
Our File/N/Réf. 23 49-98-0000

DATE 20 May 1998

TO/DEST. Co-ordinator, Transportation Committee

FROM/EXP. Commissioner, Planning and Development Approvals Department

SUBJECT/OBJET **DESIGN STANDARDS FOR NOISE BARRIERS ALONG
REGIONAL ROADS**

DEPARTMENTAL RECOMMENDATION

That the Transportation Committee receive this report for information.

BACKGROUND

At the Planning and Environment Committee meeting on 14 October 1997, the following motion was adopted:

"That staff prepare a report on the design standards for noise barriers along Regional Roads."

DISCUSSION

1. Noise Barrier Standards

The standards for noise barriers erected along Regional Roads are laid out in a document entitled "RMOC: Standard for Noise Barriers" developed in 1994, and which is based on the seventh draft of CSA/CAN-Z107.9-M Standard for Noise Barriers on Roadways. This draft CSA Standard was developed in co-operation with the Ministry of Transportation of Ontario (MTO).

A copy of this document is attached at Annex 'A' (*issued separately*).

It is understood that the draft Canadian Standard document will be finalized in the near future.

2. Noise Control Guidelines

There are two specific noise control situations in the RMOC for which guidelines have been adopted by Regional Council.

In January 1993, Regional Council adopted a document entitled "Noise Control Guidelines for New Developments Adjacent to Existing and Proposed Regional Roads and Transitways" (available through the Regional Clerk's Department).

This document lays out the process that is to be followed by developers when noise sensitive development is being planned along the RMOC's transportation corridors.

In October 1995, Regional Council adopted a document entitled "Noise Control Guidelines for New Construction and Widening of Regional Roads and Transitways" (available through the Regional Clerk's Department).

This document describes the process that is followed, usually as part of an Environmental Assessment, when the RMOC is implementing new or expanded transportation facilities.

3. Privacy Fence on Baseline Road - Four-Laning from Greenbank Road to Cedarview Road

The purpose of privacy fences and noise barriers is to mitigate noise. The difference between the two was that MTO/MOE established guidelines to determine if mitigation (construction of noise barriers) was warranted and qualified for MTO subsidy. Privacy fences were unwarranted noise barriers totally paid for by the RMOC. This distinction does not apply now that the MTO no longer subsidizes road reconstruction on a project by project basis.

The implementation of a privacy fence (i.e., an unwarranted noise barrier) along Baseline Road between Greenbank and Cedarview, which has been widened from two to four lanes, is used here as an example of the most recent application of the above mentioned documents to a real situation.

As the increase in noise levels resulting from the widening of Baseline Road will not meet the MOE warrants requiring noise mitigation, staff recommended that, in accordance with the RMOC's guidelines, privacy fences should be erected. Regional Council and the City of Nepean approved this recommendation, as required by the guidelines.

A specification of the privacy fence was included in the general contract for the Baseline Road reconstruction. The specification is attached at Annex 'B'.

The privacy fence types that were evaluated by staff were:

- a) Durisol panels with concrete posts, manufactured by Durisol Ltd.
- b) Precast concrete wall panels and posts, manufactured by Precast Concrete Ltd.
- c) Brick fence system, manufactured by Canada Brick.
- d) Wood panels with concrete/wooden (intermediate) posts, manufactured by Prestige Ltd.

Following an evaluation of each option by staff and the affected homeowners, it was decided that wood panels with concrete/wooden posts (Prestige Ltd.) would be the most cost effective and provide the best aesthetics for the location.

This privacy fence is now in place.

*Approved by
N. Tunnacliffe, MCIP, RPP*

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**PRIVACY FENCE, INCLUDING CONCRETE POSTS
AND WOODEN POSTS (2.44 m height)
PRIVACY FENCE PANELS, INCLUDING WOODEN POSTS (1.83 m height)**

SCOPE

This Special Provision covers the requirements for constructing a wooden privacy fence with concrete posts and wooden intermediate posts as shown on the Drawings and the requirements for constructing privacy fence panels with intermediate wooden posts between existing masonry units.

MATERIALS

Privacy Fence

Wood fencing panels, wood posts and metal components shall be Prestige Fence as manufactured N.G.H. Industries Inc., 163 Cardevco Road, R.R. #2, Carp, Ontario; or an approved equal.*

*** Note:**

Approved equal of the Prestige Fence System will require the approvals of the RMOC, City of Nepean, and consultation with the residents of properties abutting or adjoining locations where privacy fence is to be constructed.

Concrete Posts

Concrete posts with brick facade shall be 450 x 450 precast concrete units as manufactured by Central Precast, 23 Bongard Avenue, Nepean, Ontario; or an approved equal.

Metals

Metal flashings over the top and bottom steel rails shall be pre-finished steel, coloured Forest-Green, Series 5000 Colour No. QC 307.

Unit Masonry

Brick facade units shall be of a colour and style selected by the RMOC. The Contractor shall submit unit samples to the Engineer for selection prior to construction of the concrete posts. Mortar for the bricks shall have integral water repellent admixture and shall be DRY-BLOCK by W.R. Grace Ltd., of 255 La fleur Avenue, La Salle, Quebec.

Concrete

Concrete shall conform to OPSS 1350 and shall be 215 MP a at 28 days.

Granular Foundation Materials

Granular material for foundations and backfill shall be Granular A conforming to OPSS 1010.

CONSTRUCTION

Operational Constraints

Priority of the Work

The Contractor shall complete the construction of the privacy fence with concrete posts and the construction of the privacy fence between existing masonry units prior to undertaking any other work under this Contract. All work on these properties shall be completed in a timely and diligent manner.

The Contractor shall also complete all the necessary work, including landscape work on the affected private properties in conjunction with the construction of the privacy fence.

Swimming Pools

Properties having swimming pools, where the work is such that the security fence is removed or damaged by construction activities, the contractor shall install temporary fencing in compliance with the applicable City by-law regarding fencing, for pools.

Fence Post Installation

Post holes shall be augured to required depth on established alignment and at specified spacing. A depth of 100 mm of Granular A shall be placed and compacted in the bottom of the post holes to promote drainage.

Intermediate posts shall be set plumb, placed accurately in line and position, and cast in concrete. Concrete placing, curing and protection shall conform to OPSS 904, December 12983. Concrete foundations shall be domed above grade to shed water.

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Fence Rails and Brackets

Steel rails and brackets shall be galvanized and erected in accordance with the details shown in the Contract and securely fastened with galvanized screws and rivets.

Fasteners

Steel galvanized fasteners for attachment to the concrete posts and the existing masonry units shall be designed by the Contractor and submitted to the Engineer for approval prior to fabrication.

Concrete Footing and Grade Beam

Concrete shall be placed to the limits and extents shown on the Contract Drawings and shall be allowed to sit undisturbed for a minimum period of 5 days prior to erection of the fencing panels.

Concrete posts shall be at 30.225 metre spacing C/C. Intermediate wood posts shall be at 3.048 m spacing C/C.

MEASUREMENT FOR PAYMENT**Privacy Fence, Including Concrete Poles and Wooden Posts (2.44 m height)**

Privacy fence shall be measured horizontally in metres from end to end of the installation.

Privacy Fence Panels, Including Wooden Posts Between Existing Masonry Units (1.83 m height)

Privacy fence panels including wooden posts shall be measured horizontally in metres from end to end of installation.

BASIS OF PAYMENT

Payment at the Contract price for the above tender item(s) shall be full compensation for all labour, equipment and material required to do the work.