Golder Associates Ltd. (Golder) was retained by the City of Toronto (the City) to conduct an air quality and odour peer review of the following report as it relates to noise:


The City had retained Golder Associates Ltd. (Golder) to carry out the **Steeles-Redlea Regeneration Area: Air Quality, Odour, Noise and Vibration Impact Study** (the Study) in 2014. The purpose of the Study was to provide the City Planning Division information and empirical data regarding the potential air quality, odour, noise and vibration impacts on proposed regeneration land uses from activities in the study area. This information is to assist the decision-making process in determining the appropriateness of introducing sensitive uses into lands previously designated as Employment Areas. Upon the completion of the Study, several correspondence were received from the D. Crupi and Sons Ltd. (D. Crupi) legal representatives Stikeman Elliott LLP (Stikeman Elliott) and Global Fortune Real Estate Development Corporation (Global Fortune) consultant Novus Environmental Inc. (Novus) regarding the proposed development within the Steeles-Redlea Regeneration Area as defined in the Study. Golder provided review and commented on these documents. The Novus air quality report (Novus Report) is the subject of this peer review which addresses air quality compatibility of a proposed development to be located at 4665 Steeles Avenue East (The Proposed Development). The following document provides Golder’s comments on the Novus Report.

Golder’s review was limited to the completeness of the methodology/findings/recommendations and use of applicable standards/guidelines. Golder’s review did not include verifying or reproducing any of the air quality/odour modelling or supporting calculations.
The following are the key areas and respective primary comments and findings of Golder regarding the Novus Report:

1) **Application of D-Series Guidelines** – Novus applied the D series guidelines to the area surrounding the Proposed Development. It is noted that the classifications of each facility, identified in previous reports, have been updated since previous studies for the area. A summary comparison is provided in the table below.

<table>
<thead>
<tr>
<th>Facility Name</th>
<th>Facility Address</th>
<th>Guideline D-6 Classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>D&amp;D Poultry</td>
<td>25A Passmore Ave</td>
<td>II</td>
</tr>
<tr>
<td>All-Weld Co Ltd</td>
<td>49 Passmore Ave</td>
<td>Not Included</td>
</tr>
<tr>
<td>D. Crupi &amp; Sons Ltd</td>
<td>85 Passmore Ave (Main Building)</td>
<td>III</td>
</tr>
<tr>
<td>K-Line Insulators Limited</td>
<td>50 Passmore Ave</td>
<td>II</td>
</tr>
<tr>
<td>Anchor Shoring</td>
<td>3445 Kennedy Rd</td>
<td>Not Included</td>
</tr>
<tr>
<td>The Structural Group Of Companies (Structform International Ltd)</td>
<td>84 Passmore Ave</td>
<td>Not Included</td>
</tr>
<tr>
<td>Commonwealth Brick</td>
<td>4170 Midland Ave (Main Building)</td>
<td>III</td>
</tr>
<tr>
<td>Peel Lumber Inc</td>
<td>65 Passmore Ave</td>
<td>Not Included</td>
</tr>
</tbody>
</table>

2) **Relevant Regulations** – The Novus Report lists the provincial regulations and guidelines for assessing air quality, dust and odour emissions from industrial facilities. These include Ontario regulation 419/05 for air quality, the Ontario Ministry of Environment and Climate Change (MOECC) odour guidelines and the MOECC framework for the development of dust best management plans. These references are all appropriate, however Novus state that fugitive dust emissions are not required to meet point of impingement concentrations listed in Ontario Regulation 419/05 if they are managed through the use of a best management plan. For a facility emitting particulate matter that does not contain metals, the implementation of a best management practices plan allows them to exclude fugitive dust emissions from on-site roads and stockpiles when demonstrating compliance using modelling. However, compliance at the property line would still need to be demonstrated for fugitive dust from material handling, crushing, screening and processing operations. The requirements for compliance at the property line, and the implementation and requirements of best management plans are not contingent on the existence of sensitive receptors.
3) **Air Quality Modelling Methodology**— A modelling assessment was prepared for each of the industrial facilities with areas of influence that include the proposed development, as identified during the D6 assessment. Novus state that modelling was completed using the USEPA AERMOD dispersion model and regulatory meteorological and terrain data. No information is provided on the model versions used, building locations modelled and the locations/spacing of receptors in the model. The Proposed Development includes three residential towers up to 28 storeys and will therefore introduce new elevated sensitive receptors to the area. Additionally, the Proposed Development buildings may cause downwash effects on emissions from elevated stacks in the area. This could impact compliance at existing ground level receptors. Golder cannot confirm the representation of the Proposed Development in the model as a series of buildings and/or the vertical and horizontal spacing of receptors used to estimate concentrations. Additionally, it should be confirmed that the latest MOECC approved version of AERMOD was used to assess compliance.

Additionally, no information is provided on how the existing receptor locations were selected or whether a full grid of ground level receptors was modelled as described in the MOECC document “Air Dispersion Modelling Guideline for Ontario”.

4) **Industrial Facility Assessments** - Comments on the modelling assessment and analysis for each of the identified industrial facilities is provided below.

**D.Crupi - 70 Passmore Assessment** – This property is planned for use as a concrete batching plant. As the facility is not yet built, Novus estimated emissions of particulate matter and nitrogen oxides from the proposed facility using information for another batching plant in Ontario. The sources assessed include silo loading, crushing, boilers and a generator. The US EPA AP42 Emissions Factor Database provides lists of emission factors for concrete batching plants. Sources identified include:

- Aggregate and sand transfers,
- Silo loading of cement and cement supplement,
- Weigh hopper loading; and
- Truck or mixer loading.

The source with the largest emission factor for particulate matter identified in this document is truck/mixer loading of the final product. It is not evident that this source was included in the emission calculations. Emissions from this source are typically controlled by a baghouse which likely exhausts through an elevated point source and as a result, the maximum concentrations of particulate matter from this source may not occur at the property boundary. Golder understands that the design of the concrete batching plant is not available at this time and therefore it is not possible to identify all sources, however, in the absence of any information, it would be recommended that the assessment be updated to include common sources associated with concrete batching plants or to provide an explanation of why not all typical sources were included. Additionally, emissions from concrete batching plants may include many other contaminants in addition to those assessed. While, Golder agrees that particulate matter and nitrogen oxides may result in the highest predicted concentrations relative to their respective air quality standards, emissions of other compounds should be acknowledged and/or it should be justified as to why they are not included in the modelling assessment. It is also recommended that the modelling assessment be updated once site specific data is provided by D. Crupi.
Quantitative results of the modelling assessment were not provided in the Novus report. Instead a comparison was prepared to indicate the ratio of predicted concentrations at ‘existing receptors’ to predicted concentrations at the Proposed Development. No comment is made as to how the ‘existing receptors’ were selected and whether the predicted concentrations at the ‘existing receptors’ were impacted by downwash effects from the Proposed Development buildings and/or remain below the relevant O.Reg.419/05 air quality standards. This should be confirmed before land use compatibility can be determined.

**D. Crupi - 83-85 Passmore Assessment** – Novus completed air quality modelling for the D.Crupi Asphalt plant based on information contained in the existing Environmental Compliance Approval for the facility. Modelling was completed for particulate matter, nitrogen oxides and odour. No detail was provided on the development of the emission rates, therefore these cannot be verified at this time.

Emissions from asphalt plants may include many other contaminants, in addition to those assessed. In particular, Golder recommends that Novus also consider emissions of benzo(a)pyrene in the modelling assessment. An annual standard for benzo(a)pyrene came into effect in July 2016. Asphalt plants are traditionally a large source of benzo(a)pyrene, therefore it should be confirmed that predicted concentrations of benzo(a)pyrene are below the new standard at the Proposed Development. It is recommended the modelling is updated once copies of the model files are obtained from D. Crupi.

Quantitative results of the modelling assessment were not provided in the Novus report. Instead a comparison was prepared to indicate the ratio of predicted concentrations at ‘existing receptors’ to predicted concentrations at the Proposed Development. No comment is made as to how the ‘existing receptors’ were selected and whether the predicted concentrations at the ‘existing receptors’ were impacted by downwash effects from the Proposed Development buildings and/or remain below the relevant O.Reg.419/05 air quality standards. This should be confirmed before land use compatibility can be determined.

**D.Crupi - 86 Passmore Assessment** – Novus completed air quality modelling for a crushing plant based on information provided by D.Crupi. No detail was provided on the development of the emission rates, therefore these cannot be verified at this time. It is recommended the modelling is updated once copies of the model files are obtained from D. Crupi.

Quantitative results of the modelling assessment were not provided in the Novus report. Instead a comparison was prepared to indicate the ratio of predicted concentrations at ‘existing receptors’ to predicted concentrations at the Proposed Development. No comment is made as to how the ‘existing receptors’ were selected and whether the predicted concentrations at the ‘existing receptors’ were impacted by downwash effects from the Proposed Development buildings and/or remain below the relevant O.Reg.419/05 air quality standards. This should be confirmed before land use compatibility can be determined.

**Peel Lumber Inc. – 65 Passmore Assessment** – Novus completed air quality modelling for the proposed concrete batching facility to be located at 65 Passmore. No data was available on the equipment/plant layout, therefore Novus completed the assessment in a manner similar to the assessment completed for the D.Crupi concrete batching plant. As a result, Golder has the same comments as previously stated in relation to the D.Crupi – 70 Passmore Assessment.
D.D. Poultry – 25A Passmore Assessment – Emissions from D.D Poultry were not modelled. The facility is used mainly for storage/ cooking of frozen food and is not anticipated to be a large source of emissions. Additionally, it is located further away from the Proposed Development with no elevated stacks. Emissions are likely to be fugitive in nature with low momentum and low release height, Golder agrees with the conclusion that the Proposed Development is likely to be compatible with the D.D. Poultry Facility.

K-Line Insulators – 50 Passmore Assessment – No modelling was completed for the K-Line Facility as it is identified that the Proposed Development lies outside the potential area of influence indicated in the D-6 assessment. Given the nature of the facility, with no elevated stacks, emissions are likely to be fugitive in nature with low momentum and low release height. Golder agrees with the conclusion that the Proposed Development is likely to be compatible with the K-Line Insulators Facility.

All-Weld Co. Ltd. – 49 Passmore Assessment - No modelling was completed for the All-Weld Facility as it is identified that the Proposed Development lies outside the potential area of influence indicated in the D-6 assessment. Given the nature of the facility, with no elevated stacks, emissions are likely to be fugitive in nature with low momentum and low release height. Golder agrees with the conclusion that the Proposed Development is likely to be compatible with the All-Weld Facility.

Commonwealth Brick - 4170 Midland Assessment - No modelling was completed for the Commonwealth Brick Facility as it is identified that the Proposed Development lies outside the potential area of influence indicated in the D-6 assessment. Given the nature of the facility, with no elevated stacks, emissions are likely to be fugitive in nature with low momentum and low release height. Novus conclude that fugitive releases from the facility are covered under a best management plan and are therefore not a concern from a compatibility perspective. However, the existence of a best management plan does not guarantee illuminate the potential for fugitive dust from the facility. Regardless of this fact, given the nature of the facility, with no elevated stacks, emissions are likely to be fugitive in nature with low momentum and low release height, Golder agrees with the conclusion that the Proposed Development is likely to be compatible with the Commonwealth Brick Facility.

Conclusions

Golder has reviewed the air quality assessment completed for the Proposed Development. Overall, Golder agrees with the basic methodologies employed however further details should be provided, in particular with regards to the modelling methodology and the representation of the Proposed Development within the model. As a result, the statement that the Proposed Development is considered compatible with surrounding land use cannot be verified for all facilities. Quantitative results and/ or model files are not provided in the report and therefore could not be verified. Confirmation should be provided that the assessment of air quality and odour included the assessment of downwash impacts from the buildings of the Proposed Development on the ground level receptor grid defined under O.Reg. 419/05 and that all predicted concentrations are below the relevant air quality standards listed in O.Reg. 419/05.
We trust that Golder has met your needs at this time. Please do not hesitate to contact the undersigned if you have any questions or require further information.

Katherine Armstrong, M.Sc.
Air Quality Specialist

Anthony Ciccone, Ph.D., P.Eng
Principal

KSA/ADC/ng

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