

A30 Chiverton to Carland Cross TR010026

6.5 STATEMENT TO INFORM AN APPROPRIATE ASSESSMENT APPENDIX 3 AIR QUALITY CALCULATIONS

Planning Act 2008

APFP Regulation 5(2)(g)
Infrastructure Planning (Applications: Prescribed
Forms and Procedure) Regulations 2009

Volume 6

August 2018

Infrastructure Planning

Planning Act 2008

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

**A30 Chiverton to Carland Cross
Development Consent Order 201[x]**

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APPENDIX 3 AIR QUALITY CALCULATIONS**

Regulation Number:	Regulation 5(2)(g)
Planning Inspectorate Scheme Reference	TR010026
Application Document Reference	6.5
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Version	Date	Status of Version
Rev: C01	23/08/18	Application Issue

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3 Air quality Calculations

3.1 Operational phase impacts

Ecological Receptor Results

Annual mean NOx concentrations

- 3.1.1 The modelled annual mean NOx concentrations and magnitude of change as a result of the scheme for the assessment year (2023) is shown in Table 3-1 below. The annual mean NOx objective ($30\mu\text{g}/\text{m}^3$) is exceeded and there is an increase in NOx of greater than $0.4\mu\text{g}/\text{m}^3$ at Breney Common and Goss and Tregoss Moor SAC. The results for nitrogen deposition are provided in Table 3-2.

Table 3-1 Annual mean NO_x concentrations in 2023

Receptor ID	Site Name	Annual mean NO _x concentration (µg/m ³)			Change in NO _x (µg/m ³)	Distance from roadside (m)
		Baseline (2016)	2023 DM	2023 DS		
Eco1	River Camel	29.6	22.2	23.0	0.8	10
Eco2	River Camel	13.4	9.2	9.4	0.2	50
Eco3	River Camel	9.9	6.5	6.6	0.1	100
Eco4	River Camel	8.6	5.5	5.6	0.1	150
Eco5	Penhale Dunes	10.4	6.7	6.5	-0.2	10
Eco6	Penhale Dunes	7.1	4.3	4.2	-0.1	50
Eco7	Penhale Dunes	6.4	3.9	3.8	0.0	100
Eco8	Penhale Dunes	6.2	3.7	3.7	0.0	150
Eco9	Fal & Helford	37.0	25.8	24.1	-1.7	10
Eco10	Fal & Helford	19.6	12.8	12.4	-0.5	50
Eco11	Fal & Helford	16.2	10.3	10.0	-0.2	100
Eco12	Fal & Helford	12.1	7.7	7.5	-0.2	150
Eco13	Fal & Helford	28.1	19.6	19.3	-0.3	10
Eco14	Fal & Helford	12.0	7.8	7.7	-0.1	50
Eco15	Fal & Helford	9.2	5.8	5.7	0.0	100
Eco16	Fal & Helford	8.1	5.1	5.0	0.0	150
Eco17	Newlyn Downs	7.2	4.5	4.6	0.1	10
Eco18	Newlyn Downs	6.0	3.7	3.7	0.0	50
Eco19	Newlyn Downs	5.8	3.5	3.5	0.0	100
Eco20	Newlyn Downs	5.7	3.5	3.5	0.0	150
Eco21	Newlyn Downs	6.6	4.1	4.2	0.0	10
Eco22	Newlyn Downs	5.8	3.5	3.5	0.0	50
Eco23	Newlyn Downs	5.6	3.4	3.4	0.0	100
Eco24	Newlyn Downs	5.6	3.4	3.4	0.0	150

Receptor ID	Site Name	Annual mean NO _x concentration (µg/m ³)			Change in NO _x (µg/m ³)	Distance from roadside (m)
		Baseline (2016)	2023 DM	2023 DS		
Eco25	Newlyn Downs	6.0	3.7	3.7	0.0	10
Eco26	Newlyn Downs	5.7	3.5	3.5	0.0	50
Eco27	Newlyn Downs	5.7	3.5	3.5	0.0	100
Eco28	Newlyn Downs	5.7	3.5	3.5	0.0	150
Eco29	Penhale Dunes	9.0	5.7	5.5	-0.2	20
Eco30	Fal & Helford	21.0	13.9	13.3	-0.6	40
Eco31	Fal & Helford	21.4	14.6	14.4	-0.2	20
Eco32	Newlyn Downs	9.1	6.0	6.2	0.2	150
Eco33	Penhale Dunes	6.4	3.8	3.8	0.0	200
Eco35	Carrick Heaths	7.6	4.8	4.9	0.1	120
Eco36	Penhale Dunes	8.1	5.1	5.0	-0.1	20
Eco37	Penhale Dunes	6.6	4.0	3.9	0.0	80
Eco38	Penhale Dunes	6.3	3.8	3.8	0.0	120
Eco39	Penhale Dunes	6.1	3.7	3.6	0.0	180
Eco40	Fal & Helford	17.1	10.9	10.6	-0.3	80
Eco41	Fal & Helford	15.5	9.8	9.6	-0.2	120
Eco44	Carrick Heaths	7.4	4.7	4.8	0.1	150
Eco45	Fal & Helford	18.9	12.8	12.7	-0.1	20
Eco46	Fal & Helford	13.1	8.6	8.5	-0.1	40
Eco47	Fal & Helford	9.8	6.2	6.2	0.0	80
Eco48	Fal & Helford	8.6	5.4	5.4	0.0	120
Eco49	Fal & Helford	7.8	4.8	4.8	0.0	180
Eco50	Breney Common and Goss and Tregoss Moor / Mid Cornwall Moor	50.6	39.7	41.1	1.4	0
Eco51	Breney Common and Goss and Tregoss Moor / Mid Cornwall Moor	28.0	21.1	21.7	0.7	10
Eco52	Breney Common and Goss and Tregoss Moor / Mid Cornwall Moor	13.7	9.5	9.7	0.2	50

Receptor ID	Site Name	Annual mean NO _x concentration (µg/m ³)			Change in NO _x (µg/m ³)	Distance from roadside (m)
		Baseline (2016)	2023 DM	2023 DS		
Eco53	Breney Common and Goss and Tregoss Moor / Mid Cornwall Moor	10.3	6.8	6.9	0.1	100
Eco54	Breney Common and Goss and Tregoss Moor / Mid Cornwall Moor	48.2	37.5	39.0	1.4	0
Eco55	Breney Common and Goss and Tregoss Moor / Mid Cornwall Moor	26.4	19.7	20.4	0.6	10
Eco56	Breney Common and Goss and Tregoss Moor / Mid Cornwall Moor	15.3	10.4	10.6	0.2	50
Eco57	Breney Common and Goss and Tregoss Moor / Mid Cornwall Moor	12.1	7.9	8.0	0.1	100
Eco58	Breney Common and Goss and Tregoss Moor / Mid Cornwall Moor	51.2	40.2	41.8	1.6	0
Eco59	Breney Common and Goss and Tregoss Moor / Mid Cornwall Moor	26.3	19.8	20.4	0.7	10
Eco60	Breney Common and Goss and Tregoss Moor / Mid Cornwall Moor	12.5	8.7	8.9	0.2	50
Eco61	Breney Common and Goss and Tregoss Moor / Mid Cornwall Moor	9.4	6.2	6.3	0.1	100
Eco62	Breney Common and Goss and Tregoss Moor / Mid Cornwall Moor	46.8	36.7	38.0	1.3	0
Eco63	Breney Common and Goss and Tregoss Moor / Mid Cornwall Moor	25.8	19.4	20.1	0.6	10
Eco64	Breney Common and Goss and Tregoss Moor / Mid Cornwall Moor	12.8	8.9	9.1	0.2	50
Eco65	Breney Common and Goss and Tregoss Moor / Mid Cornwall Moor	9.7	6.4	6.5	0.1	100
Eco66	Breney Common and Goss and Tregoss Moor / Mid Cornwall Moor	7.7	4.9	5.0	0.1	200
Eco67	Breney Common and Goss and Tregoss Moor / Mid Cornwall Moor	8.3	5.3	5.3	0.1	200

Exceedances of the annual mean NO_x objective (30µg/m³) are show in bold.

Table 3-2 Annual mean nutrient nitrogen deposition in 2023

Receptor ID	Site name	Critical load	Nitrogen deposition (kg N ha ⁻¹ yr ⁻¹) in 2023			
			Baseline	2023 DM	2023 DS	Change
Eco50	Breney Common and Goss & Tregoss Moors	10-15	17.4	19.1	19.3	0.13
Eco51	Breney Common and Goss & Tregoss Moors	10-15	17.4	18.2	18.2	0.07
Eco52	Breney Common and Goss & Tregoss Moors	10-15	17.4	17.5	17.5	0.02
Eco53	Breney Common and Goss & Tregoss Moors	10-15	17.4	17.3	17.4	0.01
Eco54	Breney Common and Goss & Tregoss Moors	10-15	17.4	19.0	19.2	0.12
Eco55	Breney Common and Goss & Tregoss Moors	10-15	17.4	18.1	18.2	0.06
Eco56	Breney Common and Goss & Tregoss Moors	10-15	17.4	17.4	17.4	0.02
Eco57	Breney Common and Goss & Tregoss Moors	10-15	17.4	17.2	17.3	0.01
Eco58	Breney Common and Goss & Tregoss Moors	10-15	17.4	19.1	19.3	0.13
Eco59	Breney Common and Goss & Tregoss Moors	10-15	17.4	18.1	18.1	0.06
Eco60	Breney Common and Goss & Tregoss Moors	10-15	17.4	17.4	17.5	0.02
Eco61	Breney Common and Goss & Tregoss Moors	10-15	17.4	17.3	17.3	0.01
Eco62	Breney Common and Goss & Tregoss Moors	10-15	17.4	19.0	19.1	0.12
Eco63	Breney Common and Goss & Tregoss Moors	10-15	17.4	18.1	18.1	0.06
Eco64	Breney Common and Goss & Tregoss Moors	10-15	17.4	17.4	17.5	0.02
Eco65	Breney Common and Goss & Tregoss Moors	10-15	17.4	17.3	17.3	0.01
Eco66	Breney Common and Goss & Tregoss Moors	10-15	17.4	17.2	17.2	0.01
Eco67	Breney Common and Goss & Tregoss Moors	10-15	17.4	17.3	17.3	0.01

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