

East Anglia THREE

Appendix 20.3

Construction Vehicle Exhaust Emission Assessment Results

Environmental Statement

Volume 3

Document Reference – 6.3.20 (3)

Author – Royal HaskoningDHV
East Anglia THREE Limited
Date – November 2015
Revision History – Revision A



This Page Is Intentionally Blank

20.3 CONSTRUCTION VEHICLE EXHAUST EMISSION ASSESSMENT RESULTS

Table 20.3.1 Predicted NO₂ Annual Mean Concentrations (µg.m⁻³) for the 'With Single Phase' Scenario at Human Receptor Locations

Receptor Number	2020 'Without Proposed Project' NO ₂ (µg.m ⁻³)	2020 'With Single Phase'	Change in Concentration	% Change Relative to Air Quality Objective	Impact Descriptor
R1	24.09	24.34	+0.25	0.63	Negligible
R2	20.41	20.47	+0.06	0.15	Negligible
R3	15.92	15.99	+0.07	0.18	Negligible
R4	16.58	16.63	+0.05	0.13	Negligible
R5	13.83	13.88	+0.05	0.12	Negligible
R6	21.59	21.86	+0.27	0.68	Negligible
R7	17.86	17.96	+0.10	0.25	Negligible
R8	10.74	10.78	+0.04	0.10	Negligible
R9	14.70	14.78	+0.07	0.20	Negligible
R10	14.50	15.04	+0.54	1.35	Negligible
R11	11.38	11.41	+0.03	0.08	Negligible
R12	17.30	17.39	+0.09	0.22	Negligible
R13	16.00	16.10	+0.10	0.25	Negligible
R14	20.50	20.54	+0.04	0.10	Negligible
R15	18.53	18.56	+0.03	0.08	Negligible
R16	20.39	20.45	+0.06	0.15	Negligible
R17	14.34	14.39	+0.05	0.12	Negligible
R18	19.72	19.80	+0.08	0.20	Negligible
R19	14.66	14.80	+0.14	0.35	Negligible
R20	23.20	23.42	+0.22	0.55	Negligible
R21	13.66	14.08	+0.42	1.05	Negligible
R22	19.30	19.37	+0.07	0.17	Negligible
R23	21.58	21.75	+0.17	0.43	Negligible
R24	10.86	10.91	+0.05	0.12	Negligible
R25	12.31	12.38	+0.07	0.18	Negligible
R26	13.72	13.77	+0.05	0.12	Negligible
R27	11.45	11.47	+0.02	0.05	Negligible
R28	17.05	17.11	+0.06	0.15	Negligible
R29	21.09	21.32	+0.23	0.58	Negligible
R30	18.06	18.16	+0.10	0.25	Negligible

Table 20.3.2 Predicted PM₁₀ Annual Mean Concentrations (µg.m⁻³) for the ‘With Single Phase’ Scenario at Human Receptor Locations

Receptor Number	2020 ‘Without Proposed Project’ PM ₁₀ (µg.m ⁻³)	2020 ‘With Single Phase’	Change in Concentration	% Change Relative to Air Quality Objective	Impact Descriptor
R1	17.39	17.41	+0.02	0.04	Negligible
R2	20.37	20.39	+0.02	0.04	Negligible
R3	19.60	19.62	+0.02	0.04	Negligible
R4	19.94	19.95	+0.01	0.03	Negligible
R5	15.94	15.95	+0.01	0.02	Negligible
R6	18.14	18.17	+0.03	0.06	Negligible
R7	18.17	18.19	+0.02	0.05	Negligible
R8	15.83	15.84	+0.01	0.02	Negligible
R9	16.75	16.76	+0.01	0.03	Negligible
R10	16.81	16.89	+0.08	0.21	Negligible
R11	16.32	16.33	+0.01	0.01	Negligible
R12	16.80	16.81	+0.01	0.03	Negligible
R13	17.57	17.60	+0.03	0.06	Negligible
R14	18.14	18.15	+0.01	0.03	Negligible
R15	17.77	17.78	+0.01	0.02	Negligible
R16	17.99	18.00	+0.01	0.04	Negligible
R17	18.25	18.27	+0.02	0.04	Negligible
R18	18.82	18.84	+0.02	0.05	Negligible
R19	17.52	17.55	+0.03	0.08	Negligible
R20	17.31	17.32	+0.01	0.03	Negligible
R21	16.68	16.74	+0.06	0.16	Negligible
R22	17.15	17.16	+0.01	0.03	Negligible
R23	17.15	17.16	+0.01	0.03	Negligible
R24	16.40	16.42	+0.02	0.03	Negligible
R25	16.77	16.78	+0.01	0.03	Negligible
R26	17.55	17.55	0.00	0.01	Negligible
R27	16.94	16.95	+0.01	0.02	Negligible
R28	20.82	20.83	+0.01	0.02	Negligible
R29	20.18	20.21	+0.03	0.07	Negligible
R30	16.98	16.99	+0.01	0.03	Negligible

Table 20.3.3 Predicted Number of Exceedences of the Short-Term PM₁₀ Objective (Days) for ‘With Single Phase’ Scenario at Human Receptor Locations

Receptor Number	2020 ‘Without Proposed Project’	2020 ‘With Single Phase’	Change in Concentrations
	No. Days in Exceedence of 50µg.m ⁻³	No. Days in Exceedence of 50µg.m ⁻³	No. Days in Exceedence of 50µg.m ⁻³
R1	1	1	0
R2	4	4	0
R3	3	3	0
R4	3	3	0
R5	0	0	0
R6	2	2	0
R7	2	2	0
R8	0	0	0
R9	1	1	0
R10	1	1	0
R11	0	0	0
R12	1	1	0
R13	1	1	0
R14	2	2	0
R15	1	1	0
R16	1	1	0
R17	2	2	0
R18	2	2	0
R19	1	1	0
R20	1	1	0
R21	1	1	0
R22	1	1	0
R23	1	1	0
R24	0	0	0
R25	1	1	0
R26	1	1	0
R27	1	1	0
R28	4	4	0
R29	4	4	0
R30	1	1	0

Table 20.3.4 Predicted NO₂ Annual Mean Concentrations (µg.m⁻³) for the 'With Two Phased – Phase 1' Scenario at Human Receptor Locations

Receptor Number	2020 'Without Proposed Project' NO ₂ (µg.m ⁻³)	2020 'With Two Phased – Phase 1'	Change in Concentration	% Change Relative to Air Quality Objective	Impact Descriptor
R1	24.09	24.33	+0.24	0.60	Negligible
R2	20.41	20.46	+0.05	0.13	Negligible
R3	15.92	15.98	+0.06	0.15	Negligible
R4	16.58	16.63	+0.05	0.13	Negligible
R5	13.83	13.88	+0.05	0.12	Negligible
R6	21.59	21.90	+0.31	0.78	Negligible
R7	17.86	17.97	+0.09	0.27	Negligible
R8	10.74	10.78	+0.04	0.10	Negligible
R9	14.70	14.77	+0.07	0.18	Negligible
R10	14.50	15.00	+0.50	1.25	Negligible
R11	11.38	11.40	+0.02	0.05	Negligible
R12	17.30	17.38	+0.08	0.20	Negligible
R13	16.00	16.09	+0.09	0.23	Negligible
R14	20.50	20.54	+0.04	0.10	Negligible
R15	18.53	18.56	+0.03	0.08	Negligible
R16	20.39	20.44	+0.05	0.12	Negligible
R17	14.34	14.39	+0.05	0.12	Negligible
R18	19.72	19.79	+0.07	0.18	Negligible
R19	14.66	14.78	+0.12	0.30	Negligible
R20	23.20	23.42	+0.22	0.55	Negligible
R21	13.66	14.04	+0.38	0.95	Negligible
R22	19.30	19.37	+0.07	0.17	Negligible
R23	21.58	21.75	+0.17	0.43	Negligible
R24	10.86	10.92	+0.06	0.15	Negligible
R25	12.31	12.39	+0.08	0.20	Negligible
R26	13.72	13.78	+0.06	0.15	Negligible
R27	11.45	11.47	+0.02	0.05	Negligible
R28	17.05	17.11	+0.06	0.15	Negligible
R29	21.09	21.30	+0.21	0.53	Negligible
R30	18.06	18.16	+0.10	0.25	Negligible

Table 20.3.5 Predicted PM₁₀ Annual Mean Concentrations (µg.m⁻³) for the ‘With Two Phased – Phase 1’ Scenario at Human Receptor Locations

Receptor Number	2020 ‘Without Proposed Project’ PM ₁₀ (µg.m ⁻³)	2020 ‘With Two Phased – Phase 1’	Change in Concentration	% Change Relative to Air Quality Objective	Impact Descriptor
R1	17.39	17.41	+0.01	0.04	Negligible
R2	20.37	20.39	+0.02	0.04	Negligible
R3	19.60	19.62	+0.01	0.03	Negligible
R4	19.94	19.95	+0.01	0.03	Negligible
R5	15.94	15.95	+0.01	0.02	Negligible
R6	18.14	18.17	+0.03	0.06	Negligible
R7	18.17	18.20	+0.02	0.06	Negligible
R8	15.83	15.84	+0.01	0.02	Negligible
R9	16.75	16.76	+0.01	0.03	Negligible
R10	16.81	16.89	+0.08	0.19	Negligible
R11	16.32	16.33	+0.01	0.01	Negligible
R12	16.80	16.80	+0.01	0.02	Negligible
R13	17.57	17.59	+0.02	0.05	Negligible
R14	18.14	18.15	+0.01	0.03	Negligible
R15	17.77	17.78	+0.01	0.02	Negligible
R16	17.99	18.00	+0.01	0.04	Negligible
R17	18.25	18.27	+0.02	0.03	Negligible
R18	18.82	18.84	+0.02	0.05	Negligible
R19	17.52	17.55	+0.03	0.07	Negligible
R20	17.31	17.32	+0.01	0.03	Negligible
R21	16.68	16.74	+0.06	0.15	Negligible
R22	17.15	17.16	+0.01	0.02	Negligible
R23	17.15	17.16	+0.01	0.03	Negligible
R24	16.40	16.42	+0.02	0.04	Negligible
R25	16.77	16.79	+0.02	0.04	Negligible
R26	17.55	17.55	0.00	0.01	Negligible
R27	16.94	16.95	+0.01	0.02	Negligible
R28	20.82	20.83	+0.01	0.02	Negligible
R29	20.18	20.20	+0.02	0.07	Negligible
R30	16.98	16.99	+0.01	0.02	Negligible

Table 20.3.6 Predicted Number of Exceedences of the Short-Term PM₁₀ Objective (Days) for ‘With Two Phased – Phase 1’ Scenario at Human Receptor Locations

Receptor Number	2020 ‘Without Proposed Project’ No. Days in Exceedence of 50µg.m ⁻³	2020 ‘With Two Phased – Phase 1’ No. Days in Exceedence of 50µg.m ⁻³	Change in Concentrations No. Days in Exceedence of 50µg.m ⁻³
R1	1	1	0
R2	4	4	0
R3	3	3	0
R4	3	3	0
R5	0	0	0
R6	2	2	0
R7	2	2	0
R8	0	0	0
R9	1	1	0
R10	1	1	0
R11	0	0	0
R12	1	1	0
R13	1	1	0
R14	2	2	0
R15	1	1	0
R16	1	1	0
R17	2	2	0
R18	2	2	0
R19	1	1	0
R20	1	1	0
R21	1	1	0
R22	1	1	0
R23	1	1	0
R24	0	0	0
R25	1	1	0
R26	1	1	0
R27	1	1	0
R28	4	4	0
R29	4	4	0
R30	1	1	0

Table 20.3.7 Predicted NO₂ Annual Mean Concentrations (µg.m⁻³) for the 'With Two Phased – Phase 2' Scenario at Human Receptor Locations

Receptor Number	2023 'Without Proposed Project' NO ₂ (µg.m ⁻³)	2023 'With Two Phased – Phase 2'	Change in Concentration	% Change Relative to Air Quality Objective	Impact Descriptor
R1	22.64	22.81	+0.17	0.43	Negligible
R2	18.14	18.16	+0.02	0.05	Negligible
R3	14.63	14.67	+0.04	0.10	Negligible
R4	15.22	15.24	+0.02	0.05	Negligible
R5	13.04	13.07	+0.03	0.07	Negligible
R6	19.44	19.66	+0.22	0.55	Negligible
R7	16.35	16.41	+0.06	0.18	Negligible
R8	10.22	10.24	+0.02	0.05	Negligible
R9	13.76	13.80	+0.04	0.10	Negligible
R10	13.62	13.91	+0.29	0.75	Negligible
R11	11.02	11.03	+0.01	0.02	Negligible
R12	16.25	16.31	+0.06	0.15	Negligible
R13	15.01	15.07	+0.06	0.15	Negligible
R14	18.58	18.61	+0.03	0.08	Negligible
R15	17.08	17.10	+0.02	0.05	Negligible
R16	18.93	18.95	+0.02	0.05	Negligible
R17	13.24	13.27	+0.03	0.07	Negligible
R18	17.97	18.01	+0.04	0.10	Negligible
R19	13.98	14.04	+0.06	0.15	Negligible
R20	21.85	22.01	+0.16	0.40	Negligible
R21	12.92	13.15	+0.23	0.55	Negligible
R22	18.44	18.49	+0.05	0.13	Negligible
R23	20.43	20.55	+0.12	0.30	Negligible
R24	10.34	10.38	+0.04	0.10	Negligible
R25	11.69	11.74	+0.05	0.10	Negligible
R26	12.79	12.82	+0.03	0.10	Negligible
R27	10.89	10.91	+0.02	0.05	Negligible
R28	15.30	15.33	+0.03	0.07	Negligible
R29	18.58	18.71	+0.13	0.33	Negligible
R30	17.31	17.37	+0.06	0.15	Negligible

Table 20.3.8 Predicted PM₁₀ Annual Mean Concentrations (µg.m⁻³) for the ‘With Two Phased – Phase 2’ Scenario at Human Receptor Locations

Receptor Number	2023 ‘Without Proposed Project’ PM ₁₀ (µg.m ⁻³)	2023 ‘With Two Phased – Phase 2’	Change in Concentration	% Change Relative to Air Quality Objective	Impact Descriptor
R1	17.26	17.27	+0.01	0.03	Negligible
R2	20.20	20.21	+0.02	0.04	Negligible
R3	19.43	19.45	+0.02	0.03	Negligible
R4	19.74	19.75	+0.01	0.03	Negligible
R5	15.73	15.74	+0.01	0.02	Negligible
R6	17.94	17.97	+0.03	0.06	Negligible
R7	17.99	18.01	+0.02	0.05	Negligible
R8	15.61	15.61	0.00	0.02	Negligible
R9	16.55	16.56	+0.01	0.03	Negligible
R10	16.60	16.68	+0.08	0.18	Negligible
R11	16.10	16.10	0.00	0.01	Negligible
R12	16.63	16.64	+0.01	0.02	Negligible
R13	17.36	17.39	+0.03	0.05	Negligible
R14	17.94	17.95	+0.01	0.03	Negligible
R15	17.57	17.58	+0.01	0.02	Negligible
R16	17.78	17.80	+0.02	0.04	Negligible
R17	18.04	18.05	+0.01	0.03	Negligible
R18	18.63	18.65	+0.02	0.04	Negligible
R19	17.35	17.38	+0.03	0.07	Negligible
R20	17.17	17.18	+0.01	0.03	Negligible
R21	16.47	16.53	+0.06	0.14	Negligible
R22	17.01	17.02	+0.01	0.02	Negligible
R23	16.99	17.00	+0.01	0.02	Negligible
R24	16.18	16.20	+0.02	0.03	Negligible
R25	16.56	16.57	+0.01	0.04	Negligible
R26	17.34	17.34	0.00	0.01	Negligible
R27	16.72	16.73	+0.01	0.02	Negligible
R28	20.63	20.63	0.00	0.02	Negligible
R29	20.01	20.04	+0.03	0.06	Negligible
R30	16.83	16.84	+0.01	0.02	Negligible

Table 20.3.9 Predicted Number of Exceedences of the Short-Term PM₁₀ Objective (Days) for ‘With Two Phased – Phase 2’ Scenario at Human Receptor Locations

Receptor Number	2023 ‘Without Proposed Project’ No. Days in Exceedence of 50µg.m ⁻³	2023 ‘With Two Phased – Phase 2’ No. Days in Exceedence of 50µg.m ⁻³	Change in Concentrations No. Days in Exceedence of 50µg.m ⁻³
R1	1	1	0
R2	4	4	0
R3	3	3	0
R4	3	3	0
R5	0	0	0
R6	1	1	0
R7	1	1	0
R8	0	0	0
R9	1	1	0
R10	1	1	0
R11	0	0	0
R12	1	1	0
R13	1	1	0
R14	1	1	0
R15	1	1	0
R16	1	1	0
R17	1	1	0
R18	2	2	0
R19	1	1	0
R20	1	1	0
R21	0	1	0
R22	1	1	0
R23	1	1	0
R24	0	0	0
R25	1	1	0
R26	1	1	0
R27	1	1	0
R28	4	4	0
R29	3	3	0
R30	1	1	0

Appendix 20.3 Ends Here