DRAFT

Part 2:
ENVIRONMENTAL NOISE CONTROL
GUIDELINES FOR LOCAL IMPROVEMENT
ALONG SURFACE TRANSPORTATION
CORRIDORS

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This revised guideline is a partial review of Section 3 of the May 10, 2006 City of Ottawa Environmental Noise Control Guidelines. This review was undertaken to address adjustments made by regulatory bodies (such as the Province of Ontario). This document has not been fully reviewed and edited to ensure full compliance with the City’s Standard Tender Documents and renewal policies. This review will take place at a later time.
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1.0 Introduction

This guideline addresses the need for study and potential mitigation when considering the retrofitting of noise attenuation measures into existing neighbourhoods.

Consideration for undertaking noise mitigation measures as a Local Improvement Project are contingent upon the provisions of the City’s Local Improvement Policy and Guidelines, which identify additional implementation requirements based on economic, administrative and technical factors, including but not limited to, site topography and physical limitations. In some cases, consideration of noise attenuation into an existing neighbourhood is not practicable. For example, the City will not consider Local Improvements that are likely to negatively impact land drainage or interfere with the preservation of significant natural areas.

2.0 Scope

This guideline establishes the technical noise-related requirements to be met by residential properties to be considered by the City for a noise abatement, as a Local Improvement, for the purpose of reducing existing City surface transportation corridors noise in Outdoor Living Areas.

Existing residential properties with noise concerns expressed due to railway or provincial highway sources are not eligible for consideration as a noise abatement as a Local Improvement because the City does not have authority over such noise sources. In such a case, these concerns will be referred to the appropriate agency or authority.

In situations where detailed plans are in place which deal specifically with noise issues such as a Community Design Plan or an Environmental Assessment study for a transportation corridor, then the study or plan will take precedence over the provisions of this guideline. Notwithstanding anything in this guideline, the requirements of the Environmental Assessment Act or the Municipal Class Environmental Assessment process for municipal transportation projects shall apply.

2.1 Areas Eligible for Study and Potential Mitigation

- Residential areas that have Outdoor Living Areas (OLA’s) associated with the residential unit such as a backyard. For the purpose of noise assessment, the usual distance from the residential dwelling unit is 3.0 metres within the middle of the dwelling unit with the vertical height being 1.5 metres above the existing ground surface. The OLA must be clearly defined, as it will be subject to further technical analysis.
- Reverse frontage lots or blocks including flanking units where the outdoor living areas are directly or partially exposed to noise from an adjacent transportation corridor.
- Paved areas are not considered outdoor living areas.
• the front yard is not considered an outdoor living area

For residential properties that do not qualify as noise sensitive points of reception, the cost of noise attenuation within an individual dwelling or an outdoor area is the sole responsibility of the landowner. Furthermore, the homeowner is responsible for all noise abatement features required to the indoors of the dwelling building such as air conditioning, double-glazed windows and brick veneer walls.

3.0 Sound Level Criteria for Local Improvement

The method for calculating noise levels will be in accordance with the City and MOE Guidelines, i.e. Ontario Road Noise Analysis Method for Environment and Transportation (ORNAMENT) Technical Document, Ontario Ministry of Environment, ISBN 0-7729-6376, 1989 and Sound from Trains Environmental Analysis Method (STEAM), 1990, ISBN-7729-6376-2 as modified by the City to suit the local conditions and other technical adjustments prescribed by the City.

To be considered for noise abatement as a Local Improvement an outdoor living area which is classified as a noise sensitive point of reception must meet all the following requirements:

• The Leq 16 Hour daytime (7:00 a.m. to 11:00 p.m.) for the existing surface transportation conditions must be over 60 dBA;

• The area/site specific sound levels, as established by the City in accordance with the technical procedures specified by the City, will be based on traffic parameters such as traffic volume, percentage of trucks, posted speed limit, road gradient, etc. Special consideration may be given by the City if the corridor is not and will not be subject to future Capital Works improvements such as widening, where future volume or traffic composition may result in increased sound levels. In all cases, noise abatement as a Local Improvement consideration is to be based on the existing situation while its design parameters for retrofit are to be based on future corridor and traffic conditions; and

• Mitigation must provide a minimum sound Insertion Loss of 6 dBA when averaged over the first rows of the points of reception.

4.0 Mitigation and Design

Consistent with the Official Plan the use of noise barriers will only be used as a last resort and normally in combination with other mitigation methods including landscaping. Where a noise barrier is recommended and no other alternative exists the following criteria will be used.
4.1 Criteria for Barrier Design

- Barriers will be designed and constructed with the City’s requirements as described in Appendix C of this document.
- The noise barrier must be installed in a continuous line to ensure its effectiveness.
- Barriers will be constructed on the City’s right-of-way (ROW), where feasible.
- The preferred barrier height is 2.5 metres high, but the maximum height of a noise barrier wall for retrofit purposes is 3 metres as measured from the barrier base elevation. Higher noise barrier walls may be allowed by the City subject to investigation of the aesthetics of the installation and depending on the availability of a wide right-of-way and deep residential lots. In preparing the design for the noise wall, consideration shall be given to the inclusion of openings through the wall for fire protection to adjacent homes if the hydrants are located within the City Road allowance. Openings in the wall are also required for fire protection for vehicles using the City Road from hydrants located on adjacent local streets.
- If required, property owners at the termination points of the noise abatement wall will be asked to register an easement to the City for the construction and maintenance of a noise wall along a side lot line. The side lot line noise wall will provide protection for the rear yard area of the adjacent property. If the landowner refuses to transfer the easement, the City will not attempt to purchase or expropriate the easement but will delete this section of wall from the Local Improvement project and reassess the impact on the effectiveness of the proposed works, as required.

4.2 City Staff Responsibilities

The following are the technical responsibilities that have been assigned to City staff in regards to Noise Abatement Local Improvements:

- When a request for a noise abatement as a Local Improvement is submitted, staff shall visit the area of concern and investigate the area for any abnormal conditions that may have been responsible for generating the noise complaints. This may include abnormally excessive truck volumes, the presence of pot holes, excessive speeds over the posted speed limit, temporary construction detours, deteriorating pavement or track conditions or any other transient condition that is not normally associated with the City corridor within distances of 200m from the area of concern. City staff will be responsible for updating traffic data (volumes, speed, truck percentages, day/night split, etc.), if required.
- The subject corridor shall visually be checked to determine the technical feasibility of a noise barrier.
• Staff shall, if the subject area meets all of the warrants for a noise abatement as a Local Improvement, prepare the necessary technical and financial details in accordance with the City’s Local Improvement Policy and Guidelines, including detailed sound level calculations for the subject area to comply with the technical criteria of this guideline based on a minimum of one calculation for each group of three adjacent receptors, or as required. The calculated levels shall show the sound levels for the existing and ultimate cases without and with the proposed sound barrier. The Leq analysis shall also show the resulting sound levels with various barrier height alternatives. For specific situations, the City may conduct actual field monitoring of the sound levels where deemed necessary (such as difficult topographic situations and the presence of numerous sources of transportation sources of noise).

• An information package, including the costs for which the homeowners and/or the City are responsible, will be made available to all the affected homeowners or their duly appointed representatives. This will be in preparation of the affected homeowners pursuing support for a noise abatement as a Local Improvement through a petition process, per the provisions of the Local Improvement Policy and Guidelines.