



ESB Asset Development UK Limited

Millmoor Rig Wind Farm

Technical Annex 8.1 – Habitats and Vegetation

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Where field investigations have been carried out, these have been restricted to a level of detail required to achieve the stated objectives of the work.

This work has been undertaken in accordance with the quality management system of RSK Environment Ltd.

EXECUTIVE SUMMARY

1. This Technical Annex (TA) has been prepared to accompany **Chapter 8** of the Environmental Impact Assessment Report (EIAR) for the proposed Millmoor Rig Wind Farm (hereafter the 'Proposed Development').
2. This report presents detailed methodologies and results of the habitat and vegetation surveys undertaken which includes a National Vegetation Classification (NVC) highlighting any Ground Water Dependent Terrestrial Ecosystems (GWDTE).
3. An NVC survey was previously undertaken at the Proposed Development by MacArthur Green in August 2013¹ in relation to a wind farm proposal (Highlee Hill) that was not taken forward. An updated inspection of the habitats within the survey area by an experienced botanist within RSK Biocensus was undertaken in June 2021 and July 2021. With further surveys of the access area in May 2022. These surveys identified broadly similar habitats to those identified in 2013 by MacArthur Green with only minor changes noted in the botanical structure.
4. The majority of habitat is conifer plantation or clearfell of negligible botanical value, however discrete areas of botanical interest have been identified across the turbine area and access area of the Proposed Development, including bog habitat likely to be growing on a peat substrate.
5. Access tracks and infrastructure within the Proposed Development avoid the bog habitats and the ground water dependent NVC communities (M17, M19, M20, and M25) habitats where possible, there are discrete locations where site access tracks cannot realistically avoid these habitats, meaning that specific working methods and mitigation will be required. These mitigation measures are detailed within the Chapter 10 Hydrology of the EIA Report.
6. Within the access area from the A6088 to the northeast of the turbine area, areas of botanical interest have been identified including mosaic habitats such as wetland, native woodland and grassland in addition to damp heath and young developing woodland. Where areas of botanical interest cannot be avoided specific working methods and mitigation will be required.

¹ An application was submitted by RES in July 2016 for a Wind Farm situated at the same location, but with a different site boundary. and the application was formally withdrawn in May 2016. Millmoor Rig Wind Farm is a wholly new project with no connection to the Highlee Hill Wind Farm proposal or to RES.

CONTENTS

1	INTRODUCTION	4
1.1	Purpose of this report	4
1.2	Site Description	4
1.3	Proposed Development	5
2	METHODS	6
2.1	Overview	6
2.2	Nomenclature	6
2.3	Survey Limitations	6
3	RESULTS	8
3.1	Summary	8
3.2	Habitat Descriptions	8
	NVC Communities within Turbine Area	8
	NVC Communities within the Access Area	11
	Non-NVC Communities within the Turbine and Access Areas	17
	Habitats of Botanical Interest within Turbine and Access Area	18
4	EVALUATION AND RECOMMENDATIONS	20
4.1	Evaluation of NVC Communities Recorded	20
4.2	Recommendations for NVC Communities Recorded	23
	Proposed Enhancement of Botanically Interesting Areas	23
	REFERENCES	24
	FIGURES	25
	ANNEX A – RELEVANT POLICY	26
	ANNEX B – TARGET NOTES	27
	ANNEX C – SPECIES LIST	38

TABLES

Table 1:	NVC Communities within the Turbine Area	8
Table 2:	NVC Communities between Tracks and Plantation Woodland within the Turbine Area	9
Table 3:	NVC Communities in the Ditches within the Turbine Area	10
Table 4:	NVC Communities in the Young Plantation within Turbine Area	10
Table 5:	NVC Communities along Burns within the Turbine Area	11
Table 6:	Vegetation Communities in the Access Area	11

FIGURES

Figure 8.1.1:	The Proposed Development and Access Arrangements .	Error! Bookmark not defined.
Figure 8.1.2:	Survey Area Including the Land within the Application Boundary and Associated Buffers	Error! Bookmark not defined.
Figure 8.1.3a:	Habitats and Vegetation Survey Results – Zoomed Out	Error! Bookmark not defined.
Figure 8.1.3b:	Habitats and Vegetation Survey Results – Zoomed In...	Error! Bookmark not defined.
Figure 8.1.4:	Areas of Botanical Interest.....	Error! Bookmark not defined.
Figure 8.1.5a:	GWDTE Survey Results – Zoomed out.....	Error! Bookmark not defined.
Figure 8.1.5b:	GWDTE Survey Results – Zoomed in	Error! Bookmark not defined.

1 INTRODUCTION

1.1 Purpose of this report

- 1.1.1 This Technical Annex (TA) has been prepared to accompany **Chapter 8: Ecology** of the Environmental Impact Assessment (EIA) Report for the proposed Millmoor Rig Wind Farm (hereafter the 'Proposed Development').
- 1.1.2 This report presents detailed methodologies and results of the habitat and vegetation surveys undertaken including National Vegetation Classification (NVC) highlighting Ground Water Dependent Terrestrial Ecosystems (GWDTE).
- 1.1.3 An NVC survey was previously undertaken at the Proposed Development site by MacArthur Green in August 2013 in relation to the Highlee Hill Wind Farm proposal that was not taken forward. An updated inspection of the habitats on the land within the Proposed Development site by an experienced botanist within RSK Biocensus was undertaken in June 2021 and July 2021. With further surveys undertaken of the access area in May 2022.
- 1.1.4 The following terminology is used throughout this technical annex:
- The Proposed Development – The wind farm development outlined by the application boundary including all infrastructure, the turbine area and access area shown in Figure 8.1.1.
 - The application boundary – the boundary of the Proposed Development site where field surveys were carried out including the turbine area and access area.
 - Survey area – all site infrastructure plus a 100 m buffer as shown in Figure 8.1.2. There are some areas within the Proposed Development site which have not been surveyed as no infrastructure is planned within these areas.
 - The turbine area – the area within the application boundary containing the wind turbine array.
 - The access area – refers to access route from the A6088 to the turbine area within the application boundary.
 - Initial survey – the first survey undertaken by RSK Biocensus in June 2021, which covered the turbine area.
 - Further survey – the second survey undertaken by RSK Biocensus in May 2022 following design evolution², which covered the turbine area and the access area.

1.2 Site Description

- 1.2.1 The Proposed Development is located south of Hawick in the Scottish Borders (Ordnance Survey Grid reference: NT 61212 07010). The majority of the land within the application

² Volume 2 Chapter 2: Figure 2.3 Design Iterations
ESB Asset Development UK Limited
Millmoor Rig Wind Farm Technical Annex 8.1 – Habitats and Vegetation
2481817

boundary consists of commercially stocked mature Sitka spruce (*Picea sitchensis*) in varying maturity along with large areas of clear-fell. There are numerous small watercourses which flow into Jed Water which is located in the east of the Proposed Development site. Active forestry operations include felling which is ongoing throughout the Proposed Development site.

- 1.2.2 Jed Water and its associated tributaries flow through the Proposed Development and form part of the River Tweed, which is designated as a Site of Scientific Interest (SSSI) and special area of conservation (SAC). The banksides are mostly vegetated with damp neutral grassland communities. Wolfhopelee Burn is located west of site. and is a tributary to Catlee Burn which flows into the River Tweed SAC and SSSI. The banksides of this burn are steep with broadleaved woodland, scrub and bracken.

1.3 Proposed Development

- 1.3.1 The Proposed Development would consist of up to 13 turbines with a height of between 180 m and 230 m. Ancillary infrastructure would include turbine hardstanding areas, internal access tracks, substation compound (including substation, control building and battery energy storage facility), underground cabling, two temporary construction compounds (including a main compound and a mobilisation compound), a turbine layover area), and up to three borrow pit search areas. Site access is from the A6088 and predominantly follows existing forestry tracks. **Chapter 2: Proposed Development** of the EIA Report contains a more detailed description of the Proposed Development, and the site layout is shown on **Figure 2.2** of the EIA Report.

2 METHODS

2.1 Overview

- 2.1.1 The initial NVC survey was carried out between June 2021 and July 2021 by RSK Biocensus botanist Ben Lappage within the survey area excluding the access area. Ben is a senior consultant with over 6 years of experience and is a full member of the Chartered Institute of Ecology and Environmental Management (CIEEM). Ben has extensive experience in carrying out botanical surveys. Further surveys were undertaken of the access area in May 2022 by Ben Averis and Alison Averis Botanical Consultants (hereafter referred to as the 'consultants'). The consultants are highly experienced and respected in vegetation and flora surveys. These surveys identified broadly similar habitats to those identified in 2013 by MacArthur Green with only minor changes noted in the botanical structures. The technical and quality reviewer, Mark Lang Associate Director, RSK Biocensus, and full member of CIEEM and Chartered ecologist, has comprehensive experience of upland NVC. Survey Methodology
- 2.1.2 The survey methodology broadly followed that outlined in the NVC user's handbook (Rodwell 2006) using the NVC survey data collected in 2013 as a guide. The survey area is shown in Figure 8.1.2. Where possible, NVC communities were identified in the field from simple observation and surveyor experience to confirm identification of the main NVC community.

2.2 Nomenclature

- 2.2.1 Plant nomenclature in this report follows Stace (2019) for native and naturalised species of vascular plants. Plant names in the text are given with scientific names first, followed by the English name in brackets. Introduced species and garden varieties were identified using the relevant texts. Where applicable, doubtful identifications are preceded by 'cf.' placed before the specific epithet where the plant is very probably the species indicated, but it is impossible to distinguish it from similar members of the genus with certainty. Nomenclature for any mosses and liverworts follow Atherton et al. (2010). Names of National Vegetation Classification (NVC) communities and subcommunities follow British Plant Communities: volume 1 (Rodwell 1991).

2.3 Survey Limitations

- 2.3.1 Due to ongoing felling works within the Proposed Development, some areas were not accessible and therefore were surveyed from a distance with the aid of binoculars.
- 2.3.2 The survey was focused on areas overlying peat or likely to support ground water dependent ecosystems. Existing forestry plantation or clear fell was not subject to NVC survey. The 2013 Phase 1 survey data were used to target the surveys carried out in 2021 and 2022.
- 2.3.3 Surveyors were unable to access small parts of the access area for health and safety reasons due to the presence of thick vegetation and windblown trees along the access

area making it difficult to carry out an intensive survey. Every effort was made to enter these areas, and this is not thought to affect the robustness of the data collected.

3 RESULTS

3.1 Summary

- 3.1.1 The Proposed Development site is within active forestry operation areas which is heavily disturbed in places and therefore habitats that were present rarely conformed well to any specific NVC community. The habitats identified elsewhere remain largely consistent with the results recorded during the surveys undertaken in August 2013 by MacArthur Green.
- 3.1.2 The main NVC communities identified within the survey area excluding the access area are summarised in Table 1 and are further described below. Figure 8.1.3a and 8.1.3b show the NVC communities identified, whilst Figure 8.1.4 and 8.1.5a and 8.1.5b summaries areas of botanical interest or other areas with GWDTEs, with associated target notes presented in Annex B.

3.2 Habitat Descriptions

- 3.2.1 The following paragraphs summarise the main habitat types present and the NVC communities recorded. Each area has been described with the habitat types outlined in associated tables.

NVC Communities within Turbine Area

- 3.2.2 The main NVC communities identified within the access area are summarised in Table 6Table 6. These are further described below. Figure 8.1.5a and 8.1.5b summaries those areas with GWDTE's within the turbine area. Other areas of botanical interest (labelled 1 – 10 within the turbine area) are shown in Figure 8.1.4 with associated target notes outlined in Annex B.

Table 1: NVC Communities within the Turbine Area

NVC Classification	Vegetation Type
Broad habitat types (not subject to NVC survey)	
BW	Broad leaved woodland
CP	Conifer plantation
YCP	Young conifer plantation
FC	Felled conifer plantation
SW	Standing water
BG	Bare ground or peat, quarry and haulage roads
NVC code	NVC community name
W2a	<i>Ulex europaeus-Rubus fruticosus</i> scrub.
H9	<i>Calluna vulgaris-Deschampsia flexuosa</i> heath.
S26a	<i>Phragmites australis-Urtica dioica</i> tall-herb fen, <i>Filipendula ulmaria</i> sub-community
S7	<i>Carex acutiformis</i> swamp
S28	<i>Phalaris arundinacea</i> tall-herb fen
U4a	<i>Festuca ovina-Agrostis capillaris-Galium saxatile</i> grassland, typical sub-community
U4e	<i>Festuca ovina-Agrostis capillaris-Galium saxatile</i> grassland
U2	<i>Deschampsia flexuosa</i> grassland
MG10	<i>Holcus lanatus-Juncus effusus</i> rush-pasture

MG9	<i>Holcus lanatus-Deschampsia cespitosa</i> grassland
MG1	<i>Arrhenatherum elatius</i> grassland
MG5	<i>Cynosurus cristatus-Centaurea nigra</i> grassland
M25a	<i>Molinia caerulea-Potentilla erecta</i> mire, <i>Erica tetralix</i> sub-community
M19a	<i>Calluna vulgaris-Eriophorum vaginatum</i> blanket mire, <i>Erica tetralix</i> sub-community
M20	<i>Eriophorum vaginatum</i> blanket and raised mire
M23a	<i>Juncus effusus/acutiflorus-Galium palustre</i> rush-pasture
M27	<i>Filipendula ulmaria-Angelica sylvestris</i> mire
OV25	<i>Urtica dioica-Cirsium arvense</i> community
OV27	<i>Epilobium angustifolium</i> community
U2	<i>Deschampsia flexuosa</i> grassland

Forestry Tracks

- 3.2.3 Existing forestry tracks within the conifer plantation are patchy, with open grassland alongside stone tracks has a mix of mesotrophic (and more rarely, calcicolous depending on the type of track aggregate used) species which merge into more calcifugous habitats further from the tracks. Some of the most common species include *Prunella vulgaris* (Selfheal), *Trifolium repens* (White Clover), *Trifolium dubium* (Lesser Trefoil), *Holcus lanatus* (Yorkshire-fog), *Lotus corniculatus* (Common Bird's-foot-trefoil), *Tussilago farfara* (Colt's-foot), *Pilosella officinarum* (Mouse-ear-hawkweed), *Stellaria graminea* (Lesser Stitchwort), *Arrhenatherum elatius* (False Oat-grass), *Plantago lanceolata* (Ribwort Plantain) and *Festuca rubra* (Red Fescue). Occasionally, common orchids such as *Dactylorhiza fuchsii* (Common Spotted-orchid), *Dactylorhiza maculata* (Heath Spotted-orchid) and *Dactylorhiza purpurella* (Northern Marsh-orchid) are found along with less frequent species such as *Lathyrus linifolius* (Bitter-vetch), *Linum catharticum* (Fairy Flax), *Achillea ptarmica* (Sneezewort) and *Veronica officinalis* (Heath Speedwell).
- 3.2.4 Strips of vegetation between the tracks and the plantation are very variable due to human impacts (notably the presence of ditches, uneven ground, and disturbance). Vegetation types are described in Table 2.

Table 2: NVC Communities between Tracks and Plantation Woodland within the Turbine Area

Area	Vegetation Type
Between existing forestry tracks and woodland	MG9 <i>Holcus lanatus-Deschampsia cespitosa</i> grassland
	MG10 <i>Holcus lanatus-Juncus effusus</i> rush-pasture
	OV27 <i>Epilobium angustifolium</i> community
	M23 <i>Juncus effusus/acutiflorus-Galium palustre</i> rush-pasture
	U4 <i>Festuca ovina-Agrostis capillaris-Galium saxatile</i> grassland
	MG1 <i>Arrhenatherum elatius</i> grassland
	M19a <i>Calluna vulgaris-Eriophorum vaginatum</i> blanket mire, <i>Erica tetralix</i> sub-community
	M25a <i>Molinia caerulea-Potentilla erecta</i> mire, <i>Erica tetralix</i> sub-community
	OV25 <i>Urtica dioica-Cirsium arvense</i> community

Ditches

3.2.5 Within the ditches along the existing forest tracks (often with acid grassland and *Calluna vulgaris* (Heather) on the banks), *Sphagnum fallax* and *Sphagnum palustre* are rarely present, but even when present, they are usually scattered and not particularly abundant. Most of the ditches were damp or dry at the time of the survey. The relevant NVC communities recorded in the ditches are listed in Table 3. Table 2

Table 3: NVC Communities in the Ditches within the Turbine Area

Area	Vegetation Type
Ditches	MG10 <i>Holcus lanatus</i> - <i>Juncus effusus</i> rush-pasture
	M23 <i>Juncus effusus/acutiflorus</i> - <i>Galium palustre</i> rush-pasture
	U4 <i>Festuca ovina</i> - <i>Agrostis capillaris</i> - <i>Galium saxatile</i> grassland

Woodland

3.2.6 The majority of the Proposed Development site comprises mature conifer plantation (almost all monocultures of *Picea sitchensis* (Sitka Spruce) with very little ground flora other than scattered ferns such as *Dryopteris dilatata* (Broad Buckler-fern) and patches of mostly common mosses).

3.2.7 Some areas of young plantation were present within the Proposed Development site. Vegetation underneath the young conifer consisted of, *Calluna vulgaris* (Heather), *Avenella flexuosa* (Wavy Hair-grass) with *Eriophorum vaginatum* (Hare's-tail Cottongrass) which also patchily present. The relevant NVC communities are described below in Table 4.

Table 4: NVC Communities in the Young Plantation within Turbine Area

Area	Vegetation Type
Young Conifer Plantation	MG10 <i>Holcus lanatus</i> - <i>Juncus effusus</i> rush-pasture
	U4 <i>Festuca ovina</i> - <i>Agrostis capillaris</i> - <i>Galium saxatile</i> grassland
	OV27 <i>Epilobium angustifolium</i> community

3.2.8 Felled conifer plantation is located across the Proposed Development site. The community is broadly very similar to the young conifer plantation described above, usually with less vegetation cover and predominance of species which often benefit from disturbance and local compaction such as *Chamaenerion angustifolium* (Rosebay Willowherb) and *Juncus effusus* (Soft Rush).

3.2.9 Areas along burns were much more natural and diverse than the rest of the survey area. The NVC communities are described below in

3.2.10 Table 5.

Table 5: NVC Communities along Burns within the Turbine Area

Area	Vegetation Type
Vegetation along burns and small watercourses	MG1 Arrhenatherum elatius grassland
	MG9 Holcus lanatus-Deschampsia cespitosa grassland
	MG10 Holcus lanatus-Juncus effusus rush-pasture
	M23 Juncus effusus/acutiflorus-Galium palustre rush-pasture
	M27 Filipendula ulmaria-Angelica sylvestris mire
	OV27 Epilobium angustifolium community
	S7 Carex acutiformis swamp
	S28 Phalaris arundinacea tall-herb fen
	W23 Ulex europaeus-Rubus fruticosus scrub

3.2.11 In addition to these habitats, several areas have been planted with broad-leaved saplings such as *Alnus glutinosa* (Alder), *Betula pubescens* (Downy Birch), *Salix cinerea* (Grey Willow) and *Sorbus aucuparia* (Rowan).

NVC Communities within the Access Area

3.2.12 The main NVC communities identified within the access area are summarised in Table 6. These are further described below. Figure 8.1.5a and 8.1.5b summaries those areas with GWDTE's within the access area. Other areas of botanical interest (labelled A – C within the access area) are shown in Figure 8.1.4 with associated target notes outlined in Annex B.

Table 6: Vegetation Communities in the Access Area

NVC Classification	Vegetation Type
Broad habitat types (not subject to NVC survey)	
Hlan	Hlan = Holcus lanatus grassland
Daff	Daff = Dryopteris affinis vegetation
Je	Je = Juncus effusus acid grassland community
CP	Conifer Plantation
BG	Bare ground or peat, quarry and haulage roads
BD	Buildings
NVC code	NVC community name
W3	Salix pentandra-Carex rostrata woodland
W4	Betula pubescens-Molinia caerulea woodland
W7	Alnus glutinosa-Fraxinus excelsior-Lysimachia nemorum woodland
W11	Quercus petraea-Betula pubescens-Oxalis acetosella woodland
W17	<i>Quercus petraea-Betula pubescens-Dicranum majus woodland</i>
W23	Ulex europaeus-Rubus fruticosus agg. scrub
W24	Rubus fruticosus agg-Holcus lanatus underscrub
W25	Pteridium aquilinum-Rubus fruticosus agg underscrub
H9	<i>Calluna vulgaris-Deschampsia flexuosa heath</i>
H12	Calluna vulgaris-Vaccinium myrtillus heath
H21	Calluna vulgaris-Vaccinium myrtillus-Sphagnum capillifolium heath
M6	<i>Carex echinata-Sphagnum fallax/denticulatum mire</i>
M15	Trichophorum cespitosum-Erica tetralix wet heath
M19	Calluna vulgaris-Eriophorum vaginatum blanket mire
M23	Juncus effusus/acutiflorus-Galium palustre rush-pasture
M25	Molinia caerulea-Potentilla erecta mire

M27	Filipendula ulmaria-Angelica sylvestris tall-herb fen
MG1	Arrhenatherum elatius coarse grassland
MG5	Cynosurus cristatus-Centaurea nigra grassland
MG6	Lolium perenne-Cynosurus cristatus pasture
MG10	Holcus lanatus-Juncus effusus rush-pasture
U2	Deschampsia flexuosa grassland
U4	Festuca ovina-Agrostis capillaris-Galium saxatile grassland
U20	Pteridium aquilinum-Galium saxatile community
SB9	Carex rostrata swamp, Menyanthes trifoliata-Equisetum fluviatile sub-community
S12	Typha latifolia reedbed
S14	Sparganium erectum swamp
S19	Eleocharis palustris swamp
A9	Potamogeton natans community
OV24	Urtica dioica - Galium aparine community
OV25	OV25 Urtica dioica - Cirsium arvense community
OV27	OV27 Chamaenerion angustifolium community

3.2.13 The following paragraphs describe the habitats present within the access area.

Woodland

W4 Betula pubescens-Molinia caerulea

3.2.14 A young woodland comprising birch, willow and alder with ground vegetation including *Molinia caerulea*, *Juncus effusus*, *Polytrichum commune*, *Sphagnum fallax*, *S. palustre* and *S. capillifolium* which is scattered widely throughout the access area, on damp to wet ground. At the sub-community level there is *Juncus effusus* sub-community W4b. Some of this woodland includes *Calluna vulgaris* and *Vaccinium myrtillus* and is floristically intermediate between W4 and W17.

W7 Alnus glutinosa-Fraxinus excelsior-Lysimachia nemorum

3.2.15 Damp to wet woodland of alder, willows and birch (and some Sitka spruce), and a ground layer including *Filipendula ulmaria*, *Geum rivale*, *Crepis paludosa*, *Ajuga reptans*, *Juncus effusus*, *Ranunculus repens*, *Ficaria verna*, *Galium aparine*, *Rumex acetosa*, *R. obtusifolius*, *Vicia cracca*, *Galium aparine*, *Arrhenatherum elatius*, *Holcus mollis*, *Anthoxanthum odoratum*, *Cirsium arvense*, *Heracleum sphondylium*, *Dryopteris dilatata*, *Pteridium aquilinum* and the moss *Brachythecium rutabulum*. Locally there is *Urtica dioica* and *Ranunculus repens* (W7a *Urtica dioica* sub-community); *Deschampsia cespitosa* is very abundant in some other places (*D. cespitosa* sub-community W7c).

W11 Quercus petraea-Betula pubescens-Oxalis acetosella

3.2.16 Woodland of birch, rowan, goat willow, grey willow and oak over a ground layer of species including *Holcus mollis*, *Anthoxanthum odoratum*, *Dactylis glomerata*, *Stellaria holostea*, *Ajuga reptans*, *Potentilla erecta*, *Galium saxatile*, *Heracleum sphondylium*, *Tussilago farfara*, *Pteridium aquilinum*, *Dryopteris* spp., *Blechnum spicant* and *Veronica chamaedrys*. This belongs to the *Stellaria holostea-Hypericum pulchrum* sub-community W11d.

W17 *Quercus petraea*-*Betula pubescens*-*Dicranum majus*

- 3.2.17 Widely scattered areas of birch and rowan woodland with a heathy ground layer consisting mainly of *Calluna vulgaris*, *Vaccinium myrtillus* and the mosses *Hypnum jutlandicum* and *Pleurozium schreberi*. Also, less frequently there are other species including *Pteridium aquilinum* and *Molinia caerulea*.

Scrub

W23 *Ulex europaeus*-*Rubus fruticosus* agg.

- 3.2.18 The W23 found here is a form dominated by broom *Cytisus scoparius*. It occurs very patchily (discontinuous narrow strips) along parts of the edges of the forest road.
- 3.2.19 Small patches of bramble *Rubus fruticosus* to the east of the access track located at the most northerly part of the access area.

W25 *Pteridium aquilinum*-*Rubus fruticosus* agg

- 3.2.20 Vegetation with abundant to dominant *Pteridium aquilinum* and a lower layer including *Urtica dioica*, *Galium aparine*, *Rumex acetosa*, *Deschampsia cespitosa*, *Dryopteris dilatata* and *D. affinis* which are found in small patches on widely scattered areas of well-drained ground.

Heath

H9 *Calluna vulgaris*-*Deschampsia flexuosa*

- 3.2.21 Dry heath with a dense canopy of *Calluna vulgaris* accompanied by an abundance of the moss *Hypnum jutlandicum* and less frequently, other species including *Potentilla erecta*, *Galium saxatile*, *Molinia caerulea*, *Dryopteris dilatata* and the mosses *Dicranum scoparium* and *Polytrichum commune*.

H12 *Calluna vulgaris*-*Vaccinium myrtillus*

- 3.2.22 Heath dominated by *Calluna vulgaris*, with some *Vaccinium myrtillus* and abundant mosses including *Hypnum jutlandicum*, *Pleurozium schreberi* and *Hylocomium splendens*. This is the *Calluna vulgaris* sub-community H12a, however, some examples include *V. vitis-idaea* and belong to the *V. vitis-idaea*-*Cladonia portentosa* sub-community H12b. Areas of H12 are scattered widely throughout the access area, occupying well-drained ground.

H21 *Calluna vulgaris*-*Vaccinium myrtillus*-*Sphagnum capillifolium*

Heath with a dense canopy of Calluna vulgaris accompanied by abundant mosses including Hypnum jutlandicum, Poytrichum commune and Sphagnum capillifolium and

less frequently with other vascular species including *Potentilla erecta*, *Galium saxatile*, *Molinia caerulea*, *Dryopteris dilatata*, *Blechnum spicant* and *Vaccinium myrtillus*.

M15 *Trichophorum cespitosum*-*Erica tetralix*

- 3.2.23 This is wet heath containing abundant *Calluna vulgaris* and *Molinia caerulea*, and other species including *Potentilla erecta*, *Avenella flexuosa*, *Holcus mollis*, *Dryopteris dilatata*, *Hypnum jutlandicum*, *Polytrichum commune*, *P. strictum* and *Sphagnum capillifolium*. Areas of this community include the sub-community M15b and are widely but sparsely scattered here on damp peaty ground. In some places, mainly in the most southernly part of the access area but also in a heath, bog and rush mosaic at the extreme northern end, there is a similar flora in addition to *Vaccinium myrtillus*: this is the *V. myrtillus* sub-community M15d.

Mire

M6 *Carex echinata*-*Sphagnum fallax/denticulatum*

- 3.2.24 The M6 mires here are of the rush-dominated types. Most of them are of the *Juncus effusus* sub-community M6c, in which tussocks of *Juncus effusus* grow abundantly among carpets of mosses including *Sphagnum fallax*, *S. palustre*, *S. capillifolium* and *Polytrichum commune*, and other vascular plants including *Rumex acetosa*, *R. obtusifolius*, *Galium saxatile*, *Cirsium palustre* and (sparse and local) *Eriophorum vaginatum*. Small areas of M6c are scattered on wet ground in the central and northern parts of the access area. Parts of a rushy and heathy vegetation mosaic on wet, level ground in the northwest are of the *Juncus acutiflorus* sub-community M6d, which is similar to M6c but with *Juncus acutiflorus* as the main rush species.

M19 *Calluna vulgaris*-*Eriophorum vaginatum*

- 3.2.25 Tussocky bog vegetation consisting mainly of *Calluna vulgaris*, *Eriophorum vaginatum* and mosses such as *Hypnum jutlandicum*, *Pleurozium schreberi*, *Hylocomium splendens*, *Polytrichum commune* and *Sphagnum capillifolium*. Small amounts of *Erica tetralix* are present in places, indicative of the *E. tetralix* sub-community M19a.

M25 *Molinia caerulea*-*Potentilla erecta* mire

- 3.2.26 Vegetation consisting mainly of tussocks of *Molinia caerulea*. Other species include *Calluna vulgaris*, *Erica tetralix*, *Eriophorum vaginatum* and mosses such as *Hypnum jutlandicum*, *Sphagnum capillifolium*, *S. fallax* and *Polytrichum commune*. The flora places the vegetation into the *Erica tetralix* sub-community M25a.

Pasture

MG6 *Lolium perenne*-*Cynosurus cristatus* pasture

- 3.2.27 Species-poor agriculturally improved grassland containing much *Lolium perenne*. In fields in the north of the access area.

Rush Pasture

M23 *Juncus effusus/acutiflorus-Galium palustre*

- 3.2.28 Rushy vegetation with abundant to dominant *Juncus acutiflorus* (*J. acutiflorus* sub-community M23a) or *J. effusus* (*J. effusus* sub-community M23b) and a herb-rich accompanying flora including *Filipendula ulmaria*, *Angelica sylvestris*, *Lathyrus pratensis*, *Cirsium palustre*, *Rumex acetosa*, *Poa trivialis*, *Holcus lanatus*, *Caltha palustris*, *Valeriana officinalis*, *Ajuga reptans*, *Geum rivale* and mosses such as *Calliergonella cuspidata*, *Brachythecium rutabulum* and *Rhizomnium punctatum*.

MG10 *Holcus lanatus-Juncus effusus*

- 3.2.29 Rushy grassland with abundant *Juncus effusus* and *Holcus lanatus* and other species including *Rumex acetosa* and *Ranunculus repens*. This belongs to the sub-community MG10a.

M27 *Filipendula ulmaria-Angelica sylvestris* tall-herb fen

- 3.2.30 Herb-dominated vegetation with very abundant *Filipendula ulmaria* accompanied by other species including *Valeriana officinalis*, *Juncus acutiflorus*, *Urtica dioica*, *Rumex obtusifolius*, *Ficaria verna* and *Stellaria holostea*. This community is present on damp ground in the valley in the north of the access area.

Grassland

MG1 *Arrhenatherum elatius coarse*

- 3.2.31 Species-poor tall neutral grassland with abundant *Arrhenatherum elatius*, *Dactylis glomerata* and *Holcus lanatus*. Local in the central and northern parts of the access area.

MG5 *Cynosurus cristatus-Centaurea nigra*

- 3.2.32 Herb-rich neutral grassland with species including *Holcus lanatus*, *Agrostis capillaris*, *Anthoxanthum odoratum*, *Trifolium pratense*, *Veronica chamaedrys*, *Hypochaeris radicata*, *Plantago lanceolata*, *Lotus corniculatus*, *Vicia sativa*, *Rhinanthus minor*, *Cerastium fontanum* and *Tussilago farfara*. At sub-community level this fits best into the *Lathyrus pratensis* sub-community MG5a.

U2 *Deschampsia flexuosa*

- 3.2.33 Acid grassland dominated by *Avenella flexuosa* (formerly called *Deschampsia flexuosa*). Small areas in association with H12 heath and U20 bracken on well-drained ground to the northwest of the road in the central part of the access area.

U4 *Festuca ovina-Agrostis capillaris-Galium saxatile*

- 3.2.34 Acid grassland with species including *Agrostis capillaris*, *Anthoxanthum odoratum*, *Festuca rubra*, *Potentilla erecta*, *Galium saxatile*, *Luzula multiflora*, *L. pilosa*, *Veronica chamaedrys* and the moss *Rhytidiadelphus squarrosus*. Other herbs include *Stellaria holostea*, *Ajuga reptans*, *Viola riviniana* and *Angelica sylvestris*. *Holcus lanatus* and

Trifolium repens which are common in places (*Holcus lanatus*-*Trifolium repens* makes up the sub-community U4b), less frequently the sub-community comprises U4a.

Reedbed

S12 *Typha latifolia* reedbed

- 3.2.35 Species-poor swamp vegetation with abundant to dominant *Typha latifolia*. Found in the small pond in the north of the access area.

Swamp

S14 *Sparganium erectum*

- 3.2.36 Species-poor swamp vegetation with dominant *Sparganium erectum*. Found in the small pond in the north of the access area.

S19 *Eleocharis palustris*

- 3.2.37 Species-poor swamp vegetation with abundant *Eleocharis palustris*. Found in the small pond in the north of the access area.

Other

U20 *Pteridium aquilinum*-*Galium saxatile* community

- 3.2.38 This is the main type of bracken-dominated vegetation within the access area. Beneath the bracken *Pteridium aquilinum* the vegetation varies from a grassy sward including *Agrostis capillaris*, *Anthoxanthum odoratum*, *Potentilla erecta*, *Galium saxatile*, *Oxalis acetosella*, *Stellaria holostea*, *Luzula multiflora*, *L. pilosa*, *Filipendula ulmaria* and *Geum rivale* (*Anthoxanthum odoratum* sub-community U20a to more heathy assemblages including *Calluna vulgaris* and *Vaccinium myrtillus* (*Vaccinium myrtillus*-*Dicranum scoparium* sub-community U20b).

A9 *Potamogeton natans* community

- 3.2.39 Aquatic vegetation with abundant *Potamogeton natans*. Found in the small pond in the north of the access area.

OV24 *Urtica dioica* – *Galium aparine* community

- 3.2.40 Weedy vegetation consisting mainly of *Urtica dioica* and *Galium aparine*, and including some *Rumex obtusifolius*, *R. acetosa*, *Heracleum sphondylium*, *Filipendula ulmaria* and *Carex pendula*. Found in two places within the north of the access area, where it appears to indicate localized nutrient-enrichment of the soils.

OV25 *Urtica dioica* – *Cirsium arvense* community

- 3.2.41 Patches of *Urtica dioica* and *Cirsium arvense* found in a few places where there appears to have been some ground disturbance and/or nutrient-enrichment.

OV27 *Chamaenerion angustifolium* community

- 3.2.42 Small patches of *Chamaenerion angustifolium* scattered among young developing woodland on previous (felled) conifer plantation in the west of the access area.

Non-NVC Communities within the Turbine and Access Areas

Grassland

Hlan = *Holcus lanatus*

- 3.2.43 Grassland with abundant to dominant *Holcus lanatus*. Other species present include *Ranunculus repens*, *Trifolium medium*, *Anthoxanthum odoratum*, *Festuca rubra*, *Conopodium majus*, *Juncus effusus*, *Veronica chamaedrys*, *Cirsium vulgare*, *Angelica sylvestris*, *Centaurea nigra*, *Lathyrus linifolius* and *Galium album*. Less frequently there is also bracken (U20/W25), *Molinia* (M25), *Calluna* heath (H12), rush vegetation (M23/MG10) and tall neutral grassland (MG1) found in several places in mosaics.

Daff = *Dryopteris affinis* vegetation

- 3.2.44 Vegetation consisting mainly of tussocks of the fern *Dryopteris affinis*. A small area found to the southern end of the access area, in a mosaic with heath, bracken, rushes and woodland.

Je = *Juncus effusus* acid grassland community

- 3.2.45 Vegetation in which tussocks of the rush *Juncus effusus* are abundant to dominant and accompanied by an assemblage of MG10. There is also acid grassland species such as *Potentilla erecta* and *Galium saxatile*. This community is widespread in felled plantation areas and in some other open situations.

Conifers

- 3.2.46 Extensive areas of conifer plantation, some of which include young trees. Some young conifer habitat appears to be self-sown colonisation and not plantation.

Bare Ground

- 3.2.47 An area of bare ground and log piles immediately to the west of the forest road in the southern section of the access area.

Existing Forestry Tracks

- 3.2.48 The existing forestry tracks running through the access area, mainly within forestry. It includes the roadsides, which are variably vegetated with elements or fragments of U4b, MG1, MG5, MG10 and patches of broom (a form of W23 *Ulex europaeus-Rubus fruticosus* agg scrub).

Building

- 3.2.49 The barn located to the west of the track in the north of the access area. The area mapped as 'Building' also includes adjacent ground between the building and the track and extending a short distance south along the western edge of the track.

Habitats of Botanical Interest within Turbine and Access Area

- 3.2.50 Figure 8.1.4 identifies where areas of botanical interest have been identified (numbered 5-10 and A – C).

Area 5

- 3.2.51 A mix of acid grassland which includes a variety of sedges, orchids and Sphagnum moss (Target Notes 2 and 3) and includes the following NVC communities:
- *U4 Festuca ovina-Agrostis capillaris-Galium saxatile grassland*;
 - *U2 Deschampsia flexuosa grassland*;
 - *M23a Juncus effusus/acutiflorus-Galium palustre rush-pasture*; and
 - *Juncus acutiflorus sub-community*.

Area 6

- 3.2.52 The quarry with open mosaic habitat, including vegetated pools (Target Note 5).

Area 7

- 3.2.53 A small area of trackside vegetation which is a mosaic and includes the following NVC communities:
- *MG9 Holcus lanatus-Deschampsia cespitosa grassland*;
 - *U4 Festuca ovina-Agrostis capillaris-Galium saxatile grassland*; and,
 - *more unusually, vegetation with a similar composition to M19 Calluna vulgaris-Eriophorum vaginatum blanket mire*.

Area 8

- 3.2.54 An area with a good cover of *Calluna vulgaris* (Heather) and vegetation. However, most of the area is still slightly mixed with patches of dense *Pteridium aquilinum* (Bracken) and *Picea sitchensis* (Sitka Spruce) saplings (Target Notes 28 and 29). Area 8 includes the following NVC communities:
- *M25a Molinia caerulea-Potentilla erecta mire*;
 - *Erica tetralix sub-community*;
 - *M19a Calluna vulgaris-Eriophorum vaginatum blanket mire, Erica tetralix sub-community*; and,
 - *MG10 Holcus lanatus-Juncus effusus rush-pasture*.

Area 9

- 3.2.55 An area with occasional small pools with aquatic vegetation (Target Note 34).

Area 10

- 3.2.56 A pond with a variety of marginal vegetation (Target Note 37).

Area A

- 3.2.57 Varied habitat mosaic including wetland, grassland, woodland and pond. Although, vulnerability to this habitat is low given that the access route follows the course of the existing road.

Area B

- 3.2.58 Potential sensitivity where the access route through area of rush mire, Molinia mire and damp heath. Young developing woodland to the north east of the section B should be avoided where practicably possible. Construction works within this area will need be undertaken with care to the habitats in order to minimise disruption to the wetland habitats and hydrology.

Area C

- 3.2.59 An area with a mix of semi-natural habitats: native woodland along the stream, acid grassland and bracken are present to the north of the stream, and neutral grassland and rushy vegetation are present to the south of the stream. Construction works within this area will need be undertaken with care to the habitats in order to minimise disruption to the wetland habitats and hydrology.

4 EVALUATION AND RECOMMENDATIONS

4.1 Evaluation of NVC Communities Recorded

Turbine Area

- 4.1.1 Much of the turbine area is of low botanical interest especially within the extensive areas of standing and felled conifer plantation with more diverse habitats largely found along the margins of forestry rides and tracks in addition to along sections of Jed Water.
- 4.1.2 The NVC survey identified a number of areas of botanical interest, those which are of the most natural or semi-natural character include **Area 5 – Area 10** and include the following habitat types:
- A mix of acid grassland.
 - The quarry to the east of the Turbine Area with open mosaic habitat, including vegetated pools.
 - A small area of trackside vegetation which is a mosaic.
 - An area of at the edge of the Turbine Area to the northeast with a good cover of heather, bracken and sitka spruce.
 - An area with occasional small pools with aquatic vegetation.
 - A pond with a variety of marginal vegetation.
- 4.1.3 The following NVC communities identified are classed as GWDTEs and are of concern by SEPA (2012) in relation to the Proposed Development (* = classed as highly groundwater-dependent; the remainder classed as moderately groundwater dependent) (SEPA, 2017):
- M23 *Juncus effusus/acutiflorus-Galium palustre* rush-pasture *
 - M25a *Molinia caerulea-Potentilla erecta* mire, *Erica tetralix* sub-community
 - M27 *Filipendula ulmaria-Angelica sylvestris* tall-herb fen
 - MG9 *Holcus lanatus-Deschampsia cespitosa* grassland
 - MG10a *Holcus lanatus-Juncus effusus* rush-pasture, Typical sub-community
 - S7 *Carex acutiformis* swamp.
- 4.1.4 The following non-NVC communities would also qualify for GWDTE status:
- Je *Juncus effusus* ‘acid marshy grassland’ community
 - Ja1 *Juncus acutiflorus* ‘acid marshy grassland’ community
 - Ja2 *Juncus acutiflorus* ‘wet heath’ community
 - WW (wet willow woodland not seen close enough to allow NVC determination)
- 4.1.5 A proportion of the habitats and communities recorded across the survey area, whilst considered to be groundwater dependent based on the above classification are actually

more likely to be fed by surface water or are ombrotrophic (rain fed only) given the terrain and topography of where many of the communities were recorded.

4.1.6 A number of Habitats Directive (92/43/EEC) Annex I habitats occur within the survey area as follows:

- Blanket Bog:
 - *M17 Trichophorum germanicum-Eriophorum vaginatum* blanket mire.
 - *M19 Calluna vulgaris – Eriophorum vaginatum* blanket mire.
 - *M20 Eriophorum vaginatum* blanket mire.
 - *M25 Molinia caerulea – Potentilla erecta* mire.
- North Atlantic Wet Heath:
 - *M15d Trichophorum germanicum – Erica tetralix* wet heath.
- Alluvial forests with *Alnus glutinosa* and *Fraxinus excelsior*:
 - *W7 Alnus glutinosa-Fraxinus excelsior-Lysimachia nemorum* woodland.

4.1.7 The M17, M19 and M20 bogs are also wetlands but are not classed as GWDTE habitats because they are ombrotrophic - rain-fed and not groundwater-fed. However, these are still habitats of significance as Scotland is of international importance for blanket bog, containing a substantial proportion of the total world extent of this habitat. Bogs should also be considered wherever the Proposed Development works includes cutting into the soils; cutting into the deep, wet peat of blanket bog habitats can produce ecologically adverse effects of physical instability and carbon release.

4.1.8 The M17, M19, M20, and M25 mire within the survey area constitute Annex I blanket bog habitats.

4.1.9 Annex I blanket bogs should also be considered wherever proposals include cutting into the peat and this should be minimized as far as possible, and where it is unavoidable restricted to the shallower peat areas.

Access Area

4.1.10 Generally, botanical interest within the access area is considered low or the habitats appear at least moderately robust in terms of their hydrology. Therefore, it is considered that the access area will not be of great concern in relation to botanical interest. However, there are a few areas that appear more sensitive because of their higher botanical interest, good habitat diversity or habitat wetness.

4.1.11 The NVC of the access area from the A6088 identified a number of areas of botanical interest, those which are of the most natural or semi-natural character include **Area A – Area C** (Figure 8.1.4) and include the following:

- Mosaic including grassland and woodland
- An area of wetland including rush mire, molinia mire and damp heath.
- An area with a mix of semi-natural habitats including native woodland along the banks of the Black Burn.
- A mix of acid and neutral grassland

- Bracken present north of Black Burn with rushy vegetation along the south bank.
- A pond with a variety of marginal vegetation and aquatic vegetation.

4.1.12 The following NVC communities identified within the access area (see Figure 8.1.3a and 8.1.3b) are classed as GWDTEs and are of concern by SEPA (2012) in relation to the Proposed Development (* = classed as highly groundwater-dependent; the remainder classed as moderately groundwater dependent) (SEPA, 2017):

- W3 - *Salix pentandra-Carex rostrata* woodland
- W4 *Betula pubescens-Molinia caerulea* woodland - GWDTE status seems unlikely for young W4 developing on previous felled plantation *
- W7 *Alnus glutinosa-Fraxinus excelsior-Lysimachia nemorum* woodland *
- M6 *Carex echinata-Sphagnum fallax/denticulatum* mire*
- M15 *Trichophorum cespitosum-Erica tetralix* wet heath
- M23 *Juncus effusus/acutiflorus-Galium palustre* rush-pasture*
- M25 *Molinia caerulea-Potentilla erecta* mire
- M27 *Filipendula ulmaria-Angelica sylvestris* tall-herb fen
- MG10 *Holcus lanatus-Juncus effusus* rush-pasture

4.2 Recommendations for NVC Communities Recorded

- 4.2.1 The design evolution of turbine locations avoids the areas of botanical interest identified being located within forestry or clear fell.
- 4.2.2 Access tracks and other infrastructure should look to avoid areas of botanical interest where possible (Figure 8.1.4) in particular the areas of bog habitat, the communities M17, M19, M20, and M25 habitats (see Figure 8.1.3a and 8.1.3b for location of specific NVC communities).
- 4.2.3 Where access tracks are required to cross area of bog habitat specific working methods and mitigation measures are likely to be required.
- 4.2.4 The results of the vegetation and habitat assessment has informed the hydrology chapter (**Chapter 10**). Mitigation measures to safeguard botanically interesting areas in addition to GWDTEs have been outlined in **Technical Annex 10.3**.
- 4.2.5 There are also opportunities for enhancement within the Proposed Development. These have been informed by the forestry management plan and stakeholder consultation and are detailed in the Outline Habitat Management Plan (OHMP) **Technical Annex 8.5** with reference to the creation and management of these areas.

Proposed Enhancement of Botanically Interesting Areas

- 4.2.6 Areas of botanical interest were identified within the Proposed Development and within the access area. An OHMP (**Technical Annex 8.5**) has been created to discuss the potential enhancement, creation and management of these areas which has been informed by the wind farm felling and restocking plans included in **Chapter 17: Forestry**.

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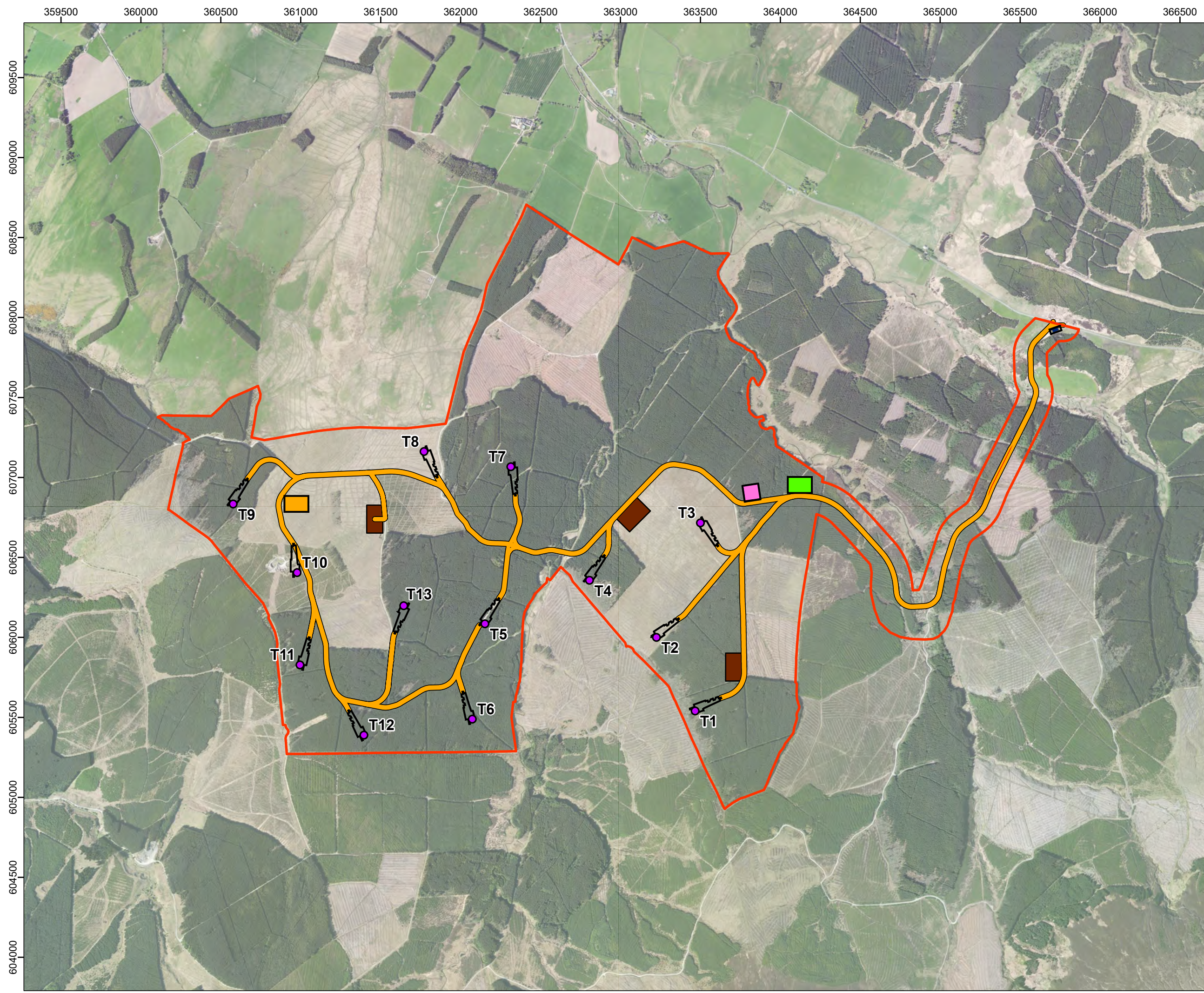
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FIGURES



- Legend:**
- Application Boundary
 - Turbine Locations
 - Access Tracks
 - Hardstands
 - Borrow Pit Search Areas
 - Temporary Turbine Layover Area
 - Mobilisation Compound (70m x 30m)
 - Construction Compound (100m x 100m)
- Substation (150m x 100m)**
- Preferred Substation Option
 - Alternate Substation Option



Rev	Date	Description	Drn	Chk	App
00	11/11/2022	2481817	TG	SP	KF

Millmoor Rig Wind Farm




RSK
biocensus
EXPERTS IN ECOLOGY

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Technical Appendix 8.1 - Habitats and Vegetation
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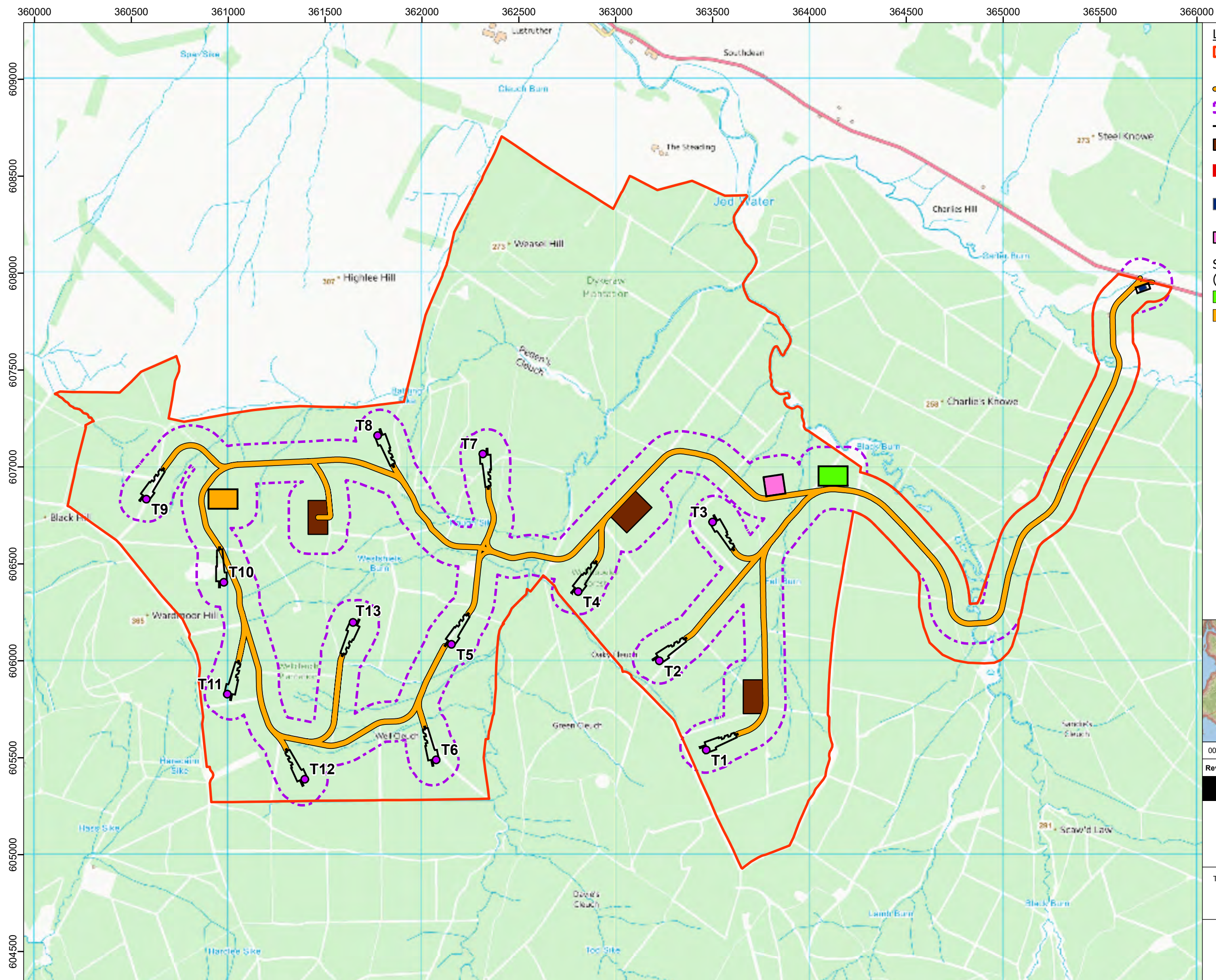
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- Legend:**
- Application Boundary
 - Turbine Locations
 - Access Tracks
 - 100m Infrastructure Buffer
 - Hardstands
 - Borrow Pit Search Areas
 - Temporary Turbine Layover Area
 - Mobilisation Compound (70m x 30m)
 - Construction Compound (100m x 100m)
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 - Preferred Substation Option
 - Alternate Substation Option



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Millmoor Rig Wind Farm




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EXPERTS IN ECOLOGY

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Technical Appendix 8.1 - Habitats and Vegetation
Survey Area Including the Application
Boundary and Associated Buffers

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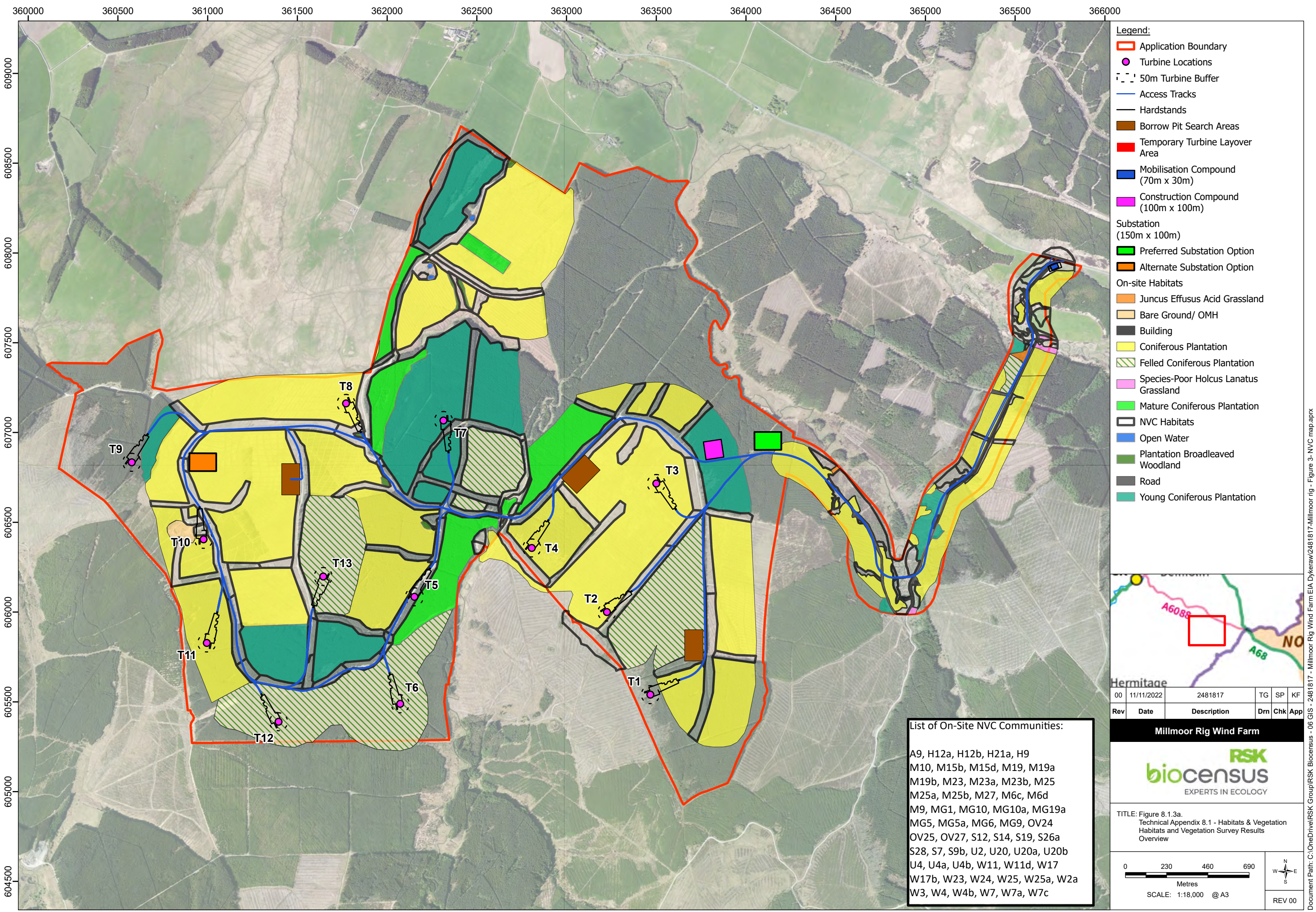
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- Legend:**
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 - Turbine Locations
 - 50m Turbine Buffer
 - Access Tracks
 - Hardstands
 - Borrow Pit Search Areas
 - Temporary Turbine Layover Area
 - Mobilisation Compound (70m x 30m)
 - Construction Compound (100m x 100m)
- Substation (150m x 100m)**
- Preferred Substation Option
 - Alternate Substation Option
- On-site Habitats**
- Juncus Effusus Acid Grassland
 - Bare Ground/ OMH
 - Building
 - Coniferous Plantation
 - Felled Coniferous Plantation
 - Species-Poor Holcus Lanatus Grassland
 - Mature Coniferous Plantation
 - NVC Habitats
 - Open Water
 - Plantation Broadleaved Woodland
 - Road
 - Young Coniferous Plantation



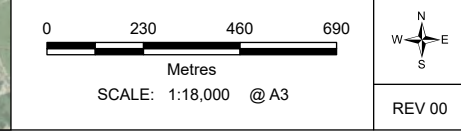
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Millmoor Rig Wind Farm

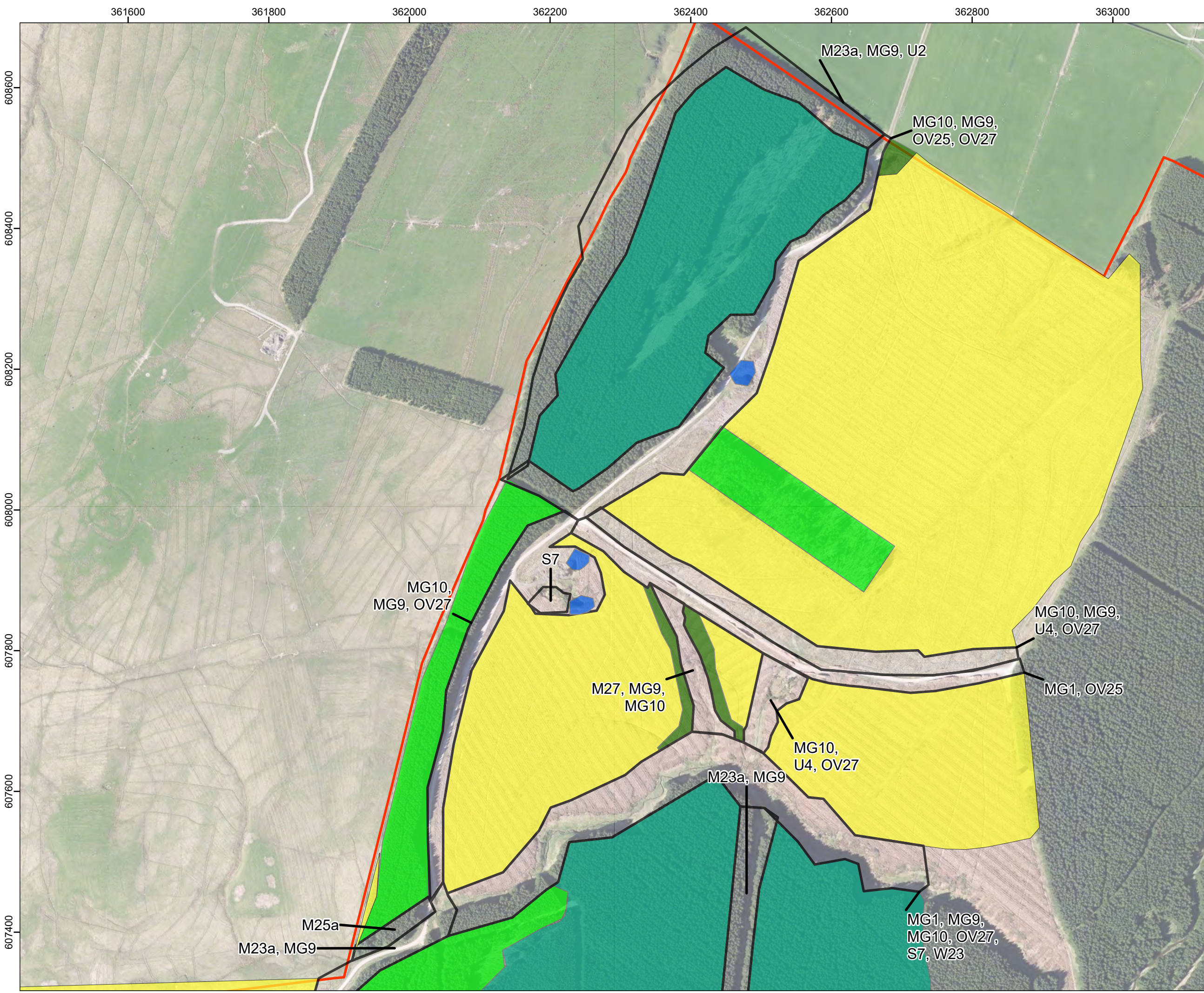


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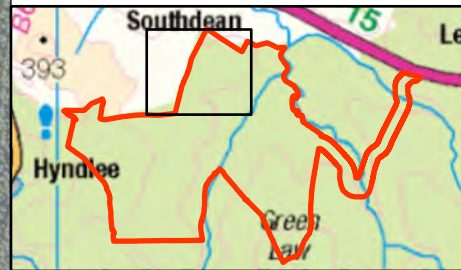
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 Technical Appendix 8.1 - Habitats & Vegetation
 Habitats and Vegetation Survey Results
 Overview



- List of On-Site NVC Communities:**
- A9, H12a, H12b, H21a, H9
 - M10, M15b, M15d, M19, M19a
 - M19b, M23, M23a, M23b, M25
 - M25a, M25b, M27, M6c, M6d
 - M9, MG1, MG10, MG10a, MG19a
 - MG5, MG5a, MG6, MG9, OV24
 - OV25, OV27, S12, S14, S19, S26a
 - S28, S7, S9b, U2, U20, U20a, U20b
 - U4, U4a, U4b, W11, W11d, W17
 - W17b, W23, W24, W25, W25a, W2a
 - W3, W4, W4b, W7, W7a, W7c



- Legend:**
- Application Boundary
 - On-site Habitats**
 - Coniferous Plantation
 - Mature Coniferous Plantation
 - NVC Habitats
 - Open Water
 - Plantation Broadleaved Woodland
 - Young Coniferous Plantation

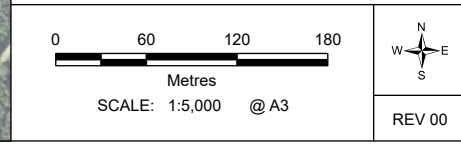


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Millmoor Rig Wind Farm

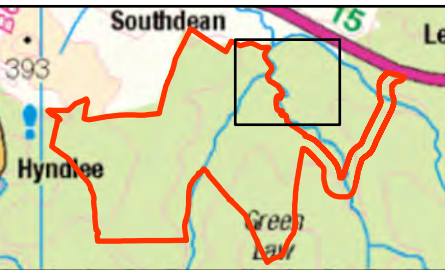


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 Technical Appendix 8.1 - Habitats & Vegetation
 Habitats and Vegetation Survey Results
 Page 1 of 9





- Legend:**
- Application Boundary
 - On-site Habitats**
 - Coniferous Plantation
 - NVC Habitats

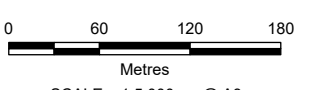


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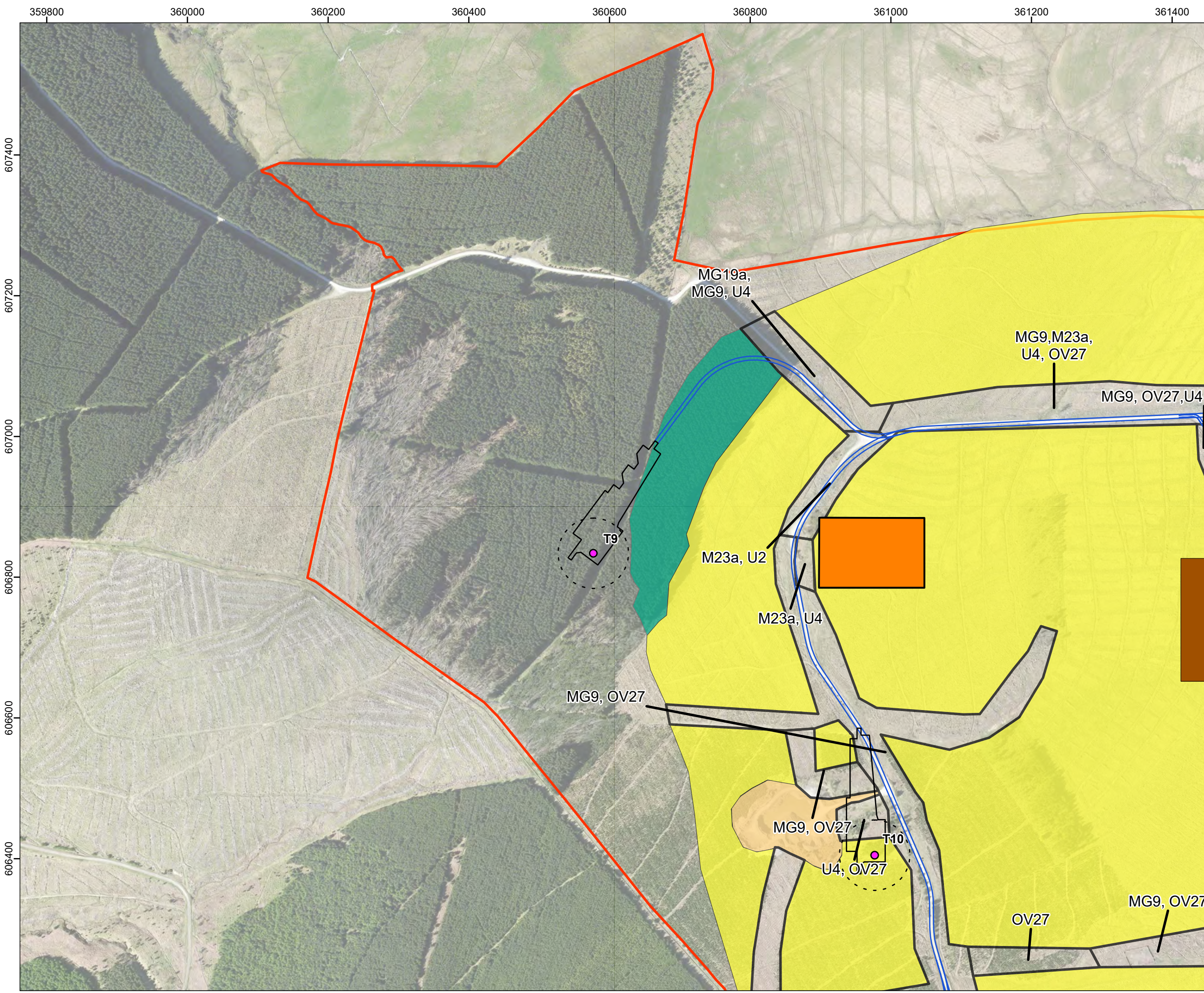
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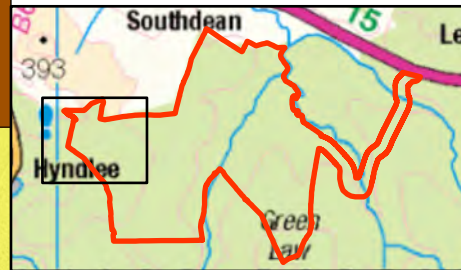
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 Technical Appendix 8.1 - Habitats & Vegetation
 Habitats and Vegetation Survey Results
 Page 2 of 9



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- Legend:**
- Application Boundary
 - Turbine Locations
 - 50m Turbine Buffer
 - Access Tracks
 - Hardstands
 - Borrow Pit Search Areas
- Substation
(150m x 100m)**
- Alternate Substation Option
- On-site Habitats**
- Bare Ground/ OMH
 - Coniferous Plantation
 - NVC Habitats
 - Young Coniferous Plantation



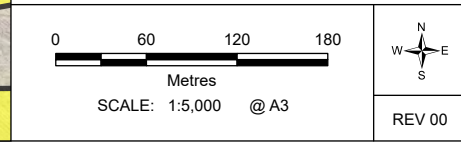
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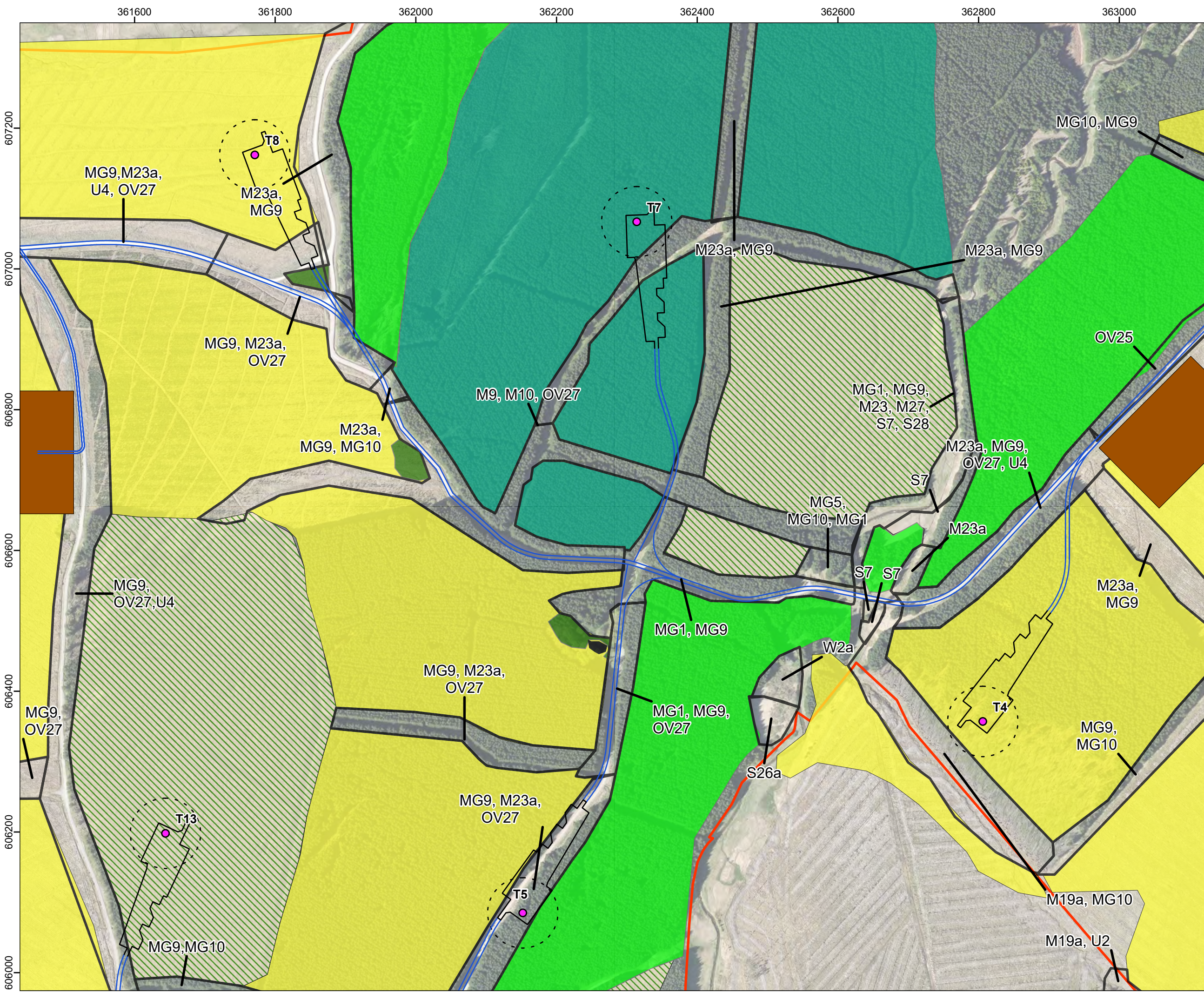
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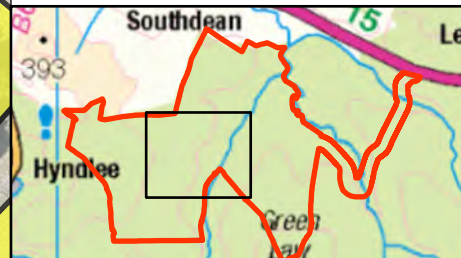
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TITLE: Figure 8.1.3b.
 Technical Appendix 8.1 - Habitats & Vegetation
 Habitats and Vegetation Survey Results
 Page 3 of 9





- Legend:**
- Application Boundary
 - Turbine Locations
 - 50m Turbine Buffer
 - Access Tracks
 - Hardstands
 - Borrow Pit Search Areas
- On-site Habitats**
- Building
 - Coniferous Plantation
 - Felled Coniferous Plantation
 - Mature Coniferous Plantation
 - NVC Habitats
 - Plantation Broadleaved Woodland
 - Young Coniferous Plantation

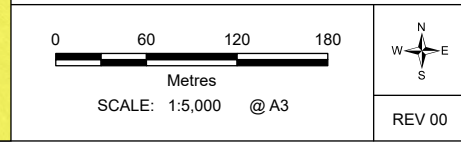


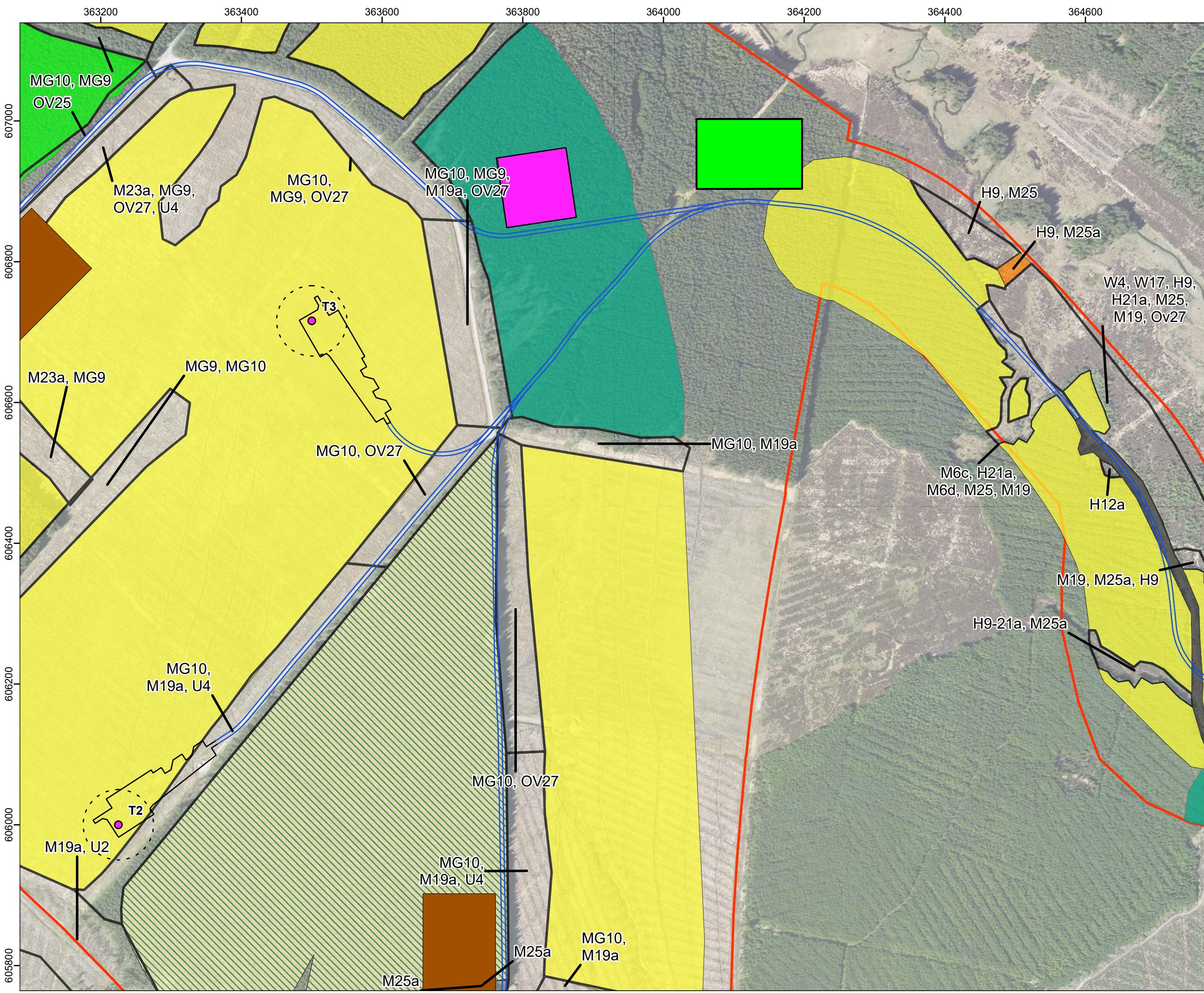
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Millmoor Rig Wind Farm

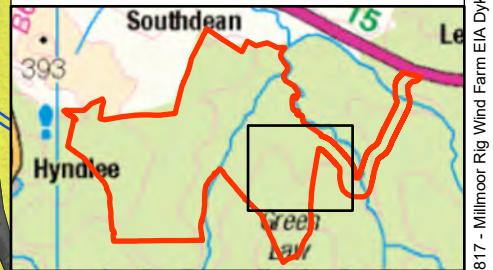
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 Technical Appendix 8.1 - Habitats & Vegetation
 Habitats and Vegetation Survey Results
 Page 4 of 9





- Legend:**
- Application Boundary
 - Turbine Locations
 - 50m Turbine Buffer
 - Access Tracks
 - Hardstands
 - Borrow Pit Search Areas
 - Construction Compound (100m x 100m)
- Substation (150m x 100m)**
- Preferred Substation Option
- On-site Habitats**
- Juncus Effusus Acid Grassland
 - Coniferous Plantation
 - Felled Coniferous Plantation
 - Mature Coniferous Plantation
 - NVC Habitats
 - Road
 - Young Coniferous Plantation



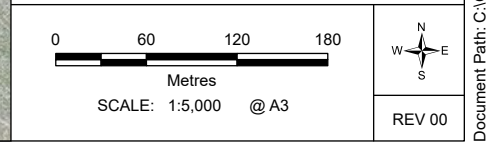
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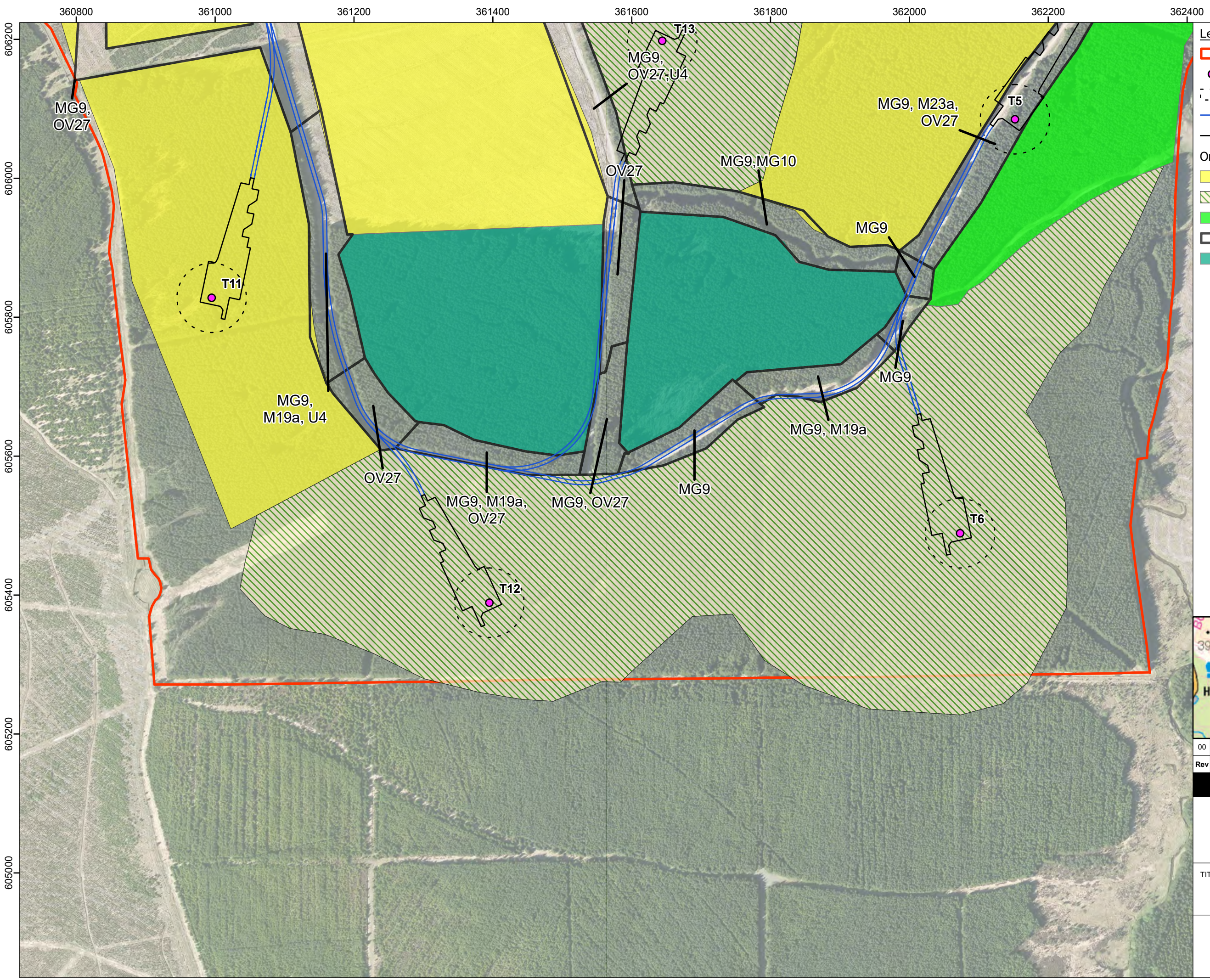
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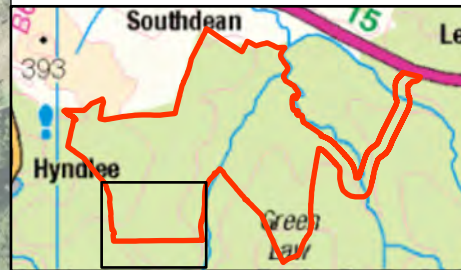
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 Technical Appendix 8.1 - Habitats & Vegetation
 Habitats and Vegetation Survey Results
 Page 5 of 9





- Legend:**
- Application Boundary
 - Turbine Locations
 - 50m Turbine Buffer
 - Access Tracks
 - Hardstands
- On-site Habitats**
- Coniferous Plantation
 - Felled Coniferous Plantation
 - Mature Coniferous Plantation
 - NVC Habitats
 - Young Coniferous Plantation

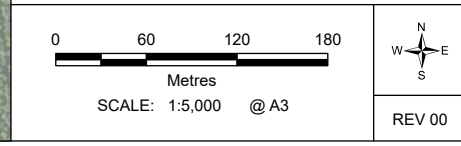


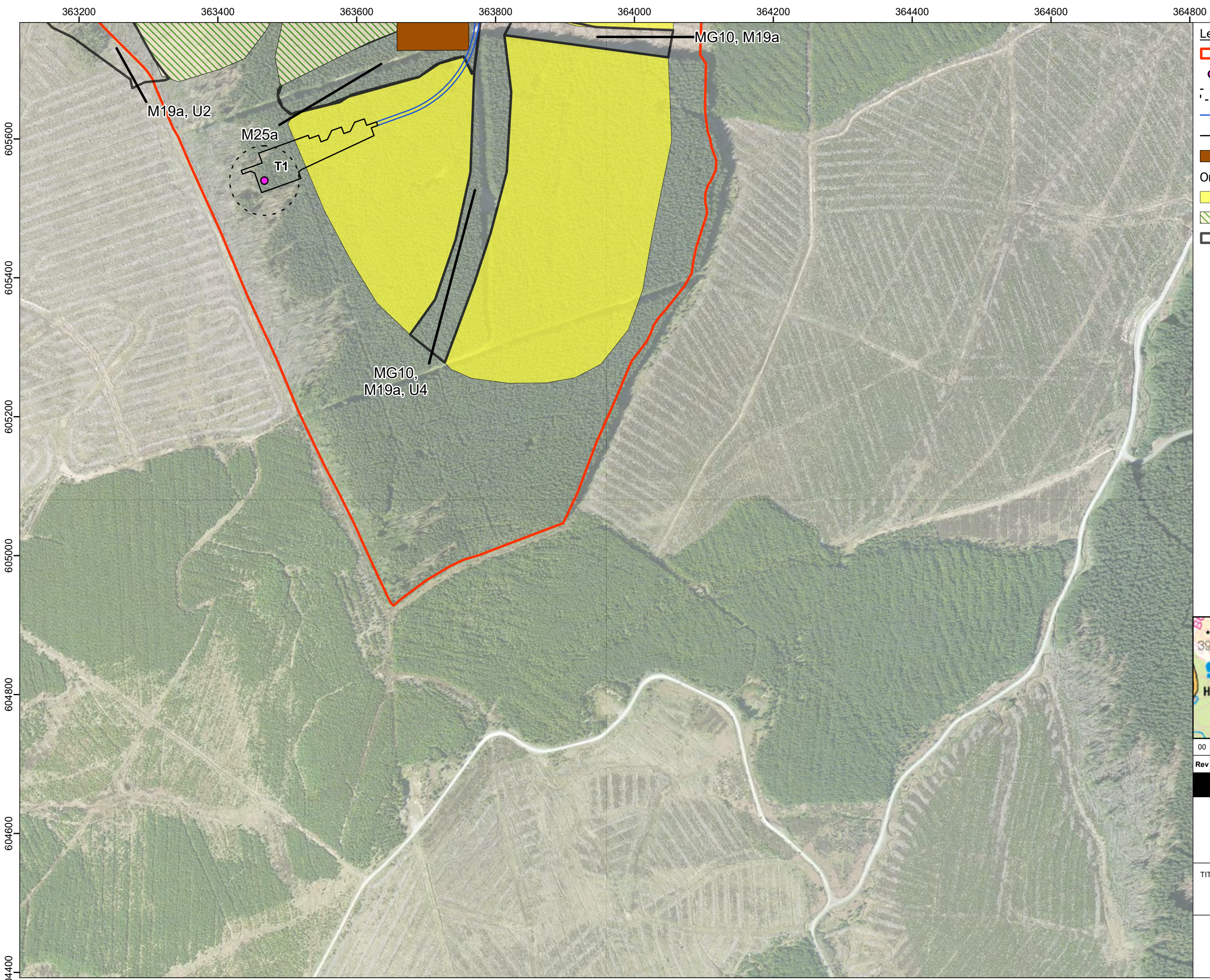
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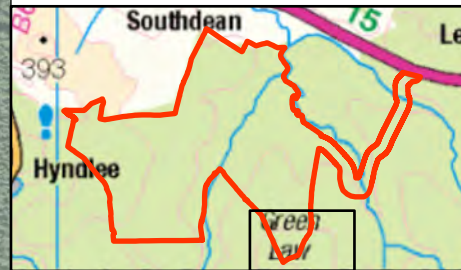


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 Technical Appendix 8.1 - Habitats & Vegetation
 Habitats and Vegetation Survey Results
 Page 6 of 9





- Legend:**
- Application Boundary
 - Turbine Locations
 - 50m Turbine Buffer
 - Access Tracks
 - Hardstands
 - Borrow Pit Search Areas
- On-site Habitats**
- Coniferous Plantation
 - Felled Coniferous Plantation
 - NVC Habitats

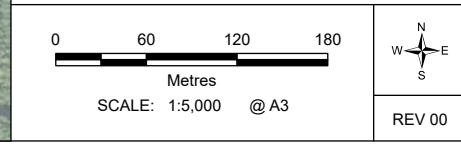


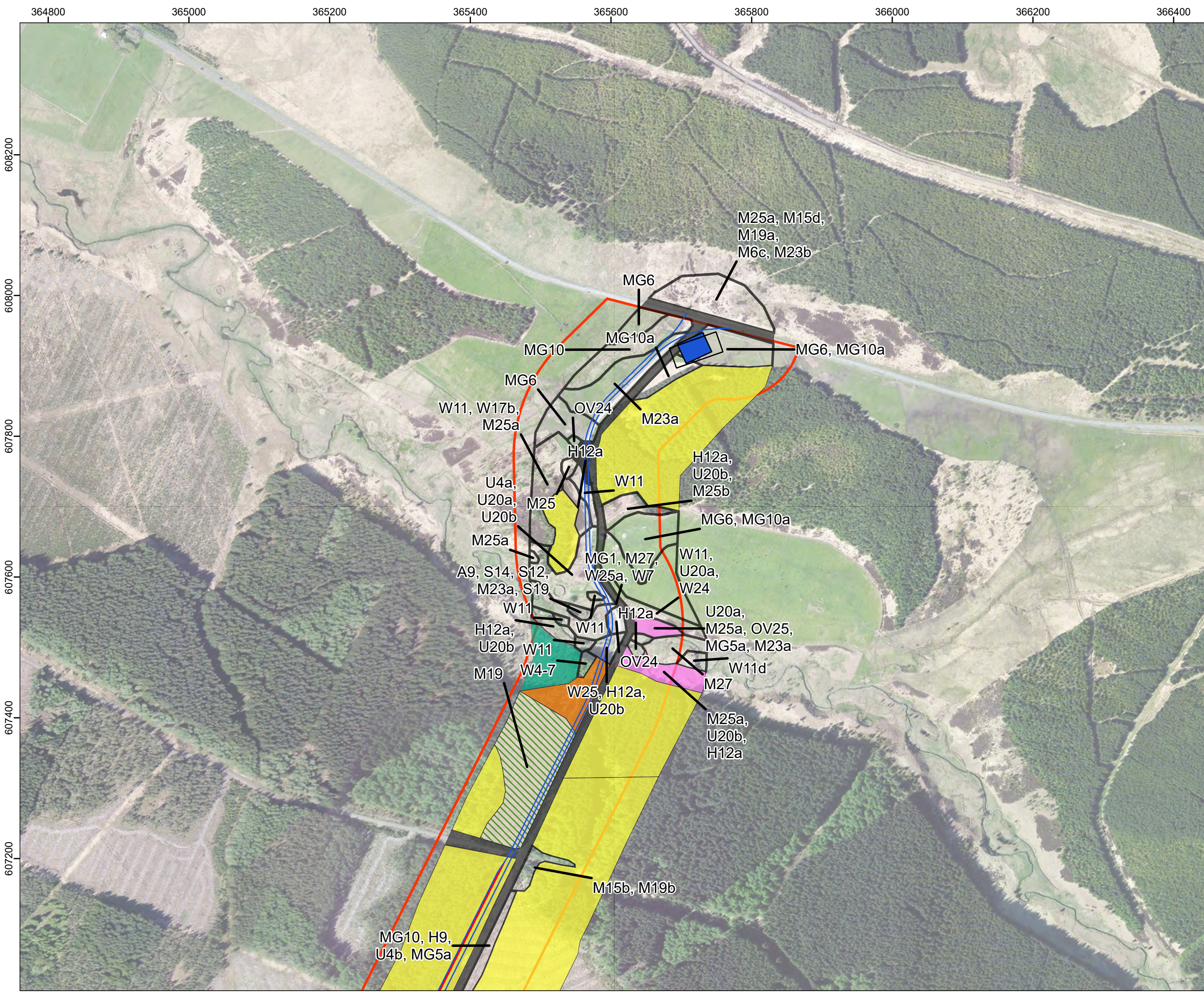
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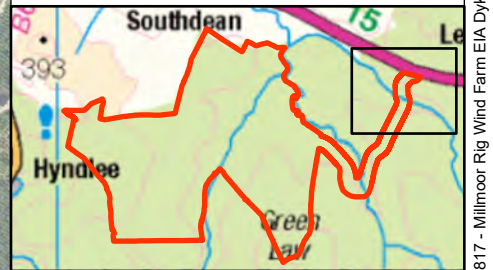


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 Technical Appendix 8.1 - Habitats & Vegetation
 Habitats and Vegetation Survey Results
 Page 7 of 9





- Legend:**
- Application Boundary
 - Access Tracks
 - Hardstands
 - Temporary Turbine Layover Area
 - Mobilisation Compound (70m x 30m)
- On-site Habitats**
- Juncus Effusus Acid Grassland
 - Building
 - Coniferous Plantation
 - Felled Coniferous Plantation
 - Species-Poor Holcus Lanatus Grassland
 - NVC Habitats
 - Road
 - Young Coniferous Plantation

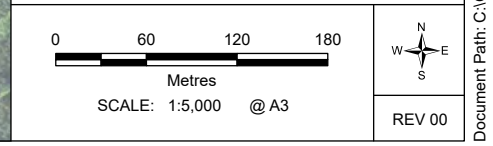


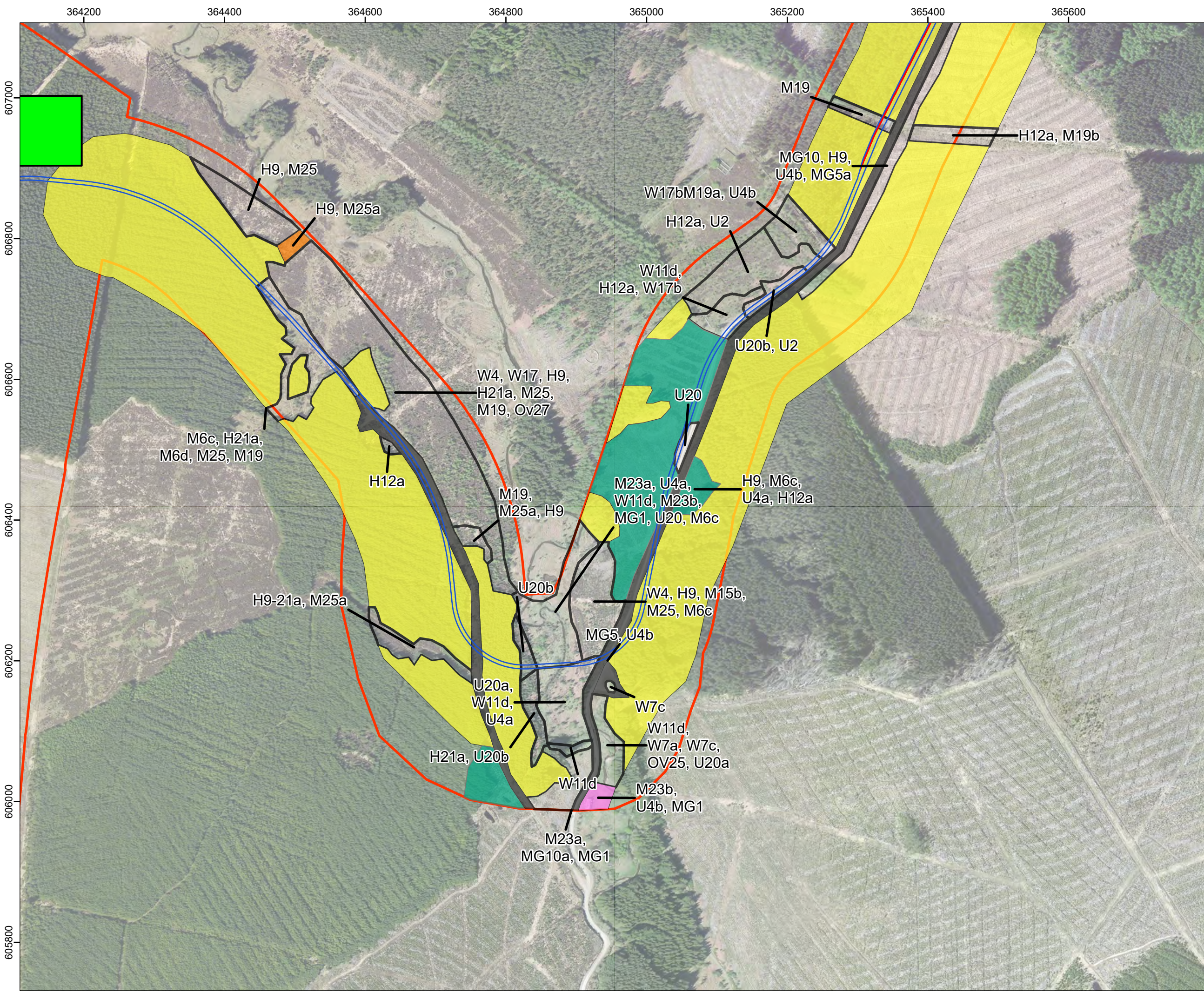
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Millmoor Rig Wind Farm



TITLE: Figure 8.1.3b.
 Technical Appendix 8.1 - Habitats & Vegetation
 Habitats and Vegetation Survey Results
 Page 8 of 9





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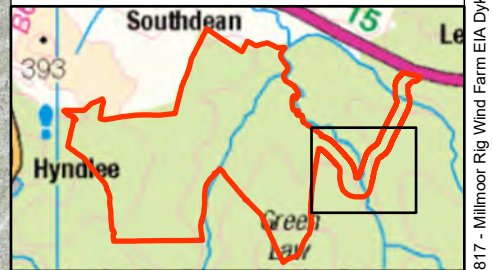
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- Access Tracks
- Hardstands
- Temporary Turbine Layover Area

Substation (150m x 100m)

- Preferred Substation Option

On-site Habitats

- Juncus Effusus Acid Grassland
- Coniferous Plantation
- Species-Poor Holcus Lanatus Grassland
- NVC Habitats
- Road
- Young Coniferous Plantation



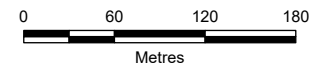
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Millmoor Rig Wind Farm




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TITLE: Figure 8.1.3b.
 Technical Appendix 8.1 - Habitats & Vegetation
 Habitats and Vegetation Survey Results
 Page 9 of 9

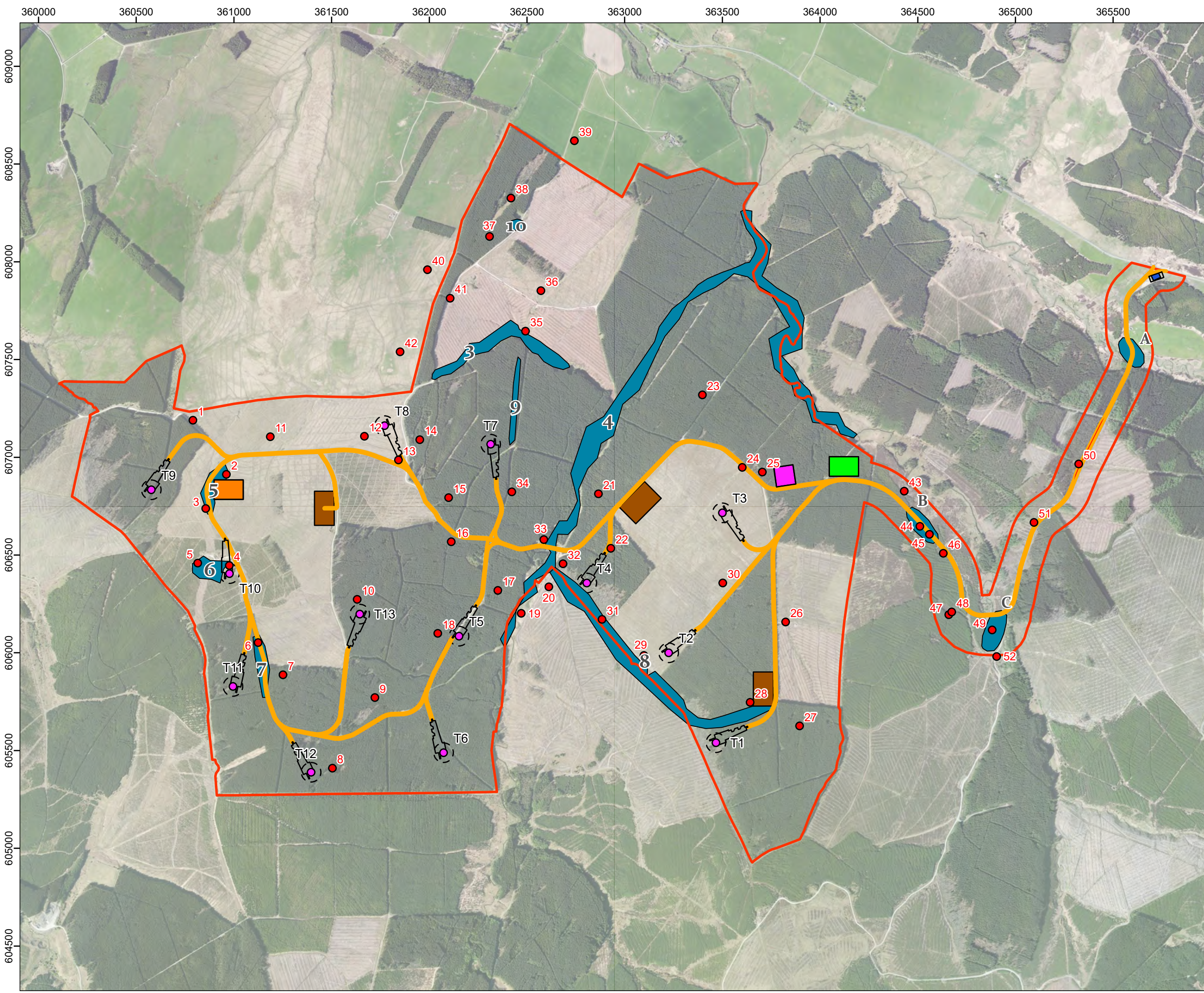


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- Legend:**
- Application Boundary
 - Access Tracks
 - Turbine Locations
 - 50m Turbine Buffer
 - Hardstands
 - Borrow Pit Search Areas
 - Temporary Turbine Layover Area
 - Mobilisation Compound (70m x 30m)
 - Construction Compound (100m x 100m)
 - Substation (150m x 100m)
 - Preferred Substation Option
 - Alternate Substation Option
 - Areas of Botanical Interest
 - Target Notes

- Labels:**
- Red = Target Note Numbers
 - Black = Turbine IDs
 - Bold Black = Areas of Botanical Interest

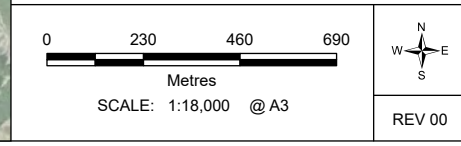


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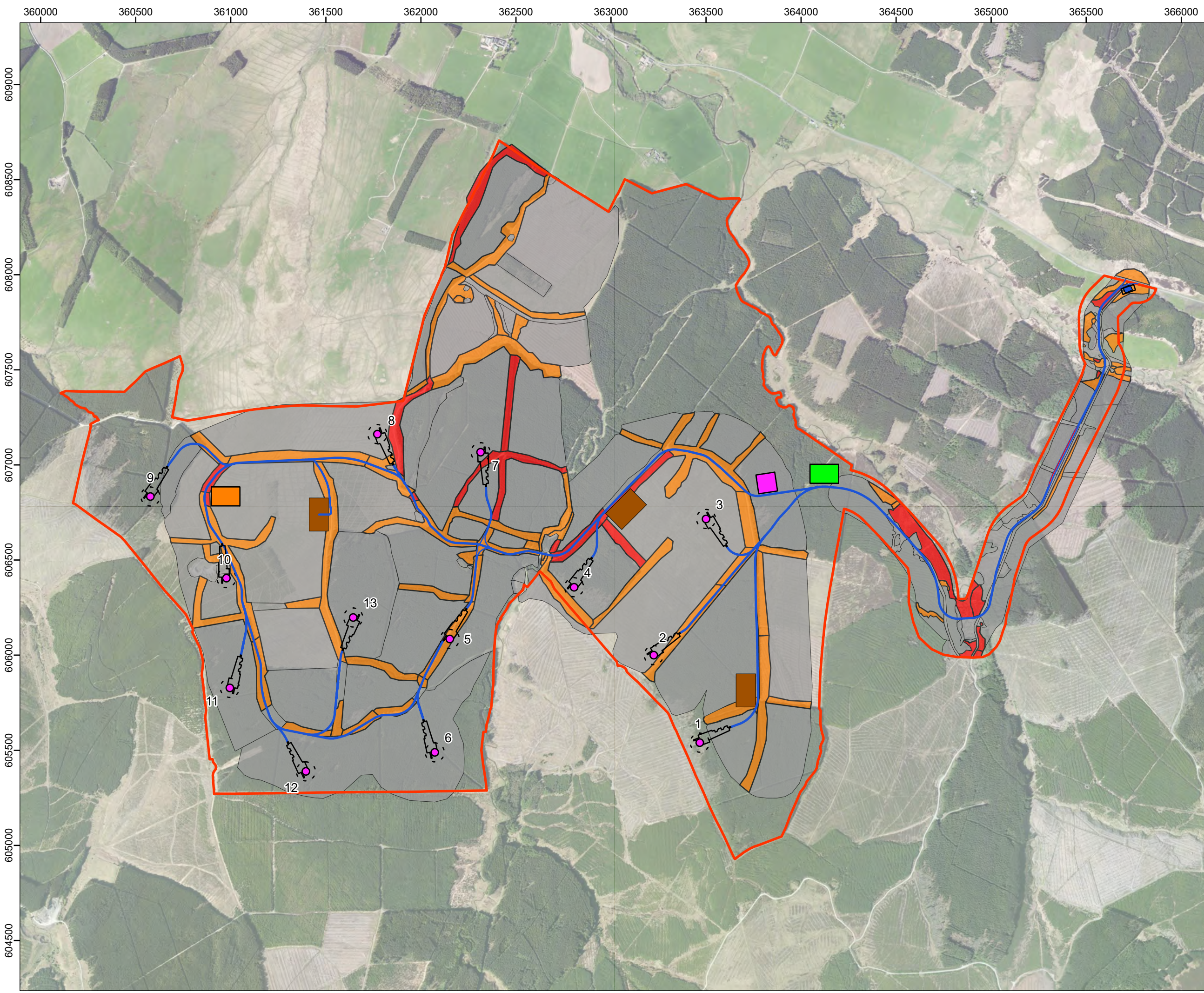
Millmoor Rig Wind Farm



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 Technical Appendix 8.1 - Habitats & Vegetation
 Areas of Botanical Interest



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- Legend:**
- Application Boundary
 - Turbine Locations
 - 50m Turbine Buffer
 - Access Tracks
 - Hardstands
 - Borrow Pit Search Areas
 - Temporary Turbine Layover Area
 - Mobilisation Compound (70m x 30m)
 - Construction Compound (100m x 100m)
- Substation (150m x 100m)**
- Preferred Substation Option
 - Alternate Substation Option
- GWDTE Susceptibility**
- Unqualified
 - Moderate
 - High



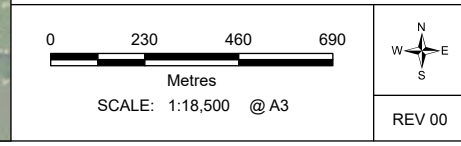
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Millmoor Rig Wind Farm



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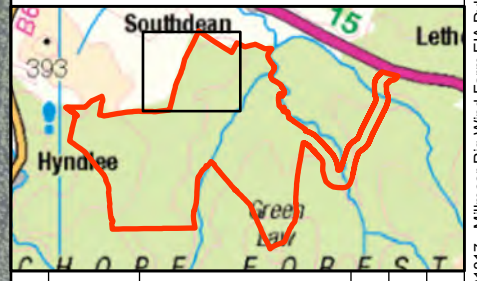
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 Technical Appendix 8.1 - Habitats & Vegetation
 Groundwater Dependant Terrestrial
 Ecosystems Map Overview





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- Application Boundary
- GWDTE Susceptibility**
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- Moderate
- High



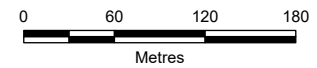
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Millmoor Rig Wind Farm




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TITLE: Figure 8.1.5b.
 Technical Appendix 8.1 - Habitats & Vegetation
 Groundwater Dependant Terrestrial
 Ecosystems Map
 Page 1 of 9



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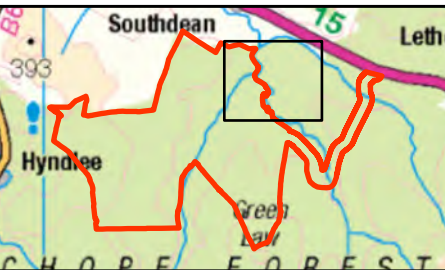
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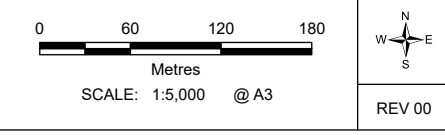


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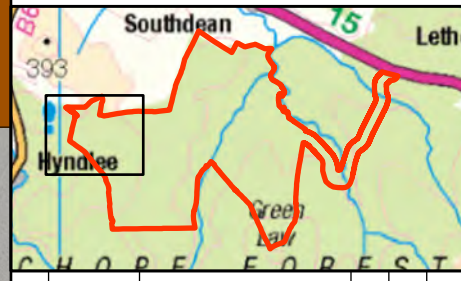


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 Technical Appendix 8.1 - Habitats & Vegetation
 Groundwater Dependant Terrestrial
 Ecosystems Map
 Page 2 of 9





- Legend:**
- Application Boundary
 - Turbine Locations
 - 50m Turbine Buffer
 - Access Tracks
 - Hardstands
 - Borrow Pit Search Areas
- Substation
(150m x 100m)**
- Alternate Substation Option
- GWDTE Susceptibility**
- Unqualified
 - Moderate
 - High



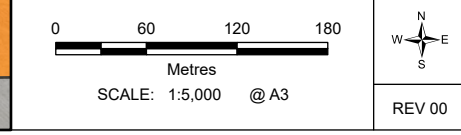
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Millmoor Rig Wind Farm



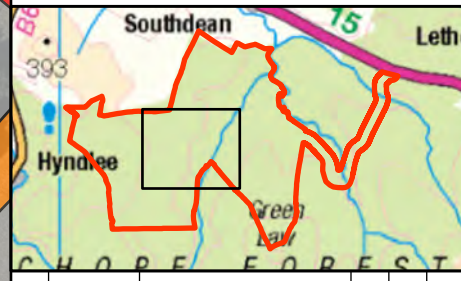
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 Technical Appendix 8.1 - Habitats & Vegetation
 Groundwater Dependant Terrestrial
 Ecosystems Map
 Page 3 of 9





- Legend:**
- Application Boundary
 - Turbine Locations
 - 50m Turbine Buffer
 - Access Tracks
 - Hardstands
 - Borrow Pit Search Areas
- GWDTE Susceptibility**
- Unqualified
 - Moderate
 - High

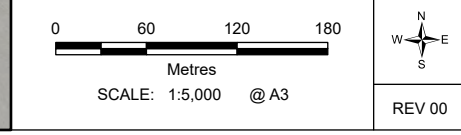


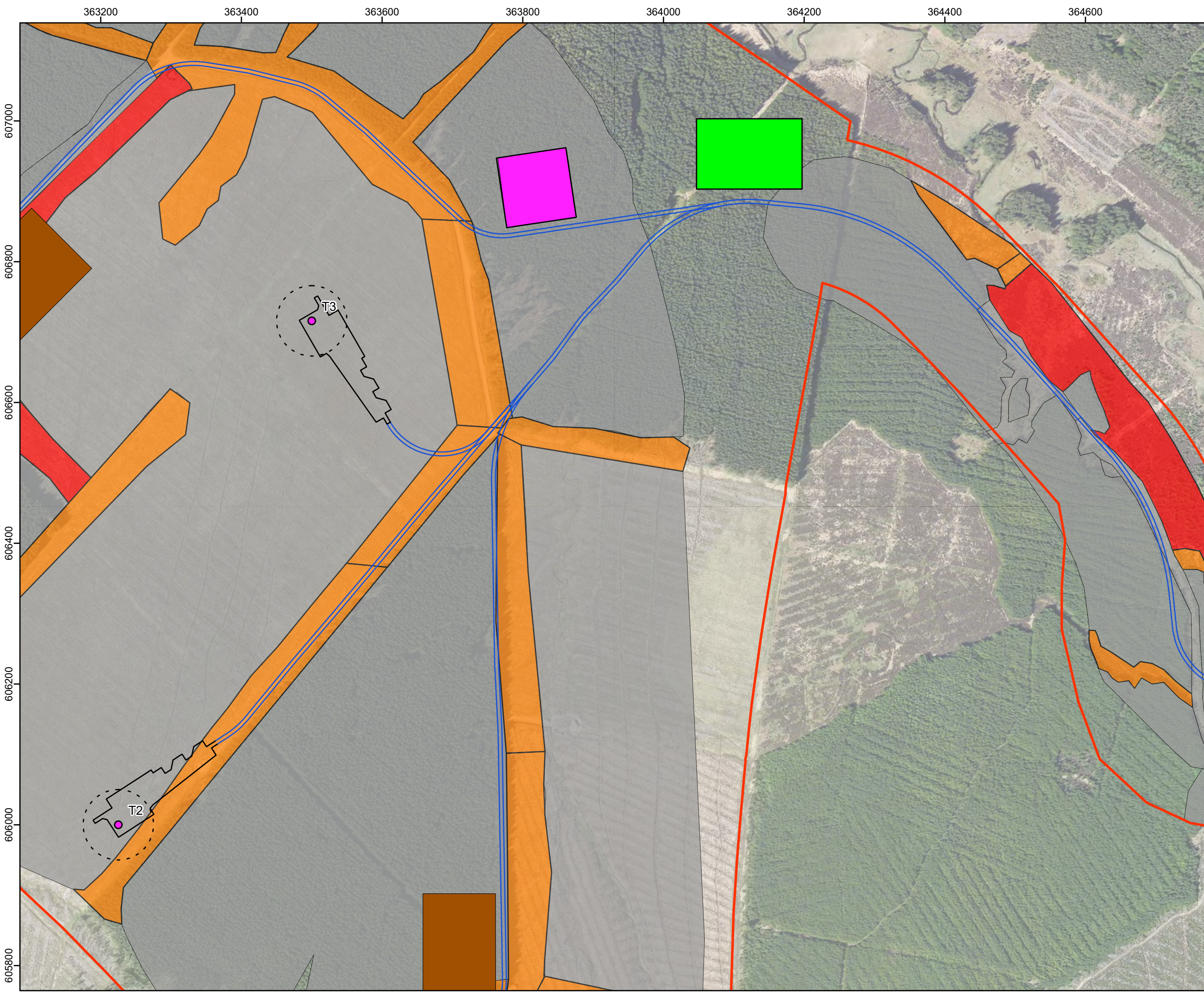
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Millmoor Rig Wind Farm

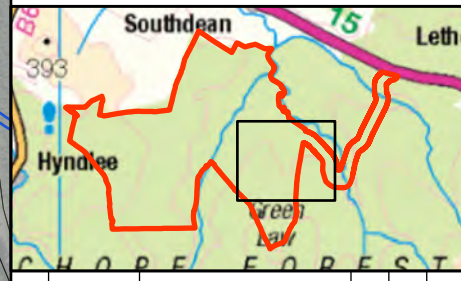


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 Technical Appendix 8.1 - Habitats & Vegetation
 Groundwater Dependant Terrestrial
 Ecosystems Map
 Page 4 of 9





- Legend:**
- Application Boundary
 - Turbine Locations
 - 50m Turbine Buffer
 - Access Tracks
 - Hardstands
 - Borrow Pit Search Areas
 - Construction Compound (100m x 100m)
 - Substation (150m x 100m)
 - Preferred Substation Option
- GWDE Susceptibility**
- Unqualified
 - Moderate
 - High



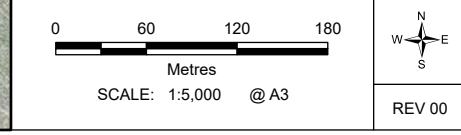
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Millmoor Rig Wind Farm



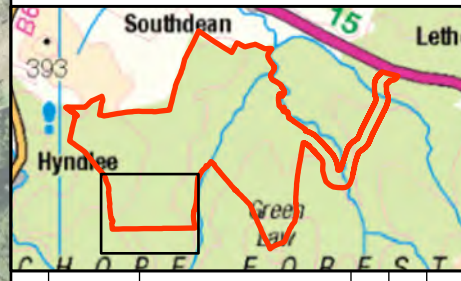
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 Technical Appendix 8.1 - Habitats & Vegetation
 Groundwater Dependant Terrestrial
 Ecosystems Map
 Page 5 of 9





- Legend:**
- Application Boundary
 - Turbine Locations
 - 50m Turbine Buffer
 - Access Tracks
 - Hardstands
- GWLTE Susceptibility**
- Unqualified
 - Moderate

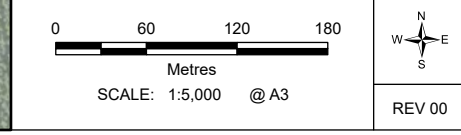


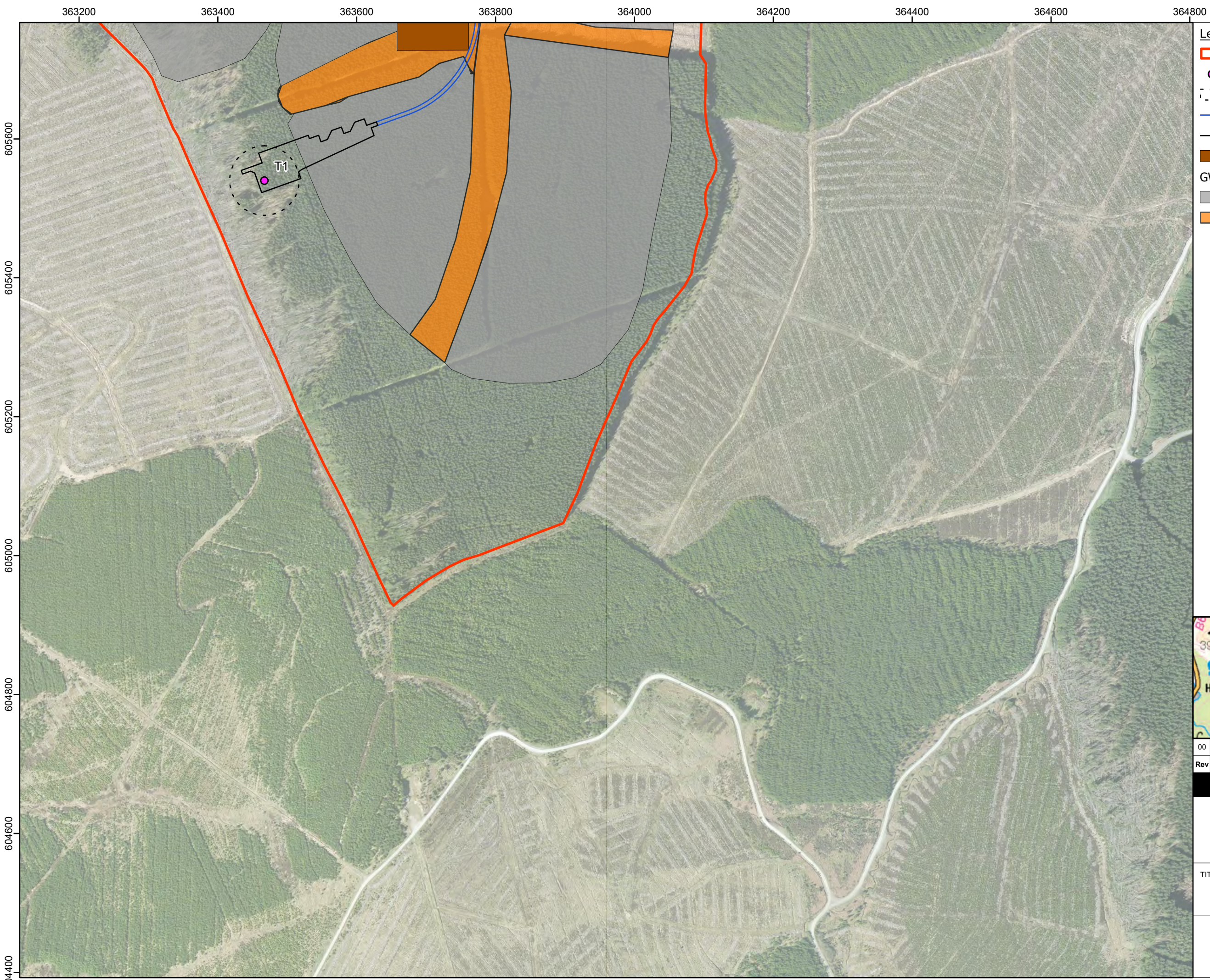
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Millmoor Rig Wind Farm

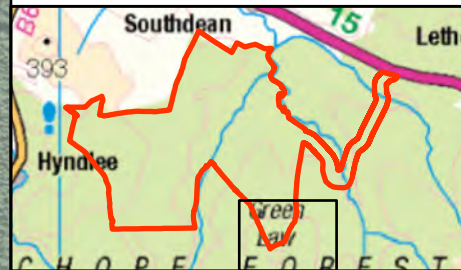


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 Technical Appendix 8.1 - Habitats & Vegetation
 Groundwater Dependant Terrestrial
 Ecosystems Map
 Page 6 of 9





- Legend:**
- Application Boundary
 - Turbine Locations
 - 50m Turbine Buffer
 - Access Tracks
 - Hardstands
 - Borrow Pit Search Areas
- GWDTE Susceptibility**
- Unqualified
 - Moderate

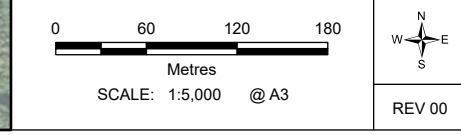


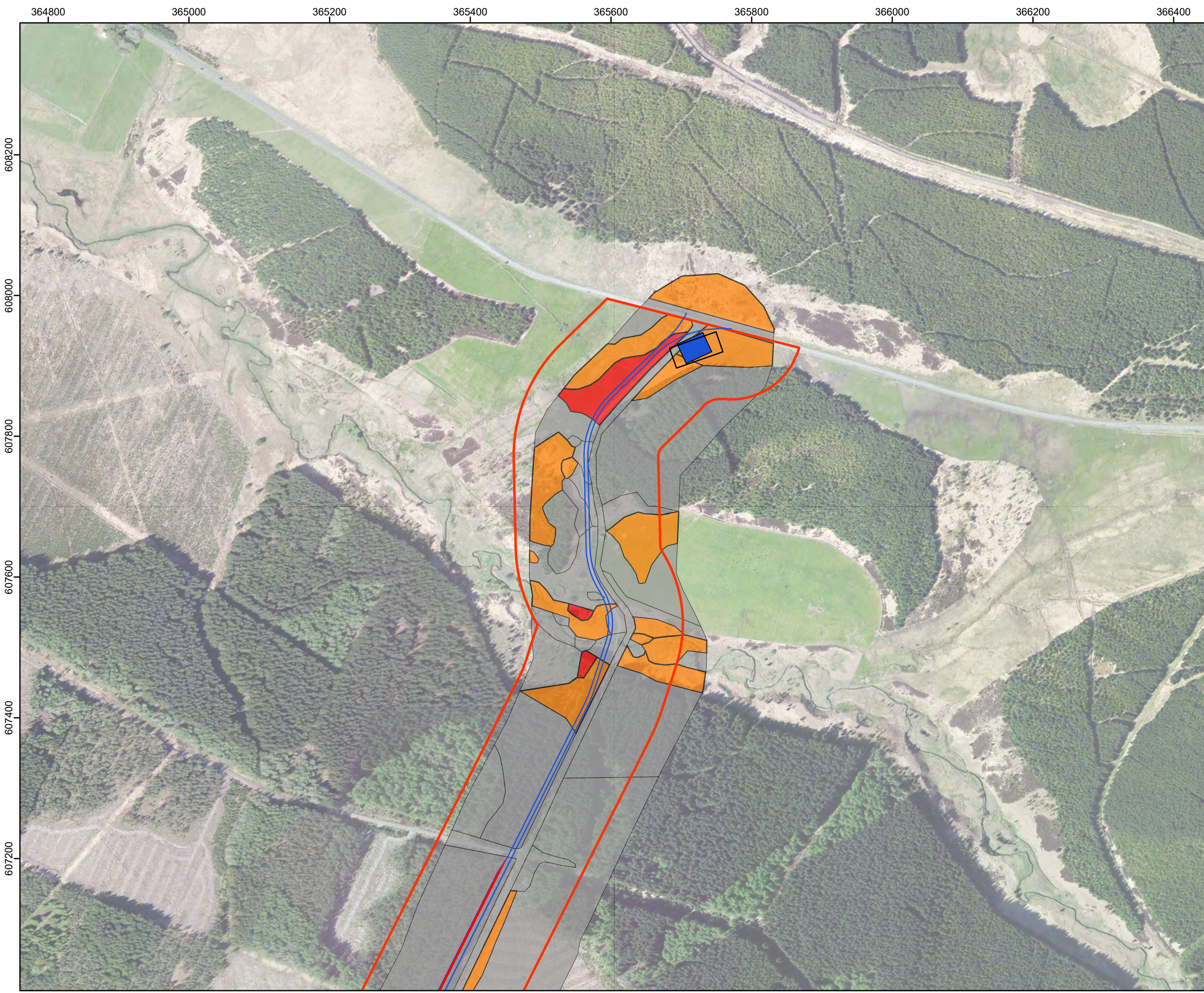
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Millmoor Rig Wind Farm

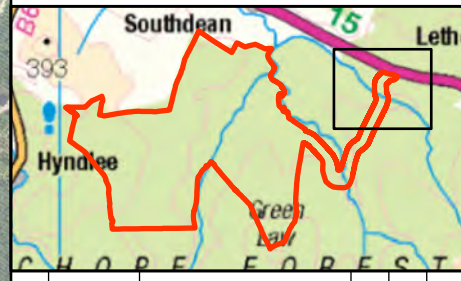


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 Technical Appendix 8.1 - Habitats & Vegetation
 Groundwater Dependant Terrestrial
 Ecosystems Map
 Page 7 of 9





- Legend:**
- Application Boundary
 - Access Tracks
 - Hardstands
 - Temporary Turbine Layover Area
 - Mobilisation Compound (70m x 30m)
- GWDE Susceptibility**
- Unqualified
 - Moderate
 - High

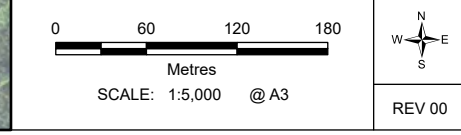


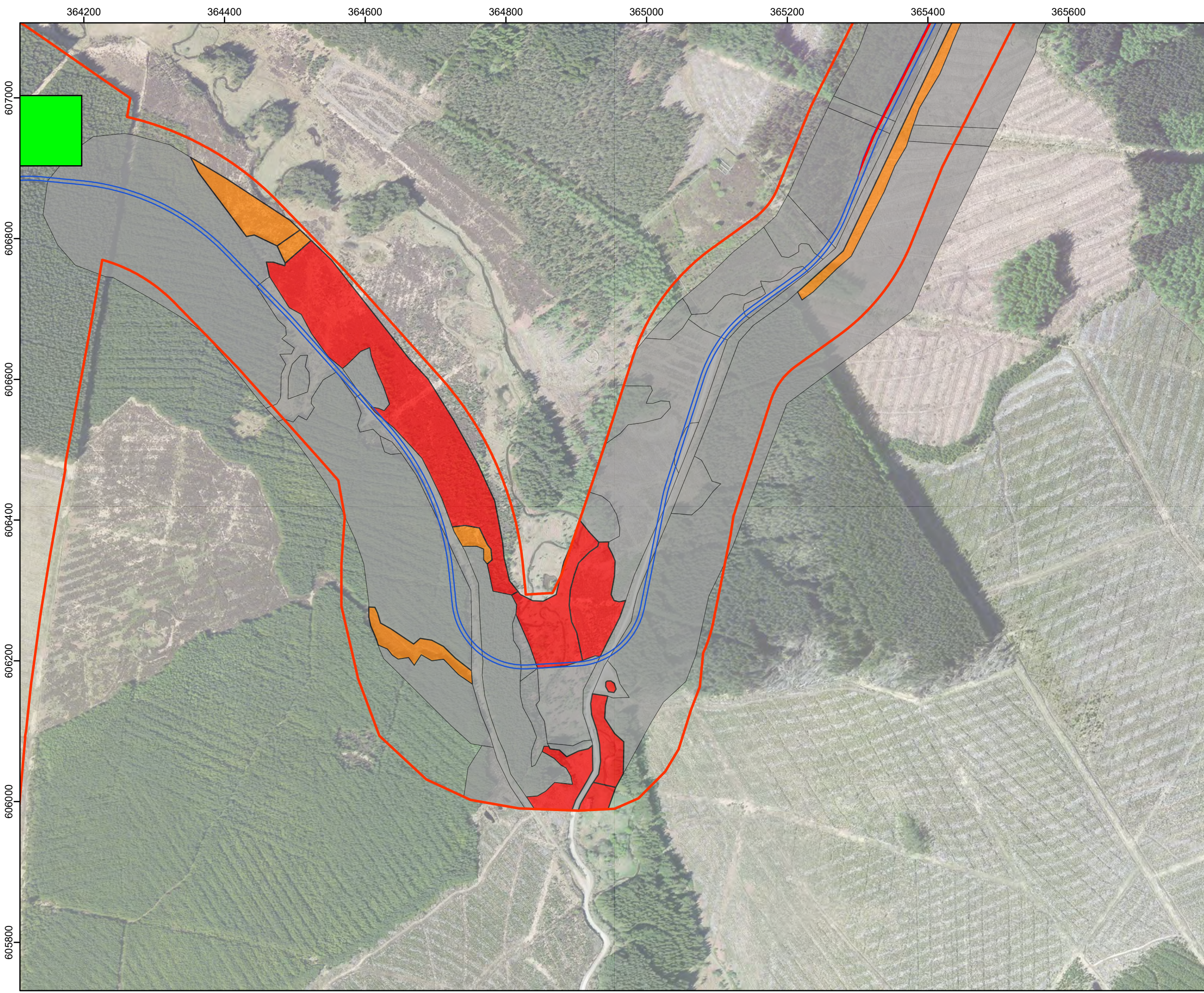
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Millmoor Rig Wind Farm

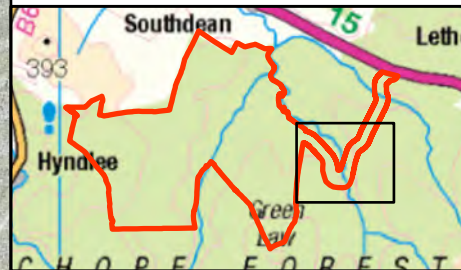


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 Technical Appendix 8.1 - Habitats & Vegetation
 Groundwater Dependant Terrestrial
 Ecosystems Map
 Page 8 of 9





- Legend:**
- Application Boundary
 - Access Tracks
 - Hardstands
 - Temporary Turbine Layover Area
- Substation
(150m x 100m)
- Preferred Substation Option
- GWDE Susceptibility
- Unqualified
 - Moderate
 - High

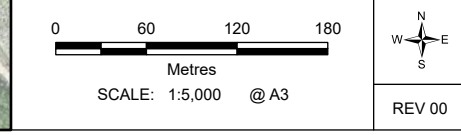


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Millmoor Rig Wind Farm



TITLE: Figure 8.1.5b.
 Technical Appendix 8.1 - Habitats & Vegetation
 Groundwater Dependant Terrestrial
 Ecosystems Map
 Page 9 of 9



ANNEX A – RELEVANT POLICY

Natural Environment and Rural Communities (NERC) Act 2006

Lowland meadows are listed as a priority habitat under Section 41 the NERC Act 2006 (as amended). The act requires that:

- the Secretary of State must take steps as appear to be reasonably practicable to further the conservation of the types of habitat included in any list published under this section, or;
- promote the taking by others of such steps.

National Planning Policy Framework (NPPF)

NPPF requires that planning policies and decisions should contribute and enhance the natural and local environment by:

- protecting and enhancing valued landscapes and sites of biodiversity, and;
- minimising impacts on and providing net gains for biodiversity

The framework also requires that plans should:

- identify, map and safeguard components of local wildlife-rich habitats and wider ecological networks, and;
- promote the conservation, restoration and enhancement of priority habitats, ecological networks and the protection and recovery of priority species; and identify and pursue opportunities for securing measurable net gains for biodiversity

Under this framework, development resulting in the loss or deterioration of irreplaceable habitats should be refused unless there are wholly exceptional reasons and a suitable compensation strategy exists.

ANNEX B – TARGET NOTES

Proposed Development Site	
1	<p>Young <i>Picea sitchensis</i> (Sitka Spruce) plantation either side of the access area. There is very little ground flora, which are dominated mainly by mosses including <i>Pseudoscleropodium purum</i> and <i>Polytrichum formosum</i>.</p> <p>There are gaps with acid grassland which have been planted with young <i>Quercus petraea</i> (Sessile Oak), <i>Sorbus aucuparia</i> (Rowan), <i>Fraxinus excelsior</i> (Ash) and <i>Betula pendula</i> (Silver Birch). Acid grassland is dominated by <i>Molinia caerulea</i> (Purple Moor-grass), <i>Festuca rubra</i> (Red Fescue) and <i>Galium saxatile</i> (Heath Bedstraw). Other species include <i>Agrostis vinealis</i> (Brown Bent), <i>Anthoxanthum odoratum</i> (Sweet Vernal-grass), <i>Holcus mollis</i> (Creeping Soft-grass), <i>Holcus lanatus</i> (Yorkshire-fog), <i>Potentilla erecta</i> (Tormentil), <i>Veronica chamaedrys</i> (Germander Speedwell), <i>Ranunculus repens</i> (Creeping Buttercup), <i>Carex demissa</i> (Common Yellow-sedge), <i>Vaccinium myrtillus</i> (Bilberry), <i>Athyrium filix-femina</i> (Lady-fern) and <i>Oreopteris limbosperma</i> (Lemon-scented Fern). Mosses include <i>Rhytidiadelphus squarrosus</i> and <i>Pseudoscleropodium purum</i>, and scattered scrub is rarely present with <i>Salix caprea</i> (Goat Willow) <i>Rubus idaeus</i> (Raspberry) and <i>Salix cinerea</i> (Grey Willow).</p> <p>Ditches by the side of the track are mostly full of <i>Juncus effusus</i> (Soft-rush) but still have a moderate species-richness with other species including <i>Filipendula ulmaria</i> (Meadowsweet), <i>Holcus mollis</i> (Creeping Soft-grass), <i>Deschampsia cespitosa</i> (Tufted Hair-grass), <i>Myosotis scorpioides</i> (Water Forget-me-not), <i>Galium palustre</i> (Common Marsh-bedstraw), <i>Lotus pedunculatus</i> (Greater Bird's-foot-trefoil), <i>Cirsium palustre</i> (Marsh Thistle), <i>Equisetum palustre</i> (Marsh Horsetail). Up the banks of the ditch are <i>Ajuga reptans</i> (Bugle), <i>Cardamine pratensis</i> (Cuckooflower), Rosebay Willowherb (<i>Chamaenerion angustifolium</i>), <i>Rumex acetosa</i> (Common Sorrel) and <i>Ranunculus repens</i> (Creeping Buttercup).</p> <p>The grassland along the side of the track includes <i>Prunella vulgaris</i> (Selfheal), <i>Achillea millefolium</i> (Yarrow), <i>Trifolium repens</i> (White Clover), <i>Holcus lanatus</i> (Yorkshire-fog), <i>Lathyrus pratensis</i> (Meadow Vetchling), <i>Geranium robertianum</i> (Herb-Robert), <i>Lotus corniculatus</i> (Common Bird's-foot-trefoil), Rosebay Willowherb (<i>Chamaenerion angustifolium</i>), <i>Tussilago farfara</i> (Colt's-foot), <i>Plantago lanceolata</i> (Ribwort Plantain), <i>Pilosella officinarum</i> (Mouse-ear-hawkweed), <i>Taraxacum</i> agg. (Dandelion) and <i>Stellaria graminea</i> (Lesser Stitchwort).</p>
2	<p>Wet areas dominated by <i>Juncus effusus</i> (Soft-rush) and <i>Deschampsia cespitosa</i> (Tufted Hair-grass) with <i>Sphagnum palustre</i> occasionally present. Other species include <i>Filipendula ulmaria</i> (Meadowsweet), <i>Polytrichum commune</i>, <i>Carex disticha</i> (Brown Sedge), <i>Juncus acutiflorus</i> (Sharp-flowered Rush) and <i>Ranunculus repens</i> (Creeping Buttercup).</p> <p>Drier raised areas include acid grassland with <i>Galium saxatile</i> (Heath Bedstraw), <i>Potentilla erecta</i> (Tormentil), <i>Avenella flexuosa</i> (Wavy Hair-grass), <i>Rumex acetosa</i> (Common Sorrel), <i>Blechnum spicant</i> (Hard Fern), <i>Anthoxanthum odoratum</i> (Sweet Vernal-grass) and <i>Holcus lanatus</i> (Yorkshire-fog).</p> <p>There is occasional scrub with <i>Salix cinerea</i> (Grey Willow), <i>Ulex europaeus</i> (Gorse), <i>Rubus idaeus</i> (Raspberry) and saplings such as <i>Alnus glutinosa</i> (Alder) and <i>Picea sitchensis</i> (Sitka Spruce).</p> <p><i>Dactylorhiza purpurella</i> (Northern Marsh-orchid) was occasionally found along the path along with <i>Vicia cracca</i> (Tufted Vetch), <i>Trifolium dubium</i> (Lesser Trefoil), <i>Cynosurus cristatus</i> (Crested Dog's-tail) and <i>Poa annua</i> (Annual Meadow-grass).</p>
3a	<p>Damp, species-rich grassland with <i>Anthoxanthum odoratum</i> (Sweet Vernal-grass), <i>Cynosurus cristatus</i> (Crested Dog's-tail), and <i>Festuca ovina</i> (Sheep's-fescue) and sedges such as <i>Carex pulicaris</i> (Flea Sedge), <i>Carex panicea</i> (Carnation Sedge) and <i>Carex demissa</i> (Common Yellow-sedge). <i>Dactylorhiza purpurella</i> (Northern Marsh-orchid) and other species include <i>Cirsium palustre</i> (Marsh Thistle), <i>Ranunculus repens</i> (Creeping Buttercup), <i>Potentilla anserina</i> (Silverweed), <i>Juncus acutiflorus</i> (Sharp-flowered Rush) and <i>Rhytidiadelphus squarrosus</i>.</p>

	<p>The western side of the access track is much more species poor, dominated by <i>Holcus mollis</i> (Creeping Soft-grass) with <i>Deschampsia cespitosa</i> (Tufted Hair-grass) and <i>Juncus effusus</i> (Soft-rush).</p> <p>3B</p> <p>There is also a drier, raised area with have acid grassland with <i>Festuca ovina</i> (Sheep's-fescue), <i>Galium saxatile</i> (Heath Bedstraw), <i>Anthoxanthum odoratum</i> (Sweet Vernal-grass), and more rarely, <i>Holcus mollis</i> (Creeping Soft-grass), <i>Avenella flexuosa</i> (Wavy Hair-grass), <i>Deschampsia cespitosa</i> (Tufted Hair-grass), <i>Luzula multiflora</i> (Heath Wood-rush) and <i>Luzula pilosa</i> (Hairy Wood-rush).</p>
4	<p>Acid grassland with <i>Festuca rubra</i> (Red Fescue), <i>Galium saxatile</i> (Heath Bedstraw) and <i>Potentilla erecta</i> (Tormentil). Other species include <i>Avenella flexuosa</i> (Wavy Hair-grass), <i>Anthoxanthum odoratum</i> (Sweet Vernal-grass), <i>Hypochaeris radicata</i> (Cat's-ear), <i>Luzula campestris</i> (Field Wood-rush), <i>Pilosella officinarum</i> (Mouse-ear-hawkweed) and <i>Polygala serpyllifolia</i> (Heath Milkwort).</p>
5	<p>Open mosaic habitat within the quarry. Vegetation on dry areas includes <i>Hieracium</i> species (a Hawkweed) <i>Tussilago farfara</i> (Colt's-foot), <i>Lotus corniculatus</i> (Common Bird's-foot-trefoil), <i>Hypochaeris radicata</i> (Cat's-ear), <i>Pilosella officinarum</i> (Mouse-ear-hawkweed), <i>Linum catharticum</i> (Fairy Flax) and <i>Veronica officinalis</i> (Heath Speedwell).</p> <p>Pools have patchy aquatic and emergent vegetation (some which could not be reached) including <i>Typha latifolia</i> (Bulrush), <i>Equisetum fluviatile</i> (Water Horsetail), <i>Potamogeton</i> species (a Pondweed) and <i>Isolepis cf. setacea</i> (Bristle Club-rush).</p>
6	<p><i>Deschampsia cespitosa</i> (Tufted Hair-grass), <i>Juncus acutiflorus</i> (Sharp-flowered Rush), <i>Juncus effusus</i> (Soft-rush) wither side of tracks with patches of <i>Calluna vulgaris</i> (Heather), <i>Vaccinium myrtillus</i> (Bilberry) and <i>Trichophorum cespitosum</i> (Deergrass).</p> <p>The ditch has <i>Sphagnum cf. fallax</i>, <i>Juncus acutiflorus</i> (Sharp-flowered Rush), <i>Cardamine pratensis</i> (Cuckooflower) and <i>Cirsium palustre</i> (Marsh Thistle). On the banks is acid grassland with <i>Agrostis vinealis</i> (Brown Bent), <i>Molinia caerulea</i> (Purple Moor-grass), <i>Avenella flexuosa</i> (Wavy Hair-grass), <i>Holcus lanatus</i> (Yorkshire-fog), <i>Galium saxatile</i> (Heath Bedstraw), <i>Potentilla erecta</i> (Tormentil) and <i>Anthoxanthum odoratum</i> (Sweet Vernal-grass).</p>
7	<p>Very young <i>Picea abies</i> (Norway Spruce) plantation (3 m tall) with dead wood from previous trees. <i>Molinia caerulea</i> (Purple Moor-grass) is dominant in the ground flora with a range of other species including <i>Juncus conglomeratus</i> (Compact Rush), <i>Juncus effusus</i> (Soft-rush), <i>Viola palustris</i> (Marsh Violet) and <i>Eriophorum vaginatum</i> (Hare's-tail Cottongrass). Drier, raised bits have acid grassland with <i>Potentilla erecta</i> (Tormentil), <i>Galium saxatile</i> (Heath Bedstraw), <i>Anthoxanthum odoratum</i> (Sweet Vernal-grass) and <i>Luzula campestris</i> (Field Wood-rush). Rarely present are ferns such as <i>Dryopteris dilatata</i> (Broad Buckler-fern) and <i>Dryopteris affinis</i> (Golden-scaled Male-fern), as well as <i>Calluna vulgaris</i> (Heather).. Mosses include <i>Polytrichum commune</i>, <i>Rhytidiadelphus loreus</i>, <i>Pseudoscleropodium purum</i>, <i>Hypnum jutlandicum</i>,</p>
8	<p>Felled <i>Picea sitchensis</i> (Sitka Spruce) woodland with the ground flora dominated by <i>Deschampsia cespitosa</i> (Tufted Hair-grass), with <i>Juncus effusus</i> (Soft-rush), <i>Juncus conglomeratus</i> (Compact Rush), Rosebay Willowherb (<i>Chamaenerion angustifolium</i>), <i>Holcus lanatus</i> (Yorkshire-fog), <i>Rumex acetosa</i> (Common Sorrel) and <i>Dryopteris dilatata</i> (Broad Buckler-fern).</p> <p>Also mounds of acid grassland with species including <i>Festuca ovina</i> (Sheep's-fescue), <i>Agrostis vinealis</i> (Brown Bent), <i>Potentilla erecta</i> (Tormentil), <i>Galium saxatile</i> (Heath Bedstraw), <i>Anthoxanthum odoratum</i> (Sweet Vernal-grass).</p> <p>There also ditches running through the area which include <i>Juncus acutiflorus</i> (Sharp-flowered Rush), <i>Myosotis scorpioides</i> (Water Forget-me-not), <i>Galium palustre</i> (Common Marsh-bedstraw), <i>Stellaria alsine</i> (Bog Stitchwort) and <i>Callitriche stagnalis</i> (Common Water-starwort).</p> <p>8 To the east is a felled plantation which includes a ditch with <i>Sphagnum</i> sp. The majority of the area is covered with patchy vegetation, mostly <i>Deschampsia cespitosa</i> (Tufted Hair-grass), but also <i>Juncus effusus</i> (Soft-rush), <i>Juncus conglomeratus</i> (Compact Rush), <i>Juncus squarrosus</i> (Heath Rush), <i>Carex echinata</i> (Star Sedge), <i>Digitalis purpurea</i> (Foxglove), <i>Holcus lanatus</i> (Yorkshire-fog), and Rosebay Willowherb (<i>Chamaenerion angustifolium</i>). Acid grassland with <i>Agrostis vinealis</i> (Brown Bent), <i>Holcus mollis</i> (Creeping Soft-grass) and <i>Galium saxatile</i> (Heath Bedstraw) is also present.</p>

9	<p>To the east is a mosaic of:</p> <ul style="list-style-type: none"> • <i>Pteridium aquilinum</i> (Bracken), <i>Salix cinerea</i> (Grey Willow) scrub and <i>Picea sitchensis</i> (Sitka Spruce) saplings • Acid grassland with Rosebay Willowherb (<i>Chamaenerion angustifolium</i>) and <i>Salix cinerea</i> (Grey Willow) scrub • Ditch with <i>Cardamine pratensis</i> (Cuckooflower), <i>Juncus effusus</i> (Soft-rush), <i>Galium palustre</i> (Common Marsh-bedstraw), <i>Cirsium palustre</i> (Marsh Thistle), <i>Juncus conglomeratus</i> (Compact Rush), <i>Deschampsia cespitosa</i> (Tufted Hair-grass), <i>Stellaria alsine</i> (Bog Stitchwort), <i>Carex demissa</i> (Common Yellow-sedge), <i>Ajuga reptans</i> (Bugle) and <i>Myosotis scorpioides</i> (Water Forget-me-not). Further north are Sphagnum species and <i>Carex disticha</i> (Brown Sedge) with <i>Dactylorhiza fuchsii</i> (Common Spotted-orchid) and <i>Dactylorhiza purpurella</i> (Northern Marsh-orchid) by the junction. <p>To the west are very young <i>Picea sitchensis</i> (Sitka Spruce) saplings growing over what is mostly <i>Deschampsia cespitosa</i>, <i>Juncus effusus</i> (Soft-rush) and <i>Juncus conglomeratus</i> (Compact Rush). The burn has <i>Valeriana dioica</i> (Marsh Valerian)</p> <p>9 South – Mosaic of mire and acid grassland with <i>Calluna vulgaris</i> (Heather), <i>Vaccinium myrtillus</i> (Bilberry), <i>Erica cinerea</i> (Bell Heather) and acid grassland with <i>Agrostis vinealis</i> (Brown Bent), <i>Avenella flexuosa</i> (Wavy Hair-grass), <i>Potentilla erecta</i> (Tormentil), <i>Galium saxatile</i> (Heath Bedstraw), <i>Festuca ovina</i> (Sheep's-fescue), <i>Juncus squarrosus</i> (Heath Rush), <i>Polygala serpyllifolia</i> (Heath Milkwort) and <i>Anthoxanthum odoratum</i> (Sweet Vernal-grass). At the top of the bank, <i>Molinia caerulea</i> (Purple Moor-grass), <i>Deschampsia cespitosa</i> (Tufted Hair-grass), Rosebay Willowherb (<i>Chamaenerion angustifolium</i>) and <i>Juncus effusus</i> (Soft-rush).</p> <p>The ditch with <i>Juncus acutiflorus</i> (Sharp-flowered Rush), <i>Cirsium palustre</i> (Marsh Thistle), <i>Carex binervis</i> (Green-ribbed Sedge), <i>Juncus effusus</i> (Soft-rush), <i>Juncus conglomeratus</i> (Compact Rush), and <i>Glyceria fluitans</i> (Floating Sweet-grass).</p>
10	<p>Very recently cleared woodland, mostly bare ground with some <i>Picea sitchensis</i> (Sitka Spruce) regrowth. Sparsely scattered are species such as <i>Agrostis vinealis</i> (Brown Bent), <i>Galium saxatile</i> (Heath Bedstraw), <i>Dryopteris dilatata</i> (Broad Buckler-fern), <i>Ceratocarpus claviculata</i> (Climbing Corydalis), <i>Juncus squarrosus</i> (Heath Rush), <i>Luzula multiflora</i> (Heath Wood-rush), <i>Juncus effusus</i> (Soft-rush), <i>Calluna vulgaris</i> (Heather) and <i>Vaccinium myrtillus</i> (Bilberry).</p> <p>By the track is acid grassland with <i>Agrostis vinealis</i> (Brown Bent), <i>Holcus lanatus</i> (Yorkshire-fog), <i>Holcus mollis</i> (Creeping Soft-grass), <i>Anthoxanthum odoratum</i> (Sweet Vernal-grass), <i>Deschampsia cespitosa</i> (Tufted Hair-grass), <i>Galium saxatile</i> (Heath Bedstraw), <i>Festuca rubra</i> (Red Fescue) and <i>Cirsium palustre</i> (Marsh Thistle). <i>Pteridium aquilinum</i> (Bracken) is also rarely present.</p>
11	<p>South of the track is a mix of acid grassland (<i>Agrostis vinealis</i> (Brown Bent), <i>Galium saxatile</i> (Heath Bedstraw), <i>Potentilla erecta</i> (Tormentil) etc.) with <i>Deschampsia cespitosa</i> (Tufted Hair-grass) and <i>Cirsium palustre</i> (Marsh Thistle).</p> <p>North of the track is more dominated by <i>Deschampsia cespitosa</i> (Tufted Hair-grass), <i>Juncus conglomeratus</i> (Compact Rush) and <i>Juncus effusus</i> (Soft-rush), with occasional <i>Cirsium palustre</i> (Marsh Thistle).</p>
12	<p>South of the track is young <i>Picea sitchensis</i> (Sitka Spruce) plantation and a double ditch by the roadside. The ditches include <i>Equisetum fluviatile</i> (Water Horsetail), <i>Ranunculus repens</i> (Creeping Buttercup), <i>Lotus pedunculatus</i> (Greater Bird's-foot-trefoil), <i>Juncus acutiflorus</i> (Sharp-flowered Rush), <i>Juncus effusus</i> (Soft-rush), <i>Filipendula ulmaria</i> (Meadowsweet), <i>Viola palustris</i> (Marsh Violet), <i>Veronica anagallis-aquatica</i> (Blue Water-speedwell), <i>Achillea ptarmica</i> (Sneezewort). Up the bank are <i>Ajuga reptans</i> (Bugle), <i>Oreopteris limbosperma</i> (Lemon-scented Fern), <i>Dryopteris affinis</i> (Golden-scaled Male-fern) and <i>Dryopteris filix-mas</i> (Male-fern). The grass around the ditches includes <i>Deschampsia cespitosa</i> (Tufted Hair-grass), <i>Festuca rubra</i> (Red Fescue), <i>Cirsium palustre</i> (Marsh Thistle), <i>Lathyrus pratensis</i> (Meadow Vetchling), <i>Carex nigra</i> (Common Sedge), <i>Holcus mollis</i> (Creeping Soft-grass), <i>Cirsium palustre</i> (Marsh Thistle), acid grassland (<i>Anthoxanthum odoratum</i> (Sweet Vernal-grass), <i>Potentilla erecta</i> (Tormentil), <i>Galium saxatile</i> (Heath Bedstraw)), <i>Juncus conglomeratus</i> (Compact Rush), <i>Juncus acutiflorus</i> (Sharp-flowered Rush), <i>Rumex acetosa</i> (Common Sorrel), <i>Luzula multiflora</i> (Heath Wood-rush), <i>Holcus lanatus</i> (Yorkshire-fog), <i>Cardamine</i></p>

	<p><i>pratensis</i> (Cuckooflower), and <i>Holcus mollis</i> (Creeping Soft-grass). Rarely present is <i>Anemone nemorosa</i> (Wood Anemone).</p> <p>Nearer to the woodland, <i>Avenella flexuosa</i> (Wavy Hair-grass) and <i>Agrostis vinealis</i> (Brown Bent) are more abundant with <i>Polytrichum commune</i> and <i>Juncus conglomeratus</i> (Compact Rush), and other acid grassland species (<i>Festuca ovina</i> (Sheep's-fescue), <i>Potentilla erecta</i> (Tormentil) and <i>Galium saxatile</i> (Heath Bedstraw)).</p> <p>Along the trackside are <i>Lathyrus linifolius</i> (Bitter-vetch), <i>Lathyrus pratensis</i> (Meadow Vetchling), <i>Lotus corniculatus</i> (Common Bird's-foot-trefoil), <i>Linum catharticum</i> (Fairy Flax), <i>Achillea ptarmica</i> (Sneezewort), <i>Dactylorhiza fuchsii</i> (Common Spotted-orchid), <i>Dactylorhiza maculata</i> (Heath Spotted-orchid), <i>Trifolium repens</i> (White Clover) and <i>Stellaria graminea</i> (Lesser Stitchwort).</p> <p>North of the track is similar to 11 with Rosebay Willowherb (<i>Chamaenerion angustifolium</i>), <i>Holcus lanatus</i> (Yorkshire-fog), <i>Holcus mollis</i> (Creeping Soft-grass) and <i>Carex disticha</i> (Brown Sedge), with mounds of acid grassland. Other species include <i>Athyrium filix-femina</i> (Lady-fern), <i>Dryopteris filix-mas</i> (Male-fern) and <i>Dryopteris affinis</i> (Golden-scaled Male-fern). The north-eastern edge is dominated by <i>Deschampsia cespitosa</i> (Tufted Hair-grass) and <i>Juncus articulatus</i> (Jointed Rush) with <i>Juncus effusus</i> (Soft-rush), <i>Galium palustre</i> (Common Marsh-bedstraw), <i>Ranunculus repens</i> (Creeping Buttercup), <i>Rumex acetosa</i> (Common Sorrel), <i>Achillea ptarmica</i> (Sneezewort), <i>Cardamine pratensis</i> (Cuckooflower), <i>Cirsium palustre</i> (Marsh Thistle) and <i>Carex cf. rostrata</i> (Bottle Sedge).</p>
13	<p>Damp <i>Betula pendula</i> (Silver Birch) woodland with <i>Alnus glutinosa</i> (Alder), <i>Salix cinerea</i> (Grey Willow) and <i>Salix aurita</i> (Eared Willow). Ditches include <i>Filipendula ulmaria</i> (Meadowsweet), <i>Ajuga reptans</i> (Bugle) and <i>Juncus</i> spp. (a few common species of rush).</p> <p>The ground flora includes several ferns such as <i>Dryopteris filix-mas</i> (Male-fern), <i>Dryopteris dilatata</i> (Broad Buckler-fern), <i>Dryopteris affinis</i> (Golden-scaled Male-fern) and <i>Athyrium filix-femina</i> (Lady-fern). Half of the ground flora is ruderal with Rosebay Willowherb (<i>Chamaenerion angustifolium</i>) dominant and <i>Urtica dioica</i> (Common Nettle) also present. The other half is mostly marshy with <i>Deschampsia cespitosa</i> (Tufted Hair-grass), <i>Juncus effusus</i> (Soft-rush), <i>Rumex acetosa</i> (Common Sorrel), <i>Juncus conglomeratus</i> (Compact Rush) and <i>Cirsium palustre</i> (Marsh Thistle). Mosses are frequent including <i>Thuidium tamariscinum</i>.</p>
14	<p>Mature <i>Picea sitchensis</i> (Sitka Spruce) plantation with no ground flora other than occasional moss. The ditch by the side of the track had been recently dredged and was mostly dry. Species in the ditch include <i>Filipendula ulmaria</i> (Meadowsweet), <i>Cardamine pratensis</i> (Cuckooflower), <i>Carex disticha</i> (Brown Sedge), <i>Juncus effusus</i> (Soft-rush), <i>Juncus articulatus</i> (Jointed Rush), <i>Cirsium palustre</i> (Marsh Thistle) and <i>Valeriana dioica</i> (Marsh Valerian).</p> <p>The grassy area is dominated by <i>Deschampsia cespitosa</i> (Tufted Hair-grass) with <i>Arrhenatherum elatius</i> (False Oat-grass), <i>Holcus mollis</i> (Creeping Soft-grass), <i>Equisetum palustre</i> (Marsh Horsetail), <i>Galium palustre</i> (Common Marsh-bedstraw), <i>Lotus pedunculatus</i> (Greater Bird's-foot-trefoil), <i>Filipendula ulmaria</i> (Meadowsweet), <i>Ranunculus repens</i> (Creeping Buttercup), <i>Lathyrus pratensis</i> (Meadow Vetchling), <i>Festuca rubra</i> (Red Fescue), <i>Vicia cracca</i> (Tufted Vetch), <i>Cardamine flexuosa</i> (Wavy Bitter-cress), <i>Veronica chamaedrys</i> (Germander Speedwell) and acid grassland with <i>Potentilla erecta</i> (Tormentil), <i>Agrostis vinealis</i> (Brown Bent), <i>Galium saxatile</i> (Heath Bedstraw) and <i>Rhytidadelphus squarrosus</i>.</p>
15	<p>Recently re-planted <i>Picea sitchensis</i> (Sitka Spruce) plantation with dead wood and stumps. Mosaic of Rosebay Willowherb (<i>Chamaenerion angustifolium</i>), acid grassland (mostly <i>Galium saxatile</i> (Heath Bedstraw), <i>Potentilla erecta</i> (Tormentil), and <i>Agrostis vinealis</i> (Brown Bent) with <i>Holcus mollis</i> (Creeping Soft-grass), <i>Carex spicata</i> (Spiked Sedge), <i>Rumex acetosa</i> (Common Sorrel), <i>Anthoxanthum odoratum</i> (Sweet Vernal-grass), <i>Luzula forsteri</i> (Southern Wood-rush), <i>Luzula multiflora</i> (Heath Wood-rush) and <i>Carex leporina</i> (Oval Sedge)), and marshy grassland dominated by <i>Deschampsia cespitosa</i> (Tufted Hair-grass) but with <i>Juncus effusus</i> (Soft-rush), <i>Cirsium palustre</i> (Marsh Thistle), <i>Holcus lanatus</i> (Yorkshire-fog), <i>Juncus conglomeratus</i> (Compact Rush) and <i>Athyrium filix-femina</i> (Lady-fern) also present.</p>
16	<p>Young <i>Picea sitchensis</i> (Sitka Spruce) plantation, similar to 15 with <i>Calluna vulgaris</i> (Heather) and <i>Vaccinium myrtillus</i> (Bilberry). To the south <i>Arrhenatherum elatius</i> (False Oat-grass), Rosebay Willowherb (<i>Chamaenerion angustifolium</i>) and <i>Deschampsia cespitosa</i> (Tufted Hair-grass) become most common.</p>

	<p>There is a deciduous wood along a burn to the south with remains of a building and a row of <i>Fagus sylvatica</i> (Beech) and <i>Acer pseudoplatanus</i> (Sycamore) trees. The woodland canopy mostly comprises <i>Betula pubescens</i> (Downy Birch) and <i>Sorbus aucuparia</i> (Rowan) and the ground flora is mostly Rosebay Willowherb (<i>Chamaenerion angustifolium</i>) with other species including <i>Holcus lanatus</i> (Yorkshire-fog) and <i>Alopecurus pratensis</i> (Meadow Foxtail).</p>
17	<p>Mature <i>Picea sitchensis</i> (Sitka Spruce) plantation. The ground is mostly covered in needles with occasional mosses such as <i>Polytrichum formosum</i> and <i>Kindbergia praelonga</i>. More rarely, there are other species such as <i>Athyrium filix-femina</i> (Lady-fern), <i>Dryopteris dilatata</i> (Broad Buckler-fern) and <i>Ajuga reptans</i> (Bugle).</p> <p>The verge along the track is mostly <i>Deschampsia cespitosa</i> (Tufted Hair-grass) with <i>Urtica dioica</i> (Common Nettle) and Rosebay Willowherb (<i>Chamaenerion angustifolium</i>). Other species include <i>Vicia sepium</i> (Bush Vetch), <i>Arrhenatherum elatius</i> (False Oat-grass), <i>Holcus mollis</i> (Creeping Soft-grass), <i>Geranium sylvaticum</i> (Wood Crane's-bill), <i>Juncus effusus</i> (Soft-rush), <i>Dactylis glomerata</i> (Cock's-foot) and <i>Poa trivialis</i> (Rough Meadow-grass).</p> <p>To the east by Well Cleuch is a mix of <i>Phragmites australis</i> (Common Reed) reedbed and willow scrub with <i>Salix cinerea</i> (Grey Willow), <i>Salix pentandra</i> (Bay Willow). Beneath the willows are Common Reed, <i>Filipendula ulmaria</i> (Meadowsweet), <i>Valeriana dioica</i> (Marsh Valerian) and <i>Cirsium palustre</i> (Marsh Thistle).</p>
18	<p>Young <i>Picea sitchensis</i> (Sitka Spruce) plantation linked to 16. The ditch by the track includes Sphagnum species, <i>Juncus</i> spp., <i>Deschampsia cespitosa</i> (Tufted Hair-grass), <i>Cardamine pratensis</i> (Cuckooflower) and <i>Silene flos-cuculi</i> (Ragged-Robin).</p> <p>The verge is a mix of Rosebay Willowherb (<i>Chamaenerion angustifolium</i>), marshy grassland with <i>Deschampsia cespitosa</i> (Tufted Hair-grass), <i>Juncus effusus</i> (Soft-rush) and <i>Rumex acetosa</i> (Common Sorrel), and acid grassland with <i>Molinia caerulea</i> (Purple Moor-grass), <i>Anthoxanthum odoratum</i> (Sweet Vernal-grass), <i>Agrostis vinealis</i> (Brown Bent) and <i>Festuca rubra</i> (Red Fescue).</p>
19	<p>Grassland south-east of Well Cleuch. There is a mix of shorter grassland with rare <i>Calluna vulgaris</i> (Heather) and <i>Vaccinium myrtillus</i> (Bilberry) and longer grassland dominated by <i>Arrhenatherum elatius</i> (False Oat-grass), <i>Filipendula ulmaria</i> (Meadowsweet) and <i>Deschampsia cespitosa</i> (Tufted Hair-grass). The shorter grassland is dominated by <i>Avenella flexuosa</i> (Wavy Hair-grass) with <i>Potentilla reptans</i> (Creeping Cinquefoil), <i>Agrostis vinealis</i> (Brown Bent), <i>Holcus mollis</i> (Creeping Soft-grass), <i>Juncus acutiflorus</i> (Sharp-flowered Rush), <i>Carex leporina</i> (Oval Sedge). (U2 <i>Deschampsia flexuosa</i> grassland)</p> <p>The longer grassland includes <i>Cruciata laevipes</i> (Crosswort), <i>Equisetum fluviatile</i> (Water Horsetail), <i>Equisetum palustre</i> (Marsh Horsetail), <i>Juncus conglomeratus</i> (Compact Rush), <i>Conopodium majus</i> (Pignut), <i>Cirsium palustre</i> (Marsh Thistle), <i>Galium palustre</i> (Common Marsh-bedstraw), <i>Valeriana dioica</i> (Marsh Valerian) and <i>Carex nigra</i> (Common Sedge). (M27b <i>Filipendula ulmaria</i> - <i>Angelica sylvestris</i> mire, <i>Urtica dioica</i> - <i>Vicia cracca</i> sub-community, MG1 <i>Arrhenatherum elatius</i> grassland,</p> <p>Further up the bank to the east is still mostly <i>Arrhenatherum elatius</i> (False Oat-grass) and <i>Filipendula ulmaria</i> (Meadowsweet), but also present are <i>Stellaria graminea</i> (Lesser Stitchwort), <i>Ranunculus repens</i> (Creeping Buttercup), <i>Cruciata laevipes</i> (Crosswort), <i>Angelica sylvestris</i> (Wild Angelica), <i>Festuca rubra</i> (Red Fescue), <i>Holcus mollis</i> (Creeping Soft-grass), <i>Cirsium vulgare</i> (Spear Thistle), <i>Veronica chamaedrys</i> (Germander Speedwell), <i>Vicia cracca</i> (Tufted Vetch) and <i>Geum rivale</i> (Water Avens).</p> <p>The northern bank of Well Cleuch is <i>Arrhenatherum elatius</i> (False Oat-grass) along the banks of the burn with <i>Cirsium heterophyllum</i> (Melancholy Thistle), <i>Stellaria holostea</i> (Greater Stitchwort) and <i>Deschampsia cespitosa</i> (Tufted Hair-grass) also present.</p>
20	<p>Young, planted <i>Picea sitchensis</i> (Sitka Spruce) merging with mature plantation woodland. There is a gap of marshy grassland with <i>Molinia caerulea</i> (Purple Moor-grass), <i>Cirsium palustre</i> (Marsh Thistle), <i>Angelica sylvestris</i> (Wild Angelica), <i>Dryopteris dilatata</i> (Broad Buckler-fern) and patches of acid grassland and heath (<i>Potentilla erecta</i> (Tormentil), <i>Galium saxatile</i> (Heath Bedstraw), <i>Agrostis vinealis</i> (Brown Bent) and <i>Calluna vulgaris</i> (Heather).</p>

21	<p>Mature <i>Picea sitchensis</i> (Sitka Spruce) plantation. Along the road is a mix of :</p> <ul style="list-style-type: none"> • ruderal vegetation including <i>Urtica dioica</i> (Common Nettle) and Rosebay Willowherb (<i>Chamaenerion angustifolium</i>) • Acid grassland with <i>Oreopteris limbosperma</i> (Lemon-scented Fern), <i>Avenella flexuosa</i> (Wavy Hair-grass), <i>Galium saxatile</i> (Heath Bedstraw), <i>Cirsium palustre</i> (Marsh Thistle), <i>Agrostis vinealis</i> (Brown Bent), <i>Molinia caerulea</i> (Purple Moor-grass), <i>Juncus effusus</i> (Soft-rush) and <i>Potentilla reptans</i> (Creeping Cinquefoil). • MG1 closest to the track with <i>Arrhenatherum elatius</i> (False Oat-grass), <i>Dactylis glomerata</i> (Cock's-foot), <i>Centaurea nigra</i> (Common Knapweed), <i>Leontodon hispidus</i> (Rough Hawkbit), <i>Hypericum perforatum</i> (Perforate St John's-wort), <i>Plantago lanceolata</i> (Ribwort Plantain), <i>Hypochaeris radicata</i> (Cat's-ear), <i>Trifolium medium</i> (Zigzag Clover), <i>Vicia cracca</i> (Tufted Vetch), <i>Trifolium dubium</i> (Lesser Trefoil), <i>Holcus lanatus</i> (Yorkshire-fog), <i>Lotus corniculatus</i> (Common Bird's-foot-trefoil), <i>Trifolium pratense</i> (Red Clover), <i>Festuca rubra</i> (Red Fescue), <i>Prunella vulgaris</i> (Selfheal), <i>Sonchus asper</i> (Prickly Sow-thistle), <i>Trifolium repens</i> (White Clover), <i>Tussilago farfara</i> (Colt's-foot), <i>Angelica sylvestris</i> (Wild Angelica), <i>Veronica chamaedrys</i> (Germander Speedwell), <i>Pilosella aurantiaca</i> (Fox-and-cubs), <i>Cirsium heterophyllum</i> (Melancholy Thistle), <i>Stellaria graminea</i> (Lesser Stitchwort) and <i>Aira praecox</i> (Early Hair-grass).
22	<p>Young <i>Picea sitchensis</i> (Sitka Spruce) plantation with a mix of MG9 (with <i>Dactylorhiza fuchsii</i> (Common Spotted-orchid)), ruderal vegetation and a wet ditch. The ruderal vegetation surrounding the woodland is mostly Rosebay Willowherb (<i>Chamaenerion angustifolium</i>), and <i>Juncus effusus</i> (Soft-rush) and <i>Deschampsia cespitosa</i> (Tufted Hair-grass) are also common. There are raised mounds with <i>Juncus squarrosus</i> (Heath Rush), <i>Potentilla erecta</i> (Tormentil), <i>Galium saxatile</i> (Heath Bedstraw), <i>Agrostis vinealis</i> (Brown Bent), <i>Polygala serpyllifolia</i> (Heath Milkwort), <i>Holcus mollis</i> (Creeping Soft-grass), <i>Molinia caerulea</i> (Purple Moor-grass), <i>Rumex acetosa</i> (Common Sorrel), and rarely, <i>Calluna vulgaris</i> (Heather).</p> <p>The bank of the ditch has scattered <i>Salix caprea</i> (Goat Willow) scrub and includes <i>Polytrichum commune</i>, <i>Cirsium palustre</i> (Marsh Thistle), <i>Luzula multiflora</i> (Heath Wood-rush), <i>Anthoxanthum odoratum</i> (Sweet Vernal-grass), <i>Holcus lanatus</i> (Yorkshire-fog) and <i>Deschampsia cespitosa</i> (Tufted Hair-grass). Species in the ditch include <i>Rhynchospora squarrosus</i>, <i>Achillea ptarmica</i> (Sneezewort), <i>Cardamine pratensis</i> (Cuckooflower), <i>Angelica sylvestris</i> (Wild Angelica), <i>Ranunculus repens</i> (Creeping Buttercup), sphagnum sp. <i>Galium palustre</i> (Common Marsh-bedstraw), <i>Carex disticha</i> (Brown Sedge), <i>Poa trivialis</i> (Rough Meadow-grass), <i>Stellaria alsine</i> (Bog Stitchwort), <i>Carex nigra</i> (Common Sedge) and <i>Carex flacca</i> (Glaucous Sedge).</p> <p>The side of the track to the east is the same though the woodland is slightly more mature and there is less grassland, just a ditch with MG10 and Rosebay Willowherb (<i>Chamaenerion angustifolium</i>). The gap between the woodland is <i>Molinia caerulea</i> (Purple Moor-grass), with MG10 (<i>Juncus conglomeratus</i> (Compact Rush), <i>Juncus effusus</i> (Soft-rush), <i>Holcus lanatus</i> (Yorkshire-fog), <i>Galium palustre</i> (Common Marsh-bedstraw), <i>Cirsium palustre</i> (Marsh Thistle), <i>Deschampsia cespitosa</i> (Tufted Hair-grass), <i>Pseudoscleropodium purum</i> and <i>Rhynchospora squarrosus</i>) with mounds of acid grassland</p>
23	<p>Moderately young (6m) <i>Picea sitchensis</i> (Sitka Spruce) plantation with a ditch either side of the path. The north side is MG1 along the path (with <i>Rhinanthus minor</i> (Yellow-rattle)) which merges into MG9 and MG10 (<i>Deschampsia cespitosa</i> (Tufted Hair-grass) and <i>Juncus effusus</i> (Soft-rush)) in the ditch, with patchy Rosebay Willowherb (<i>Chamaenerion angustifolium</i>) also present (OV27 <i>Epilobium angustifolium</i> community).</p> <p>The south side is similar on the path but merges into acid grassland down the bank of the ditch (<i>Agrostis vinealis</i> (Brown Bent), <i>Galium saxatile</i> (Heath Bedstraw), <i>Anthoxanthum odoratum</i> (Sweet Vernal-grass) and <i>Potentilla reptans</i> (Creeping Cinquefoil)) into MG10 in the ditch (<i>Holcus lanatus</i> (Yorkshire-fog), <i>Juncus effusus</i> (Soft-rush)). Rosebay Willowherb (<i>Chamaenerion angustifolium</i>) is also scattered throughout.</p>
24	<p>On the west side the MG1 along the path merges with a wide ditch partly covered in scrub (mostly <i>Salix cinerea</i> (Grey Willow), with <i>Salix caprea</i> (Goat Willow), <i>Salix aurita</i> (Eared Willow) and <i>Picea sitchensis</i> (Sitka Spruce) saplings). The ditch is mossy with <i>Rhynchospora squarrosus</i> with other species including <i>Carex flacca</i> (Glaucous Sedge), <i>Holcus lanatus</i> (Yorkshire-fog), <i>Juncus effusus</i> (Soft-rush), <i>Cardamine pratensis</i> (Cuckooflower), <i>Cirsium palustre</i> (Marsh Thistle), <i>Festuca rubra</i> (Red Fescue) and <i>Lathyrus pratensis</i> (Meadow Vetchling). Further towards the woodland is mostly Rosebay Willowherb (<i>Chamaenerion angustifolium</i>), but with <i>Juncus effusus</i> (Soft-rush),</p>

	<p><i>Deschampsia cespitosa</i> (Tufted Hair-grass), <i>Urtica dioica</i> (Common Nettle), <i>Cirsium palustre</i> (Marsh Thistle), and <i>Athyrium filix-femina</i> (Lady-fern). There are also patches of acid grassland and heath with <i>Vaccinium myrtillus</i> (Bilberry) and <i>Calluna vulgaris</i> (Heather). (mg9, mg10, ov27, m25a)</p> <p>Further south the vegetation along the track and ditch is similar but with more <i>Calluna vulgaris</i> (Heather), <i>Polytrichum commune</i>, <i>Molinia caerulea</i> (Purple Moor-grass), sphagnum fallax and <i>Juncus squarrosus</i> (Heath Rush) in the ditch, though still with a lot of <i>Juncus effusus</i> (Soft-rush) and Rosebay Willowherb (<i>Chamaenerion angustifolium</i>). There is more acid grassland closer to the woodland with <i>Dryopteris carthusiana</i> (Narrow Buckler-fern), <i>Athyrium filix-femina</i> (Lady-fern), <i>Dryopteris affinis</i> (Golden-scaled Male-fern), and <i>Dryopteris filix-mas</i> (Male-fern).</p> <p>On the east side the MG1 on the path merges into wet ruderal vegetation (<i>Urtica dioica</i> (Common Nettle), Rosebay Willowherb (<i>Chamaenerion angustifolium</i>), <i>Galium aparine</i> (Cleavers), <i>Deschampsia cespitosa</i> (Tufted Hair-grass), <i>Juncus effusus</i> (Soft-rush), <i>Cirsium palustre</i> (Marsh Thistle) and <i>Festuca rubra</i> (Red Fescue).</p> <p>The ditch vegetation is similar along the burn (MG10/Rosebay Willowherb (<i>Chamaenerion angustifolium</i>))</p>
25	<p>Felled woodland, recently replanted in places with patches of acid grassland, <i>Eriophorum vaginatum</i> (Hare's-tail Cottongrass), <i>Calluna vulgaris</i> (Heather) and <i>Polytrichum commune</i>). Most of the area though is covered in <i>Juncus effusus</i> (Soft-rush), <i>Cirsium palustre</i> (Marsh Thistle), Rosebay Willowherb (<i>Chamaenerion angustifolium</i>), <i>Stellaria alsine</i> (Bog Stitchwort), <i>Molinia caerulea</i> (Purple Moor-grass), <i>Juncus squarrosus</i> (Heath Rush), <i>Juncus conglomeratus</i> (Compact Rush), <i>Deschampsia cespitosa</i> (Tufted Hair-grass), <i>Angelica sylvestris</i> (Wild Angelica), <i>Anthoxanthum odoratum</i> (Sweet Vernal-grass), <i>Holcus lanatus</i> (Yorkshire-fog), <i>Holcus mollis</i> (Creeping Soft-grass) and ferns such as <i>Dryopteris carthusiana</i> (Narrow Buckler-fern), <i>Dryopteris affinis</i> (Golden-scaled Male-fern) and <i>Athyrium filix-femina</i> (Lady-fern).</p>
26	<p>On the west side there is felled plantation with the usual mix of MG10, acid grassland and Rosebay Willowherb (<i>Chamaenerion angustifolium</i>), also with <i>Eriophorum vaginatum</i> (Hare's-tail Cottongrass) and <i>Rumex acetosella</i> (Sheep's Sorrel). The ditch is full with <i>Juncus effusus</i> (Soft-rush), but further south, becomes mixed with <i>Equisetum sylvaticum</i> (Wood Horsetail) with <i>Calluna vulgaris</i> (Heather) and <i>Galium saxatile</i> (Heath Bedstraw) on the banks.</p> <p>The east side has patchy herbs at the side of the track (including <i>Rhytidadelphus squarrosus</i>, <i>Veronica officinalis</i> (Heath Speedwell), and <i>Myosotis arvensis</i> (Field Forget-me-not). It merges down into marshy grassland (MG10 – <i>Juncus effusus</i> (Soft-rush) with <i>Holcus lanatus</i> (Yorkshire-fog), <i>Holcus mollis</i> (Creeping Soft-grass), <i>Juncus conglomeratus</i> (Compact Rush) and <i>Deschampsia cespitosa</i> (Tufted Hair-grass)) with scattered Rosebay Willowherb (<i>Chamaenerion angustifolium</i>) to the north and raised bumps with acid grassland and heath to the south (<i>Carex nigra</i> (Common Sedge), <i>Molinia caerulea</i> (Purple Moor-grass), <i>Calluna vulgaris</i> (Heather), <i>Eriophorum vaginatum</i> (Hare's-tail Cottongrass)). The plantation is young <i>Picea sitchensis</i> (Sitka Spruce) with rare <i>Larix kaempferi</i> (Japanese Larch), <i>Pinus sylvestris</i> (Scots Pine), <i>Picea abies</i> (Norway Spruce) and <i>Salix cinerea</i> (Grey Willow).</p>
27	<p>A mix of MG10 <i>Holcus lanatus</i>-<i>Juncus effusus</i> rush-pasture (<i>Holcus lanatus</i> (Yorkshire-fog), <i>Holcus mollis</i> (Creeping Soft-grass), <i>Juncus effusus</i> (Soft-rush)), especially in the ditch to the west and acid grassland (U4a <i>Festuca ovina</i>-<i>Agrostis capillaris</i>-<i>Galium saxatile</i> grassland, typical sub-community (<i>Galium saxatile</i> (Heath Bedstraw), <i>Agrostis vinealis</i> (Brown Bent), <i>Potentilla erecta</i> (Tormentil), <i>Anthoxanthum odoratum</i> (Sweet Vernal-grass). Also with <i>Calluna vulgaris</i> (Heather) and <i>Erica tetralix</i> (Cross-leaved Heath) with <i>Molinia caerulea</i> (Purple Moor-grass), <i>Avenella flexuosa</i> (Wavy Hair-grass) and <i>Juncus squarrosus</i> (Heath Rush) (M25a <i>Molinia caerulea</i>-<i>Potentilla erecta</i> mire, <i>Erica tetralix</i> sub-community))</p> <p>The sides of the track are patches of open vegetation or grass dominated by <i>Festuca ovina</i> (Sheep's-fescue) and <i>Agrostis vinealis</i> (Brown Bent).</p>
28	<p><i>Molinia caerulea</i> (Purple Moor-grass) mire with <i>Eriophorum vaginatum</i> (Hare's-tail Cottongrass) and <i>Avenella flexuosa</i> (Wavy Hair-grass) with less frequent <i>Carex nigra</i> (Common Sedge), <i>Luzula multiflora</i> (Heath Wood-rush), <i>Polytrichum formosum</i>, <i>Juncus effusus</i> (Soft-rush), sphagnum fallax, <i>Potentilla erecta</i> (Tormentil), <i>Galium saxatile</i> (Heath Bedstraw), <i>Juncus squarrosus</i> (Heath Rush) and <i>Stellaria alsine</i> (Bog Stitchwort). There are also patches of heath with <i>Calluna vulgaris</i> (Heather), <i>Eriophorum vaginatum</i> (Hare's-tail Cottongrass), <i>Vaccinium myrtillus</i> (Bilberry) and <i>Erica tetralix</i></p>

	(Cross-leaved Heath). Referable to M25a Molinia caerulea-Potentilla erecta mire, Erica tetralix sub-community . This vegetation continues into the felled plantation.
29	<p>A small burn with a mosaic of <i>Pteridium aquilinum</i> (Bracken), M19 Calluna vulgaris-Eriophorum vaginatum blanket mire and scattered <i>Picea sitchensis</i> (Sitka Spruce) saplings growing on the banks. Further west towards the nearest track is a mix of:</p> <ul style="list-style-type: none"> • MG10 (<i>Deschampsia cespitosa</i> (Tufted Hair-grass), <i>Holcus lanatus</i> (Yorkshire-fog), <i>Juncus effusus</i> (Soft-rush) and <i>Cirsium palustre</i> (Marsh Thistle) with <i>Dryopteris dilatata</i> (Broad Buckler-fern)); • Bracken; and • acid grassland (<i>Agrostis vinealis</i> (Brown Bent), <i>Holcus mollis</i> (Creeping Soft-grass), <i>Juncus effusus</i> (Soft-rush), <i>Molinia caerulea</i> (Purple Moor-grass), <i>Eriophorum vaginatum</i> (Hare's-tail Cottongrass) and <i>Avenella flexuosa</i> (Wavy Hair-grass)) with patches of heath (<i>Calluna vulgaris</i> (Heather), <i>Eriophorum vaginatum</i> (Hare's-tail Cottongrass), sphagnum sp., <i>Molinia caerulea</i> (Purple Moor-grass), <i>Avenella flexuosa</i> (Wavy Hair-grass))
30	<p>Track between felled woodland and young <i>Picea sitchensis</i> (Sitka Spruce) plantation. To the south is a ditch with abundant <i>Juncus effusus</i> (Soft-rush) and felled woodland with <i>Eriophorum vaginatum</i> (Hare's-tail Cottongrass). To the north is a ditch with MG10 (<i>Juncus effusus</i> (Soft-rush) and acid grassland/heath (<i>Calluna vulgaris</i> (Heather)) on the bank, mixing with the MG10 closer to the woodland. The plantation has some open areas with <i>Eriophorum vaginatum</i> (Hare's-tail Cottongrass) and <i>Calluna vulgaris</i> (Heather), mosses (including <i>Kindbergia praelonga</i> and <i>Polytrichum formosum</i>), MG10 (<i>Deschampsia cespitosa</i> (Tufted Hair-grass) and <i>Juncus effusus</i> (Soft-rush)) and Rosebay Willowherb (<i>Chamaenerion angustifolium</i>).</p> <p>There is also a ditch/small burn with <i>Juncus effusus</i> (Soft-rush), <i>Juncus acutiflorus</i> (Sharp-flowered Rush), <i>Ranunculus repens</i> (Creeping Buttercup), sphagnum species and banks with a mosaic of <i>Calluna vulgaris</i> (Heather), <i>Pteridium aquilinum</i> (Bracken), scattered <i>Picea sitchensis</i> (Sitka Spruce) and patches of <i>Molinia caerulea</i> (Purple Moor-grass).</p>
31	<p>Area dominated by <i>Juncus effusus</i> (Soft-rush) merging into <i>Calluna vulgaris</i> (Heather) on the bank down to the small burn. Other species are scattered throughout (near the top, <i>Dryopteris dilatata</i> (Broad Buckler-fern), Rosebay Willowherb (<i>Chamaenerion angustifolium</i>) and <i>Deschampsia cespitosa</i> (Tufted Hair-grass)). Within the heather are rarely <i>Molinia caerulea</i> (Purple Moor-grass), <i>Dryopteris dilatata</i> (Broad Buckler-fern), <i>Avenella flexuosa</i> (Wavy Hair-grass), <i>Picea sitchensis</i> (Sitka Spruce) and patches of <i>Agrostis vinealis</i> (Brown Bent) and sphagnum species).</p> <p>Further west, this becomes mostly <i>Calluna vulgaris</i> (Heather) with acid grassland, <i>Eriophorum vaginatum</i> (Hare's-tail Cottongrass) and <i>Molinia caerulea</i> (Purple Moor-grass) mixed with <i>Juncus effusus</i> (Soft-rush). (and ferns such as <i>Dryopteris dilatata</i> (Broad Buckler-fern) and <i>Dryopteris affinis</i> (Golden-scaled Male-fern))</p> <p>These vegetation types merge into the young woodland (TN22)</p>
32	<p>Open area on a slope down from planted woodland to Well Cleuch. Towards the water is a dense area of <i>Filipendula ulmaria</i> (Meadowsweet) and <i>Carex acutiformis</i> (Lesser Pond-sedge) with rare <i>Caltha palustris</i> (Marsh-marigold) and <i>Cirsium heterophyllum</i> (Melancholy Thistle) (mostly S7 Carex acutiformis swamp with M27 Filipendula ulmaria-Angelica sylvestris mire). Further up is a mix of <i>Molinia caerulea</i> (Purple Moor-grass), <i>Juncus effusus</i> (Soft-rush), <i>Avenella flexuosa</i> (Wavy Hair-grass) and acid grassland. M25 Molinia caerulea-Potentilla erecta mire, MG10 Holcus lanatus-Juncus effusus rush-pasture and U4 Festuca ovina-Agrostis capillaris-Galium saxatile grassland.</p>
33	<p>MG1 merging into MG10, then Rosebay Willowherb (<i>Chamaenerion angustifolium</i>) then felled plantation.</p> <p>Grassland dominated by <i>Arrhenatherum elatius</i> (False Oat-grass) and <i>Festuca rubra</i> (Red Fescue) with <i>Dactylis glomerata</i> (Cock's-foot), <i>Carex flacca</i> (Glaucous Sedge), <i>Dactylorhiza purpurella</i> (Northern Marsh-orchid), <i>Holcus lanatus</i> (Yorkshire-fog), <i>Anthoxanthum odoratum</i> (Sweet Vernal-grass), <i>Ranunculus repens</i> (Creeping Buttercup), <i>Lotus corniculatus</i> (Common Bird's-foot-trefoil), <i>Centaurea nigra</i> (Common Knapweed), <i>Carex pulicaris</i> (Flea Sedge), <i>Filipendula ulmaria</i> (Meadowsweet), <i>Luzula multiflora</i> (Heath Wood-rush), <i>Dactylorhiza maculata</i> (Heath Spotted-orchid), <i>Dactylorhiza fuchsii</i> (Common Spotted-orchid), <i>Juncus conglomeratus</i> (Compact Rush), <i>Angelica sylvestris</i> (Wild Angelica), <i>Cirsium palustre</i> (Marsh Thistle) and <i>Silene flos-cuculi</i> (Ragged-Robin).</p>

	<p>Burn with a mix of Rosebay Willowherb (<i>Chamaenerion angustifolium</i>), mg10 and rarely acid grassland. Also, recently planted <i>Alnus glutinosa</i> (Alder), <i>Salix cinerea</i> (Grey Willow) and <i>Betula pubescens</i> (Downy Birch) on bank.</p>
34	<p>Track in between to areas of felled and partly replanted woodland. The west side of the track is a ditch with sphagnum fallax, <i>Ranunculus flammula</i> (Lesser Spearwort), <i>Galium palustre</i> (Common Marsh-bedstraw), <i>Stellaria alsine</i> (Bog Stitchwort), <i>Juncus acutiflorus</i> (Sharp-flowered Rush), <i>Juncus effusus</i> (Soft-rush), <i>Juncus conglomeratus</i> (Compact Rush), <i>Deschampsia cespitosa</i> (Tufted Hair-grass) and <i>Cirsium palustre</i> (Marsh Thistle). There are also small ponds with <i>Potamogeton polygonifolius</i> (Bog Pondweed), <i>Juncus bulbosus</i> (Bulbous Rush) and <i>Equisetum palustre</i> (Marsh Horsetail). There is acid grassland up the bank with <i>Agrostis vinealis</i> (Brown Bent), though most of the area is Rosebay Willowherb (<i>Chamaenerion angustifolium</i>) and MG10 (with <i>Juncus</i> spp., <i>Deschampsia cespitosa</i> (Tufted Hair-grass) and <i>Cirsium arvense</i> (Creeping Thistle).</p> <p>To the east of the track is a strip of acid grassland and <i>Juncus acutiflorus</i> (Sharp-flowered Rush) and <i>Filipendula ulmaria</i> (Meadowsweet).</p>
35	<p>Steep slopes down to a burn. The southern bank is mostly a mix of MG1, MG9, MG10 and Rosebay Willowherb (<i>Chamaenerion angustifolium</i>) with ponds and ditches (including <i>Carex acutiformis</i> (Lesser Pond-sedge), <i>Juncus effusus</i> (Soft-rush) and <i>Potamogeton polygonifolius</i> (Bog Pondweed)). The ruderal marshy grassland includes <i>Arrhenatherum elatius</i> (False Oat-grass), <i>Festuca rubra</i> (Red Fescue), <i>Lathyrus pratensis</i> (Meadow Vetchling), <i>Anthoxanthum odoratum</i> (Sweet Vernal-grass), <i>Holcus mollis</i> (Creeping Soft-grass), <i>Centaurea nigra</i> (Common Knapweed), <i>Cruciata laevipes</i> (Crosswort), <i>Holcus lanatus</i> (Yorkshire-fog), <i>Galium verum</i> (Lady's Bedstraw) and <i>Stellaria graminea</i> (Lesser Stitchwort). <i>Filipendula ulmaria</i> (Meadowsweet) and <i>Deschampsia cespitosa</i> are also present in places.</p> <p>The northern slope is similar but with patches of <i>Agrostis vinealis</i> (Brown Bent) acid grassland and along a small burn, <i>Juncus acutiflorus</i> (Sharp-flowered Rush) MG10 with <i>Filipendula ulmaria</i> (Meadowsweet) and <i>Cirsium palustre</i> (Marsh Thistle). The burn has also had young planted woodland and scrub which merge into the young planted <i>Picea sitchensis</i> (Sitka Spruce) woodland further up the slope. The planted woodland includes <i>Alnus glutinosa</i> (Alder) and <i>Salix cinerea</i> (Grey Willow). The young plantation woodland is growing over <i>Juncus acutiflorus</i> (Sharp-flowered Rush) with <i>Cirsium palustre</i> (Marsh Thistle), <i>Potentilla erecta</i> (Tormentil) and <i>Deschampsia cespitosa</i> (Tufted Hair-grass).</p> <p>There is also a gap with a wall which has MG9, OV27, acid grassland, <i>Salix cinerea</i> (Grey Willow) scrub with occasional <i>Juncus acutiflorus</i> (Sharp-flowered Rush), <i>Carex nigra</i> (Common Sedge) and <i>Equisetum fluviatile</i> (Water Horsetail). <i>Holcus mollis</i> (Creeping Soft-grass) and <i>Urtica dioica</i> (Common Nettle) become more common further down the bank until it becomes a mix of MG10, planted saplings and <i>Ulex europaeus</i> (Gorse) scrub closer to the river.</p>
36	<p>A track with young planted woodland to both the north and south. To the south, the roadside is covered with ruderal vegetation (Rosebay Willowherb (<i>Chamaenerion angustifolium</i>) and <i>Urtica dioica</i> (Common Nettle)) and <i>Arrhenatherum elatius</i> (False Oat-grass).</p> <p>To the north of the track is:</p> <ul style="list-style-type: none"> • MG10 and MG9 (<i>Juncus effusus</i> (Soft-rush), <i>Deschampsia cespitosa</i> (Tufted Hair-grass) with rarer <i>Juncus conglomeratus</i> (Compact Rush), <i>Cirsium palustre</i> (Marsh Thistle), <i>Hypericum pulchrum</i> (Slender St John's-wort), <i>Digitalis purpurea</i> (Foxglove) and <i>Stellaria graminea</i> (Lesser Stitchwort) • Rosebay Willowherb (<i>Chamaenerion angustifolium</i>). • Scattered <i>Agrostis vinealis</i> (Brown Bent) acid grassland up bank and close to woodland • A ditch with Mg10 (<i>Juncus effusus</i> (Soft-rush) and <i>Holcus lanatus</i> (Yorkshire-fog)) with <i>Glyceria fluitans</i> (Floating Sweet-grass), <i>Ranunculus flammula</i> (Lesser Spearwort), <i>Deschampsia cespitosa</i> (Tufted Hair-grass), <i>Cardamine pratensis</i> (Cuckooflower), <i>Epilobium obscurum</i> (Short-fruited Willowherb), <i>Silene flos-cuculi</i> (Ragged-Robin), <i>Equisetum palustre</i> (Marsh Horsetail), <i>Filipendula ulmaria</i> (Meadowsweet), and scattered scrub: <i>Salix caprea</i> (Goat Willow) and <i>Salix aurita</i> (Eared Willow).

37	<p>Track at the north of the Proposed Development site. To the west is felled plantation with very young replanted saplings. Under the saplings is a mix of Rosebay Willowherb (<i>Chamaenerion angustifolium</i>) and MG10 (<i>Holcus lanatus</i> (Yorkshire-fog), <i>Juncus</i> spp., <i>Deschampsia cespitosa</i> (Tufted Hair-grass) and <i>Cirsium palustre</i> (Marsh Thistle)). There is a small area with a building which also includes <i>Arrhenatherum elatius</i> (False Oat-grass), <i>Urtica dioica</i> (Common Nettle) and <i>Agrostis vinealis</i> (Brown Bent) acid grassland (<i>Anthoxanthum odoratum</i> (Sweet Vernal-grass) and <i>Veronica officinalis</i> (Heath Speedwell)).</p> <p>To the east is a mix of MG10 and Rosebay Willowherb (<i>Chamaenerion angustifolium</i>) with a ditch. There is also a large open area with the same (<i>Juncus effusus</i> (Soft-rush) and Rosebay Willowherb (<i>Chamaenerion angustifolium</i>)) with scattered <i>Salix cinerea</i> (Grey Willow) and <i>Salix aurita</i> (Eared Willow) as well as other herbs including <i>Rumex acetosa</i> (Common Sorrel), <i>Rumex obtusifolius</i> (Broad-leaved Dock), <i>Cirsium palustre</i> (Marsh Thistle) and ferns (<i>Dryopteris dilatata</i> (Broad Buckler-fern), <i>Oreopteris limbosperma</i> (Lemon-scented Fern), <i>Athyrium filix-femina</i> (Lady-fern)). The open area leads to a small gappy area of mature plantation woodland with <i>Pinus sylvestris</i> (Scots Pine) and <i>Picea sitchensis</i> (Sitka Spruce). There is also a pond with <i>Typha latifolia</i> (Bulrush), <i>Juncus effusus</i> (Soft-rush) and <i>Juncus acutiflorus</i> (Sharp-flowered Rush), and rarer <i>Potamogeton polygonifolius</i> (Bog Pondweed), <i>Hippuris vulgaris</i> (Mare's-tail) and <i>Ranunculus flammula</i> (Lesser Spearwort).</p>
38	<p>Recently planted woodland border with <i>Alnus glutinosa</i> (Alder), <i>Betula pubescens</i> (Downy Birch), <i>Sorbus aucuparia</i> (Rowan), <i>Crataegus monogyna</i> (Hawthorn) and <i>Salix cinerea</i> (Grey Willow). There is also a strip of MG10 (<i>Juncus</i> spp., <i>Holcus lanatus</i> (Yorkshire-fog), <i>Holcus mollis</i> (Creeping Soft-grass), <i>Deschampsia cespitosa</i> (Tufted Hair-grass), <i>Cirsium palustre</i> (Marsh Thistle)) mixed with <i>Agrostis vinealis</i> (Brown Bent) grassland, <i>Filipendula ulmaria</i> (Meadowsweet), and rarely <i>Molinia caerulea</i> (Purple Moor-grass).</p>
39	<p>A 1.5 x 1.5 m <i>Crataegus monogyna</i> (Hawthorn) hedge in fields of sheep grazed improved grassland dominated by <i>Lolium perenne</i> (Perennial Rye-grass).</p> <p>The north-west corner of the plantation has some semi-mature <i>Fagus sylvatica</i> (Beech) trees with younger planted <i>Fraxinus excelsior</i> (Ash), <i>Salix caprea</i> (Goat Willow), <i>Alnus glutinosa</i> (Alder), <i>Populus tremula</i> (Aspen) and <i>Sorbus aucuparia</i> (Rowan) growing over Rosebay Willowherb (<i>Chamaenerion angustifolium</i>).</p>
40	<p>Sheep-grazed fields with mature conifer plantation (<i>Picea sitchensis</i> (Sitka Spruce)). The field is a mix of</p> <ul style="list-style-type: none"> • marshy grassland (mostly in a series of gullies) dominated by <i>Juncus acutiflorus</i> (Sharp-flowered Rush) but also with <i>Juncus conglomeratus</i> (Compact Rush), <i>Juncus effusus</i> (Soft-rush) and <i>Deschampsia cespitosa</i> (Tufted Hair-grass) and patches of Sphagnum spp.. • shorter <i>Avenella flexuosa</i> (Wavy Hair-grass), <i>Potentilla erecta</i> (Tormentil), <i>Festuca ovina</i> (Sheep's-fescue), <i>Carex nigra</i> (Common Sedge), <i>Anthoxanthum odoratum</i> (Sweet Vernal-grass) acid grassland. <p>Further south it merges into grassland dominated by <i>Cynosurus cristatus</i> (Crested Dog's-tail), <i>Ranunculus acris</i> (Meadow Buttercup), <i>Anthoxanthum odoratum</i> (Sweet Vernal-grass), <i>Agrostis vinealis</i> (Brown Bent) and <i>Juncus acutiflorus</i> (Sharp-flowered Rush). Other species include <i>Sphagnum palustre</i>, <i>Carex flacca</i> (Glaucous Sedge), <i>Briza media</i> (Quaking-grass), <i>Galium palustre</i> (Common Marsh-bedstraw), <i>Juncus squarrosus</i> (Heath Rush), <i>Juncus conglomeratus</i> (Compact Rush), <i>Carex panicea</i> (Carnation Sedge), <i>Luzula multiflora</i> (Heath Wood-rush), <i>Cirsium palustre</i> (Marsh Thistle), <i>Carex leporina</i> (Oval Sedge) and <i>Pedicularis sylvatica</i> (Lousewort).</p>
41	<p>Track with mature plantation to the west and young plantation to the east. To the west is a shallow, dry ditch with ruderal MG10 (<i>Deschampsia cespitosa</i> (Tufted Hair-grass) and <i>Holcus lanatus</i> (Yorkshire-fog)) with Rosebay Willowherb (<i>Chamaenerion angustifolium</i>)). There are also patches of <i>Agrostis vinealis</i> (Brown Bent) acid grassland.</p> <p>To the east is young <i>Picea sitchensis</i> (Sitka Spruce) plantation with abundant <i>Deschampsia cespitosa</i> (Tufted Hair-grass) and Rosebay Willowherb (<i>Chamaenerion angustifolium</i>). Other species include <i>Cruciata laevipes</i> (Crosswort), <i>Rumex acetosa</i> (Common Sorrel), <i>Juncus effusus</i> (Soft-rush), <i>Juncus conglomeratus</i> (Compact Rush) and <i>Cirsium palustre</i> (Marsh Thistle). There is also a dry ditch with <i>Juncus articulatus</i> (Jointed Rush). Other species include <i>Potentilla erecta</i> (Tormentil), <i>Cardamine</i></p>

	<p><i>pratensis</i> (Cuckooflower), <i>Galium palustre</i> (Common Marsh-bedstraw), <i>Dactylorhiza maculata</i> (Heath Spotted-orchid), <i>Angelica sylvestris</i> (Wild Angelica).</p> <p>There is also an open area within the plantation which is a mosaic of:</p> <ul style="list-style-type: none"> • <i>Salix cinerea</i> (Grey Willow) and <i>Salix caprea</i> (Goat Willow) scrub • <i>Picea sitchensis</i> (Sitka Spruce) saplings • MG1 • <i>Deschampsia cespitosa</i> (Tufted Hair-grass) MG9, MG10 • Bare ground • Ponds • Rosebay Willowherb (<i>Chamaenerion angustifolium</i>) • <i>Juncus articulatus</i> (Jointed Rush) and <i>Dactylorhiza maculata</i> (Heath Spotted-orchid).
42	<p>Lighter patches of more heavily grazed <i>Cynosurus cristatus</i> (Crested Dog's-tail) with <i>Festuca ovina</i> (Sheep's-fescue)</p> <p>Darker patches of <i>Juncus articulatus</i> (Jointed Rush)</p> <p>Ring of <i>Ulex europaeus</i> (Gorse) with very short grass (rabbits and sheep) with rare <i>Trifolium repens</i> (White Clover) and <i>Bellis perennis</i> (Daisy).</p>
43	<p>Stream with <i>Filipendula ulmaria</i> (Meadowsweet), <i>Urtica dioica</i> (Common Nettle) and <i>Deschampsia cespitosa</i> (Tufted Hair-grass). The bank is mostly <i>Holcus mollis</i> (Creeping Soft-grass) and MG1 with <i>Agrostis vinealis</i> (Brown Bent) grassland. To the east is a mix of Rosebay Willowherb (<i>Chamaenerion angustifolium</i>),, planted deciduous trees (<i>Fraxinus excelsior</i> (Ash) and <i>Sorbus aucuparia</i> (Rowan)). There is also a bog with <i>Ranunculus flammula</i> (Lesser Spearwort), <i>Myosotis scorpioides</i> (Water Forget-me-not), <i>Glyceria fluitans</i> (Floating Sweet-grass), <i>Potamogeton polygonifolius</i> (Bog Pondweed), <i>Sparganium erectum</i> (Branched Bur-reed), <i>Valeriana dioica</i> (Marsh Valerian) and <i>Juncus effusus</i> (Soft-rush).</p>
Access Area	
44	Young birch and rowan scattered among heath.
45	Rush mires here possibly derived from previous bog, as there is a sparse scatter of <i>Eriophorum vaginatum</i> .
46	Tiny oceanic liverwort <i>Colura calyptrifolia</i> on Sitka Spruce.
47	Tiny oceanic liverwort <i>Colura calyptrifolia</i> on Sitka Spruce.
48	Tiny oceanic liverwort <i>Colura calyptrifolia</i> on Sitka Spruce.
49	Yiny oceanic liverwort <i>Colura calyptrifolia</i> on stem of <i>Calluna vulgaris</i> .
50	Fairly rich flora in U4a acid grassland and U20 bracken, including <i>Stellaria holstea</i> , <i>Oxalis acetosella</i> , <i>Angelica sylvestris</i> , <i>Filipendula ulmaria</i> , <i>Geum rivale</i> , <i>Ajuga reptans</i> , <i>Viola riviniana</i> and <i>Luzula pilosa</i> .
51	<i>Dryopteris dilatata</i> abundant in M19 bog (not usual for this fern to be so abundant in bog vegetation).
52	Good populations of lichens <i>Usnea dasopoga</i> and <i>Bryoria fuscescens</i> on trunk of mature larch, west of road.

ANNEX C – SPECIES LIST

Species list – several species are near threatened in Scotland but all are ‘least concern’ on GB red list (Cheffings, Farrell, and Dines, *et al.*, 2005).

Vascular plant species recorded on the land within the application boundary and haulage roads Estimates of abundance using the DAFOR system are given for all species.

Species	Abundance
a) Trees, shrubs and woody climbers	
<i>Alnus glutinosa</i> (Alder)	R
<i>Betula pendula</i> (Silver Birch)	R
<i>Betula pubescens</i> (Downy Birch)	R
<i>Calluna vulgaris</i> (Heather)	F
<i>Crataegus monogyna</i> (Hawthorn)	R
<i>Erica cinerea</i> (Bell Heather)	R
<i>Erica tetralix</i> (Cross-leaved Heath)	R
<i>Fagus sylvatica</i> (Beech)	R
<i>Fraxinus excelsior</i> (Ash)	R
<i>Picea abies</i> (Norway Spruce)	R
<i>Picea sitchensis</i> (Sitka Spruce)	A/LD
<i>Pinus sylvestris</i> (Scots Pine)	R
<i>Populus tremula</i> (Aspen)	R
<i>Quercus petraea</i> (Sessile Oak)	R
<i>Rubus idaeus</i> (Raspberry)	R
<i>Salix aurita</i> (Eared Willow)	R
<i>Salix caprea</i> (Goat Willow)	O
<i>Salix cinerea</i> (Grey Willow)	F
<i>Salix pentandra</i> (Bay Willow)	R
<i>Sorbus aucuparia</i> (Rowan)	R
<i>Ulex europaeus</i> (Gorse)	O
<i>Vaccinium myrtillus</i> (Bilberry)	R
b) Herbaceous species	
<i>Achillea millefolium</i> (Yarrow)	R
<i>Achillea ptarmica</i> (Sneezewort)	R
<i>Agrostis capillaris</i> (Common Bent)	R
<i>Agrostis stolonifera</i> (Creeping Bent)	R
<i>Agrostis vinealis</i> (Brown Bent)	F
<i>Aira praecox</i> (Early Hair-grass)	R
<i>Ajuga reptans</i> (Bugle)	O
<i>Alopecurus pratensis</i> (Meadow Foxtail)	R
<i>Anemone nemorosa</i> (Wood Anemone)	VR
<i>Angelica sylvestris</i> (Wild Angelica)	R
<i>Anthoxanthum odoratum</i> (Sweet Vernal-grass)	F
<i>Arrhenatherum elatius</i> (False Oat-grass)	O
<i>Athyrium filix-femina</i> (Lady-fern)	O

<i>Avenella flexuosa</i> (Wavy Hair-grass)	O
<i>Bellis perennis</i> (Daisy)	R
<i>Blechnum spicant</i> (Hard Fern)	R
<i>Briza media</i> (Quaking-grass)	VR
<i>Callitriche stagnalis</i> (Common Water-starwort)	R
<i>Caltha palustris</i> (Marsh-marigold)	R
<i>Cardamine flexuosa</i> (Wavy Bitter-cress)	R
<i>Cardamine pratensis</i> (Cuckooflower)	O
<i>Carex acutiformis</i> (Lesser Pond-sedge)	LF
<i>Carex binervis</i> (Green-ribbed Sedge)	R
<i>Carex cf. rostrata</i> (Bottle Sedge)	R
<i>Carex demissa</i> (Common Yellow-sedge)	R
<i>Carex disticha</i> (Brown Sedge)	O
<i>Carex echinata</i> (Star Sedge)	R
<i>Carex flacca</i> (Glaucous Sedge)	R
<i>Carex leporina</i> (Oval Sedge)	R
<i>Carex nigra</i> (Common Sedge)	O
<i>Carex panicea</i> (Carnation Sedge)	R
<i>Carex pulicaris</i> (Flea Sedge)	R
<i>Centaurea nigra</i> (Common Knapweed)	R
<i>Ceratocarpus claviculata</i> (Climbing Corydalis)	R
<i>Chamaenerion angustifolium</i> (Rosebay Willowherb)	A
<i>Cirsium heterophyllum</i> (Melancholy Thistle)	R
<i>Cirsium palustre</i> (Marsh Thistle)	F
<i>Conopodium majus</i> (Pignut)	R
<i>Cruciata laevipes</i> (Crosswort)	O
<i>Cynosurus cristatus</i> (Crested Dog's-tail)	O
<i>Dactylis glomerata</i> (Cock's-foot)	O
<i>Dactylorhiza fuchsii</i> (Common Spotted-orchid)	R
<i>Dactylorhiza maculata</i> (Heath Spotted-orchid)	R
<i>Dactylorhiza purpurella</i> (Northern Marsh-orchid)	R
<i>Deschampsia cespitosa</i> (Tufted Hair-grass)	A
<i>Digitalis purpurea</i> (Foxglove)	O
<i>Dryopteris affinis</i> (Golden-scaled Male-fern)	R
<i>Dryopteris carthusiana</i> (Narrow Buckler-fern)	R
<i>Dryopteris dilatata</i> (Broad Buckler-fern)	O
<i>Dryopteris filix-mas</i> (Male-fern)	R
<i>Epilobium obscurum</i> (Short-fruited Willowherb)	R
<i>Equisetum fluviatile</i> (Water Horsetail)	R
<i>Equisetum sylvaticum</i> (Wood Horsetail)	R
<i>Eriophorum vaginatum</i> (Hare's-tail Cottongrass)	O
<i>Festuca ovina</i> (Sheep's-fescue)	O
<i>Festuca rubra</i> (Red Fescue)	F
<i>Filipendula ulmaria</i> (Meadowsweet)	O
<i>Galium palustre</i> (Common Marsh-bedstraw)	O

<i>Galium saxatile</i> (Heath Bedstraw)	F
<i>Galium verum</i> (Lady's Bedstraw)	R
<i>Geranium robertianum</i> (Herb-Robert)	O
<i>Geum rivale</i> (Water Avens)	R
<i>Glyceria fluitans</i> (Floating Sweet-grass)	R
<i>Hieracium</i> species (a Hawkweed)	R
<i>Hippuris vulgaris</i> (Mare's-tail)	R
<i>Holcus lanatus</i> (Yorkshire-fog)	F
<i>Holcus mollis</i> (Creeping Soft-grass)	F
<i>Hypericum perforatum</i> (Perforate St John's-wort)	R
<i>Hypericum pulchrum</i> (Slender St John's-wort)	R
<i>Hypochaeris radicata</i> (Cat's-ear)	O
<i>Isolepis</i> cf. <i>setacea</i> (Bristle Club-rush)	R
<i>Juncus acutiflorus</i> (Sharp-flowered Rush)	O
<i>Juncus articulatus</i> (Jointed Rush)	R
<i>Juncus bulbosus</i> (Bulbous Rush)	R
<i>Juncus conglomeratus</i> (Compact Rush)	O
<i>Juncus effusus</i> (Soft-rush)	F
<i>Juncus squarrosus</i> (Heath Rush)	O
<i>Lathyrus linifolius</i> (Bitter-vetch)	O
<i>Lathyrus pratensis</i> (Meadow Vetchling)	R
<i>Leontodon hispidus</i> (Rough Hawkbit)	R
<i>Linum catharticum</i> (Fairy Flax)	R
<i>Lotus corniculatus</i> (Common Bird's-foot-trefoil)	O
<i>Lotus pedunculatus</i> (Greater Bird's-foot-trefoil)	O
<i>Luzula campestris</i> (Field Wood-rush)	O
<i>Luzula forsteri</i> (Southern Wood-rush)	R
<i>Luzula multiflora</i> (Heath Wood-rush)	O
<i>Luzula pilosa</i> (Hairy Wood-rush)	R
<i>Molinia caerulea</i> (Purple Moor-grass)	F
<i>Myosotis scorpioides</i> (Water Forget-me-not)	O
<i>Oreopteris limbosperma</i> (Lemon-scented Fern)	O
<i>Pedicularis sylvatica</i> (Lousewort)	R
<i>Phragmites australis</i> (Common Reed)	LF
<i>Pilosella aurantiaca</i> (Fox-and-cubs)	R
<i>Pilosella officinarum</i> (Mouse-ear-hawkweed)	O
<i>Plantago lanceolata</i> (Ribwort Plantain)	O
<i>Poa annua</i> (Annual Meadow-grass)	O
<i>Poa trivialis</i> (Rough Meadow-grass)	R
<i>Polygala serpyllifolia</i> (Heath Milkwort)	O
<i>Potamogeton polygonifolius</i> (Bog Pondweed)	O
<i>Potentilla anserina</i> (Silverweed)	R
<i>Potentilla erecta</i> (Tormentil)	A
<i>Potentilla reptans</i> (Creeping Cinquefoil)	R
<i>Pteridium aquilinum</i> (Bracken)	O

<i>Ranunculus flammula</i> (Lesser Spearwort)	R
<i>Ranunculus repens</i> (Creeping Buttercup)	O
<i>Rumex acetosa</i> (Common Sorrel)	O
<i>Rumex acetosella</i> (Sheep's Sorrel)	R
<i>Rumex obtusifolius</i> (Broad-leaved Dock)	R
<i>Silene flos-cuculi</i> (Ragged-Robin)	R
<i>Sonchus asper</i> (Prickly Sow-thistle)	R
<i>Sparganium erectum</i> (Branched Bur-reed)	R
<i>Stellaria alsine</i> (Bog Stitchwort)	R
<i>Stellaria graminea</i> (Lesser Stitchwort)	R
<i>Stellaria holostea</i> (Greater Stitchwort)	R
<i>Taraxacum</i> agg. (Dandelion)	R
<i>Trichophorum cespitosum</i> (Deergrass)	R
<i>Trifolium dubium</i> (Lesser Trefoil)	O
<i>Trifolium medium</i> (Zigzag Clover)	R
<i>Trifolium pratense</i> (Red Clover)	R
<i>Trifolium repens</i> (White Clover)	O
<i>Tussilago farfara</i> (Colt's-foot)	O
<i>Typha latifolia</i> (Bulrush)	LF
<i>Urtica dioica</i> (Common Nettle)	O
<i>Valeriana dioica</i> (Marsh Valerian)	O
<i>Veronica anagallis-aquatica</i> (Blue Water-speedwell)	R
<i>Veronica chamaedrys</i> (Germander Speedwell)	O
<i>Veronica officinalis</i> (Heath Speedwell)	O
<i>Vicia cracca</i> (Tufted Vetch)	R
<i>Vicia sepium</i> (Bush Vetch)	R
<i>Viola palustris</i> (Marsh Violet)	R
c) Bryophytes	
<i>Hypnum jutlandicum</i>	O
<i>Kindbergia praelonga</i>	O
<i>Polytrichum commune</i>	F
<i>Polytrichum formosum</i>	F
<i>Pseudoscleropodium purum</i>	O
<i>Rhytidiadelphus loreus</i>	R
<i>Rhytidiadelphus squarrosus</i>	A
<i>Sphagnum capillifolium</i>	VR
<i>Sphagnum fallax</i>	R
<i>Sphagnum palustre</i>	R
<i>Thuidium tamariscinum</i>	O