SECTOR 3 OTAIHANGA

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	Option 3	Issues/Risks
Compliance with NZS 6806 noise criteria, and requirement for building-modification measures	Acoustics	+3 All in Cat A	+1 All in Cat B, though I would rate this as – in this instance	+1 Half and half in Cat A and B, though I would rate this as – in this instance	
Effect of changes to the existing noise environment	Acoustics	-2 Average increase of 9 dB, highest 10 dB	-1 Increase of 12 dB for all PPF	-2 Average increase of 11 dB, up to 15 dB	
Achievement of the NZS 6806 structural mitigation performance standards	Acoustics	+1 4 dB average structural mitigation	-1 2 dB average structural mitigation	+1 4 dB average structural mitigation	
Value for money, including	Acoustics	-2	-2	-2	428m of TL4/5 carrying

Assessment Criteria	Responsible	Option 1	Option 2	Option 3	Issues/Risks
maintenance costs and consideration of benefit cost analysis		BCR 0.3	BCR 0.2	BCR 0.3	on from Otaihanga bridge, plus additional barriers for MO1 and 2
Difference in cost compared to Transit's Guidelines (criteria for NZTA internal monitoring purposes)	Acoustics	-3	N/A	-1	
		184% compared with Transit Guidelines		19% compared with Transit Guidelines	
Compliance with relevant safety standards and guidelines	Roading	0	0	0	
		Ok for safety.	Ok for safety.	Ok for safety.	
	Structures	0	0	0	
Constructability/technical feasibility	Roading	0	0	0	
		Buildable.	Buildable.	Buildable.	
	Structures	0	0	0	
	Construction	0	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	0	
Potential effects on known heritage or cultural values	Cultural	0	0	0	

Assessment Criteria	Responsible	Option 1	Option 2	Option 3	Issues/Risks
The extent to which the mitigation option promotes integration and establishes visual coherence and continuity in form, scale and appearance of structures and landscape proposals along the route	Visual / landscape	0	0	0	
Road users' views to the surrounding landscape and key features/ locations in particular	Visual / landscape	0	0	0	
Maintenance or enhancement of visual amenity for surrounding residents	Visual / landscape	0	0	0	
Utilisation of materials that reflect the character of the location	Visual / landscape	0	0	0	
Maintenance or enhancement of the convenience and attractiveness of pedestrian and cycle networks	Urban design	0	0	0	
Maintenance or enhancement of safe routes to school	Urban design	0	0	0	
Impacts (land take, amenity and usability) on community facilities (reserve, school, playground, playing field, etc)	Urban design	0	0	0	
Public access to the coastal marine area, rivers, or lakes	Urban design	0	0	0	

Assessment Criteria	Responsible	Option 1	Option 2	Option 3	Issues/Risks
Public safety and security	Urban design	0	0	0	
Potential effects on areas of significant indigenous vegetation and significant habitats of indigenous fauna	Ecology	0	0	0	
Natural character of the coastal environment, wetlands, lakes, rivers, and their margins	Ecology	0	0	0	
	Visual / landscape	0	0	0	
Potential effects on coastal processes	Hydrology	0	0	0	
Potential flooding effects	Hydrology	0	0	0	
Resource efficiency (including avoidance of waste)	Sustainability	0	0	0	
Potential effects on greenhouse gas emissions	Sustainability	0	0	0	
Other:		0	0	0	

Final Comments: Option 3 preferred just retaining 1.1 on west side.

Suggestion made to build up peat on one side of wall to make it visually integrate into rural environment.

Project

M2PP

Sector 3 Otaihanga

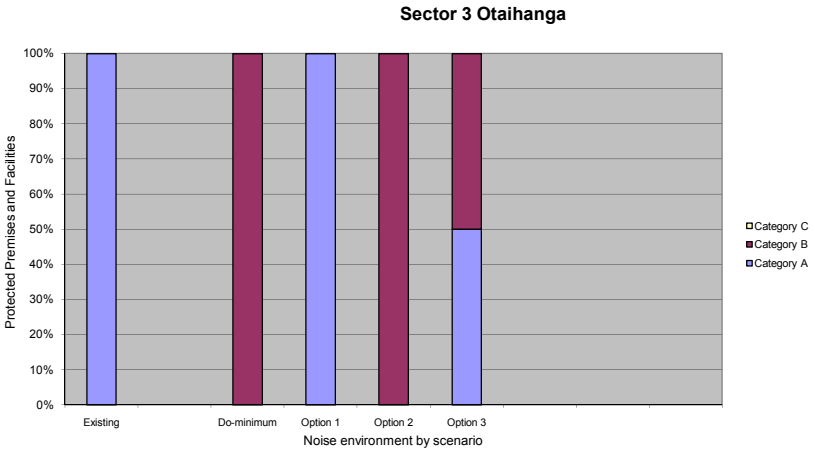
Protected Premises and Facilities

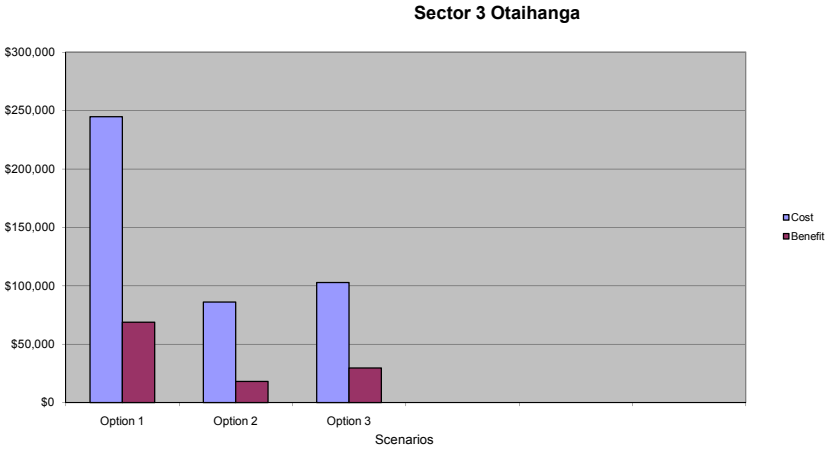
	Existing	Do-minimum	Option 1	Option 2	Option 3
Category A	4	0	4	0	2
Category B	0	4	0	4	2
Category C	0	0	0	0	0
Total	4	4	4	4	4

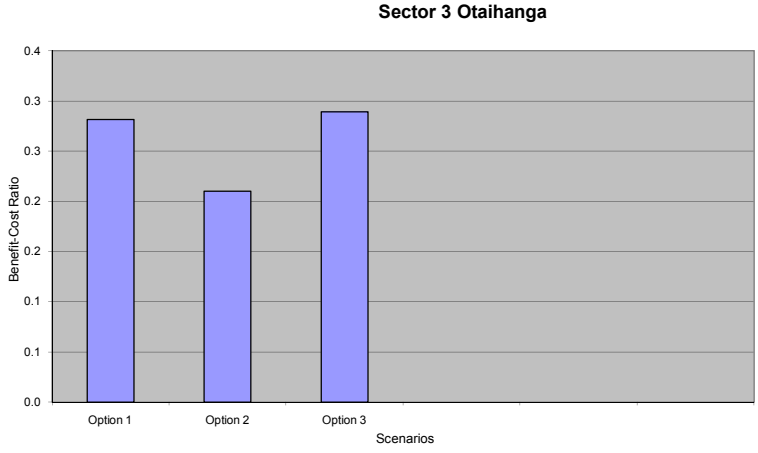
Benefit-Cost Ratio

	Option 1	Option 2	Option 3
Cost	$244,800	$86,160	$102,720
Benefit	$68,914	$18,090	$29,719
BCR	**0.28**	**0.21**	**0.29**
Transit	184%	0%	19%
Structural	4.0 dB	2.1 dB	3.5 dB

Graphs



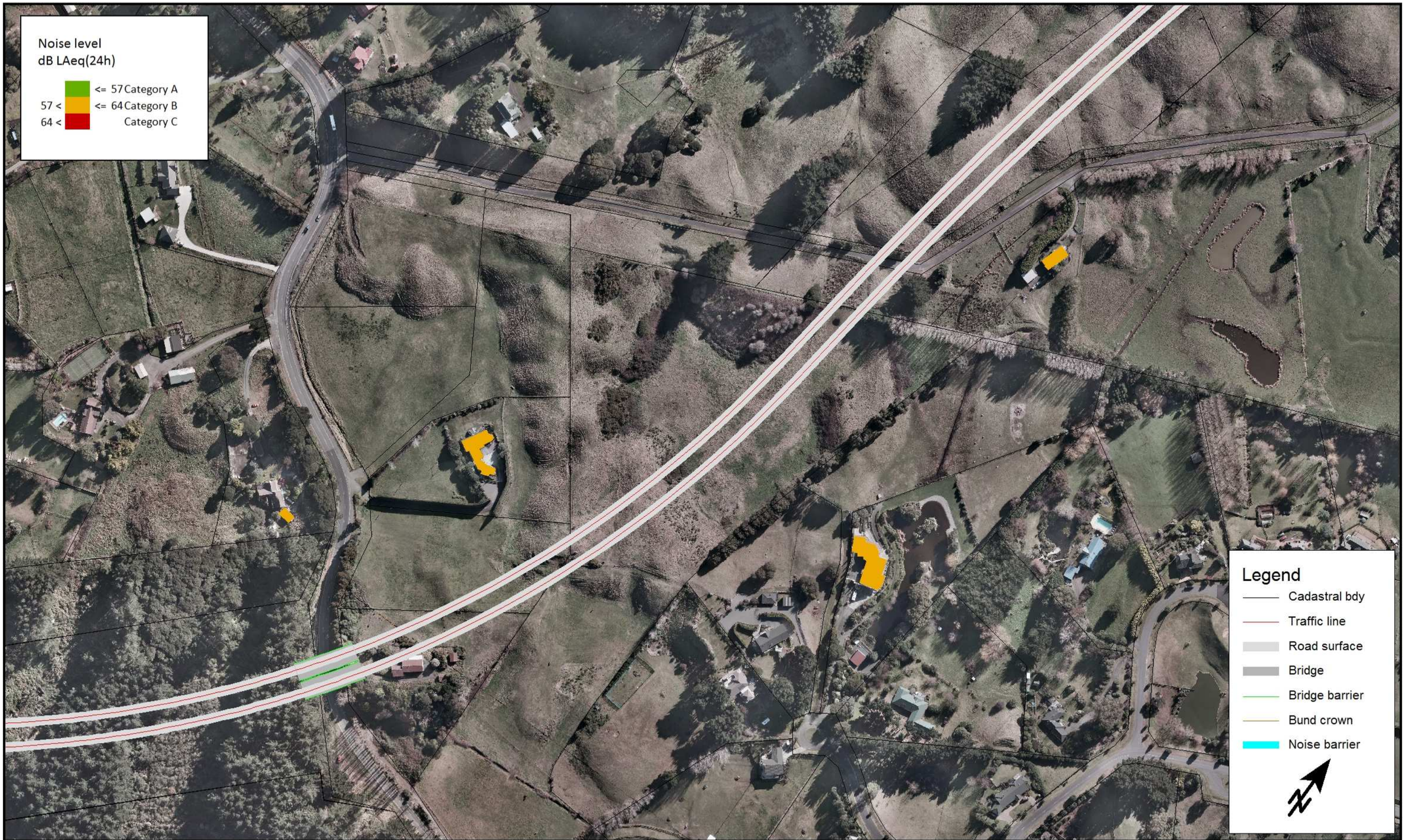




Project: M2PP
Area: Sector 3 Otaihanga
AADT: (•) 2,000 to 75,000 vehicles per day
( ) More than 75,000 vehicles per day
Transit: Option 2 (option to comply with Transit's Guidelines)

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	Option 2 $L_{Aeq(24h)}$ dB	Preferred Mitigation Option: Option 3 $L_{Aeq(24h)}$ dB
Street address	Floor						
Otaihanga Rd 150	1. Floor	New	Altered	59	56	59	56
Otaihanga Rd 155	1. Floor	New	Altered	59	56	59	56
Grand Poppa Way 20	2. Floor	New	Altered	59	55	59	59
Otaihanga Rd 121	1. Floor	New	Altered	62	57	58	62



Initials: SW
Date: 18/8/2011

Calculation No: 421, 441

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
Otaihanga Road Area
Do-minimum Scenario

NOISE PREDICTION SCENARIOS
SHEET 47 OF 75

Document Set:

M2PP-AEE-DWG

Drawing No.:

EN-NV-066

Initials: SW
Date: 18/8/2011

Calculation No: 422, 442

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
Otaihanga Road Area
Mitigation Option 1

NOISE PREDICTION SCENARIOS
SHEET 48 OF 75

Document Set:

M2PP-AEE-DWG

Drawing No.:

EN-NV-067

Initials: SW
Date: 18/8/2011

Calculation No: 422, 443

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
Otaihanga Road Area
Mitigation Option 2 (Noise Guidelines)

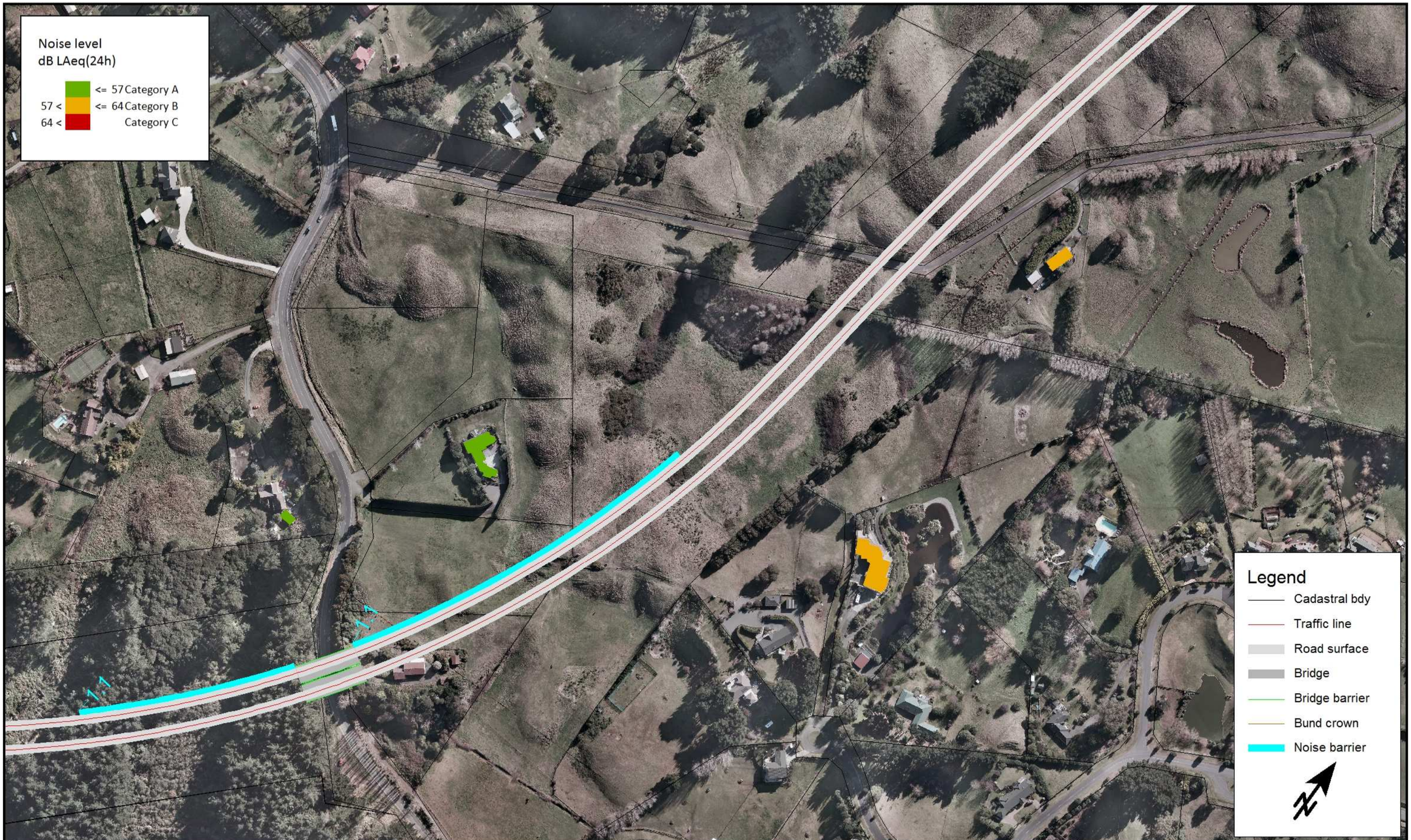
NOISE PREDICTION SCENARIOS
SHEET 49 OF 75

Document Set:

M2PP-AEE-DWG

Drawing No.:

EN-NV-068



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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
Otaihanga Road Area
Mitigation Option 3

NOISE PREDICTION SCENARIOS
SHEET 50 OF 75

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Drawing No.:

EN-NV-069