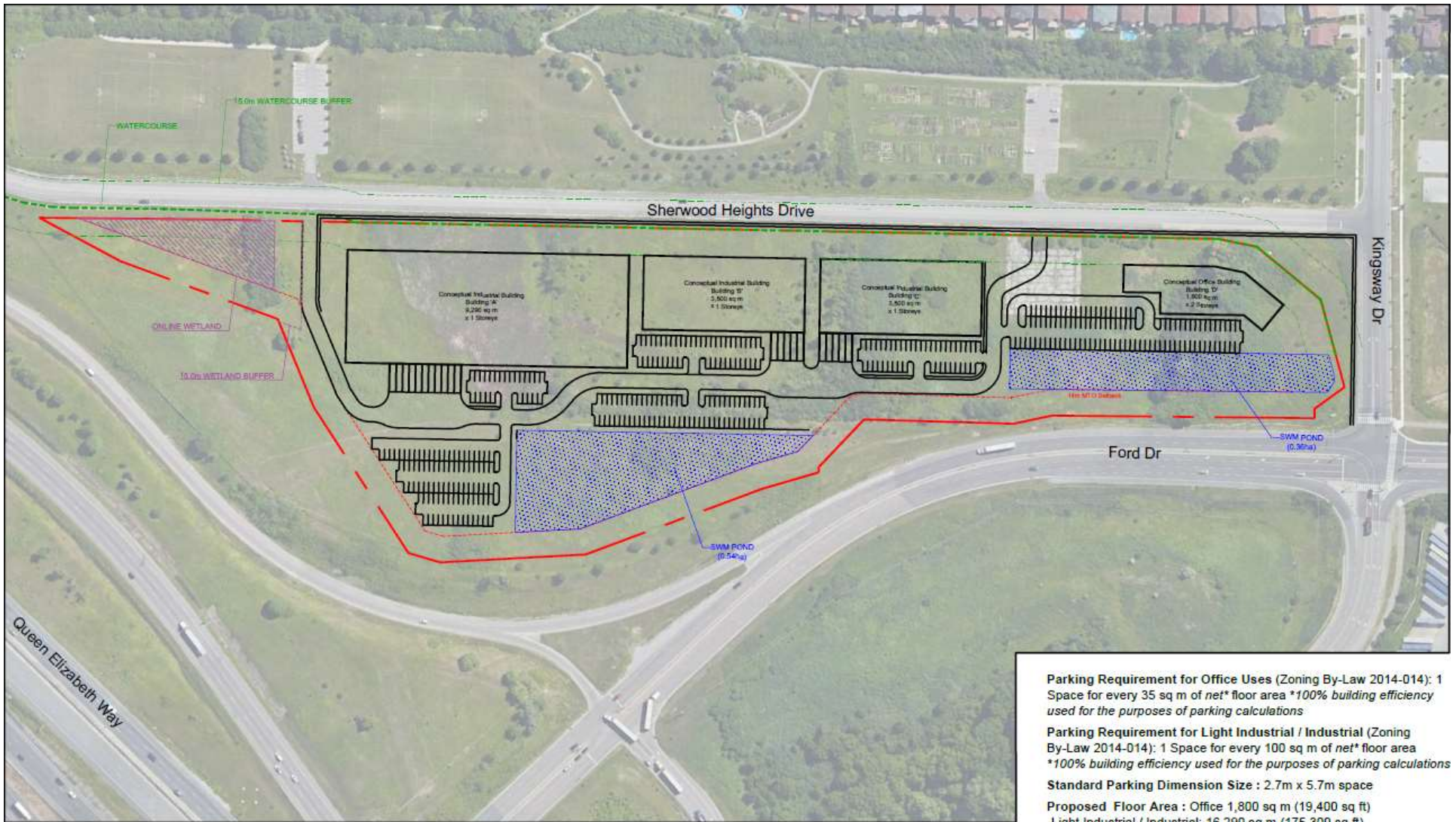
Oakville, Ontario

Land Use Compatibility Study

SLR Project No.: 241.30431.00000



<p align="center">GSP GROUP</p>	<p>True North</p>	<p>Scale: 1:8,000</p>	<p>METRES</p>		
<p align="center">50 SHERWOOD HEIGHTS DRIVE – OAKVILLE, ONTARIO</p>		<p>Date: Mar. 2, 2022</p>	<p>Rev 1.0</p>		<p>Figure No. 1</p>
<p align="center">CONTEXT PLAN</p>		<p>Project No. 241.30431.00000</p>			



Parking Requirement for Office Uses (Zoning By-Law 2014-014): 1 Space for every 35 sq m of net* floor area *100% building efficiency used for the purposes of parking calculations

Parking Requirement for Light Industrial / Industrial (Zoning By-Law 2014-014): 1 Space for every 100 sq m of net* floor area *100% building efficiency used for the purposes of parking calculations

Standard Parking Dimension Size : 2.7m x 5.7m space

Proposed Floor Area : Office 1,800 sq m (19,400 sq ft)
Light Industrial / Industrial: 16,290 sq m (175,300 sq ft)

Illustrative Concept Plan
50 Sherwood Heights Drive, Oakville

Required Parking:
 1,800 sq m x 2 storeys = 3,600 sq m / 35 * 1 = 102 parking spaces
 9,290 sq m x 1 storeys = 7,500 sq m / 100 * 1 = 75 parking spaces + 1,790 sq m / 200 * 1 = 9 parking spaces = 84
 3,500 sq m x 1 storeys = 3,500 sq m / 100 * 2 = 70 parking spaces
 Total Required: 102 + 84 + 70 = 256 spaces

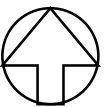
Proposed Parking:
 Business Employment - 265 Spaces
 Office Employment - 106



GSP GROUP 50 SHERWOOD HEIGHTS DRIVE – OAKVILLE, ONTARIO ILLUSTRATIVE CONCEPT PLAN	True North	Scale:	N.T.S.	METRES	
		Date: Mar. 2, 2022	Rev 1.0	Figure No.	
		Project No. 241.30431.00000		2	





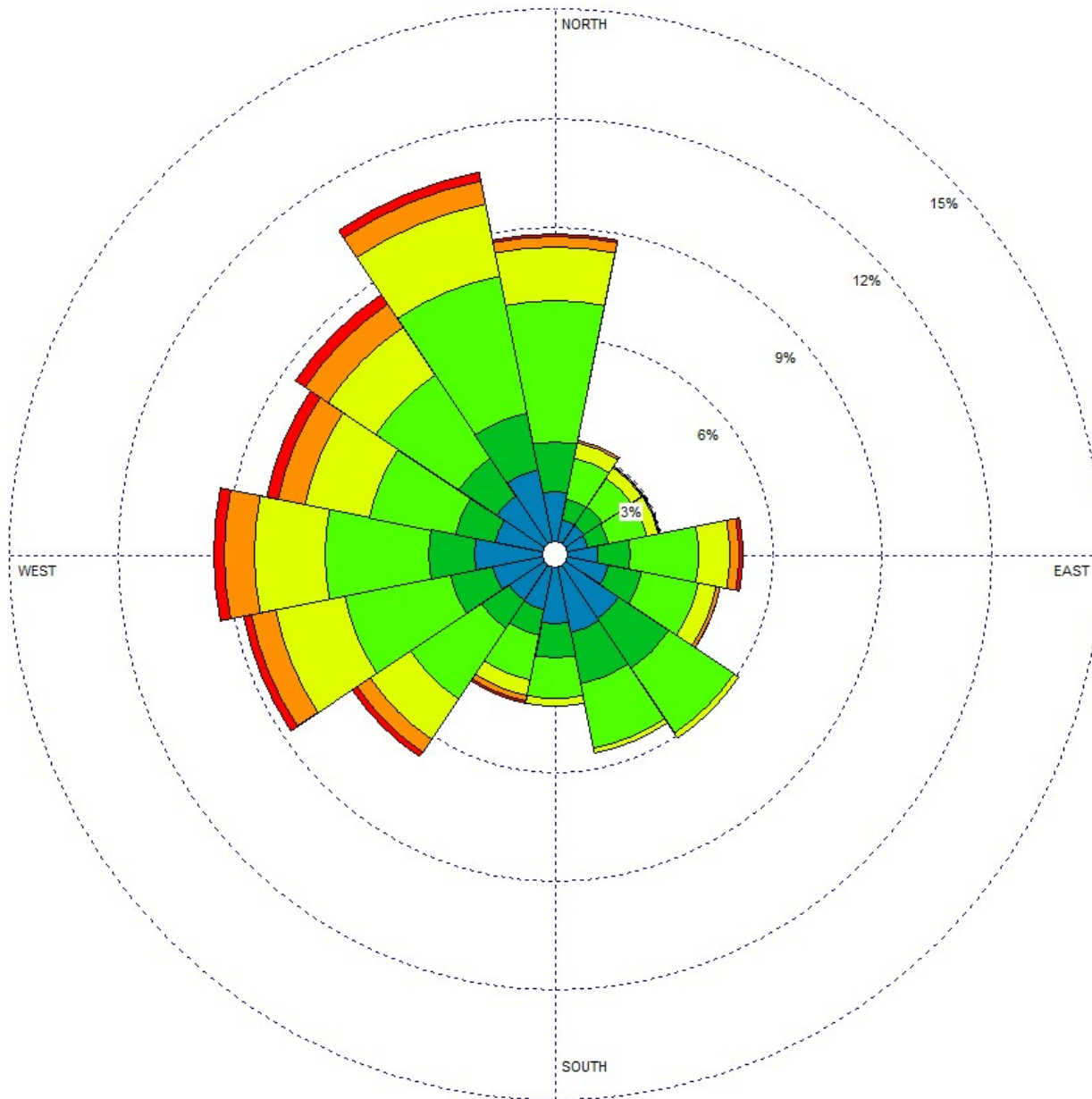
GSP GROUP
 50 SHERWOOD HEIGHTS DRIVE – OAKVILLE, ONTARIO
 CITY OF OAKVILLE OFFICIAL PLAN MAP



True North 	Scale:	N.T.S.	METRES
	Date: Mar. 2, 2022	Rev 1.0	
	Project No. 241.30431.00000		





GSP GROUP	True North	Scale:	1:9,500	METRES	
50 SHERWOOD HEIGHTS DRIVE – OAKVILLE, ONTARIO		Date: Mar. 2, 2022	Rev 1.0	Figure No.	
CLASS I & CLASS II D-6 AREAS OF INFLUENCE AND RECOMMENDED MINIMUM SEPARATION DISTANCES		Project No. 241.30431.00000		4	



GSP GROUP	True North 	Scale: N.T.S.		METRES	 SLR global environmental solutions
50 SHERWOOD HEIGHTS DRIVE – OAKVILLE, ONTARIO		Date: Mar. 2, 2022	Rev 1.0	Figure No.	
TORONTO INTERNATIONAL AIRPORT WIND FREQUENCY DISTRIBUTION		Project No. 241.30431.00000		5	