

Figure 12.5 Predicted Annual Average Dust Deposition During Construction at Buttonderry Site

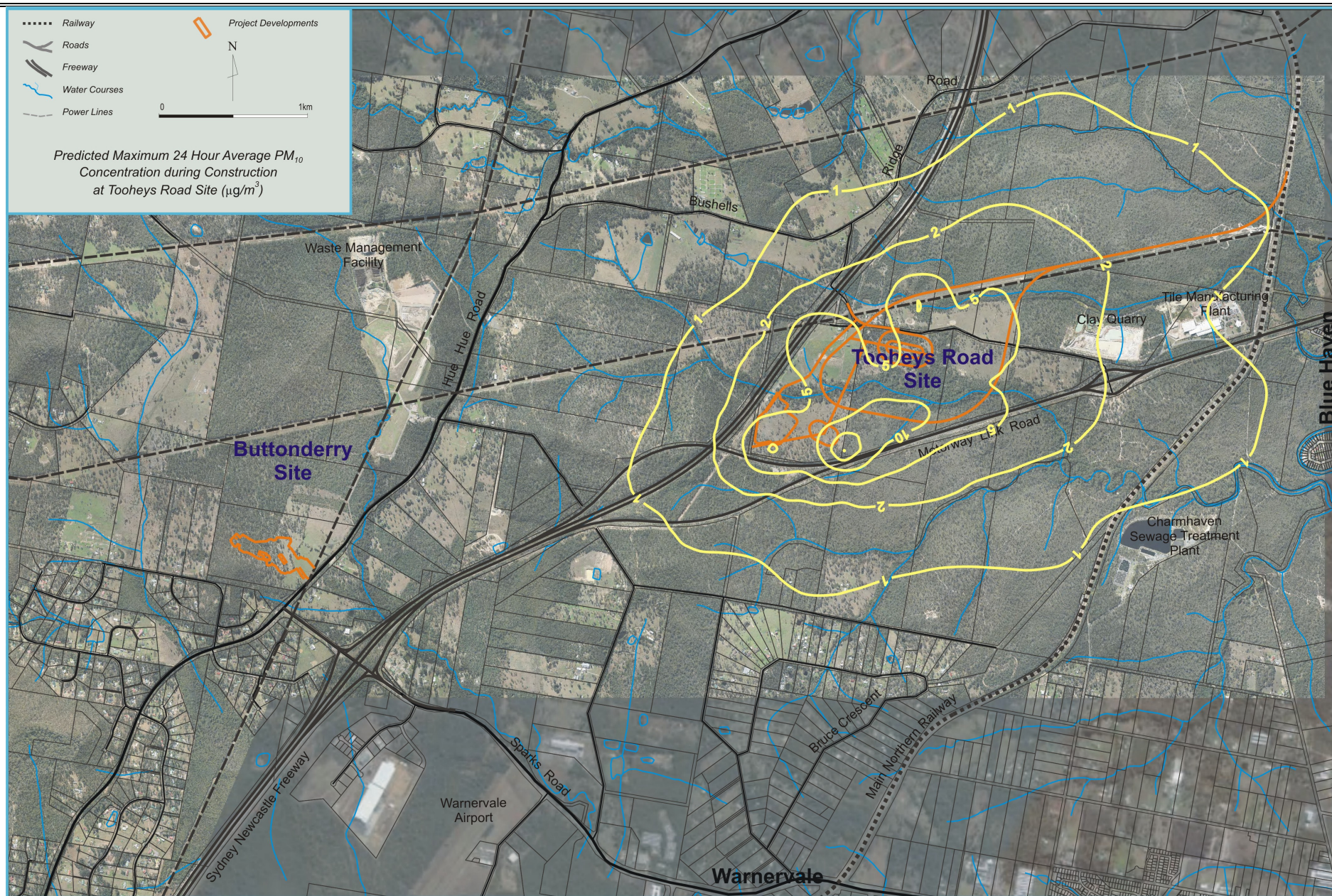


Figure 12.6 Predicted Maximum 24 Hour Average PM_{10} Concentration During Construction at Tooheys Road Site

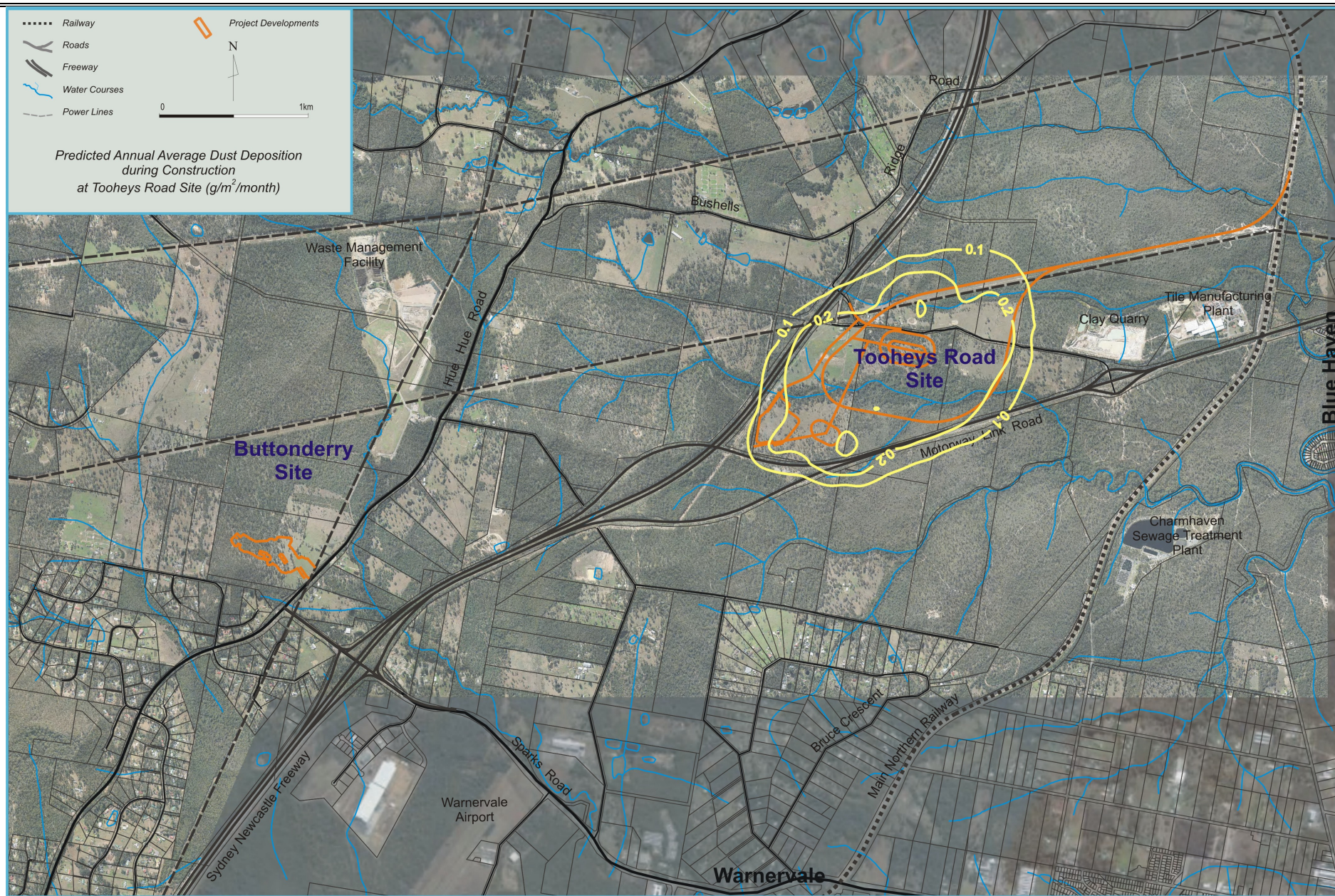


Figure 12.9 Predicted Annual Average Dust Deposition During Construction at Tooheys Road Site

In assessing air quality impacts, it is necessary to add the estimated contribution from the project to the existing background. Table 12.6 summarises the predicted concentration and deposition rates at sensitive receptors due to the construction activities at the Tooheys Road and Buttonderry sites.

Table 12.6 Predicted Dust Concentrations and Deposition Rates at Sensitive Receptors during Construction Activities

Goal	24-hour max PM ₁₀ (µg/m ³)	Annual average PM ₁₀ (µg/m ³)	Annual average TSP (µg/m ³)		Dust deposition (g/m ² /month)		
	50 µg/m ³	30 µg/m ³	90 µg/m ³		4 g/m ² /month		
Assumed Background	-	21	42		2		
Tooheys Road Site							
Receptor	Prediction	Predict	+Back ground	Predict	+Back ground	Predict	+Back ground
P1	0.6	0.03	21.03	0.04	42.03	0.00	2.00
P2	0.6	0.04	21.04	0.05	42.05	0.01	2.01
P3	1.2	0.09	21.09	0.11	42.10	0.01	2.01
P4	0.8	0.07	21.07	0.08	42.07	0.00	2.00
P5	0.5	0.05	21.05	0.06	42.05	0.00	2.00
P6	0.6	0.08	21.07	0.09	42.08	0.00	2.00
P7	0.9	0.13	21.13	0.16	42.14	0.01	2.01
P8	1.3	0.17	21.17	0.21	42.19	0.02	2.02
P9	1.2	0.18	21.18	0.22	42.20	0.03	2.03
P10	0.8	0.09	21.09	0.11	42.10	0.01	2.01
R1	0.3	0.02	21.02	0.03	42.02	0.00	2.00
R2	0.3	0.02	21.02	0.02	42.02	0.00	2.00
R3	0.2	0.02	21.02	0.02	42.02	0.00	2.00
R4	0.2	0.02	21.02	0.02	42.02	0.00	2.00
R5 (Blue Haven)	1.0	0.04	21.04	0.05	42.05	0.01	2.01
Buttonderry Site							
P1	0.1	0.01	21.01	0.01	42.01	0.00	2.00
P2	0.1	0.01	21.01	0.01	42.01	0.00	2.00
P3	0.2	0.02	21.02	0.02	42.02	0.00	2.00
P4	0.3	0.03	21.03	0.04	42.04	0.00	2.00
P5	0.3	0.03	21.03	0.03	42.03	0.01	2.01
P6	0.1	0.01	21.01	0.01	42.01	0.00	2.00
P7	0.1	0.01	21.01	0.01	42.01	0.00	2.00
P8	0.1	0.01	21.01	0.01	42.01	0.00	2.00
P9	0.1	0.01	21.01	0.01	42.01	0.00	2.00
P10	0.1	0.00	21.00	0.00	42.00	0.00	2.00
R1	3.6	0.52	21.52	0.80	42.80	0.18	2.18
R2	4.0	0.92	21.92	1.46	43.46	0.28	2.28
R3	1.2	0.29	21.29	0.45	42.45	0.09	2.09
R4	1.4	0.12	21.12	0.19	42.19	0.05	2.05
R5 (Blue Haven)	0.1	0.01	21.01	0.01	42.01	0.00	2.00

The predicted levels are all low. When background levels are added, there are no predicted exceedances of air quality goals. The cumulative impacts of Tooheys

Road and Buttonderry construction activities would also not cause exceedances of the goals.

The maximum predicted 24-hour average PM₁₀ considered on its own, without background, is 3.9 µg/m³. However if this is added to the maximum 24-hour average of 38.9 µg/m³ measured at Beresfield, the goal would still not be exceeded.

12.5.2 Particulate Matter Impacts During Operation

Figure 12.10 to Figure 12.14 present the predicted dust concentration and deposition rate due to the project surface operations at the Tooheys Road site. The predicted maximum 24-hour PM₁₀ concentrations for busiest day and average throughput are compared in Figure 12.10 and Figure 12.11. In both cases there is compliance with the DECCW 24-hour PM₁₀ goal of 50 µg/m³ at the nearest residences. The predicted levels at sensitive receptors are summarised in Table 12.7.

Table 12.7 Predicted Dust Concentrations and Deposition Rates at Sensitive Receptors due to Mining Activities

Goal	24-hour max PM ₁₀ (µg/m ³)		Annual average PM ₁₀ (µg/m ³)		Annual average TSP (µg/m ³)		Dust deposition (g/m ² /month)	
	50 µg/m ³		30 µg/m ³		90 µg/m ³		4 g/m ² /month	
Assumed Background	-		21		42		2	
Receptor	Busiest Day	Ave Day	Predict	+Back ground	Predict	+Back ground	Predict	+Back ground
P1	8.0	2.7	0.2	21.2	0.2	42.2	0.01	2.01
P2	10.9	3.8	0.3	21.3	0.3	42.3	0.01	2.01
P3	28.7	9.7	0.6	21.6	0.7	42.7	0.02	2.02
P4	15.7	5.4	0.3	21.3	0.4	42.4	0.01	2.01
P5	7.4	2.8	0.2	21.2	0.2	42.2	0.00	2.00
P6	6.9	2.6	0.3	21.3	0.3	42.3	0.01	2.01
P7	14.7	5.4	0.5	21.5	0.6	42.6	0.02	2.02
P8	12.6	5.0	0.7	21.7	0.8	42.8	0.03	2.03
P9	17.2	5.8	0.7	21.7	0.8	42.8	0.04	2.04
P10	10.1	3.4	0.5	21.5	0.5	42.5	0.02	2.02
R1	4.2	1.5	0.1	21.1	0.1	42.1	0.00	2.00
R2	4.4	1.6	0.1	21.1	0.1	42.1	0.00	2.00
R3	3.3	1.2	0.1	21.1	0.1	42.1	0.00	2.00
R4	3.1	1.2	0.1	21.1	0.1	42.1	0.00	2.00
R5 (Blue Haven)	8.6	2.9	0.3	21.3	0.30	42.30	0.01	2.01

The predicted annual average PM₁₀, TSP and dust deposition rates will all comply with air quality goals at the nearest residences when added to the assumed background concentrations of the respective pollutants.

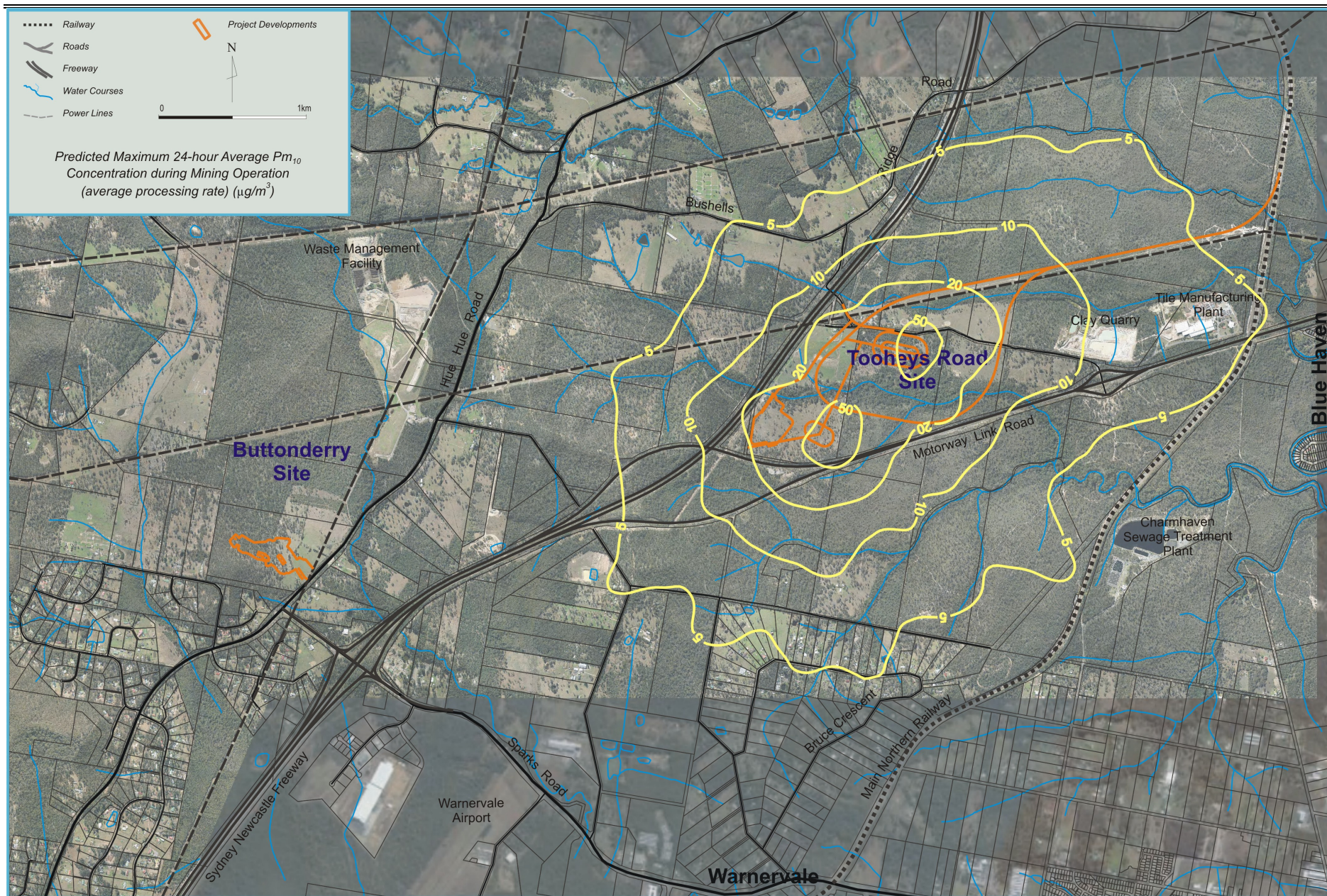


Figure 12.11 Predicted Maximum 24 Hour Average PM_{10} Concentration During Mining Operation

