



Monthly Environmental Monitoring Report

May 2009

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1.0 Monitoring Overview

The monitoring data included in this report should be read in conjunction with the Monthly Environmental Report.

The monitoring data provided includes all monitoring conducted during the reporting period May 2009, from the 15th April to the 15th May 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's Reports requirements. The location points for noise, air and vibration monitoring are provided in Figures 1 to 5.

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

2.0 Monitoring Locations

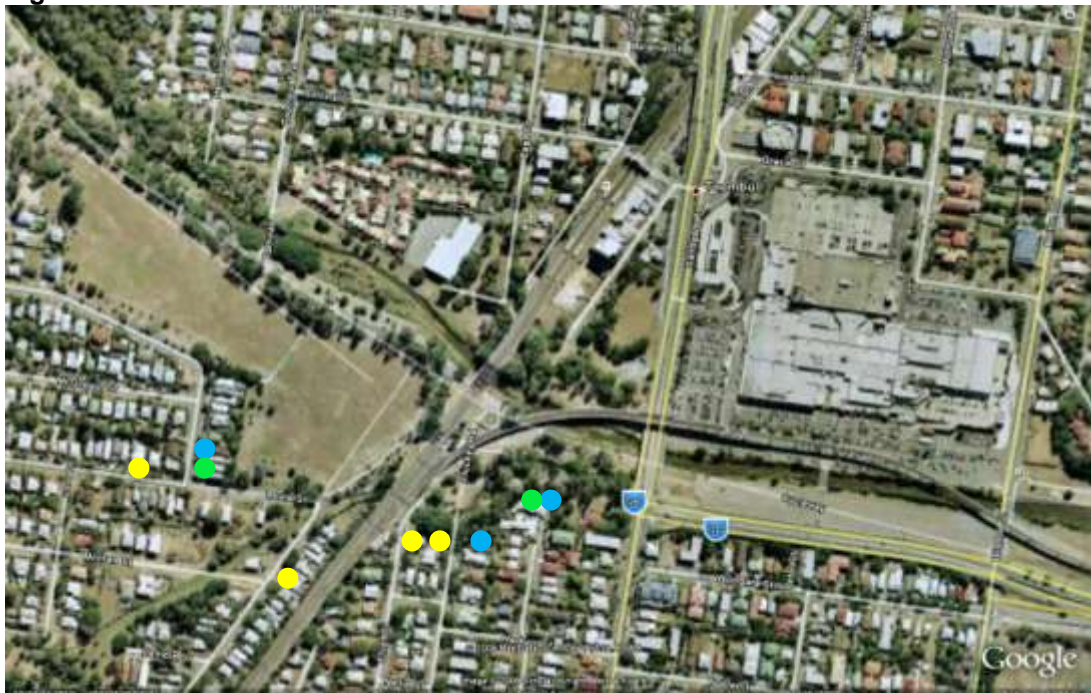
Figure 1: Kedron



Legend

- | | |
|--|---|
| ● Noise (during construction) | ● Air (PM ₁₀) |
| ● Noise (preconstruction) | ● Air (Dust Fallout) |
| ● Vibration | Note – these locations are indicative only |

Figure 2: Toombul



Legend

- | | |
|--|---|
| ● Noise (during construction) | ● Air (PM ₁₀) |
| ● Air (Dust Fallout) | Note – these locations are indicative only |

Figure 3: Bowen Hills



Legend

- Noise (during construction)
- Vibration

- Air (PM₁₀)
- Air (Dust Fallout)

Note – these locations are indicative only

Figure 4: Northern Busway



Legend

- Noise (during construction)
- Vibration

- Air (PM₁₀)

Note – these locations are indicative only

Figure 5: Truro St



● Noise (during construction)

● Air (PM₁₀)

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. The project has continued to experience difficulty in gaining access to properties to undertake attended internal noise monitoring.

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. Bowen Hills – Area 2
 - b. Kedron - Stafford Rd/Northern Busways
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. Federation Street (Bowen Hills)
 - ii. Morris St
 - iii. Gallway St
 - iv. Lutwyche Road (Northern Busway)
 - v. Truro Street on all sides of works
 - vi. Perry Street
 - vii. Gympie and Lutwyche Road
 - viii. Park Tce / Lasseter St
 - ix. Lasseter St / Amott St
 - b. Acoustic shed has been built around the tunnel portals at:
 - i. Truro Street
 - ii. Bowen Hills
 - c. Ongoing attended (internal where access is granted) and unattended noise monitoring
 - d. Advanced consultation with property owners prior to commencing works
 - e. Consultation with property owners during construction phases
 - f. Investigating the early installation of permanent noise barriers at early stages
 - g. Investigation of alternative plant and equipment
 - h. Acoustic shielding of various plant
 - i. Trial of temporary acoustic treatment (e.g. sound curtains around onsite generators and access/egress from sites)
 - j. Spoil disposal shed design at portal locations.

3.2 Monitoring Results

Table 1: Noise Monitoring Results

Location	Monitoring Period	L _{Aeq} (15 min) (dBA)	L _{A10} (15 min) (dBA)	Mitigation	Comments
Kedron					
1/75 Lamington Ave (internal attended)	20/04/09	43.4	44.8	Noise modelling undertaken for this area	Results are under CoG goals
1/75 Lamington Ave (internal attended)	20/04/09	42.7	43.9	Noise modelling undertaken for this area	Results are under CoG goals
6/75 Lamington Ave (internal attended)	01/05/09	47.5	48.9	Partial Noise Wall	Currently buffered by Lutwyche Rd traffic noise
6/75 Lamington Ave (internal attended)	01/05/09	48.3	48.6	Partial Noise Wall	Currently buffered by Lutwyche Rd traffic noise
1/75 Lamington Ave (internal attended)	08/05/09	50.1	44.8	Noise modelling undertaken for this area	Sheet piling undertaken during monitoring session
1/75 Lamington Ave (internal attended)	08/05/09	41.3	42.5	Noise modelling undertaken for this area	Monitoring session undertaking during piling works
19 Colton Ave (internal attended)	11/05/09	40.7	38.2	Noise modelling undertaken for this area	Results are under CoG goals
19 Colton Ave (internal attended)	11/05/09	36.4	36.7	Noise modelling undertaken for this area	Results are under CoG goals
128 Kedron Park Rd (internal attended)	15/05/09	42.4	43.2	NA	Results are under CoG goals
128 Kedron Park Rd (internal attended)	15/05/09	42.4	40.5	NA	Results are under CoG goals
130 Kedron Park RD (internal attended)	15/05/09	45.1	46.1	NA	Heavy traffic influence from Kedron Park Rd
130 Kedron Park RD (internal attended)	15/05/09	45.8	47.2	NA	Heavy traffic influence from Kedron Park Rd
15 Park Tce (internal attended)	27/4/09	59.5	56.9		Sheet piling undertaken during monitoring session

Location	Monitoring Period	L _{Aeq} (15 min) (dBA)	L _{A10} (15 min) (dBA)	Mitigation	Comments
Toombul					
79 Elliot Street (Internal, Attended)	21/04/09	55	56.3	Nil	Exceedence - Noise walls in process of being constructed
79 Elliot Street (Internal, Attended)	21/04/09	50.2	51.6	Nil	Exceedence - Noise walls in process of being constructed
83 Stuckey Road (Internal, Attended)	21/04/09	43	44	Nil	Exceedence - Noise walls in process of being constructed
83 Stuckey Road (Internal, Attended)	21/04/09	43	43.9	Nil	Exceedence - Noise walls in process of being constructed
83 Stuckey Road (Internal, Attended)	21/04/09	56.1	57.1	Nil	Exceedence - Noise walls in process of being constructed
83 Stuckey Road (Internal, Attended)	21/04/09	56.1	57.1	Nil	Exceedence - Noise walls in process of being constructed
44 Lewis Street (Internal, Attended)	29/04/09	37.2	37.9	Noise Walls	Meets goals
44 Lewis Street (Internal, Attended)	29/04/09	39.6	40.5	Noise Walls	Meets goals
44 Lewis Street (Internal, Attended)	29/04/09	47.4	48.1	Noise Walls	Exceedence as a result of TJH works and external noise sources
44 Lewis Street (Internal, Attended)	29/04/09	47.9	48.4	Noise Walls	Exceedence as a result of TJH works and external noise sources
44 Lewis Street (Internal, Attended)	6/05/09	42.3	42.5	Noise Walls	Exceedence as a result of TJH works and external noise sources
44 Lewis Street (Internal, Attended)	6/05/09	41.5	42.5	Noise Walls	Exceedence as a result of TJH works and external noise sources
44 Lewis Street (Internal, Attended)	6/05/09	40.8	41.4	Noise Walls	Meets goals
44 Lewis Street (Internal, Attended)	6/05/09	40.7	41.6	Noise Walls	Meets goals
44 Lewis Street (Internal, Attended)	14/05/09	37.3	37.7	Noise Walls	Meets goals
44 Lewis Street (Internal, Attended)	14/05/09	34	34.9	Noise Walls	Meets goals
44 Lewis Street (Internal, Attended)	14/05/09	33.4	34.3	Noise Walls	Meets goals
Bowen Hills - Civil					
5 Morris St (attended internal)	6/05/09	43.4	44.45	Noise wall and mounds installed	Meets goals
5 Morris St (attended internal)	6/05/09	43.6	44.51	Noise wall and mounds installed	Meets goals
5 Morris St (attended internal)	14/05/09	42.3	43.27	Noise wall and mounds installed	Meets goals
5 Morris St (attended internal)	14/05/09	45.8	46.76	Noise wall and mounds installed	Minor exceedance of goals due to external influences not associated with the Project

Location	Monitoring Period	L _{Aeq} (15 min) (dBA)	L _{A10} (15 min) (dBA)	Mitigation	Comments
51 Gallway St (attended internal)	14/05/09	40.6	40.37	Noise wall and mounds installed	Meets goals
51 Gallway St (attended internal)	14/05/09	33.5	37.18	Noise wall and mounds installed	Meets goals
Bowen Hills - Tunnels					
22 Federation Street (Attended External)	30/04/09	52.6	52.5	Noise wall and mounds installed	Monitored results are within baseline. NSBT are running night shift. You can hear the loader reversing at NSBT. Train lines are active in the area. Lutwyche Rd traffic noise is part of the background.
Front Gate to Bowen Hills Site	30/04/09	55.1	56.1	Noise wall and mounds installed	Monitored results are within baseline. Same as above
22 Federation Street (Attended External)	30/04/09	51.8	53.0	Noise wall and mounds installed	Monitored results are within baseline. Same as above + the roader header and the fan/scrubber were running
22 Federation Street (Attended External)	30/04/09	51.8	53.3	Noise wall and mounds installed	Monitored results are within baseline. Same as above
22 Federation Street (Attended External)	06/05/09	50.9	51.9	Noise wall and mounds installed	Monitored results are within baseline. Trains, cars on Lutwyche Rd, Northern Busway, NSBT
22 Federation Street (Attended External)	14/05/09	53.5	53.63	Noise wall and mounds installed	Monitored results are within baseline. Trains, cars on Lutwyche Rd, Northern Busway, NSBT
22 Federation Street (Attended External)	14/05/09	51.8	53.79	Noise wall and mounds installed	Monitored results are within baseline. Trains, cars on Lutwyche Rd, Northern Busway, NSBT
Northern Busway					
35 Lamington Ave (unattended external)	20/4/09-22/4/09	58.2	60.8	Noise wall	N/A– external results
37 Lamington Ave (attended internal)	22/04/09	42.3	44.3	Noise wall	Results within CoG goals. Excavator, trucks, rollers were all running onsite at the time the monitoring was conducted
35 Lamington Ave (unattended external)	11/05/09-15/05/09	55.2	57.7	Noise wall	N/A– external results

Location	Monitoring Period	L _{Aeq} (15 min) (dBA)	L _{A10} (15 min) (dBA)	Mitigation	Comments
Truro Street					
Truro Street (Across from site entrance) (Attended External)	23/04/09	57.3	60.3	Noise wall	Monitored results are within baseline. The generator was running onsite and the shotcrete rig was being pressured cleaned. Significant traffic impacts to the site recordings. One 15min interval was recorded and the pause button was used when traffic passed by the monitoring station. This is why the monitoring start and finish times are longer. Cars that run pass the site were recorded at around 80dB and trucks were 100dB.
Truro Street (Across from site entrance) (Attended External)	30/04/09	51.1	53.0	Noise wall	Monitored results are within baseline. Traffic issues same as above. Activities onsite were generators running and road header working with the fan/scrubber.
Truro Street (Across from site entrance) (Attended External)	06/05/09	57.7	59.2	Noise wall	Monitored results are within baseline. The road was shut down due to service relocations. Saw cutting and associated activities were occurring along Lutwyche road whilst monitoring was occurring. Activities onsite were generators running and road header working with the fan/scrubber.
Truro Street (Across from site entrance) (Attended External)	06/05/09	55.9	57.7	Noise wall	Monitored results are within baseline. The road was shut down due to service relocations. Saw cutting and associated activities were occurring along Lutwyche road whilst monitoring was occurring. Activities onsite were generators running and road header working with the fan/scrubber.
Truro Street (Across from site entrance) (Attended External)	06/05/09	52.7	50.2	Noise wall	Monitored results are within baseline. The road was shut down due to service relocations. Saw cutting and associated activities were occurring along Lutwyche road whilst monitoring was occurring. Activities onsite included generators running, the road header and fans/scrubber were shut down.

Red font = result greater than the internal L_{Aeq} CoG Goal of 45dBA (Toombul's Goal is set at 40dBA)

Blue font = result greater than the internal L_{A10} CoG Goal of 55dBA (Toombul's Goal is set at 50dBA)

4.0 Air Quality Monitoring

Air quality sampling is currently undertaken at a number of locations across the project (refer to Figures 1 to 5). Monitoring consists of both dust deposition monitoring (TSP) and real time monitoring (PM₁₀). Refer to tables 2 and 3 for each sites results.

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. Car parks
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 concrete and/or crushed rock
6. Hydro-mulching of batters
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. Design and future construction 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 Figures 1 to 5). 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 ² /mth)	Mitigation	Comments
Kedron				
Wooloowin State School	14/3/09 – 14/4/09	1.1	Ongoing water cart use	Complies with CoG Requirements
Kedron DES Site	14/3/09 – 14/4/09	1.8	Ongoing water cart use	Complies with CoG Requirements
Wooloowin State School	15/04/09 – 15/05/09	0.8	Ongoing water cart use	Complies with CoG Requirements
Kedron DES Site	15/04/09 – 15/05/09	1.0	Ongoing water cart use	Complies with CoG Requirements
Erskine St	15/04/09 - 15/05/09	1.2	Ongoing water cart use / Noise Walls	Complies with CoG Requirements
Toombul				
68 Kalinga St	18/3/09 – 18/4/09	3.5	Ongoing water cart use / Noise Walls	Within CoG Goals
Alma Rd	18/3/09 – 18/4/09	3.2	Ongoing water cart use / Noise Walls	Within CoG Goals

Location	Monitoring Period	Dust Fallout (g/m ² /mth)	Mitigation	Comments
Bowen Hills				
22 Federation St	14/3/09 – 15/4/09	6.8	Ongoing water cart use	Non-compliance with COG goals. Due to the unusually high result and the possibility of tampering due to the exposed location, this gauge was relocated to a secure location at 5 Morris St (across the road) following this monitoring result.
5 Morris St	15/4/09-15/5/09	1.9	Ongoing water cart use	Complies with CoG goal

Red font = result greater than CoG Goal of 4g/m²/mth

4.3 Respirable Dust Monitoring Results (PM₁₀)

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 Figures 1 to 4). The respirable dust monitoring (Dustrak and Thompson Units) for PM₁₀ are monitored as required under Table 2 of the Coordinator Generals Report. The results are as indicated in Table 3.

Table 3: PM₁₀ Results

Location	Monitoring Period	PM ₁₀ (µg/m ³)	Mitigation	Comments
Kedron				
20 Erskine St	15/04/09	17	Water carts, street sweepers, Noise Walls	Within CoG goals
20 Erskine St	16/04/09	14	Water carts, street sweepers, Noise Walls	Within CoG goals
20 Erskine St	17/04/09	26.2	Water carts, street sweepers, Noise Walls	Within CoG goals
20 Erskine St	18/04/09	18.6	Water carts, street sweepers, Noise Walls	Within CoG goals
20 Erskine St	19/04/09	18.2	Water carts, street sweepers, Noise Walls	Within CoG goals
20 Erskine St	20/04/09	7.7	Water carts, street sweepers, Noise Walls	Within CoG goals
20 Erskine St	21/04/09	8.2	Water carts, street sweepers, Noise Walls	Within CoG goals
20 Erskine St	22/04/09	11.9	Water carts, street sweepers, Noise Walls	Within CoG goals
20 Erskine St	23/04/09	11	Water carts, street sweepers, Noise Walls	Within CoG goals

Location	Monitoring Period	PM ₁₀ (µg/m ³)	Mitigation	Comments
20 Erskine St	07/05/09	14.3	Water carts, street sweepers, Noise Walls	Within CoG goals
20 Erskine St	08/05/09	16.5	Water carts, street sweepers, Noise Walls	Within CoG goals
20 Erskine St	09/05/09	28.5	Water carts, street sweepers, Noise Walls	Within CoG goals
20 Erskine St	10/05/09	24.5	Water carts, street sweepers, Noise Walls	Within CoG goals
20 Erskine St	11/05/09	17.1	Water carts, street sweepers, Noise Walls	Within CoG goals
20 Erskine St	12/05/09	13.4	Water carts, street sweepers, Noise Walls	Within CoG goals
20 Erskine St	13/05/09	16.8	Water carts, street sweepers, Noise Walls	Within CoG goals
20 Erskine St	14/05/09	17.9	Water carts, street sweepers, Noise Walls	Within CoG goals
20 Erskine St	15/05/09	27.1	Water carts, street sweepers, Noise Walls	Within CoG goals
20 Windsor Ave	20/04/09	8.2	Water carts, street sweepers	Within CoG goals
20 Windsor Ave	21/04/09	8.2	Water carts, street sweepers	Within CoG goals
10 Perry St	07/05/09	18	Water carts, street sweepers	Within CoG goals
10 Perry St	08/05/09	22.8	Water carts, street sweepers	Within CoG goals

Location	Monitoring Period	PM ₁₀ (µg/m ³)	Mitigation	Comments
10 Perry St	09/05/09	20.2	Water carts, street sweepers	Within CoG goals
Kedron Brook Building	24/04/09	19.7	Water carts, street sweepers	Within CoG goals
Kedron Brook Building	07/05/09	24.5	Water carts, street sweepers	Within CoG goals
Kedron Brook Building	08/05/09	30.8	Water carts, street sweepers	Within CoG goals
Kedron Brook Building	09/05/09	37.2	Water carts, street sweepers	Within CoG goals
Kedron Brook Building	10/05/09	27.3	Water carts, street sweepers	Within CoG goals
Wooloowin State School	07/05/09	16.9	Water carts, street sweepers	Within CoG goals
Wooloowin State School	08/05/09	17.7	Water carts, street sweepers	Within CoG goals
Wooloowin State School	09/05/09	18.4	Water carts, street sweepers	Within CoG goals
Wooloowin State School	10/05/09	17.6	Water carts, street sweepers	Within CoG goals
Wooloowin State School	11/05/09	17.4	Water carts, street sweepers	Within CoG goals
Wooloowin State School	12/05/09	17.2	Water carts, street sweepers	Within CoG goals
Wooloowin State School	13/05/09	17.3	Water carts, street sweepers	Within CoG goals

Location	Monitoring Period	PM ₁₀ (µg/m ³)	Mitigation	Comments
Wooloowin State School	14/05/09	17.6	Water carts, street sweepers	Within CoG goals
Wooloowin State School	15/05/09	18.1	Water carts, street sweepers	Within CoG goals
Toombul				
Kalinga Street	21/04/09	10.3	Water carts, street sweepers, noise walls	Within CoG Goals
Kalinga Street	22/4/09	11.3	Water carts, street sweepers, noise walls	Within CoG Goals
Kalinga Street	6/05/09	13	Water carts, street sweepers, noise walls	Within CoG Goals
Kalinga Street	7/5/09	12.3	Water carts, street sweepers, noise walls	Within CoG Goals
Kalinga Street	8/5/09	19.2	Water carts, street sweepers, noise walls	Within CoG Goals
Kalinga Street	9/5/09	25.2	Water carts, street sweepers, noise walls	Within CoG Goals
Kalinga Street	10/5/09	18.1	Water carts, street sweepers, noise walls	Within CoG Goals
Kalinga Street	11/5/09	15.6	Water carts, street sweepers, noise walls	Within CoG Goals
Kalinga Street	12/5/09	12.3	Water carts, street sweepers, noise walls	Within COG Goals



Location	Monitoring Period	PM ₁₀ (µg/m ³)	Mitigation	Comments
Kalinga Street	13/5/09	18.8	Water carts, street sweepers, noise walls	Within CoG Goals
Kalinga Street	14/5/09	16.2	Water carts, street sweepers, noise walls	Within CoG Goals
Kalinga Street	15/5/09	22.2	Water carts, street sweepers, noise walls	Within CoG Goals
Kalinga Street	16/5/09	10.5	Water carts, street sweepers, noise walls	Within CoG Goals
Kalinga Street	17/5/09	7.4	Water carts, street sweepers, noise walls	Within CoG Goals
Kalinga Street	18/5/09	14.2	Water carts, street sweepers, noise walls	Within CoG Goals
Stuckey Road	21/04/09	9.2	Water carts, street sweepers	Within CoG Goals
Stuckey Road	22/04/09	11.2	Water carts, street sweepers	Within CoG Goals
Kalinga Park Adjacent Alma Road	12/05/09	19.2	Water carts, street sweepers	Within CoG Goals
Kalinga Park Adjacent Alma Road	13/5/09	16.7	Water carts, street sweepers	Within CoG Goals
Kalinga Park Adjacent Alma Road	14/5/09	17.2	Water carts, street sweepers	Within CoG Goals

Location	Monitoring Period	PM ₁₀ (µg/m ³)	Mitigation	Comments
Bowen Hills				
18 Gallway St	22/04/2009	14.87	Water carts, street sweepers,	Within CoG goals
18 Gallway St	23/04/2009	13.95	Water carts, street sweepers,	Within CoG goals
18 Gallway St	24/04/2009	10.90	Water carts, street sweepers,	Within CoG goals
18 Gallway St	25/04/2009	11.41	Water carts, street sweepers,	Within CoG goals
18 Gallway St	27/04/2009	8.42	Water carts, street sweepers,	Within CoG goals
18 Gallway St	28/04/2009	10.57	Water carts, street sweepers,	Within CoG goals
18 Gallway St	29/04/2009	16.27	Water carts, street sweepers,	Within CoG goals
18 Gallway St	30/04/2009	31.09	Water carts, street sweepers,	Within CoG goals
18 Gallway St	1/05/2009	7.71	Water carts, street sweepers,	Within CoG goals
18 Gallway St	5/05/2009	11.60	Water carts, street sweepers,	Within CoG goals
18 Gallway St	6/05/2009	12.46	Water carts, street sweepers,	Within CoG goals
18 Gallway St	7/05/2009	12.90	Water carts, street sweepers,	Within CoG goals



Location	Monitoring Period	PM ₁₀ (µg/m ³)	Mitigation	Comments
18 Gallway St	8/05/2009	22.05	Water carts, street sweepers,	Within CoG goals
18 Gallway St	9/05/2009	19.13	Water carts, street sweepers,	Within CoG goals
18 Gallway St	10/05/2009	15.66	Water carts, street sweepers,	Within CoG goals
18 Gallway St	12/05/2009	14.77	Water carts, street sweepers,	Within CoG goals
18 Gallway St	13/05/2009	17.69	Water carts, street sweepers,	Within CoG goals
18 Gallway St	14/05/2009	20.26	Water carts, street sweepers,	Within CoG goals
18 Gallway St	15/05/2009	12.67	Water carts, street sweepers,	Within CoG goals
18 Gallway St	16/05/2009	9.63	Water carts, street sweepers,	Within CoG goals
18 Gallway St	22/04/2009	14.87	Water carts, street sweepers,	Within CoG goals
18 Gallway St	23/04/2009	13.95	Water carts, street sweepers,	Within CoG goals
18 Gallway St	24/04/2009	10.90	Water carts, street sweepers,	Within CoG goals
18 Gallway St	25/04/2009	11.41	Water carts, street sweepers,	Within CoG goals
18 Gallway St	27/04/2009	8.42	Water carts, street sweepers,	Within CoG goals

Location	Monitoring Period	PM ₁₀ (µg/m ³)	Mitigation	Comments
18 Gallway St	28/04/2009	10.57	Water carts, street sweepers,	Within CoG goals
18 Gallway St	29/04/2009	16.27	Water carts, street sweepers,	Within CoG goals
18 Gallway St	30/04/2009	31.09	Water carts, street sweepers,	Within CoG goals
18 Gallway St	1/05/2009	7.71	Water carts, street sweepers,	Within CoG goals
18 Gallway St	5/05/2009	11.60	Water carts, street sweepers,	Within CoG goals
18 Gallway St	6/05/2009	12.46	Water carts, street sweepers,	Within CoG goals
18 Gallway St	7/05/2009	12.90	Water carts, street sweepers,	Within CoG goals
18 Gallway St	8/05/2009	22.05	Water carts, street sweepers,	Within CoG goals
18 Gallway St	9/05/2009	19.13	Water carts, street sweepers,	Within CoG goals
18 Gallway St	10/05/2009	15.66	Water carts, street sweepers,	Within CoG goals
18 Gallway St	12/05/2009	14.77	Water carts, street sweepers,	Within CoG goals
18 Gallway St	13/05/2009	17.69	Water carts, street sweepers,	Within CoG goals



Location	Monitoring Period	PM ₁₀ (µg/m ³)	Mitigation	Comments
Northern Busway				
35 Lamington Ave	20/4/09-25/4/09	20.7	Water carts, street sweepers	Within CoG Goals
35 Lamington Ave	29/4/09	9	Water carts, street sweepers	Within CoG Goals
35 Lamington Ave	06/5/09-09/5/09	27.9	Water carts, street sweepers	Within CoG Goals
35 Lamington Ave	11/5/09-13/4/09	17.9	Water carts, street sweepers	Within CoG Goals
Truro Street				
Note: The Truro St monitor malfunctioned during the monitoring period and all data was lost. This has since been rectified.				

Red font = result greater than CoG Goal of 50µg/m³

5.0 Vibration Monitoring

Monitoring was undertaken in the Northern Busway section after a local resident complained about vibration that was being omitted from the construction site adjacent to Lutwyche Road.

Results indicate that the vibration levels being produced, with the main source of vibration coming from the flat drum roller, are within the GoG goal. The distance that the sample was taken was 8 metres, as our closest resident is outside of this distance.

Vibration monitoring was also undertaken at a site south of Norman Avenue. Results indicate that vibration from the plant was within the Environmental Protection Regulation 1998 requirements (refer to Table 4).

5.1 Mitigation Measures

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

1. Ongoing continuous monitoring during vibration activities
2. Purchase or hire of equipment that will meet the GoG goals, where possible
3. Predictive modelling of vibration activities

5.2 Monitoring Results

Location	Monitoring Period	Vibration (mm/s)	Mitigation	Comments
Bowen Hills				
Byrne St Sewer Northern Sonde	27/04/09-15/05/09	2.32	NA	Within vibration guidelines of 5mm per second
Northern Busway				
Site Boundary along Lutwyche Rd	7/05/09	3.66	NA	The flat drum roller was what was measured and the measured distance was 8 metres
Kedron				
Norman Ave	15/05/09	1.67 & 1.65	NA	Within vibration guidelines of 5mm per second

Table 4: Vibration results

Red font = result greater than CoG Goal of 5mm/s

Further vibration monitoring at Bowen Hills will be undertaken when rock hammering takes place close to sensitive locations.

6.0 Community Enquiries and Complaints

Between 24 April and 22 May 2009, the project received 200 calls, letters and emails and in person visits; 75 of which were registered as enquiries/comments, 125 as complaints.

	Noise and Vibration	General Construction Issues	Property and Business impacts	Traffic	Environment and Culture	Dust	Haulage	*Other	PRECINCT TOTAL MAY	PRECINCT TOTAL APRIL	May Complaints
Bowen Hills	16	4	3	6	2	2	4	8	45	15	32
Lutwyche /Windsor	23	0	5	5	0	1	1	7	42	30	24
Kedron	24	12	8	0	2	3	12	23	84	28	56
Toombul/ARU	3	8	3	0	4	1	0	7	26	66	13
Project Wide	0	2	0	0	0	0	0	1	3	4	0
TOTAL	66	26	19	11	8	7	17	46	200	143	125

* Breakdown of "other" category –

Bowen Hills –Notification, worker behaviour

Lutwyche/Windsor –Parking, water supply to property, appointment time

Kedron –Worker behaviour, parking, CLG meeting, road condition, truck incident, vehicle damage, mitigation, resumption

Toombul –Football club sponsorship request, loose man-hole cover, outcome of meeting, land ownership, VIC opening hours, parking VSO location

Project Wide – Bus stop location