



# Environmental Monitoring Data

Project:	Sydney Metro City & Southwest– TSE Works
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## Document Approval

Rev.	Date	Prepared by	Reviewed by	Approved by	Remarks
01	10/01/2020	R. Muir	R. Muir	K. Vajda	For publication

## Project Summary

The Sydney Metro City and Southwest is the second portion of the new standalone rail network known as the Sydney Metro which is Australia’s largest public transport infrastructure project and a priority rail project for the NSW Government. John Holland CPB Ghella (JHCPBG) have been contracted by Transport for New South Wales to design and construct the Tunnel and Stations Excavation Works Project (TSE Works) of the Sydney Metro City & Southwest between Chatswood and Sydenham. Figure 1 provides an overview of the Project.



Figure 1: Project Overview

## Environmental Protection Licence and Reporting Requirements

John Holland Pty Ltd obtained the Environment Protection Licence (EPL No. 20971) from the NSW Environment Protection Authority for the Tunnel and Station Excavation (TSE) Works on behalf of the John Holland CPB Ghella (JHCPBG) Joint Venture. The licence is for construction works relating to Rail Systems Activities and Concrete Works as defined under Schedule 1 of the *Protection of the Environment Operations Act, 1997* (POEO Act).

The licence describes monitoring and reporting requirements for the TSE Works, and specifically provides discharge criteria for water treatment plant and sediment basin water quality. The following report details environmental monitoring undertaken during this reporting month conducted in accordance with the EPL.

The EPL can be found by following the link below to the EPA’s website:

<https://apps.epa.nsw.gov.au/prpoeoapp/ViewPOEOLicence.aspx?DOCID=175567&SYSUID=1&LICID=20971>

### **Discharge Water Monitoring**

Testing and discharge was undertaken during this reporting period. Table 1 contains the discharge monitoring results.

### **Noise and Vibration Monitoring**

Noise and vibration monitoring was undertaken during this reporting period. Table 2 contains the vibration monitoring results, and Table 3 contains the noise monitoring results.

### **Real-Time Noise and Vibration Monitoring**

Real-time noise and vibration monitors were operating at Barangaroo, Martin Place, Pitt Street and Victoria Cross during the December reporting period. Table 4.1 and 4.2 contains summarised real-time noise monitoring results and real-time vibration data is displayed in Table 5.

Table 1: Discharge Water Monitoring Data.

Monitoring Point	Identifier <sup>1</sup>	Dates Sampled	Parameter/ Criteria/ Measured Value						Oil & Grease (None Visible)	Comments
			pH (6.5 – 8.5)			Turbidity (<35 NTU)				
			Min	Max	Average	Min	Max	Average		
2	CD_02	01/12/2019 to 31/12/2019	6.5	8.5	7.5	0.0	34.8	6.2	Nil	Compliant
3	VC_03	01/12/2019 to 31/12/2019	6.5	85	7.5	0.6	33.0	2.2	Nil	Compliant
2	BN_02	01/12/2019 to 31/12/2019	6.8	8.5	7.4	0.3	34.9	4.3	Nil	Compliant
2	BL_02	01/12/2019 to 31/12/2019	7.8	8.5	8.0	0.9	34.3	12.3	Nil	Compliant
1	MDS_01	01/12/2019 to 31/12/2019	6.5	8.5	7.4	0.3	35.0	1.6	Nil	Compliant

<sup>1</sup> As per discharge point identified in Sydney Metro City and Southwest Temporary Basin and Water Treatment Discharge Point Schedule

Table 2: Vibration Monitoring Data.

Monitoring location	Monitoring Date	Attended or Continuous Monitoring	Measured VDV (m/s <sup>1.75</sup> )	VDV Target (m/s <sup>1.75</sup> )	VDV Compliant	Measured PPV (mm/s)	PPV Target (mm/s)	PPV Compliant
161 Kent St, Millers Pt	05/12/2019	Attended	N/A	N/A	N/A	0.14	25	Y
4 Blue St, North Sydney	19/12/2019	Attended	N/A	N/A	N/A	0.11	25	Y

Table 3: Noise Monitoring Data

Monitoring Location (Noise-Catchment Area, Street, Suburb)	Monitoring Date	Attended or Continuous Monitoring	Parameter	Measured Value dB(A)	Goals / Targets dB(A)	Comments
MDS_02, 358 Edgeware Rd, Newtown	19/12/2019	Attended	LA <sub>eq</sub> (15-min)	64.9	43	TSE Works compliant, traffic dominant noise source
VC_01, 4 Blue St, North Sydney	19/12/2019	Attended	LA <sub>eq</sub> (15-min)	46.2	45	TSE Works compliant

Table 4-1 Summary Table of Real Time Noise Data Compliance Compared Against EPL Condition E1.1.

Date	65 Berry Street		Castlereagh Boutique Hotel		Edinburgh Castle Hotel		50 Martin Place		25A Hickson Road		50 McLaren St		60 Castlereagh Street (Basement)	
	Upper	Lower	Upper	Lower	Upper	Lower	Upper	Lower	Upper	Lower	Upper	Lower	Upper	Lower
01/12/2019	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
02/12/2019	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
03/12/2019	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
04/12/2019	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
05/12/2019	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
06/12/2019	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
07/12/2019	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
08/12/2019	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
09/12/2019	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
10/12/2019	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
11/12/2019	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
12/12/2019	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
13/12/2019	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
14/12/2019	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
15/12/2019	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
16/12/2019	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
17/12/2019	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
18/12/2019	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
19/12/2019	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
20/12/2019	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
21/12/2019	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
22/12/2019	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
23/12/2019	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
24/12/2019	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
25/12/2019	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
26/12/2019	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
27/12/2019	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
28/12/2019	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
29/12/2019	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
30/12/2019	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
31/12/2019	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Table 4-2: Real-Time Noise Monitoring Data

Report for Condition E1.1 on 01/12/2019				
Location	Noise Goal	15-min periods in exceedance		Has condition been met?
		Permitted	Exceeded	
65 Berry St	Upper	26	0	Yes
	Lower	39	0	Yes
Castlereagh Boutique Hotel	Upper	26	0	Yes
	Lower	39	0	Yes
Edinburgh Castle Hotel	Upper	26	0	Yes
	Lower	39	2	Yes
25A Hickson Road	Upper	26	0	Yes
	Lower	39	0	Yes
60 Castlereagh St (Basement)	Upper	26	0	Yes
	Lower	39	1	Yes
50 McLaren St	Upper	26	0	Yes
	Lower	39	0	Yes
Report for Condition E1.1 on 02/12/2019				
Location	Noise Goal	15-min periods in exceedance		Has condition been met?
		Permitted	Exceeded	
65 Berry St	Upper	26	0	Yes
	Lower	39	0	Yes
Castlereagh Boutique Hotel	Upper	26	0	Yes
	Lower	39	0	Yes
Edinburgh Castle Hotel	Upper	26	1	Yes
	Lower	39	3	Yes
25A Hickson Road	Upper	26	0	Yes
	Lower	39	0	Yes
60 Castlereagh St (Basement)	Upper	26	0	Yes
	Lower	39	1	Yes
50 McLaren St	Upper	26	0	Yes
	Lower	39	0	Yes

Report for Condition E1.1 on 03/12/2019				
Location	Noise Goal	15-min periods in exceedance		Has condition been met?
		Permitted	Exceeded	
65 Berry St	Upper	26	0	Yes
	Lower	39	0	Yes
Castlereagh Boutique Hotel	Upper	26	0	Yes
	Lower	39	0	Yes
Edinburgh Castle Hotel	Upper	26	0	Yes
	Lower	39	7	Yes
25A Hickson Road	Upper	26	0	Yes
	Lower	39	0	Yes
60 Castlereagh St (Basement)	Upper	26	6	Yes
	Lower	39	12	Yes
50 McLaren St	Upper	26	1	Yes
	Lower	39	2	Yes
Report for Condition E1.1 on 04/12/2019				
Location	Noise Goal	15-min periods in exceedance		Has condition been met?
		Permitted	Exceeded	
65 Berry St	Upper	26	1	Yes
	Lower	39	1	Yes
Castlereagh Boutique Hotel	Upper	26	0	Yes
	Lower	39	0	Yes
Edinburgh Castle Hotel	Upper	26	0	Yes
	Lower	39	6	Yes
25A Hickson Road	Upper	26	0	Yes
	Lower	39	0	Yes
60 Castlereagh St (Basement)	Upper	26	8	Yes
	Lower	39	12	Yes
50 McLaren St	Upper	26	0	Yes
	Lower	39	3	Yes

Report for Condition E1.1 on 05/12/2019				
Location	Noise Goal	15-min periods in exceedance		Has condition been met?
		Permitted	Exceeded	
65 Berry St	Upper	26	0	Yes
	Lower	39	0	Yes
Castlereagh Boutique Hotel	Upper	26	0	Yes
	Lower	39	0	Yes
Edinburgh Castle Hotel	Upper	26	0	Yes
	Lower	39	8	Yes
25A Hickson Road	Upper	26	0	Yes
	Lower	39	0	Yes
60 Castlereagh St (Basement)	Upper	26	0	Yes
	Lower	39	2	Yes
50 McLaren St	Upper	26	0	Yes
	Lower	39	1	Yes
Report for Condition E1.1 on 06/12/2019				
Location	Noise Goal	15-min periods in exceedance		Has condition been met?
		Permitted	Exceeded	
65 Berry St	Upper	26	0	Yes
	Lower	39	0	Yes
Castlereagh Boutique Hotel	Upper	26	0	Yes
	Lower	39	0	Yes
Edinburgh Castle Hotel	Upper	26	0	Yes
	Lower	39	4	Yes
25A Hickson Road	Upper		0	Yes
	Lower		0	Yes
60 Castlereagh St (Basement)	Upper	26	6	Yes
	Lower	39	11	Yes
50 McLaren St	Upper	26	0	Yes
	Lower	39	2	Yes

Report for Condition E1.1 on 07/12/2019				
Location	Noise Goal	15-min periods in exceedance		Has condition been met?
		Permitted	Exceeded	
65 Berry St	Upper	26	0	Yes
	Lower	39	0	Yes
Castlereagh Boutique Hotel	Upper	26	0	Yes
	Lower	39	0	Yes
Edinburgh Castle Hotel	Upper	26	0	Yes
	Lower	39	0	Yes
25A Hickson Road	Upper	26	0	Yes
	Lower	39	0	Yes
60 Castlereagh St (Basement)	Upper	26	0	Yes
	Lower	39	1	Yes
50 McLaren St	Upper	26	0	Yes
	Lower	39	1	Yes
Report for Condition E1.1 on 08/12/2019				
Location	Noise Goal	15-min periods in exceedance		Has condition been met?
		Permitted	Exceeded	
65 Berry St	Upper	26	0	Yes
	Lower	39	0	Yes
Castlereagh Boutique Hotel	Upper	26	0	Yes
	Lower	39	0	Yes
Edinburgh Castle Hotel	Upper	26	0	Yes
	Lower	39	1	Yes
25A Hickson Road	Upper	26	0	Yes
	Lower	39	0	Yes
60 Castlereagh St (Basement)	Upper	26	0	Yes
	Lower	39	1	Yes
50 McLaren St	Upper	26	0	Yes
	Lower	39	1	Yes

Report for Condition E1.1 on 09/12/2019				
Location	Noise Goal	15-min periods in exceedance		Has condition been met?
		Permitted	Exceeded	
65 Berry St	Upper	26	0	Yes
	Lower	39	0	Yes
Castlereagh Boutique Hotel	Upper	26	0	Yes
	Lower	39	0	Yes
Edinburgh Castle Hotel	Upper	26	1	Yes
	Lower	39	7	Yes
25A Hickson Road	Upper	26	0	Yes
	Lower	39	0	Yes
60 Castlereagh St (Basement)	Upper	26	4	Yes
	Lower	39	12	Yes
50 McLaren St	Upper	26	0	Yes
	Lower	39	1	Yes
Report for Condition E1.1 on 10/12/2019				
Location	Noise Goal	15-min periods in exceedance		Has condition been met?
		Permitted	Exceeded	
65 Berry St	Upper	26	0	Yes
	Lower	39	0	Yes
Castlereagh Boutique Hotel	Upper	26	0	Yes
	Lower	39	0	Yes
Edinburgh Castle Hotel	Upper	26	0	Yes
	Lower	39	0	Yes
25A Hickson Road	Upper	26	0	Yes
	Lower	39	0	Yes
60 Castlereagh St (Basement)	Upper	26	0	Yes
	Lower	39	2	Yes
50 McLaren St	Upper	26	0	Yes
	Lower	39	0	Yes

Report for Condition E1.1 on 11/12/2019				
Location	Noise Goal	15-min periods in exceedance		Has condition been met?
		Permitted	Exceeded	
65 Berry St	Upper	26	0	Yes
	Lower	39	0	Yes
Castlereagh Boutique Hotel	Upper	26	0	Yes
	Lower	39	0	Yes
Edinburgh Castle Hotel	Upper	26	0	Yes
	Lower	39	10	Yes
25A Hickson Road	Upper	26	0	Yes
	Lower	39	0	Yes
60 Castlereagh St (Basement)	Upper	26	0	Yes
	Lower	39	1	Yes
50 McLaren St	Upper	26	0	Yes
	Lower	39	0	Yes
Report for Condition E1.1 on 12/12/2019				
Location	Noise Goal	15-min periods in exceedance		Has condition been met?
		Permitted	Exceeded	
65 Berry St	Upper	26	0	Yes
	Lower	39	0	Yes
Castlereagh Boutique Hotel	Upper	26	0	Yes
	Lower	39	0	Yes
Edinburgh Castle Hotel	Upper	26	0	Yes
	Lower	39	0	Yes
25A Hickson Road	Upper	26	0	Yes
	Lower	39	0	Yes
60 Castlereagh St (Basement)	Upper	26	3	Yes
	Lower	39	5	Yes
50 McLaren St	Upper	26	0	Yes
	Lower	39	0	Yes

Report for Condition E1.1 on 13/12/2019				
Location	Noise Goal	15-min periods in exceedance		Has condition been met?
		Permitted	Exceeded	
65 Berry St	Upper	26	0	Yes
	Lower	39	0	Yes
Castlereagh Boutique Hotel	Upper	26	0	Yes
	Lower	39	0	Yes
Edinburgh Castle Hotel	Upper	26	0	Yes
	Lower	39	0	Yes
25A Hickson Road	Upper	26	0	Yes
	Lower	39	0	Yes
60 Castlereagh St (Basement)	Upper	26	0	Yes
	Lower	39	1	Yes
50 McLaren St	Upper	26	0	Yes
	Lower	39	0	Yes
Report for Condition E1.1 on 14/12/2019				
Location	Noise Goal	15-min periods in exceedance		Has condition been met?
		Permitted	Exceeded	
65 Berry St	Upper	26	0	Yes
	Lower	39	2	Yes
Castlereagh Boutique Hotel	Upper	26	0	Yes
	Lower	39	0	Yes
Edinburgh Castle Hotel	Upper	26	0	Yes
	Lower	39	0	Yes
25A Hickson Road	Upper	26	0	Yes
	Lower	39	0	Yes
60 Castlereagh St (Basement)	Upper	26	0	Yes
	Lower	39	3	Yes
50 McLaren St	Upper	26	0	Yes
	Lower	39	0	Yes

Report for Condition E1.1 on 15/12/2019				
Location	Noise Goal	15-min periods in exceedance		Has condition been met?
		Permitted	Exceeded	
65 Berry St	Upper	26	0	Yes
	Lower	39	0	Yes
Castlereagh Boutique Hotel	Upper	26	0	Yes
	Lower	39	0	Yes
Edinburgh Castle Hotel	Upper	26	0	Yes
	Lower	39	0	Yes
25A Hickson Road	Upper	26	0	Yes
	Lower	39	0	Yes
60 Castlereagh St (Basement)	Upper	26	0	Yes
	Lower	39	3	Yes
50 McLaren St	Upper	26	0	Yes
	Lower	39	0	Yes
Report for Condition E1.1 on 16/12/2019				
Location	Noise Goal	15-min periods in exceedance		Has condition been met?
		Permitted	Exceeded	
65 Berry St	Upper	26	0	Yes
	Lower	39	0	Yes
Castlereagh Boutique Hotel	Upper	26	0	Yes
	Lower	39	0	Yes
Edinburgh Castle Hotel	Upper	26	0	Yes
	Lower	39	0	Yes
25A Hickson Road	Upper	26	0	Yes
	Lower	39	0	Yes
60 Castlereagh St (Basement)	Upper	26	0	Yes
	Lower	39	13	Yes
50 McLaren St	Upper	26	0	Yes
	Lower	39	1	Yes

Report for Condition E1.1 on 17/12/2019				
Location	Noise Goal	15-min periods in exceedance		Has condition been met?
		Permitted	Exceeded	
65 Berry St	Upper	26	0	Yes
	Lower	39	0	Yes
Castlereagh Boutique Hotel	Upper	26	0	Yes
	Lower	39	1	Yes
Edinburgh Castle Hotel	Upper	26	0	Yes
	Lower	39	0	Yes
25A Hickson Road	Upper	26	0	Yes
	Lower	39	0	Yes
60 Castlereagh St (Basement)	Upper	26	15	Yes
	Lower	39	21	Yes
50 McLaren St	Upper	26	1	Yes
	Lower	39	1	Yes
Report for Condition E1.1 on 18/12/2019				
Location	Noise Goal	15-min periods in exceedance		Has condition been met?
		Permitted	Exceeded	
65 Berry St	Upper	26	0	Yes
	Lower	39	0	Yes
Castlereagh Boutique Hotel	Upper	26	0	Yes
	Lower	39	1	Yes
Edinburgh Castle Hotel	Upper	26	0	Yes
	Lower	39	5	Yes
25A Hickson Road	Upper	26	0	Yes
	Lower	39	0	Yes
60 Castlereagh St (Basement)	Upper	26	9	Yes
	Lower	39	15	Yes
50 McLaren St	Upper	26	0	Yes
	Lower	39	1	Yes

Report for Condition E1.1 on 19/12/2019				
Location	Noise Goal	15-min periods in exceedance		Has condition been met?
		Permitted	Exceeded	
65 Berry St	Upper	26	0	Yes
	Lower	39	0	Yes
Castlereagh Boutique Hotel	Upper	26	0	Yes
	Lower	39	0	Yes
Edinburgh Castle Hotel	Upper	26	0	Yes
	Lower	39	0	Yes
25A Hickson Road	Upper	26	0	Yes
	Lower	39	0	Yes
60 Castlereagh St (Basement)	Upper	26	7	Yes
	Lower	39	9	Yes
50 McLaren St	Upper	26	0	Yes
	Lower	39	0	Yes
Report for Condition E1.1 on 20/12/2019				
Location	Noise Goal	15-min periods in exceedance		Has condition been met?
		Permitted	Exceeded	
65 Berry St	Upper	26	0	Yes
	Lower	39	0	Yes
Castlereagh Boutique Hotel	Upper	26	0	Yes
	Lower	39	0	Yes
Edinburgh Castle Hotel	Upper	26	0	Yes
	Lower	39	0	Yes
25A Hickson Road	Upper	26	0	Yes
	Lower	39	0	Yes
60 Castlereagh St (Basement)	Upper	26	5	Yes
	Lower	39	10	Yes
50 McLaren St	Upper	26	0	Yes
	Lower	39	0	Yes

Report for Condition E1.1 on 21/12/2019				
Location	Noise Goal	15-min periods in exceedance		Has condition been met?
		Permitted	Exceeded	
65 Berry St	Upper	26	0	Yes
	Lower	39	0	Yes
Castlereagh Boutique Hotel	Upper	26	0	Yes
	Lower	39	0	Yes
Edinburgh Castle Hotel	Upper	26	0	Yes
	Lower	39	0	Yes
25A Hickson Road	Upper	26	0	Yes
	Lower	39	0	Yes
60 Castlereagh St (Basement)	Upper	26	0	Yes
	Lower	39	3	Yes
50 McLaren St	Upper	26	0	Yes
	Lower	39	0	Yes
Report for Condition E1.1 on 22/12/2019				
Location	Noise Goal	15-min periods in exceedance		Has condition been met?
		Permitted	Exceeded	
65 Berry St	Upper	26	0	Yes
	Lower	39	0	Yes
Castlereagh Boutique Hotel	Upper	26	0	Yes
	Lower	39	0	Yes
Edinburgh Castle Hotel	Upper	26	0	Yes
	Lower	39	0	Yes
25A Hickson Road	Upper	26	0	Yes
	Lower	39	0	Yes
60 Castlereagh St (Basement)	Upper	26	0	Yes
	Lower	39	2	Yes
50 McLaren St	Upper	26	0	Yes
	Lower	39	0	Yes

Report for Condition E1.1 on 23/12/2019				
Location	Noise Goal	15-min periods in exceedance		Has condition been met?
		Permitted	Exceeded	
65 Berry St	Upper	26	0	Yes
	Lower	39	0	Yes
Castlereagh Boutique Hotel	Upper	26	0	Yes
	Lower	39	0	Yes
Edinburgh Castle Hotel	Upper	26	0	Yes
	Lower	39	3	Yes
25A Hickson Road	Upper	26	0	Yes
	Lower	39	0	Yes
60 Castlereagh St (Basement)	Upper	26	0	Yes
	Lower	39	2	Yes
50 McLaren St	Upper	26	0	Yes
	Lower	39	0	Yes
Report for Condition E1.1 on 24/12/2019				
Location	Noise Goal	15-min periods in exceedance		Has condition been met?
		Permitted	Exceeded	
65 Berry St	Upper	26	0	Yes
	Lower	39	0	Yes
Castlereagh Boutique Hotel	Upper	26	0	Yes
	Lower	39	0	Yes
Edinburgh Castle Hotel	Upper	26	0	Yes
	Lower	39	1	Yes
25A Hickson Road	Upper	26	0	Yes
	Lower	39	0	Yes
60 Castlereagh St (Basement)	Upper	26	2	Yes
	Lower	39	4	Yes
50 McLaren St	Upper	26	0	Yes
	Lower	39	1	Yes

Report for Condition E1.1 on 25/12/2019				
Location	Noise Goal	15-min periods in exceedance		Has condition been met?
		Permitted	Exceeded	
65 Berry St	Upper	26	0	Yes
	Lower	39	0	Yes
Castlereagh Boutique Hotel	Upper	26	0	Yes
	Lower	39	0	Yes
Edinburgh Castle Hotel	Upper	26	0	Yes
	Lower	39	0	Yes
25A Hickson Road	Upper	26	0	Yes
	Lower	39	0	Yes
60 Castlereagh St (Basement)	Upper	26	0	Yes
	Lower	39	1	Yes
50 McLaren St	Upper	26	0	Yes
	Lower	39	0	Yes
Report for Condition E1.1 on 26/12/2019				
Location	Noise Goal	15-min periods in exceedance		Has condition been met?
		Permitted	Exceeded	
65 Berry St	Upper	26	0	Yes
	Lower	39	0	Yes
Castlereagh Boutique Hotel	Upper	26	0	Yes
	Lower	39	0	Yes
Edinburgh Castle Hotel	Upper	26	0	Yes
	Lower	39	0	Yes
25A Hickson Road	Upper	26	0	Yes
	Lower	39	0	Yes
60 Castlereagh St (Basement)	Upper	26	0	Yes
	Lower	39	2	Yes
50 McLaren St	Upper	26	0	Yes
	Lower	39	1	Yes

Report for Condition E1.1 on 27/12/2019				
Location	Noise Goal	15-min periods in exceedance		Has condition been met?
		Permitted	Exceeded	
65 Berry St	Upper	26	0	Yes
	Lower	39	0	Yes
Castlereagh Boutique Hotel	Upper	26	0	Yes
	Lower	39	0	Yes
Edinburgh Castle Hotel	Upper	26	0	Yes
	Lower	39	0	Yes
25A Hickson Road	Upper	26	0	Yes
	Lower	39	0	Yes
60 Castlereagh St (Basement)	Upper	26	0	Yes
	Lower	39	2	Yes
50 McLaren St	Upper	26	0	Yes
	Lower	39	0	Yes
Report for Condition E1.1 on 28/12/2019				
Location	Noise Goal	15-min periods in exceedance		Has condition been met?
		Permitted	Exceeded	
65 Berry St	Upper	26	0	Yes
	Lower	39	0	Yes
Castlereagh Boutique Hotel	Upper	26	0	Yes
	Lower	39	0	Yes
Edinburgh Castle Hotel	Upper	26	0	Yes
	Lower	39	0	Yes
25A Hickson Road	Upper	26	0	Yes
	Lower	39	0	Yes
60 Castlereagh St (Basement)	Upper	26	0	Yes
	Lower	39	2	Yes
50 McLaren St	Upper	26	0	Yes
	Lower	39	0	Yes

Report for Condition E1.1 on 29/12/2019				
Location	Noise Goal	15-min periods in exceedance		Has condition been met?
		Permitted	Exceeded	
65 Berry St	Upper	26	0	Yes
	Lower	39	0	Yes
Castlereagh Boutique Hotel	Upper	26	0	Yes
	Lower	39	0	Yes
Edinburgh Castle Hotel	Upper	26	0	Yes
	Lower	39	0	Yes
25A Hickson Road	Upper	26	0	Yes
	Lower	39	0	Yes
60 Castlereagh St (Basement)	Upper	26	0	Yes
	Lower	39	0	Yes
50 McLaren St	Upper	26	0	Yes
	Lower	39	0	Yes
Report for Condition E1.1 on 30/12/2019				
Location	Noise Goal	15-min periods in exceedance		Has condition been met?
		Permitted	Exceeded	
65 Berry St	Upper	26	0	Yes
	Lower	39	0	Yes
Castlereagh Boutique Hotel	Upper	26	0	Yes
	Lower	39	0	Yes
Edinburgh Castle Hotel	Upper	26	0	Yes
	Lower	39	0	Yes
25A Hickson Road	Upper	26	0	Yes
	Lower	39	0	Yes
60 Castlereagh St (Basement)	Upper	26	0	Yes
	Lower	39	2	Yes
50 McLaren St	Upper	26	0	Yes
	Lower	39	0	Yes

Report for Condition E1.1 on 31/12/2019				
Location	Noise Goal	15-min periods in exceedance		Has condition been met?
		Permitted	Exceeded	
65 Berry St	Upper	26	0	Yes
	Lower	39	0	Yes
Castlereagh Boutique Hotel	Upper	26	0	Yes
	Lower	39	0	Yes
Edinburgh Castle Hotel	Upper	26	0	Yes
	Lower	39	0	Yes
25A Hickson Road	Upper	26	0	Yes
	Lower	39	0	Yes
60 Castlereagh St (Basement)	Upper	26	0	Yes
	Lower	39	3	Yes
50 McLaren St	Upper	26	0	Yes
	Lower	39	0	Yes

**Real Time Noise Results Comments:**

Compliance with condition E1.1 was met at all monitoring locations during the reporting period.

Note: Due to the ambient internal noise levels within 50 Martin Place (without construction) generally ranging between 60 dBA Leq(15min) and 70 dBA Leq(15min) during operation hours an alternative to noise level monitoring has been undertaken to measure compliance. To ensure compliance with condition E1.1 is achieved at all times rock braking activities adjacent to 50 Martin Place have been restricted to 6.5 hours per day.

Table 5: Real-Time Vibration Monitoring Data (Maximum recorded value per day)

Day	65 Berry Street, North Sydney	25A Hickson Road, Millers Point	50 Martin Place, Sydney	60 Castlereagh Street (Basement), Sydney	Castlereagh Boutique Hotel	211-217 Castlereagh Street, Sydney	50 McLaren Street, North Sydney
Criteria (mm/s)	25	25	7.5	25	7.5	25	25
01/12/2019	0.16	0.15	2.55	0.33	0.16	0.09	0.14
02/12/2019	0.35	0.11	0.29	0.57	0.26	0.1	0.13
03/12/2019	0.31	0.14	0.36	2.56	1.62	1.45	0.78
04/12/2019	0.3	0.22	0.39	0.82	2.02	0.46	0.75
05/12/2019	3.29	0.51	9.08	1.52	2.16	1.01	0.7
06/12/2019	0.38	0.56	1.57	5.86	3.84	0.9	0.61
07/12/2019	0.16	0.52	0.74	57.84	1.63	0.46	0.58
08/12/2019	0.16	0.23	0.27	0.33	0.18	0.06	0.14
09/12/2019	0.32	0.31	1.46	52.68	4.4	0.59	0.72
10/12/2019	0.37	0.52	0.56	48.04	7.48	0.74	0.61
11/12/2019	0.33	0.22	0.9	9.83	3.53	0.83	0.56
12/12/2019	0.63	0.2	0.56	12.85	2.86	0.26	0.64
13/12/2019	1.07	0.28	0.27	0.71	2.38	0.67	0.33
14/12/2019	0.19	0.18	0.4	1.49	2.46	1.18	0
15/12/2019	0.16	0.11	0.27	0.63	7.48	0.08	0
16/12/2019	0.64	0.95	1.27	2.51	2.65	3.31	0.67
17/12/2019	1.34	0.16	1.38	1.44	1.41	1.14	0.64
18/12/2019	0.7	0.2	1.23	1.6	5.27	3.63	0.64
19/12/2019	0.48	0.97	0.85	1.34	2.61	1.04	0.64
20/12/2019	0.32	0.13	0.28	0.81	2.99	0.25	0.64
21/12/2019	0.25	0.11	0.27	0.61	0.09	0.09	0.17
22/12/2019	0.13	0.11	0.27	0.51	0.09	0.23	0.11
23/12/2019	0.19	0.15	0.27	0.61	0.16	0.24	0.17
24/12/2019	0.22	0.11	0.27	0.56	0.11	0.09	0.11
25/12/2019	0.13	0.13	0.27	0.61	0.36	0.09	0.11
26/12/2019	0.11	0.11	0.27	0.61	0.92	0.09	0.11
27/12/2019	0.19	0.11	0.27	0.58	0.18	0.08	0.11
28/12/2019	0.13	0.11	0.28	0.58	0.14	0.06	0.11
29/12/2019	0.11	0.13	0.28	0.56	0.13	0.07	0.11
30/12/2019	0.21	0.11	0.27	0.58	0.42	0.08	0.11
31/12/2019	0.08	0.11	0.28	0.58	0.22	0.09	0.11

## Real-Time Vibration Results Comments:

### 50 Martin Place, Sydney

A vibration alert was received on the 5/12/2019 at 06:51 with a reading of 9.1mm/s. Works had not commenced on site at the time of the exceedance. The cause of the vibration exceedance is deemed to be unrelated to project works.

### 60 Castlereagh Street

7/12/19

Vibration alerts were received on the 7/12/2019, with a maximum reading of 57.84mm/s. Upon becoming aware of the exceedance's works were stopped immediately. The potential cause of the high vibration was investigated. It was discovered the previous building waste (not related to TSE works) had been placed by others in the narrow void between the two buildings 39 Martin Place and 60 Castlereagh Street. This was thought to be transferring the vibration from hammering to remove a section of wall at 39 Martin Place onto the adjoining wall.

9/12/19

A single peak vibration event was recorded on 9/12/2019, the exceedance occurred during rubble removal when a piece of debris from the damaged wall contacted the monitor.

10/12/19

On the 10 December 2019 during the inspection of 60 Castlereagh St building damage security personnel picked up and moved the monitor causing an exceedance to be recorded.