

Appendix G

Report 610.14089-R1

Page 1 of 1

Noise Barrier Optimisation - NW.WB01

Wall Height	TNB	TNBA	MBV	Median IL (50 dB Contour)	Max IL (50 dB Contour)	Number over RNP Criteria	% Reduction in Treatments	Number of Receivers with >2 dB IL	Number of Receivers within 50 dB Contour	Discussion / Justification
0.0 m	0	0.00	0.0	0.0	0.0	18	0%	0	201	Existing: 2.5m (small section, no barrier for most of the NCA) Matching a peak in the MBV gives an Assessed barrier of: 4.5m 2 dB over existing: NO Max IL > 5 dB : NO
0.5 m	0	0.00	0.0	0.0	0.0	18	0%	0		
1.0 m	2.2	0.01	4.4	2.2	2.2	17	6%	1		
1.5 m	17.6	0.03	30.8	2.2	3.3	13	28%	7		
2.0 m	37.7	0.04	40.2	2.4	4.1	11	39%	14		Secondary Benefits: At the MBV height 94% reduction of properties above RNP criteria Max IL > 5 dB : YES
2.5 m	78.2	0.07	81.0	2.4	5.0	9	50%	28		
3.0 m	128.6	0.10	100.8	2.5	5.8	5	72%	44		
3.5 m	190.5	0.13	123.8	2.6	6.6	3	83%	64		
4.0 m	246.8	0.15	112.6	2.7	7.3	1	94%	79		However, at 3.0m the barrier removes 72% of the RNP receivers - which is only 4 less than the barrier at 4.5m.
4.5 m	322.3	0.17	151.0	2.8	7.9	1	94%	102		
5.0 m	355.8	0.17	67.0	3.0	8.5	0	100%	106		
5.5 m	391	0.17	70.4	3.1	9.1	0	100%	109		
6.0 m	393.9	0.16	5.8	3.4	9.6	0	100%	103		Based on the very small improvement between 3.0m and 4.5m barriers, the 3.0m barrier is recommended with the remaining properties to be eligible for consideration of architectural treatment.
6.5 m	386.6	0.14	-14.6	3.6	10.2	0	100%	99		
7.0 m	368.9	0.13	-35.4	3.9	10.7	0	100%	90		
7.5 m	356.1	0.11	-25.6	4.1	11.1	0	100%	83		
8.0 m	315.2	0.09	-81.8	4.1	11.6	0	100%	71		

Note 1: TNB = Total Noise Benefit, TNBA = Total Benefit per Unit Barrier Area, MBV = Marginal Benefit Value, IL = Insertion Loss of Barrier in dB.

Note 2: It is noted that the western edge of the noise barrier is an existing barrier which is displaced as part of the widening works. The RL of the displaced section of the noise barrier should be maintained unless the recommended barrier height is greater.

Appendix H1

Report 610.14089-R1

Page 1 of 3

Predicted Residential Noise Levels - 2017 Final Build Scenario

