

# A1 Birtley to Coal House

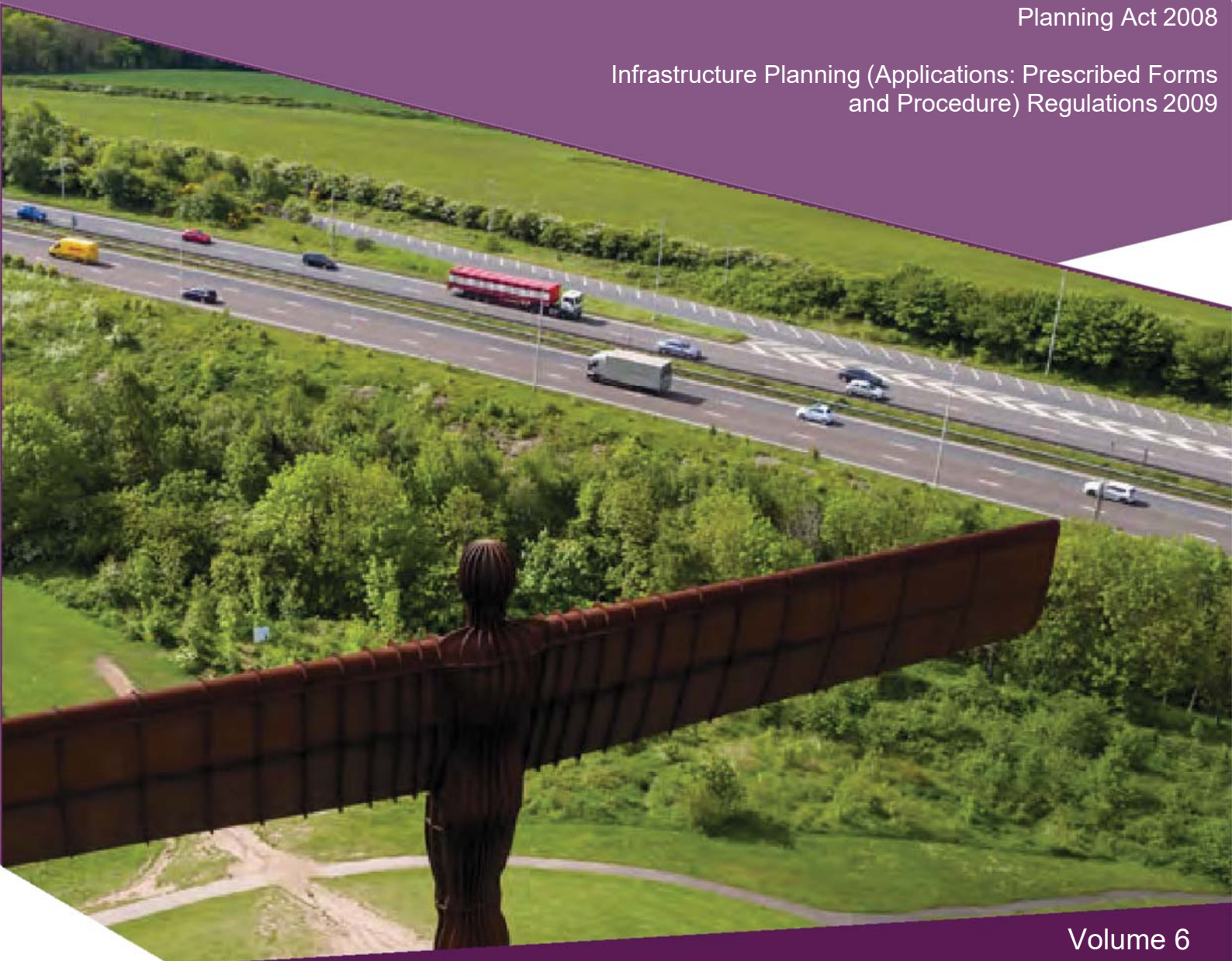
## Scheme Number: TR010031

### 6.3 Environmental Statement – Appendix 5.9 Model Results - Human Receptors

APFP Regulation 5(2)(a)

Planning Act 2008

Infrastructure Planning (Applications: Prescribed Forms  
and Procedure) Regulations 2009



Infrastructure Planning

Planning Act 2008

**The Infrastructure Planning  
(Applications: Prescribed Forms and  
Procedures) Regulations 2009**

**A1 Birtley to Coal House  
Development Consent Order 20[xx]**

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**Environmental Statement -  
Appendix**

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<b>Regulation Reference:</b>	APFP Regulation 5(2)(a)
<b>Planning Inspectorate Scheme Reference</b>	TR010031
<b>Application Document Reference</b>	TR010031/APP/6.3
<b>Author:</b>	A1 Birtley to Coal House Project Team, Highways England

<b>Version</b>	<b>Date</b>	<b>Status of Version</b>
Rev 0	14 August 2019	Application Issue

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## MODEL RESULTS – HUMAN RECEPTORS 1

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## MODEL RESULTS – HUMAN RECEPTORS

1.1.1. All results verified, and gap analysed.

**Table 9-1 – Model Results – human receptors**

Receptor ID	Verification Factor	Modelled Annual Mean NO <sub>2</sub> Concentrations		
		Base 2017	Do Minimum 2023	Do Something 2023 – cumulative scenario
R1	1.255	30.0	25.6	25.6
R2	1.255	27.3	23.2	23.2
R3	1.255	29.9	25.5	25.5
R4	1.255	25.8	21.9	21.9
R5	1.255	20.5	17.3	17.3
R6	1.255	24.8	21.0	21.0
R7	1.255	32.0	27.2	27.2
R8	1.255	27.0	22.8	22.6
R9	1.255	26.8	22.7	22.5
R10	1.255	37.4	31.8	33.1
R11	1.255	37.4	31.9	32.6
R12	1.255	22.5	18.9	18.8
R13	1.255	21.0	17.6	17.3
R14	1.255	23.6	19.9	19.2
R15	1.255	29.1	24.6	24.2
R16	1.255	21.4	18.2	18.0
R17	1.255	19.8	16.7	16.1
R18	1.255	20.9	18.0	17.0
R19	1.255	19.8	16.6	16.6
R20	1.255	23.1	19.3	19.0
R21	1.255	23.6	19.9	20.5
R22	1.255	26.8	22.4	22.6
R23	1.255	23.4	19.7	19.7

Receptor ID	Verification Factor	Modelled Annual Mean NO <sub>2</sub> Concentrations		
		Base 2017	Do Minimum 2023	Do Something 2023 – cumulative scenario
R24	1.255	23.3	19.6	19.6
R25	1.255	22.5	18.9	18.9
R26	1.255	24.3	20.5	20.5
R27	1.255	31.0	26.3	26.4
R28	1.255	29.6	25.1	25.0
R29	1.255	23.6	19.9	19.9
R30	2.321	35.6	30.2	30.2
R31	2.321	32.7	27.8	27.8
R32	2.321	32.1	27.3	27.3
R33	2.321	31.0	26.3	26.3
R34	2.321	30.5	25.9	25.9
R35	2.321	30.1	25.6	25.6
R36	2.321	30.0	25.5	25.5
R37	2.321	29.4	25.0	25.0
R38	2.321	29.1	24.8	24.8
R39	2.321	29.2	24.8	24.8
R40	1.255	22.9	19.2	19.3
R41	1.255	22.2	18.7	18.7
R42	1.255	21.6	18.1	18.2
R43	1.255	21.8	18.3	18.4
R44	1.255	20.8	17.4	17.5
R45	1.255	20.5	17.2	17.2
R46	1.255	22.4	18.8	18.8
R47	2.321	28.5	24.2	24.1
R48	1.255	30.0	25.5	25.5
R49	1.255	19.7	16.5	16.5
R50	1.255	20.0	16.7	16.7

Receptor ID	Verification Factor	Modelled Annual Mean NO <sub>2</sub> Concentrations		
		Base 2017	Do Minimum 2023	Do Something 2023 – cumulative scenario
R51	1.255	29.6	25.2	25.3
R52	1.255	28.2	24.0	24.0
R53	1.255	18.4	15.4	15.4
R54	1.255	18.3	15.3	15.3
R55	1.255	40.0	34.3	34.1
R56	1.255	38.2	32.6	32.6
R57	1.255	21.9	18.4	18.4
R58	1.255	22.8	19.2	19.2
R59	1.255	40.9	35.1	35.0
R60	1.255	21.1	17.8	17.8
R61	1.255	21.6	18.2	18.1
R62	1.255	42.8	36.7	36.6
R63	1.255	22.1	18.8	18.8
R64	1.255	21.6	18.2	18.2
R65	1.255	32.0	27.4	27.3
R66	1.255	32.0	27.4	27.4
R67	1.255	17.9	14.9	14.9
R68	1.255	30.2	25.8	25.7
R69	1.255	30.5	25.9	25.8
R70	1.255	23.5	19.8	19.7
R71	1.255	20.3	17.3	17.3
R72	1.255	24.1	20.8	20.3
R73	1.255	25.7	22.3	21.6
R74	1.255	26.5	23.0	22.5
R75	1.255	33.3	29.3	28.7
R76	1.255	24.8	21.4	21.2
R77	1.255	23.6	20.3	19.6

Receptor ID	Verification Factor	Modelled Annual Mean NO <sub>2</sub> Concentrations		
		Base 2017	Do Minimum 2023	Do Something 2023 – cumulative scenario
R78	1.255	36.2	32.0	31.6
R79	1.255	29.4	25.7	25.7
R80	1.255	29.4	25.7	25.4
R81	1.255	25.8	22.4	22.1
R82	1.255	23.8	20.5	20.3
R83	1.255	28.1	24.5	24.0
R84	1.255	33.0	29.1	28.5
R85	1.255	35.5	31.4	30.6
R86	1.255	33.9	29.9	29.4
R87	1.255	26.9	23.5	23.0
R88	1.255	26.9	23.4	23.0
R89	1.255	26.1	22.7	22.3
R90	1.255	25.5	22.1	21.7
R91	1.255	25.4	21.9	21.4
R92	1.255	30.1	26.3	24.8
R93	1.255	29.8	26.0	25.0
R94	1.255	30.9	27.1	26.6
R95	1.255	25.4	21.9	21.5
R96	1.255	24.5	21.1	20.9
R97	1.255	24.0	20.7	20.5
R98	1.255	24.2	20.8	20.6
R99	1.255	29.5	25.7	25.2
R100	1.255	29.6	25.8	25.3
R101	1.255	29.0	25.2	24.9
R102	1.255	25.0	21.5	21.3
R103	1.255	24.4	20.9	20.8
R104	1.255	23.9	20.4	20.3



Receptor ID	Verification Factor	Modelled Annual Mean NO <sub>2</sub> Concentrations		
		Base 2017	Do Minimum 2023	Do Something 2023 – cumulative scenario
R105	1.255	35.8	30.9	30.5
R106	1.255	34.4	29.6	29.3
R107	1.255	34.5	29.8	29.4
R108	1.255	32.9	28.4	28.0
R109	1.255	32.5	28.1	27.7
R110	1.255	32.1	27.7	27.3
R111	1.255	31.8	27.5	27.1
R112	1.255	31.6	27.3	26.9
R113	1.255	31.9	27.5	27.1
R114	1.255	29.1	25.0	24.7
R115	1.255	23.6	20.2	20.0
R116	1.255	23.3	19.8	19.7
R117	1.255	23.1	19.7	19.5
R118	1.255	22.6	19.2	19.1
R119	1.255	22.3	18.9	18.8
R120	1.255	22.0	18.7	18.6
R121	1.255	21.6	18.3	18.2
R122	1.255	21.5	18.3	18.1
R123	1.255	21.4	18.2	18.1
R124	1.255	20.9	17.7	17.5
R125	1.255	20.5	17.4	17.3
R126	1.255	20.4	17.2	17.1
R127	1.255	20.3	17.2	17.1
R128	1.255	20.2	17.0	17.0
R129	1.255	20.1	17.0	16.9
R130	1.255	19.9	16.8	16.7
R131	1.255	19.9	16.8	16.7



Receptor ID	Verification Factor	Modelled Annual Mean NO <sub>2</sub> Concentrations		
		Base 2017	Do Minimum 2023	Do Something 2023 – cumulative scenario
R132	1.255	19.9	16.8	16.7
R133	1.255	19.9	16.8	16.7
R134	1.255	19.9	16.8	16.6
R135	1.255	20.1	17.0	16.9
R136	1.255	20.1	17.0	16.9
R137	1.255	19.9	16.8	16.7
R138	1.255	19.9	16.8	16.7
R139	1.255	20.0	16.8	16.8
R140	1.255	24.8	21.3	21.2
R141	1.255	35.8	30.8	30.5
R142	1.255	36.2	31.3	30.9
R143	1.255	33.8	29.4	28.9
R144	1.255	30.9	26.7	26.4
R145	1.255	32.8	28.2	27.9
R146	1.255	31.2	26.8	26.6
R147	1.255	27.0	23.3	23.2
R148	1.255	25.9	22.3	21.4
R149	1.255	25.5	21.9	20.8
R150	1.255	25.2	21.6	20.4
R151	1.255	27.4	23.6	23.5
R152	1.255	22.5	19.2	18.5
R153	1.255	24.4	21.0	19.8
R154	1.255	24.3	20.9	19.9
R155	1.255	24.2	20.8	20.0
R156	1.255	23.9	20.5	20.1
R157	1.255	23.9	20.5	20.1
R158	1.255	23.9	20.5	20.1

Receptor ID	Verification Factor	Modelled Annual Mean NO <sub>2</sub> Concentrations		
		Base 2017	Do Minimum 2023	Do Something 2023 – cumulative scenario
R159	1.255	21.1	18.0	17.9
R160	1.255	23.9	20.5	20.2
R161	1.255	23.8	20.4	20.1
R162	1.255	20.8	17.7	17.7
R163	1.255	22.0	18.9	18.7
R164	1.255	22.6	19.4	19.2
R165	1.255	22.1	19.0	18.8
R166	1.255	23.6	20.3	20.1
R167	1.255	21.2	18.1	18.0
R168	1.255	24.4	21.0	20.9
R169	1.255	23.9	20.6	20.5
R170	1.255	23.0	19.8	19.7
R171	1.255	23.3	20.0	19.9
R172	1.255	23.6	20.4	20.2
R173	1.255	23.2	19.9	19.7
R174	1.255	25.8	22.2	21.6
R176	1.255	22.3	19.0	18.6
R178	1.255	20.4	17.0	17.2
R179	1.255	20.4	16.9	17.2
R180	1.255	21.4	17.8	18.1
R181	1.255	23.5	19.7	19.8
R182	1.255	29.6	25.8	25.6
R183	1.255	22.6	19.3	19.4
R184	1.255	26.1	22.6	22.7
R185	1.255	23.7	20.4	20.7
R186	1.255	24.1	20.8	21.1
R187	1.255	28.2	24.6	25.2

Receptor ID	Verification Factor	Modelled Annual Mean NO <sub>2</sub> Concentrations		
		Base 2017	Do Minimum 2023	Do Something 2023 – cumulative scenario
R188	1.255	22.9	19.6	19.9
R189	1.255	25.4	21.9	22.4
R190	1.255	22.3	19.1	19.4
R191	1.255	24.1	20.6	20.9
R192	1.255	25.0	21.6	22.1
R193	1.255	26.9	23.2	23.4
R194	1.255	25.6	22.0	22.0
R195	1.255	25.6	22.0	22.0
R196	1.255	24.0	20.6	20.8
R197	1.255	24.7	21.3	21.4
R198	1.255	27.8	24.1	24.6
R199	1.255	24.0	20.6	20.9
R200	1.255	23.8	20.4	20.7
R201	1.255	23.5	20.2	20.5
R202	1.255	23.1	19.7	20.0
R203	1.255	24.6	21.1	21.2
R204	1.255	24.8	21.2	21.3
R205	1.255	24.5	20.9	21.1
R206	1.255	24.7	21.1	21.1
R207	1.255	23.6	20.2	20.3
R208	1.255	24.6	21.1	21.2
R209	1.255	24.9	21.4	21.4
R210	1.255	24.6	21.1	21.2
R211	1.255	24.8	21.2	21.2
R212	1.255	24.4	20.8	20.9
R213	1.255	24.2	20.6	20.7
R214	2.082	30.2	26.1	26.4

Receptor ID	Verification Factor	Modelled Annual Mean NO <sub>2</sub> Concentrations		
		Base 2017	Do Minimum 2023	Do Something 2023 – cumulative scenario
R215	2.082	29.3	25.4	25.8
R216	2.082	27.4	23.7	24.0
R217	2.082	24.8	21.4	21.7
R218	2.082	24.7	21.5	21.5
R219	2.082	24.3	21.1	21.2
R220	2.082	24.2	21.0	21.2
R221	2.082	25.0	21.8	21.8
R222	2.082	25.3	22.1	22.0
R223	2.082	25.4	22.3	22.3
R224	2.082	25.7	22.5	22.6
R225	2.082	25.9	22.8	23.1
R226	2.082	25.5	22.4	22.7
R227	1.255	20.2	17.4	17.6
R228	1.255	21.1	18.1	18.4
R229	1.255	20.4	17.5	17.8
R230	1.255	18.5	15.9	16.1
R231	2.082	24.4	21.3	21.6
R232	2.082	24.5	21.4	21.7
R233	2.082	25.2	22.0	22.2
R234	1.255	19.9	17.2	17.2
R235	1.255	20.5	17.6	17.8
R236	1.255	20.3	17.4	17.5
R237	2.082	22.8	19.7	19.9
R238	2.082	22.8	19.7	19.8
R239	2.082	26.8	23.5	23.7
R240	2.082	26.4	23.1	23.3
R241	1.255	19.4	16.5	16.6

Receptor ID	Verification Factor	Modelled Annual Mean NO <sub>2</sub> Concentrations		
		Base 2017	Do Minimum 2023	Do Something 2023 – cumulative scenario
R242	1.255	19.0	16.2	16.3
R243	1.255	19.1	16.3	16.3
R244	1.255	18.5	15.8	15.8
R245	1.255	21.3	18.5	18.5
R246	1.255	16.9	14.3	14.3
R247	1.255	21.5	18.6	18.5
R248	1.255	18.6	15.7	15.6
R249	1.255	17.1	14.6	14.6
R250	1.255	18.3	15.6	15.4
R251	1.255	19.2	16.5	16.3
R252	1.255	18.4	15.6	15.5
R253	1.255	14.5	12.2	12.2
R254	1.255	19.1	16.6	16.4
R255	1.255	14.6	12.4	12.3
R256	1.255	17.8	15.4	15.2
R257	1.255	14.6	12.3	12.2
R258	1.255	25.2	22.5	21.8
R259	1.255	23.6	20.9	20.4
R260	1.255	23.3	20.6	20.1
R261	1.255	14.7	12.4	12.2
R262	1.255	23.1	20.5	19.9
R263	1.255	15.0	12.8	12.6
R264	1.255	14.9	12.6	12.5
R265	1.255	25.6	21.5	21.4
R266	1.255	24.2	20.3	20.2
R267	1.255	20.5	17.0	17.0
R268	1.255	21.1	17.6	17.6

Receptor ID	Verification Factor	Modelled Annual Mean NO <sub>2</sub> Concentrations		
		Base 2017	Do Minimum 2023	Do Something 2023 – cumulative scenario
R269	1.255	32.0	26.8	27.0
R270	1.255	22.4	18.8	18.8
R271	1.255	21.2	17.9	17.9
R272	1.255	24.0	20.3	20.3
R273	1.255	26.5	22.6	22.7
R274	1.255	25.3	21.5	21.6
R275	1.255	25.9	21.9	21.9
R276	1.255	26.6	22.4	22.5
R277	1.255	27.0	22.9	22.9
R278	1.255	26.0	22.0	22.0
R279	1.255	26.4	22.7	22.8
R280	1.255	29.2	25.8	25.9
R281	1.255	28.6	25.2	25.3
R282	1.255	22.7	19.1	19.1
R283	1.255	26.2	22.4	22.5

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