

Botanical Study - Appendix 6-1

Slieveacurry Renewable
Energy Development





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1. INTRODUCTION

1.1 Introduction

MKO were commissioned to undertake detailed botanical surveys to provide an evaluation and assessments of the habitats occurring on site at Slieveacurry Renewable Energy Development, Co. Clare. The detailed assessments focused on the habitats occurring immediately adjacent to the Proposed Development footprint. The detailed botanical surveys were undertaken on the 30th July 2020 & 04th March 2021 and informed by habitat mapping undertaken on numerous other dates in 2017 and 2018.

1.2 Survey Methods

A total of 19 relevés detailed were undertaken within the construction footprint or representative habitats within the study area. In addition, where turbines are located within highly modified coniferous plantation forestry, detailed descriptions of this habitat at each location is also provided. The location of each is provided on Figure 1.1.

Relevés that were undertaken in peatland habitats followed guidelines set out in the following document:

- *Perrin, P.M, Martin, J.R., Barron, J.R., Roche & O' Hanrahan, B. (2014) Guidelines for a national survey and conservation assessment of upland vegetation and habitats in Ireland. Version 2.0. Irish Wildlife Manuals, No. 79. National Parks and Wildlife Service.*

All species were readily identifiable during the survey. Plant nomenclature for vascular plants follows 'New Flora of the British Isles' (Stace, 2010), while mosses and liverworts nomenclature follows 'Mosses and Liverworts of Britain and Ireland - a field guide' (British Bryological Society, 2010).

1.3 Statement of Authority

Field surveys were undertaken by Olivia O'Gorman (B.Sc., M.Sc.) and Laoise Kelly (B.Sc., MCIEEM) on 30th July 2020 and by David McNicholas (B.Sc., M.Sc., MCIEEM) on the 04th March 2021. Both Olivia and Laoise have over 5 years' experience working in environmental consultancy. This report has been reviewed by David McNicholas (B.Sc., M.Sc., MCIEEM). David is a highly experienced ecologist has over 10 years' professional experience in environmental management and ecological assessment.



Map Legend

- ◆ Quadrat Locations
- EIAR Study Boundary
- Proposed Turbine Locations
- Existing Roads - Upgrade Proposed
- Proposed New Site Roads
- Proposed Turbine Foundations
- Proposed Turbine Hardstands
- Proposed Borrow Pits
- Proposed Temporary Construction Compound
- Met Mast Location
- Proposed Underground Cable Route
- Proposed Extension to Existing Slievecullan Substation
- Temporary Runover Area
- County Road to be Maintained
- Public Road Expansion Area
- Soft Levelled Area

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Quadrat Locations	
Project Title Slievecurry Renewable Energy Development, Co. Clare	
Drawn By Holly Witter	Checked By Olivia O'Gorman
Project No. 170224	Drawing No. Figure 1-1
Scale 1:15000	Date 2021-11-16
MKO Planning and Environmental Consultants Tuam Road, Galway Ireland, H91 W8B4 +353 (0) 91 735611 email: info@mkofireland.ie Website: www.mkofireland.ie	

2. RESULTS

2.1 Turbine 1

Turbine number one will be located within an existing conifer plantation (WD4) dominated by Sitka spruce (*Picea sitchensis*). This section of the conifer plantation is characterised by stands of trees with some open areas dominated by scrub (WS1) comprised of Willow spp. (*Salix spp.*), Bramble (*Rubus fruticosus agg.*), Soft rush (*Juncus effuses*) and Yorkshire-fog (*Holcus lanatus*). The location of Turbine no. 1 and the associated description (point A) are provided in Figure 1.1.



Plate 2- 1 Example of conifer plantation (WD4) in which T1 will be located.

2.2 Turbine 2

Turbine number 2 is located within conifer plantation (WD4). The conifer plantation is approximately 12-15m in height and is comprised predominately of post-thicket Sitka spruce (*Picea sitchensis*). The conifer plantation is surrounded by a linear strip of scrub comprised of Gorse (*Ulex europaeus*) and Willow spp. (*Salix spp.*). The location of Turbine no. 2 and the associated description (point A) are provided in Figure 1.1.



Plate 2-2 Turbine 2 will be located within Conifer Plantation (WD4)

The lands adjacent to the east of Turbine 2 comprise of peatland habitats dominated by Upland blanket bog (PB2) and Wet heath (HH3), and to a lesser extent Wet Grassland (GS4).

Table 2-1 Botanical Survey Results

Species	Common Name	% Cover
Vascular Plants		
<i>Calluna vulgaris</i>	Ling heather	5
<i>Molinia caerulea</i>	Purple moor-grass	30
<i>Festuca rubra</i>	Red fescue	5
<i>Blechnum spicant</i>	Hard fern	+
<i>Succisa pratensis</i>	Devils-bit scabious	5

<i>Potentilla erecta</i>	Tormentil	2
<i>Juncus effusus</i>	Soft Rush	20
Non-vascular Plants		
<i>Polytrichum commune</i>		3
<i>Pleurozium schreberi</i>		5
<i>Rhytidiadelphus squarrosus</i>		10
<i>Rhytidiadelphus loreus</i>		5
<i>Sphagnum palustre</i>		15
% Bare ground (exposed peat)		
Fossitt (2000) Habitat Classification		Wet heath (HH3)/ Upland blanket bog (PB2) mosaic
IVC Community		HE4D - <i>Molinia caerulea</i> - <i>Potentilla erecta</i> - <i>Erica tetralix</i>



Plate 2- 3 Example of degraded heath habitat located to the east of Turbine 2.

2.3 Turbine 3

Turbine 3 will be located within a mosaic of peatland habitats comprising mainly of Upland blanket bog (PB2), Wet heath (HH3) and Wet Grassland (GS4). These areas have been subject to grazing and poaching with areas of bare peat evident within the habitat mosaic. The lands adjacent to the east comprise of Conifer plantation (WD4) dominated by Sitka spruce (*Picea sitchensis*).

2.3.1 Quadrat 1

Table 2-2 Botanical Survey Results

Quadrat 1	Grid reference: 511849 680428	Date 30/07/2020
Species	Common Name	% Cover
Vascular Plants		
<i>Calluna vulgaris</i>	Ling heather	45
<i>Molinia caerulea</i>	Purple moor-grass	65
<i>Erica tetralix</i>	Cross-leaved heath	5
<i>Trichophorum germanicum</i>	Deergrass	5
<i>Anthoxanthum odoratum</i>	Sweet vernal grass	10
<i>Blechnum spicant</i>	Hard Fern	5
<i>Juncus inflexus</i>	Hard Rush	2
<i>Succisa pratensis</i>	Devils-bit scabious	20
<i>Polygala serpyllifolia</i>	Heath milkwort	+
<i>Cladonia portentosa</i>	Cladonia lichen	5
<i>Potentilla erecta</i>	Tormentil	15
Non-vascular Plants		
<i>Sphagnum spp.</i>	Sphagnum moss	8
% Bare ground (exposed peat)		0
% Hummocks		5
Fossitt (2000) Habitat Classification		Upland blanket bog (PB2)/Wet heath (HH3) mosaic
IVC Community		HE4D - <i>Molinia caerulea</i> - <i>Potentilla erecta</i> - <i>Erica tetralix</i>



Plate 2- 4 Turbine 3 will be located within a mosaic of degraded peatland habitats. Example of habitats at Quadrat 1

2.3.2 Quadrat 2

Table 2-3 Botanical Survey Results

Quadrat 2	Grid reference: 511759, 680383	Date 30/08/2020
Species	Common Name	% Cover
Vascular Plants		
<i>Calluna vulgaris</i>	Ling heather	45
<i>Molinia caerulea</i>	Purple moor-grass	15
<i>Erica tetralix</i>	Cross-leaved heath	5
<i>Nardus stricta</i>	Mat Grass	70
<i>Anthoxanthum odoratum</i>	Sweet vernal grass	10
<i>Juncus effuses</i>	Rush spp. – Soft rush, hard rush	15
<i>Juncus inflexus</i>		
<i>Eriophorum vaginatum</i>	Hares-tail cotton grass	1
<i>Drosera rotundifolia</i>	Round-leaved sundew	1
<i>Polygala serpyllifolia</i>	Heath milkwort	1
<i>Eriophorum angustifolium</i>	Bog cotton	1
Non-vascular Plants		
<i>Polytrichum spp.</i>	<i>Polytrichum spp.</i>	+
<i>Pseudoscleropodium purum</i>	Neat-feather moss	+
% Bare ground (exposed peat)		5
Fossitt (2000) Habitat Classification		Upland Blanket Bog (PB2)/Wet heath (HH3) mosaic - Degraded
IVC Community		HE4B - <i>Molinia caerulea</i> - <i>Nardus stricta</i>



Plate 2-5 Turbine 3 will be located within a mosaic of degraded peatland habitats. Example of habitats at Quadrat 2

2.3.3 Quadrat 3

Table 2-4 Botanical Survey Results

Quadrat 3	Grid reference: 511647 680348	Date 30/07/2020
Species	Common Name	% Cover
Vascular Plants		
<i>Calluna vulgaris</i>	Ling heather	15
<i>Molinia caerulea</i>	Purple moor-grass	40
<i>Erica tetralix</i>	Cross-leaved heath	10
<i>Eriophorum angustifolium</i>	Bog cotton	10
<i>Nardus stricta</i>	Mat grass	15
<i>Erica cinerea</i>	Bell heather	2
% Bare ground (exposed peat)		55
% Hummock		20
Fossitt (2000) Habitat Classification		Wet grassland (GS4)/Wet heath (HH3) mosaic - Degraded

IVC Community	HE4E - <i>Molinia caerulea</i> - <i>Calluna vulgaris</i> - <i>Erica tetralix</i>
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Plate 2-6 Turbine 3 will be located within a mosaic of degraded peatland habitats. Example of habitat at Quadrat 3

2.3.4 Quadrat 4

Table 2-5 Botanical Survey Results

Quadrat 4	Grid reference: 511562 680332	Date 30/07/2020
Species	Common Name	% Cover
Vascular Plants		
<i>Calluna vulgaris</i>	Ling heather	30
<i>Molinia caerulea</i>	Purple moor-grass	20
<i>Juncus squarrosus</i>	Heath rush	20
<i>Erica tetralix</i>	Cross-leaved heath	15
<i>Potentilla erecta</i>	Tormentil	15
<i>Anthoxanthum odoratum</i>	Sweet vernal grass	10
<i>Eriophorum angustifolium</i>	Bog cotton	10
Non-vascular Plants		
<i>Sphagnum spp.</i>	Sphagnum spp.	10
% Bare ground (exposed peat)		5
% Hummock		20
Fossitt (2000) Habitat Classification		Upland Blanket Bog (PB2)/Wet heath (HH3) mosaic
IVC Community		BG2C - <i>Erica tetralix</i> - <i>Molinia caerulea</i> - <i>Cladonia portentosa</i>



Plate 2-7 Turbine 3 will be located within a mosaic of degraded peatland habitats. Example of habitat at Quadrat 4

2.3.5 **Quadrat 5**

Table 2-6 Botanical Survey Results

Quadrat 5	Grid reference: 511518 680283	Date 30/07/2020
Species	Common Name	% Cover
Vascular Plants		
<i>Calluna vulgaris</i>	Ling heather	60
<i>Erica cinerea</i>	Bell heather	5
<i>Eriophorum angustifolium</i>	Bog cotton	15
<i>Potentilla erecta</i>	Tormentil	10
<i>Juncus squarrosus</i>	Heath rush	2
<i>Carex spp.</i>	Carex spp.	10
Non-vascular Plants		
<i>Sphagnum spp.</i>	Sphagnum spp.	5
% Bare ground (exposed peat)		25

% Hummock	10
Fossitt (2000) Habitat Classification	Upland blanket bog (PB2)/Wet heath (HH3) mosaic
IVC Community	BG1D - <i>Eriophorum angustifolium</i> - <i>Campylopus introflexus</i>



Plate 2- 8 Turbine 3 will be located within a mosaic of peatland habitats. Example of habitats surrounding quadrat 5

2.4 Turbine 4

Turbine 4 is located within Conifer Plantation (WD4) dominated by Sitka spruce (*Picea sitchensis*). This area understory vegetation of the forestry is characterised by species including cross-leaved heath (*Erica tetralix*), bell heather (*Erica cinerea*), purple moor-grass (*Molinia caerulea*), tormentil (*Potentilla erecta*) and deergrass (*Trichophorum germanicum*). The location of Turbine no. 4 and the associated description (point A) are provided in Figure 1.1.



Plate 2-9 Conifer plantation located at Turbine 4.

2.5 Turbine 5

Turbine 5 will be located within a mosaic of wet grassland (WS4) and Upland blanket bog (PB2) with some waterlogged areas within the habitat. The habitat is characterised by Soft rush (*Juncus effusus*), Yorkshire-fog (*Holcus lanatus*), Ling Heather (*Calluna vulgaris*), Bell heather (*Erica cinerea*) and Bog asphodel (*Erica tetralix*).

2.5.1 Quadrat 6

Table 2-7 Botanical Survey Results

Quadrat 6	Grid reference: 512851 680510	Date 30/07/2020
Species	Common Name	% Cover
Vascular Plants		
<i>Calluna vulgaris</i>	Ling heather	20
<i>Molinia caerulea</i>	Purple moor-grass	5
<i>Erica cinerea</i>	Bell heather	10
<i>Narthecium ossifragum</i>	Bog Asphodel	20
<i>Juncus effusus</i>	Soft rush	40
<i>Ranunculus flammula</i>	Lesser Spearwort	20
<i>Succisa pratensis</i>	Devils-bit scabious	15
<i>Potentilla erecta</i>	Tormentil	10
<i>Holcus lanatus</i>	Yorkshire-fog	50
<i>Agrostis stoloniferous</i>	Creeping bent	5
<i>Anthoxanthum odoratum</i>	Sweet vernal grass	5
<i>Carex spp.</i>	Carex spp.	5
% Bare ground (exposed peat)		0
% Hummocks		5
Fossitt (2000) Habitat Classification		Wet grassland (WS4) with influences of Wet heath (HH3)
IVC Community		<i>Calluna vulgaris</i> - <i>Trichophorum cespitosum/germanicum</i> (HE2E)



Plate 2- 10 Turbine 5 will be located within a wet grassland with influences of wet heath due to its proximity to nearby heath habitat.

2.6 Turbine 6

Turbine 6 is located in an area of Upland blanket bog (PB2) which showed evidence of historic peat cutting. The habitat was categorised by such species Ling heather (*Calluna vulgaris*), Heath Rush (*Juncus squarrosus*), Purple Moor-grass (*Molinia caerulea*), Common Cottongrass (*Eriophorum angustifolium*) and Deergrass (*Trichophorum germanicum*). An area of dense gorse occurs to the southeast of the turbine base.

2.6.1 Quadrat 7

Table 2-8 Botanical Survey Results

Quadrat 7	Grid reference: 512385 679836	Date 30/07/2020
Species	Common Name	% Cover
Vascular Plants		
<i>Calluna vulgaris</i>	Ling heather	8
<i>Juncus squarrosus</i>	Heath Rush	10
<i>Potentilla erecta</i>	Tormentil	5
<i>Molinia caerulea</i>	Purple moor-grass	3
<i>Erica tetralix</i>	Cross-leaved heath	3
<i>Anthoxanthum odoratum</i>	Sweet vernal grass	1
<i>Juncus conglomeratus</i>	Rush, Compact	+
<i>Eriophorum angustifolium</i>	Common Cotton-grass	1
<i>Eriophorum vaginatum</i>	Hare's-tail Cotton-grass	+
<i>Festuca ovina</i>	Sheeps fescue	25
<i>Trichophorum germanicum</i>	Deergrass	2
Non-vascular Plants		
<i>Sphagnum cuspidatum</i>		20
<i>Calliergonella cuspidata</i>		3
<i>Sphagnum capillifolium</i>		5
Fossitt (2000) Habitat Classification		Upland Blanket Bog (PB2)
IVC community		<i>Calluna vulgaris</i> - <i>Eriophorum</i> spp. (BG2E)



Plate 2- 11 Upland Blanket Bog (PB2) located at Turbine 6

2.7 Turbine 7

Turbine 7 is located in an area of Wet heath (HH2) - Upland Blanket Bog (PB2) mosaic. Evidence of cutover bog in the form of exposed peat bank occurs in the wider area though the peatland has revegetated. The habitat is characterised by species such as purple moor-grass (*Molinia caerulea*), ling heather (*Calluna vulgaris*), hare's-tail cotton-grass (*Eriophorum vaginatum*) and deergrass (*Trichophorum germanicum*).

2.7.1 Quadrat 8

Table 2-9 Botanical Survey Results

Quadrat 8	Grid reference: 511415 679251	Date: 30/07/2020
Species	Common Name	% Cover
Vascular Plants		
<i>Molinia caerulea</i>	Purple moor-grass	15
<i>Calluna vulgaris</i>	Ling heather	15
<i>Potentilla erecta</i>	Tormentil	10
<i>Erica tetralix</i>	Cross-leaved heath	6
<i>Vaccinium myrtillus</i>	Bilberry	+
<i>Eriophorum vaginatum</i>	Cotton-grass, hares-tail	+
<i>Narthecium ossifragum</i>	Bog Asphodel	+
<i>Drosera intermedia</i>	Sundew, oblong-leaved	+
<i>Polygala serpyllifolia</i>	Heath milkwort	+
<i>Trichophorum germanicum</i>	Deergrass	3
Non-vascular Plants		
<i>Calliergonella cuspidata</i>		20
<i>Sphagnum cuspidatum</i>		10
<i>Polytrichum commune</i>		10
Fossitt (2000) Habitat Classification		Wet heath (HH2) - Upland Blanket Bog (PB2) mosaic
IVC community		<i>Molinia caerulea</i> – <i>Trichophorum cespitosum/germanicum</i> (HE4A)



Plate 2- 12 Wet heath (HH3) - Upland Blanket Bog (PB2) mosaic located at Quadrat 8 at Turbine 7

2.7.2

Quadrat 9

Table 2- 10 Botanical Survey Results

Quadrat 9	Grid reference: 511450 679253	Date: 30/07/2020
Species	Common Name	% Cover
Vascular Plants		
<i>Molinia caerulea</i>	Purple moor-grass	30
<i>Calluna vulgaris</i>	Ling heather	25
<i>Potentilla erecta</i>	Tormentil	5
<i>Erica tetralix</i>	Cross-leaved heath	5
<i>Trichophorum germanicum</i>	Deergrass	10
Non-vascular Plants		
<i>Calliergonella cuspidata</i>		10
<i>Sphagnum cuspidatum</i>		8
<i>Sphagnum capitulum</i>		20

Fossitt (2000) Habitat Classification	Wet heath (HH3)
IVC community	<i>Molinia caerulea</i> – <i>Calluna vulgaris</i> – <i>Erica tetralix</i> (HEAE)



Plate 2- 13 Wet heath (HH3) located at Turbine 7

2.7.3 Quadrat 10

Table 2-11 Botanical Survey Results

Quadrat 10	Grid reference: 511512 679238	Date: 30/07/2020
Species	Common Name	% Cover
Vascular Plants		
<i>Molinia caerulea</i>	Purple moor-grass	8
<i>Potentilla erecta</i>	Tormentil	4
<i>Erica tetralix</i>	Cross-leaved heath	3
<i>Eriophorum vaginatum</i>	Cotton-grass, hares-tail	2
<i>Trichophorum germanicum</i>	Deergrass	5
<i>Calluna vulgaris</i>	Ling Heather	80
Non-vascular Plants		
<i>Thuidium tamariscinum</i>		5
<i>Sphagnum capitulum</i>		10
Fossitt (2000) Habitat Classification		
		Wet heath (HH3)
IVC community		<i>Calluna vulgaris</i> – <i>Molinia caerulea</i> – <i>Erica cinerea</i> (HE2D)



Plate 2- 14 Upland Blanket Bog (PB2) located at Quadrat 10 near Turbine 7

2.7.4 **Quadrat E**

The lands adjacent to the north of Turbine 8 comprise of peatland habitats dominated by Upland blanket bog (PB2) and Wet heath (HH3), and to a lesser extent Wet Grassland (GS4).

Table 2- 12 Botanical Survey Results

Species	Common Name	% Cover
Vascular Plants		
<i>Calluna vulgaris</i>	Ling heather	20
<i>Galium saxatile</i>	Heath bedstraw	+
<i>Molinia caerulea</i>	Purple moor-grass	50
<i>Festuca rubra</i>	Red fescue	2
<i>Erica tetralix</i>	Cross-leaved heath	1
<i>Erica cinerea</i>	Bell heather	1
<i>Trichophorum germanicum</i>	Deergrass	3

<i>Eriophorum angustifolium</i>	Common cottongrass	+
<i>Eriophorum vaginatum</i>	Hare's-tail Cottongrass	+
<i>Juncus inflexus</i>	Hard Rush	3
Non-vascular Plants		
<i>Hypnum jutlandicum</i>		2
<i>Sphagnum subnitens</i>		2
<i>Pleurozium schreberi</i>		10
% Bare ground (exposed peat)		
Fossitt (2000) Habitat Classification		Wet heath (HH3)/ Upland blanket bog (PB2) mosaic
IVC Community		HE4E - <i>Molinia caerulea</i> - <i>Calluna vulgaris</i> - <i>Erica tetralix</i>



Plate 2- 15 Example of heath habitat located adjacent to the north of Turbine 7.

2.8

Turbine 8

Turbine 8 is located in mature Conifer Plantation with very little ground flora bar some *Thuidium mariscinum*, therefore no reléve was taken at this location. The location of Turbine no. 8 and the associated description (point A) are provided in Figure 1.1.



Plate 2- 16 Conifer Plantation (WD4) located at Turbine 8

The lands adjacent to the north of Turbine 8 comprise of peatland habitats dominated by Upland blanket bog (PB2) and Wet heath (HH3), and to a lesser extent Wet Grassland (GS4).

Table 2- 13 Botanical Survey Results

Species	Common Name	% Cover
Vascular Plants		
<i>Calluna vulgaris</i>	Ling heather	10
<i>Molinia caerulea</i>	Purple moor-grass	65
<i>Erica tetralix</i>	Cross-leaved heath	3
<i>Erica cinerea</i>	Bell heather	2
<i>Trichophorum germanicum</i>	Deergrass	1

<i>Eriophorum angustifolium</i>	Common cottongrass	+
<i>Blechnum spicant</i>	Hard Fern	+
<i>Succisa pratensis</i>	Devil's-bit scabious	+
<i>Polygala serpyllifolia</i>	Heath milkwort	+
<i>Carex flacca</i>	Glaucous Sedge	+
Non-vascular Plants		
<i>Hypnum jutlandicum</i>		4
<i>Cladonia portentosa</i>		2
<i>Racomitrium lanuginosum</i>		3
<i>Sphagnum subnitens</i>		20
% Bare ground (exposed peat)		2
Fossitt (2000) Habitat Classification		Wet heath (HH3)/ Upland blanket bog (PB2) mosaic
IVC Community		HE4E - <i>Molinia caerulea</i> - <i>Calluna vulgaris</i> - <i>Erica tetralix</i>



Plate 2- 17 Example of heath habitat located adjacent to the north of Turbine 8.

2.9 Borrow Pit

2.9.1 Quadrat 11

Table 2-14 Botanical Survey Results

Quadrat 11	Grid reference: 512649 680191	Date 30/07/2020
Species	Common Name	% Cover
<i>Calluna vulgaris</i>	Ling heather	20
<i>Narthecium ossifragum</i>	Bog Asphodel	30
<i>Erica tetralix</i>	Cross-leaved heath	2
<i>Erica cinerea</i>	Bell heather	5
<i>Eriophorum angustifolium</i>	Bog cotton	15
<i>Agrostis stolonifera</i>	Creeping Bent	10
<i>Trichophorum germanicum</i>	Deergrass	10-15
<i>Carex spp.</i>	Sedge spp.	5
% Bare ground (exposed peat)		45
% Hummock		0
Fossitt (2000) Habitat Classification		Degraded Wet heath (HH3)
IVC community		<i>Molinia caerulea</i> - <i>Calluna vulgaris</i> - <i>Erica tetralix</i> (HE4E)



Plate 2- 18 Habitats located at the proposed borrow pit surrounding Quadrat 11

2.9.2 Quadrat 12

Table 2- 15 Botanical Survey Results

Quadrat 12	Grid reference: 512628 680174	Date 30/07/2020
Species	Common Name	% Cover
<i>Molinia caerulea</i>	Purple Moor Grass	60
<i>Calluna vulgaris</i>	Ling heather	30
<i>Juncus effusus</i>	Soft rush	20
<i>Sphagnum capillifolium</i>		40
% Bare ground (exposed peat w/ pools of water)		20
Fossitt (2000) Habitat Classification		Cut-over bog (revegetated) (PB4)
IVC community		<i>Erica tetralix</i> - <i>Sphagnum capillifolium</i> (BG2B)



Plate 2-19 Habitats located at the proposed borrow pit surrounding Q12

2.10 Proposed site track (between Turbine 6-7)

A mosaic of degraded peatland (HH3) and an extensive area of Gorse (*Ulex europaeus*) scrub (WS1) occurs along the proposed new road between Turbine 6 and Turbine 7.

2.10.1 Quadrat 13

Table 2- 16 Botanical Survey Results

Quadrat 13	Grid reference: 512142 679160	Date 30/07/2020
Species	Common Name	% Cover
Vascular Plants		
<i>Molinia caerulea</i>	Purple moor-grass	40
<i>Succisa pratensis</i>	Devils-bit Scabious	15
<i>Potentilla erecta</i>	Tormentil	10
<i>Juncus acutiflorus</i>	Sharp-flowered Rush	4
<i>Erica tetralix</i>	Cross leaved heath	3
<i>Calluna vulgaris</i>	Ling heather	40
<i>Carex echinata</i>	Star sedge	1
<i>Eriophorum vaginatum</i>	Cotton-grass, hares-tail	+
Fossitt (2000) Habitat Classification		Wet Heath (HH3)
IVC community		<i>Molinia caerulea</i> – <i>Calluna vulgaris</i> – <i>Erica tetralix</i> heath (HE4E)



Plate 2-20 Heath and gorse scrub located along the proposed access track between Turbine 6 and Turbine 7



Plate 2-218 Example of heath and gorse scrub (foreground) located along the proposed access track between Turbine 6 and Turbine 7

2.11 Field (south of proposed road to Turbine 6)

2.11.1 Quadrat 14

Table 2- 17 Botanical Survey Results

Quadrat 14	Grid reference: 512254 679609	Date 30/07/2020
Species	Common Name	% Cover
Vascular Plants		
<i>Molinia caerulea</i>	Purple moor-grass	8
<i>Potentilla erecta</i>	Tormentil	3
<i>Erica tetralix</i>	Cross leaved heath	2
<i>Trichophorum germanicum</i>	Deergrass	20
<i>Calluna vulgaris</i>	Ling Heather	40
<i>Succisa pratensis</i>	Scabious, devils-bit	5
<i>Eriophorum angustifolium</i>	Common cottongrass	1
Non-vascular Plants		
<i>Calliergonella cuspidata</i>		5
<i>Sphagnum capillifolium</i>		10
Fossitt (2000) Habitat Classification		
		Wet Grassland (GS4)/degraded Wet Heath (HH3)
IVC community		
		<i>Erica tetralix</i> – <i>Molinia caerulea</i> – <i>Cladonia portentosa</i> (BG2C)



Plate 2- 19 Wet Grassland (GS4)/degraded Wet Heath (HH3) habitat to the south of the proposed access track between Turbine 6 and Turbine 7 surrounding Quadrat 14

2.11.2 Quadrat 15

Table 2- 18 Botanical Survey Results

Quadrat 15	Grid reference: 512273 679668	Date 30/07/2020
Species	Common Name	% Cover
Vascular Plants		
<i>Molinia caerulea</i>	Purple moor-grass	60
<i>Succisa pratensis</i>	Devils-bit Scabious	5
<i>Holcus lanatus</i>	Yorkshire fog	5
<i>Juncus conglomeratus</i>	Compact Rush	2
<i>Leontodon hispidus</i>	Rough Hawkbit	3
<i>Potentilla erecta</i>	Tormentil	2
<i>Juncus acutiflorus</i>	Sharp-flowered Rush	+
<i>Juncus effusus</i>	Soft rush	2
<i>Carex echinata</i>	Star sedge	+

<i>Festuca rubra</i>	Red Fescue	8
<i>Anthoxanthum odoratum</i>	Sweet vernal grass	3
Non-vascular Plants		
<i>Polytrichum commune</i>		50
Fossitt (2000) Habitat Classification		Wet Grassland (GS4) occurring close to degraded Wet Heath (HH3)
IVC community		<i>Molinia caerulea</i> - <i>Potentilla erecta</i> - <i>Agrostis stolonifera</i> (GL1D)



Plate 2- 20 Wet Grassland (GS4)/degraded Wet Heath (HH3) habitat to the south of the proposed access track between Turbine 6 and Turbine 7 surrounding Quadrat 15

2.11.3 **Quadrat 16**

Table 2-19 Botanical Survey Results

Quadrat 16	Grid reference: 512373 679671	Date 30/07/2020
Species	Common Name	% Cover
Vascular Plants		
<i>Molinia caerulea</i>	Purple moor-grass	90
<i>Leontodon hispidus</i>	Rough Hawkbit	3
<i>Calluna vulgaris</i>	Ling heather	3
<i>Succisa pratensis</i>	Devils-bit Scabious	10
<i>Erica tetralix</i>	Cross leaved heath	1
<i>Anthoxanthum odoratum</i>	Sweet vernal grass	1
<i>Carex echinata</i>	Star sedge	1
<i>Polygala serpyllifolia</i>	Heath milkwort	1
Non-vascular Plants		
<i>Sphagnum capitulum</i>		10
<i>Polytrichum commune</i>		5
Fossitt (2000) Habitat Classification		Degraded Wet Heath (HH3)
IVC community		<i>Molinia caerulea</i> - <i>Potentilla erecta</i> - <i>Erica tetralix</i> (HE4D)



Plate 2- 21 Degraded Wet Heath (HH3) habitat to the south of the proposed access track between Turbine 6 and Turbine 7 surrounding Quadrat 16

3.

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