atmos
CONSULTING

Technical Appendix

Drummarnock Wind Farm

Technical Appendix 11-2: Matrix of Corrections for Ground Profile & Barriers

Drummarnock Wind Farm Limited

July 2024

Contents

1 Corrections for Ground Profiles & Barriers

For the purposes of noise predictions from wind turbines, propagation calculation corrections are applied when there are notable topographical features between the source and receiver.

When a barrier effect is identified, a -2 dB correction is applied to noise level predictions. When a concave ground effect is identified, a +3 dB correction is applied to noise level predictions. See Appendix 11-1: Noise Prediction Methodology for a more detailed explanation of these correction factors.

The correction factors used in the assessment are set out below for each identified wind farm turbine and for each assessed receptor location.
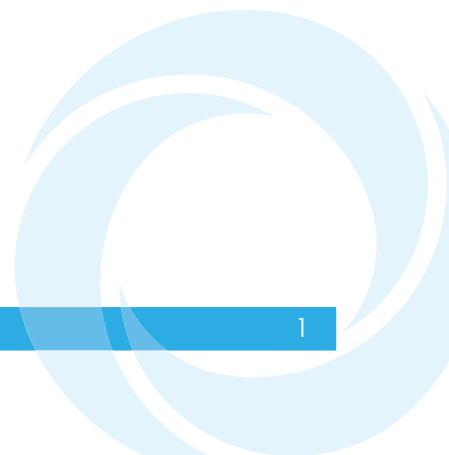
Table A2-1:   Ground Profile and Barrier Corrections for Drummarnock Wind Farm

Turbine	Correction Factor by Noise-Sensitive Receptor, dB(A)									
	Cringate Cottage	Ryecroft	Craigengelt	Craigengelt Bungalow	Muirpark	Todholes Farm Cottage	Shankhead	Shankhead Farm	Townhead Farm	Greathill House
T1	0	0	0	0	0	0	0	0	0	0
T2	0	0	0	0	0	0	0	0	0	0
T3	0	0	0	0	0	0	0	0	0	0
T4	0	0	0	0	0	0	0	0	0	0

Table A2-2:   Ground Profile and Barrier Corrections for Craigannet Wind Farm

Turbine	Correction Factor by Noise-Sensitive Receptor, dB(A)									
	Cringate Cottage	Ryecroft	Craigengelt	Craigengelt Bungalow	Muirpark	Todholes Farm Cottage	Shankhead	Shankhead Farm	Townhead Farm	Greathill House
G1	0	-2	0	0	-2	-2	0	0	-2	-2

Table A2-3:   Ground Profile and Barrier Corrections for Craigengelt Wind Farm

Turbine	Correction Factor by Noise-Sensitive Receptor, dB(A)									
	Cringate Cottage	Ryecroft	Craigengelt	Craigengelt Bungalow	Muirpark	Todholes Farm Cottage	Shankhead	Shankhead Farm	Townhead Farm	Greathill House
C1	0	0	0	0	0	0	0	0	0	0
C2	0	0	0	0	-2	0	0	0	0	0
C3	0	0	0	0	-2	0	0	0	-2	-2
C4	0	0	0	0	-2	0	0	0	-2	0
C5	0	-2	0	0	-2	0	0	0	-2	0
C6	0	-2	0	0	-2	0	0	0	-2	0
C7	0	-2	0	0	-2	0	0	0	0	0

| Turbine | Correction Factor by Noise-Sensitive Receptor, dB(A) | | | | | | | | | |
	Cringate Cottage	Ryecroft	Craigengelt	Craigengelt Bungalow	Muirpark	Todholes Farm Cottage	Shankhead	Shankhead Farm	Townhead Farm	Greathill House
C8	0	0	0	0	0	0	0	0	0	0

Table A2-4:   Ground Profile and Barrier Corrections for Earlsburn Wind Farm

| Turbine | Correction Factor by Noise-Sensitive Receptor, dB(A) | | | | | | | | | |
	Cringate Cottage	Ryecroft	Craigengelt	Craigengelt Bungalow	Muirpark	Todholes Farm Cottage	Shankhead	Shankhead Farm	Townhead Farm	Greathill House
E1	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2
E2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2
E3	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2
E4	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2
E5	-2	-2	-2	-2	-2	-2	0	0	-2	-2
E6	-2	-2	-2	0	-2	-2	0	0	-2	-2
E7	-2	-2	-2	-2	-2	-2	0	0	-2	-2
E8	-2	-2	-2	-2	-2	-2	0	0	-2	-2
E9	0	-2	-2	-2	-2	-2	0	0	-2	-2
E10	0	-2	-2	-2	-2	-2	-2	0	-2	-2
E11	0	-2	-2	-2	-2	-2	0	0	-2	-2
E12	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2
E13	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2
E14	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2
E15	0	-2	-2	-2	-2	-2	-2	-2	-2	-2

Table A2-5: Ground Profile and Barrier Corrections for Earlsburn Extension Wind Farm

| Turbine | Correction Factor by Noise-Sensitive Receptor, dB(A) | | | | | | | | | |
	Cringate Cottage	Ryecroft	Craigengelt	Craigengelt Bungalow	Muirpark	Todholes Farm Cottage	Shankhead	Shankhead Farm	Townhead Farm	Greathill House
EE1	-2	-2	-2	0	0	0	0	0	0	0
EE2	-2	-2	0	0	0	0	0	0	0	0
EE3	-2	-2	0	0	0	0	-2	0	0	0
EE4	-2	-2	0	0	0	0	0	0	0	0
EE5	-2	-2	-2	-2	0	0	0	0	-2	-2
EE6	-2	-2	0	0	0	0	0	0	0	0
EE7	-2	-2	0	0	0	0	0	0	0	0
EE8	-2	-2	0	0	0	0	0	0	0	0
EE9	-2	-2	0	0	0	0	0	0	0	0
EE10	-2	-2	0	0	0	0	0	0	0	0
EE11	-2	-2	0	0	0	0	0	0	0	0

Table A2-6: Ground Profile and Barrier Corrections for Kingsburn Wind Farm

| Turbine | Correction Factor by Noise-Sensitive Receptor, dB(A) | | | | | | | | | |
	Cringate Cottage	Ryecroft	Craigengelt	Craigengelt Bungalow	Muirpark	Todholes Farm Cottage	Shankhead	Shankhead Farm	Townhead Farm	Greathill House
K1	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2
K2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2
K3	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2
K4	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2
K5	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2
K6	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2
K7	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2

| Turbine | Correction Factor by Noise-Sensitive Receptor, dB(A) | | | | | | | | | |
	Cringate Cottage	Ryecroft	Craigengelt	Craigengelt Bungalow	Muirpark	Todholes Farm Cottage	Shankhead	Shankhead Farm	Townhead Farm	Greathill House
K8	-2	-2	-2	-2	0	-2	-2	-2	-2	-2
K9	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2

Table A2-7:   Ground Profile and Barrier Corrections for Shelloch Wind Farm

| Turbine | Correction Factor by Noise-Sensitive Receptor, dB(A) | | | | | | | | | |
	Cringate Cottage	Ryecroft	Craigengelt	Craigengelt Bungalow	Muirpark	Todholes Farm Cottage	Shankhead	Shankhead Farm	Townhead Farm	Greathill House
S1	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2
S2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2
S3	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2
S4	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2
S5	0	-2	-2	-2	-2	-2	-2	-2	-2	-2