SP Energy Networks

Troston Overhead Line Grid Connection

NVC Survey Report

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EXECUTIVE SUMMARY

1. This report presents the results of a National Vegetation Classification (NVC) botanical survey at the proposed Troston Wind Farm Overhead Line (OHL) grid connection, located *c.* 6.2 km north-east of the village of Saint John's of Dalry in Dumfries and Galloway.
2. The *c.* 280 ha study area is largely comprised of coniferous plantation, clear fell forestry, modified grazed grassland, bog and heathland, with the Black Water river and its tributaries also running through the site at various sections.
3. Nine NVC communities were identified during the survey, the most prevalent NVC community across the site is the M25 *Molinia caerulea — Potentilla erecta* mire. The remaining areas consist of wet heath, mires, rush pastures, and agriculturally modified acid grassland. The centre of the site is almost entirely a complex mosaic of acid grassland and *Molinia* rush pasture, probably derived from historically drained bog habitat.
4. The areas of M15, M18 and M23 communities fit into the UK Biodiversity Action Plan (BAP) Priority Habitat *Bogs: Blanket Bog*, and M25 is listed under *Fen, Marsh & Swamp: Purple Moor Grass & Rush Pastures*. On the Scottish Biodiversity List (which lists species and habitats of principal importance for biodiversity conservation in Scotland), the bog communities are listed as well as upland heathland, U5 *Nardus– Galium* grassland and U6 *Juncus – Festuca* grassland, which were all present in the study area. No particularly rare plant species were found.

CONTENTS

TABLES

FIGURES

1.0 INTRODUCTION

1.1 Purpose of this report

1.1.1 This report presents the results of a National Vegetation Classification (NVC) survey at the proposed Troston Wind Farm Overhead Line (OHL) grid connection, located *c.* 6 km north-east of the village of Saint John's of Dalry in Dumfries and Galloway (hereafter referred to as 'the Site' in this report). The Site layout is indicated in *Figure 1*.

1.1.2 The aim of the NVC survey is to identify and map the extent of the vegetation communities present within the Site to identify habitats with high ecological value (i.e., Annex I habitats; Scottish Biodiversity List (SBL) priority habitats.

1.1.3 The survey was carried out by RSK Biocensus on the behalf of SP Energy Networks to support the application of these proposed works.

1.1.4 The survey was conducted in October 2023 by ecological consultants Robyn Maby (BSc, MSc) and Hadyn Murray (BSc, MRes).

1.2 Landscape context

1.2.1 The survey covered the proposed OHL route with a 250 m buffer which was a land area of *c.* 280 hectares, centered on grid reference NX 65693 88884. The Site (comprising the proposed OHL route and 250 m buffer) is largely comprised of coniferous plantation, clear fell forestry, modified grazed grassland, bog and heathland, with the Black Water river and its tributaries also running through the site at various sections.

1.2.2 The surrounding area to the east and south of the Site also consists of coniferous plantation and clear fell forestry. Areas to the north and west are of a similar kind to the bog, heathland and modified grassland habitats used for grazing livestock, as present within the study area.

1.3 Development proposals

1.3.1 The construction of 14 wind turbines has been approved at Troston, the proposed works to which this report relates, is in consideration of the associated OHL to connect the Troston Loch Wind Farm and Glenshimmeroch collector substation.

1.3.2 The proposed works consist of *c.* 3.7 km of OHL, supported by wood poles, and would include an operational wayleave corridor of 60 m (30 m each side of the central alignment).

1.3.3 Four temporary construction compounds and temporary access would be constructed, as necessary, to facilitate the development. Access will be with tracked/low pressure vehicles, with trackway panels or temporary stone roads possibly required in some areas. Following commissioning of the OHL, all equipment and temporary access of construction areas would be removed, with the land being reinstated to the satisfaction of the landowner.

2.0 METHODS

2.1 Overview

2.1.1 The National Vegetation Classification (NVC) botanical survey covered the Site and a 250 m buffer. The survey broadly followed guidance from the Joint Nature Conservation Committee (JNCC) found in (Rodwell, J.S. 2006).

2.2 NVC Classification

2.2.1 The field survey was based on the National Vegetation Classification (NVC) survey approach (Rodwell, J.S. 2006). The NVC is a system which aims to describe every broad plant community type in the British Isles, and standard methods are used in the field and for data analysis (Rodwell, J.S. 2006).

2.2.2 Species were given estimates of abundance[1] taken in homogenous areas (stands) of vegetation. Where possible, care was taken to avoid transitional vegetation and boundaries between vegetation, so that the perceived types are adequately sampled. Quadrat data was not collected.

2.2.3 The botanical data was assessed using tables and descriptions in the relevant NVC volumes (Rodwell, J.S. 1992).

2.2.4 Where plant communities were found that could not be described or assigned to a standard NVC community type, a separate document produced by Ben and Alison Averis was used to classify the community, “Plant communities found in Surveys by Ben and Alison Averis but not described in the UK National Vegetation Classification” (Averis & Averis, 2020).

2.2.5 Plant nomenclature in this report follows Stace (2019) for native and naturalised species of vascular plant. Introduced species and garden varieties were identified using relevant floras. Plant names in the text are given with scientific names first, followed by the English name in brackets. Doubtful identifications are preceded by ‘cf.’ placed before the specific epithet where the plant is very probably the species indicated, but it could not be distinguished from similar members of the genus with certainty.

2.2.6 A plant species list was recorded and is given in *Appendix A.* Subjective estimates of the relative abundance of species were added to the list using a modified DAFOR scale.

2.3 Constraints and Limitations

2.3.1 The survey was conducted in October 2023, outside of the main flowering season for some species. Species could be identified using vegetative features and, as such, the habitats were identified and classified accurately. The high sward height in some areas did make the identification of forb species more difficult outside of the more thoroughly surveyed areas with a shorter sward, potentially resulting in some species being missed.

[1] Using the Domin-scale

2.3.2 Some areas of grassland were grazed by livestock, grasses can be difficult to identify in grazed swards as the identifying features have often been eaten. This can also affect the estimation of abundance, as the more palatable species are preferentially eaten.

2.3.3 The aquatic communities were not sampled nor were they assigned an NVC community. The marginal vegetation was sampled, and the fringe habitats were classified, the floating and submerged vegetation was not identified for health and safety reasons. As such, the vegetation communities within the identified waterbodies could not be classified in accordance with the NVC.

3.0 RESULTS

3.1 NVC Classification

Overview

3.1.1 There are broadly nine NVC communities within the study area (*Figure 2*):

- **Mires & Heaths:** M15, M18, M23, M25
- **Grasslands:** MG9, U4, U5, U6 & U20
- **Non – NVC:** Plantation

3.1.2 The differences between the communities is apparently almost entirely due to variation in management, mainly the frequency of cutting or grazing. Some areas therefore exhibit elements of more than one community, particularly where they transition. The communities are described in more detail in the following sections. Species data for the study area is provided in *Appendix A.*

M15 *Trichophorum germanicum – Erica tetralix* wet heath

3.1.3 The M15 community can have a wide variation in the dominant vegetation, but generally consist of mixtures of *Calluna vulgaris* (Common Heather), *Erica tetralix* (Cross-leaved Heath), *Trichophorum germanicum* (Deergrass), *Molinia caerulea* (Purple Moor-grass), *Potentilla erecta* (Tormentil), *Narthecium ossifragum* (Bog Asphodel), and *Eriophorum angustifolium* (Common Cottongrass). The wet heath community is characteristic of moist and generally acidic and oligtrophic peats and peaty mineral soils and is associated with thinner or better drained areas of ombrogenous peat. (Elkington *et al*., 2001; Averis *et al*., 2004; Rodwell *et al*., 1991).

3.1.4 North-east of the survey area, there was a large expanse of wet heath, the sward was medium to short and closed and continuous, with no areas of bare ground. The vegetation was dominated by *Trichophorum germanicum* (Deergrass) and *Sphagnum capillifolium* (Red Bog-moss), *Calluna vulgaris* (Common Heather) and *Erica tetralix* (Cross-leaved Heath) were frequent, with occasional *Narthesium ossifragum* (Bog Asphodel), *Molinia caerulea* (Purple Moor-grass), *Cladonia rangiferina* (Reindeer Lichen) and *Polytrichum commune* (Common Haircap-moss).

3.1.5 The listed constant species of this community are *Calluna vulgaris* (Common Heather), *Erica tetralix* (Cross-leaved Heath), *Molinia caerulea* (Purple Moor-grass), *Potentilla erecta* (Tormentil) and *Trichophorum germanicum* (Deergrass)(Rodwell *et al.,* 1991) which are all present in high frequency in this area. *Sphagnum capillifolium* (Red Bog-moss) was found in abundance, which is considered to be common in this community in wetter stands and can attain some level of abundance. The occasional occurrence of *Narthecium ossifragum* (Bog Asphodel) is consistent with this NVC community, though there was an absence of *Eriophorum angustifolium* (Common Cottongrass) at the time of the survey.

Photograph 1. Short/medium sward with conspicuous *Trichophorum germanicum* and *Erica tetralix* among the ground flora. Extensive area across degraded bog.

Photograph 2. Area of wet heath with M15 constant species *Trichophorum germanicum*, *Calluna vulgaris, Molinia caerulea* as well as *Sphagnum capillifolium*

M18 *Erica tetralix – Sphagnum papillosum* raised and blanket mire

3.1.6 This community is characterised by the abundance of *Erica tetralix* (Cross-leaved Heath) and *Sphagnum papillosum* (Papillose Bog-moss), these species thrive in waterlogged ombrogenous peats at low altitudes in moderately oceanic regions of Britain. This vegetation can be found in blanket mires and basin mires on acid peat soil. This vegetation assemblage represents a hydroseral succession, however anthropogenic impacts such as peat cutting and drainage often leads to modification and fragmentation of this habitat (Elkington *et al*., 2001; Rodwell *et al*., 1991).

3.1.7 The M18 community was found predominantly in the north-east of the site in fragmented patches, forming mosaics and transitional zones with the M25 *Molinia – Potentilla* rush-pasture vegetation community. Signs of historic management were evident within this habitat with the drainage of the peat resulting in the modification of the bog habitat and the resulting colonisation of *Molinia* and ericoids.

3.1.8 The sward was relatively short in comparison to the surrounding rush pasture with the vegetation growing low to the ground, little bare ground was visible with an extensive bryophyte layer being recorded within the habitat. Abundantly recorded species include *Erica tetralix* (Cross-leaved Heath) and *Eriophorum vaginatum* (Hare's-tail Cottongrass) which formed the main height of the sward, these are listed as constant species for this community, other constant species include *Calluna vulgaris* (Common Heather), *Sphagnum capillifolium* (Red Bog-moss), *Sphagnum papillosum* (Papillose Bog-moss) and *Aulacomnium palustre* (Bog Bead-moss) which were all recorded during the survey. *Narthecium ossifragum* (Bog Asphodel) and *Cladonia* sp., were occasionally recorded amongst the flora and *Vaccinium oxycoccos* (Bog Cranberry) was noted to be rare.

3.1.9 Signs of modification were evident within this stand through the encroachment of species such as *Molinia caerulea* (Purple Moor-grass), *Myrica gale* (Bog Myrtle), and the abundance of Ericoid sub-shrubs. The increase in the abundance of these species was notable around the margins of the M18 vegetation community.

Photograph 3. Area of remining bog M18 bog vegetation in mosaic with the *Molinia* dominated M25 vegetation colonising the degraded bog.

M23 *Juncus effusus/acutiflorus – Galium palustre* rush-pasture

3.1.10 This community is characterised by the abundance of either *Juncus effusus* (Soft-rush), or *Juncus acutiflorus* (Sharp-flowered Rush) with a herb ground cover in wet agricultural grassland. This rush-pasture occurs over a variety of moist, moderately acid to neutral, peaty and mineral soils. The community is generally found around on gently-sloping ground and around the margins of flushes and poorly drained pastures (Elkington *et al*., 2001; Averis *et al*., 2004; Rodwell *et al*., 1991).

3.1.11 This community was found in patches across the mire and grassland habitats around drainage ditches, pools and more moist depressions. Larger swathes occurred along the banks of the Black Water river and its tributaries in the western portion of the site.

3.1.12 The sward was tall and dense, often forming tussocks. The constant species listed in this community are *Galium palustre* (Common Marsh-bedstraw), *Holcus lanatus* (Yorkshire-fog), *Juncus effusus* (Soft Rush) and/or *acutiflorus* (Sharp-flowered Rush) which were all recorded frequently. *Lotus pedunculatus* (Greater Bird's-foot-trefoil) is also listed as a constant, but was not found during the survey, this may be due to the time of year. *Cardamine pratensis* (Cuckooflower), *Cirsium palustre* (Marsh Thistle), *Viola palustris* (Marsh Violet), *Epilobium palustre* (Marsh Willowherb), *Rumex acetosa* (Common Sorrel) and *Juncus conglomeratus* (Compact Rush) were additionally all recorded occasionally. *Molinia caerulea* (Purple Moor-grass) also occurred to varying degrees within this community across the site, particularly in the mosaic areas or at the margins of transitional zones.

3.1.13 On the river banks, *Deschampsia cespitosa* (Tufted Hair-grass), *Filipendula ulmaria* (Meadowsweet), *Angelica sylvestris* (Wild Angelica), *Agrostis capillaris* (Common Bent) were abundant, with occasional *Arrhenatherum elatius* (False Oat-grass), *Potentilla erecta* (Tormentil), and *Fescue* spp. (fescues), *Comarum palustre* (Marsh Cinquefoil), *Mentha aquatica* (Water Mint), and *Polytrichum commune* (Common Haircap-moss).

Photograph 4. Dense sward of tall *Juncus effussus* tussocks with *Holcus lanatus* colonising seasonally inundated banks of the Black Water.

Photograph 5. M23 rush pasture around a stream with Juncus effusus, Deschampsia cespitosa and Filipendula Ulmaria in abundance

Photograph 6. Mosaic of M23 in depressions and damper areas of grassland.

M25 *Molinia caerulea – Potentilla erecta* mire

M25a *Erica tetralix* sub-community

3.1.14 This NVC community is characterised by the abundance of *Molinia caerulea* (Purple Moor-grass). The associated flora is noticeably species poor, though can be quite variable. Most common are rushes and a few dicotyledons. *Juncus acutiflorus* (Sharp-flowered Rush) and *Juncus effusus* (Soft Rush) are the most frequent and the only constant dicotyledons is *Potentilla erecta* (Tormentil). Grasses are limited, but *Agrostis canina* (Dog Bent) and *Agrostis stolonifera* (Creeping Bent) are occasional and *Holcus lanatus* (Yorkshire Fog) is common. This mire is a community of moist, but well-aerated, acid to neutral peats and peaty mineral soils (Elkington *et al*., 2001; Averis *et al*., 2004; Rodwell *et al*., 1991).

3.1.15 This community was one of the most common and widespread across the study area; in some areas it covered extensive and uninterrupted expanses, as well as occurring as a

mosaic, alongside grassland communities. These were often around depressions and gently sloping ground, and at the margins of seepage zones, water-tracks and sluggish streams (Elkington *et al*., 2001; Averis *et al*., 2004; Rodwell *et al*., 1991). This community was additionally identified along the access tracks between blocks of coniferous plantation.

3.1.16 The sward was tall and closed with little bare ground. Areas encompassing this community were often grazed and with man-made drainage ditches and channels leading to a degradation of the bog habitat. The vegetation was dominated by *Molinia caerulea* (Purple Moor-grass) with frequent *Potentilla erecta* (Tormentil), which are listed as the constant species in this community (Rodwell *et al.,* 1991); as well as *Holcus lanatus* (Yorkshire Fog), *Festuca* spp. (fescues), *Juncus squarrosus* (Heath Rush), and *Polytrichum commune* (Common Haircap-moss). *Trichophorum germanicum* (Deergrass) *and Vaccinium myrtillus* (Bilberry) were occasional, with *Pleurozium schreberi* (Red-Stemmed Feather Moss) found between tussocks of *Molinia caerulea* (Purple Moor-grass).

3.1.17 Within the south-east of the study area, a herb rich stand of this vegetation community was recorded (Photograph 8). The ground layer comprised frequent *Angelica sylvestris* (Wild Angelica), *Filipendula ulmaria* (Meadowsweet), *Trocdaris verticillata* (Whorled Caraway), *Comarum palustre* (Marsh Cinquefoil), *Valeriana officinalis* (Common Valerian), and *Achillea ptarmica* (Sneezewort). The area was noted in close proximity to a pond just outside the site boundary, the soil was waterlogged with a tall sward. The grazing pressure appeared to be reduced in this area which may have accounted for the increase in species diversity.

3.1.18 In an area to the north of the site, and alongside the Black Water river, the sub-community M25a *Erica tetralix* (Cross-leaved Heath) was evident with an increased abundance of *Erica tetralix* (Cross-leaved Heath), *Calluna vulgaris* (Common Heather), *Polytrichum commune* (Common Haircap-moss), *Myrica gale* (Bog Myrtle), occasional *Narthecium ossifragum* (Bog Asphodel), *Hypnum* spp. (Carpet Moss) and scattered hummocks of *Sphagnum capillifolium* (Red Bog-moss). Though no *Eriophorum angustifolium* (Common Cottongrass) was found at the time of the survey, this may have been due to the time of the year.

Photograph 7. Extensive area with abundant *Molinia caerulea* cover, colonising degraded blanket bog.

Photograph 8. Herb rich stand of M25 in the south-east of the site. Herbaceous species conscious among the *Molinia caerulea* sward.

Photograph 9. M25 mosaic amongst grassland communities within a sloped, wetter depression

MG9 *Holcus lanatus – Deschampsia cespitosa* grassland

3.1.19 The MG9 *Holcus lanatus – Deschampsia cespitosa* grassland is characteristic of permanently moist, gleyed and periodically inundated circumneutral soils across large areas of the British lowlands. It can exist on level to moderately sloping ground in areas of pasture or meadow, but can also be found along woodland rides and fen/wetland margins. MG9 typically contains a coarse and tussocky sward dominated by *Deschampsia cespitosa* (Tufted Hair-grass) (Rodwell *et al*., 1992).

3.1.20 This community was predominantly found in the north-west of the site in long stretches along the Black Water river, the banks of which are more permanently moist and subject

to seasonal inundation. The boundary of this habitat was often found in areas of transition with the rush dominated M23 *Juncus – Galium* rush-pasture.

3.1.21 The structure comprised tall, lush green swathes of vegetation colonising wet soil along the bank of the Black Water (Photograph 10). The sward is closed with no visible areas of bare ground, herbs were frequently recorded amongst the grasses and rushes, forming a relatively species rich ground layer. Species predominantly comprising abundant *Deschampsia cespitosa* (Tufted Hair-grass), with frequent *Holcus lanatus* (Yorkshire Fog) which are the constant species listed for this community. Frequently recorded species included *Filipendula ulmaria* (Meadowsweet), *Angelica sylvestris* (Wild Angelica), *Agrostis capillaris* (Common Bent), occasional *Arrhenatherum elatius* (False Oat-grass), *Potentilla erecta* (Tormentil), and *Festuca* spp. (fescues), all of which are noted as associated species. Given how conspicuous *Deschampsia cespitosa* (Tufted Hair-grass) is among the sward and the other associated species recorded, these areas are clearly referable to MG9 vegetation community.

Photograph 10. Tall sward comprising abundant *Deschampsia* along the banks of the Black Water.

U4 *Festuca ovina – Agrostis capillaris – Galium saxatile* grassland

U4b *Holcus lanatus – Trifolium* repens sub-community

3.1.22 The U4 vegetation community is predominantly an upland grassland of well-drained, acidic, and base-poor mineral soils throughout the wet and cool regions of north-west Britain where it dominates extensive areas of pastureland. Typically, these grasslands showcase short, tightly grazed turf, climate and soils play a significant role in determining the floristic character of this community, but the influence of grazing stock is the main factor (Rodwell *et al*., 1992).

3.1.23 This vegetation community was found in fragmented patches across the study area and often in mosaic with or on the margins of other areas of acid grassland subject to modification, namely the U5 *Nardus – Galium* grassland and U6 *Juncus – Festuca* grassland. This vegetation community shares a similar suite of species compared to the U5 community, the differentiation between the two is the relative abundance of key species, namely *Festuca ovina* (Sheep's Fescue) being represented in U4 and *Nardus*

stricta (Mat-grass) becoming the abundant species in U5. The stands recorded during the survey are for the most part the U4b *Holcus lanatus - Trifolium repens* sub-community, where the impacts of historic and more recent grazing levels remain evident.

3.1.24 The U4b sub-community includes species found in improved grasslands, with a bryophyte layer potentially limited by dense grass sward. Common species include *Holcus lanatus* (Yorkshire Fog), *Trifolium repens* (White Clover), *Achillea millefolium* (Yarrow), and *Cerastium fontanum* (Common Mouse-ear). The sward may feature *Festuca ovina* (Sheep's Fescue), *Agrostis capillaris* (Common Bent), *Anthoxanthum odoratum* (Sweet Vernal Grass), and may be augmented by grasses such as *Cynosurus cristatus* (Crested Dog's-tail) (Photograph 11).

Photograph 11. Area of U4b vegetation due to historic and ongoing grazing. *Cynosurus cristatus* conspicuous among the short sward.

U5 *Nardus stricta – Galium saxatile* grassland

3.1.25 *Nardus-Galium* grasslands thrive on damp mineral soils with peaty upper layers, often forming extensive stands on upland hillsides. They typically occupy slopes with soil conditions between drier podsols found in U4 *Festuca-Agrostis-Galium* grasslands and wet shallow peats in U6 *Juncus-Festuca* grasslands. While the underlying rock can vary from acid to basic, the soils are generally acidic with some podsolisation. These grasslands can also emerge on deep peat where the original mire vegetation has been lost due to factors like burning, heavy grazing, or drainage (Rodwell *et al*., 1992; Averis *et al*., 2004).

3.1.26 Similar to the U4 *Festuca – Agrostis* grassland, the U5 vegetation community was found in fragmented patches across the study area being recorded predominantly in the north and north-east. It was found both as small, homogenous stands and forming mosaics and transitional habitats with the more *Molinia* dominated rush pastures, colonizing the raised areas with thin, drier soils.

3.1.27 The sward was short with the tufts of old *Nardus stricta* (Mat-grass) forming the main height and structure of the vegetation. Signs of historic and ongoing grazing were evident with some areas of local enrichment through dunging being noted. The species predominantly comprised grasses including the abundant *Nardus stricta* (Mat-grass), occasional *Agrostis capillaris* (Common Bent), *Festuca ovina* (Sheep's Fescue), with a herb layer including

Galium saxatile (Heath bedstraw), *Potentilla erecta* (Tormentil), occasional *Rumex acetosa* (Common Sorrel*)*, and *Ranunculus repens* (Creeping Buttercup) and *Juncus squarrosus* (Heath Rush). Rarely recorded was *Cynosurus cristatus* (Crested Dog's-tail), with only a few old inflorescences being noted among the sward. The bryophyte ground layer was sparse and species poor, solely comprised of *Rhytidiadelphus squarrosus* (Springy Turf-moss) and *Pleurozium schreberi* (Red-Stemmed Feather Moss).

Photograph 12. Straw coloured leaves of old Nardus stricta conspicuous among the short sward.

U6 *Juncus squarrosus – Festuca ovina* grassland

3.1.28 This vegetation community thrives in environments characterised by moist peats and peaty mineral soils, typically found in regions with cool and wet conditions, predominantly situated at higher altitudes in the north and west of Britain. These habitats are generally base-poor and infertile, spanning gently sloping terrains and plateaus. The composition of this grassland community is significantly influenced by the prevailing climate and soil conditions, with the ecosystem often emerging as a secondary vegetation type. Its development is notably shaped by specific grazing and burning treatments, particularly in the damper upland pastures and along the drying fringes of blanket mires.

3.1.29 Similar to the U4 *Festuca – Agrostis* and U5 *Nardus – Galium* vegetation communities, U6 was found in fragmented patches across the study area being recorded predominantly in the north and north-east. It was found both as small, homogenous stands and forming mosaics and transitional habitats with the other acidic grassland communities and surrounding mire (Photograph 13).

3.1.30 This vegetation community shares a similar suite of species compared to the U4 and U5 communities, the differentiation between the two is the relative abundance of key species, namely *Juncus squarrosus* (Heath Rush) being represented in U6 and notably absent in the stands of U4 and U5. The species predominantly comprised grasses including the abundant *Festuca ovina* (Sheep's Fescue), with a herb layer including frequent *Juncus squarrosus* (Heath Rush), *Galium saxatile* (Heath bedstraw), occasional *Rumex acetosa* (Common Sorrel*)*, and *Ranunculus repens* (Creeping Buttercup). Rarely recorded was *Cynosurus cristatus* (Crested Dog's-tail), with only a few old inflorescences being noted

among the sward. The bryophyte ground layer was sparse and species poor, solely comprised of *Rhytidiadelphus squarrosus* (Springy Turf-moss) and *Pleurozium schreberi* (Red-Stemmed Feather Moss). *Polytrichum commune* (Common Haircap-moss) (listed as a constant species for this community) was notably absent, potentially due to grazing and agricultural modification.

Photograph 13. Area of U6 grassland forming mosaics and transitional zones with the surrounding mire vegetation.

U20 *Pteridium aquilinum-Galium saxatile* community

3.1.31 The U20 *Pteridium aquilinum-Galium saxatile* community is dominated by *Pteridium aquilinum* (Bracken). This habitat is usually found in scattered patches amongst grassland, heath, woodland and mires on slopes of slightly drier areas (Averis *et al*., 2004; Rodwell *et al*., 1992).

3.1.32 Within the study area, this habitat type was limited in its distribution, only found to the west on the sloped banks of the Black Water river and a tributary to the south between areas of coniferous plantation.

3.1.33 The described constant species for this community were all present, dominated by *Pteridium aquilinum* (Bracken) with *Galium saxatile* (Heath Bedstraw)*, Potentilla erecta* (Tormentil) and *Festuca ovina* (Sheep's Fescue) all occurring frequently. The grasses *Agrostis capillaris* (Common Bent) and *Holcus lanatus* (Yorkshire Fog) were also frequent, with occasional *Juncus effusus* (Soft Rush). The ground cover was made up of *Pseudoscleropodium purum* (Neat Feather-moss), *Pleurozium schreberi* (Red-Stemmed Feather Moss), *Polytrichum commune* (Common Haircap-moss) and *Rhytidiadelphus squarrosus* (Springy Turf-moss). This community was mostly bordered by M25 *Molinia-Potentilla,* or occurring together making up a mosaic habitat. As such, *Molinia caerulea* (Purple Moor-grass) was also frequently present within this community.

Photograph 14. U20 vegetation colonising drier, thin soil slopes bordering the Black Water river.

Photograph 15. Dense sward of *Pteridium aquilinum* along the sloped banks of a stream.

Photograph 16. *Pteridium-Galium* and *Molina-Potentilla* communities found together in a mosaic habitat.

Non-NVC communities

3.1.34 Large areas of conifer plantation extended across the far eastern point and made up the large majority of the south-western section survey area. Plantation zones ranged from mature, to young or newly planted and clear fell areas. Some areas also included deciduous saplings.

3.1.35 This vegetation type does not conform to any particular NVC community with a limited range of successional species, such as *Digitalis purpurea* (Foxglove), *Senecio jacobaea* (Common Ragwort) and common grasses.

Photograph 17. Coniferous plantation - clear fell area surrounded by mature and young plantation

4.0 EVALUATION

4.1 Groundwater Dependent Terrestrial Ecosystems (GWDTE)

4.1.1 Ecosystems (wetlands) that critically depend upon groundwater represent the ecological quality of the invisible groundwater bodies. The hydrological linkage between groundwater and the wetland ecosystems that depend upon the groundwater is crucial and habitats can be sensitive to the changes in the groundwater quality and supply that can be affected by development activities.

4.1.2 The Scottish Environment Protection Agency (SEPA, 2017) has classified a number of NVC plant communities as having the potential to be GWDTE, with the level of dependency linked to the hydrological setting of the habitat. Many communities listed are widespread and common across Scotland, with some having relatively low ecological or botanical value.

4.1.3 Designation of a vegetation community as GWDTE does not therefore infer an intrinsic biodiversity value, GWDTE status has not been used as a criterion to determine a habitats respective conservation importance. Using SEPA's (2017) guidance, (Table 1) shows the potential of each community within the study area to consider GWDTE. Communities which may have moderate dependency are marked in yellow and those considered to be high are marked as red. Communities without a colour are not considered to be groundwater dependent. The location of each community can be seen in *Figure 3*.

Table 1. Vegetation communities within the study area which may be GWDTE (SEPA, 2017).

NVC Code	NVC Community Name	Potential GWDTE Status
M15	*Trichophorum germanicum – Erica tetralix* wet heath	Moderate
M18	*Erica tetralix – Sphagnum papillosum* raised and blanket mire	N/A
M23	*Juncus effusus/acutiflorus – Galium palustre* rush - pasture	High
M25	*Molinia caerulea – Potentilla erecta* mire	Moderate
MG9	*Holcus lanatus – Deschampsia cespitosa* grassland	Moderate
U4	*Festuca ovina – Agrostis capillaris – Galium saxatile* grassland	N/A
U5	*Nardus stricta – Galium saxatile* grassland	N/A

U6	*Juncus squarrosus – Festuca ovina* grassland	Moderate
U20	*Pteridium aquilinum-Galium saxatile*	N/A

4.2 Conservation Interest

4.2.1 The M15 *Trichophorum-Erica* vegetation community identified within the site corresponds with the Upland Heathland Priority Habitat listed on the Scottish Biodiversity List (SBL) and the UK Biodiversity Action Plan (BAP), it is also classified as an Annex 1 Priority Habitat. The wet heathland habitat is important for a range of vascular plants and bryophytes, a high proportion of the European extent of this habitat occurs in the UK. The wet heath habitat often forms complex mosaics with blanket bogs and other mire communities in upland situations. As such, there is overlap with this vegetation community and the UK BAP Blanket Bog Priority Habitat.

4.2.2 The M15 *Trichophorum–Erica,* M18 *Erica–Sphagnum,* and M23 *Juncus-Galium* NVC communities identified within the site corresponds with the Blanket Bog Priority Habitat listed on the Scottish Biodiversity List (SBL), UK Biodiversity Action Plan (UKBAP) and Annex I Priority Habitats. Blanket bog is an important habitat type as it supports a range of common to internationally important vascular plant species and bryophytes. Blanket bogs serve as important carbon stores, which can be compromised due to anthropogenic impact.

4.2.3 The M25 *Molinia– Potentilla* community falls into the Fen, Marsh and Swamp: Purple Moor Grass and Rush Pastures Priority Habitat, as outlined on the UKBAP, Annex I and SBL Priority Habitat list. This habitat type is a priority for nature conservation due to the susceptibility to agricultural modification.

4.2.4 Additionally, species rich U5 *Nardus–Galium* and U6 *Juncus–Festuca* grasslands are listed on the SBL for their importance for supporting species. Although these communities were identified within the survey area, they would not be considered species rich, and mostly appearing in small, fragmented and heavily grazed patches that have undergone agricultural modifications. As such, they are not particularly good general representations of the community. Therefore, it is not considered that this specific community at the site would be classed as a priority habitat.

5.0 DISCUSSION

5.1.1 The vegetation found during the NVC survey suggested that the mires and grassland are acidic in nature, with frequent occurrences of species such as *Festuca ovina* (Sheep's Fescue) and *Festuca rubra* (Red Fescue), *Juncus squarrosus* (Heath Rush), *Trichophorum germanicum* (Deergrass), *Nardus stricta* (Mat-Grass) and *Molinia caerulea* (Purple Moor-grass). However, there are signs that agricultural modifications, such as heavy grazing and man-made drainage channels have led to a gradual degradation of these mire habitats, allowing *Molinia caerulea* (Purple Moor-grass) to dominate in many areas and more neutral grassland species appearing, such as *Agrostis stolonifera* (Creeping Bent), *Arrhenatherum elatius* (False Oat-grass), *Cynosurus cristatus* (Crested Dog's-tail), *Lolium perenne* (Perennial Rye-grass) *and Deschampsia cespitosa* (Tufted Hair-grass).

5.1.2 The survey identified and recorded several distinct plant communities across the site, many of which form mosaics and transitions between the communities described.

5.1.3 Of the grassland and moorland habitats identified at the site, M15, M18 and M23 communities fall into the UK Biodiversity Action Plan (BAP) Priority Habitat Bogs: Blanket Bog; M25 *Molinia– Potentilla* is listed under Fen, Marsh & Swamp: Purple Moor Grass & Rush Pastures. On the Scottish Biodiversity List, these as well as U5 *Nardus– Galium* grassland and U6 *Juncus – Festuca* grassland are listed, which were all present within the study area.

5.1.4 Blanket bog, purple moor grass, acid and neutral grasslands, and upland heath habitats are additionally listed as Priority Habitats in the Dumfries & Galloway Local Biodiversity Action Plan (2009), with priority actions to manage, restore and expand such habitats.

5.1.5 While these habitats have been classified as having priority status, given their current management regime of heavy grazing and historic drainage, they appear to be in a degraded condition. Species identified were all common and widespread, thus these habitats could only be considered to have local importance.

REFERENCES

Averis, A.M. *et al.* (2004) *An illustrated guide to British upland vegetation*. Joint Nature Conservation Committee, Exeter.

Averis, B., Averis, A.M. (2020) *Plant communities found in Surveys by Ben and Alison Averis but not described in the UK National Vegetation Classification*.

The Dumfries and Galloway Biodiversity Partnership (2009) *Dumfries & Galloway Local Biodiversity Action Plan*. Available at: Local_Biodiversity_Action_Plan.pdf (dumgal.gov.uk) [Accessed December 2023].

Elkington, N. *et al.* (2001), *National Vegetation Classification: Field guide to mires and heaths.* Joint Nature Conservation Committee, Peterborough.

Rodwell, J.S. (2006) *National Vegetation Classification: User's Handbook*. Joint Nature Conservation Committee, Peterborough.

Rodwell, J.S. (1992) *British Plant Communities 3: Grasslands and Montane Communities*. Cambridge University Press, Cambridge.

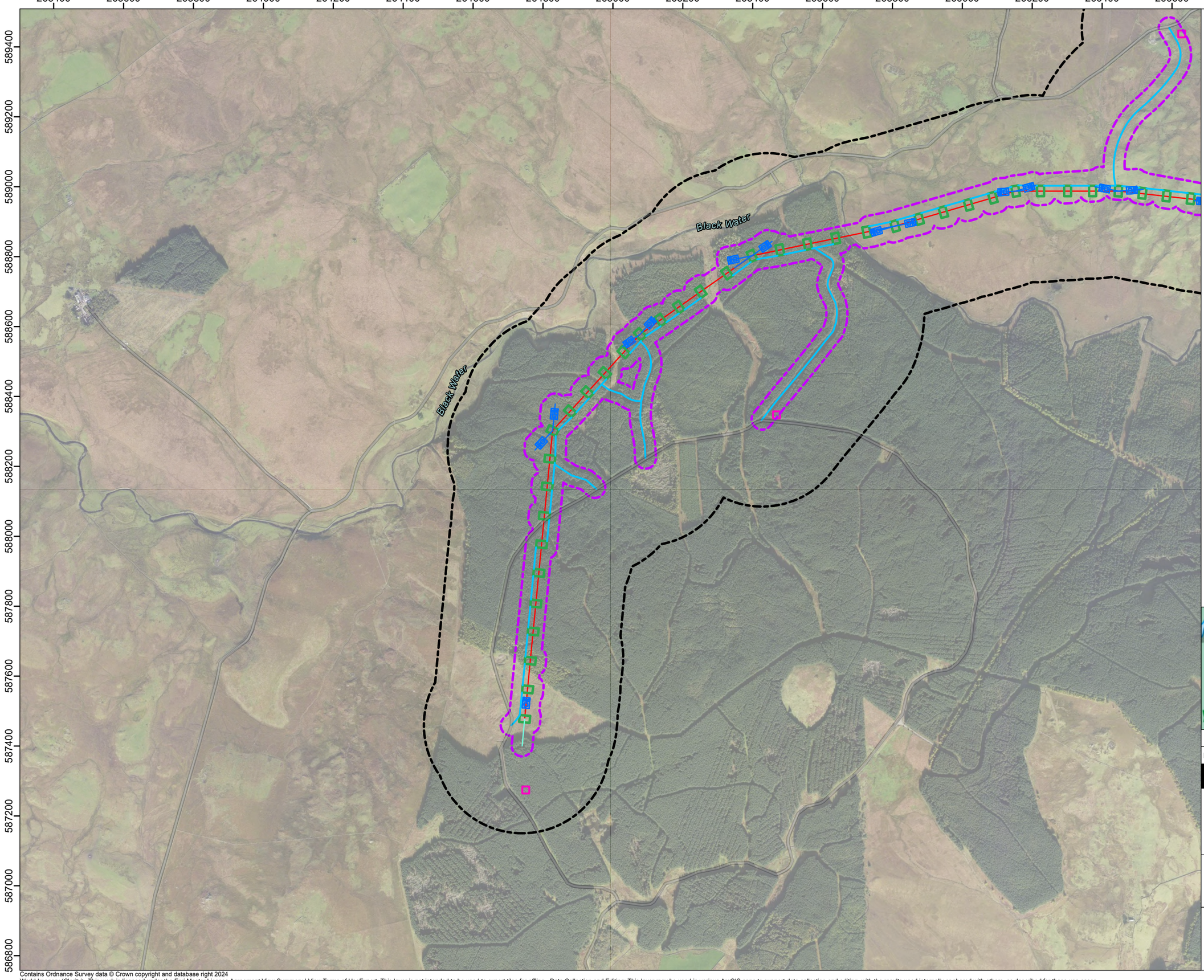
Rodwell, J.S. (1991) *British Plant Communities 2: Mires and heaths*. Cambridge University Press, Cambridge.

Scottish Government (2013) *Scottish Biodiversity List*. Available at: Scottish Biodiversity List | NatureScot

SEPA (2017) *Guidance Note 13: Guidance on Assessing the Impacts of Development Proposals on Groundwater Abstractions and Groundwater Dependent Terrestrial Ecosystems*

Stace, C.A. (2019) *New Flora of the British Isles* (4th edition). C & M Florisitics, Middlewood Green.

FIGURES



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- Proposed Indicative Construction Compound
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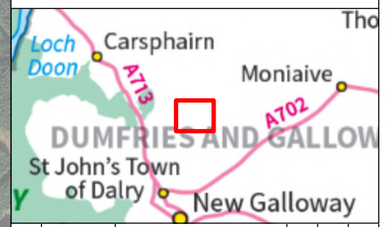
- 250m Buffer



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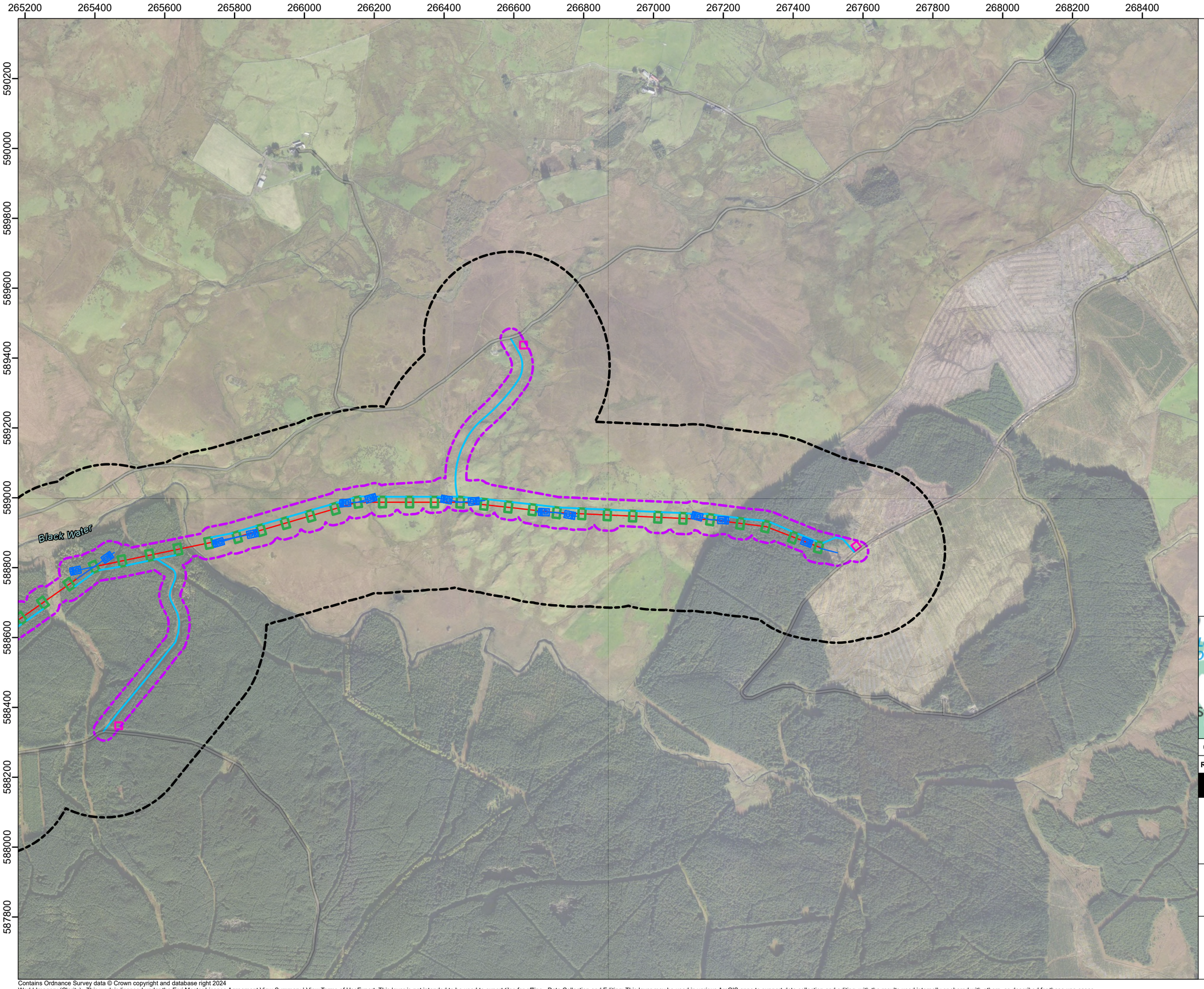

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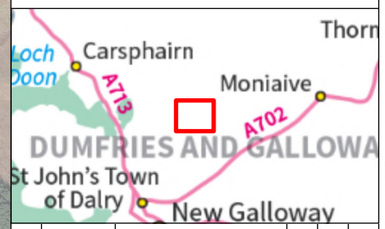

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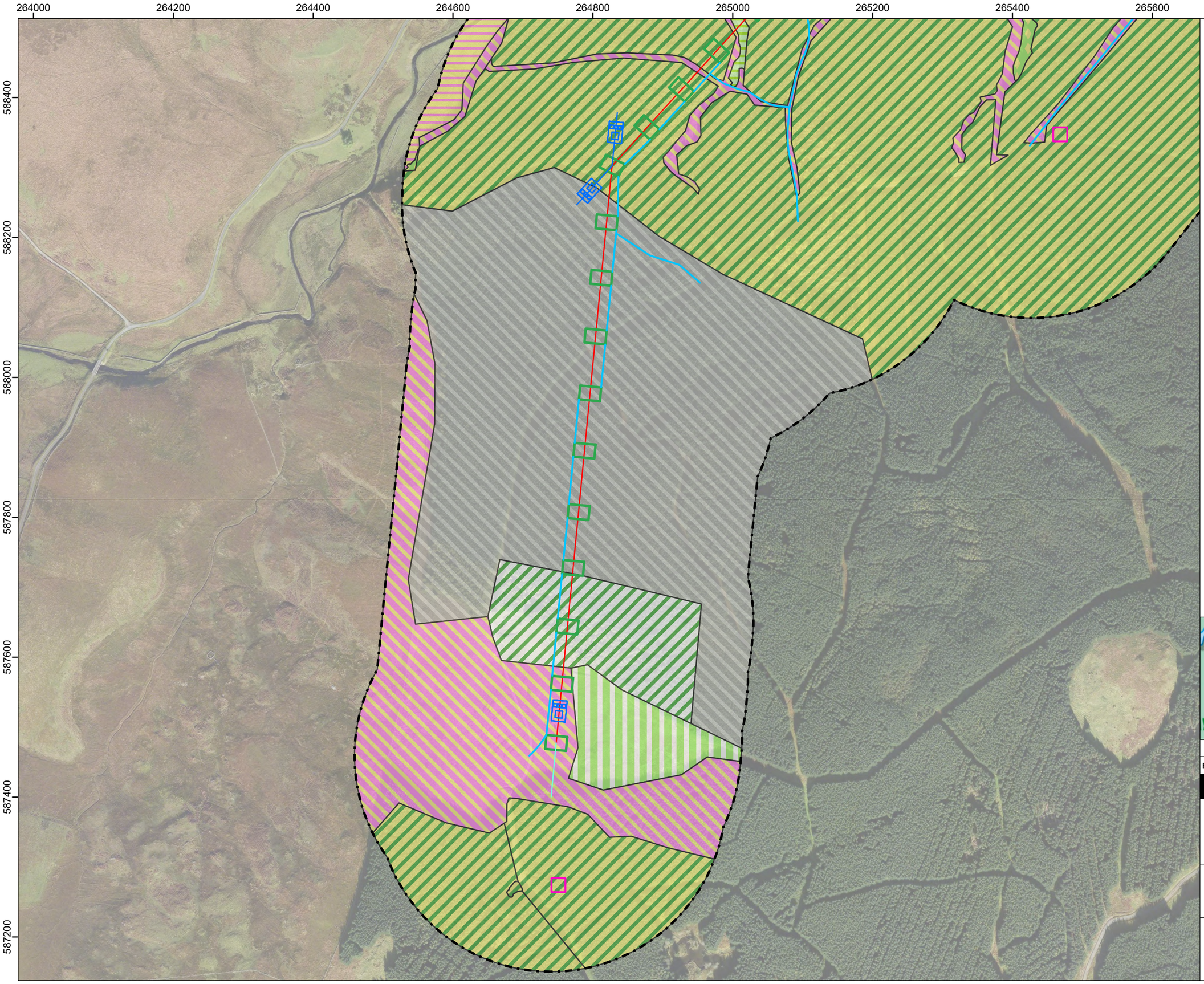

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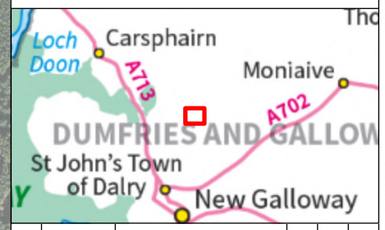
NVC Habitats

- Mires - M23 Juncus effusus/ acutiflorus-Galium palustre rush-pasture
- Mires - M25 Molinia caerulea-Potentilla erecta mire
- Mesotrophic Grasslands - MG9 Holcus lanatus-Deschampsia cespitosa grassland
- Calcifuguous Grasslands and Montane Communities - U20 Pteridium aquilinum-Galium saxatile community
- Calcifuguous Grasslands and Montane Communities - U4b Festuca ovina-Agrostis capillaris-Galium saxatile grassland, Holcus lanatus-Trifolium repens sub-community
- Non-NVC Community - Conifer plantation woodland
- Non-NVC Community - Clear fell
- Non-NVC Community - New broadleaf plantation



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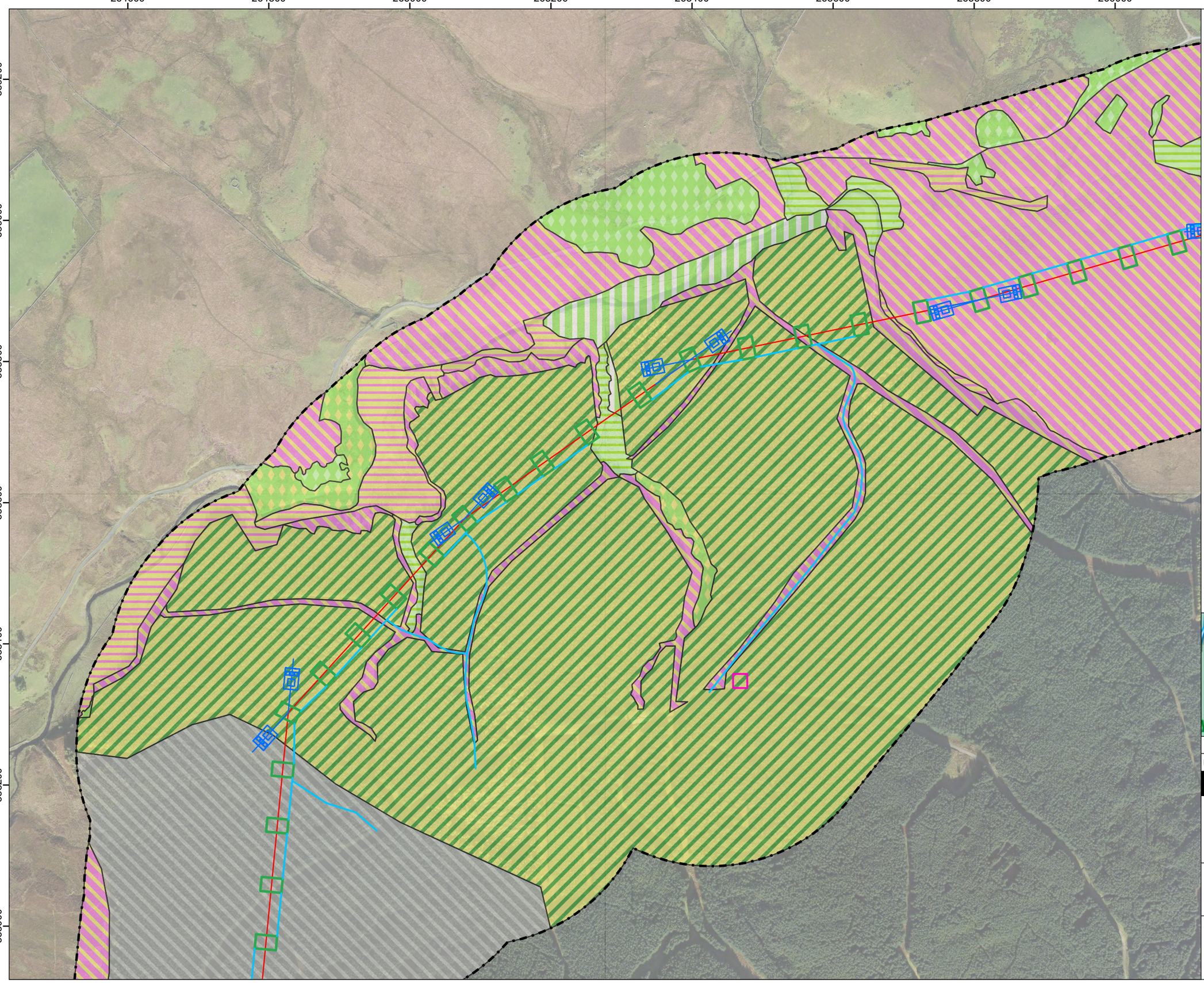

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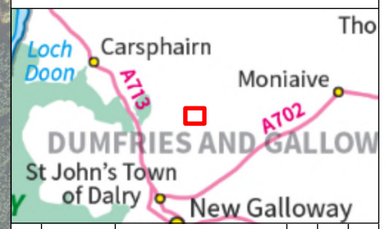
- Calcifuguous Grasslands and Montane Communities - U5 Nardus stricta-Galium saxatile grassland
- Non-NVC Community - Conifer plantation woodland
- Non-NVC Community - Clear fell



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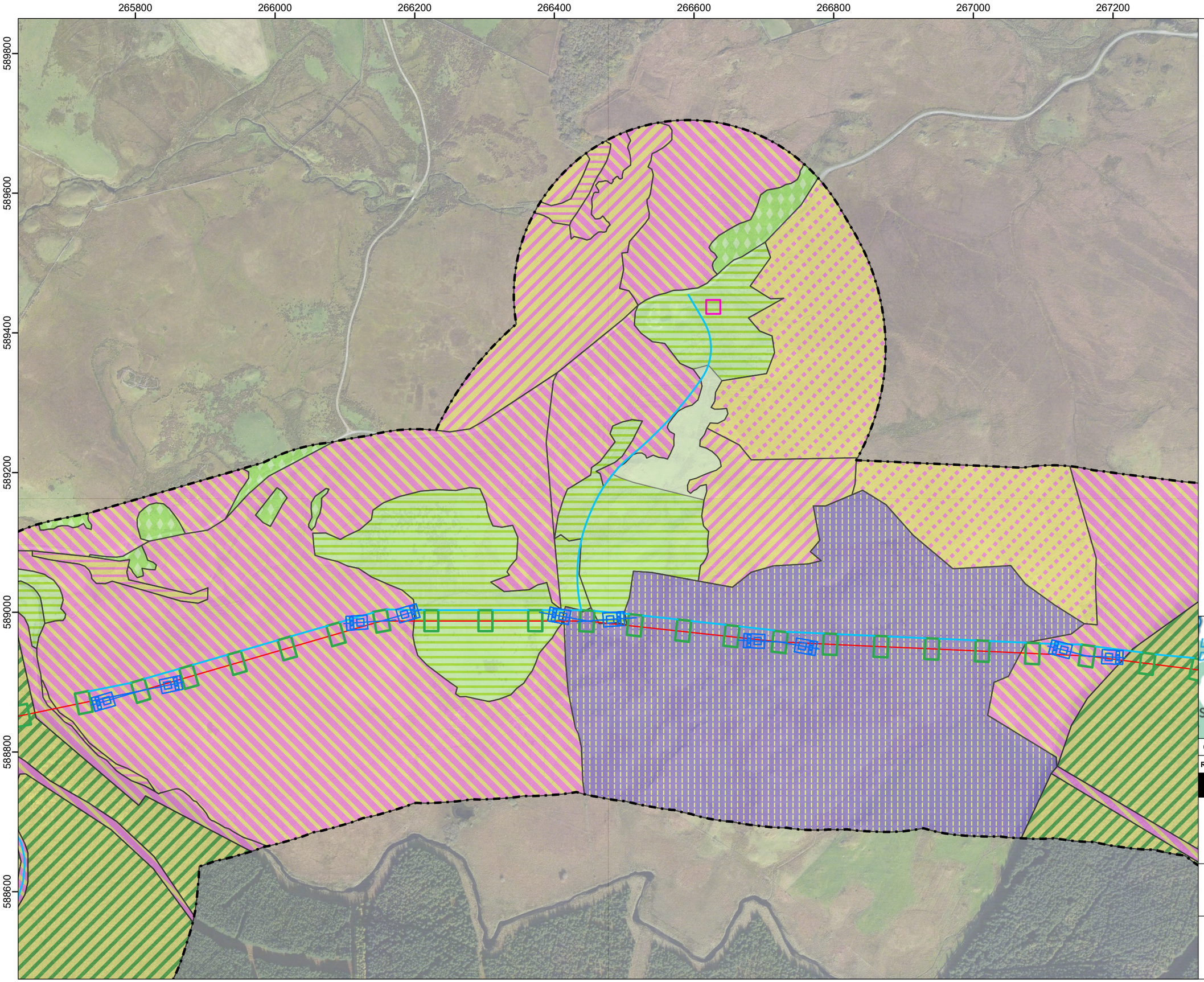

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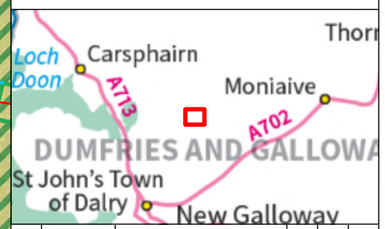
- Calcifuguous Grasslands and Montane Communities - U6 Juncus squarrosus-Festuca ovina grassland
- Mosaic Community - M25 Molinia caerulea-Potentilla erecta mire and U5 Nardus stricta-Galium saxatile grassland
- Non-NVC Community - Conifer plantation woodland



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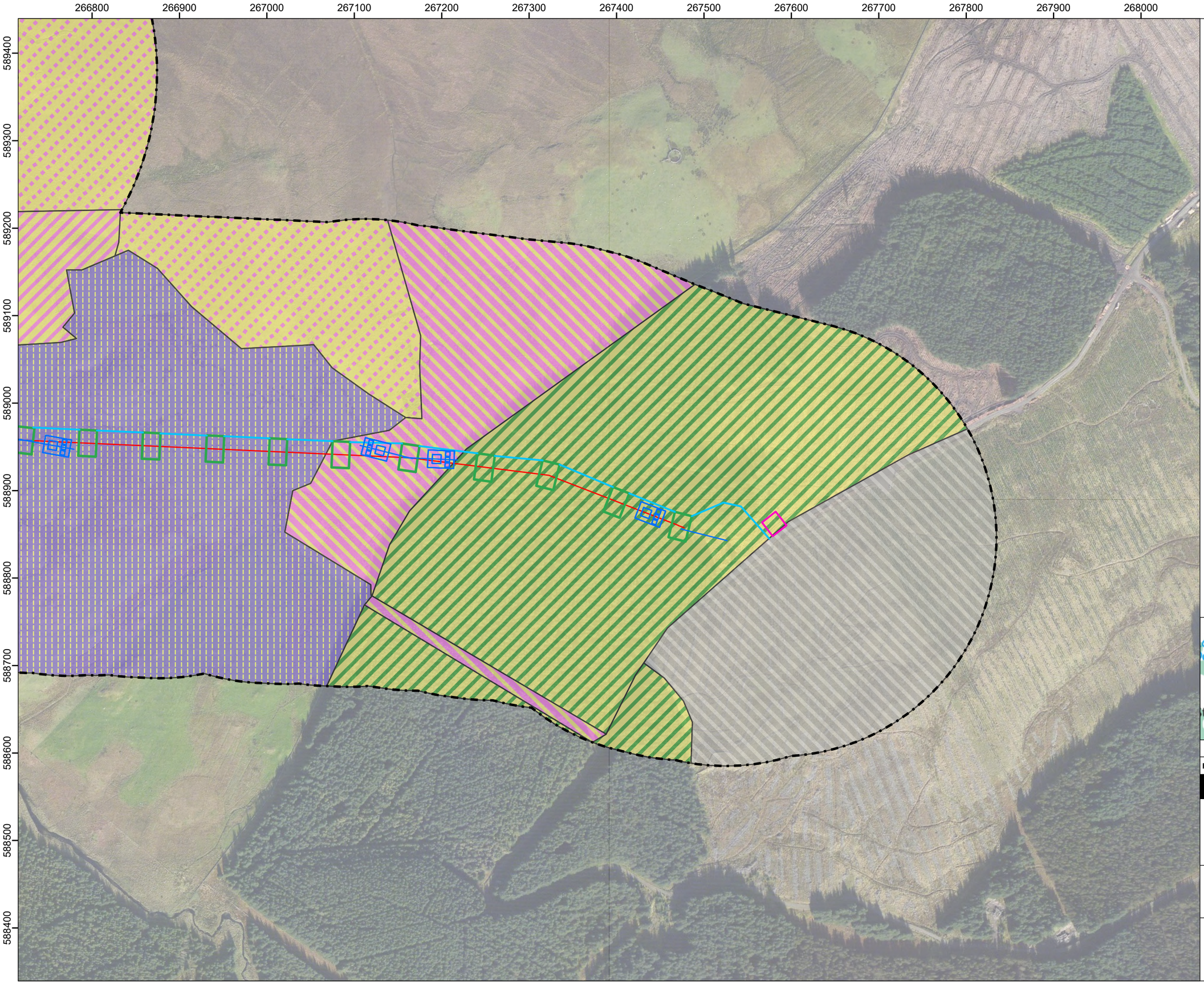

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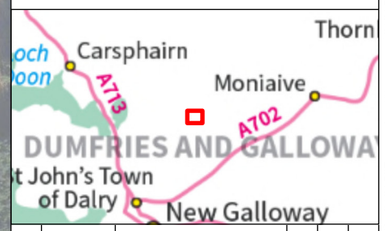

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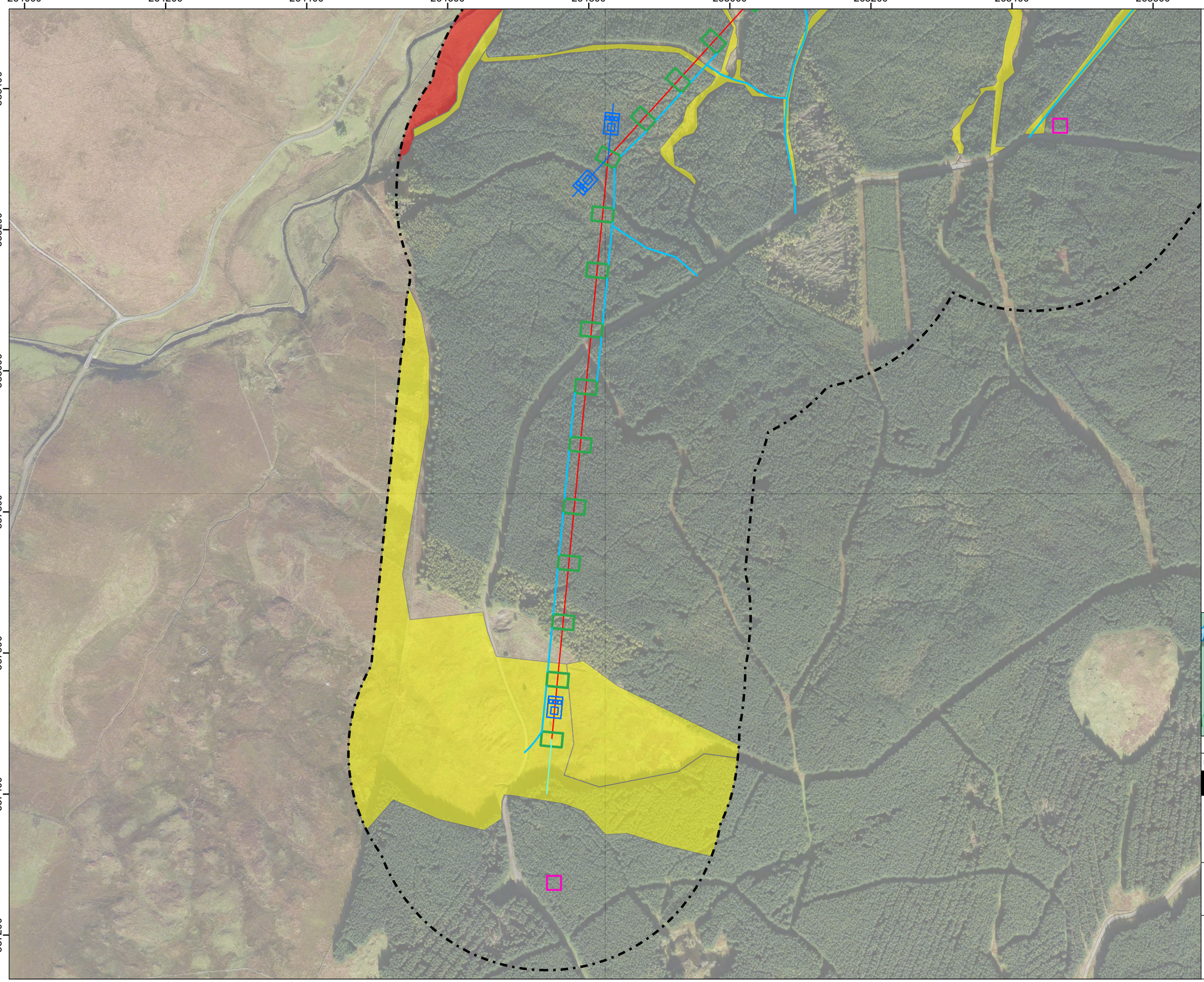

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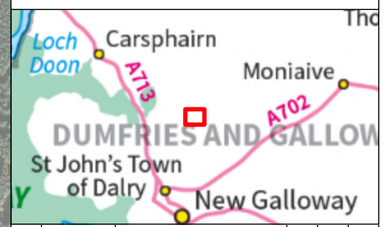
GWDTE Category

- Class 1 - High Dependency
- Class 2 - Moderate Dependency



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Ground Water Dependent Terrestrial Ecosystem
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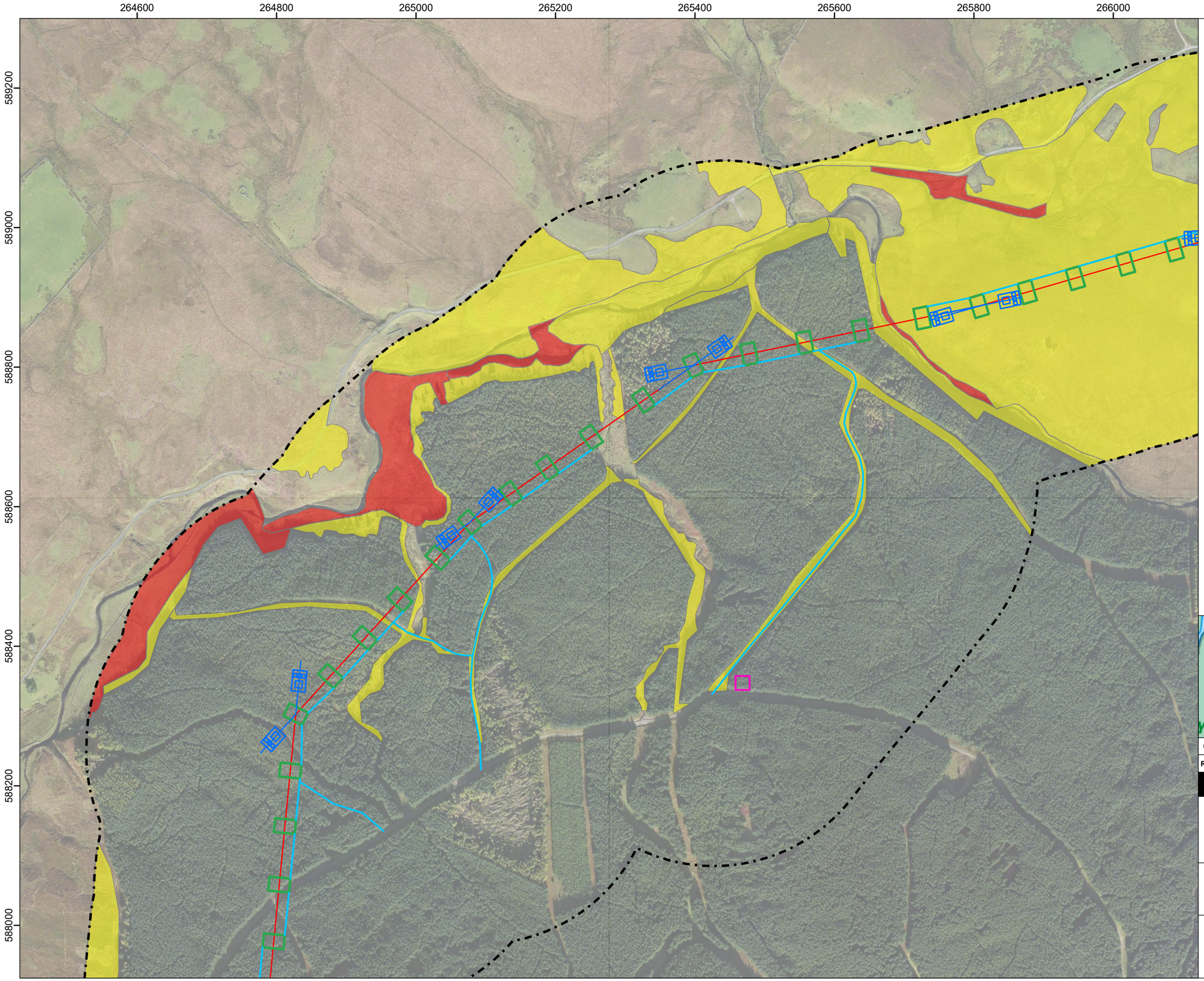

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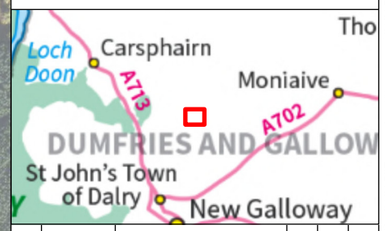

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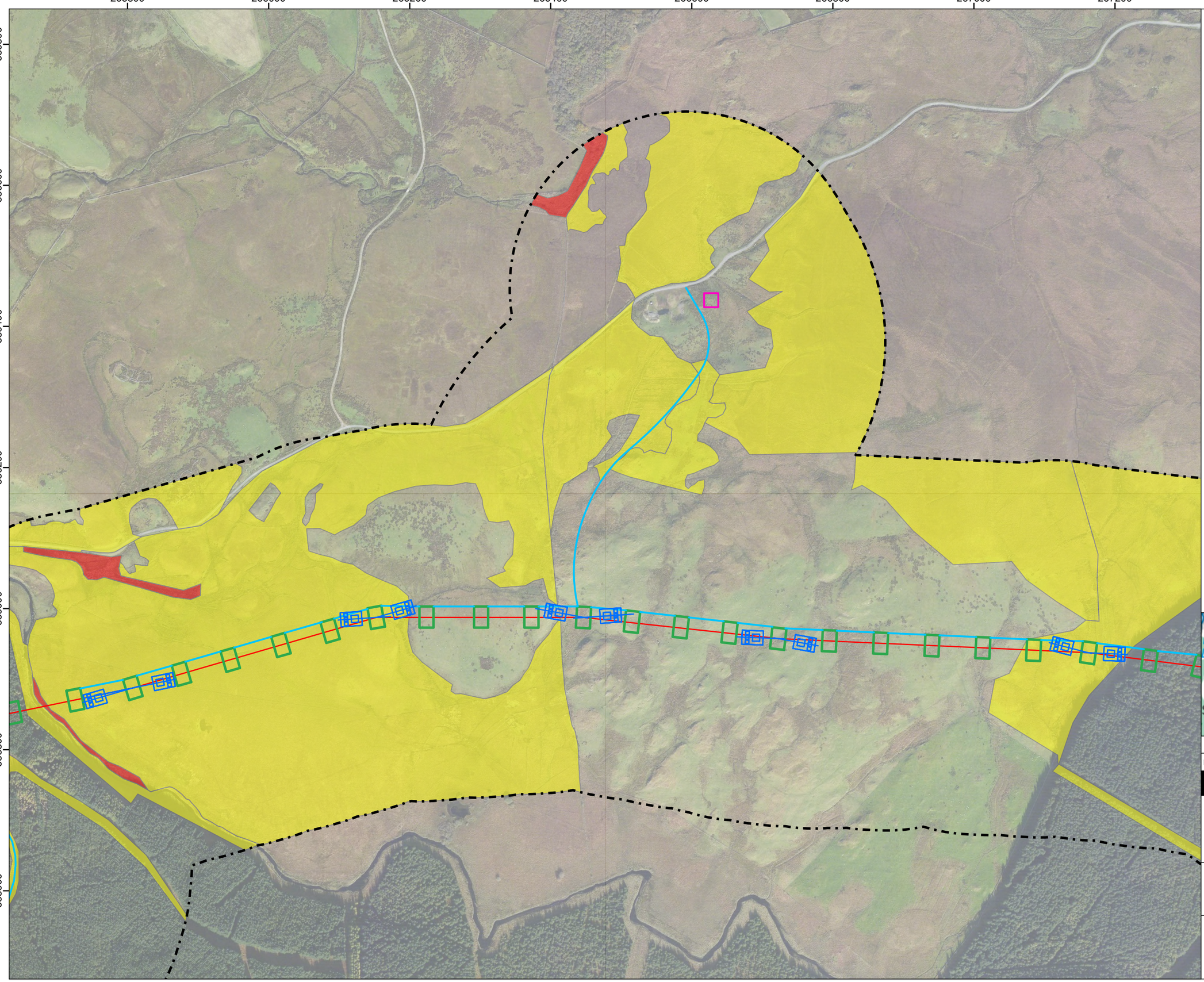

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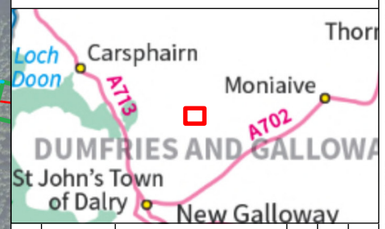

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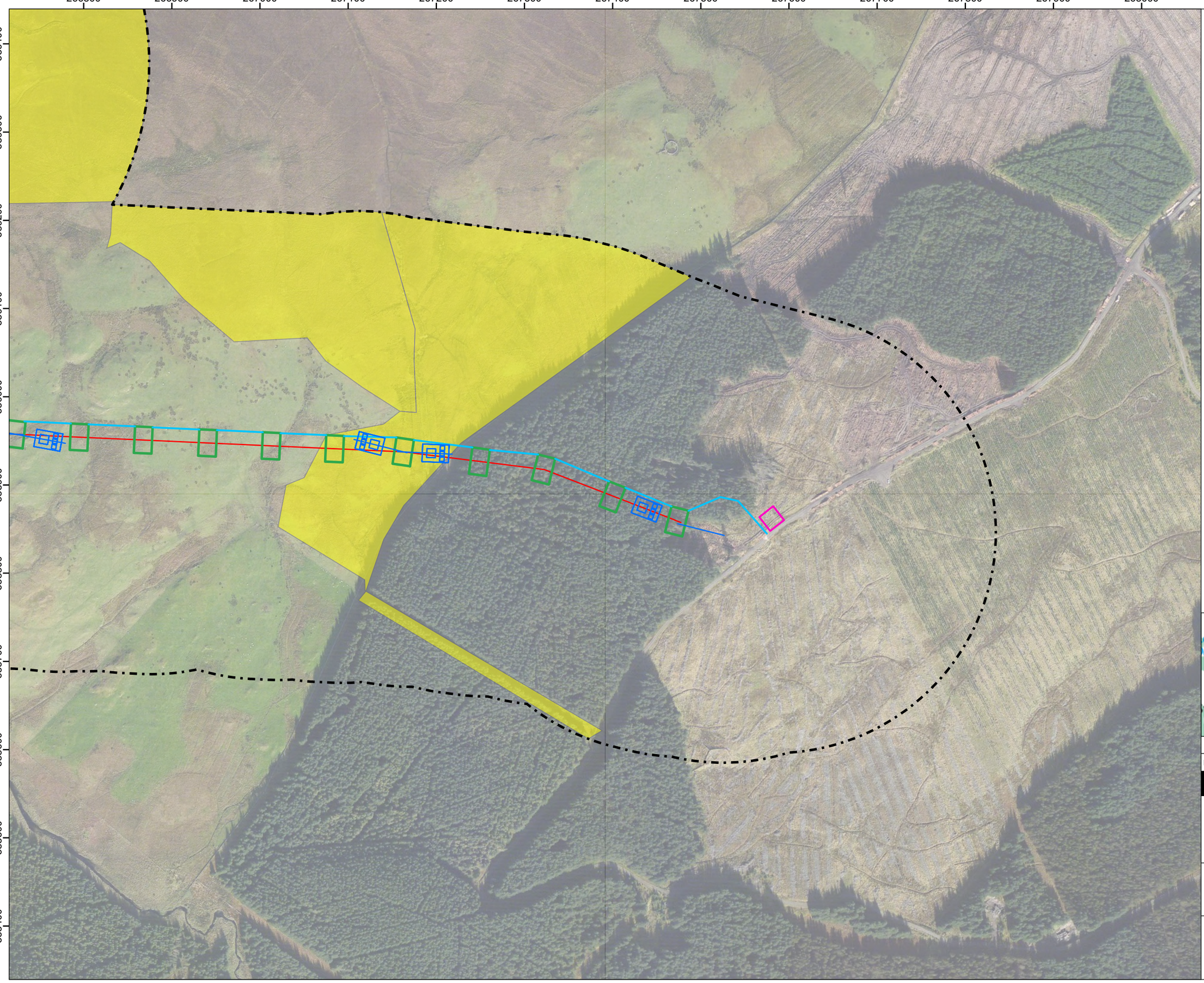

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GWDTE Category

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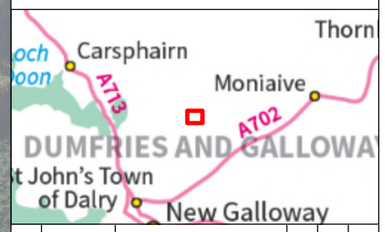

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APPENDIX A – SPECIES LIST

The following table presents a species list for the site. The list is not comprehensive but does include most species found within the main body of the grassland, heath and woodland areas. Subjective estimates of the relative abundance of species within the site were added to the list using a modified DAFOR scale. The DAFOR scale ranks species according to their relative abundance in a given parcel of land as follows: D – dominant, A – abundant, F – frequent, O – occasional, R – rare. In addition, the following prefixes are used: L – locally, V – very.

Table 2. Vascular plant species recorded from the site in November 2023. Estimates of abundance using the DAFOR system are given for all species.

Species	Abundance
Achillea millefolium (Yarrow)	O
Achillea ptarmica (Sneezewort)	O
Agrostis capillaris (Common Bent)	F
Agrostis stolonifera (Creeping Bent)	F
Angelica sylvestris (Wild Angelica)	O
Anthoxanthum odoratum (Sweet Vernal-grass)	F
Arrhenatherum elatius (False Oat-grass)	O
Aulacomnium palustre (Ribbed Bog-moss)	R
Bellis perennis (Daisy)	O
Blechnum spicant (Hard-fern)	O
Calluna vulgaris (Common Heather)	F
Cardamine pratense (Cuckooflower)	O
Cerastium fontanum (Common Mouse-ear)	F
Cirsium arvense (Creeping Thistle)	F
Cirsium palustre (Marsh Thistle)	O
Cirsium vulgare (Spear Thistle)	R
*Cladonia rangiferina (*Reindeer Lichen)	F
Comarum palustre (Marsh Cinquefoil)	O
Cynosurus cristatus (Crested Dog's-tail)	F
Dactylis glomerata (Cock's-foot)	F
Deschampsia cespitosa (Tufted Hair-grass)	F
Dryopteris dilatate (Broad Buckler-fern)	R
Epilobium palustre (Marsh Willowherb)	O
*Erica tetralix (*Cross-leaved Heath)	F
Festuca ovina (Sheep's Fescue)	F
Festuca rubra (Red Fescue)	F
Filipendula ulmaria (Meadowsweet)	O
Galium palustre (Common Marsh-bedstraw)	O
Galium saxatile (Heath Bedstraw)	F
Holcus lanatus (Yorkshire-fog)	D
Hypnum sp. (Carpet Moss)	F

Species	Abundance
Juncus effusus (Soft-Rush)	D
Juncus acutiflorus (Sharp-flowered Rush)	D
Juncus conglomerates (Compact Rush)	O
Juncus squarrosus (Heath Rush)	F
Lolium perenne (Perennial Rye-grass)	F
Luzula sylvatica (Great Wood-rush)	O
Mentha aquatica (Water mint)	O
Molinia caerulea (Purple Moor-grass)	D
Myosotis sp. (Forget-me-not)	O
Myosotis scorpioides (Water Forget-me-nots)	R
Myrica gale (Bog Myrtle)	O
Nardus stricta (Mat-grass)	F
Narthecium ossifragum (Bog Asphodel)	O
Picea sitchensis (Sitka Spruce)	D
Plantago lanceolata (Ribwort Plantain)	F
Plantago major (Greater Plantain)	F
Pleurozium schreberi (Red-stemmed Feather Moss)	F
Polytrichum commune (Common Haircap Moss)	F
*Potentilla erecta (*Tormentil)	F
Potamogaton sp. (Pondweeds)	O
Pseudoscleropodium purum (Neat Feather-moss)	F
Pteridium aquilinum (Bracken)	O
Quercus robar (Pedunculate Oak)	R
Ranunculus acris (Meadow Buttercup)	F
Ranunculus flammula (Lesser Spearwort)	R
Ranunculus repens (Creeping Buttercup)	F
Rhytidiadelphus squarrosus (Springy Turf-moss)	A
Rumex acetosa (Common Sorrel)	O
Sorbus aucuparia (Rowan)	R
Sphagnum capillifolium (Red Bog-moss)	LF
Sphagnum compactum (Compact Bog-moss)	LF
Sphagnum cuspidatum (Feathery Bog-moss)	LF
Sphagnum fallax (Flat-topped Bog-moss)	LF
Sphagnum magellanicum (Magellanic Bog-moss)	R
Trichophorum germanicum (Deergrass)	D
Trifolium pratense (Red Clover)	F
Trifolium repens (White Clover)	F
Trocdaris verticillate (Whorled Caraway)	R
Urtica dioica (Common Nettle)	O
Vaccinium myrtillus (Bilberry)	O
Vaccinium oxycoccos (Cranberry)	R
Valeriana officinalis (Common Valerian)	O
Viola palustre (Marsh Violet)	R

APPENDIX B – NATURE CONSERVATION LEGISLATION AND POLICY

The following pieces of domestic legislation apply to biodiversity protection in the UK.

The Natural Environment and Rural Communities (NERC) Act 2006; The Environment (Wales) Act 2016
https://www.legislation.gov.uk/ukpga/2006/16

The Natural Environment and Rural Communities (NERC) Act 2006, Section 40 requires that any public body or statutory undertaker in England must have regard to the purpose of conservation of biological diversity in a manner that is consistent with the exercise of their normal functions. This may include enhancing, restoring or protecting a population or a habitat. The intention is to help ensure that biodiversity becomes an integral consideration in the development of policies, and that decisions of public bodies work with the grain of nature and not against it.

As part of this duty, statutory undertakers must have regard to the list of habitats and species which are of principal importance for the purpose of maintaining and enhancing biodiversity. For England, the duty to compile such a list is captured under Section 41 of the NERC Act. The lists for England are accessible online via the National Archive[2]

National Planning Policy Framework 2021
Access via: https://www.gov.uk/government/publications/national-planning-policy-framework--2

The National Planning Policy Framework (NPPF) sets out the Government's planning policy in England at the national level. It does not contain specific policies for nationally significant infrastructure projects, which are determined in accordance with the decision-making framework in the Act and relevant National Policy Statements for major infrastructure, as well as any other matters that are relevant (which may include the NPPF). Section 15 (paragraphs 174-188) of the NPPF specifies the requirements for conserving and enhancing the natural environment through the planning and development process to minimise impacts on habitats and biodiversity.

Planning Practice Guidance
Accessed via: https://www.gov.uk/government/collections/planning-practice-guidance

The Planning Practice Guidance is a web-resource to support the NPPF, including guidance for Environmental Impact Assessments (https://www.gov.uk/guidance/environmental-impact-assessment) and the Natural Environment (https://www.gov.uk/guidance/natural-environment). The guidance for the Natural Environment explains key issues in implementing the NPPF to protect and enhance the natural environment, including local requirements. The guidance outlines what evidence needs to be taken into account in preparing planning applications to identify and map local ecological networks. It also outlines how biodiversity can be taken into account in preparing a planning application.

[2] https://webarchive.nationalarchives.gov.uk/ukgwa/20140712055944/http:/www.naturalengland.org.uk/ourwork/conservation/biodiversity/protectandmanage/habsandspeciesimportance.aspx

Government's 25-Year Environment Plan 2018

Accessed via: https://www.gov.uk/government/publications/25-year-environment-plan

The Government's 25-Year Environment Plan 2018 sets out how the UK Government intends to improve the natural health of the UK through improving land, air and water quality, as well as setting out how the effects of climate change will be tackled. The plan promotes the creation or restoration of wildlife-rich habitat outside the protected site network and seeks to recover threatened, iconic or economically important species of animals, plants and fungi, and where possible to prevent human induced extinction or loss of known threatened species in England. The plan sets out a number of goals and corresponding policies that look at managing land sustainably, improving and enhancing landscapes and biodiversity for both marine and terrestrial environments, improving resource efficiency and reducing waste and pollution, whilst also examining the UK's contribution to improving the global environment.

UK Biodiversity Action Plan (UK BAP) 1992 – 2012

Accessed via: Biodiversity – The UK Action Plan | JNCC Resource Hub

The UK BAP was The Government's response to the Convention of Biological Diversity 1992, which the UK signed. The setting out of Priority Habitats was aimed at contributing to the UK's progress towards reducing biodiversity loss called for at the convention. Priority Habitats cover a range of semi-natural habitat types and those which are considered the most threatened and requiring conservation action.

Scottish Biodiversity List 2020

Accessed via: Scottish Biodiversity List | NatureScot

Due to devolution and country-level and international drivers and requirements, some of the UK BAP's effort has been updated and is now focussed at a country rather than UK-level. The UK BAP was used to help draw up the SBL, which is a list of animals, plants and habitats that Scottish Ministers consider to be of principle importance for biodiversity conservation in Scotland. The list is intended to help public bodies undertake their biodiversity duty.