

Terms of Reference:

Air Quality Impact Report

Description:

An Air Quality Impact Report (AQIR) assesses whether a proposed development is suitable for its location and identifies mitigation measures to minimize adverse impacts on human health and the environment. The report may also evaluate whether existing surrounding land uses could negatively affect the proposed development. These terms of reference have been developed in accordance with the Ministry of Environment, Conservation, and Parks (MECP) guidelines and standards. The AQIR may also support applications for an Environmental Compliance Approval (ECA) through the MECP, in conjunction with other required environmental reporting.

Where applicable, methodologies outlined in the Ontario's Ministry of Transportation (MTO) guide for assessing and mitigating air quality impacts may be used, including pollutant emission and dispersion modelling to predict the development's contribution to ambient pollutant concentrations over a 20-year period. The AQIR should consider background concentrations, cumulative impacts, and other local contributors to air pollution, as well as greenhouse gas (GHG) emissions, where relevant. Results should be compared against provincial Ambient Air Quality Criteria (AAQC) and federal Canadian Ambient Air Quality Standards (CAAQS).

When Required:

An AQIR may be required as part of the following applications:

- Official Plan Amendment
- Zoning By-law Amendment
- Draft Plan of Subdivision
- Draft Plan of Condominium
- Consents

An AQIR may be required for development proposals that:

- Include or are adjacent to sensitive land uses (residential, schools, hospitals, daycares).
- Involve industrial, commercial, or waste management facilities with potential air emissions.
- Are in areas where cumulative air pollution may pose a risk.

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City staff will consult with the applicant's qualified professional to determine whether an AQIR is required and define the specific scope based on the nature of the development, site context, and surrounding land uses.

Prepared By:

The AQIR must be prepared by a qualified air quality professional, environmental engineer, or Professional Engineer (P.Eng.) with expertise in air quality assessment and dispersion modelling.

Rationale:

The AQIR is required to ensure that proposed developments do not adversely impact air quality for nearby sensitive receptors such as residential areas, schools, daycares, and hospitals, comply with provincial and federal air quality standards and MECP land use compatibility guidelines, and inform municipal decision-making, including zoning, site plan approval, and permitting processes. AQIR support Environmental Compliance Approval applications where applicable and identify mitigation measures to minimize exposure to dust, odours, and other pollutants, ensuring the protection of human health and the natural environment.

Content:

The AQIR should include, but is not limited to, the following components:

1. Project Description

- Description of the proposed development, facility, or use.
- Short-term actions and long-term operational goals.
- Identification of potential air emission sources, including odorous emissions, dust, and other pollutants.
- Site location and layout, including roof plan and emission sources.
- Identification of nearby sensitive or incompatible land uses (within 1000 m).

2. Baseline Air Quality Assessment

- Characterization of existing ambient air quality conditions.
- Description of local meteorology and topography affecting dispersion.
- Identification of nearby emission sources contributing to cumulative impacts.
- Baseline monitoring data, where applicable.

3. Emissions and Modelling

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- Quantification of emissions from all identified sources.
- Description of methodology used for emissions estimation and modelling (e.g., AERMOD, CALPUFF, or equivalent).
- Assessment of plume conditions under varying meteorological and operational scenarios.
- Cumulative impact assessment including contributions from nearby sources.

4. Impact Assessment

- Evaluation of potential impacts on human health, sensitive receptors, and the environment.
- Comparison of predicted concentrations with provincial AAQC and federal CAAQS.
- Assessment of compliance with MECP Land Use Compatibility Guidelines (D-1 to D-6).
- Assessment of GHG emissions, if relevant to municipal or provincial targets.

5. Mitigation Measures

- Description of emission control strategies and operational adjustments.
- Site plan or architectural modifications to minimize exposure to pollutants.
- Intended outcomes of mitigation measures.
- Monitoring and verification plan to ensure mitigation effectiveness.

6. Compliance and Reporting

- Demonstration of compliance with all relevant federal, provincial, and municipal regulations and guidelines.
- Where required, application or registration under the Environmental Activity and Sector Registry (EASR) or Environmental Compliance Approval (ECA).
- Inclusion of tables, figures, and maps summarizing emission sources, dispersion modelling, and receptor locations.

Additional Resources:

- Ministry of Environment, Conservation, and Parks (MECP) Guidelines for Air Quality and ESDM Reports
- Ministry of Transportation (MTO) Air Quality Assessment Guidelines
- Provincial Ambient Air Quality Criteria (AAQC) and federal Canadian Ambient Air Quality Standards (CAAQS)
- MECP Land Use Compatibility Guidelines D-1 to D-6
- Brampton Plan (2024)

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- Brampton Grow Green Environmental Master Plan (2020)
- Community Energy and Emissions Reductions Plan (2021)