



# **Airport Link and Northern Busway (Windsor to Kedron) Project**

## **Monthly Environmental Monitoring Report**

**June 2009**

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## 1.0 Monitoring Overview

The monitoring data provided includes all monitoring conducted during the reporting period May/June 2009, from the 15<sup>th</sup> May to the 15<sup>th</sup> June 2009.

The monitoring report contains the following monitoring data:

- Noise
- Air Quality
- Vibration.

Monitoring results have been presented in tabulated form against the Coordinator General Reports requirements. The location points for noise, air and vibration monitoring are provided in Figure 1.

Please note that monitoring data absent from this report due to laboratory result not being finalised at the time of issue will be included in the next monthly report.

## 2.0 Monitoring Locations

Figure 1: Kedron



Legend

- Noise (during construction)
  - Air (PM<sub>10</sub>)
  - Air (Dust Fallout)
- Note – these locations are indicative only

Figure 2: Toombul



Legend

- Noise (during construction)
  - Air (PM<sub>10</sub>)
  - Air (Dust Fallout)
- Note – these locations are indicative only

Figure 3: Bowen Hills



Legend

- Noise (during construction)
- Vibration

- Air (PM<sub>10</sub>)
- Air (Dust Fallout)

Note – these locations are indicative only

Figure 4: Northern Busway



Legend

- Noise (during construction)

- Air (PM<sub>10</sub>)

Note – these locations are indicative only

Figure 5: Truro St



Legend

● Noise (during construction)

● Air (PM<sub>10</sub>)

Note – these locations are indicative only

### 3.0 Noise Monitoring

Noise monitoring indicates construction levels are both meeting and exceeding goals at various worksites / activities across the project (refer to Table 1).

Monitoring of noise goals has occurred internally to align with the Coordinator Generals Reports requirements.

Ongoing consultation with the community will be undertaken to facilitate additional access to private property / sensitive receptors.

#### 3.1 Mitigation Measures

Generally the main strategies adopted in order to mitigate noise during construction works have included the following:

1. Undertake noise modelling for sections of works adjacent to sensitive receptors. Noise modelling is currently being undertaken for the following work locations:
  - a. Kedron:
    - i. Stafford Rd/Northern Busway
  - b. Bowen Hills
    - i. Piling Structures
    - ii. VSO structure
2. Reasonable and practical mitigation measures that have been implemented to date include the following:
  - a. Temporary noise barrier (sea container and ply walls, extended sheet piles) installation at:
    - i. Perry Street
    - ii. Gympie and Lutwyche Road
    - iii. Park Tce / Lasseter St
    - iv. Lasseter St / Arnott St
    - v. Federation St
    - vi. Truro St Slip Lane
    - vii. Acoustic Sheds at
      1. Bowen Hills
      2. Truro St
      3. Kedron
  - b. Ongoing attended (internal where access is granted) and unattended noise monitoring
  - c. Advanced consultation with property owners prior to commencing works
  - d. Consultation with property owners during construction phases
  - e. Investigating the installation of permanent noise barriers at early stages
  - f. Investigation of alternative plant and equipment
  - g. Acoustic shielding of various plant
  - h. Trial of temporary acoustic treatment (e.g. sound curtains)

### 3.2 Monitoring Results

Table 1: Noise Monitoring Results

Location	Monitoring Period	L <sub>Aeq</sub> (15 min) (dBA)	L <sub>A10</sub> (15 min) (dBA)	Mitigation	Comments
<b>Kedron</b>					
128 Kedron Park Rd (internal attended )	28/05/09	48.8	49.3	Noise modelling undertaken for this area – noise wall to be constructed in future when design finalised	Session undertaken in Home Office - Windows closed rear door open
128 Kedron Park Rd (internal attended *)	28/05/09	46.9	49.3	Noise modelling undertaken for this area – noise wall to be constructed in future when design finalised	Session undertaken in Home Office - Windows closed rear door open
128 Kedron Park Rd (internal attended)	02/06/09	55.6**	54**	Noise modelling undertaken for this area – noise wall to be constructed in future when design finalised	Session undertaken in garage / workshop of resident. Windows and doors closed.
128 Kedron Park Rd (internal attended)	02/06/09	56.2**	52.8**	Noise modelling undertaken for this area – noise wall to be constructed in future when design finalised	Session undertaken in garage / workshop of resident. Windows and doors closed.
128 Kedron Park Rd (internal attended *)	02/06/09	54.9**	55.5**	Noise modelling undertaken for this area – noise wall to be constructed in future when design finalised	Session undertaken in garage / workshop of resident. Windows and doors open.
128 Kedron Park Rd (internal attended *)	02/06/09	56.5**	56.8**	Noise modelling undertaken for this area – noise wall to be constructed in future when design finalised	Session undertaken in garage / workshop of resident. Windows and doors open.
128 Kedron Park Rd (internal attended)	02/06/09	42.1	42.8	Noise modelling undertaken for this area – noise wall to be constructed in future when design finalised	Session undertaken in Home Office - Results are under CoG goals

Location	Monitoring Period	L <sub>Aeq</sub> (15 min) (dBA)	L <sub>A10</sub> (15 min) (dBA)	Mitigation	Comments
128 Kedron Park Rd (internal attended)	02/06/09	45.7	46.6	Noise modelling undertaken for this area – noise wall to be constructed in future when design finalised	Home Office - Heavy influence from non construction based sound such as noise sources from the resident
128 Kedron Park Rd (internal attended)	02/06/09	53.7	49.1	Noise modelling undertaken for this area – noise wall to be constructed in future when design finalised	Session undertaken in Home Office - Windows and doors open.
128 Kedron Park Rd (internal attended)	02/06/09	53.0	50.7	Noise modelling undertaken for this area – noise wall to be constructed in future when design finalised	Session undertaken in Home Office - Windows and doors open.
Corner of Gympie rd and Somerset rd (external attended)	02/06/09	80.9*	79.5*	N/A – community notification only, short term activity under special circumstances / night works	External monitoring undertaken on pedestrian footpath. External influences include traffic noise
184 Gympie rd (external attended)	02/06/09	78.4*	76.6*	N/A – community notification only, short term activity under special circumstances / night works	External monitoring undertaken on pedestrian footpath. External influences include traffic noise
17 Park tce (external attended)	03/06/09	58.2	58.9	Noise Modelling undertaken for this area	*Windows and doors open of the front veranda
17 Park tce (external attended)	03/06/09	56.8	57.9	Noise Modelling undertaken for this area	*Windows and doors open of the front veranda
<b>Toombul</b>					
44 Lewis Street (Internal, Attended)	3/06/09	45.1	46.0	Noise Walls	Exceedence – Shipping containers removed temporarily to allow for jet grouting
44 Lewis Street (Internal, Attended)	3/06/09	46.0	46.9	Noise Walls	Exceedence – Shipping containers removed temporarily to allow for jet grouting
44 Lewis Street (Internal, Attended)	3/06/09	47.6	48.7	Noise Walls	Exceedence – Shipping containers removed temporarily to allow for jet grouting
78 Elliot Street (Internal, Attended)	3/06/09	47.4	48.9	Partially Constructed Noise	Exceedence - Noise walls in process of being

Location	Monitoring Period	L <sub>Aeq</sub> (15 min) (dBA)	L <sub>A10</sub> (15 min) (dBA)	Mitigation	Comments
				Wall	constructed
78 Elliot Street (Internal, Attended)	3/06/09	48.5	49.0	Partially Constructed Noise Wall	Exceedence - Noise walls in process of being constructed
44 Lewis Street (Internal, Attended)	5/06/09	36.6	37.4	Noise Walls	Meets goals
44 Lewis Street (Internal, Attended)	5/06/09	41.4	42.1	Noise Walls	Exceedence – Shipping containers removed temporarily to allow for jet grouting
44 Lewis Street (Internal, Attended)	5/06/09	41.8	42.2	Noise Walls	Exceedence – Shipping containers removed temporarily to allow for jet grouting
82 Elliot Street (Internal, Attended)	5/06/09	52.0	51.9	Partial Noise Wall	Exceedence - Noise walls in process of being constructed
82 Elliot Street (Internal, Attended)	5/06/09	49.2	50.1	Partial Noise Wall	Exceedence - Noise walls in process of being constructed
82 Elliot Street (Internal, Attended)	5/06/09	42.2	41.8	Partial Noise Wall	Exceedence - Noise walls in process of being constructed
44 Lewis Street (Internal, Attended)	11/06/09	41.9	42.6	Noise Walls	Exceedence – Shipping containers removed temporarily to allow for jet grouting
44 Lewis Street (Internal, Attended)	11/06/09	42.8	43.6	Noise Walls	Exceedence – Shipping containers removed temporarily to allow for jet grouting
<b>Bowen Hills</b>					
5 Morris St (attended internal)	19/05/2009	43.5	44.5	Noise wall and mounds installed	Meets CoG goals
5 Morris St (attended internal)	19/05/2009	43.7	44.7	Noise wall and mounds installed	Meets CoG goals
5 Morris St (attended internal)	19/05/2009	44.3	45.1	Noise wall and mounds installed	Meets CoG goals
5 Morris St (attended internal)	19/05/2009	43.5	44.4	Noise wall and mounds installed	Meets CoG goals
30 Federation St (attended internal)	25/05/2009	<b>53.6</b>	<b>56.0</b>	Noise wall installed	Exceeds CoG goals. Refer to sec 1.7.3 of main monthly report for further information.
30 Federation St (attended internal)	30/05/2009	<b>56.1</b>	<b>55.5</b>	Noise wall installed	Exceeds CoG goals. Refer to sec 1.7.3 of main monthly report for further information.

Location	Monitoring Period	L <sub>Aeq</sub> (15 min) (dBA)	L <sub>A10</sub> (15 min) (dBA)	Mitigation	Comments
30 Federation St (attended internal)	30/05/2009	53.7	54.5	Noise wall installed	Exceeds CoG goals. Refer to sec 1.7.3 of main monthly report for further information.
30 Federation St (attended internal)	30/05/2009	56.1	51.8	Noise wall installed	Exceeds CoG goals. Refer to sec 1.7.3 of main monthly report for further information.
30 Federation St (attended internal)	30/05/2009	56.0	54.1	Noise wall installed	Exceeds CoG goals. Refer to sec 1.7.3 of main monthly report for further information.
30 Federation St (attended internal)	30/05/2009	49.0	50.1	Noise wall installed	Exceeds CoG goals. Refer to sec 1.7.3 of main monthly report for further information.
30 Federation St (attended internal)	30/05/2009	50.0	50.7	Noise wall installed	Exceeds CoG goals. Refer to sec 1.7.3 of main monthly report for further information.
Formula 1 Motel Ground Floor (attended internal)	2/06/2009	39.6	40.5	Container Noise Wall Installed	Meets CoG goals.
Formula 1 Motel Ground Floor (attended internal)	2/06/2009	40.5	41.3	Container Noise Wall Installed	Meets CoG goals
Formula 1 Motel First Floor (attended internal)	2/06/2009	56.5	57.4	Container Noise Wall Installed	Exceeds CoG goals. Refer to sec 1.7.3 of main monthly report for further information.
Formula 1 Motel First Floor (attended internal)	2/06/2009	50.7	50.7	Container Noise Wall Installed	Exceeds CoG goals. Refer to sec 1.7.3 of main monthly report for further information.
34 Federation St (attended internal)	9/06/2009	56.3	57.3	Noise wall installed	Exceeds CoG goals. Refer to sec 1.7.3 of main monthly report for further information.
34 Federation St (attended internal)	9/06/2009	56.2	57.2	Noise wall installed	Exceeds CoG goals. Refer to sec 1.7.3 of main monthly report for further information.
5 Morris St (attended internal)	10/06/2009	44.9	45.8	Noise wall and mounds installed	Meets CoG goals
5 Morris St (attended internal)	10/06/2009	41.3	41.4	Noise wall and mounds installed	Meets CoG goals
Federation Street, inside front gate (unattended external, 1830-0630hr)	25/05/09 to 30/05/09	54.9	54.1	No CoG goal to compare	NSBT are running night shift and reversing loaders were observed operating. Additional background noise also observed from train lines and Lutwyche Rd traffic.
Federation Street, inside front gate (unattended external, 1830-0630hr)	01/06/09 to 04/06/09	56.0	54.6	No CoG goal to compare	NSBT are running night shift and reversing loaders were observed operating. Additional background noise also observed from train lines and Lutwyche

Location	Monitoring Period	L <sub>Aeq</sub> (15 min) (dBA)	L <sub>A10</sub> (15 min) (dBA)	Mitigation	Comments
					Rd traffic.
<b>Northern Busway</b>					
8 McGregor Ave (attended, internal)	21/05/09	42.0	44.5	Results within CoG goals	Small excavator working on-site, traffic from Bradshaw street was major noise source.
Unit 6, 37 Lamington Ave (attended, internal)	02/06/09	42.9	43.7	Results within CoG goals	Significant traffic noise recorded from Lamington Ave and Lutwyche Road. Minors works occurring on-site.
Unit 4, 26 Bradshaw St (attended, internal)	10/06/09	37.6	38.5	Results within CoG goals	Significant traffic noise recorded from Lutwyche Road. Minors works occurring onsite in Stage 5 (truck haulage)
<b>Truro Street</b>					
Truro Street, Inside Front Gate (unattended, external, 1830-0630hr)	18/05/09 to 23/05/09	69.1	69.0	No CoG goal to compare	On-site noises included the power generator. Passing traffic resulted in significant recordings: cars at around 80dB and trucks up to 100dB.
Truro Street, Inside Front Gate (unattended, external, 1830-0630hr)	25/05/09 to 30/05/09	63.3	63.2	No CoG goal to compare	On-site noises included the power generator. Passing traffic resulted in significant recordings: cars at around 80dB and trucks up to 100dB.
Truro Street, Inside Front Gate (unattended, external, 1830-0630hr)	01/06/09 to 06/06/09	66.7	67.1	No CoG goal to compare	On-site noises included the power generator. Passing traffic resulted in significant recordings: cars at around 80dB and trucks up to 100dB.
Truro Street, Inside Front Gate (unattended, external, 1830-0630hr)	08/06/09 to 10/06/09	62.7	61.5	No CoG goal to compare	On-site noises included the power generator. Passing traffic resulted in significant recordings: cars at around 80dB and trucks up to 100dB.

**Red font** = result greater than the internal L<sub>Aeq</sub> CoG Goal of 45dBA  
**Green font** = result greater than internal L<sub>Aeq</sub> CoG Goal of 55dBA  
 \*Goals not applicable – external reading only

**Blue font** = result greater than the internal L<sub>A10</sub> CoG Goal of 55dBA  
**Orange Font** = result greater than internal L<sub>A10</sub> CoG Goal of 65dBA  
 \*\*Goal is sourced from AS/NZS2107

## 4.0 Air Quality Monitoring

Air quality sampling is currently undertaken at a number of locations across the project (refer to Figure 1). Monitoring consists of both dust deposition monitoring (DD) and real time monitoring (PM<sub>10</sub>).

To date for both DD and PM<sub>10</sub> are meeting dust criteria (excludes anomaly results) set by the Coordinator Generals Report (refer to Table 2 and 3).

### 4.1 Mitigation Measures

The key strategies adopted to mitigate dust and air quality impacts during construction works have included the following:

1. Continual use of water carts during the following activities:
  - a. Demolition activities
  - b. Bulk earthworks
  - c. Haul roads
  - d. Hardstand works
2. Dust suppressants in water carts
3. Use of Soil Binders
4. Covering of haul vehicles
5. Stabilisation of cleared areas with hardstand materials such as crushed rock
6. Hydro-mulching of exposed surfaces
7. Reduction of cleared / exposed soils with concrete paving and geo-fabric installation
8. Ongoing dust monitoring at permanent locations and temporary locations
9. Road sweepers
10. Enclosed spoil handling facilities at portals

## 4.2 Depositional Dust Fallout Results (TSP)

Dust deposition gauges have been installed to monitor dust fallout at a variety of locations across the project (refer to Figure 1). The dust deposition gauges provide a result for total dust as required under Table 2 of the Coordinator Generals Report.

Table 2: TSP Results

Location	Monitoring Period	Dust Fallout (g/m <sup>2</sup> /mth)	Mitigation	Comments
<b>Kedron</b>				
Wooloowin State School	15/05/09-9/06/09	1.1	Ongoing water cart use	Complies with CoG Requirements *The Depositional Dust Fallout bottles were collected at an earlier date to allow results to be received and reported in the monthly report. The forecasted depositional Dust Fallout results have been calculated by Australian Laboratory Services. This site does not meet the all requirements for location / separation distances etc under the relevant standard due to site availability / security concerns
Kedron DES Site	15/05/09-9/06/09	1.1	Ongoing water cart use	Complies with CoG Requirements *The Depositional Dust Fallout bottles were collected at an earlier date to allow results to be received and reported in the monthly report. The forecasted depositional Dust Fallout results have been calculated by Australian Laboratory Services. This site does not meet the all requirements for location / separation distances etc under the relevant standard due to site availability / security concerns / service connections.

Location	Monitoring Period	Dust Fallout (g/m <sup>2</sup> /mth)	Mitigation	Comments
Erskine St	15/05/09-9/06/09	2.1	Ongoing water cart use	Complies with CoG Requirements *The Depositional Dust Fallout bottles were collected at an earlier date to allow results to be received and reported in the monthly report. The forecasted depositional Dust Fallout results have been calculated by Australian Laboratory Services.
<b>Toombul</b>				
68 Kalinga St	20/4/09 – 22/5/09	2.8	Ongoing water cart use / Noise Walls	Within CoG Goals. This site does not meet the all requirements for location / separation distances etc under the relevant standard due to site availability / security concerns
Alma Rd	20/4/09 – 22/5/09	2.4	Ongoing water cart use / Noise Walls	Within CoG Goals. This site does not meet the all requirements for location / separation distances etc under the relevant standard due to site availability / security concerns
<b>Bowen Hills</b>				
5 Morris St				Monitoring period falls outside monthly reporting period

**Red font** = result greater than CoG Goal of 4g/m<sup>2</sup>/mth

### 4.3 Respirable Dust Monitoring Results (PM<sub>10</sub>)

Respirable dust is that material capable of being inhaled into the lungs. Monitoring devices have been set up at a number of locations in (refer to Figure 1). The respirable dust monitoring (Dustrak and Thompson Units) for PM<sub>10</sub> are monitored as required under Table 2 of the Coordinator Generals Report. The results are as indicated in Table 3.

Table 3: PM<sub>10</sub> Results

Location	Monitoring Period	PM <sub>10</sub> (µg/m <sup>3</sup> )	Mitigation	Comments
<b>Kedron</b>				
18 Stafford Rd	06/06/09	12.9	Water carts, street sweepers	Within CoG goals
18 Stafford Rd	07/06/09	2.6	Water carts, street sweepers	Within CoG goals
20 Erskine st	16/06/09	22.8	Water carts, street sweepers, Noise Walls	Within CoG goals
20 Erskine st	17/05/09	12.8	Water carts, street sweepers, Noise Walls	Within CoG goals
20 Erskine st	18/05/09	11	Water carts, street sweepers, Noise Walls	Within CoG goals
20 Erskine st	19/05/09	18.5	Water carts, street sweepers, Noise Walls	Within CoG goals
20 Erskine st	20/05/09	25	Water carts, street sweepers, Noise Walls	Within CoG goals
20 Erskine st	21/05/09	23.4	Water carts, street sweepers, Noise Walls	Within CoG goals
20 Erskine st	22/05/09	7.7	Water carts, street sweepers, Noise Walls	Within CoG goals

Location	Monitoring Period	PM <sub>10</sub> (µg/m <sup>3</sup> )	Mitigation	Comments
20 Erskine st	23/05/09	16.8	Water carts, street sweepers, Noise Walls	Within CoG goals
20 Erskine st	24/05/09	14.3	Water carts, street sweepers, Noise Walls	Within CoG goals
20 Erskine st	25/05/09	17.3	Water carts, street sweepers, Noise Walls	Within CoG goals
20 Erskine st	26/05/09	16.1	Water carts, street sweepers, Noise Walls	Within CoG goals
20 Erskine st	27/05/09	15	Water carts, street sweepers, Noise Walls	Within CoG goals
20 Erskine st	28/05/09	17.5	Water carts, street sweepers, Noise Walls	Within CoG goals
20 Erskine st	29/05/09	20.5	Water carts, street sweepers, Noise Walls	Within CoG goals
20 Erskine st	30/05/09	25	Water carts, street sweepers, Noise Walls	Within CoG goals
20 Erskine st	31/05/09	16.2	Water carts, street sweepers, Noise Walls	Within CoG goals
20 Erskine st	1/06/09	11.5	Water carts, street sweepers	Within CoG goals
20 Erskine st	2/06/09	17.6	Water carts, street sweepers	Within CoG goals
20 Erskine st	3/06/09	19.3	Water carts, street sweepers	Within CoG goals
20 Erskine st	4/06/09	19.5	Water carts, street sweepers	Within CoG goals



Location	Monitoring Period	PM <sub>10</sub> (µg/m <sup>3</sup> )	Mitigation	Comments
20 Erskine st	5/06/09	40.2	Water carts, street sweepers	Within CoG goals
20 Erskine st	12/06/09	24.3	Water carts, street sweepers	Within CoG goals
20 Erskine st	13/06/09	27.1	Water carts, street sweepers	Within CoG goals
20 Erskine st	14/06/09	49.5	Water carts, street sweepers	14/06/09 falls on a Sunday. The high reading is contributed to the home owner mowing the lawn.
20 Erskine st	15/06/09	26.6	Water carts, street sweepers	Within CoG goals
Kedron Brook Building	7/06/09	23.4	Water carts, street sweepers	Within CoG goals
Kedron Brook Building	8/06/09	14.2	Water carts, street sweepers	Within CoG goals
Kedron Brook Building	9/06/09	4.2	Water carts, street sweepers	Within CoG goals
Kedron Brook Building	10/06/09	9.3	Water carts, street sweepers	Within CoG goals
Kedron Brook Building	11/06/09	10	Water carts, street sweepers	Within CoG goals
Kedron Brook Building	12/06/09	10.4	Water carts, street sweepers	Within CoG goals
Kedron Brook Building	13/06/09	14.9	Water carts, street sweepers	Within CoG goals
Kedron Brook Building	14/06/09	24.2	Water carts, street sweepers	Within CoG goals

Location	Monitoring Period	PM <sub>10</sub> (µg/m <sup>3</sup> )	Mitigation	Comments
Kedron Brook Building	15/06/09	24.6	Water carts, street sweepers	Within CoG goals
Kedron Brook Building	16/06/09	31	Water carts, street sweepers	Within CoG goals
Woolloowin State School	16/05/09	17.3	Water carts, street sweepers	Within CoG goals
Woolloowin State School	17/05/09	16.9	Water carts, street sweepers	Within CoG goals
Woolloowin State School	18/05/09	17.1	Water carts, street sweepers	Within CoG goals
Woolloowin State School	19/05/09	19.3	Water carts, street sweepers	Within CoG goals
Woolloowin State School	20/05/09	19.1	Water carts, street sweepers	Within CoG goals
Woolloowin State School	21/05/09	19.2	Water carts, street sweepers	Within CoG goals
Woolloowin State School	22/05/09	16.7	Water carts, street sweepers	Within CoG goals
Woolloowin State School	23/05/09	16.9	Water carts, street sweepers	Within CoG goals
Woolloowin State School	30/05/09	19.5	Water carts, street sweepers	Within CoG goals
Woolloowin State School	31/05/09	22.4	Water carts, street sweepers	Within CoG goals
Woolloowin State School	1/06/09	21.7	Water carts, street sweepers	Within CoG goals

Location	Monitoring Period	PM <sub>10</sub> (µg/m <sup>3</sup> )	Mitigation	Comments
Woolloowin State School	2/06/09	21.1	Water carts, street sweepers	Within CoG goals
Woolloowin State School	3/06/09	21.0	Water carts, street sweepers	Within CoG goals
Woolloowin State School	4/06/09	21.5	Water carts, street sweepers	Within CoG goals
Woolloowin State School	5/06/09	22.2	Water carts, street sweepers	Within CoG goals
Woolloowin State School	6/06/09	20.9	Water carts, street sweepers	Within CoG goals
Woolloowin State School	7/06/09	20.9	Water carts, street sweepers	Within CoG goals
Woolloowin State School	8/06/09	20.9	Water carts, street sweepers	Within CoG goals
Woolloowin State School	9/06/09	21.8	Water carts, street sweepers	Within CoG goals
Woolloowin State School	10/06/09	20.5	Water carts, street sweepers	Within CoG goals
Woolloowin State School	11/06/09	21.9	Water carts, street sweepers	Within CoG goals
Woolloowin State School	12/06/09	25.1	Water carts, street sweepers	Within CoG goals
Woolloowin State School	13/06/09	26.2	Water carts, street sweepers	Within CoG goals
Woolloowin State School	14/06/09	25	Water carts, street sweepers	Within CoG goals

Location	Monitoring Period	PM <sub>10</sub> (µg/m <sup>3</sup> )	Mitigation	Comments
Wooloowin State School	15/06/09	24.8	Water carts, street sweepers	Within CoG goals
<b>Bowen Hills (note monitoring equipment out-of-service for 28 of 30 days in monitoring period, re-commissioned 16/6/09)</b>				
18 Gallway St	15/05/2009	13	Water carts, street sweepers	Within CoG goals
18 Gallway St	16/05/2009	10	Water carts, street sweepers	Within CoG goals
<b>Northern Busway (note monitoring equipment out-of-service for 26 of 30 days in monitoring period, recommissioned 17/6/09)</b>				
35 Lamington Ave	01/06/09	16	Water carts, street sweepers	Within CoG Goals
35 Lamington Ave	02/06/09	17	Water carts, street sweepers	Within CoG Goals
35 Lamington Ave	03/06/09	21	Water carts, street sweepers	Within CoG Goals
35 Lamington Ave	04/06/09	26	Water carts, street sweepers	Within CoG Goals
<b>Truro Street</b>				
Truro Street	27/5/09	3	Water carts, street sweepers	Within CoG Goals
Truro Street	28/5/09	3	Water carts, street sweepers	Within CoG Goals
Truro Street	29/5/09	2	Water carts, street sweepers	Within CoG Goals
Truro Street	30/5/09	2	Water carts, street sweepers	Within CoG Goals
Truro Street	31/5/09	2	Water carts, street sweepers	Within CoG Goals
Truro Street	1/6/09	2	Water carts, street sweepers	Within CoG Goals
Truro Street	2/6/09	13	Water carts, street sweepers	Within CoG Goals
Truro Street	3/6/09	14	Water carts, street sweepers	Within CoG Goals



Location	Monitoring Period	PM <sub>10</sub> (µg/m <sup>3</sup> )	Mitigation	Comments
Truro Street	4/6/09	15	Water carts, street sweepers	Within CoG Goals
Truro Street	5/6/09	26	Water carts, street sweepers	Within CoG Goals
Truro Street	6/6/09	20	Water carts, street sweepers	Within CoG Goals
Truro Street	7/6/09	16	Water carts, street sweepers	Within CoG Goals
Truro Street	8/6/09	2	Water carts, street sweepers	Within CoG Goals
Truro Street	9/6/09	3	Water carts, street sweepers	Within CoG Goals
Truro Street	10/6/09	4	Water carts, street sweepers	Within CoG Goals
Truro Street	11/6/09	4	Water carts, street sweepers	Within CoG Goals
Truro Street	12/6/09	9	Water carts, street sweepers	Within CoG Goals
Truro Street	13/6/09	23	Water carts, street sweepers	Within CoG Goals
Truro Street	14/6/09	36	Water carts, street sweepers	Within CoG Goals
Truro Street	15/06/09	14	Water carts, street sweepers	Within CoG Goals

**Red font** = result greater than CoG Goal of 50µg/m<sup>3</sup>

## **5.0 Vibration Monitoring**

No vibration monitoring was undertaken at Northern Busway or Truro Street for the month of June. The only vibration activity undertaken was at Bowen Hills where the effects of a vibrating steel drum roller working on the site south of Norman Avenue was checked for potential impacts to the BCC's Byrne Street sewer.

Results indicate that vibration from the plant was within EPA guidelines.

### **5.1 Mitigation Measures**

The key strategies adopted to mitigate vibration impacts during construction works have included the following:

1. Ongoing continuous monitoring at sensitive receptors during vibration generating activities.
2. Modelling to ensure that machinery can work within sensitive areas.
3. Purchase or hire of equipment that will meet the GoG goals.

## 5.2 Monitoring Results

**Table 4: Vibration results**

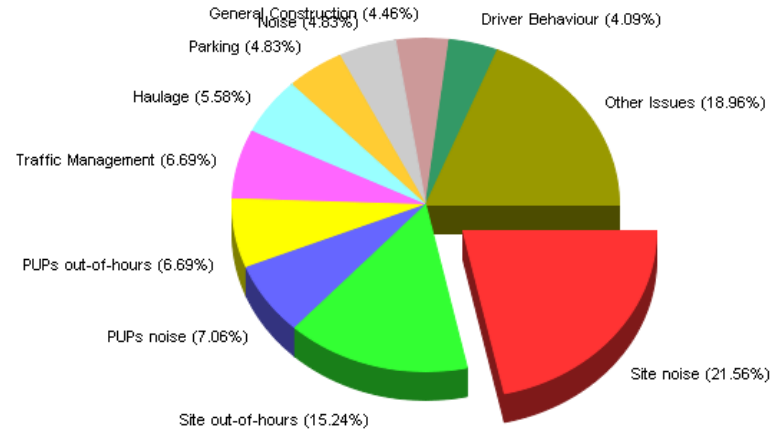
Location	Monitoring Period	Peak Vector Sum (mm/s)	Mitigation	Comments
<b>Bowen Hills</b>				
Byrne St Sewer Northern End	27/04/09 to 15/05/09	2.32	NA	Analysis of a vibrating steel drum roller on the site south of Norman Avenue found to be within EPA vibration guidelines of 5mm per second

**Red font** = result greater than CoG Goal of Peak Particle Velocity of 25mm/s

## 6.0 Community Enquiries and Complaints

Issues Raised: 23 May 2009 - 19 Jun 2009			
Issue	Events	Stakeholders	
		distinct	total
General Site Construction: Site noise	58	34	58
General Site Construction: Site out-of-hours	41	29	41
PUPs: PUPs noise	19	17	19
PUPs: PUPs out-of-hours	18	16	18
Traffic: Traffic Management	18	9	18
Traffic: Haulage	15	11	15
Traffic: Parking	13	11	13
Noise	13	9	13
General Construction: General Construction	12	6	12
Traffic: Driver Behaviour	11	7	11
Out of Hours	6	3	6
General Site Construction: Site vibration	5	1	5
PUPs: PUPs property access	5	4	5
Damage Claims: Building Damage	4	3	4
General Construction: Worker Behaviour	4	4	4
Vibration	4	2	4
General Construction: Safety	2	2	2
General Site Construction: Site dust	2	2	2
General Site Construction: Site lighting	2	1	2
PUPs: PUPs lighting	2	2	2
PUPs: PUPs worker behaviour	2	2	2
Dust	2	2	2
Damage Claims: Vehicle Damage	1	1	1
Environmental: Heritage	1	1	1
Environmental: Operational Air Quality	1	1	1
<b>Events Matching Search</b>	<b>195</b>	<b>98</b>	<b>195</b>

Issues Raised: 23 May 2009 - 19 Jun 2009



Total Complaints: Monthly comparison

June	195
May	127
April	143