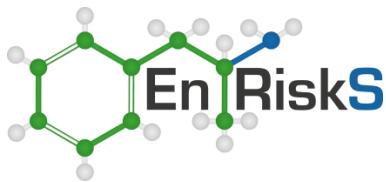


Appendix H Health Impact Assessment and Human Health Risk Assessment





21 April 2015

Environmental Risk Sciences Pty Ltd
PO Box 2537
Carlingford NSW 2118

Parsons Brinckerhoff
Level 27
Ernst & Young Centre
680 George Street
Sydney NSW 2000

Phone: +61 2 9614 0297
Fax: +61 2 8215 0657
Email: jackie@enisks.com.au
www.enisks.com.au

Technical Working Paper: Human Health Risk Assessment – Moorebank Intermodal Terminal – Revised Project

1.0 Introduction

The Environmental Impact Statement (EIS) for the Moorebank Intermodal Terminal (the Project) was placed on public exhibition between the 8 October and 8 December 2014. Following the public exhibition a Response to Submissions Report has been prepared to address issues raised in community and agency submissions, describe proposed amendments to the development, and document additional investigations undertaken since the EIS public exhibition.

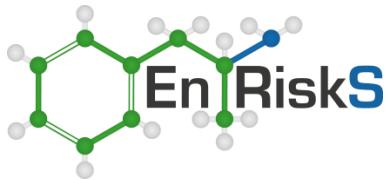
The Response to Submissions Report, which this report accompanies, documents and assesses proposed amendments to the Moorebank Intermodal Project ('the Project') following the public exhibition of the EIS. The revised Project has been developed as a result of an agreement being reached between the Moorebank Intermodal Company (MIC) and Sydney Intermodal Terminal Alliance (SIMTA) that will result in the development of both the Moorebank Intermodal Terminal (IMT) site ('the Project site') (the subject of the EIS summary and the Response to Submissions Report) and the SIMTA IMT site to create an intermodal precinct solution.

The proposed development of the precinct has resulted in changes to some of the key technical studies presented in the EIS. This letter has been prepared to evaluate how these changes affect the assessment presented in EIS Technical Paper 15: Human Health Risk Assessment (HHRA) compared to the revised Project.

2.0 Overview of the Proposed Amendments to the Project

Amendments to the Project layout and built form comprise:

- changes to the layout and operation of the IMT terminal, including the location of the warehousing, working tracks and storage tracks, IMT freight village precinct, IMEX and interstate equipment storage and repair area and detention ponds;
- confirmation that the southern rail access into the site will be required (the EIS summary sought flexibility to build either a southern, central or northern rail access into the site from the SSFL) and a minor amendments to the alignment and a reduction in the southern rail access corridor;
- changes to the upgrade of Moorebank Avenue as described in the EIS summary (changes in the extent and timing of the upgrade works);
- changes to access and circulation including heavy and light vehicle access to the facility via the Moorebank Avenue and Anzac Road intersection along a dedicated road at the north and along the western boundary of the Project site; and
- an increase in the size of the conservation area as a result of the new IMT.

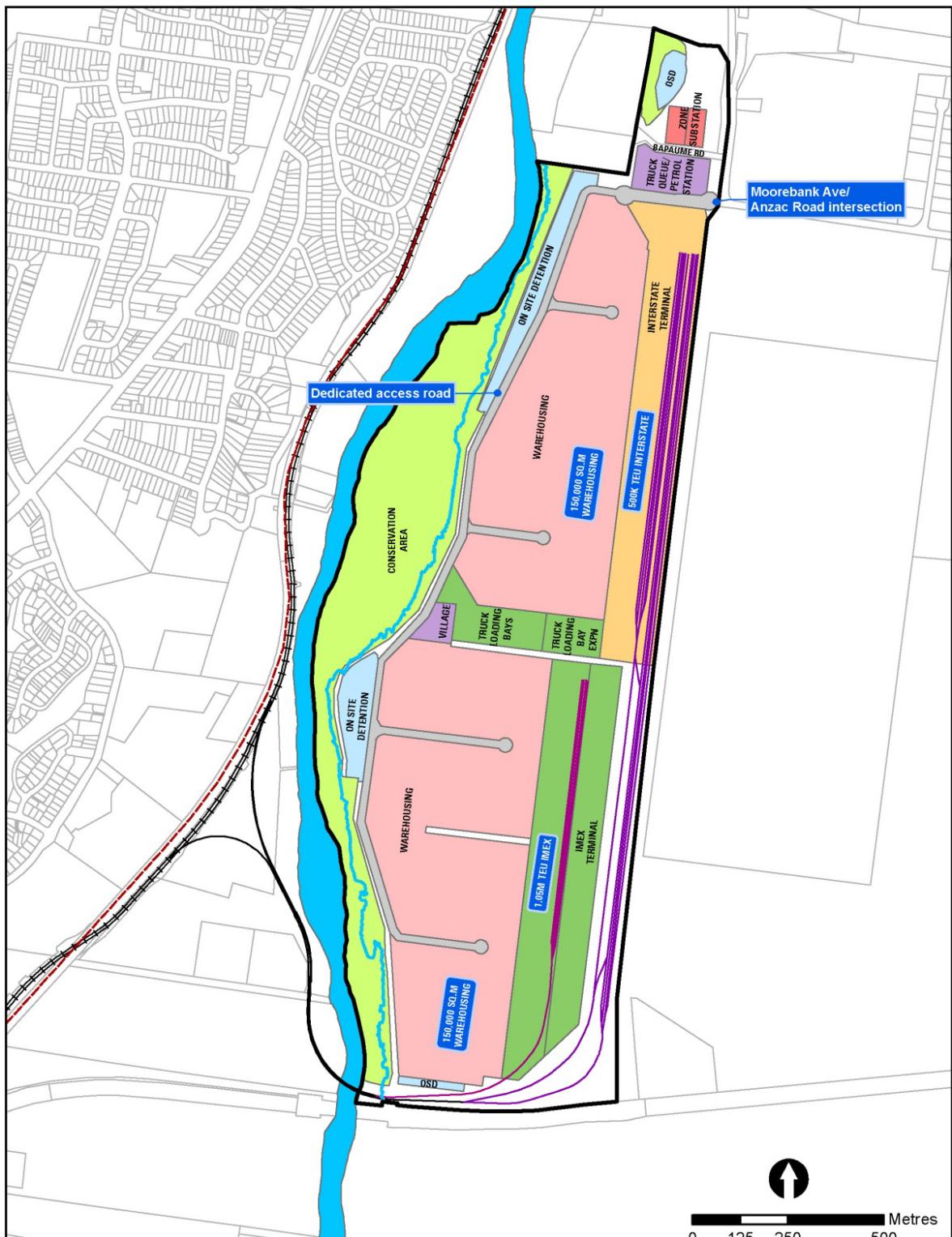


In terms of warehousing, the site built form controls associated with heights, setbacks and floor space ratio remain unchanged (refer section 7.7.2 of the EIS); however the setback control on Moorebank Avenue is no longer required as warehouses are no longer proposed on the eastern boundary of the site. To supplement the setback controls, asset protection zones will be established between the conservation area and the proposed warehouse buildings to safeguard against bushfire risk.

The revised terminal layout consists of (refer to **Figure 1** for full build layout):

- Confirmation of the development of a southern rail access from the SSFL to the western boundary of the Project site.
- Reorientation of the terminal layout to place warehousing (approximately 300,000 sq. metres) on the western area of the Project site bordering the proposed conservation area and set-back for bushfire control. Final layout and footprint of the individual warehouse buildings will be confirmed as part of the Stage 2 SSD process.
- Reorientation to place the intermodal infrastructure including rail tracks (working tracks and storage tracks) on the eastern side of the Project site adjacent to the terminals and bordering Moorebank Avenue.
- Changes to the site access and vehicle circulation within the Project site.
- Modification to the locations and footprint of the detention basin and administrative office

As a result of the above changes there are also changes in the Project development phasing and timing.

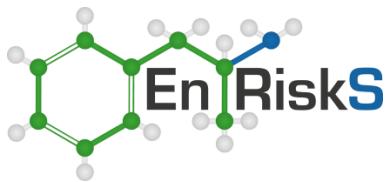


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Figure 1

**Revised IMT layout
at Full Build (2030)**

— 1% AEP flood level	■ IMEX Terminal	■ Dedicated Access Road
— Existing south rail line	■ Interstate Terminal	■ Georges River
— Proposed IMEX Rail line	■ Warehousing	■ On Site Detention
— Proposed interstate terminal rail line	■ Services Freight Village / Petrol station	■ Conservation Area
— Southern rail connection		
— Southern Sydney Freight Line		



Based on the revised Project the technical studies have been amended to consider the following four scenarios (as illustrated in **Figure 2**):

- **Scenario 1** (2016) during **Phase A** (construction only – construction of 250,000 TEU IMEX terminal and 100,000 sq. m of warehousing).
- **Scenario 2a** (2019) during **Phase B** (construction and operation - operation of 250,000 TEU IMEX terminal and 100,000 sq. m of warehousing, construction and operation of 250,000 TEU of interstate rail and terminal, and construction of additional 250,000 TEU IMEX terminal).
- **Scenario 2b** (2023) (construction and operation - operation of 500,000 TEU IMEX terminal, 100,000 TEU warehousing, operation of 250,000 TEU Interstate Terminal, and construction of 150,000 sq. m warehousing).
- **Scenario 3 or Full Build** (2030) (operation only - operation of 1.05m TEU IMEX terminal and 500,000 TEU interstate terminal, 300,000 sq. m of warehousing).

In addition, the following cumulative scenarios have been assessed which are relevant for operations on both the SIMTA and Moorebank site have been considered.

- **Cumulative Scenario A** (previously Scenario 1 in the EIS) – at 2030 full build:

Cumulative Scenario A assumes that the SIMTA site would operate as an intensified warehousing development that would support the operation of the Moorebank IMT Project. A number of assumptions have been made to define and assess cumulative scenario A including:

- The Moorebank IMT would operate as proposed in the EIS;
- The SIMTA development would have indicative warehouse capacity of 300,000 sq. m gross floor area (GFA)
- Both sites would operate 24 hours a day, seven days a week; and
- The SIMTA development would have an operational workforce of 1,470 staff on site per day (three shifts).

- **Cumulative Scenario B** (previously Scenario 3 in the EIS) at 2030 full build:

Cumulative Scenario B consists of an IMEX terminal on the SIMTA site only with throughput of 1 million TEU per year, as well as 300,000 sq. m of warehousing. An interstate terminal of 500,000 TEU per year and 300,000 sq. m of warehousing would be located on the Project site. The following assumptions were made for cumulative Scenario B:

- Both sites would operate 24 hours a day, seven days a week;
- The SIMTA development would have an operational workforce of 2,258 staff on site per day (three shifts per day)
- The Moorebank IMT site would have an operational workforce of 1,800 staff per day.

- **Cumulative Scenario C:**

Cumulative scenario C has been split into C1 (an interim scenario at 2020) and C2 (final scenario from 2030):

- Cumulative scenario C1: consisting of the Moorebank IMT site operating at 250,000 TEU IMEX, 250,000 TEU Interstate and 100,000 sq. m warehousing. The SIMTA site would operate at 250,000 TEU IMEX (asper the SIMPTA Stage 1 DA) and 200,000 sq. m warehousing.
- Cumulative scenario C2: consisting of the Moorebank IMT site operating at 550,000 TEU IMEX, 500,000 TEU Interstate and 300,000 sq. m warehousing. The SIMTA site would operate at 500,000 TEU IMEX (their ultimate capacity under the PAC determination) and 300,000 sq. m warehousing.

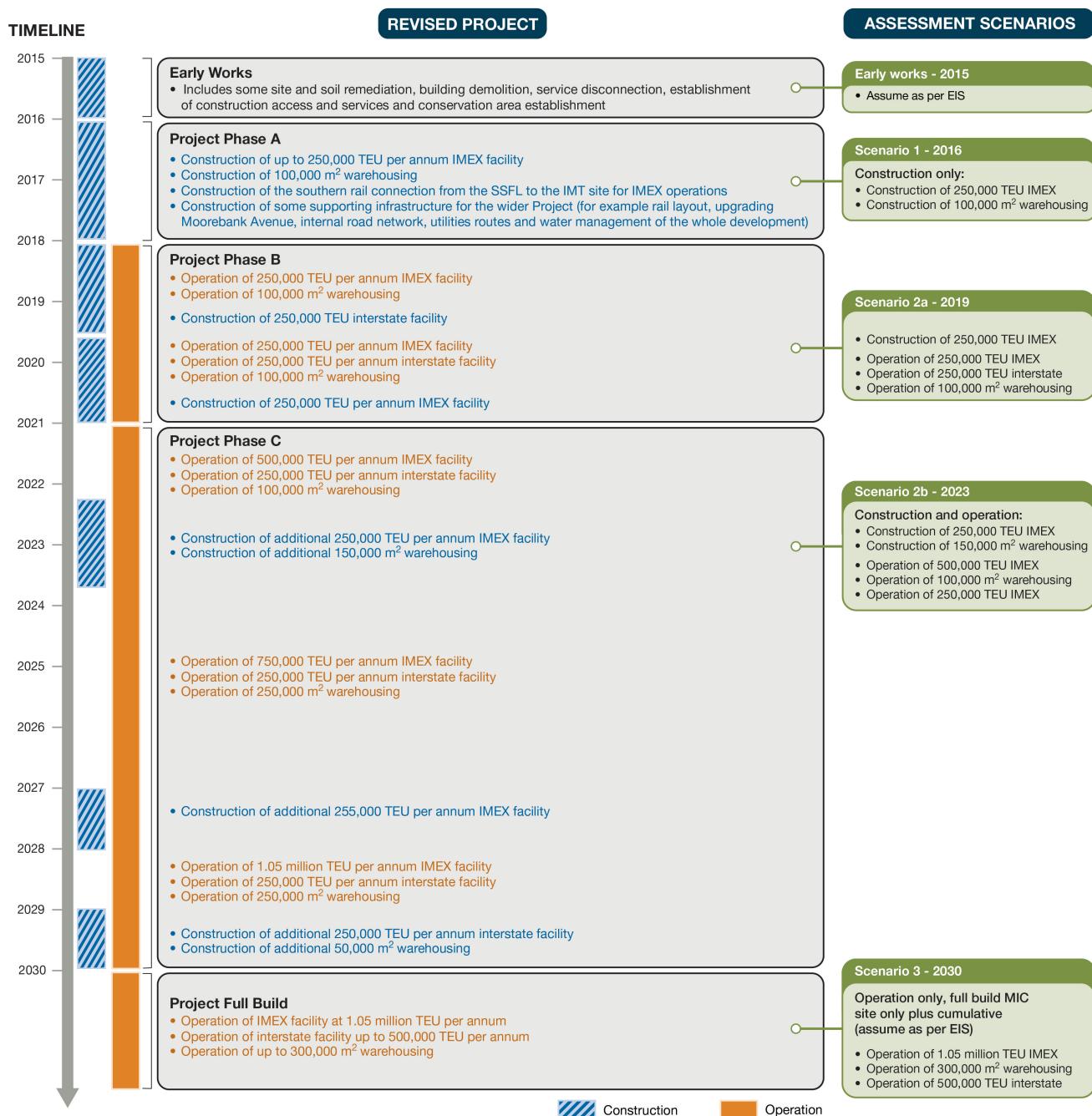
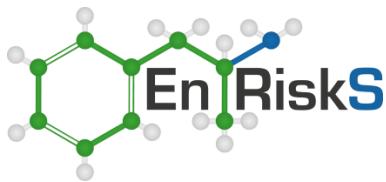


Figure 2 Revised Project Timeline and Assessment Scenarios



3.0 Changes to the HHRA

3.1 General

The HHRA was undertaken in the EIS to evaluate the impact of changes in local air quality on the health of the local community. As such the HHRA incorporates outputs from the assessment of local air quality.

The assessment of local air quality has been revised to address the following Project stages on the site:

- Scenario 1 (Phase A); and
- Scenario 3 (Full build).

These scenarios have been evaluated for all the air pollutants addressed in the EIS.

In addition the local air quality assessment has been revised to address the 4 cumulative scenarios (Scenarios A, B, C1 and C2). The cumulative scenarios have considered impacts from key pollutants (indicator) only, namely nitrogen dioxide and particulates (as PM₁₀ and PM_{2.5}).

For these scenarios the air quality assessment has been revised to account for the changes to the Project construction and operations that affect emissions to air. The modelling of changes in air quality in the surrounding community have then been revised. The assessment provides revised ground level concentrations at the sensitive receptor locations (as addressed in the EIS) in the surrounding community. These concentrations have been further evaluated in relation to impacts on community health, on the basis of the methodology and assumptions outlined in detail in HHRA.

In relation to the air pollutants addressed in the HHRA the following sections provide a summary of the revised calculations and assessment undertaken, relative to the assessment presented in the EIS.

3.2 Key Air Pollutants

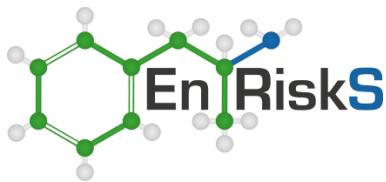
The assessment of emissions to air of oxides of nitrogen (specifically nitrogen dioxide, carbon monoxide and sulfur dioxide) involved comparison of predicted concentrations and comparison with guidelines that are based on the protection of community health, relevant to acute and chronic exposures. These have been evaluated for the Project site as well as the cumulative scenario (for nitrogen dioxide only).

Nitrogen Dioxide:

The assessment of exposures to nitrogen dioxide involved evaluation of acute and chronic exposures. The guidelines relate to the total concentration of nitrogen dioxide in air, from the project as well as all other sources (as a cumulative concentration). **Table 1** presents a comparison of the predicted cumulative acute and chronic air concentrations with the relevant health based guideline. The table also includes the maximum predicted concentrations presented in the EIS for the purpose of comparison.

Table 1 Review of potential health impacts – nitrogen dioxide

Scenario	Acute Exposures Maximum 1-hour average concentrations ($\mu\text{g}/\text{m}^3$)	Chronic Exposures Maximum annual average concentrations ($\mu\text{g}/\text{m}^3$)
Project site		
Scenario 1	115	24
Scenario 3	136	37
Maximum from EIS	133	39
Cumulative		
Scenario A	143	42
Scenario B	138	38
Scenario C1	139	39
Scenario C2	140	39
Maximum from EIS	146	43
Health Based Guideline	246	62



All the concentrations of nitrogen dioxide presented in the above table are well below the relevant health based guideline. Hence there are no adverse health effects expected in relation to exposures to nitrogen dioxide in the local area surrounding the Project. The concentrations predicted are similar to those presented in the EIS and the outcomes in relation to impacts on public health are unchanged from those presented in the EIS.

Carbon Monoxide:

The assessment of exposures to carbon monoxide involved evaluation of acute and chronic exposures. The guidelines relate to the total concentration of carbon monoxide in air, from the project as well as all other sources (as a cumulative concentration). **Table 2** presents a comparison of the predicted cumulative acute and chronic air concentrations with the relevant health based guideline. The table also includes the maximum predicted concentrations presented in the EIS for the purpose of comparison.

Table 2 Review of potential health impacts – Carbon monoxide

Scenario	Acute Exposures Maximum 1-hour average concentrations ($\mu\text{g}/\text{m}^3$)	Chronic Exposures Maximum 8-hour average concentrations ($\mu\text{g}/\text{m}^3$)
Project site		
Scenario 1	5 000	2064
Scenario 3	5 000	2168
Maximum from EIS	4 604	2112
Health Based Guideline	30 000	10 000

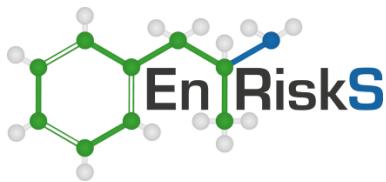
All the concentrations of carbon monoxide presented in the above table are well below the relevant health based guideline. Hence there are no adverse health effects expected in relation to exposures to carbon monoxide in the local area surrounding the Project. The concentrations predicted are similar to those presented in the EIS and the outcomes in relation to impacts on public health are unchanged from those presented in the EIS.

Sulfur Dioxide:

The assessment of exposures to sulfur dioxide involved evaluation of acute and chronic exposures. The guidelines relate to the total concentration of sulfur dioxide in air, from the project as well as all other sources (as a cumulative concentration). **Table 3** presents a comparison of the predicted cumulative acute and chronic air concentrations with the relevant health based guideline. The table also includes the maximum predicted concentrations presented in the EIS for the purpose of comparison.

Table 3 Review of potential health impacts – Sulfur dioxide

Scenario	Acute Exposures Maximum 1-hour average concentrations ($\mu\text{g}/\text{m}^3$)	Acute Exposures Maximum 24-hour average concentrations ($\mu\text{g}/\text{m}^3$)	Chronic Exposures Maximum annual average concentrations ($\mu\text{g}/\text{m}^3$)
Project site			
Scenario 1	34.3	8.9	1.9
Scenario 3	34.4	8.9	2.0
Maximum from EIS	31.6	8.2	1.9
Health Based Guideline	570	228	60



All the concentrations of sulfur dioxide presented in the above table are well below the relevant health based guideline. Hence there are no adverse health effects expected in relation to exposures to sulfur dioxide in the local area surrounding the Project. The concentrations predicted are similar to those presented in the EIS and the outcomes in relation to impacts on public health are unchanged from those presented in the EIS.

3.3 Polycyclic Aromatic Hydrocarbons and Volatile Organic Compounds

The assessment of exposures to volatile organic compounds (VOCs) and polycyclic aromatic hydrocarbons (PAHs) involved evaluation of key individual compounds (relevant to emissions to air from combustion sources) for both acute and chronic exposures (where relevant). The assessment involved comparison of the predicted concentration of individual VOCs and PAHs derived from the project to health based air guidelines. The comparison involved calculation of a hazard index (HI, the ratio of the concentration predicted to the health based guideline). The HI's for each individual chemical were summed to enable an assessment of community exposures to all these compounds together (at the same time). **Tables 4 and 5** presents the assessment of potential acute and chronic exposures to VOCs and PAHs derived from the project. The table also includes the range of calculated HIs presented in the EIS for the purpose of comparison.

Table 4 Review of potential health impacts – Acute Exposure to VOCs

Key VOC	Proportion of total VOCs*	Maximum predicted acute 1-hour average concentration ** ($\mu\text{g}/\text{m}^3$)		Health based acute guideline ($\mu\text{g}/\text{m}^3$)	Calculated acute HI	
		Scenario 1	Scenario 3		Scenario 1	Scenario 3
Total VOCs		3.1	146.8			
Benzene	0.16%	0.0050	0.23	29 ^A to 170 ^{T1}	0.00017	0.0081
Toluene	0.06%	0.0018	0.082	4500 ^{T2}	0.00000039	0.000018
Xylenes	0.07%	0.0021	0.10	2200 ^{T3}	0.0000010	0.000045
1,3-Butadiene	0.02%	0.00058	0.027	660 ^{O1}	0.00000088	0.000041
Formaldehyde	1.35%	0.043	2.0	15 ^{T4}	0.0028	0.13
Acetaldehyde	0.23%	0.0071	0.33	470 ^{O2}	0.000015	0.00070
		Total acute HI		0.0030	0.14	
		Range from EIS		0.034 to 0.064		
Acceptable HI (based on protection of health for all members of community)					≤1	≤1

Notes for Table 4:

* Concentrations presented for the 1 hour average are the predicted incremental 99.9th percentile concentrations (as provided from the revisions to the LAQIA)

A: Acute inhalation guideline (for exposures from 1 hour to 14 days) from review by ATSDR 2008 for benzene

T1: TCEQ 2007, Benzene, Development Support Document. Texas Commission of Environmental Quality, 1 hour average guideline value (include additional 3.3 fold safety factor). This acute guideline is lower than that derived by the OEHHA (based on older studies)

T2: TCEQ 2008, Toluene, Development Support Document. Texas Commission of Environmental Quality, 1 hour average guideline value (include additional 3.3 fold safety factor)

T3: TCEQ 2009, Xylenes, Development Support Document. Texas Commission of Environmental Quality, 1 hour average guideline value (include additional 3.3 fold safety factor)

T4: TCEQ 2008, Formaldehyde, Development Support Document. Texas Commission of Environmental Quality, 1 hour average guideline value (include additional 3.3 fold safety factor). This guideline is noted to be lower than the acute guideline available from the WHO (2000a, 2010) of 100 $\mu\text{g}/\text{m}^3$ for formaldehyde

O1: OEHHA 2013, Acute (1 hour average) guideline derived by the California Office of Environmental Health Hazard Assessment. The guideline developed is lower than developed by TCEQ (2008) based on the same critical study

O2: OEHHA 2008, Acute (1 hour average) guideline derived by the California Office of Environmental Health Hazard Assessment

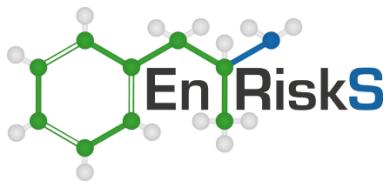
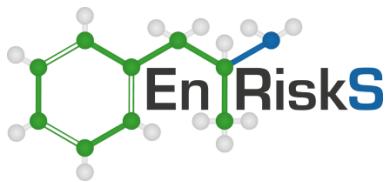


Table 5 Review of potential health impacts – Chronic Exposures to VOCs and PAHs

Key VOC	% total VOCs or PAHs	Maximum predicted chronic annual average concentration * ($\mu\text{g}/\text{m}^3$)		Health based chronic guideline ($\mu\text{g}/\text{m}^3$)	Calculated chronic HI	
		Scenario 1	Scenario 3		Scenario 1	Scenario 3
Total VOCs		0.15	39.3			
Benzene	0.16%	0.00023	0.062	1.7 ^{W#}	0.0000081	0.0022
Toluene	0.06%	0.00008	0.0220	5000 ^U	0.000000018	0.0000049
Xylenes	0.07%	0.00010	0.027	220 ^{A1}	0.000000045	0.000012
1,3-Butadiene	0.02%	0.00003	0.0073	0.3 ^{U2}	0.000000041	0.000011
Formaldehyde	1.35%	0.0020	0.53	3.3 ^{T1}	0.00013	0.035
Acetaldehyde	0.23%	0.00033	0.089	9 ^{U3}	0.00000071	0.00019
Total PAHs		0.0012	0.0048			
Naphthalene	87.65%	0.0010	0.0042	3 ^{U4}	0.00034	0.0014
Acenaphthylene	4.02%	4.7E-05	1.9E-04	200 ^{U5S}	0.00000024	0.00000097
Acenaphthene	1.96%	2.3E-05	9.4E-05	200 ^{U5S}	0.00000011	0.00000047
Fluorene	3.31%	3.9E-05	1.6E-04	140 ^{U5}	0.00000028	0.0000011
Phenanthrene	1.68%	2.0E-05	8.1E-05	140 ^{U5S}	0.00000014	0.00000058
Anthracene	0.07%	8.2E-07	3.4E-06	100 ^{U5}	0.000000089	0.00000034
Fluoranthene	0.26%	3.0E-06	1.2E-05	140 ^{U5}	0.000000021	0.000000088
Pyrene	0.49%	5.7E-06	2.4E-05	100 ^{U5}	0.000000057	0.00000024
Benzo(a)pyrene TEQ	0.11%	1.3E-06	5.5E-06	0.00012 ^{W2}	0.011	0.046
Total chronic HI					0.012	0.085
Range from EIS					0.012 to 0.11	
Acceptable HI (based on protection of health for all members of community)					≤1	≤1

Notes for Table 5:

- * Percentage of each individual PAH is based on data from DEH ((DEH 2003), page 91 for heavy-duty vehicle Segment 1 – congested traffic flow). The percentages adopted are expected to be conservative for the assessment of current and future diesel vehicles as emission standards for newer vehicles have improved over time, and will continue to improve to and beyond 2030.
- W1: WHO 2000 Air Quality Guidelines, value for benzene is based on non-threshold carcinogenic effects (excess lifetime risk of leukaemia). Guideline value based on incremental cancer risk of 1×10^{-5} , consistent with guidance provided by NEPM (1999 amended 2013) and enHealth (2012)
- W2: WHO 2010 Guidelines for Indoor Air Quality, value for BaP is based on non-threshold carcinogenic effects from occupational study of coke workers (lung cancer is critical effect). Guideline value based on incremental cancer risk of 1×10^{-5} , consistent with guidance provided by NEPM (1999 amended 2013) and enHealth (2012)
- T1: TCEQ 2008, Formaldehyde, Development Support Document. Texas Commission of Environmental Quality. The air guideline is derived on the basis of irritation of the eyes and airway discomfort in humans, with review of carcinogenic and other non-carcinogenic effects found to be adequately protected by this guideline. The guideline is more conservative than derived by the WHO (2010)
- A1: ATSDR 2007, Toxicological Profile for Xylene, chronic inhalation guideline derived is the most current robust evaluation
- U1: USEPA evaluation for toluene (most recently reviewed in 2005). This is the most current evaluation of effects associated with chronic inhalation exposure to toluene and is consistent with the value used to derive the NEPM (1999 amended 2013) health based guidelines
- U2: USEPA evaluation of 1,3-butadiene (most recently updated in 2002) with the chronic guideline adopted as the lower from the evaluation of non-threshold carcinogenic effects and non-cancer effects. This is the most conservative evaluation of this compound. A more recent review by TCEQ (2013) on the basis of the same critical studies as well as more current studies resulted in a higher chronic air guideline value.
- U3: USEPA evaluation of acetaldehyde (most recently updated in 1991). The guideline established is lower than more recent reviews undertaken by the WHO (2000) and the Californian OEHHA where less conservative evaluations are presented.
- U4: USEPA evaluation of naphthalene (most recently updated in 1998). The guideline established is and is consistent with the value used to derive the NEPM (1999 amended 2013) health based guidelines
- U5: Guideline available from the USEPA. Chronic guidelines for non-carcinogenic polycyclic aromatic hydrocarbons are based on criteria derived from oral studies (for critical effects on the liver, kidney and haematology) which are then converted to an inhalation value (relevant for the protection of public health, including the use of safety factors) for use in this assessment. The value presented in the above table has been converted from an acceptable dose in mg/kg/day to an acceptable air concentration assuming a body weight of 70kg and inhalation of 20 m³/day (as per (USEPA 2009a))
- U5S: No guideline available for individual polycyclic aromatic hydrocarbon, hence a surrogate compound has been used for the purpose of screening. The surrogate compound is a polycyclic aromatic hydrocarbon of similar structure and toxicity. In relation to the surrogates adopted in this evaluation, acenaphthene has been adopted as a surrogate for acenaphthylene, fluoranthene has been adopted as a surrogate for phenanthrene



All the maximum predicted concentration of all key VOCs and PAHs likely to be derived from emission sources (all vehicles and locomotives) associated with the Project are well below acute and chronic guidelines that are based on the protection of human health (including sensitive individuals). Hence there are no adverse health effects expected in relation to exposures to VOCs and PAHs in the local area surrounding the Project. The concentrations predicted are similar to those presented in the EIS and the outcomes in relation to impacts on public health are unchanged from those presented in the EIS.

3.4 Particulates

The assessment of potential health impact associated with particulate emissions from the Project have been assessed on the basis of the following:

- Assessment of cumulative impacts (derived from operations at the Project site as well as all other sources in the area) and comparison with NEPM guidelines, based on the protection of community health. This assessment is presented in the air quality assessment where the outcomes presented in the EIS remain unchanged. This review will not include any further detail in relation to this aspect.
- Assessment of incremental impacts of emissions to air from the Project. This has been undertaken by calculating incremental risks to human health that are associated with primary and secondary health indicators (health effects where robust associations have been identified between increases in exposure concentrations and an increase in a health indicator such as hospitalisations or mortality). In addition the increased incidence of the changes in particulate matter concentrations affecting the incidence of the primary health indicators in the community has been evaluated. The health indicators discussed and presented in the HHRA have been further evaluated for the revised Project proposal.

Where relevant the assessment has considered exposure to PM₁₀ (more coarse particulate sizes typically present as a result of construction activities) and PM_{2.5} (the finer particulates associated with emissions from combustion sources). In addition to these particulate sizes, an assessment of PM_{2.5} as diesel particulate matter (DPM, assuming 100% of the PM_{2.5} is DPM) has been undertaken.

Tables 6 and 7 presents a summary of the calculated incremental risks for the primary and secondary health indicators evaluated, in relation to the revised Project Scenario 1 and Scenario 3 operations and the cumulative scenarios. **Table 8** presents a summary of the calculated increased incidence for the primary health endpoints considered in the assessment. In addition the calculated increase in use of bronchodilators by young children (5-14 years) is presented. The maximum of calculated risks and increased incidence presented in the EIS have been included in the table for the purpose of comparison.

Attachment A presents the detailed calculations undertaken for these scenarios, for each of the sensitive receivers considered in the HHRA.

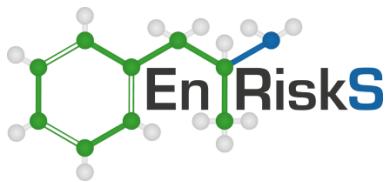


Table 6 Summary of calculated incremental annual risks associated with exposure to PM_{2.5} – Primary health indicators

Scenario and receptor group	Calculated incremental annual risks for the following primary health endpoints – maximum for receptor groups evaluated		
	Mortality all causes (long-term exposure, ages ≥ 30 years)	Cardiovascular hospitalisations (short-term exposure, ages ≥ 65 years)	Respiratory hospitalisations (short-term exposure, ages ≥ 65 years)
Revised Project			
Scenario 1			
- residential	2.4×10^{-6}	7.1×10^{-6}	1.4×10^{-6}
- school	1.4×10^{-6}	4.2×10^{-6}	8.2×10^{-7}
- recreational	1.2×10^{-7}	3.6×10^{-7}	6.9×10^{-8}
- workplace	4.2×10^{-6}	1.3×10^{-5}	2.4×10^{-6}
Scenario 3			
- residential	1.5×10^{-5}	4.8×10^{-5}	9.3×10^{-6}
- school	6.3×10^{-6}	1.9×10^{-5}	3.6×10^{-6}
- recreational	8.5×10^{-7}	2.5×10^{-6}	4.9×10^{-7}
- workplace	2.0×10^{-5}	6.0×10^{-5}	1.2×10^{-5}
Maximum from EIS			
- residential	2.0×10^{-5}	5.9×10^{-5}	1.1×10^{-5}
- school	5.8×10^{-6}	1.7×10^{-5}	3.3×10^{-6}
- recreational	9.2×10^{-7}	2.7×10^{-6}	5.3×10^{-7}
- workplace	1.7×10^{-5}	5.1×10^{-5}	9.9×10^{-6}
Cumulative			
Scenario A			
- residential	2.2×10^{-5}	6.6×10^{-5}	1.3×10^{-5}
- school	1.1×10^{-5}	3.3×10^{-5}	6.4×10^{-6}
- recreational	1.1×10^{-6}	3.4×10^{-6}	6.5×10^{-7}
- workplace	4.4×10^{-5}	1.3×10^{-4}	2.5×10^{-5}
Scenario B			
- residential	1.3×10^{-5}	3.9×10^{-5}	7.6×10^{-6}
- school	8.2×10^{-6}	2.4×10^{-5}	4.7×10^{-6}
- recreational	6.2×10^{-7}	1.8×10^{-6}	3.6×10^{-7}
- workplace	3.1×10^{-5}	9.2×10^{-5}	1.8×10^{-5}
Scenario C1			
- residential	1.5×10^{-5}	4.3×10^{-5}	8.3×10^{-6}
- school	9.0×10^{-6}	2.7×10^{-5}	5.2×10^{-6}
- recreational	7.4×10^{-7}	2.2×10^{-6}	4.3×10^{-7}
- workplace	3.1×10^{-5}	9.3×10^{-5}	2.8×10^{-5}
Scenario C2			
- residential	1.3×10^{-5}	3.9×10^{-5}	7.6×10^{-6}
- school	8.4×10^{-6}	2.5×10^{-5}	4.8×10^{-6}
- recreational	6.1×10^{-7}	1.8×10^{-6}	3.5×10^{-7}
- workplace	3.2×10^{-5}	9.4×10^{-5}	1.8×10^{-5}
Maximum from EIS			
- residential	2.0×10^{-5}	6.0×10^{-5}	1.2×10^{-5}
- school	8.2×10^{-6}	2.4×10^{-5}	4.7×10^{-6}
- recreational	1.2×10^{-6}	3.5×10^{-6}	6.7×10^{-7}
- workplace	3.9×10^{-5}	1.2×10^{-4}	2.2×10^{-5}

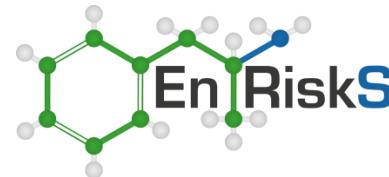
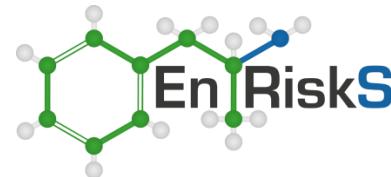


Table 7 Summary of calculated incremental risks for secondary health indicators – Exposure to PM_{2.5} and PM₁₀ – Northern rail access

Particulate fraction:	PM ₁₀	PM _{2.5}	PM _{2.5}	PM _{2.5}	PM _{2.5}	DPM
Health endpoint:	Mortality - All Causes, Short-Term, All ages	Mortality - All Causes, Short-Term, All ages	Mortality – Cardiopulmonary Long-term, ≥ 30 years	Mortality – Cardiovascular Short-Term, All ages	Mortality – Respiratory, Short-Term, All ages	Lung cancer – all ages
Scenario and receptor group	Risk	Risk	Risk	Risk	Risk	Lifetime Risk
Revised Project						
Scenario 1						
- residential	1.1 x10 ⁻⁶	2.4X10 ⁻⁷	2.4X10 ⁻⁶	6.0X10 ⁻⁸	4.1X10 ⁻⁸	1.3X10 ⁻⁶
- school	6.5X10 ⁻⁷	1.4X10 ⁻⁷	1.4X10 ⁻⁶	3.6X10 ⁻⁸	2.4X10 ⁻⁸	7.7X10 ⁻⁷
- recreational	1.1X10 ⁻⁸	1.2X10 ⁻⁸	1.2X10 ⁻⁷	3.1X10 ⁻⁹	2.1X10 ⁻⁹	6.5X10 ⁻⁸
- workplace	1.9X10 ⁻⁶	4.2X10 ⁻⁷	4.3X10 ⁻⁶	1.1X10 ⁻⁷	7.3X10 ⁻⁸	2.3X10 ⁻⁶
Scenario 3						
- residential	1.1X10 ⁻⁶	1.6X10 ⁻⁶	1.6X10 ⁻⁵	4.1X10 ⁻⁷	2.8X10 ⁻⁷	8.8X10 ⁻⁶
- school	4.1X10 ⁻⁷	6.3X10 ⁻⁷	6.4X10 ⁻⁶	1.6X10 ⁻⁷	1.1X10 ⁻⁷	3.4X10 ⁻⁶
- recreational	5.4X10 ⁻⁸	8.5X10 ⁻⁸	8.6X10 ⁻⁷	2.1X10 ⁻⁸	1.5X10 ⁻⁸	4.6X10 ⁻⁷
- workplace	1.3X10 ⁻⁶	2.0X10 ⁻⁶	2.1X10 ⁻⁵	5.1X10 ⁻⁷	3.5X10 ⁻⁷	1.1X10 ⁻⁵
Maximum from EIS						
- residential	1.4X10 ⁻⁶	2.0X10 ⁻⁶	2.0X10 ⁻⁵	5.0X10 ⁻⁷	5.4X10 ⁻⁷	1.1X10 ⁻⁵
- school	4.7X10 ⁻⁷	5.8X10 ⁻⁷	5.9X10 ⁻⁶	1.5X10 ⁻⁷	1.0X10 ⁻⁷	3.1X10 ⁻⁶
- recreational	5.9X10 ⁻⁸	9.2X10 ⁻⁸	9.3X10 ⁻⁷	2.3X10 ⁻⁸	1.6X10 ⁻⁸	5.0X10 ⁻⁷
- workplace	1.3X10 ⁻⁶	1.7X10 ⁻⁶	1.7X10 ⁻⁵	4.3X10 ⁻⁷	3.0X10 ⁻⁷	9.3X10 ⁻⁶
Cumulative						
Scenario A						
- residential	1.4X10 ⁻⁶	2.2X10 ⁻⁶	2.2X10 ⁻⁵	5.6X10 ⁻⁷	3.8X10 ⁻⁷	1.2X10 ⁻⁵
- school	7.3X10 ⁻⁷	1.1X10 ⁻⁶	1.1X10 ⁻⁵	2.8X10 ⁻⁷	1.9X10 ⁻⁷	6.0X10 ⁻⁶
- recreational	7.2X10 ⁻⁸	1.1X10 ⁻⁷	1.1X10 ⁻⁶	2.9X10 ⁻⁸	1.9X10 ⁻⁸	6.1X10 ⁻⁷
- workplace	2.8X10 ⁻⁶	4.4X10 ⁻⁶	4.4X10 ⁻⁵	1.1X10 ⁻⁶	7.5X10 ⁻⁷	2.4X10 ⁻⁵
Scenario B						
- residential	8.7X10 ⁻⁷	1.3X10 ⁻⁶	1.3X10 ⁻⁵	3.4X10 ⁻⁷	2.3X10 ⁻⁷	7.2X10 ⁻⁶
- school	5.4X10 ⁻⁷	8.2X10 ⁻⁷	8.3X10 ⁻⁶	2.1X10 ⁻⁷	1.4X10 ⁻⁷	4.4X10 ⁻⁶
- recreational	4.0X10 ⁻⁸	6.2X10 ⁻⁸	6.3X10 ⁻⁷	1.6X10 ⁻⁸	1.1X10 ⁻⁸	3.4X10 ⁻⁷



Particulate fraction:	PM ₁₀	PM _{2.5}	PM _{2.5}	PM _{2.5}	PM _{2.5}	DPM
Health endpoint:	Mortality - All Causes, Short-Term, All ages	Mortality - All Causes, Short-Term, All ages	Mortality – Cardiopulmonary Long-term, ≥ 30 years	Mortality – Cardiovascular Short-Term, All ages	Mortality – Respiratory, Short-Term, All ages	Lung cancer – all ages
Scenario and receptor group	Risk	Risk	Risk	Risk	Risk	Lifetime Risk
- workplace	2.0X10 ⁻⁶	3.1X10 ⁻⁶	3.1X10 ⁻⁵	7.9X10 ⁻⁷	5.3X10 ⁻⁷	1.7X10 ⁻⁵
Scenario C1						
- residential	1.9X10 ⁻⁶	1.5X10 ⁻⁶	1.5X10 ⁻⁵	3.7X10 ⁻⁷	2.5X10 ⁻⁷	7.9X10 ⁻⁶
- school	8.6X10 ⁻⁷	9.0X10 ⁻⁷	9.1X10 ⁻⁶	2.3X10 ⁻⁷	1.5X10 ⁻⁷	4.9X10 ⁻⁶
- recreational	4.7X10 ⁻⁸	7.4X10 ⁻⁸	7.5X10 ⁻⁷	1.9X10 ⁻⁸	1.3X10 ⁻⁸	4.0X10 ⁻⁷
- workplace	2.5X10 ⁻⁶	3.1X10 ⁻⁶	3.2X10 ⁻⁵	7.9X10 ⁻⁷	5.4X10 ⁻⁷	1.7X10 ⁻⁵
Scenario C2						
- residential	8.7X10 ⁻⁷	1.3X10 ⁻⁶	1.3X10 ⁻⁵	3.3X10 ⁻⁷	2.3X10 ⁻⁷	7.1X10 ⁻⁶
- school	5.5X10 ⁻⁷	8.4X10 ⁻⁷	8.5X10 ⁻⁶	2.1X10 ⁻⁷	1.4X10 ⁻⁷	4.6X10 ⁻⁶
- recreational	3.9X10 ⁻⁸	6.1X10 ⁻⁸	6.2X10 ⁻⁷	1.5X10 ⁻⁸	1.1X10 ⁻⁸	3.3X10 ⁻⁷
- workplace	2.1X10 ⁻⁶	3.2X10 ⁻⁶	3.2X10 ⁻⁵	8.0X10 ⁻⁷	5.4X10 ⁻⁷	1.7X10 ⁻⁵
Maximum from EIS						
- residential	1.3X10 ⁻⁶	2.0X10 ⁻⁶	2.0X10 ⁻⁵	5.1X10 ⁻⁷	3.5X10 ⁻⁷	1.1X10 ⁻⁵
- school	5.4X10 ⁻⁷	8.2X10 ⁻⁷	8.3X10 ⁻⁶	2.1X10 ⁻⁷	1.4X10 ⁻⁷	4.4X10 ⁻⁶
- recreational	7.5X10 ⁻⁸	1.2X10 ⁻⁷	1.2X10 ⁻⁶	3.0X10 ⁻⁸	2.0 X10 ⁻⁸	6.3X10 ⁻⁷
- workplace	2.6X10 ⁻⁶	3.9X10 ⁻⁶	3.9 X10 ⁻⁵	9.8X10 ⁻⁷	6.7X10 ⁻⁷	2.1X10 ⁻⁵

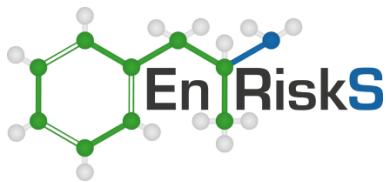


Table 8 Calculated increased population incidence (additional cases per year) – Exposure to PM_{2.5}: Primary indicators and PM₁₀: Asthma in young children

Scenario	Calculated incremental annual incidence for the following primary health endpoints (summed over all suburbs) associated with exposure to PM _{2.5}			Calculated Increase in use of bronchodilator, young children (5-14 years) based on exposure to PM ₁₀ – additional uses of bronchodilator per year
	Mortality all causes (long-term exposure, ages ≥30 years)	Cardiovascular hospitalisations (short-term exposure, ages ≥65 years)	Respiratory hospitalisations (short-term exposure, ages ≥65 years)	
Revised Project				
- Scenario 1	0.02	0.01	0.002	1.4
- Scenario 3	0.1	0.08	0.02	1.4
Maximum from EIS	0.1	0.07	0.01	1.4
Cumulative				
- Scenario A	0.2	0.1	0.02	2.3
- Scenario B	0.1	0.08	0.01	1.5
- Scenario C1	0.2	0.09	0.02	2.8
- Scenario C2	0.1	0.08	0.01	1.5
Maximum from EIS	0.2	0.1	0.02	2.1

The interpretation of calculated risks and increased incidence associated with community exposures to increased concentrations of PM₁₀ and PM_{2.5} in the community is complex. The HHRA provides a detailed discussion of the approach adopted in the assessment for determining whether a calculated exposure may be considered negligible, tolerable or potentially unacceptable.

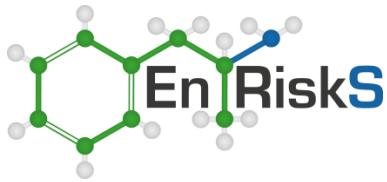
The calculated risks and population incidence associated with exposure to PM₁₀ and PM_{2.5} in the community associated with the Project are consistent with the levels of risk and increased incidence presented in the HHRA in the EIS. On this basis the conclusions presented in the EIS remain unchanged in relation to potential exposures to PM₁₀ and PM_{2.5} derived from the Project, which are:

- In relation to the assessment of key phases of the revised Project, potential health impacts are low (not significant) in the surrounding community. Regardless of this assessment, where possible the best available technology and mitigation measures should be implemented to minimise exposures to particulates in the community.
- In relation to the assessment of cumulative impacts from the operation of both the Moorebank and SIMTA sites, the predicted health impacts are generally considered to be low (not significant); however there is the potential for risks in adjacent commercial/industrial areas to be at a level that is considered unacceptable. Mitigation measures need to be implemented to minimise exposure to particulates in the adjacent workplaces.

4.0 Conclusions

Following public exhibition of the EIS in relation to the Moorebank Intermodal Terminal, MIC and SIMTA have reached in-principle agreement for SIMTA to develop and operate a precinct-wide intermodal facility and associated warehousing across the Moorebank and SIMTA sites. The revised Project plans relevant to the Moorebank site as well as revised cumulative scenarios associated with the operation of both the SIMTA and Moorebank site have been further evaluated.

Based on the revised Project scenarios considered the conclusions presented in the EIS in relation to impacts on the health of the local community are unchanged.



5.0 Limitations

Environmental Risk Sciences has prepared this letter for the use of Parsons Brinckerhoff in accordance with the usual care and thoroughness of the consulting profession. It is based on generally accepted practices and standards at the time it was prepared. No other warranty, expressed or implied, is made as to the professional advice included in this letter.

It is prepared in accordance with the scope of work and for the purpose outlined in this letter.

The methodology adopted and sources of information used are outlined in this letter. Environmental Risk Sciences has made no independent verification of this information beyond the agreed scope of works and assumes no responsibility for any inaccuracies or omissions. No indications were found that information provided for use in this review was false.

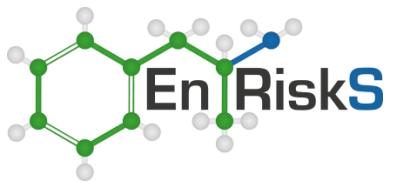
This letter was prepared in February 2015 and is based on the information provided and reviewed at that time. Environmental Risk Sciences disclaims responsibility for any changes that may have occurred after this time.

This letter should be read in full. No responsibility is accepted for use of any part of this letter in any other context or for any other purpose or by third parties. This letter does not purport to give legal advice. Legal advice can only be given by qualified legal practitioners.

Please contact Jackie on (02) 9614 0297 or 0425 206 295 if you require any additional information in relation to the above.

Yours sincerely,

Jackie Wright
Principal/Director
Environmental Risk Sciences Pty Ltd



Attachment A Revised Risk Calculations

Quantification of Effects - PM2.5 and PM10

Revised Project: Scenario 1

		Particulate Fraction:			PM2.5	PM2.5	PM2.5	PM10	PM2.5	PM2.5	PM2.5	PM2.5	PM2.5	Incremental Risk -DPM
		Endpoint:	Mortality - All Causes	Hospitalisations - Cardiovascular	Hospitalisations - Respiratory	Mortality - All Causes	Mortality - All Causes	Mortality - Cardiopulmonary	Mortality - Cardiovascular	Mortality - Respiratory	Mortality - All Causes	Mortality - All Causes	Mortality - Respiratory	(based on WHO)
		Effect Exposure Duration:	Long-term	Short-term	Short-term	Short-Term	Short-Term	Long-term	Short-Term	Short-Term	All ages	All ages	All ages	Unit Risk
		Age Group:	≥ 30 years	≥ 65 years	≥ 65 years	All ages	All ages	≥ 30 years	All ages	All ages	All ages	All ages	All ages	
β (change in effect per 1 µg/m³ PM) (as per Table 4.1)	0.0058		0.0008	0.00041		0.0006	0.00094	0.013	0.00097	0.0019				
Baseline Incidence (per 100,000) (as per Table 2.3)	1.087		23352	8807		670	670	490	164	57				
Baseline Incidence (per person)	0.01087		0.23352	0.08807		0.0067	0.0067	0.0049	0.00164	0.00057				
Modifying factor for commercial/industrial exposures (refer to Section 4.3.4 in report)	0.22		0.22	0.22		0.22	0.22	0.22	0.22	0.22				0.22
Modifying factor for recreational exposures (refer to Section 4.3.4 in report)	0.047		0.047	0.047		0.047	0.047	0.047	0.047	0.047				0.047
Receptor		Increase in Annual Average PM10 Concentration (µg/m³)	Increase in Annual Average PM2.5 Concentration (µg/m³)	Risk (Equation 6)	Risk (Equation 6)	Risk (Equation 6)	Risk (Equation 6)	Risk (Equation 6)	Risk (Equation 6)	Risk (Equation 6)	Risk (Equation 6)	Risk (Equation 6)	Risk (Equation 6)	Risk
Maximum Receptor														
Boundary location	Commercial/Industrial	2.1	0.30	4.2E-06	1.3E-05	2.4E-06	1.9E-06	4.2E-07	4.3E-06	1.1E-07	7.3E-08	2.3E-06		
Sensitive Receptors														
Wattle Grove														
Wallcliff Cres	Residential	0.099	0.014	8.9E-07	2.6E-06	5.1E-07	4.0E-07	8.9E-08	9.0E-07	2.2E-08	1.5E-08	4.8E-07		
Corryton Ct	Residential	0.095	0.014	8.5E-07	2.5E-06	4.9E-07	3.8E-07	8.5E-08	8.6E-07	2.2E-08	1.5E-08	4.6E-07		
Marindale Ct (Receptor 3 in Simta Report)	Residential	0.087	0.013	7.9E-07	2.3E-06	4.5E-07	3.5E-07	7.9E-08	8.0E-07	2.0E-08	1.4E-08	4.3E-07		
Anzac Road (Receptor 2 in Simta report)	Residential	0.10	0.017	1.1E-06	3.1E-06	6.1E-07	4.2E-07	1.1E-07	1.1E-06	2.7E-08	1.8E-08	5.7E-07		
Anzac Road (Receptor 2 in Simta report)	Commercial/Industrial	0.10	0.017	2.3E-07	6.9E-07	1.3E-07	9.3E-08	2.3E-08	2.4E-07	5.9E-09	4.0E-09	1.3E-07		
Yallum Cres (Receptor 3 in Simta report)	Residential	0.11	0.016	9.9E-07	2.9E-06	5.7E-07	4.4E-07	9.9E-08	1.0E-06	2.5E-08	1.7E-08	5.3E-07		
Wattle Grove Public School	Residential/School	0.082	0.012	7.4E-07	2.2E-06	4.2E-07	3.3E-07	7.4E-08	7.4E-07	1.9E-08	1.3E-08	4.0E-07		
St Marks Coptic College	Residential/School	0.059	0.0085	5.4E-07	1.6E-06	3.1E-07	2.4E-07	5.3E-08	5.4E-07	1.4E-08	9.2E-09	2.9E-07		
Anzac Creek Park	Residential	0.060	0.0091	5.8E-07	1.7E-06	3.3E-07	2.4E-07	5.8E-08	5.8E-07	1.5E-08	9.9E-09	3.1E-07		
Anzac Creek Park	Recreational	0.060	0.0091	2.7E-08	8.0E-08	1.6E-08	1.1E-08	2.7E-09	2.7E-08	6.8E-10	4.7E-10	1.5E-08		
Average Residential		0.084	0.012	7.8E-07	2.3E-06	4.5E-07	3.4E-07	7.8E-08	7.9E-07	2.0E-08	1.3E-08	4.2E-07		
Moorebank														
Church Road (Receptor 7 in Simta report)	Residential	0.052	0.0087	5.5E-07	1.6E-06	3.1E-07	2.1E-07	5.5E-08	5.5E-07	1.4E-08	9.4E-09	3.0E-07		
Anzac Road (Receptor 2 in Simta report)	Residential	0.10	0.017	1.1E-06	3.1E-06	6.1E-07	4.2E-07	1.1E-07	1.1E-06	2.7E-08	1.8E-08	5.7E-07		
Anzac Road (Receptor 2 in Simta report)	Commercial/Industrial	0.10	0.017	2.3E-07	6.9E-07	1.3E-07	9.3E-08	2.3E-08	2.4E-07	5.9E-09	4.0E-09	1.3E-07		
DNSDC proposed relocation	Commercial/Industrial	0.093	0.014	1.9E-07	5.7E-07	1.1E-07	8.2E-08	1.9E-08	1.9E-07	4.8E-09	3.3E-09	1.0E-07		
Average Residential		0.078	0.013	8.0E-07	2.4E-06	4.6E-07	3.1E-07	8.0E-08	8.1E-07	2.0E-08	1.4E-08	4.3E-07		
Liverpool														
Al Amanah College Liverpool Campus Liverpool	Residential/School	0.033	0.0052	3.3E-07	9.7E-07	1.9E-07	1.3E-07	3.3E-08	3.3E-07	8.2E-09	5.6E-09	1.8E-07		
Liverpool West Public Schoo	Residential/School	0.025	0.0038	2.4E-07	7.1E-07	1.4E-07	1.0E-07	2.4E-08	2.4E-07	6.0E-09	4.1E-09	1.3E-07		
Liverpool Public Schoo	Residential/School	0.021	0.0031	2.0E-07	5.9E-07	1.1E-07	8.3E-08	2.0E-08	2.0E-07	5.0E-09	3.4E-09	1.1E-07		
Average Residential		0.026	0.0040	2.5E-07	7.5E-07	1.5E-07	1.1E-07	2.5E-08	2.6E-07	6.4E-09	4.4E-09	1.4E-07		
Lurnea														
Lurnea High Schoo	Residential/School	0.043	0.0061	3.9E-07	1.1E-06	2.2E-07	1.7E-07	3.9E-08	3.9E-07	9.8E-09	6.7E-09	2.1E-07		
St Francis Xavier Primary School Lurnea	Residential/School	0.031	0.0046	2.9E-07	8.6E-07	1.7E-07	1.3E-07	2.9E-08	2.9E-07	7.3E-09	5.0E-09	1.6E-07		
Average Residential		0.037	0.0054	3.4E-07	1.0E-06	1.9E-07	1.5E-07	3.4E-08	3.4E-07	8.6E-09	5.8E-09	1.8E-07		
Casula														
Lakewood Crescent	Residential	0.14	0.022	1.4E-06	4.1E-06	7.9E-07	5.6E-07	1.4E-07	1.4E-06	3.5E-08	2.4E-08	7.5E-07		
St Andrews Boulevard	Residential	0.22	0.032	2.0E-06	6.0E-06	1.2E-06	8.7E-07	2.0E-07	2.0E-06	5.1E-08	3.5E-08	1.1E-06		
Buckland Rd Receiver (Receptor 6 in Simta Report)	Residential	0.26	0.038	2.4E-06	7.1E-06	1.4E-06	1.1E-06	2.4E-07	2.4E-06	6.0E-08	4.1E-08	1.3E-06		
Dunmore Cres	Residential	0.23	0.032	2.0E-06	6.0E-06	1.2E-06	9.2E-07	2.0E-07	2.0E-06	5.1E-08	3.5E-08	1.1E-06		
Leacock's Lane	Residential	0.11	0.015	9.6E-07	2.9E-06	5.5E-07	4.4E-07	9.6E-08	9.7E-07	2.4E-08	1.7E-08	5.2E-07		
Leacock's Lane Mid (Receptor 5 in Simta Report)	Residential	0.17	0.024	1.5E-06	4.6E-06	8.8E-07	7.0E-07	1.5E-07	1.6E-06	3.9E-08	2.8E-08	8.3E-07		
St Iessor Road	Residential	0.10	0.015	9.2E-07	2.7E-06	5.3E-07	4.2E-07	9.2E-08	9.3E-07	2.3E-08	1.6E-08	5.0E-07		
Maple Grove Retirement Village	Residential	0.051	0.0073	4.6E-07	1.4E-06	2.6E-07	2.1E-07	4.6E-08	4.6E-07	1.2E-08	7.9E-09	2.5E-07		
All Saints Catholic Senior College	Residential/School	0.16	0.023	1.4E-06	4.2E-06	8.2E-07	6.5E-07	1.4E-07	1.4E-06	3.6E-08	2.4E-08	7.7E-07		
Casula High Schoo	Residential/School	0.048	0.0069	4.3E-07	1.3E-06	2.5E-07	1.9E-07	4.3E-08	4.4E-07	1.1E-08	7.5E-09	2.3E-07		
Casula Public Schoo	Residential/School	0.10	0.015	9.2E-07	2.7E-06	5.3E-07	4.1E-07	9.2E-08	9.3E-07	2.3E-08	1.6E-08	5.0E-07		
Casula Powerhouse Arts Centre	Recreational	0.29	0.041	1.2E-07	3.6E-07	6.9E-08	7.7E-09	1.2E-08	1.2E-07	3.1E-09	2.1E-09	6.5E-08		
Average Residential		0.16	0.023	1.4E-06	4.2E-06	8.1E-07	6.3E-07	1.4E-07	1.4E-06	3.6E-08	2.4E-08	7.7E-07		
Glenfield														
Canterbury Road	Residential	0.048	0.0067	4.2E-07	1.2E-06	2.4E-07	1.9E-07	4.2E-08	4.3E-07	1.1E-08	7.2E-09	2.3E-07		
Ferguson Street	Residential	0.055	0.0078	4.9E-07	1.5E-06	2.8E-07	2.2E-07	4.9E-08	5.0E-07	1.2E-08	8.4E-09	2.6E-07		
Good enough St (Receptor 4 in Simta Report)	Residential	0.072	0.010	6.4E-07	1.9E-06	3.7E-07	2.9E-07	6.4E-08	6.4E-07	1.6E-08	1.1E-08	3.4E-07		
Cambridge Avenue	Residential	0.072	0.010	6.4E-07	1.9E-06	3.7E-07	2.9E-07	6.4E-08	6.5E-07	1.6E-08	1.1E-08	3.5E-07		
Clenfield Public Schoo	Residential/School	0.033	0.0047	3.0E-07	8.8E-07	1.7E-07	1.3E-07	3.0E-08	3.0E-07	7.5E-09	5.1E-09	1.6E-07		
Clenfield Public Schoo	Residential/School	0.032	0.0045	2.0E-07	8.6E-07	1.6E-07	1.3E-07	2.0E-08	2.0E-07	7.2E-09	4.9E-09	1.5E-07		
Hurstone Agricultural High Schoo	Residential/School	0.029	0.0041	2.6E-07	7.7E-07	1.5E-07	1.2E-07	2.6E-08	2.6E-07	6.6E-09	4.5E-09	1.4E-07		
Clenfield new land release	Residential	0.065	0.0091	5.7E-07	1.7E-06	3.3E-07	2.6E-07	5.7E-08	5.8E-07	1.4E-08	9.8E-09	3.1E-07		
Playground Learning Centre, Chesham Parade	Residential	0.035	0.0049	3.1E-07	9.1E-07	1.8E-07	1.4E-07	3.1E-08	3.1E-07	7.7E-09	5.3E-09	1.7E-07		
Average Residential		0.049	0.0069	4.3E-07	1.3E-06	2.5E-07	2.0E-07	4.3E-08	4.4E-07	1.1E-08	7.5E-09	2.3E-07		
Macquarie Fields														
Hickory Place	Residential	0.018	0.0025	1.6E-07	4.7E-07	9.2E-08	7.2E-08	1.6E-08	1.6E-07	4.0E-09	2.7E-09	8.6E-08		
Maximum residential receptors		0.26	0.038	2.4E-06	7.1E-06	1.4E-06	1.1E-06	2.4E-07	2.4E-06	6.0E-08	4.1E-08	1.3E-06		
Maximum school receptors		0.16	0.023	1.4E-06	4.2E-06	8.2E-07	6.5E-07	1.4E-07	1.4E-06	3.6E-08	2.4E-08	7.7E-07		
Maximum recreational receptors		0.29	0.041	1.2E-07	3.6E-07	6.9E-08	5.1E-08	1.2E-08	1.2E-07	3.1E-09	2.1E-09	6.5E-08		
Maximum commercial/industrial receptors		2.1	0.30	4.2E-06	1.3E-05	2.4E-06	1.9E-06	4.2E-07	4.3E-06	1.1E-07	7.3E-08	2.3E-06		

Quantification of Effects - PM2.5 and PM10
Revised Project: Scenario 3

		Particulate Fraction:			PM2.5	PM2.5	PM2.5	PM10	PM2.5	PM2.5	PM2.5	PM2.5	Incremental Risk -DPM
		Endpoint:	Mortality - All Causes	Hospitalisations - Cardiovascular	Hospitalisations - Respiratory		Mortality - All Causes	Mortality - All Causes	Mortality - Cardiopulmonary	Mortality - Cardiovascular	Mortality - Respiratory		
		Effect Exposure Duration:	Long-term	Short-term	Short-term		Short-Term	Short-Term	Long-term	Short-Term	Short-Term	(based on WHO)	
		Age Group:	≥ 30 years	≥ 65 years	≥ 65 years		All ages	All ages	≥ 30 years	All ages	All ages	Unit Risk	
		β (change in effect per 1 µg/m³ PM) (as per Table 4.1)	0.0058	0.0008	0.00041	0.0006	0.00094	0.013	0.00097	0.0019	0.0019		
		Baseline Incidence (per 100,000) (as per Table 2.3)	1087	23352	8807	670	670	490	164	57	57		
		Baseline Incidence (per person)	0.01087	0.23352	0.08807	0.0067	0.0067	0.0049	0.00164	0.00057	0.00057		
		Modifying factor for commercial/industrial exposures (refer to Section 4.3.4 in report)	0.22	0.22	0.22	0.22	0.22	0.22	0.22	0.22	0.22	0.22	
		Modifying factor for recreational exposures (refer to Section 4.3.4 in report)	0.047	0.047	0.047	0.047	0.047	0.047	0.047	0.047	0.047	0.047	
Receptor		Increase in Annual Average PM10 Concentration (µg/m³)	Increase in Annual Average PM2.5 Concentration (µg/m³)	Risk (Equation 6)	Risk (Equation 6)	Risk (Equation 6)	Risk (Equation 6)	Risk (Equation 6)	Risk (Equation 6)	Risk (Equation 6)	Risk (Equation 6)	Risk (Equation 6)	Risk
Maximum Receptor													
Boundary location	Commercial/Industrial	1.5	1.5	2.0E-05	6.0E-05	1.2E-05	1.3E-06	2.0E-06	2.1E-05	5.1E-07	3.5E-07	1.1E-05	
Sensitive Receptors													
Wattle Grove													
Wallcliff Cres	Residential	0.098	0.10	6.1E-06	1.8E-05	3.5E-06	3.9E-07	6.1E-07	6.1E-06	1.5E-07	1.0E-07	3.3E-06	
Cornton Ct	Residential	0.10	0.10	6.4E-06	1.9E-05	3.7E-06	4.1E-07	6.4E-07	6.4E-06	1.6E-07	1.1E-07	3.4E-06	
Marindale Ct (Receptor 3 in Simta Report)	Residential	0.098	0.10	6.1E-06	1.8E-05	3.5E-06	3.9E-07	6.1E-07	6.1E-06	1.5E-07	1.0E-07	3.3E-06	
Anzac Road (Receptor 2 in Simta report)	Residential	0.14	0.14	9.0E-06	2.7E-05	5.1E-06	5.8E-07	9.0E-07	9.1E-06	2.3E-07	1.5E-07	4.8E-06	
Anzac Road (Receptor 2 in Simta report)	Commercial/Industrial	0.14	0.14	2.0E-06	5.9E-06	1.1E-06	1.3E-07	2.0E-07	2.0E-06	5.0E-08	3.4E-08	1.1E-06	
Yallum Cres (Receptor 1 in Simta report)	Residential	0.11	0.11	7.0E-06	2.1E-05	4.0E-06	4.5E-07	7.0E-07	7.0E-06	1.8E-07	1.2E-07	3.8E-06	
Wattle Grove Public School	Residential/School	0.083	0.082	5.2E-06	1.5E-05	3.0E-06	3.3E-07	5.2E-07	5.2E-06	1.3E-07	8.9E-08	2.8E-06	
St Marks Coptic College	Residential/School	0.057	0.057	3.6E-06	1.1E-05	2.0E-06	2.3E-07	3.6E-07	3.6E-06	9.0E-08	6.1E-08	1.9E-06	
Anzac Creek Park	Residential	0.070	0.070	4.4E-06	1.3E-05	2.5E-06	2.8E-07	4.4E-07	4.4E-06	1.1E-07	7.5E-08	2.4E-06	
Anzac Creek Park	Recreational	0.070	0.070	2.1E-07	6.1E-07	1.2E-07	1.3E-08	2.1E-08	2.1E-07	5.2E-09	3.5E-09	1.1E-07	
Average Residential		0.093	0.092	5.8E-06	1.7E-05	3.3E-06	3.7E-07	5.8E-07	5.8E-06	1.5E-07	9.9E-08	3.1E-06	
Moorebank													
Church Road (Receptor 7 in Simta report)	Residential	0.064	0.063	4.0E-06	1.2E-05	2.3E-06	2.6E-07	4.0E-07	4.0E-06	1.0E-07	6.9E-08	2.2E-06	
Anzac Road (Receptor 2 in Simta report)	Residential	0.14	0.14	9.0E-06	2.7E-05	5.1E-06	5.8E-07	9.0E-07	9.1E-06	2.3E-07	1.5E-07	4.8E-06	
Anzac Road (Receptor 2 in Simta report)	Commercial/Industrial	0.14	0.14	2.0E-06	5.9E-06	1.1E-06	1.3E-07	2.0E-07	2.0E-06	5.0E-08	3.4E-08	1.1E-06	
DNSDC proposed relocation	Commercial/Industrial	0.12	0.12	1.6E-06	4.9E-06	9.4E-07	1.1E-07	1.6E-07	1.7E-06	4.1E-08	2.8E-08	8.8E-07	
Average Residential		0.10	0.10	6.5E-06	1.9E-05	3.7E-06	4.2E-07	6.5E-07	6.6E-06	1.6E-07	1.1E-07	3.5E-06	
Liverpool													
Al Amanah College Liverpool Campus Liverpo	Residential/School	0.043	0.042	2.7E-06	7.9E-06	1.5E-06	1.7E-07	2.7E-07	2.7E-06	6.7E-08	4.6E-08	1.4E-06	
Liverpool West Public Schoo	Residential/School	0.029	0.028	1.8E-06	5.3E-06	1.0E-06	1.1E-07	1.8E-07	1.8E-06	4.5E-08	3.0E-08	9.6E-07	
Liverpool Public Schoo	Residential/School	0.026	0.025	1.6E-06	4.7E-06	9.1E-07	1.0E-07	1.6E-07	1.6E-06	4.0E-08	2.7E-08	8.6E-07	
Average Residential		0.032	0.032	2.0E-06	6.0E-06	1.2E-06	1.3E-07	2.0E-07	2.0E-06	5.1E-08	3.5E-08	1.1E-06	
Lurnea													
Lurnea High Schoo	Residential/School	0.038	0.037	2.3E-06	6.9E-06	1.3E-06	1.5E-07	2.3E-07	2.4E-06	5.9E-08	4.0E-08	1.3E-06	
St Francis Xavier Primary School Lurnea	Residential/School	0.032	0.032	2.0E-06	5.9E-06	1.1E-06	1.3E-07	2.0E-07	2.0E-06	5.0E-08	3.4E-08	1.1E-06	
Average Residential		0.035	0.034	2.2E-06	6.4E-06	1.2E-06	1.4E-07	2.2E-07	2.2E-06	5.5E-08	3.7E-08	1.2E-06	
Casula													
Lakewood Crescent	Residential	0.15	0.15	9.3E-06	2.7E-05	5.3E-06	6.0E-07	9.3E-07	9.4E-06	2.3E-07	1.6E-07	5.0E-06	
St Andrews Boulevard	Residential	0.21	0.21	1.3E-05	3.8E-05	7.4E-06	8.4E-07	1.3E-06	1.3E-05	3.3E-07	2.2E-07	7.0E-06	
Buckland Rd Receiver (Receptor 6 in Simta Report)	Residential	0.26	0.26	1.6E-05	4.8E-05	9.3E-06	1.1E-06	1.6E-06	1.6E-05	4.1E-07	2.8E-07	8.8E-06	
Dunmore Cres	Residential	0.23	0.23	1.4E-05	4.2E-05	8.2E-06	9.3E-07	1.4E-06	1.4E-05	3.6E-07	2.5E-07	7.7E-06	
Leaocks Lane	Residential	0.072	0.071	4.5E-06	1.3E-05	2.6E-06	2.9E-07	4.5E-07	4.5E-06	1.1E-07	7.7E-08	2.4E-06	
Leaocks Lane Mid (Receptor 5 in Simta Report)	Residential	0.11	0.11	6.7E-06	2.0E-05	3.8E-06	4.3E-07	6.7E-07	6.7E-06	1.7E-07	1.1E-07	3.6E-06	
Siessos Road	Residential	0.087	0.086	5.4E-06	1.6E-05	3.1E-06	3.5E-07	5.4E-07	5.5E-06	1.4E-07	9.3E-08	2.9E-06	
Maple Grove Retirement Village	Residential	0.038	0.037	2.3E-06	7.0E-06	1.3E-06	1.5E-07	2.3E-07	2.4E-06	5.9E-08	4.0E-08	1.3E-06	
All Saints Catholic Senior Colleg	Residential/School	0.10	0.10	6.3E-06	1.9E-05	3.6E-06	4.1E-07	6.3E-07	6.4E-06	1.6E-07	1.1E-07	3.4E-06	
Casula High Schoo	Residential/School	0.035	0.034	2.2E-06	6.4E-06	1.2E-06	1.4E-07	2.2E-07	2.2E-06	5.4E-08	3.7E-08	1.2E-06	
Casula Public Schoo	Residential/School	0.099	0.10	6.1E-06	1.8E-05	3.5E-06	4.0E-07	6.1E-07	6.2E-06	1.6E-07	1.1E-07	3.3E-06	
Casula Powerhouse Arts Centre	Recreational	0.29	0.29	8.5E-07	2.5E-06	4.9E-07	5.4E-08	8.5E-08	8.6E-07	2.1E-08	1.5E-08	4.6E-07	
Average Residential		0.14	0.14	8.7E-06	2.6E-05	5.0E-06	5.6E-07	8.7E-07	8.8E-06	2.2E-07	1.5E-07	4.7E-06	
Glenfield													
Canterbury Road	Residential	0.050	0.049	3.1E-06	9.2E-06	1.8E-06	2.0E-07	3.1E-07	3.1E-06	7.8E-08	5.3E-08	1.7E-06	
Ferguson Street	Residential	0.058	0.057	3.6E-06	1.1E-05	2.1E-06	2.3E-07	3.6E-07	3.6E-06	9.1E-08	6.2E-08	1.9E-06	
Good enough St (Receptor 4 in Simta Report)	Residential	0.077	0.076	4.8E-06	1.4E-05	2.7E-06	3.1E-07	4.8E-07	4.8E-06	1.2E-07	8.2E-08	2.6E-06	
Cambridge Avenue	Residential	0.070	0.069	4.2E-06	1.3E-05	2.5E-06	2.8E-07	4.2E-07	4.4E-06	1.1E-07	7.5E-08	2.3E-06	
Glenwood Public Schoo	Residential/School	0.033	0.032	2.0E-06	6.0E-06	1.2E-06	1.3E-07	2.0E-07	2.1E-06	5.1E-08	3.5E-08	1.1E-06	
Glenfield Public Schoo	Residential/School	0.035	0.034	2.1E-06	6.4E-06	1.2E-06	1.4E-07	2.1E-07	2.2E-06	5.4E-08	3.7E-08	1.2E-06	
Hurstone Agricultural High Schoo	Residential/School	0.029	0.028	1.8E-06	5.3E-06	1.0E-06	1.2E-07	1.8E-07	1.8E-06	4.5E-08	3.1E-08	9.7E-07	
Glenfield new land release	Residential	0.061	0.060	3.8E-06	1.1E-05	2.2E-06	2.4E-07	3.8E-07	3.8E-06	9.5E-08	6.5E-08	2.0E-06	
Playground Learning Centre, Chesham Parade	Residential	0.037	0.036	2.3E-06	6.7E-06	1.3E-06	1.5E-07	2.3E-07	2.3E-06	5.7E-08	3.9E-08	1.2E-06	
Average Residential		0.050	0.049	3.1E-06	9.2E-06	1.8E-06	2.0E-07	3.1E-07	3.1E-06	7.8E-08	5.3E-08	1.7E-06	
Macquarie Fields													
Hickory Place	Residential	0.017	0.016	1.0E-06	3.0E-06	5.9E-07	6.7E-08	1.0E-07	1.0E-06	2.6E-08	1.8E-08	5.5E-07	
Maximum residential receptors		0.2615	0.2575	1.6E-05	4.8E-05	9.3E-06	1.1E-06	1.6E-06	1.6E-05	4.1E-07	2.8E-07	8.8E-06	
Maximum school receptors		0.1021	0.1006	6.3E-06	1.9E-05	3.6E-06	4.1E-07	6.3E-07	6.4E-06	1.6E-07	1.1E-07	3.4E-06	
Maximum recreational receptors		0.2906	0.2863	8.5E-07	2.5E-06	4.9E-07	5.4E-08	8.5E-08	8.6E-07	2.1E-08	1.5E-08	4.6E-07	
Maximum commercial/industrial receptors		1.4750	1.4668	2.0E-05	6.0E-05	1.2E-05	1.3E-06	2.0E-06	2.1E-05	5.1E-07	3.5E-07	1.1E-05	

Quantification of Effects - PM2.5 and PM10

Revised Project: Cumulative Scenario A

Particulate Fraction:		PM2.5	PM2.5	PM2.5	PM10	PM2.5	PM2.5	PM2.5	PM2.5	PM2.5	Incremental Risk -DPM
Endpoint:		Mortality - All Causes	Hospitalisations - Cardiovascular	Hospitalisations - Respiratory	Mortality - All Causes	Mortality - All Causes	Mortality - Cardiopulmonary	Mortality - Cardiovascular	Mortality - Respiratory	(based on WHO)	
Effect Exposure Duration:		Long-term	Short-term	Short-term	Short-Term	Short-Term	Long-term	Short-term	Short-Term	Unit Risk	
Age Group:	≥ 30 years	≥ 65 years	≥ 65 years		All ages	All ages	≥ 30 years	All ages	All ages		
β (change in effect per 1 µg/m³ PM) (as per Table 4.1)	0.0058	0.0008	0.00041		0.0006	0.00094	0.013	0.00097	0.0019		
Baseline Incidence (per 100,000) (as per Table 2.3)	1087	23352	8807		670	670	490	164	57		
Baseline Incidence (per person)	0.01087	0.23352	0.08807		0.0067	0.0067	0.0049	0.00164	0.00057		
Modifying factor for commercial/industrial exposures (refer to Section 4.3.4 in report)	0.22	0.22	0.22		0.22	0.22	0.22	0.22	0.22	0.22	
Modifying factor for recreational exposures (refer to Section 4.3.4 in report)	0.047	0.047	0.047		0.047	0.047	0.047	0.047	0.047	0.047	

Receptor		Increase in Annual Average PM10 Concentration ($\mu\text{g}/\text{m}^3$)	Increase in Annual Average PM2.5 Concentration ($\mu\text{g}/\text{m}^3$)	Risk (Equation 6)	Risk							
Maximum Receptor												
Boundary location	Commercial/Industrial	3.2	3.2	4.4E-05	1.3E-04	2.5E-05	2.8E-06	4.4E-06	4.4E-05	1.1E-06	7.5E-07	2.4E-05
Sensitive Receptors												
Wattle Grove												
Wallcliff Cres	Residential	0.19	0.19	1.2E-05	3.5E-05	6.8E-06	7.7E-07	1.2E-06	1.2E-05	3.0E-07	2.0E-07	6.4E-06
Corryton Ct	Residential	0.24	0.24	1.5E-05	4.5E-05	8.6E-06	9.8E-07	1.5E-06	1.5E-05	3.8E-07	2.6E-07	8.1E-06
Martindale Ct (Receptor 3 in Simta Report)	Residential	0.24	0.24	1.5E-05	4.4E-05	8.5E-06	9.7E-07	1.5E-06	1.5E-05	3.7E-07	2.5E-07	8.0E-06
Anzac Road (Receptor 2 in Simta report)	Residential	0.30	0.30	1.9E-05	5.6E-05	1.1E-05	1.2E-06	1.9E-06	1.9E-05	4.7E-07	3.2E-07	1.0E-05
Anzac Road (Receptor 2 in Simta report)	Commercial/Industrial	0.30	0.30	4.1E-06	1.2E-05	2.4E-06	2.7E-07	4.1E-07	4.2E-06	1.0E-07	7.1E-08	2.2E-06
Yallum Cres (Receptor 1 in Simta report)	Residential	0.24	0.24	1.5E-05	4.4E-05	8.5E-06	9.7E-07	1.5E-06	1.5E-05	3.7E-07	2.5E-07	8.0E-06
Wattle Grove Public School	Residential/School	0.18	0.18	1.1E-05	3.3E-05	6.4E-06	7.3E-07	1.1E-06	1.1E-05	2.8E-07	1.9E-07	6.0E-06
St Marks Coptic College	Residential/School	0.12	0.12	7.4E-06	2.2E-05	4.2E-06	4.8E-07	7.4E-07	7.5E-06	1.9E-07	4.0E-06	
Anzac Creek Park	Residential	0.15	0.14	9.0E-06	2.7E-05	5.2E-06	5.9E-07	9.0E-07	9.1E-06	2.3E-07	1.6E-07	4.9E-06
Anzac Creek Park	Recreational	0.15	0.14	4.2E-07	1.3E-06	2.4E-07	2.8E-08	4.2E-08	4.3E-07	1.1E-08	7.3E-09	2.3E-07
Average Residential		0.20	0.20	1.2E-05	3.7E-05	7.1E-06	8.1E-07	1.2E-06	1.3E-05	3.1E-07	2.1E-07	6.7E-06
Moorebank												
Church Road (Receptor 7 in Simta report)	Residential	0.12	0.11	7.1E-06	2.1E-05	4.1E-06	4.6E-07	7.1E-07	7.2E-06	1.8E-07	1.2E-07	3.8E-06
Anzac Road (Receptor 2 in Simta report)	Residential	0.30	0.30	1.9E-05	5.6E-05	1.1E-05	1.2E-06	1.9E-06	1.9E-05	4.7E-07	3.2E-07	1.0E-05
Anzac Road (Receptor 2 in Simta report)	Commercial/Industrial	0.30	0.30	4.1E-06	1.2E-05	2.4E-06	2.7E-07	4.1E-07	4.2E-06	1.0E-07	7.1E-08	2.2E-06
DNSDC proposed relocation	Commercial/Industrial	0.32	0.31	4.3E-06	1.3E-05	2.5E-06	2.8E-07	4.3E-07	4.3E-06	1.1E-07	7.4E-08	2.3E-06
Average Residential		0.21	0.21	1.3E-05	3.8E-05	7.4E-06	8.4E-07	1.3E-06	1.3E-05	3.3E-07	2.2E-07	7.0E-06
Liverpool												
Al Amanah College Liverpool Campus Liverpo	Residential/School	0.072	0.071	4.5E-06	1.3E-05	2.6E-06	2.9E-07	4.5E-07	4.5E-06	1.1E-07	7.7E-08	2.4E-06
Liverpool West Public Schoo	Residential/School	0.046	0.045	2.9E-06	8.5E-06	1.6E-06	1.9E-07	2.9E-07	2.9E-06	7.2E-08	4.9E-08	1.5E-06
Liverpool Public Schoo	Residential/School	0.044	0.043	2.7E-06	8.0E-06	1.5E-06	1.8E-07	2.7E-07	2.7E-06	6.8E-08	4.6E-08	1.5E-06
Average Residential		0.054	0.053	3.3E-06	9.7E-06	1.9E-06	2.1E-07	3.3E-07	3.4E-06	8.4E-08	5.7E-08	1.8E-06
Lurnea												
Lurnea High Schoo	Residential/School	0.056	0.055	3.5E-06	1.0E-05	2.0E-06	2.2E-07	3.5E-07	3.5E-06	8.7E-08	5.9E-08	1.9E-06
St Francis Xavier Primary School Lurne	Residential/School	0.050	0.049	3.1E-06	9.2E-06	1.8E-06	2.0E-07	3.1E-07	3.1E-06	7.8E-08	5.3E-08	1.7E-06
Average Residential		0.053	0.052	3.3E-06	9.7E-06	1.9E-06	2.1E-07	3.3E-07	3.3E-06	8.3E-08	5.6E-08	1.8E-06
Casula												
Lakewood Crescent	Residential	0.23	0.22	1.4E-05	4.1E-05	8.0E-06	9.0E-07	1.4E-06	1.4E-05	3.5E-07	2.4E-07	7.5E-06
St Andrews Boulevard	Residential	0.30	0.29	1.8E-05	5.4E-05	1.0E-05	1.2E-06	1.8E-06	1.9E-05	4.6E-07	3.1E-07	9.9E-06
Buckland Rd Receiver (Receptor 6 in Simta Report)	Residential	0.36	0.35	2.2E-05	6.6E-05	1.3E-05	1.4E-06	2.2E-06	2.2E-05	5.6E-07	3.8E-07	1.2E-05
Dunmore Cres	Residential	0.31	0.31	1.9E-05	5.8E-05	1.1E-05	1.3E-06	1.9E-06	2.0E-05	4.9E-07	3.3E-07	1.0E-05
Leacock's Lane	Residential	0.10	0.10	6.4E-06	1.9E-05	3.6E-06	4.1E-07	6.4E-07	6.4E-06	1.6E-07	1.1E-07	3.4E-06
Leacock's Lane Mid (Receptor 5 in Simta Report)	Residential	0.15	0.15	9.3E-06	2.7E-05	5.3E-06	6.0E-07	9.2E-07	9.4E-06	2.3E-07	1.6E-07	5.0E-06
Slessor Road	Residential	0.12	0.12	7.5E-06	2.2E-05	4.3E-06	4.9E-07	7.5E-07	7.6E-06	1.9E-07	1.3E-07	4.0E-06
Maple Grove Retirement Village	Residential	0.057	0.056	3.5E-06	1.0E-05	2.0E-06	2.3E-07	3.5E-07	3.5E-06	8.8E-08	6.0E-08	1.9E-06
All Saints Catholic Senior Colleg	Residential/School	0.14	0.14	8.9E-06	2.6E-05	5.1E-06	5.8E-07	8.8E-07	8.9E-06	2.2E-07	1.5E-07	4.8E-06
Casula High Schoo	Residential/School	0.052	0.051	3.2E-06	9.5E-06	1.8E-06	2.1E-07	3.2E-07	3.2E-06	8.1E-08	5.5E-08	1.7E-06
Casula Public Schoo	Residential/School	0.14	0.14	8.9E-06	2.6E-05	5.1E-06	5.8E-07	8.9E-07	9.0E-06	2.3E-07	1.5E-07	4.8E-06
Casula Powerhouse Arts Centre	Recreational	0.39	0.38	1.1E-06	3.4E-06	6.5E-07	7.2E-08	1.1E-07	1.1E-06	2.9E-08	1.9E-08	6.1E-07
Average Residential		0.20	0.19	1.2E-05	3.6E-05	6.9E-06	7.9E-07	1.2E-06	1.2E-05	3.1E-07	2.1E-07	6.5E-06
Glenfield												
Canterbury Road	Residential	0.072	0.070	4.4E-06	1.3E-05	2.5E-06	2.9E-07	4.4E-07	4.5E-06	1.1E-07	7.6E-08	2.4E-06
Ferguson Street	Residential	0.082	0.081	5.1E-06	1.5E-05	2.9E-06	3.3E-07	5.1E-06	5.1E-06	1.3E-07	8.7E-08	2.7E-06
Good enough St (Receptor 4 in Simta Report)	Residential	0.11	0.11	6.7E-06	2.0E-05	3.8E-06	4.3E-07	6.7E-06	6.7E-06	1.7E-07	1.1E-07	3.6E-06
Cambridge Avenue	Residential	0.098	0.096	6.15E-06	1.8E-05	3.5E-06	3.9E-07	6.0E-07	6.1E-06	1.5E-07	1.0E-07	3.3E-06
Glenwood Public Schoo	Residential/School	0.048	0.047	3.0E-06	8.9E-06	1.7E-06	1.9E-07	3.0E-07	3.0E-06	7.6E-08	5.1E-08	1.6E-06
Glenfield Public Schoo	Residential/School	0.051	0.050	3.1E-06	9.3E-06	1.8E-06	2.0E-07	3.1E-07	3.2E-06	7.0E-08	5.4E-08	1.7E-06
Hurlstone Agricultural High Schoo	Residential/School	0.043	0.042	2.7E-06	7.9E-06	1.5E-06	1.7E-07	2.7E-07	2.7E-06	6.7E-08	4.6E-08	1.4E-06
Glenfield new land release	Residential	0.086	0.085	5.3E-06	1.6E-05	3.1E-06	3.5E-07	5.3E-07	5.4E-06	1.3E-07	9.2E-08	2.9E-06
Playground Learning Centre, Chesham Parade	Residential	0.053	0.052	3.3E-06	9.8E-06	1.9E-06	2.1E-07	3.3E-07	3.3E-06	8.3E-08	5.7E-08	1.8E-06
Average Residential		0.071	0.070	4.4E-06	1.3E-05	2.5E-06	2.9E-07	4.4E-07	4.5E-06	1.1E-07	7.6E-08	2.4E-06
Macquarie Fields												
Hickory Place	Residential	0.026	0.025	1.6E-06	4.7E-06	9.1E-07	1.0E-07	1.6E-07	1.6E-06	4.0E-08	2.7E-08	8.6E-07
Maximum residential receptors		0.36	0.35	2.2E-05	6.6E-05	1.3E-05	1.4E-06	2.2E-06	2.2E-05	5.6E-07	3.8E-07	1.2E-05
Maximum school receptors		0.18	0.18	1.1E-05	3.3E-05	6.4E-06	7.3E-07	1.1E-06	1.1E-05	2.8E-07	1.9E-07	6.0E-06
Maximum recreational receptors		0.39	0.38	1.1E-06	3.4E-06	6.5E-07	7.2E-08	1.1E-07	1.1E-06	2.9E-08	1.9E-08	6.1E-07
Maximum commercial/industrial receptors		3.2	3.2	4.4E-05	1.3E-04	2.5E-05	2.8E-06	4.4E-06	4.4E-05	1.1E-06	7.5E-07	2.4E-05

Quantification of Effects - PM2.5 and PM10
Revised Project: Cumulative Scenario B

		Particulate Fraction:			PM2.5	PM2.5	PM2.5	PM10	PM2.5	PM2.5	PM2.5	PM2.5	PM2.5	Incremental Risk -DPM
		Endpoint:			Mortality - All Causes	Hospitalisations - Cardiovascular	Hospitalisations - Respiratory		Mortality - All Causes	Mortality - All Causes	Mortality - Cardiopulmonary	Mortality - Cardiovascular	Mortality - Respiratory	(based on WHO)
		Effect Exposure Duration:			Long-term	Short-term	Short-term	Short-Term	Short-Term	Long-term	Long-term	Short-Term	Short-Term	Unit Risk
		Age Group:	≥ 30 years	≥ 65 years	≥ 65 years	All ages	All ages	≥ 30 years	All ages	All ages	All ages	All ages	All ages	
		β (change in effect per 1 µg/m³ PM) (as per Table 4.1)	0.0058	0.0008	0.00041	0.0006	0.00094	0.013	0.00097	0.0019				
		Baseline Incidence (per 100,000) (as per Table 2.3)	1087	23352	8807	670	670	490	164	57				
		Baseline Incidence (per person)	0.01087	0.23352	0.08807	0.0067	0.0067	0.0049	0.00164	0.00057				
		Modifying factor for commercial/industrial exposures (refer to Section 4.3.4 in report)	0.22	0.22	0.22	0.22	0.22	0.22	0.22	0.22				0.22
		Modifying factor for recreational exposures (refer to Section 4.3.4 in report)	0.047	0.047	0.047	0.047	0.047	0.047	0.047	0.047				0.047
Receptor		Increase in Annual Average PM10 Concentration (µg/m³)	Increase in Annual Average PM2.5 Concentration (µg/m³)	Risk (Equation 6)	Risk (Equation 6)	Risk (Equation 6)	Risk (Equation 6)	Risk (Equation 6)	Risk (Equation 6)	Risk (Equation 6)	Risk (Equation 6)	Risk (Equation 6)	Risk (Equation 6)	Risk
Maximum Receptor														
Boundary location	Commercial/Industrial	2.3	2.2	3.1E-05	9.2E-05	1.8E-05		2.0E-06	3.1E-06	3.1E-05	7.9E-07	5.3E-07		1.7E-05
Sensitive Receptors														
Wattle Grove														
Wallcliff Cres	Residential	0.14	0.13	8.4E-06	2.5E-05	4.8E-06		5.5E-07	8.4E-07	8.5E-06	2.1E-07	1.4E-07		4.5E-06
Corryton Ct	Residential	0.19	0.18	1.1E-05	3.4E-05	6.5E-06		7.4E-07	1.1E-06	1.1E-05	2.9E-07	2.0E-07		6.1E-06
Martindale Ct (Receptor 3 in Simta Report)	Residential	0.18	0.18	1.1E-05	3.3E-05	6.4E-06		7.4E-07	1.1E-06	1.1E-05	2.8E-07	1.9E-07		6.1E-06
Anzac Road (Receptor 2 in Simta report)	Residential	0.22	0.21	1.3E-05	3.9E-05	7.6E-06		8.7E-07	1.3E-06	1.3E-05	3.4E-07	2.3E-07		7.2E-06
Anzac Road (Receptor 2 in Simta report)	Commercial/Industrial	0.22	0.21	2.9E-06	8.7E-06	1.7E-06		1.9E-07	2.9E-07	3.0E-06	7.4E-08	5.0E-08		1.6E-06
Yallum Cres (Receptor 1 in Simta report)	Residential	0.18	0.17	1.1E-05	3.2E-05	6.2E-06		7.1E-07	1.1E-06	1.1E-05	2.7E-07	1.9E-07		5.9E-06
Wattle Grove Public School	Residential/School	0.13	0.13	8.2E-06	2.4E-05	4.7E-06		5.4E-07	8.2E-07	8.3E-06	2.1E-07	1.4E-07		4.4E-06
St Marks Coptic College	Residential/School	0.086	0.084	5.3E-06	1.6E-05	3.0E-06		3.5E-07	5.3E-07	5.4E-06	1.3E-07	9.1E-08		2.9E-06
Anzac Creek Park	Residential	0.10	0.10	6.4E-06	1.9E-05	3.7E-06		4.2E-07	6.4E-07	6.5E-06	1.6E-07	1.1E-07		3.5E-06
Anzac Creek Park	Recreational	0.10	0.10	3.0E-07	8.9E-07	1.7E-07		2.0E-08	3.0E-08	7.6E-09	5.2E-09	1.6E-07		
Average Residential		0.15	0.14	9.1E-06	2.7E-05	5.2E-06		5.9E-07	9.0E-07	9.2E-06	2.3E-07	1.6E-07		4.9E-06
Moorebank														
Church Road (Receptor 7 in Simta report)	Residential	0.077	0.075	4.8E-06	1.4E-05	2.7E-06		3.1E-07	4.8E-07	4.8E-06	1.2E-07	8.2E-08		2.8E-06
Anzac Road (Receptor 2 in Simta report)	Residential	0.22	0.21	1.3E-05	3.9E-05	7.6E-06		8.7E-07	1.3E-06	1.3E-05	3.4E-07	2.3E-07		7.2E-06
Anzac Road (Receptor 2 in Simta report)	Commercial/Industrial	0.22	0.21	2.9E-06	8.7E-06	1.7E-06		1.9E-07	2.9E-07	3.0E-06	7.4E-08	5.0E-08		1.6E-06
DNSDC proposed relocation	Commercial/Industrial	0.24	0.24	3.3E-06	9.8E-06	1.9E-06		2.2E-07	3.3E-07	3.3E-06	8.3E-08	5.7E-08		1.8E-06
Average Residential		0.15	0.14	9.0E-06	2.7E-05	5.2E-06		5.9E-07	9.0E-07	9.1E-06	2.3E-07	1.6E-07		4.9E-06
Liverpool														
Al Amanah College Liverpool Campus Liverpool	Residential/School	0.047	0.046	2.9E-06	8.5E-06	1.6E-06		1.9E-07	2.9E-07	2.9E-06	7.3E-08	4.9E-08		1.6E-06
Liverpool West Public Schoo	Residential/School	0.029	0.029	1.8E-06	5.4E-06	1.0E-06		1.2E-07	1.8E-07	1.8E-06	4.6E-08	3.1E-08		9.7E-07
Liverpool Public Schoo	Residential/School	0.029	0.028	1.8E-06	5.2E-06	1.0E-06		1.1E-07	1.8E-07	1.8E-06	4.4E-08	3.0E-08		9.5E-07
Average Residential		0.035	0.034	2.1E-06	6.4E-06	1.2E-06		1.4E-07	2.1E-07	2.2E-06	5.4E-08	3.7E-08		1.2E-06
Lurnea														
Lurnea High Schoo	Residential/School	0.034	0.033	2.1E-06	6.1E-06	1.2E-06		1.4E-07	2.1E-07	2.1E-06	5.2E-08	3.6E-08		1.1E-06
St Francis Xavier Primary School Lurnea	Residential/School	0.031	0.030	1.9E-06	5.7E-06	1.1E-06		1.3E-07	1.9E-07	1.9E-06	4.8E-08	3.3E-08		1.0E-06
Average Residential		0.032	0.032	2.0E-06	5.9E-06	1.1E-06		1.3E-07	2.0E-07	2.0E-06	5.0E-08	3.4E-08		1.1E-06
Casula														
Lakewood Crescent	Residential	0.14	0.13	8.4E-06	2.5E-05	4.8E-06		5.5E-07	8.4E-07	8.5E-06	2.1E-07	1.4E-07		4.5E-06
St Andrews Boulevard	Residential	0.17	0.17	1.1E-05	3.1E-05	6.1E-06		6.9E-07	1.1E-06	1.1E-05	2.7E-07	1.8E-07		5.7E-06
Buckland Rd Receiver (Receptor 6 in Simta Report)	Residential	0.20	0.20	1.2E-05	3.7E-05	7.1E-06		8.1E-07	1.2E-06	1.2E-05	3.1E-07	2.1E-07		6.7E-06
Dunmore Cres	Residential	0.18	0.17	1.1E-05	3.2E-05	6.2E-06		7.1E-07	1.1E-06	1.1E-05	2.7E-07	1.9E-07		5.9E-06
Leacock's Lane	Residential	0.060	0.059	3.7E-06	1.1E-05	2.1E-06		2.4E-07	3.7E-07	3.7E-06	9.3E-08	6.4E-08		2.0E-06
Leacock's Lane Mid (Receptor 5 in Simta Report)	Residential	0.086	0.084	5.3E-06	1.6E-05	3.0E-06		3.5E-07	5.3E-07	5.4E-06	1.3E-07	9.1E-08		2.9E-06
Slessor Road	Residential	0.071	0.069	4.4E-06	1.3E-05	2.5E-06		2.8E-07	4.4E-07	4.4E-06	1.1E-07	7.5E-08		2.3E-06
Maple Grove Retirement Village	Residential	0.034	0.033	2.1E-06	6.2E-06	1.2E-06		1.4E-07	2.1E-07	2.1E-06	5.3E-08	3.6E-08		1.1E-06
All Saints Catholic Senior College	Residential/School	0.083	0.081	5.1E-06	1.5E-05	2.9E-06		3.3E-07	5.1E-07	5.1E-06	1.3E-07	8.7E-08		2.7E-06
Casula High Schoo	Residential/School	0.031	0.031	1.9E-06	5.7E-06	1.1E-06		1.3E-07	1.9E-07	1.9E-06	4.9E-08	3.3E-08		1.0E-06
Casula Public Schoo	Residential/School	0.085	0.083	5.3E-06	1.6E-05	3.0E-06		3.4E-07	5.2E-07	5.3E-06	1.3E-07	9.0E-08		2.8E-06
Casula Powerhouse Arts Centre	Recreational	0.22	0.21	6.2E-07	1.8E-06	3.6E-07		4.0E-08	6.2E-08	6.3E-07	1.6E-08	1.1E-08		3.4E-07
Average Residential		0.11	0.11	6.9E-06	2.1E-05	4.0E-06		4.5E-07	6.9E-07	7.0E-06	1.7E-07	1.2E-07		3.7E-06
Glenfield														
Canterbury Road	Residential	0.043	0.042	2.6E-06	7.8E-06	1.5E-06		1.7E-07	2.6E-07	2.7E-06	6.6E-08	4.5E-08		1.4E-06
Ferguson Street	Residential	0.049	0.048	3.0E-06	8.9E-06	1.7E-06		2.0E-07	3.0E-07	3.0E-06	7.6E-08	5.2E-08		1.6E-06
Good enough St (Receptor 4 in Simta Report)	Residential	0.064	0.062	3.9E-06	1.2E-05	2.3E-06		2.6E-07	3.9E-07	4.0E-06	9.9E-08	6.8E-08		2.1E-06
Cambridge Avenue	Residential	0.058	0.056	3.5E-06	1.0E-05	2.0E-06		2.3E-07	3.5E-07	3.6E-06	8.0E-08	6.1E-08		1.9E-06
Glenwood Public Schoo	Residential/School	0.029	0.029	1.8E-06	5.4E-06	1.0E-06		1.2E-07	1.8E-07	1.8E-06	4.6E-08	3.1E-08		9.8E-07
Glenfield Public Schoo	Residential/School	0.031	0.030	1.9E-06	5.6E-06	1.1E-06		1.3E-07	1.9E-07	1.9E-06	4.8E-08	3.2E-08		1.0E-06
Hurststone Agricultural High Schoo	Residential/School	0.026	0.026	1.6E-06	4.8E-06	9.2E-07		1.1E-07	1.6E-07	1.6E-06	4.1E-08	2.8E-08		8.7E-07
Glenfield new land release	Residential	0.051	0.050	3.1E-06	9.3E-06	1.8E-06		2.1E-07	3.1E-07	3.2E-06	7.9E-08	5.4E-08		1.7E-06
Playground Learning Centre, Chesham Parade	Residential	0.032	0.031	2.0E-06	5.9E-06	1.1E-06		1.3E-07	2.0E-07	2.0E-06	5.0E-08	3.4E-08		1.1E-06
Average Residential		0.043	0.042	2.6E-06	7.8E-06	1.5E-06		1.7E-07	2.6E-07	2.6E-06	6.6E-08	4.5E-08		1.4E-06
Macquarie Fields														
Hickory Place	Residential	0.016	0.016	9.8E-07	2.9E-06	5.6E-07		6.4E-08	9.8E-08	9.9E-07	2.5E-08	1.7E-08		5.3E-07
Maximum residential receptors		0.22	0.21	1.3E-05	3.9E-05	7.6E-06		8.7E-07	1.3E-06	1.3E-05	3.4E-07	2.3E-07		7.2E-06
Maximum school receptors		0.13	0.13	8.2E-06	2.4E-05	4.7E-06		5.4E-07	8.2E-07	8.3E-06	2.1E-07	1.4E-07		4.4E-06
Maximum recreational receptors		0.22	0.21	6.2E-07	1.8E-06	3.6E-07		4.0E-08	6.2E-08	6.3E-07	1.6E-08	1.1E-08		3.4E-07
Maximum commercial/industrial receptors		2.3	2.2	3.1E-05	9.2E-05	1.8E-05		2.0E-06	3.1E-06	3.1E-05	7.9E-07	5.3E-07		1.7E-05

Quantification of Effects - PM2.5 and PM10
Revised Project: Cumulative Scenario C1

Particulate Fraction:												PM2.5	PM2.5	PM2.5	PM10	PM2.5	PM2.5	PM2.5	PM2.5	Incremental Risk -DPM		
Endpoint:												Mortality - All Causes	Hospitalisations - Cardiovascular	Hospitalisations - Respiratory	Mortality - All Causes		Mortality - All Causes	Mortality - Cardiopulmonary	Mortality - Cardiovascular	Mortality - Respiratory		
Effect Exposure Duration:												Long-term	Short-term	Short-term	Short-Term		Short-Term	Long-term	Short-term	Short-Term		
Age Group:												≥ 30 years	≥ 65 years	≥ 65 years	All ages	All ages	All ages	≥ 30 years	All ages	All ages		
β (change in effect per 1 $\mu\text{g/m}^3$ PM) (as per Table 4.1)												0.0058	0.0008	0.00041	0.0006	0.00094	0.013	0.00097	0.0019			
Baseline Incidence (per 100,000) (as per Table 2.3)												1087	23352	8807	670	670	490	164	57			
Baseline Incidence (per person)												0.01087	0.23352	0.08807	0.0067	0.0067	0.0049	0.00164	0.00057			
Modifying factor for commercial/industrial exposures (refer to Section 4.3.4 in report)												0.22	0.22	0.22	0.22	0.22	0.22	0.22	0.22			
Modifying factor for recreational exposures (refer to Section 4.3.4 in report)												0.047	0.047	0.047	0.047	0.047	0.047	0.047	0.047			
Receptor		Increase in Annual Average PM10 Concentration ($\mu\text{g/m}^3$)	Increase in Annual Average PM2.5 Concentration ($\mu\text{g/m}^3$)	Risk (Equation 6)	Risk (Equation 6)	Risk (Equation 6)	Risk (Equation 6)	Risk (Equation 6)	Risk (Equation 6)	Risk												
Maximum Receptor																						
Boundary location	Commercial/Industrial	2.9	2.3	3.1E-05	9.3E-05	1.8E-05	2.5E-06	3.1E-06	3.2E-05	7.9E-07	5.4E-07	1.7E-05										
Sensitive Receptors																						
Wattle Grove																						
Wallcliff Cres	Residential	0.23	0.15	9.4E-06	2.8E-05	5.4E-06	9.4E-07	9.4E-07	9.5E-06	2.4E-07	1.6E-07	5.1E-06										
Corvon Ct	Residential	0.28	0.19	1.2E-05	3.6E-05	7.0E-06	1.1E-06	1.2E-06	1.2E-05	3.1E-07	2.1E-07	6.6E-06										
Marindale Ct (Receptor 3 in Simta Report)	Residential	0.27	0.19	1.2E-05	3.6E-05	6.9E-06	1.1E-06	1.2E-06	1.2E-05	3.0E-07	2.1E-07	6.5E-06										
Anzac Road (Receptor 2 in Simta report)	Residential	0.32	0.22	1.4E-05	4.2E-05	8.0E-06	1.3E-06	1.4E-06	1.4E-05	3.5E-07	2.4E-07	7.6E-06										
Anzac Road (Receptor 2 in Simta report)	Commercial/Industrial	0.32	0.22	3.1E-06	9.1E-06	1.8E-06	2.9E-07	3.1E-07	3.1E-06	7.8E-08	5.3E-08	1.7E-06										
Yallum Cres (Receptor 1 in Simta report)	Residential	0.28	0.19	1.2E-05	3.5E-05	6.9E-06	1.1E-06	1.2E-06	1.2E-05	3.0E-07	2.1E-07	6.5E-06										
Wattle Grove Public School	Residential/School	0.21	0.14	9.0E-06	2.7E-05	5.2E-06	8.6E-07	9.0E-07	9.1E-06	2.3E-07	1.5E-07	4.9E-06										
St Marks Coptic College	Residential/School	0.14	0.093	5.9E-06	1.7E-05	3.4E-06	5.8E-07	5.9E-07	5.9E-06	1.5E-07	1.0E-07	3.2E-06										
Anzac Creek Park	Residential	0.17	0.11	6.9E-06	2.0E-05	4.0E-06	6.7E-07	6.9E-07	7.0E-06	1.7E-07	1.2E-07	3.7E-06										
Anzac Creek Park	Recreational	0.17	0.11	3.2E-07	9.6E-07	1.9E-07	3.1E-08	3.2E-08	3.3E-07	8.2E-09	5.6E-09	1.8E-07										
Average Residential		0.23	0.16	9.8E-06	2.9E-05	5.6E-06	9.3E-07	9.8E-07	9.9E-06	2.5E-07	1.7E-07	5.3E-06										
Moorebank																						
Church Road (Receptor 7 in Simta report)	Residential	0.13	0.084	5.3E-06	1.6E-05	3.0E-06	5.3E-07	5.3E-07	5.3E-06	1.3E-07	9.1E-08	2.8E-06										
Anzac Road (Receptor 2 in Simta report)	Residential	0.32	0.22	1.4E-05	4.2E-05	8.0E-06	1.3E-06	1.4E-06	1.4E-05	3.5E-07	2.4E-07	7.6E-06										
Anzac Road (Receptor 2 in Simta report)	Commercial/Industrial	0.32	0.22	3.1E-06	9.1E-06	1.8E-06	2.9E-07	3.1E-07	3.1E-06	7.8E-08	5.3E-08	1.7E-06										
DNSDC proposed relocation	Commercial/Industrial	0.34	0.25	3.5E-06	1.0E-05	2.0E-06	3.0E-07	3.5E-07	3.5E-06	8.7E-08	5.9E-08	1.9E-06										
Average Residential		0.23	0.15	9.7E-06	2.9E-05	5.5E-06	9.2E-07	9.6E-07	9.8E-06	2.4E-07	1.7E-07	5.2E-06										
Liverpool																						
Al Amanah College Liverpool Campus Liverpool	Residential/School	0.082	0.051	3.2E-06	9.5E-06	1.8E-06	3.3E-07	3.2E-07	3.2E-06	8.1E-08	5.5E-08	1.7E-06										
Liverpool West Public Schoo	Residential/School	0.055	0.032	2.0E-06	6.1E-06	1.2E-06	2.2E-07	2.0E-07	2.1E-06	5.2E-08	3.5E-08	1.1E-06										
Liverpool Public Schoo	Residential/School	0.050	0.031	2.0E-06	5.8E-06	1.1E-06	2.0E-07	2.0E-07	2.0E-06	4.9E-08	3.4E-08	1.1E-06										
Average Residential		0.062	0.038	2.4E-06	7.1E-06	1.4E-06	2.5E-07	2.4E-07	2.4E-06	6.1E-08	4.1E-08	1.3E-06										
Lurnea																						
Lurnea High Schoo	Residential/School	0.068	0.038	2.4E-06	7.1E-06	1.4E-06	2.7E-07	2.4E-07	2.4E-06	6.1E-08	4.1E-08	1.3E-06										
St Francis Xavier Primary School Lurnea	Residential/School	0.059	0.035	2.2E-06	6.4E-06	1.2E-06	2.4E-07	2.2E-07	2.2E-06	5.5E-08	3.7E-08	1.2E-06										
Average Residential		0.063	0.036	2.3E-06	6.8E-06	1.3E-06	2.6E-07	2.3E-07	2.3E-06	5.8E-08	3.9E-08	1.2E-06										
Casula																						
Lakewood Crescent	Residential	0.28	0.15	9.7E-06	2.9E-05	5.6E-06	1.1E-06	9.7E-07	9.8E-06	2.5E-07	1.7E-07	5.2E-06										
St Andrews Boulevard	Residential	0.39	0.20	1.3E-05	3.7E-05	7.2E-06	1.6E-06	1.2E-06	1.3E-05	3.2E-07	2.1E-07	6.7E-06										
Buckland Rd Receiver (Receptor 6 in Simta Report)	Residential	0.46	0.23	1.5E-05	4.3E-05	8.3E-06	1.9E-06	1.5E-06	1.5E-05	3.7E-07	2.5E-07	7.9E-06										
Dunmore Cres	Residential	0.38	0.20	1.3E-05	3.8E-05	7.3E-06	1.5E-06	1.3E-06	1.3E-05	3.2E-07	2.2E-07	6.8E-06										
Leacock's Lane	Residential	0.14	0.070	4.4E-06	1.3E-05	2.5E-06	5.5E-07	4.4E-07	4.5E-06	1.1E-07	7.6E-08	2.4E-06										
Leacock's Lane Mid (Receptor 5 in Simta Report)	Residential	0.21	0.105	6.6E-06	2.0E-05	3.8E-06	8.5E-07	6.6E-07	6.7E-06	1.7E-07	1.1E-07	3.6E-06										
Siessor Road	Residential	0.16	0.086	5.4E-06	1.6E-05	3.1E-06	6.6E-07	5.4E-07	5.5E-06	1.4E-07	9.3E-08	2.9E-06										
Maple Grove Retirement Village	Residential	0.071	0.039	2.5E-06	7.3E-06	1.4E-06	2.8E-07	2.5E-07	2.5E-06	6.2E-08	4.2E-08	1.3E-06										
All Saints Catholic Senior Colleg	Residential/School	0.20	0.099	6.2E-06	1.8E-05	3.6E-06	8.0E-07	6.2E-07	6.3E-06	1.6E-07	1.1E-07	3.4E-06										
Casula High Schoo	Residential/School	0.066	0.036	2.3E-06	6.7E-06	1.3E-06	2.6E-07	2.3E-07	2.3E-06	5.7E-08	3.9E-08	1.2E-06										
Casula Public Schoo	Residential/School	0.17	0.095	6.0E-06	1.8E-05	3.4E-06	6.8E-07	6.0E-07	6.1E-06	1.5E-07	1.0E-07	3.2E-06										
Casula Powerhouse Arts Centre	Recreational	0.50	0.25	7.4E-07	2.2E-06	4.3E-07	7.4E-08	7.4E-07	7.5E-07	1.9E-08	1.3E-08	4.0E-07										
Average Residential		0.25	0.13	8.2E-06	2.4E-05	4.7E-06	1.0E-06	8.2E-07	8.3E-06	2.1E-07	1.4E-07	4.4E-06										
Glenfield																						
Canterbury Road	Residential	0.088	0.050	3.1E-06	9.3E-06	1.8E-06	3.5E-07	3.1E-07	3.2E-06	7.9E-08	5.4E-08	1.7E-06										
Ferguson Street	Residential	0.10	0.057	3.6E-06	1.1E-05	2.1E-06	4.1E-07	3.6E-07	3.6E-06	9.1E-08	6.2E-08	1.9E-06										
Good enough St (Receptor 4 in Simta Report)	Residential	0.14	0.076	4.8E-06	1.4E-05	2.7E-06	5.5E-07	4.8E-07	4.8E-06	1.2E-07	8.2E-08	2.6E-06										
Cambridge Avenue	Residential	0.12	0.068	4.3E-06	1.3E-05	2.5E-06	5.0E-07	4.3E-07	4.3E-06	1.1E-07	7.4E-08	2.3E-06										
Glenwood Public Schoo	Residential/School	0.060	0.034	2.1E-06	6.4E-06	1.2E-06	2.4E-07	2.2E-07	2.2E-06	5.4E-08	3.7E-08	1.2E-06										
Glenfield Public Schoo	Residential/School	0.061	0.035	2.3E-06	6.6E-06	1.3E-06	2.4E-07	2.3E-07	2.3E-06	5.6E-08	3.8E-08	1.2E-06					</					

Quantification of Effects - PM2.5 and PM10
Revised Project: Cumulative Scenario C2

Particulate Fraction:										PM2.5	PM2.5	PM2.5	PM10	PM2.5	PM2.5	PM2.5	Incremental Risk -DPM		
Endpoint:										Mortality - All Causes	Hospitalisations - Cardiovascular	Hospitalisations - Respiratory	Mortality - All Causes		Mortality - All Causes	Mortality - Cardiopulmonary	Mortality - Cardiovascular	Mortality - Respiratory	(based on WHO)
Effect Exposure Duration:										Long-term	Short-term	Short-term	Short-Term		Short-Term	Long-term	Short-term	Short-Term	Unit Risk
Age Group:										≥ 30 years	≥ 65 years	≥ 65 years	All ages	All ages	All ages	≥ 30 years	All ages	All ages	(based on WHO)
β (change in effect per 1 µg/m³ PM) (as per Table 4.1)	0.0058				0.0008	0.00041	0.0006			0.00094	0.013	0.00097	0.0019					0.047	
Baseline Incidence (per 100,000) (as per Table 2.3)	1087				23352	8807	670			670	490	164	57					0.22	
Baseline Incidence (per person)	0.01087				0.23352	0.08807	0.0067			0.0067	0.0049	0.00164	0.00057					0.047	
Modifying factor for commercial/industrial exposures (refer to Section 4.3.4 in report)	0.22				0.22	0.22	0.22			0.22	0.22	0.22	0.22					0.22	
Modifying factor for recreational exposures (refer to Section 4.3.4 in report)	0.047				0.047	0.047	0.047			0.047	0.047	0.047	0.047					0.047	

Receptor		Increase in Annual Average PM10 Concentration (µg/m³)	Increase in Annual Average PM2.5 Concentration (µg/m³)	Risk (Equation 6)	Risk												
Maximum Receptor																	
Boundary location	Commercial/Industrial	2.3	2.3	3.2E-05	9.4E-05	1.8E-05	2.1E-06	3.2E-06	3.2E-05	8.0E-07	5.4E-07	1.7E-05					
Sensitive Receptors																	
Wattle Grove																	
Wallcliff Cres	Residential	0.14	0.14	8.8E-06	2.6E-05	5.0E-06	5.7E-07	8.8E-07	8.9E-06	2.2E-07	1.5E-07	4.7E-06					
Cornton Ct	Residential	0.19	0.19	1.2E-05	3.5E-05	6.7E-06	7.6E-07	1.2E-06	1.2E-05	2.9E-07	2.0E-07	6.3E-06					
Marindale Ct (Receptor 3 in Simta Report)	Residential	0.19	0.18	1.1E-05	3.4E-05	6.6E-06	7.5E-07	1.1E-06	1.2E-05	2.9E-07	2.0E-07	6.2E-06					
Anzac Road (Receptor 2 in Simta report)	Residential	0.22	0.21	1.3E-05	3.9E-05	7.6E-06	8.7E-07	1.3E-06	1.3E-05	3.3E-07	2.3E-07	7.1E-06					
Anzac Road (Receptor 2 in Simta report)	Commercial/Industrial	0.22	0.21	2.9E-06	8.6E-06	1.7E-06	1.9E-07	2.9E-07	2.9E-06	7.3E-08	5.0E-08	1.6E-06					
Yallum Cres (Receptor 1 in Simta report)	Residential	0.18	0.18	1.1E-05	3.3E-05	6.4E-06	7.4E-07	1.1E-06	1.1E-05	2.8E-07	1.9E-07	6.1E-06					
Wattle Grove Public School	Residential/School	0.14	0.13	8.4E-06	2.5E-05	4.8E-06	5.5E-07	8.4E-07	8.5E-06	2.1E-07	1.4E-07	4.6E-06					
St Marks Coptic College	Residential/School	0.089	0.086	5.4E-06	1.6E-05	3.1E-06	3.6E-07	5.4E-07	5.5E-06	1.4E-07	9.3E-08	2.9E-06					
Anzac Creek Park	Residential	0.11	0.10	6.5E-06	1.9E-05	3.7E-06	4.2E-07	6.4E-07	6.5E-06	1.6E-07	1.1E-07	3.5E-06					
Anzac Creek Park	Recreational	0.11	0.10	3.0E-07	9.0E-07	1.7E-07	2.0E-08	3.0E-08	3.1E-07	7.7E-09	5.2E-09	1.6E-07					
Average Residential		0.15	0.15	9.2E-06	2.7E-05	5.3E-06	6.1E-07	9.2E-07	9.3E-06	2.3E-07	1.6E-07	5.0E-06					
Moorebank																	
Church Road (Receptor 7 in Simta report)	Residential	0.076	0.074	4.7E-06	1.4E-05	2.7E-06	3.1E-07	4.7E-07	4.7E-06	1.2E-07	8.0E-08	2.5E-06					
Anzac Road (Receptor 2 in Simta report)	Residential	0.22	0.21	1.3E-05	3.9E-05	7.6E-06	8.7E-07	1.3E-06	1.3E-05	3.3E-07	2.3E-07	7.1E-06					
Anzac Road (Receptor 2 in Simta report)	Commercial/Industrial	0.22	0.21	2.9E-06	8.6E-06	1.7E-06	1.9E-07	2.9E-07	2.9E-06	7.3E-08	5.0E-08	1.6E-06					
DNSDC proposed relocation	Commercial/Industrial	0.25	0.24	3.3E-06	9.9E-06	1.9E-06	2.2E-07	3.3E-07	3.4E-06	8.4E-08	5.7E-08	1.8E-06					
Average Residential		0.15	0.14	9.0E-06	2.7E-05	5.1E-06	5.9E-07	8.9E-07	9.1E-06	2.3E-07	1.5E-07	4.8E-06					
Liverpool																	
Al Amanah College Liverpool Campus Liverpool	Residential/School	0.047	0.045	2.9E-06	8.5E-06	1.6E-06	1.9E-07	2.9E-07	2.9E-06	7.2E-08	4.9E-08	1.5E-06					
Liverpool West Public Schoo	Residential/School	0.030	0.029	1.8E-06	5.4E-06	1.0E-06	1.2E-07	1.8E-07	1.8E-06	4.6E-08	3.1E-08	9.8E-07					
Liverpool Public Schoo	Residential/School	0.029	0.028	1.8E-06	5.2E-06	1.0E-06	1.2E-07	1.8E-07	1.8E-06	4.4E-08	3.0E-08	9.5E-07					
Average Residential		0.035	0.034	2.1E-06	6.4E-06	1.2E-06	1.4E-07	2.1E-07	2.1E-06	5.4E-08	3.7E-08	1.2E-06					
Lurnea																	
Lurnea High Schoo	Residential/School	0.034	0.034	2.1E-06	6.3E-06	1.2E-06	1.4E-07	2.1E-07	2.1E-06	5.3E-08	3.6E-08	1.1E-06					
St Francis Xavier Primary School Lurnea	Residential/School	0.032	0.031	1.9E-06	5.8E-06	1.1E-06	1.3E-07	1.9E-07	2.0E-06	4.9E-08	3.3E-08	1.0E-06					
Average Residential		0.033	0.032	2.0E-06	6.0E-06	1.2E-06	1.3E-07	2.0E-07	2.0E-06	5.1E-08	3.5E-08	1.1E-06					
Casula																	
Lakewood Crescent	Residential	0.13	0.13	8.1E-06	2.4E-05	4.6E-06	5.3E-07	8.1E-07	8.2E-06	2.0E-07	1.4E-07	4.4E-06					
St Andrews Boulevard	Residential	0.16	0.16	1.0E-05	3.0E-05	5.8E-06	6.6E-07	1.0E-06	1.0E-05	2.6E-07	1.7E-07	5.5E-06					
Buckland Rd Receiver (Receptor 6 in Simta Report)	Residential	0.19	0.19	1.2E-05	3.5E-05	6.8E-06	7.8E-07	1.2E-06	1.2E-05	3.0E-07	2.0E-07	6.4E-06					
Dunmore Cres	Residential	0.17	0.17	1.1E-05	3.2E-05	6.2E-06	7.0E-07	1.1E-06	1.1E-05	2.7E-07	1.8E-07	5.8E-06					
Leacock's Lane	Residential	0.062	0.060	3.8E-06	1.1E-05	2.2E-06	2.5E-07	3.8E-07	3.8E-06	9.6E-08	6.5E-08	2.0E-06					
Leacock's Lane Mid (Receptor 5 in Simta Report)	Residential	0.089	0.087	5.5E-06	1.6E-05	3.1E-06	3.6E-07	5.5E-07	5.5E-06	1.4E-07	9.4E-08	3.0E-06					
Siessor Road	Residential	0.075	0.073	4.6E-06	1.4E-05	2.6E-06	3.0E-07	4.6E-07	4.6E-06	1.2E-07	7.9E-08	2.5E-06					
Maple Grove Retirement Village	Residential	0.035	0.034	2.2E-06	6.4E-06	1.2E-06	1.4E-07	2.2E-07	2.2E-06	5.5E-08	3.7E-08	1.2E-06					
All Saints Catholic Senior Colleg	Residential/School	0.085	0.083	5.2E-06	1.5E-05	3.0E-06	3.4E-07	5.2E-07	5.3E-06	1.3E-07	9.0E-08	2.8E-06					
Casula High Schoo	Residential/School	0.032	0.031	2.0E-06	5.8E-06	1.1E-06	1.3E-07	2.0E-07	2.0E-06	5.0E-08	3.4E-08	1.1E-06					
Casula Public Schoo	Residential/School	0.085	0.083	5.3E-06	1.6E-05	3.0E-06	3.4E-07	5.2E-07	5.3E-06	1.3E-07	9.0E-08	2.8E-06					
Casula Powerhouse Arts Centre	Recreational	0.21	0.21	6.1E-07	1.8E-06	1.8E-06	3.9E-08	6.1E-08	6.2E-07	1.5E-08	1.1E-08	3.3E-07					
Average Residential		0.11	0.11	6.9E-06	2.0E-05	3.9E-06	4.5E-07	6.9E-07	6.9E-06	1.7E-07	1.2E-07	3.7E-06					
Glenfield																	
Canterbury Road	Residential	0.045	0.044	2.8E-06	8.2E-06	1.6E-06	1.8E-07	2.8E-07	2.8E-06	7.0E-08	4.8E-08	1.5E-06					
Ferguson Street	Residential	0.052	0.051	3.2E-06	9.5E-06	1.8E-06	2.1E-07	3.2E-07	3.2E-06	8.0E-08	5.5E-08	1.7E-06					
Good enough St (Receptor 4 in Simta Report)	Residential	0.068	0.067	4.2E-06	1.2E-05	2.4E-06	2.8E-07	4.2E-07	4.3E-06	1.1E-07	7.2E-08	2.3E-06					
Cambridge Avenue	Residential	0.061	0.060	3.8E-06	1.1E-05	2.2E-06	2.5E-07	3.8E-07	3.8E-06	9.5E-08	6.5E-08	2.0E-06					
Glenwood Public Schoo	Residential/School	0.031	0.030	1.9E-06	5.7E-06	1.1E-06	1.3E-07	1.9E-07	1.9E-06	4.8E-08	3.3E-08	1.0E-06					
Glenfield Public Schoo	Residential/School	0.032	0.032	2.0E-06	5.0E-06	1.1E-06	1.3E-07	2.0E-07	2.0E-06	5.0E-08	3.4E-08	1.1E-06					
Hurststone Agricultural High Schoo	Residential/School	0.028	0.027	1.7E-06	5.0E-06	9.7E-07	1.1E-07	1.7E-07	1.7E-06	4.3E-08	2.9E-08	9.1E-07					
Glenfield new land release	Residential	0.054	0.053	3.3E-06	9.9E-06	1.9E-06	2.2E-07	3.3E-07	3.4E-06	8.4E-08	5.7E-08	1.8E-06					
Playground Learning Centre, Chesham Parade	Residential	0.034	0.033	2.1E-06	6.2E-06	1.2E-06	1.4E-07	2.1E-07	2.1E-06	5.3E-08	3.6E-08	1.1E-06					
Average Residential																	

Assessment of Increased Incidence

Revised Project: Scenario 1

Health Endpoint:	Primary Indicators (PM2.5)			Secondary Indicators (PM2.5)				Asthma (PM10) Increased use of bronchodilator
	Mortality - All Causes, Long-term	Hospitalisations - Cardiovascular, Short-term	Hospitalisations - Respiratory, Short-term	Mortality - All Causes, Short-term	Mortality - Cardiopulmonary, Long-term	Mortality - Cardiovascular, Short-term	Mortality - Respiratory, Short-term	
Age Group: ≥ 30 years	≥ 30 years	≥ 65 years	≥ 65 years	All ages	≥ 30 years	All ages	All ages	5-14 years
β (change in effect per 1 $\mu\text{g}/\text{m}^3$ PM) (as per Table 4.1)	0.0058	0.0008	0.00041	0.00094	0.013	0.00097	0.0019	0.0004
Baseline Incidence (per 100,000) (as per Table 2.3)	1087	23352	8807	670	490	164	57	
Baseline Incidence (per person)	0.01087	0.23352	0.08807	0.0067	0.0049	0.00164	0.00057	5.548
Wattle Grove								
Total Population:	8192	8192	8192	8192	8192	8192	8192	8192
% population in assessment age-group:	45%	5%	5%	100%	45%	100%	100%	18%
Suburb average Δx ($\mu\text{g}/\text{m}^3$):	0.012	0.012	0.012	0.012	0.012	0.012	0.012	0.084
Relative Risk:	1.000072	1.000010	1.000005	1.000012	1.000161	1.000012	1.000023	1.000034
Attributable fraction (AF):	7.2E-05	9.9E-06	5.1E-06	1.2E-05	1.6E-04	1.2E-05	2.3E-05	3.4E-05
Increased number of cases in population:	0.0029	0.0010	0.00019	0.00064	0.0029	0.00016	0.00011	0.27
Moorebank								
Total Population:	1647	1647	1647	1647	1647	1647	1647	1647
% population in assessment age-group:	60%	13%	13%	100%	60%	100%	100%	13%
Suburb average Δx ($\mu\text{g}/\text{m}^3$):	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.078
Relative Risk:	1.000074	1.000010	1.000005	1.000012	1.000166	1.000012	1.000024	1.000031
Attributable fraction (AF):	7.4E-05	1.0E-05	5.2E-06	1.2E-05	1.7E-04	1.2E-05	2.4E-05	3.1E-05
Increased number of cases in population:	0.00079	0.00050	0.00010	0.00013	0.00080	0.000033	0.000023	0.038
Liverpool								
Total Population:	17420	17420	17420	17420	17420	17420	17420	17420
% population in assessment age-group:	51%	11%	11%	100%	51%	100%	100%	13%
Suburb average Δx ($\mu\text{g}/\text{m}^3$):	0.0040	0.0040	0.0040	0.0040	0.0040	0.0040	0.0040	0.0264
Relative Risk:	1.000023	1.000003	1.000002	1.000004	1.000053	1.000004	1.000008	1.000011
Attributable fraction (AF):	2.3E-05	3.2E-06	1.7E-06	3.8E-06	5.3E-05	3.9E-06	7.7E-06	1.1E-05
Increased number of cases in population:	0.0023	0.0015	0.00028	0.00044	0.0023	0.00011	0.000076	0.13
Lurnea								
Total Population:	8611	8611	8611	8611	8611	8611	8611	8611
% population in assessment age-group:	70%	12%	12%	100%	70%	100%	100%	16%
Suburb average Δx ($\mu\text{g}/\text{m}^3$):	0.0054	0.0054	0.0054	0.0054	0.0054	0.0054	0.0054	0.0371
Relative Risk:	1.000031	1.000004	1.000002	1.000005	1.000070	1.000005	1.000010	1.000015
Attributable fraction (AF):	3.1E-05	4.3E-06	2.2E-06	5.1E-06	7.0E-05	5.2E-06	1.0E-05	1.5E-05
Increased number of cases in population:	0.0020	0.0011	0.00021	0.00029	0.0021	0.000074	0.000050	0.11
Casula								
Total Population:	14366	14366	14366	14366	14366	14366	14366	14366
% population in assessment age-group:	49%	10%	10%	100%	49%	100%	100%	15%
Suburb average Δx ($\mu\text{g}/\text{m}^3$):	0.023	0.023	0.023	0.023	0.023	0.023	0.023	0.157
Relative Risk:	1.000131	1.000018	1.000009	1.000021	1.000293	1.000022	1.000043	1.000063
Attributable fraction (AF):	1.3E-04	1.8E-05	9.2E-06	2.1E-05	2.9E-04	2.2E-05	4.3E-05	6.3E-05
Increased number of cases in population:	0.010	0.0062	0.0012	0.0020	0.010	0.00052	0.00035	0.74
Glenfield								
Total Population:	7550	7550	7550	7550	7550	7550	7550	7550
% population in assessment age-group:	67%	14%	14%	100%	67%	100%	100%	12%
Suburb average Δx ($\mu\text{g}/\text{m}^3$):	0.0069	0.0069	0.0069	0.0069	0.0069	0.0069	0.0069	0.0491
Relative Risk:	1.000040	1.000006	1.000003	1.000006	1.000090	1.000007	1.000013	1.000020
Attributable fraction (AF):	4.0E-05	5.5E-06	2.8E-06	6.5E-06	9.0E-05	6.7E-06	1.3E-05	2.0E-05
Increased number of cases in population:	0.0022	0.0014	0.00026	0.00033	0.0022	0.000083	0.000056	0.10
Macquarie Fields								
Total Population:	3582	3582	3582	3582	3582	3582	3582	3582
% population in assessment age-group:	53%	10%	10%	100%	53%	100%	100%	16%
Suburb average Δx ($\mu\text{g}/\text{m}^3$):	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.0179
Relative Risk:	1.000015	1.000002	1.000001	1.000002	1.000033	1.000002	1.000005	1.000007
Attributable fraction (AF):	1.5E-05	2.0E-06	1.0E-06	2.4E-06	3.3E-05	2.5E-06	4.8E-06	7.2E-06
Increased number of cases in population:	0.00030	0.00016	0.000031	0.000057	0.00031	0.000014	0.000010	0.022
Total - All Suburbs	0.02	0.01	0.002	0.004	0.02	0.0010	0.0007	1.4

Assessment of Increased Incidence
Revised Project: Scenario 3

Health Endpoint:	Primary Indicators (PM2.5)			Secondary Indicators (PM2.5)				Asthma (PM10) Increased use of bronchodilator
	Mortality - All Causes, Long-term	Hospitalisations - Cardiovascular, Short-term	Hospitalisations - Respiratory, Short-term	Mortality - All Causes, Short-term	Mortality - Cardiopulmonary, Long-term	Mortality - Cardiovascular, Short-term	Mortality - Respiratory, Short-term	
Age Group: ≥ 30 years	≥ 30 years	≥ 65 years	≥ 65 years	All ages	≥ 30 years	All ages	All ages	5-14 years
β (change in effect per 1 $\mu\text{g}/\text{m}^3$ PM) (as per Table 4.1)	0.0058	0.0008	0.00041	0.00094	0.013	0.00097	0.0019	0.0004
Baseline Incidence (per 100,000) (as per Table 2.3)	1087	23352	8807	670	490	164	57	
Baseline Incidence (per person)	0.01087	0.23352	0.08807	0.0067	0.0049	0.00164	0.00057	5.548
Wattle Grove								
Total Population:	8192	8192	8192	8192	8192	8192	8192	8192
% population in assessment age-group:	45%	5%	5%	100%	45%	100%	100%	18%
Suburb average Δx ($\mu\text{g}/\text{m}^3$):	0.092	0.092	0.092	0.092	0.092	0.092	0.092	0.093
Relative Risk:	1.000532	1.000073	1.000038	1.000086	1.001192	1.000089	1.000174	1.000037
Attributable fraction (AF):	5.3E-04	7.3E-05	3.8E-05	8.6E-05	1.2E-03	8.9E-05	1.7E-04	3.7E-05
Increased number of cases in population:	0.021	0.007	0.0014	0.0047	0.022	0.0012	0.00081	0.30
Moorebank								
Total Population:	1647	1647	1647	1647	1647	1647	1647	1647
% population in assessment age-group:	60%	13%	13%	100%	60%	100%	100%	13%
Suburb average Δx ($\mu\text{g}/\text{m}^3$):	0.103	0.103	0.103	0.103	0.103	0.103	0.103	0.104
Relative Risk:	1.000597	1.000082	1.000042	1.000097	1.001339	1.000100	1.000196	1.000042
Attributable fraction (AF):	6.0E-04	8.2E-05	4.2E-05	9.7E-05	1.3E-03	1.0E-04	2.0E-04	4.2E-05
Increased number of cases in population:	0.0064	0.0041	0.00078	0.0011	0.0065	0.00027	0.00018	0.050
Liverpool								
Total Population:	17420	17420	17420	17420	17420	17420	17420	17420
% population in assessment age-group:	51%	11%	11%	100%	51%	100%	100%	13%
Suburb average Δx ($\mu\text{g}/\text{m}^3$):	0.0319	0.0319	0.0319	0.0319	0.0319	0.0319	0.0319	0.0324
Relative Risk:	1.000185	1.000026	1.000013	1.000030	1.000415	1.000031	1.000061	1.000013
Attributable fraction (AF):	1.9E-04	2.6E-05	1.3E-05	3.0E-05	4.1E-04	3.1E-05	6.1E-05	1.3E-05
Increased number of cases in population:	0.018	0.012	0.0022	0.0035	0.018	0.00088	0.00060	0.16
Lurnea								
Total Population:	8611	8611	8611	8611	8611	8611	8611	8611
% population in assessment age-group:	70%	12%	12%	100%	70%	100%	100%	16%
Suburb average Δx ($\mu\text{g}/\text{m}^3$):	0.0343	0.0343	0.0343	0.0343	0.0343	0.0343	0.0343	0.0348
Relative Risk:	1.000199	1.000027	1.000014	1.000032	1.000446	1.000033	1.000065	1.000014
Attributable fraction (AF):	2.0E-04	2.7E-05	1.4E-05	3.2E-05	4.5E-04	3.3E-05	6.5E-05	1.4E-05
Increased number of cases in population:	0.013	0.0068	0.0013	0.0019	0.013	0.00047	0.00032	0.11
Casula								
Total Population:	14366	14366	14366	14366	14366	14366	14366	14366
% population in assessment age-group:	49%	10%	10%	100%	49%	100%	100%	15%
Suburb average Δx ($\mu\text{g}/\text{m}^3$):	0.138	0.138	0.138	0.138	0.138	0.138	0.138	0.140
Relative Risk:	1.000801	1.000110	1.000057	1.000130	1.001795	1.000134	1.000262	1.000056
Attributable fraction (AF):	8.0E-04	1.1E-04	5.7E-05	1.3E-04	1.8E-03	1.3E-04	2.6E-04	5.6E-05
Increased number of cases in population:	0.061	0.038	0.0074	0.012	0.062	0.0032	0.0021	0.66
Glenfield								
Total Population:	7550	7550	7550	7550	7550	7550	7550	7550
% population in assessment age-group:	67%	14%	14%	100%	67%	100%	100%	12%
Suburb average Δx ($\mu\text{g}/\text{m}^3$):	0.0490	0.0490	0.0490	0.0490	0.0490	0.0490	0.0490	0.0498
Relative Risk:	1.000284	1.000039	1.000020	1.000046	1.000638	1.000048	1.000093	1.000020
Attributable fraction (AF):	2.8E-04	3.9E-05	2.0E-05	4.6E-05	6.4E-04	4.8E-05	9.3E-05	2.0E-05
Increased number of cases in population:	0.016	0.0096	0.0019	0.0023	0.016	0.00059	0.00040	0.10
Macquarie Fields								
Total Population:	3582	3582	3582	3582	3582	3582	3582	3582
% population in assessment age-group:	53%	10%	10%	100%	53%	100%	100%	16%
Suburb average Δx ($\mu\text{g}/\text{m}^3$):	0.0163	0.0163	0.0163	0.0163	0.0163	0.0163	0.0163	0.0166
Relative Risk:	1.000095	1.000013	1.000007	1.000015	1.000212	1.000016	1.000031	1.000007
Attributable fraction (AF):	9.5E-05	1.3E-05	6.7E-06	1.5E-05	2.1E-04	1.6E-05	3.1E-05	6.6E-06
Increased number of cases in population:	0.0020	0.0010	0.00020	0.00037	0.0020	0.000093	0.000063	0.021
Total - All Suburbs	0.1	0.08	0.02	0.03	0.1	0.007	0.005	1.4

Assessment of Increased Incidence
Revised Project: Cumulative Scenario A

Health Endpoint:	Primary Indicators (PM2.5)			Secondary Indicators (PM2.5)				Asthma (PM10) Increased use of bronchodilator
	Mortality - All Causes, Long-term	Hospitalisations - Cardiovascular, Short-term	Hospitalisations - Respiratory, Short-term	Mortality - All Causes, Short-term	Mortality - Cardiopulmonary, Long-term	Mortality - Cardiovascular, Short-term	Mortality - Respiratory, Short-term	
Age Group: ≥ 30 years	≥ 30 years	≥ 65 years	≥ 65 years	All ages	≥ 30 years	All ages	All ages	5-14 years
β (change in effect per 1 $\mu\text{g}/\text{m}^3$ PM) (as per Table 4.1)	0.0058	0.0008	0.00041	0.00094	0.013	0.00097	0.0019	0.0004
Baseline Incidence (per 100,000) (as per Table 2.3)	1087	23352	8807	670	490	164	57	
Baseline Incidence (per person)	0.01087	0.23352	0.08807	0.0067	0.0049	0.00164	0.00057	5.548
Wattle Grove								
Total Population:	8192	8192	8192	8192	8192	8192	8192	8192
% population in assessment age-group:	45%	5%	5%	100%	45%	100%	100%	18%
Suburb average Δx ($\mu\text{g}/\text{m}^3$):	0.197	0.197	0.197	0.197	0.197	0.197	0.197	0.202
Relative Risk:	1.001146	1.000158	1.000081	1.000186	1.002570	1.000192	1.000375	1.000081
Attributable fraction (AF):	1.1E-03	1.6E-04	8.1E-05	1.9E-04	2.6E-03	1.9E-04	3.8E-04	8.1E-05
Increased number of cases in population:	0.046	0.016	0.0030	0.010	0.046	0.0026	0.0018	0.65
Moorebank								
Total Population:	1647	1647	1647	1647	1647	1647	1647	1647
% population in assessment age-group:	60%	13%	13%	100%	60%	100%	100%	13%
Suburb average Δx ($\mu\text{g}/\text{m}^3$):	0.205	0.205	0.205	0.205	0.205	0.205	0.205	0.210
Relative Risk:	1.001190	1.000164	1.000084	1.000193	1.002670	1.000199	1.000390	1.000084
Attributable fraction (AF):	1.2E-03	1.6E-04	8.4E-05	1.9E-04	2.7E-03	2.0E-04	3.9E-04	8.4E-05
Increased number of cases in population:	0.013	0.0081	0.0016	0.0021	0.013	0.00054	0.00037	0.10
Liverpool								
Total Population:	17420	17420	17420	17420	17420	17420	17420	17420
% population in assessment age-group:	51%	11%	11%	100%	51%	100%	100%	13%
Suburb average Δx ($\mu\text{g}/\text{m}^3$):	0.0530	0.0530	0.0530	0.0530	0.0530	0.0530	0.0530	0.0541
Relative Risk:	1.000308	1.000042	1.000022	1.000050	1.000690	1.000051	1.000101	1.000022
Attributable fraction (AF):	3.1E-04	4.2E-05	2.2E-05	5.0E-05	6.9E-04	5.1E-05	1.0E-04	2.2E-05
Increased number of cases in population:	0.030	0.019	0.0037	0.0058	0.030	0.0015	0.0010	0.26
Lurnea								
Total Population:	8611	8611	8611	8611	8611	8611	8611	8611
% population in assessment age-group:	70%	12%	12%	100%	70%	100%	100%	16%
Suburb average Δx ($\mu\text{g}/\text{m}^3$):	0.0521	0.0521	0.0521	0.0521	0.0521	0.0521	0.0521	0.0531
Relative Risk:	1.000302	1.000042	1.000021	1.000049	1.000677	1.000050	1.000099	1.000021
Attributable fraction (AF):	3.0E-04	4.2E-05	2.1E-05	4.9E-05	6.8E-04	5.0E-05	9.9E-05	2.1E-05
Increased number of cases in population:	0.020	0.010	0.0020	0.0028	0.020	0.00071	0.00049	0.16
Casula								
Total Population:	14366	14366	14366	14366	14366	14366	14366	14366
% population in assessment age-group:	49%	10%	10%	100%	49%	100%	100%	15%
Suburb average Δx ($\mu\text{g}/\text{m}^3$):	0.192	0.192	0.192	0.192	0.192	0.192	0.192	0.196
Relative Risk:	1.001116	1.000154	1.000079	1.000181	1.002503	1.000187	1.000365	1.000078
Attributable fraction (AF):	1.1E-03	1.5E-04	7.9E-05	1.8E-04	2.5E-03	1.9E-04	3.7E-04	7.8E-05
Increased number of cases in population:	0.085	0.053	0.010	0.017	0.086	0.0044	0.0030	0.92
Glenfield								
Total Population:	7550	7550	7550	7550	7550	7550	7550	7550
% population in assessment age-group:	67%	14%	14%	100%	67%	100%	100%	12%
Suburb average Δx ($\mu\text{g}/\text{m}^3$):	0.0699	0.0699	0.0699	0.0699	0.0699	0.0699	0.0699	0.0713
Relative Risk:	1.000405	1.000056	1.000029	1.000066	1.000909	1.000068	1.000133	1.000029
Attributable fraction (AF):	4.1E-04	5.6E-05	2.9E-05	6.6E-05	9.1E-04	6.8E-05	1.3E-04	2.9E-05
Increased number of cases in population:	0.022	0.014	0.0026	0.0033	0.023	0.00084	0.00057	0.15
Macquarie Fields								
Total Population:	3582	3582	3582	3582	3582	3582	3582	3582
% population in assessment age-group:	53%	10%	10%	100%	53%	100%	100%	16%
Suburb average Δx ($\mu\text{g}/\text{m}^3$):	0.0251	0.0251	0.0251	0.0251	0.0251	0.0251	0.0251	0.0257
Relative Risk:	1.000146	1.000020	1.000010	1.000024	1.00327	1.000024	1.000048	1.000010
Attributable fraction (AF):	1.5E-04	2.0E-05	1.0E-05	2.4E-05	3.3E-04	2.4E-05	4.8E-05	1.0E-05
Increased number of cases in population:	0.0030	0.0016	0.00031	0.00057	0.0030	0.00014	0.00098	0.032
Total - All Suburbs	0.2	0.1	0.02	0.04	0.2	0.011	0.007	2.3

Assessment of Increased Incidence
Revised Project: Cumulative Scenario B

Health Endpoint:	Primary Indicators (PM2.5)			Secondary Indicators (PM2.5)				Asthma (PM10) Increased use of bronchodilator
	Mortality - All Causes, Long-term	Hospitalisations - Cardiovascular, Short-term	Hospitalisations - Respiratory, Short-term	Mortality - All Causes, Short-term	Mortality - Cardiopulmonary, Long-term	Mortality - Cardiovascular, Short-term	Mortality - Respiratory, Short-term	
Age Group: ≥ 30 years	≥ 30 years	≥ 65 years	≥ 65 years	All ages	≥ 30 years	All ages	All ages	5-14 years
β (change in effect per 1 µg/m³ PM) (as per Table 4.1)	0.0058	0.0008	0.00041	0.00094	0.013	0.00097	0.0019	0.0004
Baseline Incidence (per 100,000) (as per Table 2.3)	1087	23352	8807	670	490	164	57	
Baseline Incidence (per person)	0.01087	0.23352	0.08807	0.0067	0.0049	0.00164	0.00057	5.548
Wattle Grove								
Total Population:	8192	8192	8192	8192	8192	8192	8192	8192
% population in assessment age-group:	45%	5%	5%	100%	45%	100%	100%	18%
Suburb average Δx (µg/m³):	0.144	0.144	0.144	0.144	0.144	0.144	0.144	0.148
Relative Risk:	1.000834	1.000115	1.000059	1.000135	1.001869	1.000139	1.000273	1.000059
Attributable fraction (AF):	8.3E-04	1.1E-04	5.9E-05	1.4E-04	1.9E-03	1.4E-04	2.7E-04	5.9E-05
Increased number of cases in population:	0.033	0.011	0.0022	0.0074	0.034	0.0019	0.0013	0.47
Moorebank								
Total Population:	1647	1647	1647	1647	1647	1647	1647	1647
% population in assessment age-group:	60%	13%	13%	100%	60%	100%	100%	13%
Suburb average Δx (µg/m³):	0.143	0.143	0.143	0.143	0.143	0.143	0.143	0.147
Relative Risk:	1.000831	1.000115	1.000059	1.000135	1.001864	1.000139	1.000272	1.000059
Attributable fraction (AF):	8.3E-04	1.1E-04	5.9E-05	1.3E-04	1.9E-03	1.4E-04	2.7E-04	5.9E-05
Increased number of cases in population:	0.0089	0.0056	0.0011	0.0015	0.0090	0.00038	0.00026	0.071
Liverpool								
Total Population:	17420	17420	17420	17420	17420	17420	17420	17420
% population in assessment age-group:	51%	11%	11%	100%	51%	100%	100%	13%
Suburb average Δx (µg/m³):	0.0340	0.0340	0.0340	0.0340	0.0340	0.0340	0.0340	0.0349
Relative Risk:	1.000197	1.000027	1.000014	1.000032	1.000443	1.000033	1.000065	1.000014
Attributable fraction (AF):	2.0E-04	2.7E-05	1.4E-05	3.2E-05	4.4E-04	3.3E-05	6.5E-05	1.4E-05
Increased number of cases in population:	0.019	0.012	0.0024	0.0037	0.019	0.00094	0.00064	0.17
Lurnea								
Total Population:	8611	8611	8611	8611	8611	8611	8611	8611
% population in assessment age-group:	70%	12%	12%	100%	70%	100%	100%	16%
Suburb average Δx (µg/m³):	0.0317	0.0317	0.0317	0.0317	0.0317	0.0317	0.0317	0.0325
Relative Risk:	1.000184	1.000025	1.000013	1.000030	1.000412	1.000031	1.000060	1.000013
Attributable fraction (AF):	1.8E-04	2.5E-05	1.3E-05	3.0E-05	4.1E-04	3.1E-05	6.0E-05	1.3E-05
Increased number of cases in population:	0.012	0.0063	0.0012	0.0017	0.012	0.00043	0.00030	0.10
Casula								
Total Population:	14366	14366	14366	14366	14366	14366	14366	14366
% population in assessment age-group:	49%	10%	10%	100%	49%	100%	100%	15%
Suburb average Δx (µg/m³):	0.110	0.110	0.110	0.110	0.110	0.110	0.110	0.113
Relative Risk:	1.000638	1.000088	1.000045	1.000103	1.001431	1.000107	1.000209	1.000045
Attributable fraction (AF):	6.4E-04	8.8E-05	4.5E-05	1.0E-04	1.4E-03	1.1E-04	2.1E-04	4.5E-05
Increased number of cases in population:	0.049	0.030	0.0059	0.0099	0.049	0.0025	0.0017	0.53
Glenfield								
Total Population:	7550	7550	7550	7550	7550	7550	7550	7550
% population in assessment age-group:	67%	14%	14%	100%	67%	100%	100%	12%
Suburb average Δx (µg/m³):	0.0415	0.0415	0.0415	0.0415	0.0415	0.0415	0.0415	0.0425
Relative Risk:	1.000241	1.000033	1.000017	1.000039	1.000540	1.000040	1.000079	1.000017
Attributable fraction (AF):	2.4E-04	3.3E-05	1.7E-05	3.9E-05	5.4E-04	4.0E-05	7.9E-05	1.7E-05
Increased number of cases in population:	0.013	0.0081	0.0016	0.0020	0.013	0.00050	0.00034	0.087
Macquarie Fields								
Total Population:	3582	3582	3582	3582	3582	3582	3582	3582
% population in assessment age-group:	53%	10%	10%	100%	53%	100%	100%	16%
Suburb average Δx (µg/m³):	0.0156	0.0156	0.0156	0.0156	0.0156	0.0156	0.0156	0.0160
Relative Risk:	1.000090	1.000012	1.000006	1.000015	1.000203	1.000015	1.000030	1.000006
Attributable fraction (AF):	9.0E-05	1.2E-05	6.4E-06	1.5E-05	2.0E-04	1.5E-05	3.0E-05	6.4E-06
Increased number of cases in population:	0.0019	0.0010	0.00019	0.00035	0.0019	0.000089	0.000060	0.020
Total - All Suburbs	0.1	0.08	0.01	0.03	0.1	0.007	0.005	1.5

Assessment of Increased Incidence
Revised Project: Cumulative Scenario C1

Health Endpoint:	Primary Indicators (PM2.5)			Secondary Indicators (PM2.5)				Asthma (PM10) Increased use of bronchodilator
	Mortality - All Causes, Long-term	Hospitalisations - Cardiovascular, Short-term	Hospitalisations - Respiratory, Short-term	Mortality - All Causes, Short-term	Mortality - Cardiopulmonary, Long-term	Mortality - Cardiovascular, Short-term	Mortality - Respiratory, Short-term	
Age Group: ≥ 30 years	≥ 30 years	≥ 65 years	≥ 65 years	All ages	≥ 30 years	All ages	All ages	5-14 years
β (change in effect per 1 $\mu\text{g}/\text{m}^3$ PM) (as per Table 4.1)	0.0058	0.0008	0.00041	0.00094	0.013	0.00097	0.0019	0.0004
Baseline Incidence (per 100,000) (as per Table 2.3)	1087	23352	8807	670	490	164	57	
Baseline Incidence (per person)	0.01087	0.23352	0.08807	0.0067	0.0049	0.00164	0.00057	5.548
Wattle Grove								
Total Population:	8192	8192	8192	8192	8192	8192	8192	8192
% population in assessment age-group:	45%	5%	5%	100%	45%	100%	100%	18%
Suburb average Δx ($\mu\text{g}/\text{m}^3$):	0.156	0.156	0.156	0.156	0.156	0.156	0.156	0.231
Relative Risk:	1.000904	1.000125	1.000064	1.000147	1.002028	1.000151	1.000296	1.000092
Attributable fraction (AF):	9.0E-04	1.2E-04	6.4E-05	1.5E-04	2.0E-03	1.5E-04	3.0E-04	9.2E-05
Increased number of cases in population:	0.036	0.012	0.0024	0.0080	0.037	0.0020	0.0014	0.74
Moorebank								
Total Population:	1647	1647	1647	1647	1647	1647	1647	1647
% population in assessment age-group:	60%	13%	13%	100%	60%	100%	100%	13%
Suburb average Δx ($\mu\text{g}/\text{m}^3$):	0.153	0.153	0.153	0.153	0.153	0.153	0.153	0.228
Relative Risk:	1.000888	1.000122	1.000063	1.000144	1.001992	1.000148	1.000291	1.000091
Attributable fraction (AF):	8.9E-04	1.2E-04	6.3E-05	1.4E-04	2.0E-03	1.5E-04	2.9E-04	9.1E-05
Increased number of cases in population:	0.0095	0.0060	0.0012	0.0016	0.0096	0.00040	0.00027	0.110
Liverpool								
Total Population:	17420	17420	17420	17420	17420	17420	17420	17420
% population in assessment age-group:	51%	11%	11%	100%	51%	100%	100%	13%
Suburb average Δx ($\mu\text{g}/\text{m}^3$):	0.0381	0.0381	0.0381	0.0381	0.0381	0.0381	0.0381	0.0624
Relative Risk:	1.000221	1.000030	1.000016	1.000036	1.000495	1.000037	1.000072	1.000025
Attributable fraction (AF):	2.2E-04	3.0E-05	1.6E-05	3.6E-05	4.9E-04	3.7E-05	7.2E-05	2.5E-05
Increased number of cases in population:	0.021	0.014	0.0027	0.0042	0.022	0.00105	0.00072	0.30
Lurnea								
Total Population:	8611	8611	8611	8611	8611	8611	8611	8611
% population in assessment age-group:	70%	12%	12%	100%	70%	100%	100%	16%
Suburb average Δx ($\mu\text{g}/\text{m}^3$):	0.0364	0.0364	0.0364	0.0364	0.0364	0.0364	0.0364	0.0634
Relative Risk:	1.000211	1.000029	1.000015	1.000034	1.000473	1.000035	1.000069	1.000025
Attributable fraction (AF):	2.1E-04	2.9E-05	1.5E-05	3.4E-05	4.7E-04	3.5E-05	6.9E-05	2.5E-05
Increased number of cases in population:	0.014	0.0072	0.0014	0.0020	0.014	0.00050	0.00034	0.20
Casula								
Total Population:	14366	14366	14366	14366	14366	14366	14366	14366
% population in assessment age-group:	49%	10%	10%	100%	49%	100%	100%	15%
Suburb average Δx ($\mu\text{g}/\text{m}^3$):	0.131	0.131	0.131	0.131	0.131	0.131	0.131	0.253
Relative Risk:	1.000757	1.000104	1.000054	1.000123	1.001698	1.000127	1.000248	1.000101
Attributable fraction (AF):	7.6E-04	1.0E-04	5.4E-05	1.2E-04	1.7E-03	1.3E-04	2.5E-04	1.0E-04
Increased number of cases in population:	0.058	0.036	0.0070	0.0118	0.058	0.0030	0.0020	1.20
Glenfield								
Total Population:	7550	7550	7550	7550	7550	7550	7550	7550
% population in assessment age-group:	67%	14%	14%	100%	67%	100%	100%	12%
Suburb average Δx ($\mu\text{g}/\text{m}^3$):	0.0496	0.0496	0.0496	0.0496	0.0496	0.0496	0.0496	0.0885
Relative Risk:	1.000288	1.000040	1.000020	1.000047	1.000645	1.000048	1.000094	1.000035
Attributable fraction (AF):	2.9E-04	4.0E-05	2.0E-05	4.7E-05	6.4E-04	4.8E-05	9.4E-05	3.5E-05
Increased number of cases in population:	0.016	0.0097	0.0019	0.0024	0.016	0.00060	0.00041	0.181
Macquarie Fields								
Total Population:	3582	3582	3582	3582	3582	3582	3582	3582
% population in assessment age-group:	53%	10%	10%	100%	53%	100%	100%	16%
Suburb average Δx ($\mu\text{g}/\text{m}^3$):	0.0184	0.0184	0.0184	0.0184	0.0184	0.0184	0.0184	0.0330
Relative Risk:	1.000107	1.000015	1.000008	1.000017	1.00239	1.000018	1.000035	1.000013
Attributable fraction (AF):	1.1E-04	1.5E-05	7.6E-06	1.7E-05	2.4E-04	1.8E-05	3.5E-05	1.3E-05
Increased number of cases in population:	0.0022	0.0012	0.00023	0.00042	0.0022	0.000105	0.000071	0.041
Total - All Suburbs	0.2	0.09	0.02	0.03	0.2	0.008	0.005	2.8

Assessment of Increased Incidence
Revised Project: Cumulative Scenario C2

Health Endpoint:	Primary Indicators (PM2.5)			Secondary Indicators (PM2.5)				Asthma (PM10) Increased use of bronchodilator
	Mortality - All Causes, Long-term	Hospitalisations - Cardiovascular, Short-term	Hospitalisations - Respiratory, Short-term	Mortality - All Causes, Short-term	Mortality - Cardiopulmonary, Long-term	Mortality - Cardiovascular, Short-term	Mortality - Respiratory, Short-term	
Age Group: ≥ 30 years	≥ 30 years	≥ 65 years	≥ 65 years	All ages	≥ 30 years	All ages	All ages	5-14 years
β (change in effect per 1 $\mu\text{g}/\text{m}^3$ PM) (as per Table 4.1)	0.0058	0.0008	0.00041	0.00094	0.013	0.00097	0.0019	0.0004
Baseline Incidence (per 100,000) (as per Table 2.3)	1087	23352	8807	670	490	164	57	
Baseline Incidence (per person)	0.01087	0.23352	0.08807	0.0067	0.0049	0.00164	0.00057	5.548
Wattle Grove								
Total Population:	8192	8192	8192	8192	8192	8192	8192	8192
% population in assessment age-group:	45%	5%	5%	100%	45%	100%	100%	18%
Suburb average Δx ($\mu\text{g}/\text{m}^3$):	0.147	0.147	0.147	0.147	0.147	0.147	0.147	0.151
Relative Risk:	1.000851	1.000117	1.000060	1.000138	1.001907	1.000142	1.000279	1.000060
Attributable fraction (AF):	8.5E-04	1.2E-04	6.0E-05	1.4E-04	1.9E-03	1.4E-04	2.8E-04	6.0E-05
Increased number of cases in population:	0.034	0.012	0.0023	0.0076	0.034	0.0019	0.0013	0.48
Moorebank								
Total Population:	1647	1647	1647	1647	1647	1647	1647	1647
% population in assessment age-group:	60%	13%	13%	100%	60%	100%	100%	13%
Suburb average Δx ($\mu\text{g}/\text{m}^3$):	0.142	0.142	0.142	0.142	0.142	0.142	0.142	0.146
Relative Risk:	1.000825	1.000114	1.000058	1.000134	1.001849	1.000138	1.000270	1.000058
Attributable fraction (AF):	8.2E-04	1.1E-04	5.8E-05	1.3E-04	1.8E-03	1.4E-04	2.7E-04	5.8E-05
Increased number of cases in population:	0.0088	0.0056	0.0011	0.0015	0.0089	0.00037	0.00025	0.070
Liverpool								
Total Population:	17420	17420	17420	17420	17420	17420	17420	17420
% population in assessment age-group:	51%	11%	11%	100%	51%	100%	100%	13%
Suburb average Δx ($\mu\text{g}/\text{m}^3$):	0.0340	0.0340	0.0340	0.0340	0.0340	0.0340	0.0340	0.0349
Relative Risk:	1.000197	1.000027	1.000014	1.000032	1.000443	1.000033	1.000065	1.000014
Attributable fraction (AF):	2.0E-04	2.7E-05	1.4E-05	3.2E-05	4.4E-04	3.3E-05	6.5E-05	1.4E-05
Increased number of cases in population:	0.019	0.012	0.0024	0.0037	0.019	0.00094	0.00064	0.17
Lurnea								
Total Population:	8611	8611	8611	8611	8611	8611	8611	8611
% population in assessment age-group:	70%	12%	12%	100%	70%	100%	100%	16%
Suburb average Δx ($\mu\text{g}/\text{m}^3$):	0.0322	0.0322	0.0322	0.0322	0.0322	0.0322	0.0322	0.0330
Relative Risk:	1.000187	1.000026	1.000013	1.000030	1.000418	1.000031	1.000061	1.000013
Attributable fraction (AF):	1.9E-04	2.6E-05	1.3E-05	3.0E-05	4.2E-04	3.1E-05	6.1E-05	1.3E-05
Increased number of cases in population:	0.012	0.0064	0.0012	0.0017	0.012	0.00044	0.00030	0.10
Casula								
Total Population:	14366	14366	14366	14366	14366	14366	14366	14366
% population in assessment age-group:	49%	10%	10%	100%	49%	100%	100%	15%
Suburb average Δx ($\mu\text{g}/\text{m}^3$):	0.109	0.109	0.109	0.109	0.109	0.109	0.109	0.112
Relative Risk:	1.000632	1.000087	1.000045	1.000102	1.001418	1.000106	1.000207	1.000045
Attributable fraction (AF):	6.3E-04	8.7E-05	4.5E-05	1.0E-04	1.4E-03	1.1E-04	2.1E-04	4.5E-05
Increased number of cases in population:	0.048	0.030	0.0058	0.0099	0.049	0.0025	0.0017	0.53
Glenfield								
Total Population:	7550	7550	7550	7550	7550	7550	7550	7550
% population in assessment age-group:	67%	14%	14%	100%	67%	100%	100%	12%
Suburb average Δx ($\mu\text{g}/\text{m}^3$):	0.0440	0.0440	0.0440	0.0440	0.0440	0.0440	0.0440	0.0451
Relative Risk:	1.000255	1.000035	1.000018	1.000041	1.000572	1.000043	1.000084	1.000018
Attributable fraction (AF):	2.6E-04	3.5E-05	1.8E-05	4.1E-05	5.7E-04	4.3E-05	8.4E-05	1.8E-05
Increased number of cases in population:	0.014	0.0086	0.0017	0.0021	0.014	0.00053	0.00036	0.092
Macquarie Fields								
Total Population:	3582	3582	3582	3582	3582	3582	3582	3582
% population in assessment age-group:	53%	10%	10%	100%	53%	100%	100%	16%
Suburb average Δx ($\mu\text{g}/\text{m}^3$):	0.0163	0.0163	0.0163	0.0163	0.0163	0.0163	0.0163	0.0167
Relative Risk:	1.000095	1.000013	1.000007	1.000015	1.000212	1.000016	1.000031	1.000007
Attributable fraction (AF):	9.5E-05	1.3E-05	6.7E-06	1.5E-05	2.1E-04	1.6E-05	3.1E-05	6.7E-06
Increased number of cases in population:	0.0020	0.0010	0.00020	0.00037	0.0020	0.000093	0.000063	0.021
Total - All Suburbs	0.1	0.08	0.01	0.03	0.1	0.007	0.005	1.5