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**Attention: John Olliver**

## UPDATED TRAFFIC VOLUMES

Dear John

Marshall Day Acoustics has undertaken computer modelling of the proposed new Takitimu North Link Stage 2 traffic noise. This modelling was undertaken based on traffic volume data provided by the Project team.

I understand that prior to lodgement of the Substantive Application, the Government decided to make the Project a tolled road and the proposal was amended accordingly. This decision had an effect on the traffic volumes that would be using the new road versus the existing roads. The modelling on which our assessment was based did not reflect this change. I have therefore updated the computer model to confirm the outcomes of the original assessment lodged with the Substantive Application.

### Updated traffic data

Table 1 shows the updated traffic data used for the modelling. This is an update of Table 14 in the Assessment of Acoustic Effects report. All scenarios have been updated, as at the same time tolling was included, traffic volumes for the existing situation were updated from 2021 to 2023 volumes, which had a flow on effect on the future 2048 volumes.

**Table 1: Updated traffic data**

Road Corridor	Existing 2023		Estimated 2048 (no project)		Estimated 2048 (with project)	
	AADT (vpd)	HCV (%)	AADT (vpd)	HCV (%)	AADT (vpd)	HCV (%)
<b>Tikitimu North Link</b>						
Stage 2	N/A	N/A	N/A	N/A	26,500	14.7
<b>State Highway 2</b>						
Ōmokoroa Road to Plimmers Point Road	17,250	6	30,700	14	9,300	9.6
Plimmers Point Rd to Te Puna Stream Bridge	18,540	6	33,600	13.5	13,000	7.6
Te Puna Stream Bridge to Loop Road	20,370	6	34,900	13.5	14,900	7
<b>Local Roads</b>						
Snodgrass Road	920	5	2,930	5	2,770	5
Te Puna Quarry Road	770	5	1,090	5	1,450	5
Munro Road	310	7	590	7.5	720	7.5
Gill Lane	210	8	590	10	590	10
Ainsworth Road	130	3	175	3	175	3
Barrett Road	2,450	5	2,710	5	2,460	5

Road Corridor	Existing 2023		Estimated 2048 (no project)		Estimated 2048 (with project)	
	AADT (vpd)	HCV (%)	AADT (vpd)	HCV (%)	AADT (vpd)	HCV (%)
Plummers Point Road	1,550	7	4,310	10	4,380	10
Youngson Road	780	5	2,680	7	12,060*	8.9
Ōmokoroa Road	6,700	6	26,000	8	26,000	8
Francis Road	190	0	6,470	6	6,470	6

\* Realigned section of Youngson Road only

### Updated noise modelling

I have updated the computer noise model with the new traffic data to reflect the tolling scenario. The parameters of the model remain unchanged and as described in Section 6.2.1 of the Acoustic Assessment report.

### NZS 6806 modelling

In summary, with tolling, less traffic is anticipated to use the new Project, and a larger portion of the overall traffic is now anticipated to use the existing local roads (e.g. the current SH2). This means that the noise levels from the Project will remain similar or be lower than previously predicted, and the noise criteria categories that are set out in the proposed designation conditions Schedule 1 will remain valid and generally unchanged.

The only PPF that was predicted to receive noise levels in Category B (17 Te Puna Road) is now predicted to receive noise levels in Category A.

I have included all predicted noise levels in Annexure A. The tables can be compared with those in Appendix G of the Acoustic Assessment Report, which were based on the pre-tolling traffic volumes.

### Change in noise level modelling

Traffic on the local roads has been included when determining the change in noise level between the scenarios without the Project and with the Project. Using the updated traffic volumes, the change in noise level remains generally similar to what was originally assessed.

The change in noise level remains generally similar, with some PPFs receiving a slightly lesser noise level change than previously, and others a slightly larger noise level change (both in terms of increase and decrease). Irrespective of the updated changes in noise level, all PPFs are predicted to receive noise levels in Category A (i.e. the lowest noise level category in NZS 6806).

### Conclusion

I confirm that my findings set out in the Assessment of Acoustic Effects report remain unchanged. All PPFs are predicted to receive noise levels in Category A, with the proposed noise mitigation of low noise road surface LN5 from chainages 10,650 to 12,250, and SMA for the remainder of the main alignment. The changes in noise level at the PPFs remain within previously anticipated ranges, and I consider that the effects are similar to those assessed and discussed in the Assessment of Acoustic Effects.

Yours faithfully

**MARSHALL DAY ACOUSTICS LIMITED**



**Siiri Wilkening**  
Director

**ANNEXURE A – UPDATED PREDICTED NOISE LEVELS**
**A1 Eastbound**

Cluster 1	Type	Existing	Do Nothing	BPO
		dB L <sub>Aeq</sub> (24h)	dB L <sub>Aeq</sub> (24h)	dB L <sub>Aeq</sub> (24h)
Loop Road 23	Altered	60	58	54
Loop Road 27	Altered	60	63	54
Loop Road 33	Altered	57	61	55
Loop Road 36	Altered	54	57	53
Loop Road 46	Altered	60	63	55
Loop Road 52D	Altered	55	59	53

  

Cluster 2	Type	Existing	Do Nothing	BPO
		dB L <sub>Aeq</sub> (24h)	dB L <sub>Aeq</sub> (24h)	dB L <sub>Aeq</sub> (24h)
Loop Road 52A	Altered	61	64	57
Loop Road 52B	Altered	54	57	53
Snodgrass Road 10	Altered	55	59	51
State Highway 2 774	Altered	55	58	52
State Highway 2 786	Altered	60	64	53
State Highway 2 794	Altered	56	59	49
State Highway 2 796	Altered	53	56	50
State Highway 2 800	Altered	56	60	53
State Highway 2 806	Altered	55	58	53

  

Cluster 3	Type	Existing	Do Nothing	BPO
		dB L <sub>Aeq</sub> (24h)	dB L <sub>Aeq</sub> (24h)	dB L <sub>Aeq</sub> (24h)
State Highway 2 860	Altered	57	60	53
State Highway 2 860A	Altered	53	57	49
State Highway 2 864	Altered	56	59	53

  

Cluster 4	Type	Existing	Do Nothing	BPO
		dB L <sub>Aeq</sub> (24h)	dB L <sub>Aeq</sub> (24h)	dB L <sub>Aeq</sub> (24h)
Gill Lane 3	Altered	60	64	59
Gill Lane 11	Altered	55	59	59
State Highway 2 948	Altered	55	58	61
Te Karaka Drive 4	New	50		54

  

Cluster 5	Type	Existing	Do Nothing	BPO
		dB L <sub>Aeq</sub> (24h)	dB L <sub>Aeq</sub> (24h)	dB L <sub>Aeq</sub> (24h)
Albert Lane 10	Altered	55	58	58
Plummers Point Rd 34A	New	46		55
Plummers Point Rd 34B	New	49		55
Plummers Point Rd 34D	New	50		56
Plummers Point Rd 34F	New	51		56
SH2 1058	Altered	54	57	61
SH2 986	Altered	57	60	57

<b>Cluster 6</b>	<b>Type</b>	<b>Existing</b>	<b>Do Nothing</b>	<b>BPO</b>
		<b>dB L<sub>Aeq</sub>(24h)</b>	<b>dB L<sub>Aeq</sub>(24h)</b>	<b>dB L<sub>Aeq</sub>(24h)</b>
Plummers Point Road 29	New	51		56
Plummers Point Road 47	New	50		57

  

<b>Cluster 7</b>	<b>Type</b>	<b>Existing</b>	<b>Do Nothing</b>	<b>BPO</b>
		<b>dB L<sub>Aeq</sub>(24h)</b>	<b>dB L<sub>Aeq</sub>(24h)</b>	<b>dB L<sub>Aeq</sub>(24h)</b>
Omokoroa Road 491	New	50		57

  

<b>Cluster 8</b>	<b>Type</b>	<b>Existing</b>	<b>Do Nothing</b>	<b>BPO</b>
		<b>dB L<sub>Aeq</sub>(24h)</b>	<b>dB L<sub>Aeq</sub>(24h)</b>	<b>dB L<sub>Aeq</sub>(24h)</b>
Omokoroa Road 492	Altered	56	63	57

  

<b>Cluster 9</b>	<b>Type</b>	<b>Existing</b>	<b>Do Nothing</b>	<b>BPO</b>
		<b>dB L<sub>Aeq</sub>(24h)</b>	<b>dB L<sub>Aeq</sub>(24h)</b>	<b>dB L<sub>Aeq</sub>(24h)</b>
Omokoroa Road 474	Altered	51	57	56
Omokoroa Road 474A	Altered	62	68	64
Omokoroa Road 476	New	49		54

  

<b>Cluster 10</b>	<b>Type</b>	<b>Existing</b>	<b>Do Nothing</b>	<b>BPO</b>
		<b>dB L<sub>Aeq</sub>(24h)</b>	<b>dB L<sub>Aeq</sub>(24h)</b>	<b>dB L<sub>Aeq</sub>(24h)</b>
Francis Road 4	New	51		57

  

<b>Cluster 11</b>	<b>Type</b>	<b>Existing</b>	<b>Do Nothing</b>	<b>BPO</b>
		<b>dB L<sub>Aeq</sub>(24h)</b>	<b>dB L<sub>Aeq</sub>(24h)</b>	<b>dB L<sub>Aeq</sub>(24h)</b>
Francis Road 51	Altered	53	56	59
1436 SH2	Altered	59	62	62

## A2 Westbound

Note that Cluster 1 has now been included in Stage 1 of the Takitimu North Link and therefore been excluded from this letter.

Cluster 2	Type	Existing	Do Nothing	BPO
		dB L <sub>Aeq(24h)</sub>	dB L <sub>Aeq(24h)</sub>	dB L <sub>Aeq(24h)</sub>
Ainsworth Road 27	New	52		55
State Highway 2 687	New	54		56
State Highway 2 699A	Altered	56	60	59

  

Cluster 3	Type	Existing	Do Nothing	BPO
		dB L <sub>Aeq(24h)</sub>	dB L <sub>Aeq(24h)</sub>	dB L <sub>Aeq(24h)</sub>
Ainsworth Road 6A	New	51		54
Ainsworth Road 6B	New	48		50
Munro Road East 10	New	50		52
Munro Road East 22A	New	49		53

  

Cluster 4	Type	Existing	Do Nothing	BPO
		dB L <sub>Aeq(24h)</sub>	dB L <sub>Aeq(24h)</sub>	dB L <sub>Aeq(24h)</sub>
Munro Road East 17	New	51		53
Te Puna Quarry Rd 17	New	51		56
Te Puna Quarry Rd 31	New	49		51
Te Puna Quarry Rd 35	New	49		53
Te Puna Quarry Rd 37	New	51		51
Te Puna Quarry Rd 39	New	50		52

  

Cluster 5	Type	Existing	Do Nothing	BPO
		dB L <sub>Aeq(24h)</sub>	dB L <sub>Aeq(24h)</sub>	dB L <sub>Aeq(24h)</sub>
Munro Road 174	New	48		46
Te Puna Quarry Rd 26	New	51		50
Te Puna Quarry Rd 57	New	53		50
Te Puna Quarry Rd 57B	New	46		45
Te Puna Quarry Rd 65	New	45		45

  

Cluster 6	Type	Existing	Do Nothing	Do Minimum
		dB L <sub>Aeq(24h)</sub>	dB L <sub>Aeq(24h)</sub>	dB L <sub>Aeq(24h)</sub>
SH2 841C	New	50		55

<b>Cluster 7</b>	<b>Type</b>	<b>Existing</b>	<b>Do Nothing</b>	<b>Do Minimum</b>
		<b>dB L<sub>Aeq</sub>(24h)</b>	<b>dB L<sub>Aeq</sub>(24h)</b>	<b>dB L<sub>Aeq</sub>(24h)</b>
Harper Way 2	New	44		47
Harper Way 4	New	44		47
Harper Way 5	New	50		55
Harper Way 6	New	44		48
I'Anson Road 67	New	47		50
Munro Road 67C	New	50		55

  

<b>Cluster 8</b>	<b>Type</b>	<b>Existing</b>	<b>Do Nothing</b>	<b>Do Minimum</b>
		<b>dB L<sub>Aeq</sub>(24h)</b>	<b>dB L<sub>Aeq</sub>(24h)</b>	<b>dB L<sub>Aeq</sub>(24h)</b>
Munro Road 38	Altered	53	56	57

  

<b>Cluster 9</b>	<b>Type</b>	<b>Existing</b>	<b>Do Nothing</b>	<b>Do Minimum</b>
		<b>dB L<sub>Aeq</sub>(24h)</b>	<b>dB L<sub>Aeq</sub>(24h)</b>	<b>dB L<sub>Aeq</sub>(24h)</b>
Barrett Road 17	Altered	52	53	48
Old Highway 507	New	51		52
Old Highway 535	New	52		53
Old Highway 555A	New	48		53
Old Highway 555B	Altered	51	55	59
Old Highway 555C	New	50		53
Old Highway 571	Altered	53	57	61

  

<b>Cluster 10</b>	<b>Type</b>	<b>Existing</b>	<b>Do Nothing</b>	<b>Do Minimum</b>
		<b>dB L<sub>Aeq</sub>(24h)</b>	<b>dB L<sub>Aeq</sub>(24h)</b>	<b>dB L<sub>Aeq</sub>(24h)</b>
Barrett Road 24	Altered	53	57	55
SH2 1137	New	47		57
SH2 1197	Altered	57	61	60
SH2 1215	Altered	55	59	59
SH2 1245/1	New	47		53
SH2 1245/2	Altered	52	56	61
Youngson Road 21	New	50		54
Youngson Rd 25A	Altered	51	55	55
Youngson Rd 25B	Altered	53	58	60

  

<b>Cluster 11</b>	<b>Type</b>	<b>Existing</b>	<b>Do Nothing</b>	<b>Do Minimum</b>
		<b>dB L<sub>Aeq</sub>(24h)</b>	<b>dB L<sub>Aeq</sub>(24h)</b>	<b>dB L<sub>Aeq</sub>(24h)</b>
SH2 1311B	New	48		56
SH2 1311C	Altered	55	59	61
SH2 1339	Altered	57	60	61
SH2 1357	Altered	54	57	58
SH2 1361B	Altered	48	53	54
SH2 1361C	Altered	56	59	61
Youngson Road 18	New	47		52