



Corporate Report

NO: R264

COUNCIL DATE: October 18,

2004

REGULAR COUNCIL

TO: Mayor & Council DATE: October 15,
2004

FROM: General Manager,
Engineering FILE: 5400-80(03200)

SUBJECT: 32 Avenue Traffic Noise Attenuation

1.0 RECOMMENDATIONS

1. That Council receive this report for information.
2. That Council approve, in principle, noise mitigation works on 32 Avenue from 160th to 164th Streets, as outlined in Sections 4.1, 4.2 and 4.3 of this report and **Option 1** as outlined in Section 4.4.
3. That staff be authorized to seek input from the wider neighbourhood and then commence the necessary Development Variance Permit (DVP) process for the noise barrier.

2.0 INTENT

To inform Council of the status of consultation with the Rosemary Heights/Morgan Creek community and the nature and extent of traffic noise attenuation works, identified by the noise study on 32 Avenue between 154 Street and 164 Street.

3.0 BACKGROUND

The issue of truck route status of 32 Avenue and associated noise attenuation works, was reported to Council in Corporate Report R002, January 12, 2004. This resulted in Council's authorization of a budget up to \$440,000.00 (50% from CHG and 50% from Campbell Heights pre-servicing fund) for noise attenuation works, and direction to staff to work with the community on the type of noise attenuation works to be installed within this budget.

In consultation with the community, staff identified four distinct segments along the roadway, and associated community groups with which to liaise regarding noise barrier selection:

- the Carrington Town homes between 154 Street and 156 Street;

- the Morgan Place Care Home to the east of 156 Street;
- the Deer Run Strata to the west of 160 Street; and
- the Morgan Creek Homeowners between 160 Street and 164 Street.

An initial round of meetings was held with each of the four groups to review the noise measurements taken, the projected future noise levels, barrier types, location and effectiveness, additional data needs, and comparative noise exposure objective levels utilized by other jurisdictions. The consultants engaged for this exercise then developed preliminary designs and cost estimates for noise attenuation barriers to meet the Central Mortgage and Housing Corporation (CMHC), maximum noise exposure guidelines of 55 dBA, the most sensitive and least level of noise of the various standards and policies of other jurisdictions reviewed for guidance. The results and recommendations of the consultants were then presented to the four community groups in a second round of meetings.

4.0 Results of Noise Study and Community Consultation

4.1 The Carrington Townhomes

The current ground level traffic noise exposure at the Carrington Town homes is approximately 65 dBA. To reduce this level to 55 dBA will require a continuous 3-meter high noise barrier from 154 Street to 156 Street. The preferred barrier location is between the multi-use pathway along the south side of the Townhouse complex and 32 Avenue. It has an estimated construction cost of \$221,000.00, including some landscaping to soften the visual impact of the barrier. A survey of the 33 residences adjacent to the suggested barrier resulted in 31 responses; all in favour of this noise barrier.

4.2 The Morgan Place Care Home

Current ground level traffic noise exposure at the Morgan Place Care Home is approximately 64 dBA. A noise barrier of 2.0 to 2.4 meters in height will reduce the noise level to approximately 57 dBA. The Care facility owner has indicated a preference for a 2.0-meter high barrier. The preferred location for the barrier is between the multi use pathway and the care facility and is estimated to cost approximately \$36,000.00.

4.3 The Deer Run Strata

Current ground level traffic noise exposure at the 9 units of the Deer Run Strata, located at the corner of 32 Avenue and 160 Street, is approximately 63 dBA. A noise wall of approximately 2.4 meters in height is required to reduce the noise level to approximately 56 dBA. The preferred location for the barrier is on the existing berm located between the complex and the sidewalk, within existing landscaping, and would include some additional landscaping for further screening. The barrier is estimated to cost approximately \$43,000.00. The residents of the 9 adjacent units affected are in agreement with the suggestion.

4.4 The Morgan Creek Homeowners between 160 Street and 164 Street

Current ground level traffic noise exposure for the residences between 160 Street and 164 Street along the north side of the golf course averages 51.6 dBA; substantially below the CMHC guideline for noise attenuation. With projected increases in traffic to the year 2021, widening of 32 Avenue and increased truck traffic to 5% of total traffic the noise level is projected to increase to an average of 53.7 dBA; still below the objective maximum of 55 dBA. However, while the average is 53.7 dBA, three individual locations are projected to have noise levels from 55.4 to 56.3 dBA. Although this amount of increase over the 55 dBA objective maximum is not perceptible to the human ear, it has been proposed to the residents to construct attenuation works, which will bring these future levels within the CMHC guidelines. There is an existing landscaped earth berm along the north side of 32 Avenue adjacent to the golf course, although this berm has some gaps. It is proposed to make this sound attenuation facility more continuous as outlined below and identified as Option 2:

Option 1

- at the west end - to fill in gaps in the laurel hedging with cedar hedges to provide a continuous visual barrier (a sound barrier is not warranted);
- just west of Wills Brook - to fill in an area with no berm using 2.3-meter high concrete fence (existing landscaping would be devastated if a berm were constructed);
- south of Cross Creek Court - install a 2.3-meter high concrete fence to infill gaps in the berm and increase the effective height of the berm and continue around the corner of 32 Avenue and north along 164 Street;
- further north along 164 Street - install a cedar hedge to provide a visual buffer.

The estimated cost of these works is \$146,000.00

Option 2

The Homeowners Group has responded by requesting substantially more works, including a much greater length of noise fence, and all fences to be a net height of 3.0 meters above the road. The estimated construction cost of the works requested is \$236,000.00. This exceeds works identified by the consultants (Option 1) by \$164,000.00, and also exceeds the approved budget.

5.0 DISCUSSION

The noise study was carried out by an expert in the field of acoustics and the criteria used for determining the need for noise mitigation has been based on CMHC Guidelines which are the most sensitive in identifying a need. Apart from the section of 32 Avenue: 160 to 164 Street (i.e., the area adjacent to the Morgan Creek Homeowners Group) consensus has been reached with the residents of the various residential groups on the scope of the noise mitigation works, noise study findings and suggested barriers.

In view of the above, staff are not in a position to support Option 2, the requested additional works by the Morgan Creek Homeowners Group.

6.0 FUNDING

The originally approved funding of up to \$440,000 for the noise mitigation works was shared between the initial servicing works funded by the Campbell Heights Group and the City's preservicing funding for the Campbell Heights area, which is being front-ended by the City.

The Campbell Heights Group does not support providing funding over and above the original funding agreed to. Consequently, any funding for additional noise mitigation would have to be funded from the City's already committed General Revenue.

7.0 ZONING BY-LAW AND DESIGN ISSUES

Some of the requested noise barriers will be located on private property; consequently, any construction will have to comply with zoning regulations or alternatively seek a Development Variance Permit. Because some sections of the

noise barriers will exceed heights allowed in the By-law, a DVP will be required. With Council authority, staff will commence the necessary DVP process.

The noise barriers have been requested by, and will benefit, the directly fronting residents on the north side of 32 Avenue. However, the wider community will be affected by the visual intrusion of the noise barrier as identified by the noise study; particularly, the higher sections. Before commencing with the DVP process it is proposed that community groups and other stakeholders would be contacted, and a public open house held to inform the neighbourhood of the requested DVP and seek input. Such input would be brought back to Council.

The requested noise fence, which ranges in height from 1.8 to 3 metres, is located wherever possible to allow for maximum visual screening from the road by the existing landscaped boulevard. Additionally, enhanced landscaping is envisaged to provide further screening. Typical barrier material would be a combination of 'Natural Art' fence as used on Fraser Highway, and Plankcrete to blend with the existing Plankcrete fence on 32 Avenue.

8.0 NEXT STEPS

Following Council's consideration of this report, staff will have one further meeting with each of the resident groups to go over suggested detailed design issues and explain the DVP. In parallel with this, staff will initiate the DVP process and following the approval of a DVP, including any necessary adjustments to the design, tenders will be called for the construction of the noise barrier.

9.0 CONCLUSION

A consensus regarding the requested attenuation facilities has been reached with the three community groups along 32 Avenue where noise level exposure exceeds the maximum objective of the CMHC guideline with the scope of the requested barrier as shown on the attached maps. Although noise exposure levels experienced by the fourth group are significantly lower than the guideline maximum, and will substantially remain so for some time, some attenuation works have been suggested to meet CMHC standards in the longer term. These Option 1 works are shown on the attachment. The Morgan Creek Homeowners Group is requesting substantial additional works at a cost which will exceed authorized budget and cannot be supported by staff.

To proceed with the construction of the requested works requires a Development Variance Permit, and it is proposed that as part of this process, to seek input from the wider community.

Paul Ham, P. Eng.
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Attachments

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