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### **REQUEST FOR BERM AND NOISE BARRIER BATHURST STREET, TOWN OF AURORA**

**The Transportation and Works Committee recommends the following:**

- 1. the deputation by David Smith, Chairman, Lower Whispering Pine Trail Ratepayers Association, be received;**
- 2. the following report, May 29, 2008, from the Commissioner of Transportation Services, be referred back to Transportation Services staff for further discussions with the Lower Whispering Pine Trail Ratepayers Association.**

#### **1. RECOMMENDATIONS**

It is recommended that:

1. Regional Council uphold the application of the Council approved Noise Policy with respect to the Region's responsibility for noise mitigation associated with the Bathurst Street road widening project.
2. Regional Council allow for the construction of a noise barrier on a berm along the east side of Bathurst Street adjacent to the seven properties between 25 and 63 Whispering Pine Trail, subject to the property owners assuming the Region's incremental cost estimated at \$100,000.
3. Regional Council direct staff to negotiate appropriate agreements for construction of the noise barrier with all affected property owners, and include the construction of this barrier in the Region's project this fall if all agreements are executed by September 1, 2008.

#### **2. PURPOSE**

This report outlines the Lower Whispering Pine Ratepayers Association proposal to construct a berm at their own expense along the Bathurst Street road allowance in the Town of Aurora. The purpose of the berm is to increase the ground elevation to enable the provision of a noise attenuation barrier.

### **3. BACKGROUND**

#### **Bathurst Street Noise Assessment Re-Evaluated**

When the Class Environmental Assessment for the widening of Bathurst Street was completed in 2000, a commitment was made to update the Region's Noise Policy, and prior to construction, re-evaluate predicted noise levels adjoining Bathurst Street in the context of the updated policy. After an extensive development process, a new Noise Policy was adopted by York Region in 2006. The noise assessment for Bathurst Street, from King Road in Richmond Hill to Mulock Drive in Newmarket, was completed and presented to the community in 2007. It was the first study completed under the new policy. The original noise assessment undertaken during the Class Environmental Assessment found that no barriers were warranted anywhere on Bathurst Street. Under the new Noise Policy, approximately 60% of all candidate homes will receive mitigation including 35 homes that will now benefit from a barrier and an additional 15 homes that will receive enhanced tree planting as vegetative screening where noise barriers cannot be implemented effectively.

#### **Lower Whispering Pine Ratepayer Association Formed**

The Lower Whispering Pine Ratepayer Association was created by neighbours to collectively respond to the study findings that their properties located between 25 and 63 Whispering Pine Trail do not warrant barrier construction (*see Attachment 1*).

#### **Barriers Not Warranted for Properties Between 25 and 63 Whispering Pine Trail**

Future noise levels are forecast to exceed 6dBA at most of these seven properties, as is necessary to be considered for mitigation; however, the Noise Policy only warrants barriers where they can be effective by achieving a noticeable reduction (minimum 6dBA) in noise levels (*see Attachment 2*).

For these properties the property line is significantly lower than the roadway. The Noise Policy provides for barriers of 2.2m height, but in extreme cases like this situation considers permitting localized maximum heights of up to 3m as measured above existing ground level. Even with the maximum permissible barrier height of 3m, the Bathurst Street noise assessment predicts effective noise reduction can not be achieved adjoining these properties.

To achieve an effective noise reduction, the top of barrier would have to be up to 4.5m above existing ground level. Generally, the elevation deficiency varies from 0.5 to 1.5 metres adjoining these properties. Owing to this deficiency, the Policy does not warrant barrier construction; instead it provides for the provision of a vegetative screening (enhanced tree planting) to visually screen these properties from the roadway.

### **Lower Whispering Pine Ratepayers Association Requests Permission to Construct a Berm within the Road Right-of-Way**

Provision of vegetative screening as an alternative to a noise barrier is not acceptable to the Lower Whispering Pine Ratepayers Association. The Lower Whispering Pine Ratepayers Association is seeking permission to construct a berm of approximate height up to 1.5 m, at their own cost, along the Bathurst Street property line adjoining their homes. The berm would eliminate the elevation deficiency and enable the erection of a standard height barrier at the Region's cost that will provide the required minimum 6dBA reduction in accordance with the Policy.

## **4. ANALYSIS AND OPTIONS**

### **4.1 Technical Considerations of the Proposal**

The proposal is premised upon using the maximum permitted 3m high noise barriers in conjunction with raising the ground elevation. Although the physical barrier proposed is still within policy maximums, the combined height of a berm plus barrier exceeds the maximum height intentions of the noise policy. The maximum height requirements are premised upon significant research into community standards for barrier heights and are in keeping with standards in other jurisdictions. The policy was not intended to be interpreted such that the maximum height barrier would be implemented incrementally to the height of a berm.

In this specific case, a small berm appears to be possible without detrimental impacts to York Region's right-of-way, utilities in the right-of-way, existing vegetation and drainage to or from the right-of-way. Staff note that the absolute height requirements for the berm as proposed are still subject to detailed design. It is possible that the berm may need to be higher and as a result, wider than initially envisioned by the proponents. This, in turn, will increase the amount of fill placed in the Regional right-of-way. Any berm could encumber York Region's future use of the right of way at this location.

### **4.2 Potential Community Implications**

Approval of this request may lead to other similar requests. Numerous future requests could result in an increased expectation for York Region to accommodate berm construction whenever elevated noise levels are identified in Environmental Assessments and the existing ground elevation is the only factor preventing implementation of a barrier, (e.g. Future Environmental Assessments could incorporate the identification of lands required to accommodate a berm/barrier combination where topography otherwise precludes an effective barrier).

Conversely, if the proposal is rejected, York Region could appear to be rigidly adhering to Policy where there is not significant technical or impediment to permitting this specific request.

#### **4.3 Perceived Drainage Benefit of a Berm**

The proponents of the berm suggest that a berm along the right of way limit will provide an additional benefit by preventing run-off from flowing towards their properties. As previously noted, these homes are located on the east side of Bathurst Street in an area lower than the roadway. This area historically received drainage from a sizeable watershed on the west side of Bathurst Street which followed the natural topography to the east side of Bathurst Street. Conveyance under Bathurst Street was achieved via culverts under the road.

When the subdivision was constructed in the late 1980's, rear lot catch basins and overland swales were provided to convey storm water from the east side of Bathurst Street (rear of these properties) to the storm sewer system on Lower Whispering Pines Drive. In the intervening years there have been periodic instances of the catch basins and swales being inundated and overflowing. The most recent incident was during the flash melt and rain experienced in April of this year.

The propensity for periodic overflows was identified by residents and staff from the Town of Aurora during the detailed design of the Bathurst Street reconstruction. In response, York Region has rectified the drainage issue for this area by eliminating the road crossing culvert and conveying water from the west side of Bathurst Street directly into a storm sewer system. As a result, the volume of water draining west to east through these properties will be essentially eliminated upon completion of construction this year.

The reconstructed roadway will significantly improve existing drainage conditions, resulting in a very small area of back slope which will drain east from the boulevard towards their properties. Proponents of the berm have promoted that a berm will ensure no run off from the Regional right-of-way enters their properties. In light of the storm sewer improvements being provided, the resultant run off from the back sloping boulevard on Bathurst Street towards their properties is deemed to be insignificant compared to the preconstruction volume. Had there been any significant volume expected a 0.3m berm would have been provided as part of the initial design but would not have been constructed to the heights required to enable barrier construction. Staff do not concur that a berm is warranted for drainage reasons.

#### **4.4 Options for Council's Consideration**

The proponents of the berm have offered to incur the costs of providing the berm and restore vegetation on their side of the berm at their own expense. The proposal is premised upon the principle that if the ground elevation is adjusted at their expense, then

York Region can proceed to install a physical barrier funded by the Noise Policy program. Regional staff have reviewed this proposal along with a number of alternatives.

**Option 1 – Accept the Request**

Advantage: Allowing this request could address the issues raised by this group.

Disadvantage: Accommodating this request could result in significantly reducing the effectiveness of the Council approved Noise Policy in dealing with noise related issues on Regional Roads. Other neighbourhoods may not be able to achieve a similar outcome for technical reasons (lack of space for berm, significant vertical challenges, detrimental drainage or vegetation impediments) or on account of failure to achieve a collective financial commitment to fund a berm. This in turn could lead to future requests to Regional Council to fund the implementation of other alternate solutions at such locations.

It should be further noted that the Noise Policy sets forth key criteria thresholds upon which decisions for barrier implementation are to be based. These include forecasted noise levels, maximum barrier height and the achievement of effective results. Regardless of the absolute threshold values, for every study there will always be properties that are at or marginally outside of the implementation criteria. Therefore, it is to be expected that for every study there will be property owners that will appeal for variance.

Building berms along the property line requires placing fill within the right-of-way which may further encumber the affected public lands in future with respect to the placement of and access to utilities in the area.

Cost Implication: The incremental cost to York Region to provide a barrier instead of vegetative screening is estimated to be \$100,000 for these particular properties. Assuming no other residents along this corridor would request such an initiative, the cost increase amounts to a 16% increase over York Region's expected cost for noise mitigation on this section of Bathurst Street.

Future costs for the Noise Barrier Policy implementation region wide could also increase if all future projects are subject to such requests and similar allowances are granted. Although it is difficult to predict the number of such additional situations, using this project as a base case, the incremental cost to the program could be estimated at 16%. An increase of this magnitude on all projects would increase the estimated cost of Noise Barrier implementation from \$22,000,000 to \$25,500,000.

**Option 2 – Refuse the Request**

Advantage: The Noise Policy and height specifications were developed with input from the local municipalities and planning staff. The cap on barrier height is multi-purposed and not strictly a cost issue. Tall barriers are not desired from aesthetic or community planning perspectives. The limits imposed by the Policy meet or exceed the maximums

stipulated in other jurisdictions. Adherence to policy will demonstrate a consistent approach and enable reliance on the criteria approved by Council.

By refusing the request there would be no physical encumbrance on the road right-of-way that could result due to the berm.

Disadvantage: Refusal would not address the concerns of the adjacent property owners.

Cost Implication: There will be no increase to costs incurred by the Noise Barrier program.

**Option 3 – Accept the Request with Property Owners Paying the Incremental Cost for a Barrier**

This option would involve permitting the adjacent property owners to fund the construction cost of the proposed berm and the incremental cost of the desired noise barrier in lieu of the policy warranted vegetative screening.

Advantage: Allowing this request could demonstrate receptiveness to working with the adjacent property owners while continuing to abide by the principles of the council approved Noise Policy without providing subsidy beyond the base cost for vegetative screening. The incremental costs would be defined as the additional costs over and above what York Region would have incurred to provide vegetative screening as mitigation.

Disadvantage: This option would result in discrepancies in the level of noise mitigation afforded to properties adjacent to this Regional road and potentially other Regional road sections. Other property owners will not be able to achieve a similar outcome for technical reasons (lack of space for berm, significant vertical challenges, detrimental drainage or vegetation impediments) or on account of failure to achieve a collective financial commitment to fund a berm and the incremental cost for the barrier.

Allowing the construction of a berm along the property line may encumber the affected road lands in future with respect to placement and access to utilities.

Cost Implication: The incremental cost to provide a barrier instead of vegetative screening is estimated to be \$100,000 for these properties. On the basis of seven (7) property owners participating in the barrier funding, the estimated cost to each property owner is approximately \$14,300. It is foreseen this amount would be adjusted amongst the property owners to account for the varying lot sizes. There will be no increase to costs incurred by the Noise Barrier program.

**Option 4 – Cost Share a Barrier in Accordance with Noise Policy Retrofit Criteria**

The Noise Policy includes provisions for property owners to share costs with York Region under the retrofit classification if a noise barrier is technically warranted and will be effective adjacent to an existing Regional road section. The Noise Policy retrofit

criteria provide principles upon which the cost sharing might be premised if a cost sharing option is pursued. Retrofit projects are implemented and administered per the principles of a local improvement. This proposed undertaking does not meet the requirements of a retrofit project per the Noise Policy.

A summary of the options outlined above is provided in Table 1.

**Table 1**  
Summary of Options

| Option | Alternative                                    | Advantage                                                                                                                                          | Disadvantage                                                                                                                                                                        | Cost Increase to Region | Cost Increase to Proponents               |
|--------|------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------|-------------------------------------------|
| 1.     | Accept Request as Proposed                     | <ul style="list-style-type: none"><li>Meets the needs of the requestors</li></ul>                                                                  | <ul style="list-style-type: none"><li>Increases Regional costs</li><li>Does not conform to Council approved Noise Policy</li><li>Physical encumbrance in the right-of-way</li></ul> | +\$100,000              | 0                                         |
| 2.     | Refuse Request                                 | <ul style="list-style-type: none"><li>Conforms to the Council Approved noise policy</li><li>No physical encumbrance in the right-of-way</li></ul>  | <ul style="list-style-type: none"><li>Does not meet the needs of the requestors</li></ul>                                                                                           | 0                       | 0                                         |
| 3.     | Accept Request, Proponents pay increased costs | <ul style="list-style-type: none"><li>Meets the needs of the requestors</li><li>Does not put into question Council approval Noise Policy</li></ul> | <ul style="list-style-type: none"><li>Physical encumbrance in the right-of-way</li></ul>                                                                                            | 0                       | +\$100,000<br>Or<br>\$14,300 per property |

## 5. FINANCIAL IMPLICATIONS

The estimated cost to provide a noise barrier exceeds the cost of providing vegetative screening adjoining these homes by approximately \$100,000. This assumes that all other costs of providing the berm are funded completely by the residents and does not take into consideration future maintenance and replacement costs of a noise barrier.

## **6. LOCAL MUNICIPAL IMPACT**

Staff from the Town of Aurora are aware of and have no objection to the Region enabling a noise attenuation barrier proposal that will benefit its residents.

## **7. CONCLUSION**

This report outlines the proposal from the Lower Whispering Pine Ratepayers Association to place fill and provide a berm along the Bathurst Street right-of-way at their own expense. The purpose of the berm is to raise the ground elevation sufficiently high to enable an effective noise barrier that is within the permissible heights set forth in the Noise Policy.

The report recommends that the Policy be adhered to with respect to the Region's responsibility for noise mitigation associated with the Bathurst Street road widening project, and directs staff to include the construction of a berm and barrier in the Region's project this fall along the east side of Bathurst Street adjacent to the properties between 25 and 63 Whispering Pine Trail, subject to:

- The property owners assuming the Region's incremental cost estimated at \$100,000.
- All seven property owners executing the necessary legal agreements by September 1, 2008.

For more information on this report, please contact Paul Jankowski, General Manager - Roads, ext. 5901

The Senior Management Group has reviewed this report.

*(The attachments referred to in this clause were included in the agenda for the June 11, 2008 Committee meeting.)*