

Appendix 9H

Human Health Model Results

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1. 2022 Baseline

1.1.1 **Table 9H 1.1** shows the full modelled 2022 baseline annual mean concentration results for the human receptors. The locations of the modelled receptors are included in **Appendix 9E: Modelled receptors and backgrounds**. Receptor locations are shown in **Figure 9.3** and outlined in **Appendix 9E**.

Table 9H 1.1 Annual mean concentrations ($\mu\text{g}/\text{m}^3$) – 2022 baseline

Receptor	NO ₂ modelled concentration ($\mu\text{g}/\text{m}^3$)	PM ₁₀ modelled concentration ($\mu\text{g}/\text{m}^3$)	PM _{2.5} modelled concentration ($\mu\text{g}/\text{m}^3$)
1	38.31	15.50	10.12
2	43.58	16.20	10.57
3	34.78	15.02	9.76
4	37.45	15.99	10.39
5	34.19	15.29	9.77
6	40.67	16.38	10.68
7	35.33	15.42	10.14
8	29.61	14.26	9.52
9	24.15	13.16	8.56
10	29.47	13.83	9.15
11	28.85	14.59	9.46
12	29.39	15.07	9.71
13	34.21	14.89	9.68
14	30.90	13.53	8.54
15	20.79	12.37	7.74
16	24.82	12.65	8.03

Receptor	NO ₂ modelled concentration (µg/m ³)	PM ₁₀ modelled concentration (µg/m ³)	PM _{2.5} modelled concentration (µg/m ³)
17	26.68	13.86	8.53
18	12.35	10.33	6.68
19	17.23	12.36	7.73
20	17.26	12.36	7.74
21	15.71	11.32	7.18
22	14.12	11.05	7.02
23	15.79	11.76	7.39
24	15.12	11.51	7.27
25	12.97	11.08	6.98
26	15.66	12.82	7.69
27	15.52	12.22	7.44
28	13.38	11.24	7.21
29	21.30	13.98	8.79
30	18.36	12.12	7.80
31	16.80	12.32	7.78
32	15.74	12.07	7.64
33	23.39	13.98	9.13
34	19.82	13.00	8.60
35	18.91	12.74	8.46
36	20.58	13.2	8.71

Receptor	NO ₂ modelled concentration (µg/m ³)	PM ₁₀ modelled concentration (µg/m ³)	PM _{2.5} modelled concentration (µg/m ³)
37	18.74	12.68	8.43
38	23.16	14.8	9.07
39	27.70	14.65	9.53
40	26.16	13.1	8.52
41	30.11	14.99	9.25
42	32.78	14.91	9.19
43	27.37	14.79	8.99
44	32.73	15.14	9.37
45	27.00	14.3	8.71
46	17.18	11.63	7.32
47	16.19	11.72	7.30
48	14.58	11.98	7.31
49	14.30	11.86	7.41
50	12.98	11.52	7.22
51	15.37	12.18	7.97
52	19.44	13.37	8.60
53	20.54	12.71	7.95
54	18.62	12.65	7.94

2. Peak Construction Year

2.1.1 **Table 9H 2.1** shows the full modelled NO₂ 2028 annual mean concentration results for the human receptors. The locations of the modelled receptors are included in **Appendix 9E: Modelled receptors and backgrounds**.

Table 9H 2.1 Impacts on annual mean NO₂ concentrations (µg/m³)

Receptor	2028 without project	2028 with project	2028 change	2028 impact magnitude
1	24.59	24.60	0.01	Negligible
2	27.40	27.42	0.02	Negligible
3	22.52	22.53	0.01	Negligible
4	25.31	25.33	0.02	Negligible
5	22.54	22.56	0.02	Negligible
6	25.87	25.90	0.03	Negligible
7	22.88	22.89	0.01	Negligible
8	19.53	19.55	0.02	Negligible
9	16.42	16.43	0.01	Negligible
10	19.41	19.42	0.01	Negligible
11	19.65	19.66	0.01	Negligible
12	20.19	20.19	0	Negligible
13	22.63	22.63	0	Negligible
14	20.04	20.05	0.01	Negligible
15	13.79	13.79	0	Negligible
16	15.92	15.93	0.01	Negligible

Receptor	2028 without project	2028 with project	2028 change	2028 impact magnitude
17	16.66	16.68	0.02	Negligible
18	8.90	8.97	0.07	Negligible
19	12.03	12.07	0.04	Negligible
20	12.06	12.15	0.09	Negligible
21	10.58	10.66	0.08	Negligible
22	9.78	9.84	0.06	Negligible
23	10.65	10.74	0.09	Negligible
24	10.26	10.37	0.11	Negligible
25	9.12	9.19	0.07	Negligible
26	10.60	10.70	0.1	Negligible
27	10.65	10.73	0.08	Negligible
28	10.25	10.29	0.04	Negligible
29	15.01	15.14	0.13	Negligible
30	13.00	13.03	0.03	Negligible
31	12.21	12.24	0.03	Negligible
32	11.66	11.68	0.02	Negligible
33	16.35	16.43	0.08	Negligible
34	14.45	14.50	0.05	Negligible
35	13.97	14.02	0.05	Negligible
36	14.84	14.9	0.06	Negligible

Receptor	2028 without project	2028 with project	2028 change	2028 impact magnitude
37	13.83	13.84	0.01	Negligible
38	15.61	15.62	0.01	Negligible
39	18.84	18.85	0.01	Negligible
40	17.80	17.81	0.01	Negligible
41	18.93	18.95	0.02	Negligible
42	20.15	20.17	0.02	Negligible
43	16.66	16.66	0	Negligible
44	19.36	19.37	0.01	Negligible
45	16.94	16.96	0.02	Negligible
46	11.36	11.38	0.02	Negligible
47	10.97	10.99	0.02	Negligible
48	10.63	10.72	0.09	Negligible
49	10.74	10.80	0.06	Negligible
50	10.05	10.09	0.04	Negligible
51	11.73	11.77	0.04	Negligible
52	13.84	13.96	0.12	Negligible
53	15.27	15.38	0.11	Negligible
54	13.18	13.30	0.12	Negligible

2.1.2 **Table 9H 2.2** shows the full modelled PM₁₀ 2028 annual mean concentration results for the human receptors. The locations of the modelled receptors are included in **Appendix 9E: Modelled receptors and backgrounds**.

Table 9H 2.2 Impacts on annual mean PM₁₀ concentrations (µg/m³)

Receptor	2028 without project	2028 with project	2028 change	2028 impact magnitude
1	15.01	15.01	0.01	Negligible
2	15.67	15.67	0.01	Negligible
3	14.54	14.55	0.01	Negligible
4	15.51	15.51	0.01	Negligible
5	14.81	14.82	0.01	Negligible
6	15.85	15.86	0.01	Negligible
7	14.93	14.93	0.01	Negligible
8	13.8	13.8	0.00	Negligible
9	12.75	12.75	0.00	Negligible
10	13.38	13.38	0.00	Negligible
11	14.21	14.22	0.01	Negligible
12	14.68	14.68	0.00	Negligible
13	14.44	14.45	0.01	Negligible
14	13.11	13.12	0.01	Negligible
15	11.97	11.98	0.01	Negligible
16	12.23	12.24	0.01	Negligible
17	13.43	13.44	0.01	Negligible

Receptor	2028 without project	2028 with project	2028 change	2028 impact magnitude
18	9.97	10	0.03	Negligible
19	11.98	12	0.02	Negligible
20	11.99	12.02	0.03	Negligible
21	10.95	11	0.05	Negligible
22	10.68	10.72	0.04	Negligible
23	11.39	11.44	0.05	Negligible
24	11.13	11.19	0.06	Negligible
25	10.71	10.74	0.03	Negligible
26	12.46	12.52	0.06	Negligible
27	11.84	11.89	0.05	Negligible
28	10.87	10.9	0.03	Negligible
29	13.59	13.68	0.09	Negligible
30	11.73	11.75	0.02	Negligible
31	11.95	11.97	0.02	Negligible
32	11.7	11.71	0.01	Negligible
33	13.59	13.63	0.04	Negligible
34	12.61	12.64	0.03	Negligible
35	12.35	12.37	0.02	Negligible
36	12.81	12.84	0.03	Negligible

Receptor	2028 without project	2028 with project	2028 change	2028 impact magnitude
37	12.28	12.28	0.00	Negligible
38	14.38	14.39	0.01	Negligible
39	14.22	14.22	0.01	Negligible
40	12.66	12.66	0.00	Negligible
41	14.52	14.53	0.01	Negligible
42	14.45	14.46	0.01	Negligible
43	14.32	14.32	0.00	Negligible
44	14.65	14.66	0.01	Negligible
45	13.87	13.88	0.01	Negligible
46	11.23	11.25	0.02	Negligible
47	11.33	11.34	0.01	Negligible
48	11.63	11.68	0.05	Negligible
49	11.51	11.54	0.03	Negligible
50	11.17	11.19	0.02	Negligible
51	11.82	11.85	0.03	Negligible
52	13	13.07	0.07	Negligible
53	12.36	12.42	0.06	Negligible
54	12.29	12.35	0.06	Negligible

2.1.3 **Table 9H 2.3** shows the full modelled PM₁₀ 2028 daily mean concentration results for the human receptors. The locations of the modelled receptors are included in **Appendix 9E: Modelled receptors and backgrounds**.

Table 9H 2.3 Impacts on daily mean PM₁₀ concentrations (µg/m³)

Receptor	Days with 24-hour mean PM ₁₀ concentrations >50 µg/m ³			2028 impact magnitude
	2028 without project	2028 with project	2028 change	
1	0	0	0	Negligible
2	0	0	0	Negligible
3	0	0	0	Negligible
4	0	0	0	Negligible
5	0	0	0	Negligible
6	0	0	0	Negligible
7	0	0	0	Negligible
8	0	0	0	Negligible
9	0	0	0	Negligible
10	0	0	0	Negligible
11	0	0	0	Negligible
12	0	0	0	Negligible
13	0	0	0	Negligible
14	0	0	0	Negligible
15	0	0	0	Negligible
16	0	0	0	Negligible

Receptor	Days with 24-hour mean PM ₁₀ concentrations >50 µg/m ³			2028 impact magnitude
	2028 without project	2028 with project	2028 change	
17	0	0	0	Negligible
18	0	0	0	Negligible
19	0	0	0	Negligible
20	0	0	0	Negligible
21	0	0	0	Negligible
22	0	0	0	Negligible
23	0	0	0	Negligible
24	0	0	0	Negligible
25	0	0	0	Negligible
26	0	0	0	Negligible
27	0	0	0	Negligible
28	0	0	0	Negligible
29	0	0	0	Negligible
30	0	0	0	Negligible
31	0	0	0	Negligible
32	0	0	0	Negligible
33	0	0	0	Negligible
34	0	0	0	Negligible

Receptor	Days with 24-hour mean PM ₁₀ concentrations >50 µg/m ³			2028 impact magnitude
	2028 without project	2028 with project	2028 change	
35	0	0	0	Negligible
36	0	0	0	Negligible
37	0	0	0	Negligible
38	0	0	0	Negligible
39	0	0	0	Negligible
40	0	0	0	Negligible
41	0	0	0	Negligible
42	0	0	0	Negligible
43	0	0	0	Negligible
44	0	0	0	Negligible
45	0	0	0	Negligible
46	0	0	0	Negligible
47	0	0	0	Negligible
48	0	0	0	Negligible
49	0	0	0	Negligible
50	0	0	0	Negligible
51	0	0	0	Negligible
52	0	0	0	Negligible

Receptor	Days with 24-hour mean PM ₁₀ concentrations >50 µg/m ³			2028 impact magnitude
	2028 without project	2028 with project	2028 change	
53	0	0	0	Negligible
54	0	0	0	Negligible

2.1.4 **Table 9H 2.4** shows the full modelled PM_{2.5} 2028 annual mean concentration results for the human receptors. The locations of the modelled receptors are included in **Appendix 9E: Modelled receptors and backgrounds**.

Table 9H 2.4 Impacts on annual mean PM_{2.5} concentrations (µg/m³)

Receptor	2028 without project	2028 with project	2028 change	2028 impact magnitude
1	9.67	9.67	0.00	Negligible
2	10.06	10.07	0.00	Negligible
3	9.33	9.33	0.00	Negligible
4	9.95	9.95	0.00	Negligible
5	9.32	9.33	0.01	Negligible
6	10.18	10.19	0.00	Negligible
7	9.69	9.7	0.00	Negligible
8	9.13	9.13	0.00	Negligible
9	8.22	8.22	0.00	Negligible
10	8.76	8.77	0.00	Negligible
11	9.13	9.13	0.00	Negligible
12	9.37	9.37	0.00	Negligible

Receptor	2028 without project	2028 with project	2028 change	2028 impact magnitude
13	9.27	9.27	0.00	Negligible
14	8.16	8.16	0.00	Negligible
15	7.4	7.4	0.00	Negligible
16	7.65	7.66	0.01	Negligible
17	8.14	8.14	0.00	Negligible
18	6.38	6.4	0.02	Negligible
19	7.41	7.42	0.01	Negligible
20	7.42	7.44	0.02	Negligible
21	6.86	6.89	0.03	Negligible
22	6.71	6.73	0.02	Negligible
23	7.06	7.09	0.03	Negligible
24	6.95	6.98	0.03	Negligible
25	6.66	6.68	0.02	Negligible
26	7.37	7.4	0.03	Negligible
27	7.12	7.14	0.02	Negligible
28	6.91	6.92	0.01	Negligible
29	8.45	8.5	0.05	Negligible
30	7.46	7.47	0.01	Negligible
31	7.46	7.47	0.01	Negligible

Receptor	2028 without project	2028 with project	2028 change	2028 impact magnitude
32	7.33	7.34	0.01	Negligible
33	8.78	8.81	0.03	Negligible
34	8.27	8.28	0.01	Negligible
35	8.13	8.15	0.02	Negligible
36	8.37	8.39	0.02	Negligible
37	8.1	8.1	0.00	Negligible
38	8.71	8.71	0.00	Negligible
39	9.16	9.16	0.00	Negligible
40	8.12	8.12	0.00	Negligible
41	8.81	8.82	0.01	Negligible
42	8.75	8.76	0.01	Negligible
43	8.56	8.56	0.00	Negligible
44	8.9	8.91	0.01	Negligible
45	8.32	8.33	0.01	Negligible
46	6.97	6.98	0.01	Negligible
47	6.96	6.97	0.01	Negligible
48	7.02	7.05	0.03	Negligible
49	7.12	7.14	0.02	Negligible
50	6.94	6.95	0.01	Negligible

Receptor	2028 without project	2028 with project	2028 change	2028 impact magnitude
51	7.69	7.7	0.01	Negligible
52	8.3	8.33	0.03	Negligible
53	7.65	7.68	0.03	Negligible
54	7.63	7.66	0.03	Negligible

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