

Jakhu, Shivam

From: Jakhu, Shivam
Sent: Tuesday, 30 November 2021 11:51 AM
To: Spagnolo, Juliet
Cc: Drewery, Claire
Subject: RE: TG: Preliminary advice around PLR noise wall
Attachments: PLR Noise Walls acoustic review.xlsx

Hi Juliet,

Please see attached a spreadsheet summarising the inspection, including notes from the guys on site and our acoustic review comments. In summary, there were no acoustic issues identified for the wall, only cosmetic.

Here is a link to download all of the photos from the survey:

 [211123_PLR_Noise_Wall_Inspection](#)

Feel free to get in touch if you have any questions around this.

Kind regards,

Shivam Jakhu
He/Him/His

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From: Jakhu, Shivam
Sent: Wednesday, 24 November 2021 7:13 PM
To: Spagnolo, Juliet <Juliet.Spagnolo@tg.co.nz>
Cc: Drewery, Claire <Claire.Drewery@aecom.com>
Subject: TG: Preliminary advice around PLR noise wall

Hi Juliet,

See below some initial comments regarding the PLR noise wall (as I understand the site needs to be cleared by Friday).

My comments:

- There were no gaps identified in this noise wall that required sealing. This is what the guys on site said was the case immediately after the inspection, and this is consistent with the photos we have reviewed.
- There were a few small chips, gouges and cracks on some parts of the noise wall, but nothing substantial. They will not have an effect on the acoustic performance.
- The noise wall heights measured are generally consistent along the length at 2.2 metres. This is above the 2.0m minimum acoustic height requirement across the full length in the design drawings I had, but below the 2.4m design height specified across the length in the same drawings (attached).

I'll send through a more complete review including the spreadsheet and photos tomorrow.

Thanks,

Shivam Jakhu

He/Him/His

Senior Acoustic Engineer

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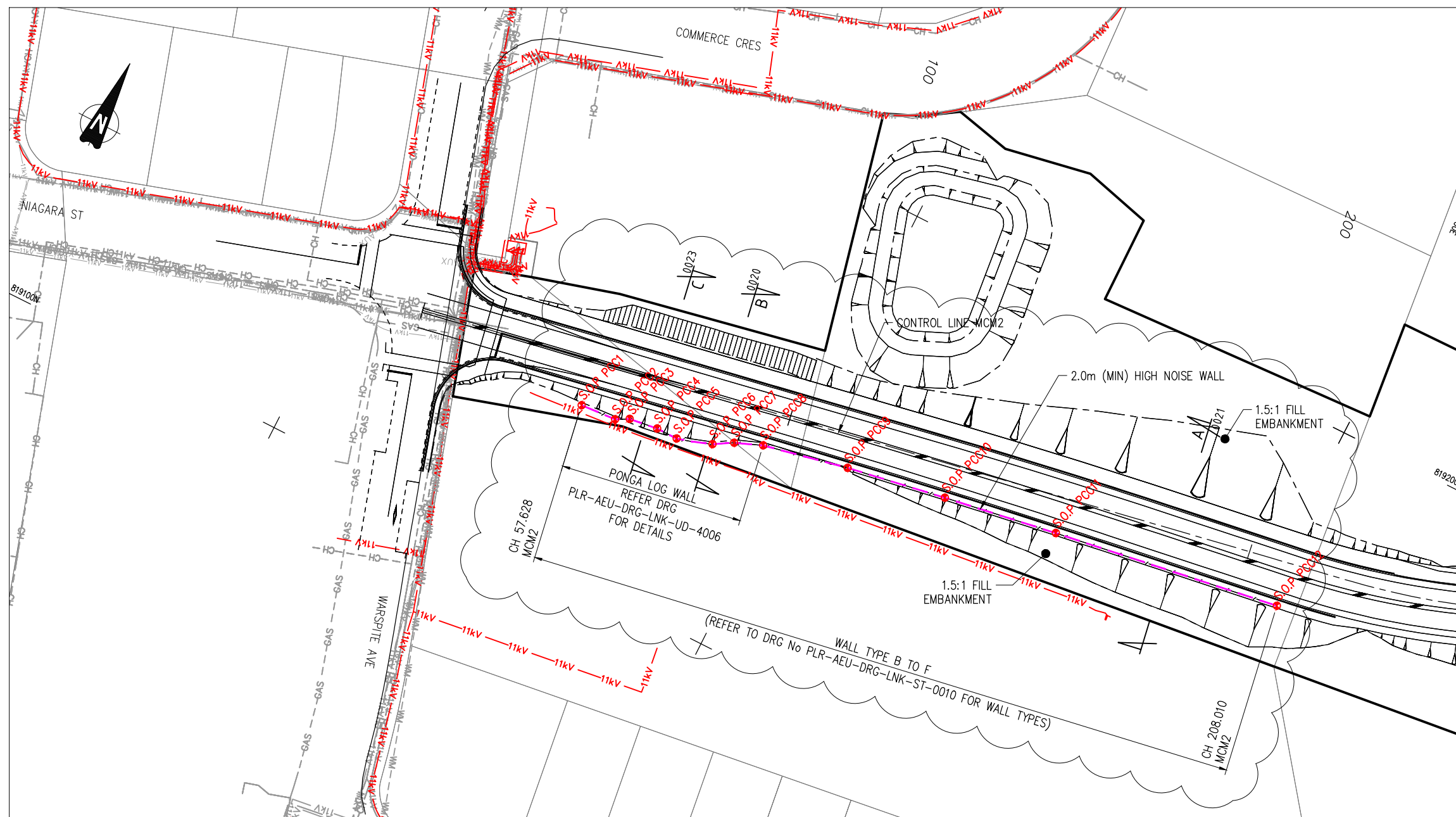
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Wall measurement # (left to right)	Panel #	Wall Chainage	Measured Wall Height during Survey (m)	Design height	Min. acoustic requirement height	Site Comment	Acoustic review comment
1	1	0.000	2.2	2.235	2		Small gashes on wall panel, no acoustic impact, only cosmetic.
2	4, 5	6.080	2.29	2.4	2		
-	6	7.600	-	-	-	-	Small chip on the top of the wall panel, no acoustic impact, only cosmetic.
3	7,8	10.640	2.26	2.4	2		Small gashes on wall panel, no acoustic impact, only cosmetic.
4	10,11	15.200	2.26	2.4	2		
5	13,14	19.760	2.25	2.4	2		
6	16,17	24.320	2.24	2.42	2		
7	19,20	28.880	2.23	2.4	2		Small gashes on wall panel, no acoustic impact, only cosmetic.
8	22,23	33.440	2.23	2.445	2.045		Small gashes on wall panel, no acoustic impact, only cosmetic.
9	26,27	39.520	2.23	2.4	2		
10	30,31	45.600	2.26	2.4	2		Small gashes on wall panel, no acoustic impact, only cosmetic.
11	33,34	50.160	2.29	2.4	2		
12	36,37	54.720	2.26	2.4	2		Small gashes on wall panel, no acoustic impact, only cosmetic.
13	39,40	59.280	2.15	2.4	2		
14	42,43	63.400	2.19	2.4	2	Chip in top of wall present.	Small gashes on wall panel, no acoustic impact, only cosmetic. Small chip on the top of the wall for wall panel 43, again no acoustic impact.
15	45,46	68.400	2.17	2.4	2		Small gashes on wall panel, no acoustic impact, only cosmetic.
16	48,49	72.960	2.09	2.4	2		
17	50	77.520	2.1	2.273	2		
18	53	86.400	2.12	2.29	2		
-	54	88.160	-	-	-	Cracks in lower wall present.	Cracks have no acoustic impact.
19	56	95.760	2.11	2.301	2		
-	61	112.480	-	-	-		Cracks in lower wall, but these will have no acoustic impact.
20	62	114.000	2.37	2.289	2		
21	63,64	117.040	2.35	2.4	0		
22	65,66	120.080	2.34	2.4	2		
23	67,68	123.120	2.35	2.4	2		
24	70,71	130.720	2.35	2.45	2		
25	77	147.440	2.72	2.4	2	Minor chipping at top of wall	Small chip on the top of the wall panel, no acoustic impact, only cosmetic.

Last saved Wed, 17 Apr 2019 08:11 pm



LEGEND

- DESIGNATION BOUNDARY
- PROPERTY BOUNDARY
- - - - NOISE WALL
- = = = = RETAINING WALL
- - - - CONTROL LINE
- ○ ○ ○ ○ WIRE ROPE BARRIER
- ▬ ▬ ▬ ▬ W-BEAM BARRIER

NOISE WALL SETOUT POINT *		
POINT	EASTING (m)	NORTHING (m)
PCC1	408755.221	819133.167
PCC2	408762.802	819133.711
PCC3	408765.481	819135.148
PCC4	408771.506	819135.962
PCC5	408776.066	819135.929
PCC6	408778.995	819136.743
PCC7	408783.295	819138.260
PCC8	408787.214	819140.591
PCC9	408792.869	819142.824
PCC10	408810.715	819146.598
PCC11	408831.683	819150.227
PCC12	408855.693	819154.095
PCC13	408903.779	819161.419

* SETOUT POINTS TAKEN AT CENTER OF PILE

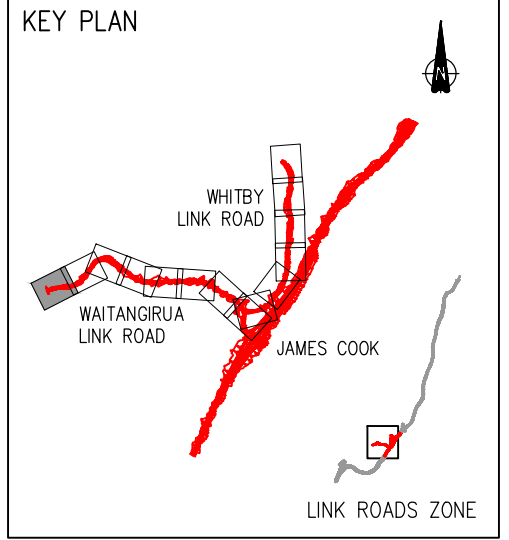
NOTES:

1. REFER DRAWING No.S PLR-AEU-DRG-LNK-ST-0002 AND PLR-AEU-DRG-LNK-ST-0003 FOR 5. GENERAL NOTES.
2. NOISE WALLS HAVE BEEN DESIGNED IN ACCORDANCE WITH THE FOLLOWING STANDARDS:
 - AS/NZS 1170 STRUCTURAL DESIGN ACTIONS
 - NZTA SP40 SPECIFICATION FOR NOISE MITIGATION
3. WIND LOAD
 REGION W
 REGIONAL WIND SPEED 47m/s, $M_z = 0.91$, $M_t = 1.0$, $M_d = 1.0$
 TERRAIN CATEGORY 2
 DESIGN WIND SPEED = 43m/s
 WIND PRESSURE = 1.40 kPa FOR AFTER 6m DISTANCE FROM WINDWARD FREE END
 = 2.70kPa 0m TO 6m DISTANCE FROM WINDWARD FREE END
 SEISMIC LOAD $Z=0.4$; SOIL TYPE C $R_u=0.5$; $N(T,D)=1$; $\mu=1.25$; $C_d(ULS)=0.382$ IS NOT GOVERNED IN STRUCTURAL DESIGN FOR LIGHT WEIGHT CONCRETE PANEL (WEIGHT 550kg/m³).
4. NOISE WALLS ARE LOCATED OUTSIDE THE DEFLECTION OF THE BARRIER BASED ON THE REQUIREMENTS OF PART 6 OF AUSTRADS, THEREFORE NO COLLISION LOAD IS CONSIDERED.

5. ALL PAINTED SURFACES SHALL BE PREPARED, AND COATINGS APPLIED, AS PER THE MANUFACTURER'S INSTRUCTIONS. TIME TO FIRST MAJOR MAINTENANCE SHALL BE 10 YEARS.
6. NOISE WALL TYPE B TO F DETAILS REFER TO DRAWING NO. PLR-AEU-DRG-LNK-ST-0020 TO 0024.
7. THE BUILDER IS RESPONSIBLE FOR STABILITY OF WORKS DURING CONSTRUCTION.
8. FOR EXACT WALL HEIGHT AND WALL TYPE REFER TO PLR-AEU-DRG-ST-0010.
9. PRECAST HEBEL LIGHTWEIGHT CONCRETE PANEL TO BE DESIGNED BY HEBEL SUPPLIER IN ACCORDANCE WITH THE DESIGN REQUIREMENTS AND LOADS ON DRAWINGS PLR-AEU-DRG-LNK-ST-0001 TO 0004 INCLUSIVE. DESIGN SHALL INCLUDE LIFTING LOAD FOR PANEL INSTALLATION.
10. HEBEL PANEL SHALL BE PREPARED, CUT AND INSTALLED AS PER THE MANUFACTURER'S INSTALLATION GUIDE AND RECOMMENDATIONS. HEBEL ANTI-CORROSION AGENT SHALL BE APPLIED TO ANY EXPOSED STEEL REINFORCEMENT AFTER CUTTING OF THE HEBEL PANEL; APPLY DULUX MULSEAL ON UNDERSIDE OF BOTTOM PANEL WHERE THERE IS LESS THAN 50mm CLEARANCE FROM THE FINISHED GROUND LEVEL. WHERE THE PANEL IS IN CONTACT WITH GROUND DULUX MULSEAL SHALL BE APPLIED ON SURFACES IN CONTACT WITH THE GROUND AND EXTEND A MINIMUM OF 50mm ABOVE FINISHED GROUND LEVEL.
11. FOR DETAILS OF COATING SYSTEM REFER TO DRG No. PLR-AEU-DRG-LNK-ST-0015.

WARNING

SERVICES HAVE BEEN PLOTTED FROM UTILITY COMPANIES RECORD MAPS AND ARE INDICATIVE ONLY. THE DRAWINGS ARE NOT TO BE TAKEN AS A COMPLETE AND ACCURATE RECORD OF THE SERVICES WITHIN THE AREA OF WORKS. ALL LOCATIONS ARE TO BE CONFIRMED ON SITE BY THE CONTRACTOR, WITH THE RELEVANT SERVICE AUTHORITY REPRESENTATIVE, PRIOR TO ANY PHYSICAL WORKS.



FOR CONSTRUCTION



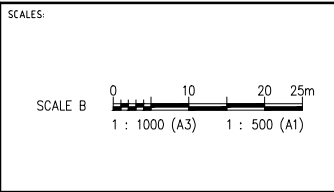
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This drawing is confidential and shall only be used for the purposes of this project.

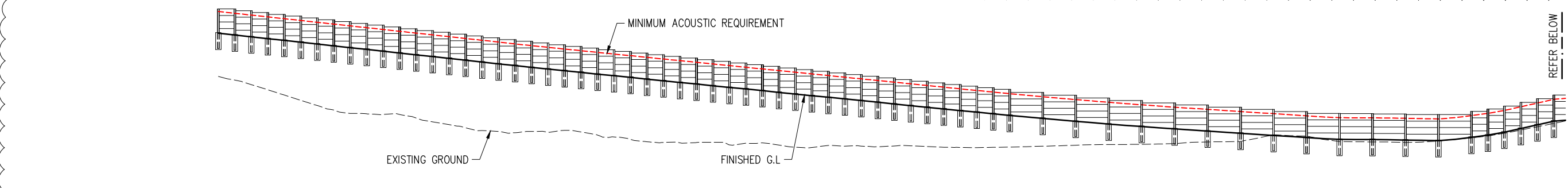
No.	BY	DATE	DESCRIPTION	APPD.
01	TAE	15.04.19	AMENDMENTS DUE TO CHANGES TO SLOPE AND CLASH WITH MARAE	
00	MR	16.12.16	ISSUED FOR CONSTRUCTION	JV
C	MR	06.10.16	STAGE 3 (100%)	DS
B	MR	10.06.16	STAGE 2 (90%)	DS
A	JP	29.09.15	STAGE 1 (30%)	DS

THE SIGNING OF THIS TITLE BLOCK CONFIRMS THE DESIGN AND DRAFTING OF THIS PROJECT HAVE BEEN PREPARED AND CHECKED IN ACCORDANCE WITH THE AECOM QUALITY ASSURANCE SYSTEM TO ISO 9001:2008

DESIGNED	CHECKED	DRAWN	APPROVED
L. EDWARDS	D. SYKES	M. RUSSELL	D. SYKES
			DATE 16.12.16



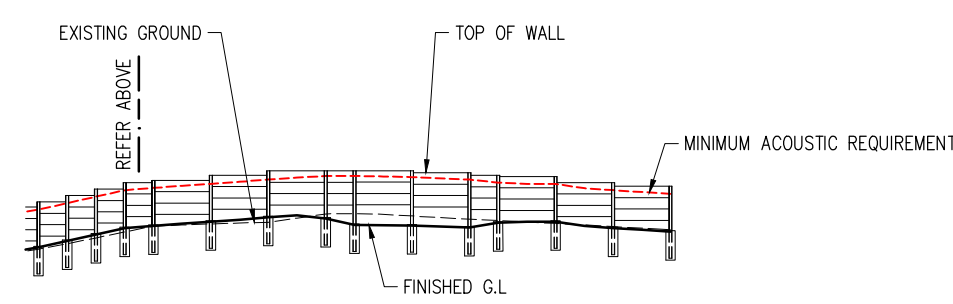
WHITBY LINK ROAD AND WAITANGIRUA LINK ROAD		
WAITANGIRUA LINK ROAD NOISE WALL PLAN		
A1	STATUS: CONSTRUCTION	REV. 01
	DRAWING NO. PLR-AEU-DRG-LNK-ST-0004	



WALL TYPE	TYPE C																				TYPE B										TYPE D
TOP OF WALL	[Values from 97.930 to 90.531]																				[Values from 89.511 to 86.307]										90.013
MIN ACOUSTICS REQUIREMENTS	[Values from 97.695 to 89.511]																				[Values from 88.999 to 85.925]										89.613
FINISHED GL	[Values from 95.695 to 85.120]																				[Values from 85.999 to 82.233]										87.613
EXISTING GL	[Values from 91.714 to 85.571]																				[Values from 85.300 to 82.233]										87.498
WALL CHAINAGES	[Values from 0.000 to 68.400]																				[Values from 69.920 to 104.880]										123.120
MCM2 CHAINAGES	[Values from 200.0 to 90.0]																														

DATUM 80.000

REFER BELOW



WALL TYPE	TYPE D					TYPE B					TYPE F		TYPE B				
TOP OF WALL	[Values from 88.988 to 90.134]					[Values from 90.401 to 90.642]					[Values from 90.531 to 90.395]		[Values from 90.340 to 89.621]				
MIN ACOUSTICS REQUIREMENTS	[Values from 88.588 to 89.613]					[Values from 89.951 to 90.366]					[Values from 90.174 to 90.395]		[Values from 89.940 to 89.421]				
FINISHED GL	[Values from 86.588 to 87.734]					[Values from 87.951 to 88.113]					[Values from 87.661 to 87.895]		[Values from 87.614 to 87.525]				
EXISTING GL	[Values from 86.492 to 87.713]					[Values from 87.833 to 88.140]					[Values from 88.075 to 88.016]		[Values from 87.940 to 87.607]				
WALL CHAINAGES	[Values from 118.560 to 124.640]					[Values from 126.160 to 133.760]					[Values from 141.360 to 144.400]		[Values from 145.920 to 152.000]				
MCM2 CHAINAGES	80.0					70.0					60.0						

DATUM 80.000

TYPE E

ORIGINAL IN COLOUR

- NOTES:**
- REFER TO DRAWINGS PLR-AEU-DRG-LNK-ST-0002 TO 0003 FOR GENERAL NOTES
 - REFER TO DRAWINGS PLR-AEU-DRG-LNK-ST-0004 FOR LOCALITY PLANS AND SETTING OUT
 - REFER TO DRAWINGS PLR-AEU-DRG-LNK-ST-0020 TO 0024 FOR NOISE WALL DETAILS

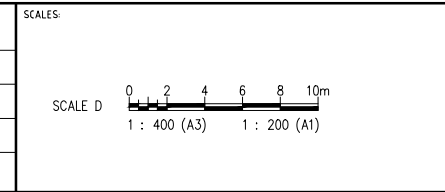
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THE SIGNING OF THIS TITLE BLOCK CONFIRMS THE DESIGN AND DRAFTING OF THIS PROJECT HAVE BEEN PREPARED AND CHECKED IN ACCORDANCE WITH THE AECOM QUALITY ASSURANCE SYSTEM TO ISO 9001:2008

DESIGNED	L. EDWARDS	CHECKED	D.SYKES
DRAWN	M. RUSSELL	CHECKED	C.MANSELL
APPROVED	D.SYKES	DATE	16.12.16



AECOM URS
Design Joint Venture

CPB HEB
Joint Venture

WHITBY LINK ROAD AND WAITANGIRUA LINK ROAD		
WAITANGIRUA LINK ROAD NOISE WALL		
NOISE WALL ELEVATION		
A1	STATUS CONSTRUCTION	DRAWING NO. PLR-AEU-DRG-LNK-ST-0010 REV. 01





















