



Environmental Monitoring Data

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01	09/01/2023	A. Wray	J. Paul	R. Muir	For publication

Project Summary

The Sydney Gateway Road Project ('the Project') is a new direct high-capacity road connection linking the Sydney motorway network at St Peters interchange, where the M4 and M8 motorways meet, with Sydney Airport's domestic and international terminals and the Port Botany Precinct. John Holland Seymour Whyte have been contracted by Transport for New South Wales to design and construct the works for the Sydney Gateway Road Project. Figure 1 provides an overview of the Project.

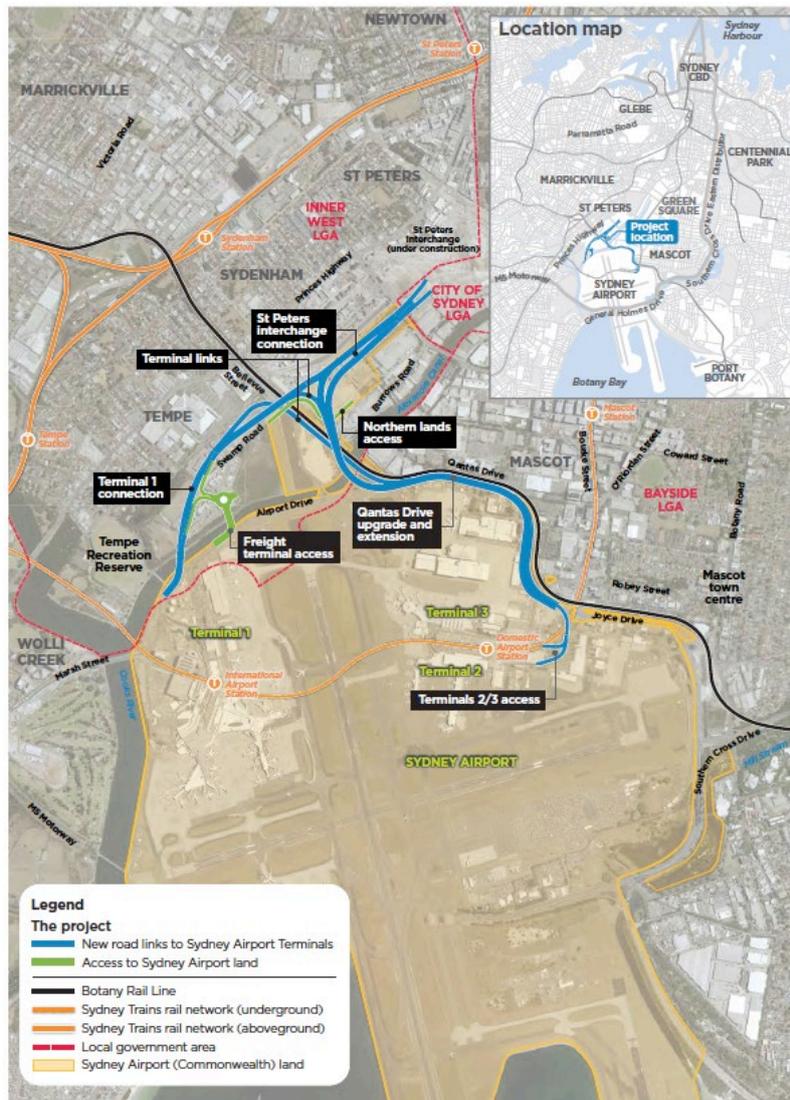


Figure 1: Project Overview

Environmental Protection Licence and Reporting Requirements

John Holland Pty Ltd obtained the Environment Protection Licence (EPL No. 21524) from the NSW Environment Protection Authority for the Project on behalf of the John Holland Seymour (JHSW) Joint Venture. The licence is for construction works relating Scheduled Activities 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 Works. 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: [ViewPOEOLicence.aspx \(nsw.gov.au\)](http://ViewPOEOLicence.aspx(nsw.gov.au))

Noise and Vibration Monitoring

Vibration

Vibration monitoring was undertaken during the reporting period, all works were deemed compliant. Table 1 contains the vibration monitoring data. Results were recorded below the adopted structural damage criteria on all occasions.

Noise

Noise monitoring was undertaken during the reporting period, all works were deemed compliant as the dominant noise source was determined to be caused by background noise sources, specifically local traffic, aircraft movements. Table 2 contains the noise monitoring results.

Discharge Water Quality Monitoring

Offsite discharge from the 30L/s WTP occurred during December 2022. All discharges were compliant. See Table 3 for sample results.

Landfill Gas and Gas Accumulation Monitoring

Landfill gas and gas accumulation monitoring was undertaken during the December 2022 monitoring period. Results are summarised in Table 4 below.

Table 1: Vibration Monitoring Data

Monitoring Location	Monitoring Date	Attended or Continuous Monitoring	Measured VDV (m/s ^{1.75})	VDV Target (m/s ^{1.75})	VDV Compliant	Measured PPV (mm/s)	PPV Target (mm/s)	PPV Compliant	Comment
7 South Street, Tempe (Routine Monitoring)	08/12/2022-08/12/2022	Attended	0.176	0.4	Yes	0.27	20	Yes	Works were monitored and found to be compliant with structural criteria and human comfort criteria.
Jemena Pipeline	12/12/2022-12/12/2022	Attended	N/A	N/A	N/A	7.27	20	Yes	Works were monitored and found to be compliant with structural criteria.
Jemena Pipeline	14/12/2022-14/12/2022	Attended	N/A	N/A	N/A	4.61	20	Yes	Works were monitored and found to be compliant with structural criteria.

Note:

1. VDV – Vibration Dose Value
2. PPV – Peak Particle

Table 2: 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
NCA_03 - 5 South Street, Tempe	08/12/2022	Attended	LAeq 15min	55.8	64	Sydney Gateway works inaudible. Dominant noise source was traffic on South Street. Sydney Gateway works compliant.
NCA_08 - 99 High Street	08/12/2022	Attended	LAeq 15min	59.9	42	Sydney Gateway works inaudible. Dominant noise source was traffic on High Street, birds and aircrafts over noise monitoring location. Sydney Gateway works compliant.
NCA_03 - 1 Hart Street, Tempe	13/12/2022	Attended	LAeq 15min	39.5	37	Sydney Gateway works inaudible. Dominant noise source was background noise from bats, frogs and insects from Tempe Lands Park. Sydney Gateway works compliant.
NCA_03 - 2 Fanning Street, Tempe	13/12/2022	Attended	LAeq 15min	40.3	39	Sydney Gateway works inaudible. Dominant noise source was background noise from bats, frogs and insects from Tempe Lands Park. Sydney Gateway works compliant.
NCA_02 - 4 Talbot St, St Peters	13/12/2022	Attended	LAeq 15min	53.8	49	Sydney Gateway works inaudible. Dominant noise source was traffic on Princes Highway. Sydney Gateway works compliant.
NCA_08a – 241 O’Riordan Street, Mascot	15/12/2022	Attended	LAeq 15min	67.5	67	Sydney Gateway works inaudible. Dominant noise source was traffic on Robey and O’Riordan Street. Sydney Gateway works compliant.
NCA_08a – 124 High Street, Mascot	15/12/2022	Attended	LAeq 15min	64.2	55	Sydney Gateway works inaudible. Dominant noise source was traffic on O’Riordan Street. Sydney Gateway works compliant.
NCA_02 - 4 Bellevue St, Tempe	28/12/2022	Attended	LAeq 15min	64.9	49	Sydney Gateway works inaudible. Dominant noise source was telehandlers operating from the shipping terminal adjacent to the worksite and monitoring location. Sydney Gateway works compliant.

Note:

1. LAeq (15min) - The A-weighted equivalent continuous (energy average) A-weighted sound pressure level of the construction works under consideration over a 15-minute period and excludes other noise sources such as from industry, road, rail and the community.
2. dBA - Decibels using the A-weighted scale measured according to the frequency of the human ear

Table 3: WTP Discharge Monitoring Data

Analyte	Units	Limit	Date 24/11/2022	Date 12/12/22	Comments
Ammonia	ug/l	1200	73	86	Compliant
Anthracene	ug/l	0.4	<0.1	<0.1	Compliant
Arsenic (III)	ug/l	2.3	<1	<1	Compliant
Arsenic (V)	ug/l	4.5	<1	<1	Compliant
Barium (dissolved)	mg/l	2	<1	<1	Compliant
Benzo(a)pyrene	ug/l	0.2	<0.05	<0.05	Compliant
Boron	ug/l	5100	1070	1250	Complaint
Cadmium (dissolved)	ug/l	5.5	<0.1	<0.1	Compliant
Chromium (hexavalent)	ug/l	20	<10	<10	Compliant
Chromium (trivalent)	ug/l	49	<10	<10	Compliant
Cobalt (dissolved)	ug/l	14	<1	<1	Compliant
Copper (dissolved)	ug/l	3	<1	<1	Compliant
Ethyl benzene	ug/l	110	3	7	Compliant
Fluoranthene	ug/l	1.4	<0.1	<0.1	Compliant
Iron (dissolved)	ug/l	300	80	70	Compliant
Lead (dissolved)	ug/l	6.6	<1	<1	Compliant
Manganese (dissolved)	ug/l	80	<1	<1	Compliant
Mercury (dissolved)	ug/l	0.4	<0.1	<0.1	Compliant
m-Xylene	ug/l	100	17	34	Compliant
Naphthalene	ug/l	70	<0.1	<5	Compliant
Nickel (dissolved)	ug/l	70	<1	<1	Compliant
Nitrate + nitrite (oxidised nitrogen)	ug/l	15	13	12	Compliant
Nitrogen (total)	ug/l	300	260	290	Compliant
o-Xylene	ug/l	470	3	7	Complaint
Perfluorooctane sulphonate (PFOS)	ug/l	0.13	<0.01	<0.01	Compliant
Perfluorooctanoic acid (PFOA)	ug/l	220	<0.01	<0.01	Compliant
pH	pH	7-8.5	7.74	7.87	Compliant
Phenanthrene	ug/l	2	<0.1	<0.1	Compliant
Phosphorus (total)	ug/l	30	<10	5	Compliant
p-Xylene	ug/l	250	17	34	Compliant
TPH C10-C36 Fraction	ug/l	600	<50	<50	Compliant
TPH C6-C9 Fraction	ug/l	150	70	130	Compliant
Turbidity	NTU	10	0.8	0.6	Compliant
Zinc (dissolved)	ug/l	23	<5	<5	Compliant

Table 4: Landfill Gas Monitoring Results (8 December 2022)

EPA identification no.	Type of Monitoring Point*	Methane Limit	Results (Stabilised)%	Comment
GW1A	Landfill Gas Monitoring ¹	1%v/v	0	Compliant
GW2	Landfill Gas Monitoring ¹	1%v/v	0	Compliant
GW3	Landfill Gas Monitoring ¹	1%v/v	0	Compliant
GW4A	Landfill Gas Monitoring ¹	1%v/v	0	Compliant
GW5A	Landfill Gas Monitoring ¹	1%v/v	0	Compliant
GW6A	Landfill Gas Monitoring ¹	1%v/v	0	Compliant
GW7	Landfill Gas Monitoring ¹	1%v/v	-	Destroyed unable to be sampled
GW8	Landfill Gas Monitoring ¹	1%v/v	-	Destroyed unable to be sampled
GW9	Landfill Gas Monitoring ¹	1%v/v	0	Compliant
GW9A	Landfill Gas Monitoring ²	N/A	-	Unable to be sampled
GW11A	Landfill Gas Monitoring ¹	1%v/v	0	Compliant
GW12	Landfill Gas Monitoring ²	1%v/v	-	Destroyed unable to be sampled
GW13	Landfill Gas Monitoring ¹	1%v/v	-	Destroyed unable to be sampled
GW14	Landfill Gas Monitoring ²	N/A	5.8	Compliant
GW16	Landfill Gas Monitoring ¹	1%v/v	0	Compliant
GW17	Landfill Gas Monitoring ¹	1%v/v	0.2	Compliant
GW19A	Landfill Gas Monitoring ¹	1%v/v	0	Compliant
GW22s	Landfill Gas Monitoring ¹	1%v/v	0	Compliant
JHSW-LFG02	Landfill Gas Monitoring ¹	1%v/v	0	Compliant
OSA1	Gas Accumulation Monitoring ³	500ppm	<3	Compliant
OSA2	Gas Accumulation Monitoring ³	500ppm	<3	Compliant
OSA3	Gas Accumulation Monitoring ³	500ppm	<3	Compliant
C3 Site Compound	Gas Accumulation Monitoring ⁴	500ppm	<3	Compliant

1. Outside the passive interception and venting trench
2. Inside the passive interception and venting trench
3. Gas accumulation monitoring within buildings located outside of the landfill boundary
4. Gas accumulation monitoring within buildings located onsite