



July 7, 2022

City of Brampton
2 Wellington Street West, 2nd Floor
Brampton, ON L6Y 4R2

Attention: Nitika Jagtiani, City Planner

Subject: Peer Review of SLR Odour Assessment Study - Proposed Finger Lands Development

WSP Canada Inc. (WSP) was retained by the City of Brampton to conduct a peer review of the Odour Assessment report (the Report) prepared by SLR Consulting (Canada) Ltd. (SLR) dated February 16, 2021, in relation to the proposed Finger Lands development (proposed development) located on the east side of Heritage Road in Brampton, Ontario.

The Odour Assessment was prepared by SLR on behalf of Ashley Heritage Joint Venture and 840966 Ontario Limited in support of a Zoning By-law Amendment (ZBA) with the City of Brampton for the proposed residential development at 8331 Heritage Road, Block 40-3, Brampton, Ontario. The assessment report evaluated the potential air quality impacts from Maple Lodge Farms (MLF) operations to surrounding sensitive receptors with consideration to the Ministry of the Environment, Conservation and Parks (MECP) D-Series Guidelines. Potential odorous sources from MLF operations include *i*) MLF industrial operations and wastewater treatment facility and *ii*) land application of derived biosolids from the MLF wastewater treatment facility.

For ease of review, WSP organized the sections of this technical memorandum with those presented in the Report. WSP prepared a Finger Lands Setback Plan, included as **Figure 1**, to visually present the setback distances to support the odour assessment peer review

INTRODUCTION AND DESCRIPTION OF DEVELOPMENT

- 1** The assessment was completed with respect to Ontario Regulation 419/05: Air Pollution – Local Air Quality (O.Reg.419/05) and its associated air quality standards and assessment requirements, the MECP Technical Bulletin - Methodology for Modeling Assessments of Contaminants with 10 Minute Averaging Standards and Guideline under O.Reg. 419/05, Ontario Regulation 267/03 (O. Reg. 267/03) under the Nutrient Management Act, and the City of Brampton Secondary Plan SPA40d -SPA16. WSP agrees with the use of these guidelines as part of the odour assessment.
- 2** Section 2.2 of the Report indicates that there are farms that land apply biosolids as a nutrient under an Ontario Ministry of Agriculture and Rural Affairs (OMAFRA) approved Non-Agricultural Source

Material (NASM) Plan which are produced by the MLF, located over 1,000 m from the proposed development. It should be clarified that the MLF facility building and associated industrial sources are located approximately 1,000 m from the proposed development; however, ponds associated with the MLF wastewater treatment facility are located approximately 780 m from the proposed development and the Jean May Farm field where biosolids are applied is located approximately 250 m from the proposed development.

- 3 The Report outlines the surrounding area (Section 2.1) and describes the overall zoning (Section 2.3) which is congruent with the Area Zoning Map (Figure 2) and City of Brampton Official Plan (2019) land uses (Figure 3).

IDENTIFICATION OF ODOUR SOURCES

- 4 The proposed development does not include industrial land uses; therefore, the assessment focused on the suitability of introducing sensitive land uses to the proposed development. As such, the Odour Assessment included an assessment of existing air emission sources from the MLF facility, including land application of biosolids from the MLF wastewater treatment facility on neighbouring fields. WSP agrees with this approach as it evaluates the potential for odour impacts at the proposed development from all odour sources associated with MLF operations.
- 5 The Report indicates that MLF does not have a Environmental Compliance Approval (ECA) or an Environmental Activity and Sector Registry (EASR). However, this information is incorrect, two ECAs for MLF ECA #8-3098-93-970 dated November 1997 which includes an odour control system and ECA # 8-3439-98-006 were associated with MLF air emissions.
- 6 The assessment considered mixed odours emitted from industrial operations (including odours from chicken processing and the wastewater treatment facility) and application of MLF biosolids to nearby farms fields, and only included odour associated with biosolids application in the air dispersion modelling assessment. WSP agrees with this approach as these are expected to be significant sources of odour emitted from MLF, and from a land use compatibility perspective, odour associated with the chicken processing and wastewater treatment facility are not expected to impact the proposed development based on separation distances and air emission controls required at MLF as outlined in their ECA.
- 7 The assessment indicates that industrial odour sources at MLF are not significant with respect to odour impacts at the proposed development as the facility is located approximately 1,000 m from the proposed development, as presented in Figure 1 - Finger Lands Setback Plan, which forms part of the WSP peer review of the Report. Although the ponds associated with the MLF sewage treatment facility are located closer, approximately 780 m from the proposed development, WSP agrees that the ponds and industrial sources are not expected to be significant sources of odour impacts at the proposed development due to setback distance from sources and odour control requirements outlined in the MLF ECA.
- 8 Based on a review of the Mardon Farm NASM Plan # 24113, the Odour Assessment report appropriately identified biosolids land application requirements in accordance with the NASM Plan. Biosolids are land applied to the Jean May and Penny agricultural fields of the Mardon Farm. Odour impacts associated with the typical application rate (as reported in the Overview of the Operation of the NASM Plan) on the Jean May Farm were assessed as this field is located closest to the proposed development. WSP agrees with this approach and confirms that it would capture the worst-case odour emissions scenario at the proposed development.

ASSESSMENT OF ODOUR IMPACTS

- 9 The assessment was completed using the US EPA AERMOD model version 19191 in accordance with the MECP's Air Dispersion Modelling Guideline for Ontario (ADMGO). WSP agrees that the air dispersion model version and guidance used are appropriate for air dispersion modelling assessments in Ontario.
- 10 Emission rates were estimated based on the biosolid material odour category as outlined in the Mardon Farm NASM Plan. Two scenarios were assessed based on the amount of biosolids applied and incorporated at one time. WSP agrees with this approach as it would assess worst-case scenarios for predicted odour impacts at the proposed development.
- 11 The assessment presented modelling results from the land application of biosolids and excluded impacts from MLF facility odour. WSP agrees with this approach as odour from facility operations are not expected to be significant sources of odour at the proposed development based on setback distances to sources and as MLF is obligated to meet the conditions outlined in their existing ECA to prevent and minimize any odours off-site.
- 12 Due to the frequency of biosolids application occurring once every five years, the assessment included a frequency analysis to determine the frequency of odour above 1 OU. WSP agrees with this approach as it generally follows odour assessment procedures outlined in the Methodology for Modeling Assessments of Contaminants with 10 Minute Averaging Standards and Guideline under O.Reg. 419/05; however, SLR did not use site specific meteorological data which should be used to conduct a frequency assessment. Given that biosolids are only applied once every five years it is unlikely to impact the results of the SLR assessment.

CONCLUSIONS AND RECOMMENDATIONS

- 13 Based on the assessment, a setback distance of 75 m from the biosolids application field was recommended as this would result in the frequency of odour above 1 OU to be below 0.5% of the time during the year of application. WSP agrees with this recommendation based on a review of the modelling methodology and assessment results. This setback also satisfies the 50 m NASM land application setback from residential areas defined O. Reg. 267/03.

SUMMARY OF FINDINGS AND RECOMMENDATIONS

The following summary outlines the findings of WSP's peer review of the Odour Assessment report prepared by SLR Consulting (Canada) Ltd., dated February 16, 2021:

- 14 The Odour Assessment appropriately incorporated Ontario Regulation 419/05: Air Pollution – Local Air Quality and its associated air quality standards and assessment requirements, generally applied the Methodology for Modeling Assessments of Contaminants with 10 Minute Averaging Standards and Guideline under O.Reg. 419/05 for odour modelling, Ontario Regulation 267/03 under the Nutrient Management Act, and the City of Brampton Secondary Plan SPA40d -SPA16 to determine odour impacts at the proposed development.
- 15 MLF industrial and sewage treatment facility sources are located approximately 1,000 m and 780 m, respectively, from the proposed development. The MLF facility also operates under an existing ECA and is required to control odours at the source; therefore, adverse impacts from facility odours are not expected to be significant at the proposed development. As a result, assessing odour impacts from biosolid spreading only in the Odour Assessment is reasonable and WSP agrees with the approach.

- 16 WSP agrees with the overall air dispersion modelling methodology used in the Odour Assessment as this approach would assess the worst-case scenario for predicted odour impacts at the proposed development and is inline with air dispersion modelling requirements in Ontario.
- 17 The Mardon Farm NASM Plan and biosolids application schedule was appropriately incorporated into the Odour Assessment to determine frequency of odour impacts at the proposed development.
- 18 WSP reviewed the surrounding land uses within 450 m of the Jean May Farm and noted an existing residential area to the north and an existing industrial/commercial use to the south, within the 450 m setback distance outlined in the Nutrient Management Act. Due to an existing commercial and residential area within 450 m of the Jean May Farm, it is assumed that biosolids incorporation will occur within 6 hours of application to the field as required by the Mardon Farm NASM Plan.
- 19 Overall, it is WSP's opinion that the 75 m setback from the Jean May Farm proposed in the SLR Odour Assessment Report is reasonable based on a review of the modelling methodology, results, and frequency analysis and development beyond the 75m setback is not expected to result in land use compatibility issues at the proposed development.

Sincerely,

WSP Canada Inc.



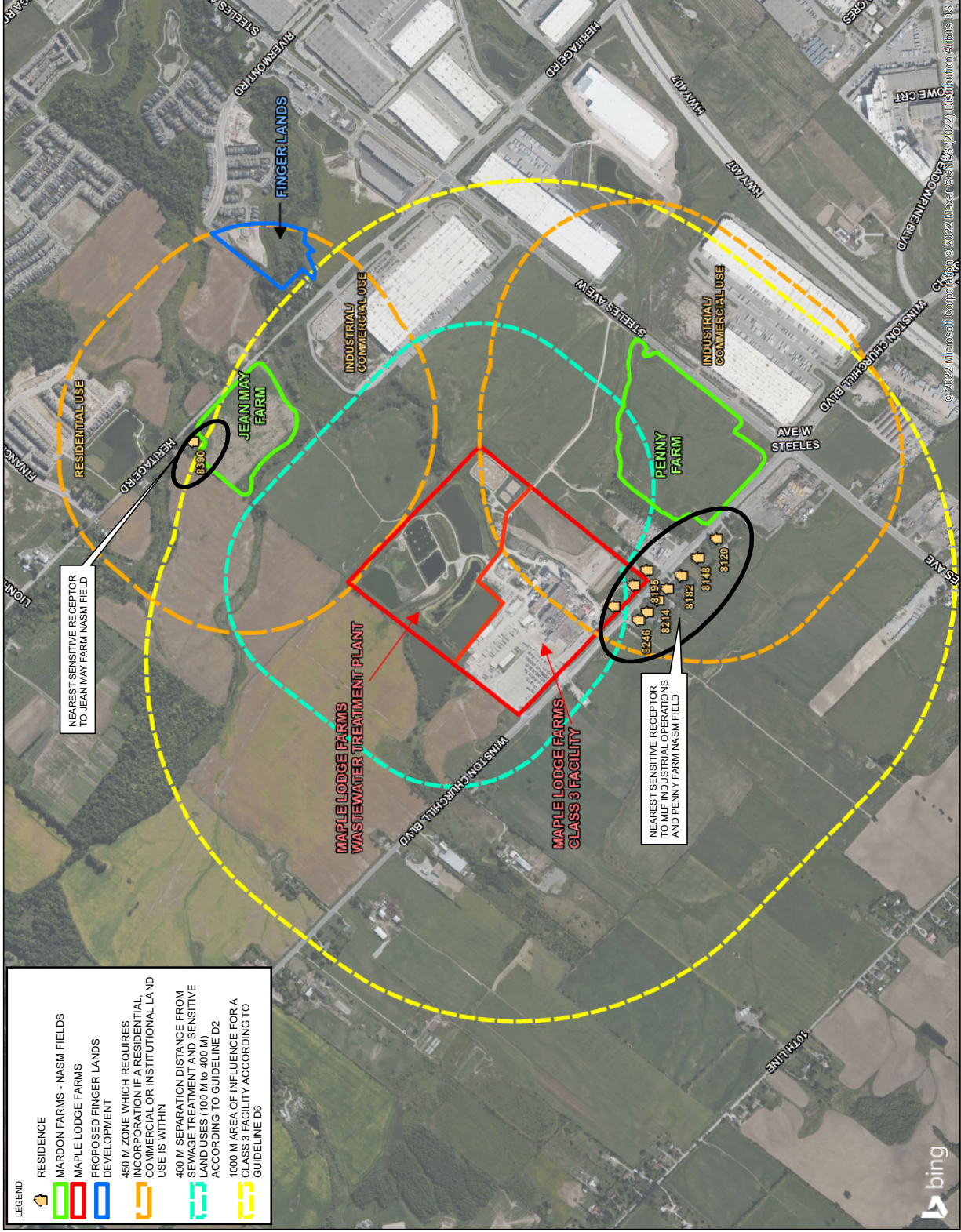
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LEGEND

- RESIDENCE
 - MARDON FARMS - NASM FIELDS
 - PROPOSED FINGER LANDS DEVELOPMENT
 - 450 M ZONE WHICH REQUIRES INCORPORATION IF A RESIDENTIAL COMMERCIAL OR INSTITUTIONAL LAND USE IS WITHIN
 - 400 M SEPARATION DISTANCE FROM SEWAGE TREATMENT AND SENSITIVE LAND USES (100 M 400 M) ACCORDING TO GUIDELINE D2
 - 1000 M AREA OF INFLUENCE FOR A CLASS 3 FACILITY ACCORDING TO GUIDELINE D6
- INDUSTRIAL/COMMERCIAL USE

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CITY OF BRAMPTON

PROJECT:
**ODOUR ASSESSMENT
PEER REVIEW**

No land application of NASM is permitted within 50 metres of a residential area or commercial, community or institutional use. In the zone that is at least **50 metres** but not more than **450 metres** away from these areas, application is permitted, but only by:
(i) injection, or
(ii) spreading and incorporation within six hours.
No restrictions beyond the 450-metre perimeter.
O. Regulation 267/03 under the Nutrient Management Act

Guideline D-6 – Compatibility between Industrial Facilities and Sensitive Land Uses
The recommended area of influence for a Class 3 facility is 1000 m.

Guideline D-2 – Compatibility between Sewage Treatment and Sensitive Land Uses
The recommended separation distance varies from 100 m to 400 m depending on the type of pond and characteristic of waste.
Environmental Protection Act, RSO 1990
Planning Act, RSO 1990

*All measurements are approximate and based on information provided to WSP in reports.

PROJECT NUMBER: 211-10246-00 DATE: MAY 2022

DRAWN BY:	GR
CHECKED BY:	CT
SCALE:	1:12,500

0 100 200 400 Meters
NAD83 ZONE 17

TITLE
**FINGER LANDS
SETBACK PLAN**

FIGURE NUMBER:
FIGURE 1