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LESSONS LEARNED DURING IMPLEMENTATION OF NOISE BARRIERS ON CAPITAL PROJECTS

The Transportation Services Committee recommends:

- 1. Receipt of the deputation by Christine Radewych, resident;**
- 2. Receipt of the presentation by Brian Titherington, Director, Roads; and**
- 3. Adoption of the recommendation contained in the following report dated October 15, 2012, from the Commissioner of Transportation and Community Planning, and the following additional recommendation:**
 - 2. The review of the York Region Traffic Noise Mitigation Policy for Regional Roads include exploring cost and capital containment strategies as well as expanded co-funding cost sharing requirement options.**

1. RECOMMENDATION

It is recommended that this report be received for information.

2. PURPOSE

This report provides a summary of the lessons learned since the implementation of the Council approved *Traffic Noise Mitigation Policy* in 2006.

3. BACKGROUND

Most Regional road widening projects did not trigger the need for traffic noise attenuation under the 1995 Noise Policy

Regional Council adopted the first policy for noise attenuation on Regional roads in 1995. This policy/guideline included the criteria to be used in determining whether properties qualified for attenuation for traffic noise associated with:

- Regional road widening projects;
- Increased traffic along existing roads (retrofit areas); and
- New subdivisions.

The lessons learned described in this report focus primarily on the aspect of the policy addressing noise attenuation associated with Regional road widening projects.

Under the 1995 Noise Policy, most Regional road widening projects did not trigger the need for noise attenuation. As a result, residents often challenged the Region's policy as being unresponsive to property owner's needs. This created conflicts with property owners which required significant time and resources to address and often resulted in outcomes that were unsatisfactory to affected property owners.

The Traffic Noise Mitigation Policy was updated in 2006 with the intent of being more responsive to property owners' needs

Given the apparent non-responsive nature of the 1995 noise policy, Council directed staff to review the policy.

The updated 2006 policy was developed to address and respond to property owners concerns and was divided into three basic categories as follows:

1. Properties in New Developments – noise attenuation is addressed by the private developers as part of the development approvals process. Any mitigation measures are built on private property. The private landowner is responsible for all maintenance and replacement costs.
2. Retrofit Situations – in areas where no noise attenuation has been previously provided by the Region or private developer, the Region will cost share with the affected landowners. This includes assessing the need, and if warranted, will cost share on the installation. Any mitigation measures are built on private property and all maintenance and replacement costs are the responsibility of the private landowner.
3. Properties Adjacent to Regional Road Widening Projects – the need for noise attenuation is assessed based on the Regional policy. If warranted, noise walls are installed by the Region in the Regional right-of-way. Maintenance and replacement costs are the responsibility of the Region.

A copy of the approved updated 2006 noise policy is attached (*see Attachment 1*).

The 2006 Noise policy is a progressive policy which introduced broader eligibility criteria for noise mitigation adjacent to Regional roads

The fundamental principles used to determine if and when noise mitigation was warranted were revised in the 2006 noise policy. Several changes to the warrant criteria and methodology were implemented that clarified the assessment process and ultimately lessened the requirements for property owners to qualify for noise mitigation. This applies to all three categories of the noise policy.

It was anticipated that noise conflicts with property owners would be minimized with the 2006 noise policy which included a more prescriptive and quantitative process to define whether properties qualified for noise attenuation.

Noise barriers have been constructed as part of improvements to Bathurst Street in the Town of Aurora

Bathurst Street, between King Road and Mulock Drive, was widened and reconstructed between 2005 and 2008. The construction of the noise barriers commenced in the fall of 2010 and was completed this year.

The Bathurst Street project was assessed under both the original 1995 noise policy as well as the updated 2006 noise policy. The original noise assessment based on the 1995 noise policy determined that no barriers were warranted on Bathurst Street. When this section was re-analyzed using the updated 2006 noise policy, it was determined that approximately 40 homes qualified for noise mitigation with a noise barrier.

The approximate construction cost of the noise barriers on Bathurst Street was \$1.54 M, which equates to approximately \$38,500 per property. Based on a total length of 1,683 metres, the cost per metre was \$915.

Future maintenance costs have been estimated at \$61,000 per year, which is based on the following maintenance schedule:

- Inspection - annual
- Painting - five years
- Replace deteriorated boards (assume 10% of length) – 10 years
- Replace all panels and 10% of posts – 30 years

An additional concern, which cannot be quantified, is the time and resources required to gain Regional access to individual properties in order to maintain the private side of the barriers.

The noise barriers are expected to have a service life of 60 years. Long-term replacement costs are anticipated to be similar in magnitude to the construction costs at approximately \$1,000 per metre in 2012 dollars.

Noise barriers have also been constructed as part of improvements to 9th Line in the City of Markham

Ninth Line, between Highway 407 and the Donald Cousens Parkway, was widened and reconstructed between 2006 and 2010. The design of the noise barriers included significant consultation with both City of Markham staff as well as benefitting property owners. Construction of the noise barriers proceeded in 2011 and 2012.

As was the case for Bathurst Street, a noise analysis was undertaken based on the 1995 noise policy and the findings concluded that noise mitigation measures were not warranted for any properties within the study limits. The study area was reassessed based on the 2006 noise policy and it concluded that noise barriers were warranted and would be effective for all rear-lot properties along the west side of Ninth Line between Highway 407 and 16th Avenue. The result was that approximately 110 residents qualified for a noise barrier.

The approximate construction cost of the noise barriers on 9th Line was \$2.46M, which equates to approximately \$22,400 per property. Based on a total length of 2,115 metres, the cost per metre was \$1,165. Future maintenance requirements will be the same as was described for Bathurst Street; however, since the 9th Line noise barrier is longer, it will have a higher maintenance cost of \$77,000 per year. Maintenance of the 9th Line noise barrier will have the same challenges summarized for Bathurst Street in terms of access to the noise barrier from the private side of the wall.

4. ANALYSIS AND OPTIONS

The updated Noise Policy has provided noise mitigation for properties as part of road widening projects that would not have previously qualified

Although the installation of noise barriers on Bathurst Street and 9th Line has taken considerable time to design and construct, they have been positively received by many of the benefitting property owners. Positive feedback has also been received on the look and quality of the noise barriers. To date, over 150 residential properties have benefitted from the installation of a Regional noise barrier under the Capital Projects category of the policy.

There has been no uptake in retrofit projects as part of the 2006 noise policy

Several communities have been offered technical and financial assistance from the Region under the retrofit category of the 2006 noise policy; however, no noise mitigation measures have actually been implemented as part of this program. Under this program, property owners must share the costs of construction with the Region. Property owners are responsible for the on-going maintenance and replacement of the walls, similar to the arrangement for noise barriers constructed as part of new developments. The experience is that residents are eager to have their property assessed at the Region's cost, but ultimately expect the Region to be responsible for all of the construction, maintenance and replacement costs.

The updated noise policy was intended to facilitate resolution with property owner concerns; however, this has not been the experience

Based on staff experience with the updated policy, it is apparent that no matter where the bar is set in terms of the qualifications for noise attenuation, there will always be property owners that don't qualify. The issue of noise attenuation is so sensitive that property owners are not satisfied with any result that does not include a Regionally-constructed and maintained noise barrier. As a result, the 2006 noise policy has not reduced the number of noise complaints or requests for mitigation measures, it has just changed the nature of them.

The lessons learned for implementation of the 2006 noise policy are summarized in the following areas:

- Properties that are to be considered for noise attenuation related to Regional road widening projects;
- The assessment process to determine if properties qualify for noise attenuation measures;
- The costs in terms of time and resources to implement the noise policy as well as the effectiveness of the retrofit program; and
- What can be done to reduce the need to consider noise mitigation on a go-forward basis.

Properties that have been previously attenuated for traffic noise do not qualify for additional consideration under any circumstance

The 2006 noise policy excludes any property that was previously mitigated for traffic noise as part of the land development process. This exclusion is necessary to ensure that the Region is not responsible for poorly built noise barriers constructed by others. This aspect of the policy is viewed as unfair by many property owners. They claim that the noise barriers provided by the developer are not sufficient to attenuate traffic noise. In some cases, property owners are unaware that they own and are responsible for maintenance of their noise barrier.

Only properties that directly abut the Regional right-of-way are considered for attenuation

The 2006 noise policy identifies that a residential property must immediately abut the Regional right-of-way in order to be eligible for assessment and possible mitigation of traffic noise. There are a number of reasons as to why this exclusion is necessary including: blocking access to another property; needing to purchase additional land or negotiate access arrangement with an additional party. There have been issues in some communities in the City of Vaughan and Town of Aurora where conservation lands separate the homes from the roadway which disqualifies the properties from consideration.

Necessary engineering standards and design details limit opportunities for noise attenuation

The 2006 noise policy includes necessary design standards to ensure noise barrier installations are manageable in terms of design, construction and maintenance. Common issues raised with respect to design standards for the noise barriers include:

- The maximum noise barrier height of three metres;
- Continuation of noise barriers through low lying areas to maintain the effectiveness of the system for adjacent properties;
- Elimination of gates in rear-lot fences; and
- Vegetation removal and impacts to landscape feature during installation of the noise barrier.

Noise barriers are only implemented where they are identified as being effective to reduce traffic noise

The assessment of the effectiveness of a noise barrier has been a subject of significant concern with residents. To justify the allocation of resources and funding, noise mitigation will only be implemented if it is identified to be “effective”. A noise barrier must reduce traffic noise levels by 6 dBA to be deemed “effective” and qualify for a noise barrier.

This creates situations where a noise barrier may be warranted based on the noise levels of traffic; however, the installation of the barrier will not be effective at reducing noise levels by the required amount. This situation typically occurs where the topography changes abruptly between the pavement elevation, property line and outdoor living area.

The updated approach in the 2006 policy was designed to be thorough but was not intended to be a property by property review

During development of the 2006 noise policy, concerns from property owners were intended to be addressed with clear assessment criteria and modelling parameters that did not involve property by property reviews. The experience has been somewhat contrary in that staff are often involved in backyard meetings to explain the complicated technical assessment process which property owners do not trust. Areas of concern which are most commonly expressed by property owners are summarized as follows:

- The use of a single theoretical noise receptor at one property to represent a series of adjacent properties; property owners expect results for their individual property;
- Generically defining the Outdoor Living Area in the same fashion for all properties regardless of the specific layout and landscaping features of the individual properties;
- Using the average traffic noise over a sixteen hour period to define noise levels rather than using only peak period traffic noise; and

- The use of complex computer models to assess existing and future traffic noise levels; property owners expect actual noise measurements be taken in their backyards.

Noise issues continue to require significant resources even with a full-time Traffic Noise Abatement Coordinator

A full-time Traffic Noise Abatement Coordinator position was approved for 2012. The position was filled at the beginning of the year to assist with the consultation effort required at all stages of traffic noise related projects. During project planning, environmental assessments and detailed design assignments, property owners commonly identify traffic noise and the associated impacts as a key issue. Properly addressing this concern requires significant consultation with each resident on site-specific issues from planning through to construction. The result is a significant resource allocation to this effort, which, although very important, must be balanced with the many other projects issues including engineering, traffic management and property acquisition that need to be managed on Regional road improvement projects.

Based on the current experience in implementing the 2006 policy, and the trend of increased traffic volumes on Regional roads, additional resources will be required to address noise issues for future years.

Noise barriers represent a significant cost in terms of construction and maintenance while benefitting a relatively small number of properties

The traffic noise barriers installed as part of road improvement projects are Regional infrastructure and must be managed and maintained accordingly. As part of asset management planning, noise barriers are identified as an additional asset to be maintained. Our State-of-Good Repair and Roads Maintenance teams will recommend sufficient funding be allocated for their long-term maintenance and eventual replacement.

Some near-term activities which will create challenges include: painting and damage repair (by the Region or landowner), graffiti removal and temporary removal and reinstatement to facilitate access to backyards from the Regional right-of-way (i.e. for the construction of pools).

Better planning can reduce the number of new properties requiring noise attenuation; however, the number of requests in older areas will increase

The current subdivision development style has resulted in significantly fewer rear-lotted homes being constructed. It is this progressive approach to community layout that will have the biggest benefit to new residents with respect to mitigating the impacts of traffic noise they experience.

As the Region's population and employment continue to grow, so will the traffic volumes on Regional Roads. This will result in an increase in traffic noise in all areas of the Region, including adjacent to traditional rear-lotted subdivisions which exist in many areas of the Region. We expect that with increasing traffic noise, the number of requests for analysis and mitigation in all areas of the Region will also increase. The potential volume of exposure over thousands of kilometres of Regional roads underlines the importance of a well-designed noise policy which is strictly applied and enforced.

Lessons learned and input from Council will inform the review of the Traffic Noise Mitigation Policy that will be brought to Council in Q3 of 2013

A detailed review of the current noise policy will examine:

- The compatibility of the Region's policy with other jurisdictions including the Ministry of Transportation, Region of Durham, Region of Peel and other Greater Toronto and Hamilton Area municipalities;
- The long-term operations, maintenance and replacement costs of the noise barriers; and
- Overall costs and benefits of policy implementation to-date including staff resources.

While the 2006 policy has established broader eligibility criteria which enable more properties to qualify for attenuation, this has not reduced or simplified the process by which staff deal with individual property owners. In fact, the revised policy has resulted in more property-by-property reviews and represents significant construction and long-term costs to the Region to benefit a relatively small number of property owners.

Recommendations for revisions to the 2006 traffic noise policy are planned to be presented for Council consideration in Q3 of 2013.

5. FINANCIAL IMPLICATIONS

As part of the development of the 2006 noise policy, the construction cost of noise barriers was estimated to be approximately \$850 per metre. As indicated above, the actual experience has been an average cost of \$1,040 per metre. This cost is expected to increase as property owners and local municipalities continue to request different materials and finishes to meet aesthetic objectives.

The total construction costs to-date for the noise barriers installed on Bathurst Street and Ninth Line are \$4M. The cost represents construction costs only and does not include efforts spent on design and consultation.

The costs associated with on-going maintenance have been estimated at approximately \$138,000 per year, which includes a major rehabilitation after 30 years. The ongoing maintenance costs will be included in operational budgets; however, the more significant challenge, which cannot be quantified, will be the time and resources required to address

the numerous challenges associated with addressing maintenance issues on the private property side of the barriers.

6. LOCAL MUNICIPAL IMPACT

As part of the review of the 2006 noise policy, staff will engage and consult with the local municipalities. The intent will be to learn from their experiences and further inform recommendations for changes to the Regional policy.

Link to Key Council-approved Plans

2011-2015 Strategic Plan

Continue to deliver and sustain critical infrastructure.

7. CONCLUSION

Implementation of the 2006 Traffic Noise Policy has included successes, even if only for a limited number of Regional residents; however, the policy has not reduced the time or resources required to address property owner concerns. In fact, the magnitude of noise related concerns continues to increase and the Region must now maintain \$4.00M of noise barriers that have been constructed on Bathurst and Ninth Line.

Staff are reviewing the lessons learned and analyzing what changes are needed. A revised policy will be presented to Council in 2013 for their consideration.

For more information on this, please contact Brian Titherington, Director Roads at extension 5901.

The Senior Management Group has reviewed this report.

(The attachment referred to in this clause is attached to this report.)

Lessons Learned During Implementation of Noise Barriers

Presentation to
Transportation Services Committee

Brian Titherington
October 31, 2012

Outline

1. Purpose
2. Background
 - Regional Capital Projects
 - Recently Completed Projects
 - Operations and Maintenance
3. Lessons Learned
4. Next Steps



Purpose

- ❑ To provide a summary of the lessons learned since the implementation of the Council-approved *Traffic Noise Mitigation Policy* in 2006
- ❑ To advise that staff are undertaking a review of the current policy in consultation with local municipalities with the findings to be presented for Council consideration in 2013



Background

- ❑ The Region's Noise Policy addresses three primary areas:
 - ❑ Development
 - ❑ Retrofit
 - ❑ Regional Capital Projects
- ❑ This presentation focuses on Regional Capital Projects
- ❑ Regional Capital Projects did not trigger the need for traffic noise mitigation under the 1995 Policy
- ❑ The current Policy (2006) is progressive as it introduced broader eligibility criteria



Regional Capital Projects

- ❑ Traffic noise impacts assessed for all Regional Capital projects
- ❑ Mitigation warranted when traffic noise levels projected to exceed 60 dBA
- ❑ Noise barriers are installed only when they will be “effective” (i.e. achieve a reduction of 6 dBA)
- ❑ The location and size of the walls are defined to ensure construction and maintenance are practical
- ❑ Vegetative screening planted as a visual buffer when barriers warranted but not effective

Bathurst Street Noise Barrier

Town of Aurora (Bloomington Road to St. John's Sideroad)

- ❑ Construction recently completed
- ❑ 1,683 metres of noise barrier
- ❑ 40 benefitting properties
- ❑ \$38,500 capital cost per property
- ❑ Planting to be done in spring 2013



Ninth Line Noise Barrier

City of Markham (Highway 407 to 16th Avenue)

- ❑ Construction recently completed
- ❑ 2,115 metres of noise barrier
- ❑ 110 benefitting properties
- ❑ \$22,400 capital cost per property
- ❑ Soil trench and planting to be done in fall 2012 / spring 2013



Maintenance Program

Anticipate a 60-year service life for noise barriers

- ❑ Inspection - annually
- ❑ Painting - five years
- ❑ Replace deteriorated boards (assume 10% of length) – 10 years
- ❑ Replace all panels and 10% of posts – 30 years

***Noise barrier systems
will cost \$34/metre per year to maintain***

Maintenance Costs

The maintenance program will be implemented over the 60-year service life of the noise barriers

Annualized Maintenance Costs of:

- ❑ Bathurst Street Noise Barrier - \$61,000/year
- ❑ 9th Line Noise Barrier - \$77,000/year

Replacement Costs expected to be comparable to capital costs at ~ \$1,000 per metre

***Maintenance of noise barrier systems
will add \$138,000/year to the operations budget***

Lessons Learned on Capital Projects

- ❑ The approved *Traffic Noise Mitigation Policy* (2006) has provided mitigation for properties that would not have previously qualified
- ❑ Policy has not facilitated resolution with impacted property owners
- ❑ Significant use of Regional resources while benefitting a relatively small number of properties
- ❑ Subdivision design can reduce the number of new properties requiring noise mitigation

Lessons Learned on Capital Projects

The 2006 Policy has provided mitigation for properties that would not have previously qualified

- ❑ Installed noise barriers have been positively received
- ❑ Quality and appearance of noise barriers complimenting the roadside environment
- ❑ Over 150 properties have directly benefitted from new Regional noise barriers

Lessons Learned on Capital Projects

2006 Policy has not facilitated resolution with impacted property owners

- ❑ Properties not eligible if noise previously mitigated through development
- ❑ Private properties that do not immediately abut the Regional right-of-way are not eligible
- ❑ Locations where noise barriers are warranted but would not be effective
- ❑ Limitations on barrier location and height – engineering standards and design details

Lessons Learned on Capital Projects

Noise issues require significant resources while benefitting a relatively small number of properties

- ❑ Consultation with residents requires one-on-one attention throughout design and construction
 - Issues are difficult to resolve if a noise barrier is not warranted
- ❑ Increasing traffic and more projects in urbanized areas will increase the potential for noise mitigation
 - The current policy will require noise barriers on at least 6 other projects which are currently in design
- ❑ Construction costs of \$1,000/metre and maintenance costs of \$34/metre per year

Lessons Learned on Capital Projects

Subdivision design can reduce the number of new properties requiring noise mitigation

- ❑ Current subdivision planning practices have resulted in fewer rear-lotted homes
- ❑ Many areas of York Region have been built with rear-lotted homes that were not previously mitigated for traffic noise
- ❑ The traffic noise policy results in potential exposure over thousands of kilometres of Regional roads

Next Steps

Upcoming review of 2006 traffic noise policy will assess:

- ❑ The compatibility of the Region's policy with other jurisdictions
- ❑ Experiences and lessons learned from Council members and local municipalities
- ❑ The methodology used to determine when noise barriers are warranted and if they are effective
- ❑ Engineering and design standards for noise barriers

Summary

- ❑ The 2006 noise policy has provided mitigation for properties that would not have previously qualified
- ❑ The policy has not facilitated resolution with impacted property owners
- ❑ Noise issues require significant resources while benefitting a relatively small number of properties
- ❑ Subdivision design can reduce the number of new properties requiring noise mitigation
- ❑ Staff are reviewing the lessons learned and analyzing what changes are needed
- ❑ A revised policy will be presented to Council in 2013 for consideration

Questions

STATUS

Council Approved

Y

N

CAO Approved:

Y

N

TITLE: York Region Traffic Noise
Mitigation Policy for Regional
Roads

NO.:**Approval Date:** March 23, 2006**Last Updated:****POLICY STATEMENT:**

This policy provides a process for the effective mitigation of traffic noise on Regional Roads.

APPLICATION:

This policy shall be used for noise assessment and mitigation during implementation of Capital Roads Projects, Review and Approval of New Development Applications, Consideration of Retrofit Noise Mitigation and to address potentially unsafe situations of privately owned noise barriers adjacent of public areas on Regional Roads.

PURPOSE:

This policy identifies York Region's requirements for conducting noise assessments, including when and under what conditions mitigation is to be implemented.

DEFINITIONS:

"Ambient or Background" sound level - is the all-encompassing noise associated with a given environment and comprises a composite of sounds from many sources, other than the source of interest, near and far . In the context of this document, the ambient or existing noise level is the noise level which exists at a receptor as a result of existing traffic conditions without the addition of noise generated by the proposed undertaking or the new source of noise.

"Capital Projects" - where capital road construction projects are being undertaken on Regional Roads.

"Development" - development or redevelopment adjacent to Regional Roads.

"dBA" - a unit of measure to quantify noise levels.

Leg – The Energy Equivalent Continuous Sound Level - is the constant sound level over the time period in question, that results in the same total sound energy as the actually varying sound. It must be associated with a time period. Leq is a measure of total sound energy dose over a specified time period.

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Leq (T): Leq (16 hours), Leq (8 hours), Leq (1 hours) means the A-weighted level of a steady sound carrying the same total energy in the time period T as the observed fluctuating sound. The time period T is given in brackets.

“Mature State of Development” – the future build-out of development that fronts or backs onto the Region’s right-of-way, based on the ultimate population and traffic capacity forecasts as defined in York Region’s Official Plan.

“Noise” - unwanted traffic sound.

“Outdoor Living Area” - means the part of an outdoor area designated or commonly used for private, exclusive and common use that is easily accessible from the building and designed for the quiet enjoyment of the outdoor environment. For the purposes of this policy Outdoor Living Areas (OLA’s) include, but are not limited to, the following:

- Backyards - the area at grade directly behind the dwelling, measured up to 3 m from the back of the dwelling;
- Outdoor Living Areas combined with front yards for innovative or special house designs, if approved by the Local Municipality for location, size, fencing, etc...
- Balconies, provided they are the only OLA for the occupant and meet the following conditions:
 - (a) minimum depth of 3 m (or as set by the local municipality);
 - (b) outside the exterior building facade;
 - (c) unenclosed;
- Common OLA’s associated with multi-storey apartment buildings or condominiums;
- Passive recreational areas such as parks if identified by York Region or the local municipality.
- Other noise sensitive applications such as residential developments, seasonal residential developments, hospitals, nursing/retirement homes, schools, day care centers or other non-residential land uses containing noise sensitive areas and spaces as approved by York Region.

“Retrofit” - where no Capital Road Projects are being undertaken adjacent to existing residential areas that may warrant noise mitigation.

“Standard Operating Procedures (SOP’s)” – York Region’s technical guidelines for the assessment and mitigation of noise on Regional Roads.

DESCRIPTION:

TECHNICAL AND DESIGN CRITERIA

1. The following technical and design criteria shall be used in determining noise level predictions and modeling:
 - a) Future noise levels shall be based on the “Mature State of Development”;
 - b) The significant noise impact or change in noise levels attributable to implementation of a road project shall be calculated as the difference in projected noise levels at the start of construction and the projected noise levels at the “Mature State of Development”;

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- c) The significant noise impact or change in noise levels for a new development shall be calculated based on the difference between existing noise levels and projected noise levels at the “Mature – State of Development.
- d) Alternative noise mitigation measures shall be considered prior to making the decision to use noise barriers, i.e. pavement types, alternate alignments, landscaped berms, service road concepts, etc. Noise barriers shall only be used as a last resort, where all other mitigation measures are not feasible. Where noise barriers are required, landscaping is also required. Additionally, policies pertaining to community planning and transit objectives must be fully considered during the evaluation of potential noise mitigation solutions;
- e) For Capital Road projects, any mitigation deemed necessary shall achieve a minimum reduction of 6 dBA against the greater of either the objective level Leq 16 hours (55 dBA) or the established ambient noise level at the start of construction.
- f) Any mitigation deemed necessary shall attempt to achieve a minimum reduction of 6 dBA against the objective level (55 dBA), Leq 16 (7:00 – 23:00) and the greater of either the objective level or the established ambient noise level in all cases;
- g) The noise impacts from capital road projects and in retrofit areas, shall only consider the OLA;
- h) Where noise barriers are deemed appropriate they must be continuous across the adjacent residential properties without breaks or discontinuities and with returns along side lot lines where required to ensure effective noise attenuation; and
- i) Noise mitigation must be constructed in accordance with York Region Standards and SOP's.

CAPITAL ROAD PROJECTS

- 2. In connection with the implementation of capital road projects, the following shall be used as a guideline in considering mitigation of noise impacts:
 - a) For projected noise level increases from 0 - 5 dBA on adjacent residential properties, no mitigation be considered unless projected noise levels are greater than 60 dBA (Either at the start of construction or at the mature state of development);
 - b) For projected sound levels at the start of construction greater than 55 dBA, and projected future noise level increases greater than 5 dBA, the feasibility of noise reduction measures shall be investigated where a minimum attenuation of 6 dBA can be achieved;
 - c) If it is deemed that noise mitigation is to be implemented, York Region shall assume the full cost of implementing the noise control measures;
 - d) York Region shall assume the ownership and maintenance of any noise control measures when constructed under the Capital Program;
 - e) Noise mitigation implemented as part of capital road projects will only be permitted along the property line at the extreme outer edge of York Region's ultimate right-of-way or along the flanking ends of the subdivision where required; and
 - f) When noise mitigation is not warranted on the basis of projected noise levels not exceeding 60 dBA, the mitigation may be deferred until noise levels exceed 60 dBA.

DEVELOPMENT

- 3.** In connection with the approval of development applications adjacent to Regional Roads:
- a) Noise attenuation reports in accordance with the York Region Noise Policy and SOP's, approved and recommended by the local municipalities must be provided to York Region during the submission of draft plan of subdivision or prior to Site Plan Approval, in order that noise attenuation measures can be evaluated during review of the draft/site plan;
 - b) Alternate methods of reducing the noise impact shall be considered prior to considering noise barriers;
 - c) Noise attenuation barriers shall be constructed along the extreme outer edge of the landowners/homeowners property line provided it is a minimum of 2.2 meters in height. However, the Commissioner of Transportation and Works can approve noise attenuation barriers up to a maximum height of up to 3.0 meters in situations where deemed appropriate and where recommended by the local municipality; and
 - d) Noise barriers are only to be used as a last resort where no other options are feasible. In these situations enhanced warning clauses shall be provided to warn purchasers including specific maintenance obligations and the municipalities' recourse to take corrective actions, should the owner fail to maintain the noise barriers in a state of good repair.

RETROFIT

- 4.** In connection with the retrofit of existing developed areas adjacent to Regional Roads where no capital road projects are planned and no noise attenuation measures exist, but are requested by residents, the following shall be used as a guideline in considering mitigation of noise impacts.

To be eligible for retrofit the requirements of the Municipal Act must be satisfied as per the following conditions:

1. Existing noise levels are greater than 60 dBA.
2. At least 5 continuous dwellings are affected.
3. The proposed improvement must achieve at least 6 dBA improvement.
4. At least 2/3 of affected residents support application (including the 50% of cost).

In cases where existing noise walls are ineffective due to design deficiencies, they can become candidates for the Retrofit Program if the new mitigation can achieve a recommended benefit of 6 dBA over and above the existing noise barrier and all other existing retrofit conditions are satisfied.

Applications that satisfy retrofit criteria will be ranked, priced and submitted to Council for funding approval as part of the yearly capital budget cycle. Based on approved funding, improvements will be made based on highest ranking. If approved funding is limited, qualified applications not implemented shall be re-budgeted in the next year's budget cycle and implemented based on new rank and approved funding.

EXISTING PRIVATELY OWNED NOISE BARRIERS

5. In connection with severely deteriorated privately owned noise barriers that are located adjacent to the Regional Roads, the following process shall be used in addressing potentially unsafe situations adjacent to public areas:
- a) Potential hazards shall have owners directed by the local municipality as soon as the hazard has been identified by Regional forces to correct the problem within a fixed time period.
 - b) Failure to comply shall result in Regional staff working with Local Municipal staff to have unsafe sections dismantled and have removed materials either disposed of or stockpiled on or adjacent to the owner's property. All costs incurred will be back charged to the homeowner with the assistance of the governing local municipality via the Property Standards Act.

RESPONSIBILITIES:

All administrative and financial procedures shall conform to the Regulations under the Municipal Act and the provisions of this policy.

REFERENCE:

Draft Approval (Transportation and Works Committee Report XX, Clause XX, May XX, 2005)

CONTACT:

General Manager, Roads – Transportation and Works Department

APPROVAL INFORMATION

CAO Approval Date: TBD

Committee: Transportation and Works

Clause: TBD

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