



BCX
ENVIRONMENTAL
CONSULTING

Air Quality and Odour Assessment

Proposed Residential Development near 950 Elm Street,
Port Colborne

Prepared for: ePrime Construction Management
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Site Address: Proposed Residential Development near
950 Elm Street
Port Colborne, Ontario

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BCX File No. 1482-01.01

Date: October 2024

EXECUTIVE SUMMARY

BCX Environmental Consulting (BCX) was retained by ePrime Construction Management (ePrime) to prepare an Air Quality and Odour Assessment in support ePrime's planning applications for their proposed residential development located near 950 Elm Street, Port Colborne, Ontario, owned by 1000427593 Ontario Inc.

In conclusion, BCX is of the opinion that the proposed residential development near 950 Elm Street will not be adversely impacted by air emissions and odours from the surrounding industrial facilities and the Seaway WWTP.



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1.0 INTRODUCTION

BCX Environmental Consulting (BCX) was retained by ePrime Construction Management (ePrime) to prepare an Air Quality and Odour Assessment in support ePrime’s planning applications for their proposed residential development located near 950 Elm Street, Port Colborne, Ontario. To support ePrime’s applications, BCX has prepared this Air Quality and Odour Assessment to address potential air quality and odour impacts at the proposed residential development site from industrial and municipal services facilities in the vicinity.

2.0 PROPOSED RESIDENTIAL DEVELOPMENT AND SURROUNDING LAND USES

The proposed residential development will be located in portions of a block west of 950 Elm Street in Port Colborne, Ontario. The Block Plan (Figure 1) indicates locations of portions of the block where the proposed residential development will be located. The proposed residential development will include single family homes, townhouses, block townhouses and an apartment building.

The area surrounding the proposed Elm Street residential development includes residential to the north, west and south and a mix of industrial and commercial land uses on the east side of Elm Street (Figure 1). These industries include fabrication and machining facilities, grain storage and handling, trucking and logistics, collision and vehicle body repair and the Seaway Wastewater Treatment Plant.

3.0 POTENTIAL SOURCES AND EVALUATION OF AIR EMISSIONS AND ODOURS

3.1 Potential Sources of Air Emissions and Odours

The potential emission sources from industrial and commercial facilities and the Seaway Wastewater Treatment Plant in the vicinity of the proposed residential development have been assessed in the report titled “Land Use Compatibility Assessment for Land Use Planning Approval Proposed Residential Development Elm Street Port Colborne” by SS Wilson Associates, dated April 28, 2023. This study identified industries including fabrication and machining facilities, grain storage and handling, trucking and logistics, collision and vehicle body repair and the Seaway Wastewater Treatment Plant as having the potential of impacting air quality and odours.

3.2 Evaluation of Air Emissions and Odour Sources

Information on these facilities surrounding the proposed residential development was reviewed with respect to air emissions and odours.

The fabrication and machining facilities, Thurston Machine Co. and Barber Hymac Hydro Inc., are the closest to the development at 30 metres and 35 metres to the east, respectively. Both facilities have Ministry of the Environment, Conservation and Parks (MECP) Environmental Compliance Approvals (ECAs) which permit and require them to operate in accordance with air quality standards, meeting the air quality standards at their respective property lines. These facilities have welding, grinding, cleaning dip tanks and touch-up painting operations which exhibit insignificant and infrequent emissions.

The trucking and logistics facility, DBR Transport, is located 225 metres southeast of the proposed residential development. As a trucking and logistics facility, DBR Transport does not manufacture products and has no industrial air emissions. The facility has a maintenance shop for repair of the vehicles with insignificant and infrequent air emissions.

The collision and vehicle body repair facility, CSN Collision Centre/Simmons Auto Body (CSN/Simmons), is located 265 metres southeast of the development site. CSN/Simmons also has an MECP ECA which permits and requires them to operate in accordance with air quality standards. This facility has a paint spray booth which will emit odours on an infrequent basis.

The Regional Municipality of Niagara (Niagara Region) Seaway Wastewater Treatment Plant (Seaway WWTP) is located 370 metres southeast of the proposed residential development. The Seaway WWTP also has an ECA which permits and requires them to operate in accordance with air quality standards. Wastewater Treatment Plants typically exhibit odours from the treatment of raw sewage. The Seaway WWTP publishes annual performance reports on their facility which include information on the operations and if they have received complaints. The Seaway WWTP 2023 annual performance report states that no complaints were received in the 2023 calendar year. The Seaway WWTP had a 2023 design average treated sewage flow of 19.6 ML/d (million litres/day) with a design peak flowrate of 45.4 ML/d.

Niagara Region has three similar WWTPs in the Niagara Peninsula which also publish annual performance reports. The Anger Ave WWTP in Fort Erie had a 2023 design average treated sewage flow of 24.5 ML/d (million litres/day) with a design peak flowrate of 49 ML/d. The Anger Ave WWTP 2023 annual performance report states that no complaints were received in the 2023 calendar year. The closest residences are within 140 metres of the Anger Ave WWTP.

The Welland WWTP in Welland had a 2023 design average treated sewage flow of 54.6 ML/d (million litres/day) with a design peak flowrate of 65 ML/d. The Welland WWTP 2023 annual performance report states that no complaints were received in the 2023 calendar year. There are no residences within 400 metres of the Welland WWTP.

The Crystal Beach WWTP in Crystal Beach had a 2023 design average treated sewage flow of 9.1 ML/d (million litres/day) with a design peak flowrate of 27.3 ML/d. The Crystal Beach WWTP 2023 annual performance report states that no complaints were received in the 2023 calendar year. The closest residences are less than 50 metres of the Crystal Beach WWTP.

Note, large city WWTPs typically have an average treated sewage flow of greater than 400 ML/d and can experience odour complaints.

4.0 POTENTIAL AIR QUALITY AND ODOUR IMPACTS

The previous section identified and outlined the facilities in the vicinity which have the potential of emitting air quality emissions and odours. This section summarizes the potential air quality and odour impacts of these facilities on the proposed residential development.

The industrial service industries have MECP ECAs which permit and require them to operate in accordance with air quality standards at their respective property lines. The air quality emission and odour sources are insignificant and operate infrequently.

Although the Seaway WWTP operates 24 hours a day, it has a history of very few complaints, receiving no complaints in 2023. The Seaway WWTP is also located a suitable downwind distance of 370 metres from the proposed residential development. Three other similar Niagara Region WWTPs were also reviewed. Two of these WWTPs were located closer to residential areas than the proposed residential development. The third was located a similar distance to residences but operated at a significantly higher sewage flow for 2023. None of the reviewed WWTPs received complaints in 2023.

BCX conducted a review of historical Port Colborne and surrounding area meteorology. As shown in Figure 2, winds blow predominantly from the south to northwest quadrants for Port Colborne and surrounding areas. The proposed residential site is, therefore, generally located upwind of the industrial facilities and the Seaway WWTP.

5.0 CONCLUSIONS

In conclusion, BCX is of the opinion that the air quality and odours at the proposed residential development near 950 Elm St, Port Colborne will not be adversely impacted by the surrounding industrial facilities or the Seaway WWTP.



6.0 LIMITATIONS

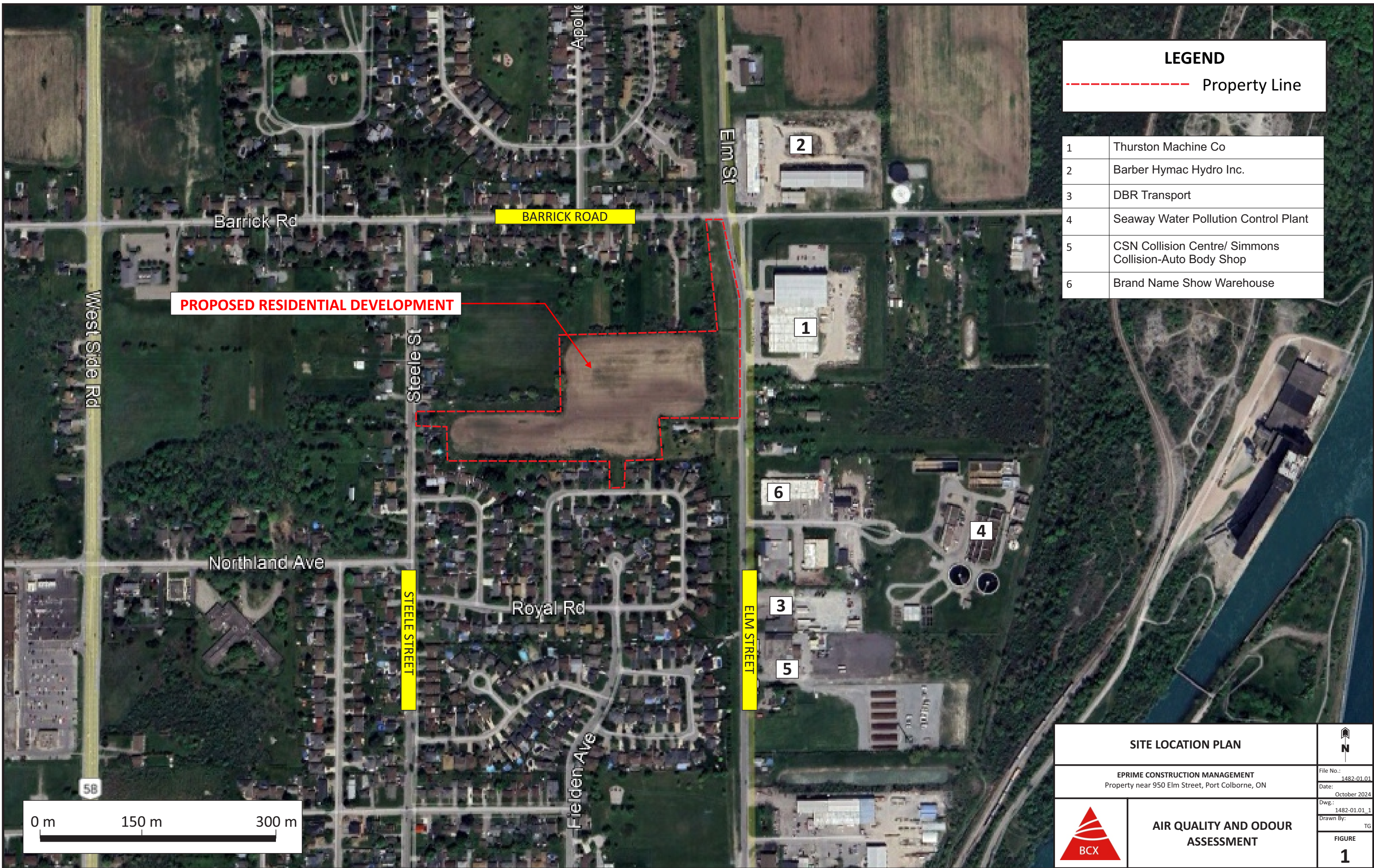
This air quality and odour assessment is based on the information provided by the proponent and their representatives; aerial imagery; BCX's professional opinion; and BCX's experience measuring, modelling and mitigating air quality and odour impacts from industrial/commercial/municipal facilities on sensitive land uses.

BCX Environmental Consulting accepts no responsibility for any deficiencies, misstatements, or inaccuracies contained in this report as a result of omissions, or misrepresentations by the proponent, its subsidiaries or its representatives.

This report was prepared for the exclusive use of ePrime. BCX Environmental Consulting accepts no liability for claims arising from the use of this report, or from actions taken or decisions made as a result of this report, by parties other than ePrime.



**FIGURE 1
LOCATION MAP**



LEGEND
 - - - - - Property Line

| | |
|---|--------------------------------------------------------|
| 1 | Thurston Machine Co |
| 2 | Barber Hymac Hydro Inc. |
| 3 | DBR Transport |
| 4 | Seaway Water Pollution Control Plant |
| 5 | CSN Collision Centre/ Simmons Collision-Auto Body Shop |
| 6 | Brand Name Show Warehouse |

SITE LOCATION PLAN

EPRIME CONSTRUCTION MANAGEMENT
 Property near 950 Elm Street, Port Colborne, ON

File No.: 1482-01.01
 Date: October 2024
 Dwg.: 1482-01.01_1
 Drawn By: TG



AIR QUALITY AND ODOUR ASSESSMENT

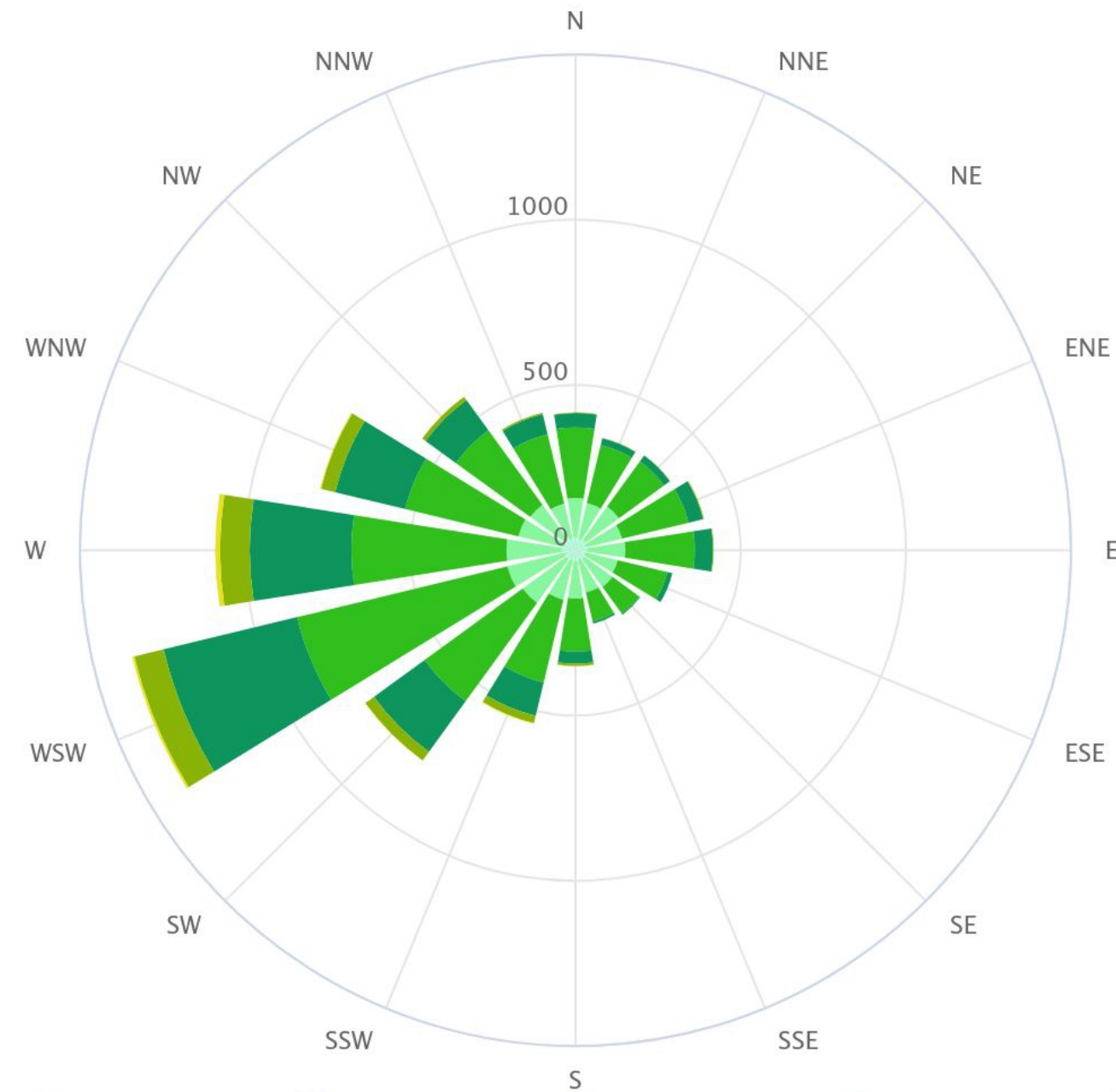
FIGURE
1

0 m 150 m 300 m


FIGURE 2
PORT COLBORNE WINDROSE

Port Colborne

42.90°N, 79.23°W (188 m asl).
Model: ERA5T.



● < 2 km/h ● 2 - 5 km/h ● 5 - 10 km/h ● 10 - 20 km/h ● 20 - 30 km/h ● 30 - 40 km/h ● 40 - 50 km/h ● > 50 km/h

| | | |
|---------------------------------------------------------------------------------------|---------------------------------------------|--------------------------------------------|
| WINDROSE - PORT COLBORNE | | N ↑ |
| EPRIME CONSTRUCTION MANAGEMENT Property near 950 Elm Street, Port Colborne, ON | | File No.: 1482-01.01 Date: October 2024 |
|  | AIR QUALITY AND ODOUR ASSESSMENT | Dwg.: 1482-01.01_2 Drawn By: TG |
| | | FIGURE 2 |