## SECTOR 3 KAURI ROAD AREA

### NZS 6806 – Assessment matrix

| Impact key | Potential effects of noise mitigation option |
|---|---|
| + + + | significant positive effects |
| + + | moderate positive effects |
| + | minor positive effects |
| o | insignificant (no effects) |
| - | minor adverse effects |
| - - | moderate adverse effects |
| - - - | significant adverse effects |

A brief description of the basis for each rating should be added in the spaces below the ratings.

| Assessment Criteria | Responsible | Option 1 | Option 2 | Issues/Risks |
|---|---|---|---|---|
| Compliance with NZS 6806 noise criteria, and requirement for building-modification measures | Acoustics | +3 | +3 | |
| | | All in Cat A | All in Cat A | |
| Effect of changes to the existing noise environment | Acoustics | -3 | -2 | Consider this effect to be significant. Mitigation should reflect that this area will be highly affected. |
| | | Average increase of 11 dB, highest 14 dB | Average increase of 9 dB, highest 12 dB | |
| Achievement of the NZS 6806 structural mitigation performance standards | Acoustics | -1 | 0 | |
| | | 2 dB average structural mitigation | 3 dB average structural mitigation | |
| Value for money, including maintenance costs and consideration of benefit cost analysis | Acoustics | -1 | -1 | |
| | | BCR 0.7 | BCR 0.7 | |

| Assessment Criteria | Responsible | Option 1 | Option 2 | Issues/Risks |
|---|---|---|---|---|
| Difference in cost compared to Transit's Guidelines (criteria for NZTA internal monitoring purposes) | Acoustics | +3 | N/A | |
| | | -65% compared with Transit Guidelines | | |
| Compliance with relevant safety standards and guidelines | Roading | 0 | 0 | |
| | | OK. | OK. | |
| | Structures | 0 | 0 | |
| | | | | |
| Constructability/technical feasibility | Roading | 0 | 0 | |
| | | OK, but very constrained here due to pond and gas pipes. | OK, but very constrained here due to pond and gas pipes. | |
| | Structures | 0 | 0 | |
| | | | | |
| | Construction | 0 | 0 | |
| | | | | |
| Availability of sufficient land for construction and maintenance and the extent to which NZTA would need to acquire land, or interests in land | NZTA | 0 | 0 | |
| | | | | |
| Potential effects on known heritage or cultural values | Cultural | 0 | 0 | |
| | | | | |
| The extent to which the mitigation option promotes | Visual / landscape | 0 | 0 | |

| Assessment Criteria | Responsible | Option 1 | Option 2 | Issues/Risks |
|---|---|---|---|---|
| integration and establishes visual coherence and continuity in form, scale and appearance of structures and landscape proposals along the route | | | | |
| Road users' views to the surrounding landscape and key features/ locations in particular | Visual / landscape | 0 | 0 | |
| Maintenance or enhancement of visual amenity for surrounding residents | Visual / landscape | 0 | 0 | |
| Utilisation of materials that reflect the character of the location | Visual / landscape | 0 | 0 | |
| Maintenance or enhancement of the convenience and attractiveness of pedestrian and cycle networks | Urban design | 0 | 0 | |
| Maintenance or enhancement of safe routes to school | Urban design | 0 | 0 | |
| Impacts (land take, amenity and usability) on community facilities (reserve, school, playground, playing field, etc) | Urban design | 0 | 0 | |
| Public access to the coastal marine area, rivers, or lakes | Urban design | 0 | 0 | |
| Public safety and security | Urban design | 0 | 0 | |

| Assessment Criteria | Responsible | Option 1 | Option 2 | Issues/Risks |
|---|---|---|---|---|
| Potential effects on areas of significant indigenous vegetation and significant habitats of indigenous fauna | Ecology | 0 | 0 | |
| Natural character of the coastal environment, wetlands, lakes, rivers, and their margins | Ecology | 0 | 0 | |
| | Visual / landscape | 0 | 0 | |
| Potential effects on coastal processes | Hydrology | 0 | 0 | |
| Potential flooding effects | Hydrology | 0 | 0 | |
| Resource efficiency (including avoidance of waste) | Sustainability | 0 | 0 | |
| Potential effects on greenhouse gas emissions | Sustainability | 0 | 0 | |
| Other: | | 0 | 0 | |

**Final Comments**: Option 2 preferred as a bund. 3m above road surface will mean the total height of bund is 5m.

Noted by Iain Smith that this is likely to be a big issue for stormwater.

**Project**

M2PP

Sector 3 Kauri Rd Area

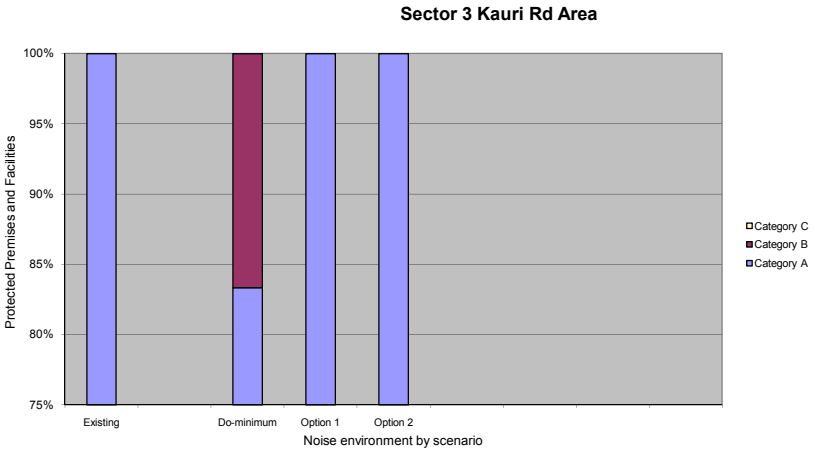
**Protected Premises and Facilities**

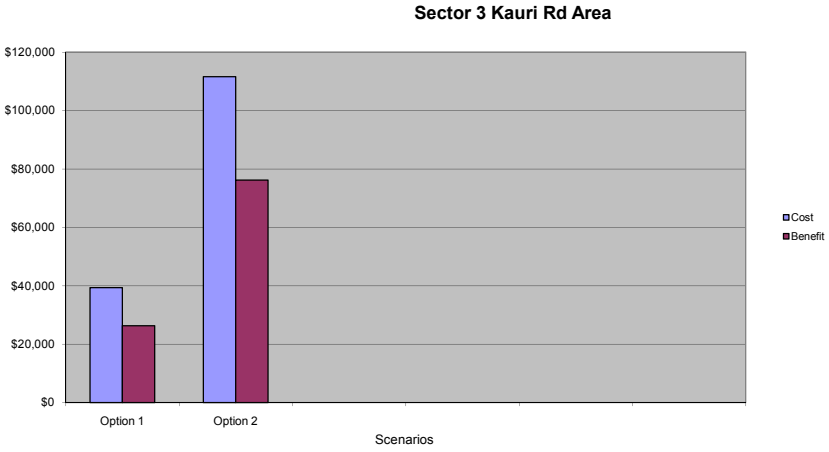
| | Existing | Do-minimum | Option 1 | Option 2 |
|---|---|---|---|---|
| Category A | 6 | 5 | 6 | 6 |
| Category B | 0 | 1 | 0 | 0 |
| Category C | 0 | 0 | 0 | 0 |
| Total | 6 | 6 | 6 | 6 |

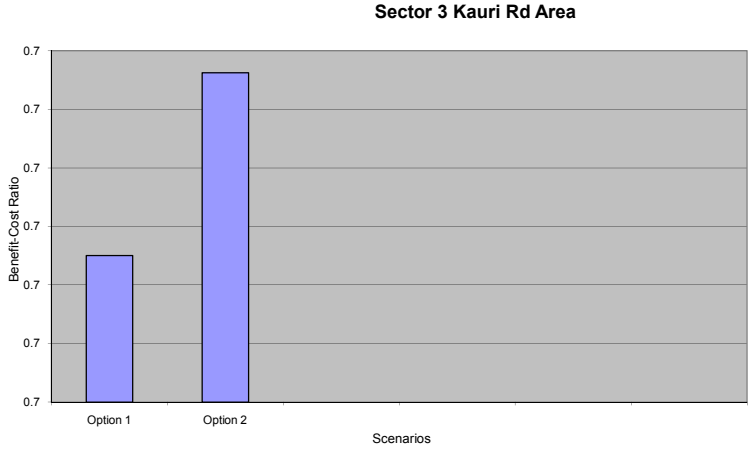
**Benefit-Cost Ratio**

| | Option 1 | Option 2 |
|---|---|---|
| Cost | $39,360 | $111,600 |
| Benefit | $26,273 | $76,236 |
| BCR | **0.67** | **0.68** |
| Transit | -65% | 0% |
| Structural | 1.1 dB | 3.0 dB |

**Graphs**



**Project:** M2PP
**Area:** Sector 3 Kauri Rd Area
**AADT:** (•) 2,000 to 75,000 vehicles per day
( ) More than 75,000 vehicles per day
**Transit:** Option 2 (option to comply with Transit's Guidelines)

Reformat | New | Altered

| Protected Premises and Facilities | | New or Altered | Existing $L_{Aeq(24h)}$ dB | Do-minimum $L_{Aeq(24h)}$ dB | Option 1 $L_{Aeq(24h)}$ dB | Preferred Mitigation Option: Option 2 $L_{Aeq(24h)}$ dB |
|---|---|---|---|---|---|---|
| Street address | Floor | | | | | |
| Greenaway Rd 08 | 1. Floor | New | New | 57 | 57 | 55 |
| Kauri Rd 18 | 1. Floor | New | New | 52 | 52 | 51 |
| Kauri Rd 20 | 1. Floor | New | New | 51 | 50 | 50 |
| Puriri Rd 59 | 1. Floor | New | New | 56 | 54 | 52 |
| Puriri Rd 61 | 1. Floor | New | New | 56 | 55 | 52 |
| Puriri Rd 63 | 1. Floor | New | New | 60 | 57 | 54 |


Initials: SW
Date: 18/8/2011

Calculation No: 301

A3 Scale 1:2500

0 12.5 25 50 75 100 m

MARSHALL DAY Acoustics

NZ TRANSPORT AGENCY WAKA KOTAHI

Mackays to Peka Peka

# MACKAYS TO PEKA PEKA EXPRESSWAY
## Sector 3
## Kauri Road Area
## Do-minimum Scenario

NOISE PREDICTION SCENARIOS
SHEET 52 OF 75

Document Set:

M2PP-AEE-DWG

Drawing No.:

EN-NV-071


Initials: SW
Date: 18/8/2011

Calculation No: 302

A3 Scale 1:2500

0 12.5 25 50 75 100 m

MARSHALL DAY Acoustics

NZ TRANSPORT AGENCY WAKA KOTAHI

Mackays to Peka Peka

# MACKAYS TO PEKA PEKA EXPRESSWAY
## Sector 3
## Kauri Road Area
## Mitigation Option 1

NOISE PREDICTION SCENARIOS
SHEET 53 OF 75

Document Set:

M2PP-AEE-DWG

Drawing No.:

EN-NV-072


Initials: SW
Date: 18/8/2011

Calculation No: 303

A3 Scale 1:2500

0 12.5 25 50 75 100 m

MARSHALL DAY Acoustics

NZ TRANSPORT AGENCY WAKA KOTAHI

Mackays to Peka Peka

# MACKAYS TO PEKA PEKA EXPRESSWAY
## Sector 3
## Kauri Road Area
## Mitigation Option 2 (Noise Guidelines)

NOISE PREDICTION SCENARIOS
SHEET 54 OF 75

Document Set:

M2PP-AEE-DWG

Drawing No.:

EN-NV-073