



**Mynydd  
Llanhilleth Wind  
Farm**

**FINAL DRAFT**

**Appendix 9A:  
Ornithology  
Baseline**

Prepared by:  
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On behalf of:  
**Pennant Walters**

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## Section 1

### Introduction, Purpose and Context

- 1.1 This Ornithology Baseline Report has been prepared by The Environmental Dimension Partnership Ltd (EDP) on behalf of Pennant Walters (hereafter referred to as ‘the Applicant’) in relation to a proposed wind farm development on land at Mynydd Llanhilleth, Blaenau Gwent (hereafter referred to as ‘the Site’). This Baseline Report contains the technical detail pertinent to the Ornithology Impact Assessment (OIA) provided in Chapter 9 of the proposed Mynydd Llanhilleth Wind Farm development Environmental Statement.
- 1.2 EDP is an independent environmental planning consultancy with offices in Cardiff, Cirencester and Cheltenham. The practice provides advice to private and public sector clients throughout the UK in the fields of landscape, ecology, archaeology, cultural heritage, arboriculture, rights of way and masterplanning. Details of the practice can be obtained from its website ([www.edp-uk.co.uk](http://www.edp-uk.co.uk)).

#### Survey Boundary Context

- 1.3 For the purposes of this baseline and the OIA, the ‘Survey Boundary’ encompasses the planning application boundary and the surrounding core study area, which was originally designed to collate sufficient data to allow flexibility in the final design and layout of the Proposed Development.
- 1.4 The Survey Boundary is centred at approximate Ordnance Survey Grid Reference (OSGR) SO 235 017 and occupies part of Mynydd Llanhilleth Common located between Abersychan (within Torfaen County Borough Council (TCBC)) and Abertillery (within Blaenau Gwent County Borough Council (BGCBC)), in addition to encompassing former quarry areas and associated area of coniferous woodland across its southern extents. The location and extents of the Survey Boundary initially subject to ecological survey during 2020 and expanded to encompass additional land parcels subject to additional survey during 2021 and 2022, are illustrated on **Plan EDP 9.1**. The Survey Boundary measures approximately 412 hectares (ha) and is located to the south-east of Abertillery and north-west of Pontypool.
- 1.5 The Survey Boundary lies in the centre of a large, north-south trending ridge of high land between the Cwm Afon valley (Abersychan, Pontypool etc.) to the east, and the Ebbw Fach valley (Abertillery) to the west. This ridge comprises a series of plateau typically between 400m and 550m above sea level and is characterised by unenclosed land grazed by sheep, and to a lesser extent cattle and horses. There is much evidence of historic industrial activity on the slopes of the ridge, particularly in the Cwm Afon valley. Areas of plantation forestry are common elsewhere on the slopes of the ridge and dry-stone walls augmented with post and wire fencing demarcate the edge of the unenclosed area from

the surrounding enclosed pastures. These are managed in a relatively intensive manner and appear to be relatively species-poor.

- 1.6 A minor public highway, running north-east to south-west, from Abersychan to Llanhilleth, bisects the Site. Numerous unmetalled tracks otherwise cross the Site. A small stream/flush arises from the block of coniferous woodland/quarry area and flows southwards. Additionally, there are several waterbodies, including a number located within the former quarry and created from former quarry workings.
- 1.7 Other than the coniferous plantation and former quarry dominating the southern extents of the Site, habitats supported by the wider Common area comprise five distinct plant communities: heather-dominated dry dwarf shrub heath on the areas of highest elevation; a crowberry-dominated community on elevations slightly below the heather-dominated areas; a bilberry-dominated community below that; a small area dominated by bracken in the east; and relatively species-poor acidic grassland and species-poor rush pasture across the remainder. In addition, there is an area in the north-east of the Site where bracken overlies areas of both crowberry-dominated and bilberry-dominated communities.
- 1.8 There are several areas where some of these habitats/communities intergrade or form complex mosaics but in general the main distinct habitats predominate. The most complex area of intergraded or mosaic habitat is in the south where acidic grassland and marshy grassland are very difficult to separate into distinct blocks of homogenous habitat.
- 1.9 The principal ecological features within the Survey Boundary are illustrated on **Plans EDP 9.2–9.5**.

### **Development Proposals**

- 1.10 The proposed development is described in further detail within the Environmental Statement supporting the planning application. In brief, it comprises the application for seven wind turbines, each with a three-bladed rotor with a diameter of up to 150m, a hub height of up to 122m and maximum height to blade tip of 180m.
- 1.11 The proposed development also includes: improvements to the existing access together with new and improved internal wind farm tracks off the main internal access road; crane pads at each turbine location; turbine foundations; underground power cables linking the turbines and the on-site substation; temporary construction compounds, laydown, and storage areas; and grid connection infrastructure, including the on-site substation, control building and underground cables linking the Site to the distribution network, together with construction enabling works. The wind farm will be designed with an operational life of 30 years.
- 1.12 The design of the proposals has been informed by the ornithological sensitivities of the Survey Boundary, as detailed in this Baseline Report, through an iterative design evolution. The development proposals assessed within the ES Chapter 9: Ornithology, to

which this appraisal is appended, therefore incorporates 'inherent' mitigation to avoid or reduce the severity of potential ornithology impacts.

### **Scope of the Baseline Report**

- 1.13 This Baseline Report describes the current ornithology interest within and around the Survey Boundary, including details of the desk-based and field-based investigations employed. It then evaluates the value of the ornithology baseline within a geographic context.
- 1.14 The principal purpose of this report is to support the OIA of the proposals provided within Chapter 9 of the ES accompanying the planning application set out above. It therefore does not directly appraise the ornithological impacts of the final design but instead identifies those Important Ornithological Features (IOF) of the Site.
- 1.15 The remainder of this report is structured as follows:
- **Section 2** provides details of the methodologies employed during the preparation of this Baseline Report. Full details pertaining to the surveys can be found in the annexes and on plans as referenced;
  - **Section 3** details the baseline ecological conditions recorded by the baseline desk and field investigations (with further details also provided within annexes and on plans where appropriate); and
  - **Section 4** summarises and evaluates the value of the pertinent ornithology features subject to the OIA of the proposals.

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## Section 2 Methodology

- 2.1 This section summarises the methodologies employed in determining the baseline ornithological interests within and around the Survey Boundary in 2020, 2021, and 2022. These investigations have been undertaken by appropriately qualified ornithologists using relevant best practice methodologies wherever possible. Reasons for any departure from best practice methodology or limitations in the survey work are presented and typically relate to the availability of access to parts of the Survey Boundary or wider Study Area. Further details of the methodologies adopted are, where appropriate, provided within annexes and on plans to the rear of this report.

### Desk Study

- 2.2 The desk study is an important element of undertaking an initial ecological appraisal of a site proposed for development, enabling the initial collation and review of contextual information such as designated sites together with known records of protected and Priority Species.
- 2.3 The desk study was principally undertaken during April 2020. The desk study involved requesting designated site and/or notable species records from the following groups:
- South East Wales Biodiversity Records Centre (SEWBRc) (up to 30km radius from the Survey Boundary);
  - Aderyn (the Biodiversity Information and Reporting Database of Local Environmental Records Centres Wales) (up to 30km radius from the Survey Boundary);
  - Multi-Agency Geographic Information for the Countryside (MAGIC)<sup>1</sup>;
  - RSPB (2km) – no data received;
  - British Trust for Ornithology (2km) – confirmed all data is passed to SEWBRc; and
  - Gwent Ornithological Society (2km) – no data received.
- 2.4 Update data requests were made to SEWBRc and Aderyn in April 2022 and July 2024.
- 2.5 The search areas used are considered sufficient to cover the potential zones of influence of the proposed development in relation to ornithological interests.

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<sup>1</sup> [www.magic.gov.uk](http://www.magic.gov.uk)

- 2.6 In addition, the desk study was also expanded to include a review of extant planning applications within the vicinity of the Survey Boundary, including quarry workings and other wind farm proposals, where the ornithology information is publicly available from the planning portal. Of note, this included the Environmental Statement for the Mynydd Carn y Cefn Wind Farm proposals approximately 2.5km north-west of the Survey Boundary that were submitted in May 2022. This information is referenced in **Section 3** where relevant.

### **Consultation**

- 2.7 A Development of National Significance (DNS) Application (reference DNS/3273368) was previously submitted to Planning and Environment Decisions Wales (PEDW) on behalf of the Client during July 2023, for the installation of eight wind turbines with a maximum blade tip of 180m, together with ancillary infrastructure at the Site. Extensive consultation was undertaken during this time. Whilst the previous application has since been withdrawn, a new planning application submission is intended, with Turbine 5 proposed for removal from the scheme. All previous consultation received to date therefore remains relevant to the revised proposals and is summarised below.
- 2.8 Consultation via letter was undertaken with Natural Resources Wales (NRW) in February 2021, regarding the scope of the ornithology survey work completed to date and that proposed over the course of 2021, in respect of identifying important ornithology receptors, including target species, necessary to inform a subsequent planning application.
- 2.9 NRW returned a preliminary opinion in March 2021 (the Discretionary Advice Service was not available at the time of the request), limited to European Protected Species (EPS) and advising for liaison to be undertaken with the relevant Ecology Officers. A consultation request was therefore made to the Ecology Officers at TCBC and BGCBC in April 2021, with no feedback received.
- 2.10 The views of PEDW and statutory consultees including TCBC and BGCBC and NRW were subsequently sought through a formal scoping request submitted in June 2021. This included presenting the impact assessment methodology, the target species, survey scope and likely ornithological sensitivities pertaining to the Survey Boundary.
- 2.11 The Environmental Impact Assessment (EIA) scoping direction included responses received from TCBC and BGCBC, which confirmed their agreement with the scope of survey work, assessment methodology and designated sites that were scoped into the assessment. However, TCBC highlighted the need for the EIA to also cover the access point and grid connection corridor.
- 2.12 The EIA scoping direction also included a response from NRW which also broadly agreed with the assessment methodology and scope of survey work. However, NRW identified the need to consider further spring and autumn passage surveys for waders and wildfowl due to the Survey Boundary's proximity to the Severn Estuary Special Protection Area (SPA)



and Ramsar site, which lies 18km to the south-east. They also noted that the list of IOF may also need to be revised following these surveys, and that the lagoon located within the Survey Boundary potentially needed further investigation. NRW also requested further information to justify scoping out Llandegfedd Reservoir Site of Special Scientific Interest (SSSI) as an IOF.

- 2.13 The EIA scoping direction received from the PEDW further confirmed its agreement with the general ornithology scoping approach proposed, including that black grouse, passerine species (e.g. skylark (*Alauda arvensis*) and meadow pipit (*Anthus pratensis*)) and long-eared owls (*Asio otus*) could be scoped out, albeit the latter species being dependent upon any potential woodland losses. In line with the NRW response, however, the PEDW suggested that sparrowhawk (*Accipiter nisus*), buzzard (*Buteo buteo*) and raven (*Corvus corax*) should remain scoped in until the surveys are completed to ascertain whether they may need to be included as IOFs. The PEDW also deferred to and agreed with NRW, regarding the consideration of designated sites and the need for additional spring and autumn passage bird surveys to record potential Severn Estuary SPA/Ramsar qualifying species. PEDW recommended that the applicant continue to engage with NRW, TCBC and BGCBC regarding collision risk analysis once the baseline surveys are complete and the model prepared.
- 2.14 To address those comments received from NRW and the PEDW, Vantage Point bird survey effort was increased during autumn 2021 and spring 2022 to enable the capture of more information on passage birds. The number of surveys of the onsite water body was also increased. Further justification for scoping out Llandegfedd Reservoir SSSI has also been included within the assessment.
- 2.15 Subsequent to the initial scoping, a draft ES, including Ornithology Impact Assessment (OIA) Chapter and this corresponding Ornithology Baseline, was submitted for pre-application comment by consultees. In response, NRW requested that the ES Chapter includes greater detail on species numbers and that further information on the approach to valuing species is provided. While such greater detail on bird numbers is presented in this appendix, additional numbers have been added to the OIA Chapter and the valuation criteria, along with certain species valuations, and have been updated in line with NRW comments, in both reports.

### **Initial Scoping Exercise**

- 2.16 Initial bird scoping exercises of the Site were completed during March 2020 to identify the suitability of the Study Area and surrounding landscape for potential target bird species and to ground-truth Vantage Point locations following some initial desk-based data collation and viewshed analysis.
- 2.17 A scoping exercise was also carried out of the main access route and grid connection corridor proposed. The scoping exercise comprised an Extended Phase 1 survey of the proposed access route on 12 and 13 July 2022 and of the proposed grid connection corridor on 08 August 2022.

### Update Scoping Exercise

- 2.18 An update bird scoping exercise was completed by an experienced ornithologist on 25 and 26 July 2024. The purpose of this exercise was to identify any major changes in the suitability of the habitats within the Survey Area for birds given the time that has elapsed since the previous surveys. This included identifying any changes in habitat distribution, suitability and/or land management practices, and also visiting previously identified possible or confirmed raptor breeding locations to look for evidence of current breeding such as active nests or fledged young.

### Target Species

- 2.19 The Survey Boundary and surrounding landscape comprise a mixture of upland pastoral farmland/moorland and coniferous woodland dissected by small watercourses and more intensively farmed valleys, villages, and towns. These habitats provide breeding and foraging opportunities for a number of bird species of conservation concern and/or species that are potentially sensitive to a development of this nature, including raptors, waders and waterfowl.
- 2.20 In accordance with best practice guidance, the surveys and subsequent assessment will focus on species drawn from the following important lists:
- EU Birds Directive (79/409/EEC);
  - Wildlife and Countryside Act (1981, as amended) (WCA);
  - Species at risk of collision with turbines, as included in the SNH 2017 guidelines<sup>2</sup>;
  - Red and Amber-listed birds contained within Birds of Conservation Concern in Wales 4<sup>3</sup> (BoCCW4); and
  - Priority Species listed under Section 7 of the Environment (Wales) Act 2016.
- 2.21 Species contained within these lists that by virtue of their breeding, roosting, feeding, or migrating behaviour that may be sensitive to the Development will be identified as target species for assessment purposes. Consideration is also be given to species identified locally as of conservation concern within the Gwent Bird Report<sup>4</sup>.
- 2.22 For the purposes of this baseline report, further consideration has also been given to all waterfowl and Red listed passerine species within the species evaluation provided in **Section 3**. However, best practice guidelines state that passerine species are generally

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<sup>2</sup> Scottish Natural Heritage (2017) *Recommended bird survey methods to inform impact assessment of onshore wind farms* (Version 2)

<sup>3</sup> Johnstone, I.G., Hughes, J., Balmer, D.E., Brenchley, A., Facey, R.J., Lindley, P.J., Noble, D.G. and Taylor, R.C. 2022. Birds of Conservation Concern Wales 4: the population status of birds in Wales. *Milvus: the Journal of the Welsh Ornithological Society*. Available at <https://tinyurl.com/BOCCW4>

<sup>4</sup> Gwent Ornithological Society (2019). *Gwent Bird Report 2019*, Vol. 55.

not negatively impacted by turbines and will therefore be excluded from the OIA, except where significant habitat loss/disturbance impacts could potentially arise. NRW and the PEDW have also agreed with this approach, as set out within the EIA scoping direction received.

### Ornithology Surveys

- 2.23 The initial bird scoping exercises of the Site completed in March 2020, alongside the desk study, were used to identify the potential target species and the appropriate scope of survey work. This was subsequently refined according to the ongoing survey findings and consultation responses.
- 2.24 The ornithology surveys commenced in April 2020 and, with reference to best practice guidance<sup>5</sup>, continued for two years to account for yearly and seasonal variation and collate a robust data set to inform the Development. The surveys 'scoped in' are summarised in turn below and a brief explanation of those surveys 'scoped out' is provided thereafter.
- 2.25 The scope of ornithology surveys was confirmed with NRW via the EIA scoping direction. The surveys programmed comprised two years of the following:
- Vantage Point Surveys;
  - Moorland Breeding Bird Surveys;
  - Raptor Surveys;
  - Barn Owl Surveys;
  - Nightjar and Breeding Owl Surveys;
  - Winter Bird Transects;
  - Waterbody Point Counts; and
  - Hen Harrier Winter Roost Surveys.
- 2.26 The Study Area buffers applied to the ornithology surveys varied according to the species/species groups, extending up to 2km from the Survey Boundary for breeding raptors, as illustrated in **Plan EDP 9.1**. The dates, times and weather conditions for all of the surveys detailed below are provided in **Annex EDP 9.1**.

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<sup>5</sup> Scottish Natural Heritage (SNH) *for the Assessment of Likely Impact of Onshore Wind Farms on Bird Communities – Version 2* (2017)

### Vantage Point Surveys

- 2.27 Vantage Point surveys were completed with reference to best practice guidelines published by Scottish Natural Heritage (SNH; 2017). Three Vantage Points were selected that afford the most comprehensive views of the Survey Boundary and 500m from potential turbine locations following desk-based viewshed analysis and a scoping site visit in March 2020.
- 2.28 The location of the Vantage Points and viewsheds (including parameters used to calculate these) are provided on **Plan EDP 9.6**.
- 2.29 A total of 36 hours observation were completed at each Vantage Point during the 2020 and 2021 breeding bird seasons (April–August). A total of 36 hours were also completed at each Vantage Point during the winter (September to March) 2020–2021 survey season. During winter 2021–2022 the survey period was extended to include April to allow for additional survey effort during the passage/migratory periods to address NRW’s scoping response for greater coverage at this time given the potential for Severn Estuary SPA/Ramsar qualifying species to move over the Survey Boundary. As such, between September 2021 and April 2022 a total of 69 hours per Vantage Point was completed. A summary of the hours completed at each Vantage Point position is provided in **Table EDP 2.1**.

**Table EDP 2.1** Vantage Point (VP) Hours Across Non-breeding and Breeding Seasons 2020-2022

Month and Year	Number of Survey Hours		
	VP 1	VP 2	VP 3
<b>Non-breeding/passage season</b>			
September 2020	6	6	6
October 2020	6	6	6
November 2020	6	6	6
December 2020	3	3	3
January 2021	3	3	3
February 2021	6	6	6
March 2021	6	6	6
<b>Total non-breeding season hours 2020/2021</b>	<b>36</b>	<b>36</b>	<b>36</b>
September 2021	15	15	15
October 2021	12	12	12
November 2021	6	6	6
December 2021	6	6	6
January 2022	6	6	6
February 2022	6	6	6
March 2022	9	9	9
April 2022	9	9	9
<b>Total non-breeding/passage season hours 2021/2022</b>	<b>69</b>	<b>69</b>	<b>69</b>
<b>Breeding season</b>			
April 2020	3	3	3
May 2020	6	6	6
June 2020	9	9	6
July 2020	9	9	12

Month and Year	Number of Survey Hours		
	VP 1	VP 2	VP 3
August 2020	9	9	9
<b>Total breeding season hours 2020</b>	<b>36</b>	<b>36</b>	<b>36</b>
April 2021	6	6	6
May 2021	9	9	9
June 2021	12	12	12
July 2021	6	6	6
August 2021	3	3	3
<b>Total breeding season hours 2021</b>	<b>36</b>	<b>36</b>	<b>36</b>

- 2.30 Watches were spread over the course of the months, generally entailing 6 hours per month with the exception of a reduced survey effort of 3 hours at each Vantage Point adopted in some months and an increased effort of 12–15 hours per Vantage Point during certain months, reflecting changes in the perceived ornithological sensitivities during these periods. In summary, a total of approximately 177 hours (minus hours lost due to inclement weather detailed under limitations) of Vantage Point observations were undertaken from each Vantage Point between April 2020 and April 2022.
- 2.31 With reference to best practice guidance, each Vantage Point was surveyed for a maximum three-hour observation period, after which the observer would take a break and move to a different Vantage Point or leave site. The start and finish times of the Vantage Point surveys were varied to obtain a range of information on bird movements during different times of the day. This was to account for diurnal movements and crepuscular species such as owls. Where surveys were completed simultaneously and viewsheds overlapped, surveyors remained in contact to prevent duplicate recordings and share movement information.
- 2.32 All target species observed flying through the Survey Boundary and surroundings were recorded on a tablet with the following information:
- Species;
  - Age and sex (if known);
  - Time of registration;
  - Direction of flight;
  - Flight height (recorded in bands);
  - Time spent in the wind farm area (seconds); and
  - Notes on behaviour.
- 2.33 Target species flight heights were recorded at 15 second intervals. Based on the worst-case turbine specifications, the following core height bands were used:
- 0-30m;

- 30–180m (Collision Risk Zone; CRZ); and
- >180m.

2.34 Additional height band increments were recorded to allow some flexibility should the turbine specification change. However, for the purposes of the assessment they have been combined under the three core categories provided to account for the worst-case scenario.

2.35 In addition, the number and activity of ‘secondary’ species was summarised every five minutes.

### ***Moorland Breeding Bird Survey***

2.36 The Survey Boundary and surrounding Study Area contain suitable habitat for moorland birds. Four visits were therefore undertaken during the 2020 and 2021 breeding seasons (mid-April to early July) using an adapted Brown and Shepherd (1993) methodology<sup>6</sup> as per SNH guidance (2017) to map the breeding territories of upland waders within an 800m radius of the Survey Boundary, where access allowed.

2.37 With reference to best practice guidance the surveys were timed between 08.30 and 18:00 and undertaken during suitable weather conditions i.e. days/periods with strong winds and heavy or persistent rain were generally avoided.

2.38 All areas of suitable wader habitat within the Survey Boundary and surrounding 800m were accessed to within approximately 100–200m. The transect route was expanded in 2021 to increase the level of coverage of the areas outside of the Survey Boundary.

2.39 Where access could not be obtained, off-site surveys were completed from public roads and/or publicly accessible areas of high ground where the surveyor would watch areas of suitable wader breeding habitat with binoculars and telescopes. Any wader activity was noted in full. In addition, any conservation concern species, including passerines, was also recorded, with any breeding activity noted in line with Common Bird Census (CBC) survey methodologies.

2.40 Owing to an absence of moorland bird interests in 2020, survey times in 2021 were moved closer to dawn to be more in accordance with common breeding bird census methodologies and better suited to recording other species. The 2021 surveys were also expanded to include some additional non-moorland improved grassland habitats and increase more general breeding bird survey coverage

2.41 The breeding bird transect routes are approximately illustrated on **Plan EDP 9.7** and the timing and weather conditions during the surveys provided in **Annex EDP 9.1**.

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<sup>6</sup> Brown, A.F. & Shepherd, K.B. (1993) *A method for censusing upland breeding wader*. Bird Study, 40, 189–195.

### **Breeding Raptor Survey**

- 2.42 The raptor survey comprised an initial desk-based assessment of aerial photography to identify potential raptor nesting habitat (by target species) within 2km of the Survey Boundary, and collation of breeding records as part of the desk study. This was followed by up to four surveys of potentially suitable habitat in both 2020 and 2021 to record breeding activity with reference to best practice guidance<sup>7</sup>. An additional update raptor visit was completed on 25 and 26 July 2024 which focused on previously occupied nesting sites or areas to look for raptor activity.
- 2.43 Owing to the size of area requiring consideration, a combination of driven and walking transects, incorporating stationary watches, were used. This included driving all roads within 2km of the Survey Boundary. The surveys were undertaken during suitable weather conditions and timed to coincide with key periods in the breeding season between March and July. If a nesting territory appeared to be unoccupied on the basis of the first two or three visits then further visits to that territory were generally omitted. Visits to suitable upland moorland habitat were timed to be either in the early morning or evening to coincide with the peak periods of activity by short-eared owls (*Asio flammeus*).
- 2.44 The raptor survey transects and Vantage Points are approximately illustrated on **Plan EDP 9.8**. The timing and weather conditions during the surveys is provided in **Annex EDP 9.1**.

### **Nightjar and Breeding Owl Survey**

- 2.45 Given the occurrence of some suitable habitat for nightjar (felled/young woodland/heathland) within or adjacent to the Survey Boundary, as well as owls (large, wooded areas and open moorland), the presence of these species could not be ruled out and therefore specific surveys were completed.
- 2.46 The surveys comprised four dusk or dawn nocturnal visits in 2020 and 2021, spread between March and July, targeting suitable woodland habitat within 500m of the Survey Boundary to listen for churring nightjars, calling owls and any visible foraging activity over woodland and adjacent habitat. A further two dusk and one dawn visit were completed in June and July 2022 following the felling of some areas of coniferous woodland within the Survey Boundary that created some more suitable habitats.
- 2.47 With reference to best practice guidance<sup>8</sup> the surveys either commenced at dusk and continued for three hours after dusk or commenced three hours before dawn and continued until dawn. The transect routes were walked/driven by two pairs of surveyors and incorporated regular listening stops.

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<sup>7</sup> Hardey, J., Crick, H., Wernham, C., Riley, H., Etheridge, B. and Thompson, D. (2013) *Raptors: a field guide to survey and monitoring*, 3rd Edition. TSO Edinburgh.

<sup>8</sup> Gilbert, G., Gibbons, D.W., and Evans, J. (1998). *Bird Monitoring Methods: A manual of techniques for key UK species*. RSPB, Bedfordshire.



- 2.48 Any incidental owl or nightjar records were also recorded by bat surveyors over the course of the summer survey seasons.
- 2.49 The nightjar and owl transect routes are approximately illustrated on **Plan EDP 9.9.** and the timing and weather conditions provided in **Annex EDP 9.1.**

#### ***Winter Transect Survey***

- 2.50 Moorland habitat across the Survey Boundary has potential to support over wintering or passage short-eared owls and hen harriers. Six winter transect surveys were therefore completed at monthly intervals between October 2020 and March 2021 and repeated between October 2021 and March 2022. These surveys consisted of walking to within approximately 100–200m of all areas of the Survey Boundary. The area within the Survey Boundary was walked by two surveyors over the course of a day on each occasion. Surveyors carried radios and stayed in communication to prevent duplicate recordings and any observations of conservation concern species were recorded on a tablet.
- 2.51 The surveys were timed to avoid adverse weather conditions, and as such the February 2022 survey was moved to the beginning of March to avoid a prolonged period of bad weather.
- 2.52 The winter transect routes are approximately illustrated on **Plan EDP 9.10** and the timing and weather conditions provided in **Annex EDP 9.1.**

#### ***Waterbody Point Counts***

- 2.53 Following the NRW scoping response, monthly water body point counts of Blue Lagoon, the only waterbody within the Study Area, were completed between October 2021 and March 2022 to record the presence of any waterfowl or waders.
- 2.54 The surveys entailed approximately 30 minute watches at the water body, or at least sufficient time to determine all species present. The waterbody was also incidentally checked during other survey work such as the breeding bird transects. It is worth noting that in the summer the lagoon is a popular outdoor swimming location and therefore subject to high levels of disturbance.
- 2.55 The location of the lagoon is illustrated on **Plan EDP 9.10** and the weather conditions and timing of the surveys provided in **Annex EDP 9.1.**

#### ***Hen Harrier Winter Roost Survey***

- 2.56 Owing to the occasional recording of an overwintering hen harrier within the Survey Boundary in autumn 2020, four targeted surveys were undertaken from two hen harrier Vantage Points in winter 2020/21 and repeated again in winter 2021/2022. These surveys were supplemented with transects to and from the Vantage Points timed at dusk



or dawn. The surveys were undertaken with reference to best practice guidance<sup>9</sup> commencing one and a half hours before sunset and finishing half an hour after sunset or alternatively commencing prior to first light and continuing for an hour and a half after sunrise.

- 2.57 The location of the hen harrier Vantage Points and transect routes is illustrated on **Plan EDP 9.11** and the weather conditions and timing of the surveys provided in **Annex EDP 9.1**.

### **Barn Owl Survey**

- 2.58 Records and locations of barn owl nest sites were obtained from SEWBRc for a 2km radius around the Survey Boundary. Where access was allowed, buildings and trees within 200m of the Survey Boundary were checked by a licensed ornithologist alongside bat roost inspections to identify breeding or roosting activity with reference to best practice guidance<sup>10</sup>.
- 2.59 In addition, local farmers were approached, where possible, for any information they might have on the presence of barn owls across their land. Vantage Point survey timings were also mixed up during the survey season with some three-hour sessions timed to include crepuscular periods to record foraging on-site, which, in addition to the dawn breeding bird surveys, should assist in recording any on-site foraging activity. Any incidental sightings of this species were also recorded whilst completing nightjar and bat surveys.

### **Survey Limitations**

- 2.60 The topography and presence of large stands of coniferous woodland presented a challenge to ensuring total coverage of the Survey Boundary and up to 500m from turbine locations, from the selected Vantage Points. It was therefore not possible to obtain full survey coverage or position all of the Vantage Points outside of the Survey Area with Vantage Point 2 approximately 500m from Turbine 6. It is considered that repositioning Vantage Points to cover these fringe areas would require additional Vantage Point locations and therefore have substantial resource implications with little added survey coverage. The number and locations chosen are considered to provide sufficiently robust coverage to inform the OIA and have been formally agreed through EIA scoping response received from the PEDW and NRW.
- 2.61 Over the duration of the vantage point survey period (April 2020 to April 2022), 23 hours of Vantage Point observation out of 530 (not including targeted hen harrier and raptor Vantage Point watches) were undertaken during relatively poor visibility. This included periods of low cloud and mist moving in and out of the survey area throughout surveys in August, September, October and December 2021 and a prolonged period of low cloud throughout one survey in October 2021.

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<sup>9</sup> Gilbert, G., Gibbons, D.W., and Evans, J. (1998). *Bird Monitoring Methods: A manual of techniques for key UK species*. RSPB, Bedfordshire.

<sup>10</sup> Barn Owl Trust (2012) *Barn Owl Conservation Handbook*, Pelagic Publishing, Exeter.

- 2.62 Periods of prolonged heavy rain were avoided, with only a few heavy showers recorded throughout the survey period. Where surveys had to be abandoned, they were rescheduled to achieve the necessary survey effort. For example, the winter transect survey planned for the end of February 2022 was moved to the beginning of March to avoid strong winds and heavy rain.
- 2.63 The data from the northern part of the Study Area for the winter transect surveys in November 2021 and early March 2022 was lost due to an equipment failure. However, although the specific numbers and locations of target species cannot be included in the analysis, the surveyor confirmed that no additional target species were recorded on these surveys.
- 2.64 Due to restricted off-site access the scope of moorland breeding bird surveys was limited in certain areas within 800m of proposed turbine locations. Where this occurred, publicly accessible rights of way and Vantage Points were used to enhance the level of coverage.
- 2.65 During the first year of breeding bird surveys, a full survey of passerine species was not completed, in line with best practice guidance for wind farm proposals. In year 2, comprehensive breeding bird surveys were completed as a precaution to increase the robustness of the survey effort and ensure there was sufficient information to consider the passerine assemblage too.
- 2.66 On a small number of occasions, mixed flocks of herring gull (*Larus argentatus*) and lesser black-backed gull (*Larus fuscus*) were recorded as a collective. For the purposes of flight data collation and collision risk analysis, these flock numbers have been evenly split between these species. It is not considered that small variance in favour of either species would significantly alter the Collision Risk Modelling (CRM).
- 2.67 Owing to a delay in the planning application submission, the majority of survey data is just over two years old. However, an update ornithology (and ecology) walkover survey of the Study Area in July 2024 has confirmed that there are no major changes in the habitat distribution or management beyond some changes in the coniferous woodland management.
- 2.68 In light of the survey effort and level of activity recorded, the limitations highlighted above are not considered to significantly affect the robustness of the baseline against which the OIA is evaluated.

### **Surveys Scoped Out**

- 2.69 Species specific surveys for black grouse (*Lyrurus tetrix*) were scoped out based on a lack of records and absence of suitable breeding and foraging habitat for this species within the Survey Boundary or wider Study Areas. Despite not completing specific surveys for this species, it is considered that given the number of hours spent surveying within the Survey Boundary, this species would have been recorded if present.

- 2.70 On the basis of the survey results, best practice guidance and consultation, woodland point counts and summer waterbody point counts were scoped out. This is considered to be justified given the lack of woodland impacts and the high levels of disturbance to the water body, which is a popular outdoor swimming location in summer.

### **Criteria for Evaluating the Value of Species/Assemblages**

- 2.71 A number of criteria are available to determine the conservation status of those bird species recorded. These criteria aid in evaluating the value of the species and combined assemblage present within the Study Area during the winter and breeding seasons. The most appropriate of these are:
- Schedule 1 of the WCA – The WCA affords greater protection to certain breeding species that are considered appropriately at risk nationally and are as such listed as specially protected under Schedule 1;
  - The State of Birds in Wales 4 2022<sup>11</sup> – Under this approach UK bird populations are assessed, using quantitative criteria, to determine the population status of each species and then placed on one of three lists: Red, Amber or Green:
    - Red list species are of high conservation concern, being either globally threatened, having historical UK population declines between 1800 and 1995 or a rapid population decline or breeding range contraction by 50% or more in the last 25 years;
    - Amber list species are of medium conservation concern due to a number of factors, for example having suffered between 25% and 49% contraction of UK breeding range or a 25–49% reduction in breeding or non-breeding populations over the last 25 years. Species which have a five year mean of 1–300 breeding pairs (bp) in the UK or an unfavourable European conservation status or for which the breeding population in the UK represents 20% or more of the European breeding populations are also listed on the Amber list; and
    - Green list species have a favourable conservation status.
  - Priority Species listed under Section 7 of the Environment (Wales) Act 2016;
  - Species status as defined in the 2019 Gwent Bird Report; and
  - Criteria for the selection of Local Wildlife Sites (LWS) in Torfaen and Blaenau Gwent.

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<sup>11</sup> Johnstone, I.G., Hughes, J., Balmer, D.E., Brenchley, A., Facey, R.J., Lindley, P.J., Noble, D.G. and Taylor, R.C. 2022. Birds of Conservation Concern Wales 4: the population status of birds in Wales. Milvus: the Journal of the Welsh Ornithological Society. Available at <https://tinyurl.com/BOCCW4>

2.72 A summary of the approach taken to valuing ornithological receptors at different geographic scales is provided in **Table EDP 2.2**.

**Table EDP 2.2:** Summary of the Approach to Valuing Ornithological Receptors at Different Geographic Scales

Level of Value	Examples
<b>International</b>	International nature conservation areas including any SPA, proposed SPA or Ramsar. Populations of internationally designated site qualifying species that depend on the Development Site (i.e. functionally linked to the designation). Species present in internationally important numbers (>1% of European populations). Species listed on Annex I of the EC Birds Directive if present in qualifying numbers/proportions of international population.
<b>National (Wales/UK)</b>	National nature conservation areas, including any SSSI or NNR designated for ornithology features. Populations of national nature conservation area qualifying species that depend on the Development Site (i.e. functionally linked to the designation). Breeding or overwintering populations of ecologically sensitive rare bird species (<300 breeding pairs in the UK). Species present in nationally important numbers (>1% Welsh/UK population). Regularly occurring relevant migratory species, which are of rare and/or of significant conservation concern that warrant special consideration on account of the proximity of migration routes, breeding, wintering and staging areas in relation to the Development Site.
<b>County (Torfaen and Blaenau Gwent)</b>	Local nature conservation areas designated for ornithology, including any LNR or SINC. Populations of species for which a locally designated site has been designated that depend on the Development Site. County-scale important population/assemblage of bird species listed on Schedule 1 of the WCA or Section 7 of the Environment Act (Wales) 2016 Species present in regionally important numbers (>1% regional population). Significant breeding or overwintering populations of species on the Red List for Birds of Conservation Concern within the county context. Significant species, populations or assemblage that would meet the criteria set for SINC designation.
<b>Local</b>	Breeding or overwintering populations of bird species listed on Schedule 1 of the WCA or Section 7 of the Environment Act (Wales) 2016, where not captured in higher scale categories. Other species of conservation interest where a notable population is present, e.g. breeding populations of red- or amber-listed species of Birds of Conservation Concern.
<b>Site</b>	All other species not included in the above categories, such as populations of green-listed species or smaller populations of certain conservation concern species that are otherwise common and widespread. Such species are normally scoped out of the assessment process.

## **Interpretation of the Breeding Bird Survey Results**

- 2.73 Breeding status is defined using the European Bird Census Council (EBCC) Criteria for Categorisation of Breeding Status criteria, as devised by the European Ornithological Atlas Committee (EOAC). The results of the breeding bird surveys are assessed against the EBCC criteria for breeding bird status<sup>12</sup>. These are shown below:

### ***Confirmed Breeding***

- Distraction-display or injury feigning;
- Used nest or eggshells found (occupied or laid within period of survey);
- Recently fledged young (nidicolous species) or downy young (nidifugous species);
- Adults entering or leaving nest-site in circumstances indicating occupied nest (including high nest or nest-holes, the contents of which cannot be seen) or adult seen incubating;
- Adult carrying faecal sac or food for young;
- Nest containing eggs; and
- Nest with young seen or heard.

### ***Probable Breeding***

- Pair observed in suitable nesting habitat in breeding season;
- Permanent territory presumed through registration of territorial behaviour (song, etc.) on at least two different days a week or more apart at the same place;
- Courtship and display;
- Visiting a probable nest site;
- Agitated behaviour or anxiety calls from adults;
- Brood patch on adult examined in the hand; and
- Nest building or excavating nest-hole.

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<sup>12</sup> Hagemeijer, E.J.M., and Blair, M.J. (editors). 1997. *The EBCC Atlas of European Breeding Birds; Their Distribution and Abundance*. T & A D Poyser, London

### **Possible Breeding**

- Species observed in breeding season in possible nesting habitat; and
- Singing male(s) present (or breeding calls heard) in breeding season.

### **Non-Breeding**

- A species present during the survey but considered to be not breeding within the survey area; and
- Recorded simply as a bird flying over the Study Area or a species that is present but considered to be non-breeding due to a lack of suitable breeding habitat or lack of behaviour characteristic of breeding.

### **Collision Risk Analysis**

- 2.74 Ornithologists carrying out the Vantage Point surveys recorded observed bird flights (flightlines), their duration and an estimate of flight height. Species selected as target species were raptors (e.g. red kite (*Milvus milvus*) and hen harrier (*Circus cyaneus*), waterfowl (e.g. geese and ducks) and wading birds (e.g. golden plover (*Pluvialis apricaria*) and lapwing (*Vanellus vanellus*)). The data was then used to assess collision risk using the standard Collision Risk Model developed by SNH<sup>13</sup>. The model uses data from the Vantage Point surveys in conjunction with species-specific biometric information and turbine specifications, such as the number of turbines, and the radius of the hub, the height, and the rotor. The output from the model is an assessment of the likely number of collisions for each species, per given period, through direct collisions with the turbine blades.
- 2.75 The model gives the number of likely collisions in the absence of birds using avoidance measures to prevent collision with the turbines. Further analysis can use species specific avoidance measure rates<sup>14</sup> to calculate the likely number of casualties should these avoidance measures be applied.
- 2.76 Further information on collision risk analysis methodology and the results are provided in Technical Appendix 9B.

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<sup>13</sup> Scottish Natural Heritage (SNH) (2020) *guidance note: Windfarms and Birds: Calculating a theoretical collision risk assuming no avoiding action*. (online) Accessed July 2022. Available at: <https://www.nature.scot/doc/wind-farm-impacts-birds-calculating-theoretical-collision-risk-assuming-no-avoiding-action>

<sup>14</sup> Scottish Natural Heritage (SNH) (2018). *Use of Avoidance Rates in the SNH Wind Farm Collision Risk Model*. (online) Accessed July 2022. Available at: <https://www.nature.scot/wind-farm-impacts-birds-use-avoidance-rates-snh-wind-farm-collision-risk-model>

## Section 3 Results (Baseline Conditions)

- 3.1 This section of the baseline report summarises the baseline ornithology features determined through the course of desk-based and field-based investigations described in **Section 2**. In particular, this section identifies and evaluates those avian populations which lie within the Survey Boundary's potential zone of influence and are considered to be pertinent in the context of the proposed development. It seeks to identify potentially valuable ornithology receptors within the Survey Boundary, which would require full consideration within an OIA.
- 3.2 Further technical details are, where appropriate, provided within annexes and on plans to the rear of this report.

### Designated Sites

- 3.3 Information regarding designated sites was obtained during the desk study from the MAGIC website, Aderyn and SEWBRc. Statutory designations (those receiving legal protection) and non-statutory designations (those receiving planning policy protection only) are discussed in turn below and illustrated on **Plan EDP 9.12** and **Plans EDP 9.13** and **EDP 9.14** respectively.

### Statutory Designations

- 3.4 Statutory designations represent the most significant ecological receptors, being of recognised importance at an international and/or national level. International designations include SPAs, Special Areas of Conservation (SACs) and Ramsar sites. National designations include SSSI and National Nature Reserves (NNRs).
- 3.5 No part of the Survey Boundary is covered by any statutory designations. However, there are several such designations within the Survey Boundary's potential zone of influence that include bird species in their citations, as summarised in **Table EDP 3.1** and illustrated on **Plan EDP 9.12**.

**Table EDP 3.1:** Statutory Ornithology Designations within the Survey Boundary's Potential Zone of Influence

Designation	Distance from Survey Boundary (approx.)	Brief Description
<b>International (30km)</b>		
Severn Estuary SPA/Ramsar	18km south-east	The Severn Estuary is important for migratory birds with its tidal flats and associated wetlands, regularly supporting over 20,000 wintering waterfowl. Internationally important populations of five species of



Designation	Distance from Survey Boundary (approx.)	Brief Description
		waterfowl are regularly supported by the estuary. These include European white-fronted goose ( <i>Anser albifrons albifrons</i> ), shelduck ( <i>Tadorna tadorna</i> ), gadwall ( <i>Mareca strepera</i> ), dunlin ( <i>Calidris alpina</i> ) and redshank ( <i>Tringa tetanus</i> ). In addition, the islands of Flat Holm and Steep Holm support a nationally important breeding population of lesser black-backed gulls. The Severn Estuary also regularly supports an internationally important population of Bewick's swan ( <i>Cygnus columbianus bewickii</i> ), an Annex I species.
<b>National (15km)</b>		
Llandegfedd Reservoir SSSI	6km east	Llandegfedd Reservoir is the largest inland open water habitat in the county and a regionally important area for overwintering wildfowl in Wales. The site is particularly important for the overall numbers and variety of wintering wildfowl, with large numbers of wigeon ( <i>Mareca Penelope</i> ), pochard ( <i>Aythya ferina</i> ) and mallard ( <i>Anas platyrhynchos</i> ).
Blorenghe SSSI	6km north-west	A large upland site supporting sub-montane heath with large areas of <i>Calluna</i> – <i>Empetrum</i> - <i>Vaccinium vitis-idaea</i> , a community which is of local distribution in south Wales. Supports a locally important population of red grouse ( <i>Lagopus lagopus scotica</i> ).
River Usk (Lower Usk) SSSI	10km east (closest section)	The River Usk (Lower Usk) is particularly important as a rare example of a large mesotrophic lowland river, which has not been subject to significant manmade modification. The site is also important for its invertebrate assemblage, otter ( <i>Lutra lutra</i> ) population, diverse flora, breeding bird assemblage and diverse and high-quality riparian habitats. Part of the River Usk SAC.
Nelson Bog SSSI	11km south-west	Nelson Bog is of interest for its range and diversity of mire communities. The SSSI is also an important ornithological site with over 90 species recorded.
River Usk (Upper Usk) SSSI	12km north (closest section)	The River Usk (Upper Usk) is considered to be a fine example of an upland river flowing in part over hard sandstones, creating steeply graded sections with rocks, cascades, boulders and cliff-bound banks. The biological diversity of the site is also of partial interest with important populations of fish, breeding birds, otter, mosses and lichen. Part of the River Usk SAC.
River Usk (Tributaries) SSSI	13km north (closest section)	The Usk system, comprising the River Usk and including its upper tributaries, represents a large, linear ecosystem that acts as an important wildlife corridor, an essential migration route and key breeding area for many nationally and internationally important species. The Usk tributaries support internationally important populations of otter, Atlantic salmon ( <i>Salmo salar</i> ), bullhead ( <i>Cottus gobio</i> ), brook lamprey ( <i>Lampetra planeri</i> ) and river lamprey



Designation	Distance from Survey Boundary (approx.)	Brief Description
		( <i>Lampetra fluviatilis</i> ). Part of the River Usk SAC.
Severn Estuary SSSI (Flat Holm and Steep Holm)	35km and 39km south-east	Notified for its internationally important populations of wintering and wading birds of passage, supporting estuarine habitats of ornithological significance. The estuary as a whole is the single most important wintering ground of dunlin in Britain, supporting about 10.5% of the British wintering population. Nationally important lesser black-backed gull populations.

### Non-statutory Designations

- 3.6 Non-statutory designations are also commonly referred to in planning policies as 'local sites' and are typically considered to be of importance at a County level. In the counties of Blaenau Gwent, Caerphilly and Torfaen, such designations are named Sites of Importance for Nature Conservation (SINC). Additional designated sites, which should be considered at this level include Local Nature Reserves (LNR), where these are not covered by other designations.
- 3.7 Five SINC partially designated for their bird interests are partly present within the Survey Boundary itself, or immediately adjacent, as summarised in **Table EDP 3.2** and illustrated on **Plan EDP 9.14**.

**Table EDP 3.2:** Non-statutory SINC Designations with Birds in their Citation that are Located Partly within or Adjacent to the Survey Boundary

Designation	Location	Brief Description
Blaen-y-cwm upland pasture	Covers parts of the centre and eastern moorland habitats within the Survey Boundary (ref T6)	Sheep grazed acid grassland/marshy grassland. Suitable for important bird species including hen harrier, long-eared owl, curlew ( <i>Numenius arquata</i> ) and lapwing.
Cwm Ddu Woods, Blaenserchan	Escarpment within the south of the Survey Boundary (ref T27)	The SINC supports ancient woodland, dwarf shrub heath, hedgerows, colliery spoil, a stream, small ponds and disused buildings, with notable bird species recorded including yellowhammer ( <i>Emberiza citrinella</i> ), long-eared owl, bullfinch ( <i>Pyrrhula pyrrhula</i> ), reed bunting ( <i>Emberiza schoeniclus</i> ), common crossbill ( <i>Loxia curvirostra</i> ), spotted flycatcher ( <i>Muscicapa striata</i> ), kestrel ( <i>Falco tinnunculus</i> ), linnet ( <i>Linaria cannabina</i> ), redstart ( <i>Phoenicurus phoenicurus</i> ) skylark, starling ( <i>Sturnus vulgaris</i> ), stonechat ( <i>Saxicola rubicola</i> ), song thrush ( <i>Turdus philomelos</i> ), green woodpecker ( <i>Picus viridis</i> ) and hen harrier.
Mulfran, Mynydd Coity, Mynydd James and Gwastad	Woodland belt within valley partially in north of the Survey Boundary (ref B25)	Purple-moor grass ( <i>Molinia caerulea</i> ) and rush pastures, dwarf shrub heath and blanket bog. A mosaic of habitats of acid grassland, dry heathland, wet heath, blanket mire and marshy grassland. Notable species supported include Silurian moth ( <i>Eriopygodes</i>

Designation	Location	Brief Description
		<i>imbecilla</i> ), skylark and otter.
Mynydd Llanhilleth Common	Within north of Survey Boundary (ref T55)	Mosaic of upland habitat types including acid grassland, dwarf shrub heath, wet and dry heath and mire communities. Notable species supported include red grouse, wintering short-eared owl, upland breeding birds, olive earthtongue ( <i>Microglossum olivaceum</i> ) and reptiles.
Tirpentwys Cut	Covers parts of the centre, eastern and southern moorland habitats within the Survey Boundary (ref T92 and B39)	The site supports a mosaic of habitats including bog habitats and flushes, standing open water, post-industrial quarry and rock exposures. A significant site for breeding birds with several Schedule 1 and notable bird species recorded within the site including peregrine falcon ( <i>Falco peregrinus</i> ), goshawk ( <i>Accipiter gentilis</i> ), hobby ( <i>Falco Subbuteo</i> ), merlin ( <i>Falco columbarius</i> ), long-eared owl, reed bunting, common crossbill, cuckoo ( <i>Cuculus canorus</i> ), kestrel, linnet, tree pipit ( <i>Anthus trivialis</i> ), raven, redpoll ( <i>Acanthis flammea</i> ) and redstart.

### Desk Study

- 3.8 The pertinent results for target species (excluding passerines) returned from the desk study, including a review of the adjacent Mynydd Carn y Cefn Wind Farm ornithology findings, is provided in **Table EDP 3.3**.

**Table EDP 3.3:** Summary of the Desk Study Results Relating to Focal Target Species.

Bird Species	Conservation Status				Desk Study Records	Mynydd Carn y Cefn Wind Farm Findings (Technical Appendix 9A: Baseline Ornithology Report) (May 2022)
	Schedule 1 WCA	Priority Species	BoCC Wales	Local BAP		
Red Grouse ( <i>Lagopus lagopus</i> )		✓	Red	✓	Sixty-eight records of Red Grouse were recorded. Almost all of these were to the north, and 6 of them were less than 1km from the Survey Boundary. There was one record of breeding, which was located 4.2km to the south-east in 2014.	No records.
Nightjar ( <i>Caprimulgus europaeus</i> )		✓	Green	✓	Multiple records of churring males were recorded, the closest of which was 2.8km to the east of the Survey Boundary in 2019.	Peak of three churring males in 2021.
Cuckoo ( <i>Cuculus canorus</i> )		✓	Red	✓	There was a total of 103 records of Cuckoo in the past 10 years, 26 of which were of calling males. The closest calling male was 220m to the south-west of the Survey Boundary in 2012.	Total of 35 records from Vantage Point surveys, with a peak of 4 birds in April 2020.
Snipe ( <i>Gallinago gallinago</i> )			Amber	✓	A total of 49 records from all directions and distances, including 1 from within the Survey Boundary within suitable breeding habitat.	Seven individual snipe flushed from wetland areas during the non-breeding season.
Golden Plover ( <i>Pluvialis apricaria</i> )		✓	Red	✓	A single record was returned from Mynydd Maen, 2.9km to the south of the Survey Boundary, in 2016.	Infrequent flights during passage and non-breeding periods
Cormorant ( <i>Phalacrocorax carbo</i> )			Green		Sixty-one records, mostly relating to Llandegfedd Reservoir to the east, Rhymney River to the west, or to local fishing and boating lakes. There was a single flyover record of a bird in the south-west of the Survey Boundary.	Three sightings only.
Red Kite ( <i>Milvus milvus</i> )	✓		Green	✓	Recorded frequently in all directions from the Survey Boundary, with two records coming from within the Survey Boundary itself. Breeding has been recorded around 940m to the west of the Survey Boundary.	Regular flights across all seasons.

Bird Species	Conservation Status				Desk Study Records	Mynydd Carn y Cefn Wind Farm Findings (Technical Appendix 9A: Baseline Ornithology Report) (May 2022)
	Schedule 1 WCA	Priority Species	BoCC Wales	Local BAP		
Hen Harrier ( <i>Circus cyaneus</i> )	✓	✓	Red	✓	A total of 15 records from the last 10 years, including one from within the Survey Boundary. There was a record of a probable breeding attempt located 8.6km to the north in 2017. Most records are located to the north and north-east of the Survey Boundary, including one 830m to the north-east.	Infrequent flights during passage and non-breeding periods.
Goshawk ( <i>Accipiter gentilis</i> )	✓		Green	✓	Two breeding records of this species within the last ten years, both located 8.6km away, to the north and to the north-west. Both of these records were from 2016. A total of 48 records were returned from all directions from the Survey Boundary.	Regular flights across all seasons. Breeding was confirmed in 2020 and 2021. The nest site was located outside of the red line boundary but potentially close to the access track.
Osprey ( <i>Pandion haliaetus</i> )	✓		Amber		Nine records, five of which were associated with Llandegfedd Reservoir to the east of the Survey Boundary. None of these sightings recorded breeding attempts.	No records.
Kestrel ( <i>Falco tinnunculus</i> )		✓	Red	✓	Recorded foraging at various locations outside the Survey Boundary, including four records within 1km. One confirmed nesting site, 7.2km to the north, located in 2012.	Recorded widely across the Survey Boundary.
Merlin ( <i>Falco columbarius</i> )	✓		Red	✓	Eleven records of this species, mostly to the north. None of these were breeding records. The closest sighting was 840m to the west, in 2014.	Infrequent flights during passage and non-breeding periods.
Hobby ( <i>Falco subbuteo</i> )	✓		Green	✓	Ten records were returned, including one from within the Survey Boundary itself and one breeding record, located 5.5km to the south-east, in 2016.	Infrequent flights during passage and non-breeding periods.
Peregrine ( <i>Falco peregrinus</i> )	✓		Green	✓	A breeding record was returned from within the Survey Boundary itself in 2014, with another three located within 1.5km: two to the south and one to the north-east. 49 records	Regular flights across all seasons.

Bird Species	Conservation Status				Desk Study Records	Mynydd Carn y Cefn Wind Farm Findings (Technical Appendix 9A: Baseline Ornithology Report) (May 2022)
	Schedule 1 WCA	Priority Species	BoCC Wales	Local BAP		
					were returned in total, the majority of which were located between 5 and 10km to the north and to the west.	
Marsh Harrier ( <i>Circus aeruginosus</i> )	✓		Amber		Three records of Marsh Harrier were returned, the closest of which was 5km to the south-west. None of these were breeding records, however.	No records.
Herring Gull ( <i>Larus argentatus</i> )		✓	Red		Sixty-nine records from all directions and distances. Five of these were breeding records, the closest of these was 4.1km to the south-west in 2016.	Recorded regularly in small numbers.
Black-headed gull ( <i>Chroicocephalus ridibundus</i> )		✓	Red		Sixty-eight records at all distances and directions.	Recorded regularly in small numbers.
Lesser Black-backed Gull ( <i>Larus fuscus</i> )			Red		Eighty-six records at all distances and directions. Of these, four were breeding records, and the closest of these was 4.1km to the south-west.	Recorded regularly in small numbers.
Great Black-backed gull ( <i>Larus marinus</i> )			Red		Thirteen records, mostly associated with Llandegfedd Reservoir to the east.	No records.
Barn Owl ( <i>Tyto alba</i> )	✓		Green	✓	Three nest sites were returned within 10km of the Survey Boundary, the closest of which was 9.3km to the north-west. There were also several other incidental records, mostly located to the north and the west.	Single nest site.
Short-eared owl ( <i>Asio flammeus</i> )			Red	✓	One breeding record was returned from 5.5km to the north in 2016.	No records.
Long-eared owl ( <i>Asio otus</i> )			Amber	✓	Three breeding records were returned from three locations within the Survey Boundary in 2020.	One record of a calling male.

Bird Species	Conservation Status				Desk Study Records	Mynydd Carn y Cefn Wind Farm Findings (Technical Appendix 9A: Baseline Ornithology Report) (May 2022)
	Schedule 1 WCA	Priority Species	BoCC Wales	Local BAP		
Grey Heron ( <i>Ardea cinerea</i> )			Amber		85 records at all distances and directions. Three breeding records, the closest of which was located 2km to the west in 2015.	Recorded regularly in small numbers.

## Field Survey Results

- 3.9 Field surveys have been completed between April 2020 and July 2022 with a total of 71 species recorded. A full species list is included in **Annex EDP 9.2**, which summarises the species conservation status. Detailed species accounts for all Target Species recorded within the survey area during all surveys are presented below following a summary of the breeding and winter season records.

### Breeding/Summer

- 3.10 During the 2020 and 2021 breeding survey seasons a total of 59 species were recorded, as presented in **Annex EDP 9.2**, including 15 target species listed in **Table EDP 3.4**. These species were recorded during Vantage Point surveys and specific Breeding Bird, Raptor and Nightjar/Owl Surveys undertaken between April and August 2020, and April and August 2021, in addition to nightjar surveys in June and July 2022. Known nest locations and indicative locations of raptor, nightjar, and moorland bird species breeding activity are shown on the confidential **Plan EDP 9.15**.
- 3.11 Of the 15 target/notable species recorded, 4 (goshawk, red kite, long-eared owl, and peregrine) were confirmed as breeding within the Survey Boundary and/or within the Study Area, 4 as probably breeding (red grouse, kestrel, snipe and nightjar) and 1 possibly breeding (cuckoo).
- 3.12 Three Schedule 1 species (red kite, peregrine, and goshawk) bred in or within 2km of the Survey Boundary. Two other Schedule 1 target species (hen harrier and hobby) were also recorded within the Survey Boundary. **Table EDP 3.4** presents the results of the breeding bird surveys for all target species.

**Table EDP 3.4:** Target Species Recorded during the 2020 and 2021 Breeding/Summer Seasons and their Distribution Within the Wider Study Area

Species	Schedule 1 WCA and Annex 1	BoCCW Status	Priority Species	EOAC Status <sup>15</sup>	Wales Population Estimate <sup>16</sup>	Estimated Breeding Population within Study Area	Study Area Status
Red Grouse		Red	✓	PR	835 pairs (490–1,450)	1–2 pairs	Probably bred outside of the Survey Boundary to the north.

<sup>15</sup> CB – confirmed breeding, PR – probable breeding, PO – possible breeding and NB – non-breeding.

<sup>16</sup> See Target Species Accounts section for references. Ranges are 95% confidence intervals.

Species	Schedule 1 WCA and Annex 1	BoCCW Status	Priority Species	EOAC Status <sup>15</sup>	Wales Population Estimate <sup>16</sup>	Estimated Breeding Population within Study Area	Study Area Status
Nightjar	Annex 1	Green	✓	PR	500+ territorial males	2–3 pairs	Male recorded calling in woodland south-east of the Survey Boundary in 2021. Three churring males recorded in areas of recently felled woodland within the south of the Survey Boundary in 2022.
Cuckoo		Red	✓	PO	1,900 pairs (1,000–2,750)	1–2 pairs	Males heard calling in the centre of the Survey Boundary and to the north, with females likely parasitising Meadow Pipit.
Snipe		Amber		PR	1,100 pairs (820–1,400)	1 pair	Probably bred in wet rush/grass habitats within the southwest of the Survey Boundary.
Herring Gull		Red	✓	NB	7,988+ apparently occupied nests	Non-breeder	Registrations limited to fly-overs only.
Lesser Black-backed Gull		Red		NB	13,500+ apparently occupied nests	Non-breeder	Registrations limited to fly-overs and limited foraging only.
Cormorant		Green		NB	1,491 apparently occupied nests	Non-breeder	Registrations limited to fly-overs only.
Grey Heron		Amber		NB	797 occupied nests	Non-breeder	Registrations limited to fly-overs only.
Goshawk	Sch. 1	Green		CB	310 pairs (260–350)	1 pair	Bred in 2021 approximately 900m east of the Survey Boundary.
Hen Harrier	Sch. 1	Red	✓	NB	35 pairs	Non-breeder	Recorded flying over the Survey Boundary and wider Study Area during Vantage Point surveys in March and April 2021. Considered to be a passage migrant.



Species	Schedule 1 WCA and Annex 1	BoCCW Status	Priority Species	EOAC Status <sup>15</sup>	Wales Population Estimate <sup>16</sup>	Estimated Breeding Population within Study Area	Study Area Status
Red Kite	Sch. 1	Green		CB	2,500 pairs	1–2 pairs	Nest recorded to the south-west of the Survey Boundary in 2020 and 2021.
Long-eared Owl		Amber		CB	32 pairs (likely underestimate)	1–3 pairs	Three nests were located in 2020 within coniferous woodland in the south, east and north of the wider Study Area.
Kestrel		Red	✓	PR	265–475 pairs	0–1 pairs	Recorded infrequently flying over the Survey Boundary and wider Study Area throughout both breeding seasons, including a pair.
Hobby	Sch. 1	Green		NB	205 pairs (160–265)	Non-breeder	One record of an individual flying over the Survey Boundary during the 2021 breeding bird survey.
Peregrine	Sch. 1	Green		CB	280 pairs (262–301)	1 pair	Nest located within the quarry in the centre of the Survey Boundary. Presence confirmed in 2024.

- 3.13 A number of Red listed passerine species were recorded within the Study Area including willow warbler (*Phylloscopus trochilus*), starling, pied flycatcher (*Ficedula hypoleuca*), linnet, whinchat (*Saxicola rubetra*), and bullfinch (see **Annex EDP 9.3** for further details). With the exception of starling, all of these species are confirmed or probable breeding species. All of these species were uncommon across the Study Area, restricted to areas of suitable habitat.
- 3.14 The remaining breeding bird assemblage is made up of fairly widespread and ubiquitous species typical of the Study Area's geographical location and habitats present, including species on the Amber List of conservation concern such as skylark and meadow pipit, both of which were abundant across the Study Area.
- 3.15 The Study Area supports a breeding bird assemblage that reflects the location and habitats present, including a number of species of local and national conservation concern, including small breeding populations of up to Local importance. Given the size of

the Survey Boundary and wider Study Area, historic records, and SINC citations, it is likely that the area formerly supported a greater diversity and abundance of species. This is indicative of a wider decline in species associated with moorland habitats, as reflected by the target species conservation status, and is likely a result of habitat degradation and relatively high levels of recreational disturbance. Non-target conservation concern passerine species such as skylark and meadow pipit were recorded in greater abundances.

- 3.16 Owing to the relatively limited diversity and abundance of target species recorded, as set out in more detail under the species accounts, the breeding bird assemblage is considered to be of Local importance.
- 3.17 Summer flight lines recorded of target species (excluding passerines) during the Vantage Point surveys are illustrated in **Plans EDP 9.16a to 9.17b**.

### ***Migratory and Winter***

- 3.18 During the migratory and winter 2020–2021 and 2021–2022 survey seasons, a total of 53 species were recorded, including 14 target species. These species were recorded during Vantage Point surveys, winter transect surveys, and water body point count surveys of the lagoon, as summarised within **Table EDP 3.5** and detailed in the subsequent species accounts.

**Table EDP 3.5:** Target Species Recorded During the Migratory and Winter Bird Surveys Between 2020 and 2022 and their Study Area Status

Species	Schedule 1 WCA and Annex 1	BoCC Wales Status	Priority Species	Study Area Status
Mallard		Amber		Five recorded during a winter bird transect survey.
Red Grouse		Red	✓	Recorded on six surveys, with a peak count of three individuals. All records were from the moorland to the north of the Survey Boundary.
Woodcock		Red		Recorded during winter transects in 2020/2021 with peak count of two individuals recorded.
Snipe		Amber		Recorded across the Study Area on every winter bird transect, peak count of 16 individuals.
Herring Gull		Red	✓	Recorded occasionally flying over Study Area, peak count of 22.
Lesser Black-backed Gull		Red		Recorded flying over the Study Area in small numbers, peak of nine.
Cormorant		Green		Peak count of a single individual flying over the Study Area on four occasions.
Grey Heron		Amber		One recorded at a shallow pool during the March 2022 winter bird transect.
Goshawk	✓	Green		Individuals were seen on four occasions during the winter Vantage Point surveys, along the north and east of the Survey Boundary. Another was recorded flying over the southern edge of the

Species	Schedule 1 WCA and Annex 1	BoCC Wales Status	Priority Species	Study Area Status
				Survey Boundary in the January 2021 winter bird transect.
Hen Harrier	✓	Red	✓	Individuals seen on five surveys, with the majority of sightings in September 2021. A single male recorded on three occasions during the 2020/2021 winter bird transects.
Red Kite	✓	Green		Recorded on the majority of surveys with a peak count of four individuals.
Kestrel		Red	✓	Recorded on several occasions with a peak count of three individuals.
Merlin	✓	Green		Recorded on one occasion during the winter 2020–2021 Vantage Point surveys.
Peregrine	✓	Green		Single individuals recorded on several surveys, seen right across the Survey Boundary.

- 3.19 Winter flight lines recorded during the VP surveys are illustrated in **Plans EDP 9.18a to 9.19b**.
- 3.20 No target species were recorded using the lagoon during the winter transect and water body point count surveys.
- 3.21 Other Red list passerine species recorded across the Study Area over winter included skylark, redwing, and fieldfare; however, none of these species were seen regularly recorded in significant numbers with registrations predominantly limited to small flocks. The presence of these species in low numbers is considered to reflect the habitats present and not significant in terms of the value of the wintering bird assemblage.
- 3.22 Overall, the winter and migratory bird assemblage supported by the Survey Boundary and surrounding Study Area appears to be relatively limited in abundance with only modest species diversity given the extent of area and range of habitats. This may be a reflection of the degraded nature of the moorland habitats present and/or recreational disturbance, which remained relatively high even over the winter. Whilst conservation concern species such as red kite, hen harrier, peregrine, and goshawk were recorded, activity in all species was low and did not indicate the presence of any notable populations. Hen harrier was not confirmed as roosting within the Study Area and a small number of sightings of this species is not unusual for upland sites in mid-Wales during the migration and winter season.
- 3.23 It is considered that no species population present in the winter bird season is valued at above local value and the combined wintering bird assemblage is therefore considered to be of Local importance.

### Target Species Accounts

- 3.24 The species status provided in the following accounts is based on recorded activity within the Study Area. In addition, their local status in Gwent is given, as taken from the Gwent Bird Report 2019<sup>17</sup>, and an estimated population size in Wales from various referenced sources. Where a range is shown, this indicates the 95% confidence interval.

#### *Herring Gull*

- 3.25 Listed as a Priority Species on Section 7 of the Environment Act (Wales) 2016 and Red listed on BoCCW4. Classified in Gwent as fairly common all year, distinct spring passage, moderate numbers and mainly breeding in industrial areas.
- 3.26 A provisional total from the national Seabirds Count estimated the number of apparently occupied nests in Wales across 2015–19 to be 7,988 although this is thought to be an underestimate as urban sites, an important breeding habitat, were not covered comprehensively<sup>18</sup>. Around half of the total Welsh population of herring gulls could now consist of roof-nesting birds<sup>19</sup>.
- 3.27 During the winter bird surveys, herring gull were recorded on three surveys, flying within the Study Area in small flocks (peak flock count of 19).
- 3.28 Herring gulls were also recorded in small numbers (peak count of six) during the breeding bird surveys, the majority were recording flying over the Survey Boundary with a few over the wider Study Area. There was also a record of a single individual foraging within the Survey Boundary.
- 3.29 On the Vantage Point surveys, herring gull were regularly recorded flying over the Survey Boundary during the breeding season, particularly during spring passage, in variable size flocks, with lower numbers recorded over winter. Flightline activity is summarised in **Table EDP 3.6**, with an additional table (**Table EDP 3.8**) summarising the Vantage Point survey data for flocks of mixed gull species where these weren't differentiated.

**Table EDP 3.6:** Vantage Point Survey Summary for Herring Gull

Season	Number of Flights	Total Number of Birds	Height Band 1: 0-30m (seconds)	Height Band 2: 30-180m CRZ (seconds)	Height Band 3: >180m (seconds)	Number of Flights (birds) within the CRZ
2020 breeding season	39	186	645	1575	1170	33 (119)
2020–2021 non-breeding season	5	11	45	90	195	2 (4)
2021 breeding season	60	227	1245	1770	165	36 (142)

<sup>17</sup> Gwent Ornithological Society (2019) *Gwent Bird Report 2019*, Vol. 55.

<sup>18</sup> JNCC *Seabirds Monitoring Programme* (online) <https://jncc.gov.uk/our-work/seabird-monitoring/> (Accessed July 2022)

<sup>19</sup> Pritchard, R., Hughes, J., Spence, I.M., Haycock, B., and Brenchley, A. (editors) (2021) *The Birds of Wales – Adar Cymru*. Liverpool University Press, Liverpool.

Season	Number of Flights	Total Number of Birds	Height Band 1: 0-30m (seconds)	Height Band 2: 30-180m CRZ (seconds)	Height Band 3: >180m (seconds)	Number of Flights (birds) within the CRZ
2021-2022 non-breeding/passage season	17	31	75	1020	210	12 (26)

- 3.30 Herring gull are common year around in Gwent though also noted as spring migrants, and this is reflected by the results. The presence of relatively small populations of these species commuting over the Survey Boundary, and occasionally using the surroundings for foraging and resting, is considered to be of no more than Local importance.

#### *Lesser Black-backed Gull*

- 3.31 Red listed and classified in Gwent as fairly common, distinct spring passage, modest but growing numbers with most breeding in industrial areas.
- 3.32 A provisional total from the national Seabirds Count estimated the number of apparently occupied nests in Wales across 2015-19 to be around 13,500 although this is thought to be an underestimate as urban sites, an important breeding habitat, were not covered comprehensively<sup>20</sup>.
- 3.33 Lesser black-backed gull were recorded on the majority of winter bird surveys flying over the Study Area in small numbers (maximum flock size of seven).
- 3.34 Lesser black-backed gulls were recorded on eight occasions during the breeding bird surveys with a peak count of four flying over the Study Area.
- 3.35 **Table EDP 3.7** provides a summary of the lesser black-backed gulls recorded during the Vantage Point surveys, with an additional table (**Table EDP 3.8**) summarising the Vantage Point survey data for flocks of mixed gull species where these weren't differentiated.

**Table EDP 3.7:** Vantage Point Survey Summary for Lesser Black-backed Gull

Season	Number of Flights	Total Number of Birds	Height Band 1: 0-30m (seconds)	Height Band 2: 30-180m CRZ (seconds)	Height Band 3: >180m (seconds)	Number of Flights (birds) within the CRZ
2020 breeding season	47	140	165	1080	345	38 (88)
2020-2021 non-breeding season	17	51	105	750	120	13 (46)
2021 breeding season	48	94	1350	1800	0	31 (60)

<sup>20</sup> JNCC Seabirds Monitoring Programme (online) <https://jncc.gov.uk/our-work/seabird-monitoring/> (Accessed July 2022)

Season	Number of Flights	Total Number of Birds	Height Band 1: 0-30m (seconds)	Height Band 2: 30-180m CRZ (seconds)	Height Band 3: >180m (seconds)	Number of Flights (birds) within the CRZ
2021-2022 non-breeding/passage season	18	345	90	810	165	13 (35)

**Table EDP 3.8:** Vantage Point Survey Summary for Mixed *Larus* sp. Flocks

Season	Number of Flights	Total Number of Birds	Height Band 1: 0-30m (seconds)	Height Band 2: 30-180m CRZ (seconds)	Height Band 3: >180m (seconds)	Number of Flights (birds) within the CRZ
2020 breeding season	-	-	-	-	-	-
2020-2021 non-breeding season	3	68	0	210	30	2 (65)
2021 breeding season	10	137	300	480	285	7 (87)
2021-2022 non-breeding/passage season	-	-	-	-	-	-

- 3.36 During Vantage Point surveys they were regularly recorded flying over the Survey Boundary in variable flock sizes, particularly during spring passage. Lower numbers were recorded infrequently over winter but with larger flocks during the 2021-2022 non-breeding/passage season.
- 3.37 Activity reflective of movements over the wider landscape and only small numbers were recorded relative to the population supported by Severn Estuary SPA and Flat Holm and Steep Holm SSSI. The site is not considered to be functionally linked to these designated sites in the wider landscape.
- 3.38 Lesser black-backed gull are common year around in Gwent though also noted as spring migrants, and this is reflected by the results. The presence of relatively small populations of these species commuting over the Survey Boundary, and occasionally using the surroundings for foraging and resting, is considered to be of no more than Local importance.

#### *Cormorant*

- 3.39 Green listed and classified in Gwent as fairly common throughout the year; breeds on Denny Island (in Severn Estuary).

- 3.40 A provisional total from the national Seabirds Count estimated the number of apparently occupied nests in Wales across 2015–19 to be 1,491<sup>21</sup>.
- 3.41 A single cormorant was recorded flying over the Survey Boundary or wider Study Area on three occasions during the winter bird transect surveys.
- 3.42 Only two registrations for this species during the Vantage Point surveys, one in the breeding and one in the non-breeding season. Cormorant were not recorded during the second year of Vantage Point surveys. A summary of flights recorded is provided in **Table EDP 3.9**.

**Table EDP 3.9:** Vantage Point Survey Summary for Cormorant

Season	Number of Flights	Total Number of Birds	Height Band 1: 0-30m (seconds)	Height Band 2: 30-180m CRZ (seconds)	Height Band 3: >180m (seconds)	Number of Flights (birds) within the CRZ
2020 breeding season	1	1	15	15	0	1 (1)
2020-2021 non-breeding season	1	1	60	0	0	0 (0)
2021 breeding season	-	-	-	-	-	-
2021 – 2022 non-breeding/passage season	-	-	-	-	-	-

- 3.43 The Survey Boundary does not afford notable feeding or breeding opportunities for this species, as reflected by the limited number of cormorant recordings. This species is therefore scoped out as an IOF.

#### *Grey Heron*

- 3.44 Amber listed and classified as a fairly common breeding resident in Gwent.
- 3.45 There were an estimated 797 occupied nests across Wales in 2019<sup>22</sup>.
- 3.46 A single grey heron was recorded at a waterlogged area of field within the Survey Boundary during the March 2022 winter bird transect survey.
- 3.47 No registrations for this species were made throughout the breeding bird surveys in 2020 and 2021.
- 3.48 Grey heron were rarely recorded during the Vantage Point surveys throughout the year as summarised in **Table EDP 3.10**.

<sup>21</sup> JNCC *Seabirds Monitoring Programme* (online) <https://jncc.gov.uk/our-work/seabird-monitoring/> (Accessed July 2022)

<sup>22</sup> Woodward, I.D., Massimino, D., Hammond, M.J., Barber, L., Barimore, C., Harris, S.J., Leech, D.I., Noble, D.G., Walker, R.H., Baillie, S.R. & Robinson, R.A. (2020) *BirdTrends 2020: trends in numbers, breeding success and survival for UK breeding birds*. BTO Research Report 732. BTO, Thetford. [www.bto.org/birdtrends](http://www.bto.org/birdtrends)

**Table EDP 3.10:** Vantage Point Survey Summary for Grey Heron

Season	Number of Flights	Total Number of Birds	Height Band 1: 0-30m (seconds)	Height Band 2: 30-180m CRZ (seconds)	Height Band 3: >180m (seconds)	Number of Flights (birds) within the CRZ
2020 breeding season	1	1	15	0	0	1 (1)
2020–2021 non-breeding season	1	1	0	30	0	1 (1)
2021 breeding season	1	2	60	0	0	0 (0)
2021–2022 non-breeding/passage season	-	-	-	-	-	-

- 3.49 The Survey Boundary does not afford notable feeding or breeding opportunities for this species, as reflected by the limited number of grey heron recordings. This species is therefore scoped out as an IOF.

#### *Goshawk*

- 3.50 Listed on Schedule 1 and recently added to the Amber list of BoCCW4. Classified as an uncommon breeding resident in Gwent. One of the species mentioned in the Tirpentwys Cut SINC citation.
- 3.51 There were estimated to be 310 breeding pairs of goshawk (260–350) across Wales in 2018<sup>23</sup>.
- 3.52 A female goshawk was recorded flying within the south of the Survey Boundary during the January 2021 winter bird transect survey. A single goshawk was also recorded flying over the Study Area during the raptor survey in March 2021.
- 3.53 This species was not observed during the moorland breeding bird surveys. However, an active goshawk nest was located during the June raptor survey in 2021, lying approximately 1000m east of the nearest potential turbine location. Two juvenile goshawks with an adult were recorded on the subsequent survey. The location of this nest site is shown on confidential **Plan EDP 9.15**. A single female goshawk carrying food was also recorded on one occasion during the raptor surveys in 2020, although no nest was located in that year.
- 3.54 During Vantage Point surveys, goshawk were occasionally recorded flying over the Study Area all year around, as demonstrated by the summary of flight date presented in **Table EDP 3.11**.

<sup>23</sup> Hughes, J., Spence, I.M., and Gillings, S. (2020) *Estimating the size of breeding populations of birds in Wales*. Birds in Wales 17(1) pp. 56-67.



**Table EDP 3.11:** Vantage Point Survey Summary for Goshawk

Season	Number of Flights	Total Number of Birds	Height Band 1: 0-30m (seconds)	Height Band 2: 30-180m CRZ (seconds)	Height Band 3: >180m (seconds)	Number of Flights (birds) within the CRZ
2020 breeding season	2	2	30	45	0	1 (1)
2020–2021 non-breeding season	2	2	15	60	120	2 (2)
2021 breeding season	2	2	30	45	0	1 (1)
2021–2022 non-breeding/passage season	2	2	45	45	0	1 (1)

- 3.55 The latest BTO Breeding Bird Atlas<sup>24</sup> states that “*the relative abundance maps highlight Wales as a major stronghold for this species*”. One pair of resident breeding goshawk adjacent to the Survey Boundary is less than 1% of the national (Wales) breeding population, which is estimated at approximately 300 pairs. Within Gwent goshawk are considered to be relatively widespread, though an uncommon breeder. The small resident population is valued at the County level.

#### *Hen Harrier*

- 3.56 Listed as a Priority Species, Red list species and on Schedule 1. Classified as a scarce passage migrant and winter visitor in Gwent. One of the species listed under the Blaen-y-cwm Upland Pasture SINC citation.
- 3.57 There were 35 territorial pairs of hen harrier recorded in Wales in 2016<sup>25</sup>.
- 3.58 A male hen harrier was recorded on three separate occasions during the 2020/2021 winter bird surveys. This species was not recorded during the winter bird transect surveys in 2021/2022.
- 3.59 Four targeted hen harrier roost surveys were carried out in early 2021 with no hen harrier recorded during these surveys.
- 3.60 Hen harrier is not considered to breed within the Study Area despite the presence of suitable nesting habitat. Records of hen harrier were from the early part of the breeding season only with no records of display behaviour. Given their classification as a scarce migrant within the county, it is considered likely these birds were passing through the Study Area to a more suitable breeding habitat. Should breeding have occurred within the Survey Boundary or wider Study Area, a larger number of observations would have been made given the survey effort.

<sup>24</sup> BTO (2013). Bird Atlas 2007 – 2011. *The breeding and wintering birds of Britain and Ireland*. BTO Books

<sup>25</sup> Wotton, S.R., Bladwell, S., Mattingley, W., Morris, N.G., Raw, D., Ruddock, M., Stevenson, A., and Eaton, M.A. (2018) *Status of the Hen Harrier Circus cyaneus in the UK and Isle of Man in 2016*. Bird Study 65(2) pp. 145-160.

- 3.61 During the Vantage Point surveys individual hen harrier were recorded on surveys in November 2020, March 2021, April 2021 and September 2021. In the winter of 2020/21, the transect and Vantage Point records appeared to be the same male hen harrier utilising the Study Area as part of its hunting range during migration and potentially over winter. In winter 2021/22 a passage migrant juvenile/female was recorded on five occasions during the September 2021 Vantage Point surveys, with no other recordings over the rest of the winter. The Vantage Point flightlines are summarised in **Table EDP 3.12**.

**Table EDP 3.12:** Vantage Point Survey Summary for Hen Harrier

Season	Number of Flights	Total Number of Birds	Height Band 1: 0-30m (seconds)	Height Band 2: 30-180m CRZ (seconds)	Height Band 3: >180m (seconds)	Number of Flights (birds) within the CRZ
2020 breeding season	-	-	-	-	-	-
2020-2021 non-breeding season	2	2	105	0	0	0 (0)
2021 breeding season	1	1	15	15	0	1 (1)
2021-2022 non-breeding/passage season	5	5	90	0	0	0 (0)

- 3.62 Due to its conservation status, the occasional overwintering and passage migrant population within/adjacent to the Survey Boundary, hen harrier is considered to be of County importance.

#### *Red Kite*

- 3.63 Listed on Schedule 1 and classified as a scarce visitor and passage migrant and a rare breeding resident in Gwent.
- 3.64 Red kite were recorded on the majority of the winter bird surveys, flying over the Survey Boundary and the wider Study Area as individuals or in pairs with a peak count of four recorded on two occasions during the winter of 2020/2021.
- 3.65 This species was recorded on five of the breeding bird surveys with a peak of four recorded flying over the Survey Boundary on the final survey in 2021. During the survey in April 2021 two red kites were recorded leaving a nest site and as such, they are a confirmed breeder within the Survey Boundary. The location of the nest site is shown on confidential **Plan EDP 9.15**.
- 3.66 Four registrations of red kite were recorded during both the 2020 and 2021 raptor surveys including a nest recorded in 2021 (as recorded during the breeding bird surveys).
- 3.67 Red kites were frequently recorded throughout the year during the Vantage Point surveys as summarised in **Table EDP 3.13**.

**Table EDP 3.13:** Vantage Point Survey Summary for Red Kite

Season	Number of Flights	Total Number of Birds	Height Band 1: 0-30m (seconds)	Height Band 2: 30-180m CRZ (seconds)	Height Band 3: >180m (seconds)	Number of Flights (birds) within the CRZ
2020 breeding season	45	47	1815	1620	450	24 (25)
2020–2021 non-breeding season	41	45	1170	3045	615	28 (31)
2021 breeding season	25	25	1065	1560	0	17 (17)
2021–2022 non-breeding/passage season	47	55	2475	7305	150	31 (37)

- 3.68 The estimated number of breeding pairs of this species within the Survey Boundary and Study Area is 1–2 pairs compared to a Welsh population estimated at 2,500 pairs (2019)<sup>26</sup>. Red kite is expanding in range and numbers in Wales, as reflected by recently being moved to the green list of birds of conservation concern, though is still considered a rare breeding resident within the county. The presence of 1–2 pairs of red kite within/adjacent to the Survey Boundary, and regular foraging throughout the year within the Survey Boundary, is considered to be of Local importance.

#### *Kestrel*

- 3.69 Listed as a Priority and Red listed species and classified as a fairly common (though declining) breeding resident in Gwent. One of the species mentioned in the Cwm Ddu Woods, Blaenserchan and Tirpentwys Cut SINC's citations.
- 3.70 Due to large recent declines across the UK, the Welsh breeding population was estimated to be 265–475 pairs in 2020<sup>27</sup>.
- 3.71 Kestrels were recorded flying across/hunting within the Survey Boundary and wider Study Area on five occasions during the winter bird surveys.
- 3.72 A single female kestrel was recorded hunting within the Survey Boundary during the breeding bird survey in May 2021. This species was not observed during any of the other breeding bird surveys, but due to its continued presence throughout the breeding season Vantage Point surveys, including the sighting of a pair in June 2021, is considered to be a probable breeder within the Survey Boundary or wider Study Area.
- 3.73 A single kestrel was recorded during the raptor survey in July 2020. This species was not recorded on any of the other raptor surveys in 2020 or at all in 2021.
- 3.74 Kestrels were recorded on nine occasions during the Vantage Point surveys undertaken during the breeding bird seasons in 2020 and 2021. All but one of these registrations

<sup>26</sup> Welsh Kite Trust (2019) *How Many Kites are there in Wales?* [www.welshkitetrust.wales](http://www.welshkitetrust.wales) (accessed June 2022)

<sup>27</sup> Pritchard, R., Hughes, J., Spence, I.M., Haycock, B., and Brenchley, A. (editors) (2021) *The Birds of Wales – Adar Cymru*. Liverpool University Press, Liverpool.

were for single birds flying or hunting over the Study Area. Kestrel were more frequently recorded during the winter/migratory seasons as summarised in **Table EDP 3.14**.

**Table EDP 3.14:** Vantage Point Survey Summary for Kestrel

Season	Number of Flights	Total Number of Birds	Height Band 1: 0-30m (seconds)	Height Band 2: 30-180m CRZ (seconds)	Height Band 3: >180m (seconds)	Number of Flights (birds) within the CRZ
2020 breeding season	4	4	60	225	0	4 (4)
2020–2021 non-breeding season	16	18	705	525	270	11 (12)
2021 breeding season	5	6	45	135	0	4 (4)
2021–2022 non-breeding/passage season	24	28	915	4680	0	19 (23)

- 3.75 Survey information indicated that this species did not breed within the Survey Boundary in either 2020 or 2021, although it was recorded within suitable breeding habitat, and is considered a probable breeder within the wider Study Area. Kestrel is considered to be a fairly common, although declining, breeder in the county. The potential presence of a single pair within/adjacent to the Survey Boundary is therefore considered to be of Local importance.

#### *Hobby*

- 3.76 Listed on Schedule 1 and classified as a breeding summer visitor in Gwent.
- 3.77 There were estimated to be 205 (160–265) pairs of hobby breeding across Wales in 2018<sup>28</sup>.
- 3.78 A single hobby was recorded flying across the Survey Boundary in April 2021. This was the only sighting of this species throughout the surveys and as such, it is considered that this bird was passing through only. Hobby is considered to be a non-breeder within the Survey Boundary and wider Study Area and has therefore been scoped out as an IOF.

#### *Merlin*

- 3.79 Listed on Schedule 1 and classified as uncommon winter visitor and scarce breeder in Gwent.
- 3.80 By combining Welsh Bird Reports and Rare Breeding Bird Panel data, it was estimated that the Welsh breeding population between 2014–2018 was 46 pairs. During this same time period, the Gwent population was estimated to be 2 pairs<sup>29</sup>.

<sup>28</sup> Hughes, J., Spence, I.M., and Gillings, S. (2020) *Estimating the size of breeding populations of birds in Wales*. Birds in Wales 17(1) pp. 56-67.

<sup>29</sup> Pritchard, R., Hughes, J., Spence, I.M., Haycock, B., and Brenchley, A. (editors) (2021) *The Birds of Wales – Adar Cymru*. Liverpool University Press, Liverpool.

- 3.81 Recorded on one occasion during a November 2020 Vantage Point survey. The record was for a bird flying low, well below the CRZ. Given the lack of additional registrations for this species it is considered that this bird was passing through the Survey Boundary, and therefore merlin has been scoped out as an IOF.

*Peregrine*

- 3.82 Listed on Schedule 1 and classified as a resident and winter visitor in Gwent. One of the species mentioned in the Tirpentwys Cut SINC citation.
- 3.83 A national survey in 2014 estimated the Welsh breeding population to be 280 pairs (262-301)<sup>30</sup>.
- 3.84 Single peregrines were recorded flying over or perched within the Survey Boundary, or the wider Study Area on six occasions during the winter bird surveys. During the survey in January 2022, peregrines were recorded flying in both the northern part of the Survey Boundary and to the south-east of the Survey Boundary, although it is possible that these two registrations during the same survey were of the same individual.
- 3.85 During the breeding bird surveys peregrine were recorded on four occasions, all in the 2021 breeding season. Three of these registrations were for single birds, whilst a total of three peregrines were recorded during the survey in July 2021.
- 3.86 Two peregrine recordings were made during the raptor surveys in 2020 with an increase to ten registrations in 2021. A peregrine nest with chicks present was recorded during the raptor surveys in 2021, the location of which is shown on confidential **Plan EDP 9.15**. The same location was used for nesting in 2020 but this attempt failed. Two fledged juveniles were seen in the south-east of the Survey Boundary during the July 2021 raptor survey. Peregrine were again confirmed to be present and exhibiting breeding behaviour in this location during the update raptor survey in July 2024. As such, peregrine is a confirmed breeder within the Survey Boundary.
- 3.87 Peregrine were occasionally recorded throughout the year and all Vantage Point seasons, with the exception of the 2021/2022 non-breeding and passage, as summarised in **Table EDP 3.15**.

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<sup>30</sup> Wilson, M. W., Balmer D. E., Jones, K., King, V. A., Raw, D., Rollie, C. J., Rooney, E., Ruddock, M., Smith, G. D., Stevenson, A., Stirling-Aird, P. K., Wernham, C. V., Weston, J. M., and Noble, D. G. (2018) *The breeding population of Peregrine Falcon Falco peregrinus in the United Kingdom, Isle of Man and Channel Islands in 2014*. Bird Study (65)1, pp1-19.

**Table EDP 3.15:** Vantage Point Survey Summary for Peregrine

Season	Number of Flights	Total Number of Birds	Height Band 1: 0-30m (seconds)	Height Band 2: 30-180m CRZ (seconds)	Height Band 3: >180m (seconds)	Number of Flights (birds) within the CRZ
2020 breeding season	10	10	30	285	150	9 (9)
2020–2021 non-breeding season	8	8	15	120	150	4 (4)
2021 breeding season	5	5	60	315	0	5 (5)
2021–2022 non-breeding/passage season	-	-	-	-	-	-

- 3.88 Peregrine are resident and winter visitors in Gwent and the presence of a single resident pair of peregrine within/adjacent to the Survey Boundary is considered to be of County importance.

#### *Long-eared Owl*

- 3.89 Amber listed and classified as a scarce breeding resident and winter visitor in Gwent. One of the species mentioned in the Cwm Ddu Woods, Blaenserchan, Blaen-y-swm Upland Pasture and Tirpentwys Cut SINCs citations.
- 3.90 By combining Welsh Bird Reports and Rare Breeding Bird Panel data, it was estimated that the Welsh breeding population between 2014–2018 was 32 pairs, although this is almost certainly an underestimate. During this same time period, the Gwent population was estimated to be 11 pairs<sup>31</sup>.
- 3.91 A total of eight long-eared owls were recorded during the three 2020 nightjar and owl surveys with none recorded during the surveys in 2021. A peak count of four juveniles was recorded during the survey in early June 2020. Three long-eared owl nest locations were recorded during the 2020 surveys. The locations of the nest sites are shown on confidential **Plan EDP 9.15**. No nests were recorded during the 2021 breeding season and the felling of the southern woodland from October 2021 onwards has removed a large amount of potential nesting habitat from the Survey Boundary.
- 3.92 According to the Gwent Bird Report, this species is likely to be under-recorded within the county. The presence of one breeding pair within the Survey Boundary and two within the wider Study Area is therefore considered to be of County importance.

#### *Red Grouse*

- 3.93 Red listed and a Priority Species, classified as an uncommon breeding resident with apparent decline in recent years in Gwent.

<sup>31</sup> Pritchard, R., Hughes, J., Spence, I.M., Haycock, B., and Brenchley, A. (editors) (2021) *The Birds of Wales – Adar Cymru*. Liverpool University Press, Liverpool.

- 3.94 There were estimated to be 835 (490–1,450) pairs of breeding red grouse across Wales in 2016<sup>32</sup>.
- 3.95 Red grouse were recorded on the majority of the winter bird surveys with a peak count of four recorded on the survey in March 2021. Red grouse were also recorded on each of the four hen harrier roost surveys between January and March 2021, with a peak count of four recorded on the first survey. All records were for birds located in the north of the Study Area.
- 3.96 This species was recorded on three occasions during the breeding bird surveys in 2021, with a pair recorded in April, and individual birds recorded in May and July. All three registrations were recorded from a similar location in the north of the Study Area and as such, red grouse is considered to be a probable breeder within the wider Study Area. An indicative red grouse nest site location is shown on confidential **Plan EDP 9.15**.
- 3.97 As red grouse are a Priority Species and Red listed, the presence of one to two pairs within the Study Area is of County importance.

*Nightjar*

- 3.98 Priority and Annex 1 species, classified as an uncommon breeding summer visitor in Gwent.
- 3.99 The Welsh breeding population is estimated to be in excess of 500 territorial males<sup>33</sup>.
- 3.100 A single nightjar was recorded during the nightjar and owl survey in June 2021, with no other records for this species throughout the surveys. The record is for a singing male located to the south-east of the Study Area.
- 3.101 Following tree felling in late 2021, which increased the suitability of habitat within the Survey Boundary, a further year of nightjar surveys was undertaken in 2022, which recorded three churring males within the south of the Survey Boundary. In light of this, nightjar are considered to be a probable breeder. Indicative nightjar nest site locations have been provided on confidential **Plan EDP 9.15**.
- 3.102 This species is of national and local conservation concern, although they have a widespread distribution across Wales. As they are assessed as being an uncommon breeding summer visitor in Gwent, 2–3 breeding nightjar is therefore considered to be of County importance.

*Common Cuckoo*

- 3.103 Priority and Red listed species, classified as a fairly common breeding summer visitor in Gwent.

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<sup>32</sup> Hughes, J., Spence, I.M., and Gillings, S. (2020) *Estimating the size of breeding populations of birds in Wales*. Birds in Wales 17(1) pp. 56-67.

<sup>33</sup> Pritchard, R., Hughes, J., Spence, I.M., Haycock, B., and Brenchley, A. (editors) (2021) *The Birds of Wales – Adar Cymru*. Liverpool University Press, Liverpool.



- 3.104 There are estimated to be 1,900 (1,000–2,750) pairs of cuckoo across Wales<sup>34</sup>.
- 3.105 Two male cuckoos were recorded calling on the edge of woodland in the centre of the Survey Boundary during the breeding bird survey in May 2021, with a further individual calling just beyond the northern edge of the Study Area. Another cuckoo was seen flying over the southern woodland during the breeding bird survey in July 2021, while other calling males were noted by non-ornithologists during equipment deployments within the Survey Boundary to the north. As such, cuckoo is considered a possible breeder within the Survey Boundary. This species was not recorded during the breeding bird surveys in 2020 or during the Vantage Point surveys.
- 3.106 Taking into consideration the conservation status of this species as well as population numbers, the presence of breeding cuckoo is considered to be of Local importance.

#### *Snipe*

- 3.107 Amber listed species, classified as a fairly common winter visitor; uncommon breeder in Gwent.
- 3.108 There are estimated to be 1,100 (820–1,400) breeding snipe pairs across Wales<sup>34</sup>.
- 3.109 Recorded on every winter bird survey with a peak count of 16 individuals in March 2022. Snipe recordings during the winter bird surveys were from across the Study Area, although the majority were flushed from suitable habitat in the south of the Survey Boundary. Five snipe were recorded roosting within the central moorland in the Survey Boundary during the owl survey in March 2021.
- 3.110 Three snipe were recorded on the breeding bird survey in May 2020 including a single bird and a pair. Both registrations for this species were from within suitable nesting habitat within the south of the Survey Boundary. In addition, a snipe displaying a courtship ‘drumming flight’ was recorded on a nightjar and owl survey in June 2021 near to the same location. Snipe is therefore considered a probable breeder within the Survey Boundary. An indicative location of the nest site is shown on confidential **Plan EDP 9.15**.
- 3.111 A total of three snipe were recorded during the Vantage Point surveys in the 2020/2021 non-breeding season, passing over in two flights with a total of 15 seconds spent in the CRZ. This species was not observed in any other season during the VP surveys.
- 3.112 The presence of small numbers of overwintering snipe and a breeding population of one pair is considered to be of Local importance.

#### *Woodcock*

- 3.113 Red listed and classified as an uncommon winter visitor and scarce breeder in Gwent.

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<sup>34</sup> Hughes, J., Spence, I.M., and Gillings, S. (2020) *Estimating the size of breeding populations of birds in Wales*. Birds in Wales 17(1) pp. 56-67



- 3.114 There were estimated to be 1,767 (95% confidence interval: 541–3,259) roding (displaying) males in Wales in a study in 2003<sup>35</sup>.
- 3.115 Woodcock were recorded on three occasions during the 2020/2021 winter bird surveys with a peak count of two. Birds were recorded within the southern half of the Survey Boundary and in the north of the Study Area.
- 3.116 Although a Red list species and uncommon winter visitor in Gwent, given the low numbers recorded, the population is not considered to be of importance beyond a Site context.

### **Other Species**

#### *Buzzard*

- 3.117 Classified as a common breeding resident in Gwent.
- 3.118 There were estimated to be between 9,850 and 13,500 pairs of buzzard across Wales in 2018<sup>36</sup>.
- 3.119 Buzzards were recorded on every winter bird survey with a peak count of eight recorded on the final survey in March 2022.
- 3.120 Buzzards were recorded on seven of the breeding bird surveys with numbers between one and five birds recorded on each of these occasions. All records were for birds flying over, circling over or feeding within or near to the Survey Boundary.
- 3.121 During the raptor surveys in 2020 and 2021 a total of 34 registrations for buzzard were recorded in each year. Buzzards were also frequently recorded throughout the year and across the Study Area during the Vantage Point surveys, as summarised in **Table EDP 3.16**.

**Table EDP 3.16:** Vantage Point Survey Summary for Buzzard

Season	Number of Flights	Total Number of Birds	Height Band 1: 0-30m (seconds)	Height Band 2: 30-180m CRZ (seconds)	Height Band 3: >180m (seconds)	Number of Flights (birds) within the CRZ
2020 breeding season	61	66	990	1995	1605	43 (48)
2020–2021 non-breeding season	61	79	360	3570	3240	38 (47)
2021 breeding season	63	70	930	5190	915	52 (57)
2021–2022 non-breeding/passage season	92	127	2265	14595	1440	71 (104)

<sup>35</sup> Hoodless, A.N., Lang, D., Aebischer, N.J., Fuller, R.J., and Ewald, J.A. (2009) *Densities and population estimates of breeding Eurasian Woodcock Scolopax rusticola in Britain in 2003*. Bird Study 56(1), pp. 15-25.

<sup>36</sup> Hughes, J., Spence, I.M., and Gillings, S. (2020) *Estimating the size of breeding populations of birds in Wales*. Birds in Wales 17(1) pp. 56-67.

3.122 Buzzard was the most recorded species of raptor within the Study Area and was recorded on all surveys throughout the survey period. Activity was fairly constant, and birds were recorded from all Vantage Points.

3.123 Owing to their common and widespread status, the buzzard population present is only considered to be of Site importance.

*Sparrowhawk*

3.124 Classified as a common breeding resident in Gwent.

3.125 In 2018, there were estimated to be 2,950 (2,700–3,200) pairs of sparrowhawk breeding across Wales<sup>37</sup>.

3.126 Individual sparrowhawks were recorded on three occasions during the winter 2020/2021 winter bird surveys. This species was not recorded during the winter bird surveys in 2021/2022.

3.127 No registrations for this species were recorded during the breeding bird surveys in 2020 or 2021. However, a total of three registrations for this species were recorded during the raptor surveys in 2020 and a single individual was recorded during the raptor surveys in 2021.

3.128 A single sparrowhawk was also recorded during the Vantage Point surveys over the breeding season in 2020.

3.129 Due to the low numbers recorded on survey and their common and widespread status, the sparrowhawk population present is only considered to be of Site importance.

*Raven*

3.130 Classified as fairly common breeding resident in Gwent.

3.131 There were estimated to be 2,150 breeding pairs of raven in Wales in 2018<sup>38</sup>.

3.132 Raven were recorded during all of the surveys throughout the winter and breeding seasons. Raven nests were recorded during the raptor surveys, including likely breeding in coniferous woodland near the lagoon in July 2024, and as such raven are a confirmed breeder within and adjacent to the Survey Boundary.

3.133 Although not a target species due to their favourable conservation status, raven was the most recorded species throughout the Vantage Point surveys and as such, a summary of flightlines is provided in **Table EDP 3.16**.

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<sup>37</sup> Hughes, J., Spence, I.M., and Gillings, S. (2020) *Estimating the size of breeding populations of birds in Wales*. Birds in Wales 17(1) pp. 56-67.

<sup>38</sup> Hughes, J., Spence, I.M., and Gillings, S. (2020) *Estimating the size of breeding populations of birds in Wales*. Birds in Wales 17(1) pp. 56-67.

**Table EDP 3.16:** Vantage Point Survey Summary for Raven

Season	Number of Flights	Total Number of Birds	Height Band 1: 0-30m (seconds)	Height Band 2: 30-180m CRZ (seconds)	Height Band 3: >180m (seconds)	Number of Flights (birds) within the CRZ
2020 breeding season	47	66	495	1155	90	34 (48)
2020–2021 non-breeding season	107	267	1740	1740	900	58 (121)
2021 breeding season	68	120	1500	1440	120	37 (62)
2021–2022 non-breeding/passage season	132	201	3120	3405	240	60 (99)

- 3.134 Owing to their common and widespread status, the raven population present is only considered to be of Site importance.

#### *Tawny Owl*

- 3.135 Classified as a common breeding resident in Gwent.
- 3.136 Due to its nocturnal nature, this species is difficult to survey and therefore it is difficult to provide accurate population estimates. A study in 2016<sup>39</sup> estimated 2,250–3,800 breeding pairs in Wales by combining survey counts in optimal habitat with assessments of habitat quality across the wider landscape.
- 3.137 During the nightjar and owl surveys in 2020 and 2021 a total of 17 tawny owls were recorded within or adjacent to the Survey Boundary across the 7 surveys. A peak count of four tawny owls was recorded on each of the surveys in 2021, including a pair recorded during the June survey. A pair was also recorded during a nightjar survey in July 2022 in a remaining stand of trees among the felled woodland within the south of the Survey Boundary.
- 3.138 This species is widespread across the county and the presence of a small breeding population is therefore considered to be of Site importance.

#### *Common Crossbill*

- 3.139 Listed on Schedule 1 and classified as an uncommon breeder and winter visitor in highly variable numbers.
- 3.140 The Welsh breeding population is unstable, so it is difficult to estimate its size<sup>40</sup>.

<sup>39</sup> Spence, I.M. (2016). *The distribution of breeding birds in Wales at tetrad level: what we know now and future prospects*. Birds in Wales 13(1): pp. 37-56.

<sup>40</sup> Pritchard, R., Hughes, J., Spence, I.M., Haycock, B., and Brenchley, A. (editors) (2021) *The Birds of Wales – Adar Cymru*. Liverpool University Press, Liverpool.

- 3.141 Common crossbill were recorded on the majority of the winter bird surveys with a peak count of 11 recorded on the survey in February 2021.
- 3.142 No registrations for this species were recorded during the breeding bird surveys in 2020 or 2021, though these surveys did not focus on the woodland habitats.
- 3.143 This species is fairly widespread and ubiquitous in coniferous plantations throughout the winter and the presence of this species in small numbers over winter is therefore considered to be of Site importance.

#### *Starling*

- 3.144 Red listed and classified as a common breeding resident, passage migrant and winter visitor in Gwent.
- 3.145 There were estimated to be 90,000 (79,000–100,000) pairs of starling breeding across Wales in 2018<sup>41</sup>.
- 3.146 Small flocks of starling were recorded infrequently during the winter bird surveys. The peak count was one larger flock of 450 during the November 2021 survey. No murmuration behaviour was noted over any of the woodland areas within the Survey Boundary, nor was it noted over off-site woodland visible from the Study Area.
- 3.147 Small numbers of starling were recorded foraging during the breeding bird survey with a peak count of 27. Juveniles were also recorded within the Survey Boundary though notable breeding opportunities are not considered to be present.
- 3.148 No pre-roosting behaviour (murmuration) was recorded within the Survey Boundary or beyond during any of the surveys and while starling were also recorded in winter 2020/2021, flock size was significantly lower. In addition to this activity, small flocks of birds were noted feeding on short sheep grazed grasslands within the Survey Boundary. The Study Area is not used as a winter roosting site and feeding flocks of up to 450 birds are not considered significant in the context of the wider Welsh or UK wintering starling population. The Starling population is therefore considered to be of Local importance.

#### *Skyllark*

- 3.149 A Priority and Amber listed species, classified as a fairly common to common breeding resident and passage migrant in Gwent.
- 3.150 There were estimated to be 115,000 skylark territories across Wales in 2018<sup>40</sup>.
- 3.151 Skylark were recorded on the majority of the winter bird survey with a peak count of 69 recorded during the late March 2022 survey.

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<sup>41</sup> Hughes, J., Spence, I.M., and Gillings, S. (2020) *Estimating the size of breeding populations of birds in Wales*. Birds in Wales 17(1) pp. 56-67.

3.152 Skylark were recorded across the Study Area during the breeding bird season, including large numbers of singing males associated with open moorland and grassland habitat. Between 20–40 pairs are estimated to breed across the Study Area.

3.153 Owing to the abundance and distribution of overwintering and breeding skylark in the Study Area, the population is important at up to a Local level.

*Meadow Pipit*

3.154 Red listed, classified as a common breeding resident and passage migrant in Gwent.

3.155 There were estimated to be 170,000 (150,000–195,000) breeding pairs of meadow pipit across Wales in 2018<sup>41</sup>.

3.156 Meadow pipit were recorded on all winter bird surveys, with a peak count of 67 on the late March 2022 survey.

3.157 Meadow pipit were frequently recorded associated with open moorland and grassland habitat during the breeding bird surveys in 2020 and 2021. Between 20–40 pairs are estimated to breed within the Study Area.

3.158 The abundant overwintering and breeding meadow pipit population is important at up to a Local level.

*Tree Pipit*

3.159 A Priority and Amber listed species, classified as a common passage migrant and breeding summer visitor in Gwent.

3.160 There were estimated to be 16,500 (10,500–22,500) breeding pairs of tree pipit in Wales in 2018<sup>40</sup>.

3.161 A total of seven tree pipit were recorded on two dates during the breeding bird surveys associated with open moorland habitat within the centre and north of the Survey Boundary. These sightings were made in spring 2021, including a pair and five singing males, with a peak count of five birds on one survey in May 2021. An estimated 2–5 pairs are considered to probably breed within the Survey Boundary, with the small population considered to be of Site to Local importance.

*Redwing*

3.162 Schedule 1 and Amber listed, classified as a common winter visitor in Gwent.

3.163 National surveys over the winters of 2012–13 and 2013–14 gave an estimate of a winter population of 8.6 million redwings<sup>42</sup>.

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<sup>42</sup> Hayhow D.B., Bond A.L., Douse A., Eaton M.A., Frost T., Grice P.V., Hall C., Harris, S.J., Havery S., Hearn R.D., Noble D.G., Oppel S., Williams J., Win I., and Wotton S. (2017) *The State of the UK's Birds 2016*. Sandy: RSPB, BTO, WWT, DAERA, JNCC, NE, NRW, and SNH.

3.164 Redwing were recorded roosting and foraging in moderate numbers within the Study Area throughout both 2021/2021 and 2021/2022 winter and passage seasons. A peak count of 344 redwing was recorded during the winter bird survey in October 2021.

3.165 As a common winter visitor in Gwent, the overwintering population recorded within the Study Area is considered to be of Site importance.

#### *Fieldfare*

3.166 Schedule 1 and Amber listed, classified as a common winter visitor in Gwent.

3.167 National surveys over the winters of 2012–13 and 2013–14 gave an estimate of a winter population of 15.1 million fieldfares<sup>42</sup>.

3.168 Fieldfare were recorded roosting and foraging in moderate numbers within the Study Area throughout both 2021/2021 and 2021/2022 winter and passage seasons. A peak count of 642 fieldfare was recorded during the winter bird survey in November 2021.

3.169 As a common winter visitor in Gwent, the overwintering population recorded within the Study Area is considered to be of Site importance.

#### **Main Access Route and Grid Connection Corridor**

3.170 In addition to the above, a scoping exercise of the main access route confirmed its lower reaches (northern section) to have potential to support a generalist range of nesting birds, with scrub and woodland habitat offering suitable breeding opportunities during the breeding season. Such habitats are otherwise absent across the middle section and upper reaches (southern section) of the main access route, these areas being relatively exposed, though suitable opportunities exist for ground nesting birds.

3.171 The scoping exercise undertaken of the grid connection corridor confirmed the potential for ground nesting birds to utilise habitats across the north-western half of the proposed grid connection corridor, given the presence of suitably open habitats for these species. A generalist breeding bird assemblage may also utilise areas of woodland and scrub habitats occurring at the south-eastern end of the proposed grid connection corridor during the main bird breeding season.

## Section 4

### Summary of Important Ornithological Features

- 4.1 The IOFs recorded by the baseline investigations, including individual species and combined assemblages recorded within the Survey Boundary and wider Study Area, where applicable, is summarised in **Table EDP 4.1**.

**Table EDP 4.1:** Summary of Important Ornithological Features within the Study Area.

Receptor	Geographic Value	Reason for Consideration/Status in Study Area
Severn Estuary SPA/Ramsar	International	Within Zol, designated species (gulls) recorded during surveys. Consideration requested in EIA scoping direction.
Flat Holm and Steep Holm SSSI	National	Part of Severn Estuary SPA/Ramsar with designated species (gulls) recorded during surveys. Consideration requested in EIA scoping direction.
SINCs partially within or adjacent to the Survey Boundary	County	Blaen-y-cwm upland pasture SINC Tirpentwys Cut SINC Cwm Ddu Woods, Blaenserchan SINC Mulfran, Mynydd Coity, Mynydd James and Gwastad SINC Mynydd Llanhilleth Common SINC  Partially cover or lie adjacent to the Proposed Development and include in their citations bird species also identified through the survey work.
Red Grouse	County	Resident probable breeder (1-2 pairs) to the north of Survey Boundary.
Lesser Black-backed and Herring Gull	Local	Regularly recorded flying over the Study Area throughout the year, with peak activity during the spring. No notable foraging, resting or breeding.
Goshawk	County	Confirmed breeder (1 pair) and resident all year.
Peregrine	County	Confirmed breeder (1 pair) and resident all year.
Red Kite	Local	Confirmed breeder (1-2 pairs) and resident all year.
Kestrel	Local	Resident probable breeder (0-2 pairs) in Study Area.
Hen Harrier	County	Infrequent passage migrant and winter visitor to Survey Boundary and Study Area.
Long-eared Owl	County	Confirmed breeder (1-3 pairs) within woodland habitats and likely resident.
Nightjar	County	Summer visitor and probable breeder (2-3 pairs).
Cuckoo	Local	Summer visitor and probable breeder (1-3 pairs).
Breeding Bird Assemblage	County	Reflects the location and habitats present, including a number of species of local and national conservation concern, including small breeding populations of up to County importance. Locally valuable populations of non-target passerine species such as skylark and meadow pipit recorded.
Winter Bird Assemblage	Local to County	Relatively limited in species diversity and abundance given the extent of area and range of habitats. No populations noted of value beyond a Local context, with the possible exception of hen harrier. Includes non-target passerines such as crossbill, redwing and fieldfare.

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## Annex EDP 9.1

### Date, Timing and Weather During Bird Surveys

**Table EDP A9.1.1:** Date, Timing, and Weather During Breeding Bird Surveys 2020

Visit No	Date	Start Time	Finish Time	Sunrise Time	Wind Speed	Wind Direction	Rain	Cloud Cover	Visibility
1	01/05/2020	08:30	12:30	05:42	5	W	0	30	Good
2	22/05/2020	08:30	12:30	05:09	7	SW	0	75	Good
3	23/06/2020	08:30	12:15	04:54	2	SE	0	0	Good
4	14/07/2020	08:30	12:30	05:11	5	NW	0	50	Good

**Table EDP A9.1.2:** Date, Timing, and Weather During Breeding Bird Surveys 2021

Visit No	Date	Start Time	Finish Time	Sunrise Time	Wind Speed	Rain	Cloud Cover	Visibility
1	16/04/2021	07:00	13:45	06:13	4-5	0	30	2
2	14/05/2021	06:30	15:40	05:21	3	0	60-95	2
3	30/06/2021	05:15	09:50	04:58	3	0	20	2
4	19/07/2021	06:30	13:10	05:17	4-3	0	50	2

**Table EDP A9.1.3:** Date, Timing, and Weather During Hen Harrier Surveys 2021

Visit No	Date	Start Time	Finish Time	Sunset Time	Wind Speed	Wind Direction	Rain	Cloud Cover	Visibility
1	07/01/2021	14:45	17:15	16:20	2-3	NW	0	30	Good
2	09/02/2021	16:45	18:45	17:16	5	E	0	40	Good
3	25/02/2021	16:15	18:15	17:45	1	NW	0	20	Good
4	29/03/2021	18:15	20:15	19:40	4	W	0	70	Good

**Table EDP A9.1.4:** Date, Timing, and Weather During Hen Harrier Surveys 2021/2022

Visit No	Date	Start Time	Finish Time	Sunset Time	Wind Speed	Wind Direction	Rain	Cloud Cover	Visibility
1	27/10/2021	16:30	18:30	17:53	2	S	0	60	Good
2	13/12/2021	14:30	16:30	16:02	3	S	0	80	Good
3	04/02/2022	15:30	17:30	17:06	4-5	W	0	100	Good

**Table EDP A9.1.5:** Date, Timing, and Weather During Nightjar/Owl Surveys 2020

Visit No	Date	Start Time	Finish Time	Sunrise/ Sunset Time	Wind Speed	Wind Direction	Rain	Cloud Cover	Visibility
1	17/06/2020	21:00	00:00	04:53/21:32	1	NW	0	90	Good
2	23/06/2020	01:55	04:55	04:54/21:33	2	S	0	30-15	Good
3	16/07/2020	20:50	23:50	05:13/21:21	3	NW	0	80	Good
4	28/07/2020	02:30	05:30	05:30/21:05	4	NW	0	60-20	Good

**Table EDP A9.1.6:** Date, Timing, and Weather During Nightjar/Owl Surveys 2021

Visit No	Date	Start Time	Finish Time	Sunrise/ Sunset Time	Wind Speed	Wind Direction	Rain	Cloud Cover	Visibility
1	04/03/2021	17:45	20:45	06:50/17:57	2	E	0	50	Good
2	02/06/2021	21:40	00:00	04:59/21:21	2-3	SE	0-1	80-100	Good - Moderate
3	30/06/2021	02:00	05:00	04:58/21:32	1	SE	0	80	Good
4	12/07/2021	21:30	00:30	05:08/21:25	3	SE	0	100	Good

**Table EDP A9.1.7:** Date, Timing, and Weather During Nightjar Surveys 2022

Visit No	Date	Start Time	Finish Time	Sunrise/ Sunset Time	Wind Speed	Wind Direction	Rain	Cloud Cover	Visibility
1	09/06/2022	21:30	00:30	04:55/21:27	2-5	SW	0	100	Good
2	21/06/2022	21:30	00:45	04:54/21:33	0-3	N	0	5	Good
3	12/07/2022	02:00	05:00	05:08/21:26	1-2	S	0	95-100	Good

**Table EDP A9.1.8:** Date, Timing, and Weather During Raptor Surveys 2020

Visit No	Date	Start Time	Finish Time	Sunrise/ Sunset Time	Wind Speed	Rain	Cloud Cover	Visibility
1	01/05/2020	13:00	17:00	05:42/20:36	Fresh breeze	0-1	30-50%	Good
2	23/06/2020	13:15	16:15	04:54/21:33	Light breeze	0	0	Good
3	14/07/2020	13:00	17:00	05:11/21:23	Blustery wind	0	25	Good

**Table EDP A9.1.9:** Date, Timing, and Weather During Raptor Surveys 2021

Visit No	Date	Start Time	Finish Time	Sunrise/ Sunset Time	Wind Speed	Rain	Cloud Cover	Visibility
1	16/03/2021	06:00	17:30	06:23/18:18	3-2	0	40	2
2	19/04/2021	06:30	17:30	06:07/20:15	2	0	5	2
3	07/06/2021	05:00	15:10	04:56/21:26	2	0	60	2
4	12/07/2021	11:00	17:00	05:08/21:25	3	3-0	70	2

**Table EDP A9.1.10:** Date, Timing, and Weather During Winter Bird Surveys 2020–2021

Visit No	Date	Start Time	Finish Time	Sunrise/ Sunset Time	Wind Speed	Wind Dir.	Rain	Cloud Cover	Visibility	Frost
1	04/11/2020	07:30	17:30	07:12/16:39	2	NW	0	0-20	Good	1-0
2	25/11/2020	07:30	17:00	07:48/16:10	4-3	NW	0	40-60	Good	0
3	22/12/2020	08:00	16:45	08:17/16:05	4-3	E	0	90-70	Good	0
4	26/01/2021	08:00	17:15	07:58/16:50	2-4	SW	1-0	100-80	Mod-Good	0
5	27/02/2021	09:40	16:30	07:01/17:48	2	SE	0	5	Good	0
6	19/03/2021	10:00	16:15	06:16/18:23	3-4	E	0	80	Good	0

**Table EDP A9.1.11:** Date, Timing, and Weather During Winter Bird Surveys 2021–2022

Visit No	Date	Start Time	Finish Time	Sunrise/ Sunset Time	Wind Speed	Wind Dir.	Rain	Cloud Cover	Visibility	Frost
1	14/10/2021	08:20	13:30	07:34/18:20	3	SW	0	80-100	Good	0
2	11/11/2021	08:50	14:30	07:23/16:27	3	S	0	100	Good	0
3a	09/12/2021	09:00	13:00	08:05/16:02	3	SW	0	10	Good	0

Visit No	Date	Start Time	Finish Time	Sunrise/ Sunset Time	Wind Speed	Wind Dir.	Rain	Cloud Cover	Visibility	Frost
3b	16/12/2021	09:00	15:05	08:12/16:02	2	NE	0	100	Good	0
4	12/01/2022	09:30	15:35	08:13/16:27	0	N/A	0	0	Good	1
5	07/03/2022	10:45	16:00	06:44/18:02	5	E	0	100-20	Good	0
6a	24/03/2022	10:00	14:15	06:05/18:31	3	SE	0	30	Good	
6b	25/03/2022	09:30	15:30	06:03/18:33	4	E	0	0	Good	0

**Table EDP A9.1.12:** Date, Timing, and Weather During Breeding Season Vantage Point (VP) Surveys 2020

Survey No	VP No	Date	Start Time	Finish Time	Sunrise/ Sunset Time	Timing	Wind Speed	Wind Dir.	Rain	Cloud Cover	Cloud Height	Visibility	Frost	Snow
1	VP1	30/04/2020	12:45	15:45	05:44/20:36	Start	5	SW	2	90	2	2	0	0
						Hr 1	4	SW	0	90	2	2	0	0
						Hr 2	5	SW	2	85	2	2	0	0
						Hr 3	5	W	0	70	2	2	0	0
	VP2	30/04/2020	16:15	19:15	05:44/20:36	Start	6	SW	0	70	2	2	0	0
						Hr 1	6	W	0	80	2	2	0	0
						Hr 2	6	W	0	85	2	2	0	0
						Hr 3	5	SW	0	60	2	2	0	0
	VP3	30/04/2020	12:45	15:45	05:44/20:36	Start	6	SW	2	95	2	2	0	0
						Hr 1	6	SW	0	95	2	2	0	0
						Hr 2	6	SW	2	95	2	2	0	0
						Hr 3	6	SW	0	70	2	2	0	0
2	VP1	11/05/2020	10:00	13:00	05:25/20:54	Start	4	NE	0	45	2	2	0	0
						Hr 1	4	NE	0	45	2	2	0	0
						Hr 2	4	NE	0	55	2	2	0	0
						Hr 3	4	NE	0	55	2	2	0	0
	VP2	11/05/2020	10:00	13:00	05:25/20:54	Start	6	NE	0	50	1	2	0	0
						Hr 1	5	NE	0	40	1	2	0	0
						Hr 2	6	NE	0	60	1	2	0	0
						Hr 3	5	NE	0	60	1	2	0	0
	VP3	15/05/2020	06:00	09:00	05:19/21:00	Start	2	NE	0	20	2	2	0	0
						Hr 1	1	NE	0	30	2	2	0	0
						Hr 2	1	NE	0	35	2	2	0	0
						Hr 3	1	NE	0	35	2	2	0	0

Survey No	VP No	Date	Start Time	Finish Time	Sunrise/ Sunset Time	Timing	Wind Speed	Wind Dir.	Rain	Cloud Cover	Cloud Height	Visibility	Frost	Snow
3	VP1	26/05/2020	08:40	12:40	05:05/21:15	Start	2	SW	0	30	2	2	0	0
						Hr 1	2	SW	0	50	2	2	0	0
						Hr 2	2	SW	0	40	2	2	0	0
						Hr 3	2	SW	0	30	2	2	0	0
	VP2	26/05/2020	08:50	11:50	05:05/21:15	Start	1	NW	0	50	2	2	0	0
						Hr 1	1	NW	0	55	2	2	0	0
						Hr 2	1	NW	0	55	2	2	0	0
						Hr 3	1	NW	0	55	2	2	0	0
	VP3	26/05/2020	12:00	15:00	05:05/21:15	Start	2	SW	0	30	2	2	0	0
						Hr 1	2	SW	0	25	2	2	0	0
						Hr 2	2	W	0	0	2	2	0	0
						Hr 3	2	W	0	0	2	2	0	0
4	VP1	08/06/2020	12:45	15:45	04:55/21:29	Start	2	NW	0	80	2	2	0	0
						Hr 1	1	NW	2	90	2	1	0	0
						Hr 2	2	NW	0	70	2	2	0	0
						Hr 3	2	NW	0	60	2	2	0	0
	VP2	08/06/2020	09:20	12:20	04:55/21:29	Start	2	NE	0	60	2	2	0	0
						Hr 1	2	N	0	50	2	2	0	0
						Hr 2	1	NW	0	40	2	2	0	0
						Hr 3	2	NW	0	40	2	2	0	0
	VP3	08/06/2020	09:30	12:30	04:55/21:29	Start	3	NE	0	15	2	2	0	0
						Hr 1	1	E	0	60	2	2	0	0
						Hr 2	1	S	0	95	2	2	0	0
						Hr 3	2	E	0	95	2	2	0	0
5	VP1	15/06/2020	13:45	16:45	04:53/21:33	Start	2	SW	0	30	2	2	0	0

Survey No	VP No	Date	Start Time	Finish Time	Sunrise/ Sunset Time	Timing	Wind Speed	Wind Dir.	Rain	Cloud Cover	Cloud Height	Visibility	Frost	Snow
						Hr 1	3	SW	0	30	2	2	0	0
						Hr 2	2	SW	0	20	2	2	0	0
						Hr 3	2	SW	0	20	2	2	0	0
	VP2	15/06/2020	16:45	19:45	04:53/21:33	Start	1	SW	0	20	2	2	0	0
						Hr 1	3	SW	0	20	2	2	0	0
						Hr 2	2	SW	0	15	2	2	0	0
	VP3	15/06/2020	16:45	19:45	04:53/21:33	Hr 3	2	SW	0	10	2	2	0	0
						Start	2	W	0	30	2	2	0	0
						Hr 1	3	SW	0	40	2	2	0	0
						Hr 2	2	W	0	40	2	2	0	0
						Hr 3	1	W	0	50	2	2	0	0
6	VP1	29/06/2020	10:15	13:15	04:57/21:35	Start	5	SW	0	90	2	2	0	0
						Hr 1	5	SW	0	80	2	2	0	0
						Hr 2	4	SW	0	70	2	2	0	0
						Hr 3	5	SW	0	80	2	2	0	0
	VP2	29/06/2020	17:15	20:15	04:57/21:35	Start	4	W	0	80	2	2	0	0
						Hr 1	5	W	0	80	2	2	0	0
						Hr 2	4	W	0	70	2	2	0	0
						Hr 3	4	SW	0	70	2	2	0	0
	VP3	01/07/2020	14:30	17:30	04:58/21:33	Start	5	SW	0	60	2	2	0	0
						Hr 1	4	SW	0	70	2	2	0	0
						Hr 2	3	W	0	70	2	2	0	0
						Hr 3	3	W	0	80	2	2	0	0
7	VP1	06/07/2020	17:45	20:45	05:03/21:31	Start	2	NW	0	50	2	2	0	0
						Hr 1	3	NW	0	50	2	2	0	0

Survey No	VP No	Date	Start Time	Finish Time	Sunrise/ Sunset Time	Timing	Wind Speed	Wind Dir.	Rain	Cloud Cover	Cloud Height	Visibility	Frost	Snow
	VP2	06/07/2020	14:15	17:15	05:03/21:31	Hr 2	3	NW	0	40	2	2	0	0
						Hr 3	3	NW	0	40	2	2	0	0
						Start	3	NW	0	70	2	2	0	0
						Hr 1	5	NW	0	60	2	2	0	0
						Hr 2	4	NW	0	50	2	2	0	0
						Hr 3	4	NW	0	50	2	2	0	0
	VP3	06/07/2020	18:15	21:15	05:03/21:31	Start	4	W	0	20	2	2	0	0
						Hr 1	4	W	0	10	2	2	0	0
						Hr 2	3	W	0	10	2	2	0	0
						Hr 3	2	W	0	20	2	2	0	0
8	VP1	20/07/2020	15:15	18:15	05:19/21:18	Start	2	NW	0	30	2	2	0	0
						Hr 1	3	NW	0	30	2	2	0	0
						Hr 2	2	NW	0	20	2	2	0	0
						Hr 3	2	NW	0	20	2	2	0	0
	VP2	20/07/2020	12:00	15:00	05:19/21:18	Start	2	NW	0	40	2	2	0	0
						Hr 1	3	NW	0	40	2	2	0	0
						Hr 2	3	NW	0	30	2	2	0	0
						Hr 3	3	NW	0	30	2	2	0	0
	VP3	20/07/2020	16:00	19:00	05:19/21:18	Start	2	NW	0	40	2	2	0	0
						Hr 1	2	N	0	30	2	2	0	0
						Hr 2	3	NE	0	30	2	2	0	0
						Hr 3	3	NE	0	30	2	2	0	0
9	VP1	31/07/2020	07:30	10:30	05:35/21:02	Start	3	SE	0	0	2	2	0	0
						Hr 1	3	SE	0	0	2	2	0	0
						Hr 2	2	S	0	5	2	2	0	0

Survey No	VP No	Date	Start Time	Finish Time	Sunrise/ Sunset Time	Timing	Wind Speed	Wind Dir.	Rain	Cloud Cover	Cloud Height	Visibility	Frost	Snow
	VP2	31/07/2020	11:15	14:15	05:35/21:02	Hr 3	3	S	0	5	2	2	0	0
						Start	3	S	0	5	2	2	0	0
						Hr 1	3	SW	0	10	2	2	0	0
						Hr 2	3	SW	0	30	2	2	0	0
	VP3	31/07/2020	11:15	14:15	05:35/21:02	Hr 3	3	SW	0	40	2	2	0	0
						Start	3	S	0	10	1	2	0	0
						Hr 1	3	SW	0	5	1	2	0	0
						Hr 2	3	SW	0	30	1	2	0	0
						Hr 3	3	SW	0	60	1	2	0	0
10	VP1	07/08/2020	06:00	09:00	05:46/20:50	Start	1	NW	0	20	2	2	0	0
						Hr 1	1	NW	0	10	2	2	0	0
						Hr 2	2	NW	0	30	2	2	0	0
						Hr 3	2	NW	0	30	2	2	0	0
	VP2	10/08/2020	13:30	16:30	05:40/20:44	Start	1	NE	0	90	2	2	0	0
						Hr 1	1	NE	0	80	2	2	0	0
						Hr 2	2	NE	0	80	2	2	0	0
						Hr 3	2	NE	0	80	2	2	0	0
	VP3	10/08/2020	10:15	13:15	05:50/20:44	Start	4	NE	0	60	2	2	0	0
						Hr 1	4	NE	0	70	2	2	0	0
						Hr 2	3	NE	0	80	2	2	0	0
						Hr 3	2	NE	0	80	2	2	0	0
11	VP1	18/08/2020	16:00	19:00	06:03/20:28	Start	4	SW	0	40	2	2	0	0
						Hr 1	3	SW	0	30	2	2	0	0
						Hr 2	4	SW	0	30	2	2	0	0
						Hr 3	4	SW	0	30	2	2	0	0



Survey No	VP No	Date	Start Time	Finish Time	Sunrise/ Sunset Time	Timing	Wind Speed	Wind Dir.	Rain	Cloud Cover	Cloud Height	Visibility	Frost	Snow
	VP2	21/08/2020	06:10	09:10	06:08/20:22	Start	6	SW	0	80	2	2	0	0
						Hr 1	6	SW	0	90	2	2	0	0
						Hr 2	5	SW	0	60	2	2	0	0
						Hr 3	6	SW	0	60	2	2	0	0
	VP3	18/08/2020	16:55	19:55	06:03/20:28	Start	5	SW	0	50	2	2	0	0
						Hr 1	5	SW	0	70	2	2	0	0
						Hr 2	4	SW	0	90	2	2	0	0
						Hr 3	3	SW	0	90	2	2	0	0
12	VP1	24/08/2020	16:30	19:30	06:15/20:16	Start	3	SW	0	30	2	2	0	0
						Hr 1	3	SW	0	40	2	2	0	0
						Hr 2	3	SW	0	40	2	2	0	0
						Hr 3	3	SW	0	40	2	2	0	0
	VP2	28/08/2020	17:00	20:00	06:18/20:07	Start	3	NE	0	40	2	2	0	0
						Hr 1	3	NE	0	30	2	2	0	0
						Hr 2	3	NE	0	30	2	2	0	0
						Hr 3	3	NE	0	30	2	2	0	0
	VP3	24/08/2020	16:30	19:30	06:15/20:16	Start	4	SW	0	40	2	2	0	0
						Hr 1	3	SW	0	80	2	2	0	0
						Hr 2	2	SW	0	90	2	2	0	0
						Hr 3	1	SW	0	100	2	2	0	0

**Table EDP A9.1.13:** Date, Timing, and Weather During Winter/Passage Vantage Point (VP) Surveys 2020–2021

Survey No	VP No	Date	Start Time	Finish Time	Sunrise/ Sunset Time	Timing	Wind Speed	Wind Dir.	Rain	Cloud Cover	Cloud Height	Visibility	Frost	Snow
13	VP1	07/09/2020	13:15	16:15	06:35/19:44	Start	5	SW	1	100	1	1	0	0
						Hr 1	6	SW	0	100	1	1	0	0
						Hr 2	5	SW	0	100	1	1	0	0
						Hr 3	5	SW	0	90	2	2	0	0
	VP2	07/09/2020	09:45	12:45	06:35/19:44	Start	2	SW	0	80	2	2	0	0
						Hr 1	3	SW	0	90	2	2	0	0
						Hr 2	4	SW	0	100	2	2	0	0
						Hr 3	5	SW	0	100	2	2	0	0
	VP3	07/09/2020	13:15	16:15	06:35/19:44	Start	4	SW	3	100	1	1	0	0
						Hr 1	3	SW	0	100	1	1	0	0
						Hr 2	4	SW	0	100	1	1	0	0
						Hr 3	4	SW	0	100	2	2	0	0
14	VP1	16/09/2020	11:45	14:45	06:50/19:23	Start	3	NE	0	0	2	2	0	0
						Hr 1	3	NE	0	0	2	2	0	0
						Hr 2	2	NE	0	0	2	2	0	0
						Hr 3	3	NE	0	0	2	2	0	0
	VP2	16/09/2020	12:00	15:00	06:50/19:23	Start	1	NW	0	0	N/A	2	0	0
						Hr 1	1	NW	0	0	N/A	2	0	0
						Hr 2	3	NW	0	0	N/A	2	0	0
						Hr 3	3	NW	0	0	N/A	2	0	0
	VP3	16/09/2020	07:30	10:30	06:50/19:23	Start	1	NE	0	0	2	2	0	0
						Hr 1	1	NE	0	0	2	2	0	0
						Hr 2	2	NE	0	0	2	2	0	0
						Hr 3	2	NE	0	0	2	2	0	0

Survey No	VP No	Date	Start Time	Finish Time	Sunrise/ Sunset Time	Timing	Wind Speed	Wind Dir.	Rain	Cloud Cover	Cloud Height	Visibility	Frost	Snow
15	VP1	13/10/2020	10:30	13:30	07:34/18:22	Start	2	N	0	60	2	2	0	0
						Hr 1	2	N	0	60	2	2	0	0
						Hr 2	3	N	0	70	2	2	0	0
						Hr 3	2	N	0	70	2	2	0	0
	VP2	07/10/2020	07:30	10:30	07:24/18:35	Start	4	W	0	60	2	2	0	0
						Hr 1	3	W	0	60	2	2	0	0
						Hr 2	3	W	0	70	2	2	0	0
						Hr 3	3	W	0	70	2	2	0	0
	VP3	08/10/2020	10:00	13:00	07:26/18:33	Start	4	NW	0	70	2	2	0	0
						Hr 1	5	NW	0	60	2	2	0	0
						Hr 2	4	NW	0	50	2	2	0	0
						Hr 3	4	NW	0	50	2	2	0	0
16	VP1	22/10/2020	09:45	12:45	07:49/18:03	Start	4	W	0	70	1	2	0	0
						Hr 1	4	W	0	20	2	2	0	0
						Hr 2	3	NW	0	10	2	2	0	0
						Hr 3	4	W	0	40	2	2	0	0
	VP2	20/10/2020	09:45	12:45	07:47/18:07	Start	5	SW	0	80	2	2	0	0
						Hr 1	6	SW	0	90	2	2	0	0
						Hr 2	5	SW	0	80	2	2	0	0
						Hr 3	5	SW	0	80	2	2	0	0
	VP3	20/10/2020	09:30	12:30	07:45/18:07	Start	6	S	0	40	1	2	0	0
						Hr 1	6	S	0	90	2	2	0	0
						Hr 2	5	S	0	90	2	2	0	0
						Hr 3	6	S	0	95	2	2	0	0
17	VP1	06/11/2020	07:17	10:17	07:17/16:35	Start	4	E	0	40	1	1	0	0

Survey No	VP No	Date	Start Time	Finish Time	Sunrise/ Sunset Time	Timing	Wind Speed	Wind Dir.	Rain	Cloud Cover	Cloud Height	Visibility	Frost	Snow
						Hr 1	4	E	0	40	1	1	0	0
						Hr 2	3	E	0	20	2	2	0	0
						Hr 3	3	E	0	10	2	2	0	0
	VP2	06/11/2020	10:30	13:30	07:17/16:35	Start	3	E	0	5	2	2	0	0
						Hr 1	3	E	0	5	2	2	0	0
						Hr 2	2	E	0	5	2	2	0	0
	VP3	06/11/2020	10:15	13:15	07:17/16:35	Hr 3	3	E	0	5	2	2	0	0
						Start	6	E	0	5	2	2	0	0
						Hr 1	6	SE	0	5	2	2	0	0
						Hr 2	6	SE	0	5	2	2	0	0
						Hr 3	6	SE	0	5	2	2	0	0
18	VP1	26/11/2020	08:00	11:00	07:50/16:09	Start	2	N	0	5	2	2	1	0
						Hr 1	1	N	0	5	2	2	1	0
						Hr 2	1	N	0	10	2	2	0	0
	VP2	26/11/2020	11:10	14:10	07:50/16:09	Hr 3	1	N	0	10	2	2	0	0
						Start	1	N	0	5	2	2	0	0
						Hr 1	1	N	0	5	2	2	0	0
	VP3	26/11/2020	11:40	14:40	07:50/16:09	Hr 2	1	N	0	5	2	2	0	0
						Hr 3	1	N	0	5	2	2	0	0
						Start	1	SE	0	10	2	2	0	0
						Hr 1	2	SE	0	30	2	2	0	0
						Hr 2	1	SE	0	60	2	2	0	0
						Hr 3	2	SE	0	40	2	2	0	0
19	VP1	14/12/2020	13:00	16:00	08:13/16:02	Start	6	SW	0	90	2	2	0	0
						Hr 1	7	SW	0	90	2	2	0	0

Survey No	VP No	Date	Start Time	Finish Time	Sunrise/ Sunset Time	Timing	Wind Speed	Wind Dir.	Rain	Cloud Cover	Cloud Height	Visibility	Frost	Snow
	VP2	14/12/2020	08:30	11:30	08:13/16:02	Hr 2	5	SW	0	60	2	2	0	0
						Hr 3	6	SW	0	40	2	2	0	0
						Start	5	SW	0	80	2	2	0	0
						Hr 1	5	SW	0	90	2	2	0	0
						Hr 2	6	SW	0	80	2	2	0	0
						Hr 3	5	SW	0	70	2	2	0	0
	VP3	14/12/2020	13:00	16:00	08:13/16:02	Start	5	SW	0	95	2	2	0	0
						Hr 1	6	SW	0	95	2	2	0	0
						Hr 2	6	SW	0	90	2	2	0	0
						Hr 3	5	SW	0	90	2	2	0	0
20	VP1	05/01/2021	08:20	11:20	08:19/16:18	Start	4	NE	0	90	2	2	2	1
						Hr 1	3	NE	0	80	2	2	2	1
						Hr 2	3	NE	0	70	2	2	2	1
						Hr 3	4	NE	0	70	2	2	2	1
	VP2	05/01/2021	11:45	14:45	08:19/16:18	Start	4	NE	0	30	2	2	2	1
						Hr 1	4	NE	0	30	2	2	2	1
						Hr 2	4	NE	0	20	2	2	2	1
						Hr 3	4	NE	0	50	2	2	2	1
	VP3	05/01/2021	11:30	14:30	08:19/16:18	Start	5	NE	0	90	1	2	2	1
						Hr 1	5	NE	0	20	1	2	2	1
						Hr 2	6	NE	0	20	1	2	2	1
						Hr 3	5	NE	0	80	1	2	2	1
21	VP1	09/02/2021	09:00	12:00	07:39/17:16	Start	6	E	0	60	2	2	2	1
						Hr 1	6	E	0	50	2	2	2	1
						Hr 2	6	E	0	40	2	2	2	1

Survey No	VP No	Date	Start Time	Finish Time	Sunrise/ Sunset Time	Timing	Wind Speed	Wind Dir.	Rain	Cloud Cover	Cloud Height	Visibility	Frost	Snow
	VP2	09/02/2021	12:30	15:30	07:39/17:16	Hr 3	6	E	0	60	2	2	2	1
						Start	6	E	0	60	2	2	2	1
						Hr 1	6	E	0	60	2	2	2	1
						Hr 2	5	E	0	50	2	2	2	1
	VP3	09/02/2021	12:35	15:35	07:39/17:16	Hr 3	5	E	0	40	2	2	2	1
						Start	5	E	0	100	1	2	2	1
						Hr 1	5	E	0	100	1	2	2	1
						Hr 2	5	E	0	95	1	2	2	1
22	VP1	11/02/2021	13:15	16:15	07:33/17:19	Hr 3	5	E	0	95	1	2	2	1
						Start	5	E	0	100	1	2	2	2
						Hr 1	5	E	0	100	1	2	2	2
						Hr 2	5	E	0	100	1	2	2	2
	VP2	12/02/2021	09:30	12:30	07:34/17:21	Hr 3	5	E	0	80	1	2	2	2
						Start	6	E	0	60	2	2	1	0
						Hr 1	6	E	0	60	2	2	1	0
						Hr 2	5	E	0	40	2	2	1	0
	VP3	11/02/2021	10:00	13:00	07:33/17:19	Hr 3	4	E	0	30	2	2	1	0
						Start	5	E	0	95	1	2	2	2
						Hr 1	5	E	0	100	1	2	2	2
						Hr 2	5	E	0	100	1	2	2	2
23	VP1	05/03/2021	12:40	15:40	06:50/17:59	Hr 3	5	E	0	100	1	2	2	2
						Start	3	E	0	80	2	2	0	0
						Hr 1	3	E	0	70	2	2	0	0
						Hr 2	4	E	0	60	2	2	0	0

Survey No	VP No	Date	Start Time	Finish Time	Sunrise/ Sunset Time	Timing	Wind Speed	Wind Dir.	Rain	Cloud Cover	Cloud Height	Visibility	Frost	Snow
	VP2	06/03/2021	07:00	10:00	06:46/18:01	Start	2	N	0	10	2	2	0	0
						Hr 1	2	N	0	10	2	2	0	0
						Hr 2	2	N	0	10	2	2	0	0
						Hr 3	2	N	0	20	2	2	0	0
	VP3	05/03/2021	12:25	15:25	06:50/17:59	Start	4	NE	0	100	1	2	0	0
						Hr 1	5	NE	0	95	1	2	0	0
						Hr 2	3	NE	0	70	1	2	0	0
						Hr 3	3	NE	0	50	1	2	0	0
24	VP1	22/03/2021	15:45	18:45	06:12/18:28	Start	1	W	0	40	2	2	0	0
						Hr 1	1	W	0	30	2	2	0	0
						Hr 2	1	NW	0	30	2	2	0	0
						Hr 3	1	NW	0	30	2	2	0	0
	VP2	22/03/2021	12:30	15:30	06:12/18:28	Start	1	SW	0	20	2	2	0	0
						Hr 1	1	SW	0	20	2	2	0	0
						Hr 2	1	W	0	30	2	2	0	0
						Hr 3	1	W	0	40	2	2	0	0
	VP3	22/03/2021	10:30	13:30	06:12/18:28	Start	1	W	0	60	1	2	0	0
						Hr 1	2	W	0	50	1	2	0	0
						Hr 2	2	W	0	50	1	2	0	0
						Hr 3	2	W	0	50	1	2	0	0

**Table EDP A9.1.14:** Date, Timing, and Weather During Breeding Season Vantage Point (VP) Surveys 2021

Survey No	VP No	Date	Start Time	Finish Time	Sunrise/ Sunset Time	Timing	Wind Speed	Wind Dir.	Rain	Cloud Cover	Cloud Height	Visibility	Frost	Snow
1	VP1	06/04/2021	10:10	13:10	06:37/19:54	Start	5	NW	0	40	2	2	0	0
						Hr 1	5	NW	0	60	2	2	0	0
						Hr 2	5	NW	1	60	2	2	0	0
						Hr 3	5	NW	1	60	2	2	0	0
	VP2	06/04/2021	06:40	09:40	06:37/19:54	Start	4	NW	0	10	2	2	1	0
						Hr 1	4	NW	0	20	2	2	1	0
						Hr 2	5	NW	0	20	2	2	0	0
						Hr 3	5	NW	0	40	2	2	0	0
	VP3	12/04/2021	10:30	13:30	06:24/20:04	Start	4	N	0	60	1	2	0	0
						Hr 1	4	N	0	90	1	2	0	0
						Hr 2	4	NW	0	90	1	2	0	0
						Hr 3	3	NW	0	60	1	2	0	0
2	VP1	12/04/2021	10:45	13:45	06:24/20:04	Start	5	NW	0	60	2	2	0	0
						Hr 1	5	NW	0	70	2	2	0	0
						Hr 2	4	NW	0	80	2	2	0	0
						Hr 3	5	NW	0	80	2	2	0	0
	VP2	23/04/2021	14:00	17:00	06:00/20:23	Start	5	SE	0	10	2	2	0	0
						Hr 1	5	SE	0	10	2	2	0	0
						Hr 2	4	SE	0	10	2	2	0	0
						Hr 3	4	SE	0	10	2	2	0	0
	VP3	23/04/2021	13:40	16:40	06:00/20:23	Start	4	SE	0	10	2	2	0	0
						Hr 1	4	SE	0	20	2	2	0	0
						Hr 2	5	SE	0	20	2	2	0	0
						Hr 3	5	SE	0	20	2	2	0	0



Survey No	VP No	Date	Start Time	Finish Time	Sunrise/ Sunset Time	Timing	Wind Speed	Wind Dir.	Rain	Cloud Cover	Cloud Height	Visibility	Frost	Snow
3	VP1	06/05/2021	11:00	14:00	05:35/20:44	Start	4	NW	0	40	2	2	0	0
						Hr 1	4	NW	0	40	2	2	0	0
						Hr 2	4	NW	0	30	2	2	0	0
						Hr 3	4	NW	0	30	2	2	0	0
	VP2	07/05/2021	11:15	14:15	05:33/20:46	Start	4	W	0	60	2	2	0	0
						Hr 1	5	SW	0	60	2	2	0	0
						Hr 2	4	SW	0	70	2	2	0	0
						Hr 3	3	SW	0	70	2	2	0	0
	VP3	07/05/2021	14:45	17:45	05:33/20:46	Start	4	SW	0	60	2	2	0	0
						Hr 1	4	SW	0	50	2	2	0	0
						Hr 2	4	SW	0	30	2	2	0	0
						Hr 3	4	SW	0	30	2	2	0	0
4	VP1	19/05/2021	11:30	14:30	05:15/21:04	Start	5	NW	0	70	2	2	0	0
						Hr 1	5	NW	0	70	2	2	0	0
						Hr 2	4	NW	0	30	2	2	0	0
						Hr 3	5	NW	0	40	2	2	0	0
	VP2	19/05/2021	15:15	18:15	05:15/21:04	Start	6	W	0	30	2	2	0	0
						Hr 1	6	W	0	40	2	2	0	0
						Hr 2	5	W	0	40	2	2	0	0
						Hr 3	5	W	0	40	2	2	0	0
	VP3	12/05/2021	13:05	16:05	05:24/20:55	Start	4	SE	0	90	2	2	0	0
						Hr 1	5	S	0	90	2	2	0	0
						Hr 2	4	SE	0	95	2	2	0	0
						Hr 3	3	SE	0	100	2	2	0	0
5	VP1	26/05/2021	14:00	17:00	05:06/21:14	Start	3	NW	0	60	2	2	0	0

Survey No	VP No	Date	Start Time	Finish Time	Sunrise/ Sunset Time	Timing	Wind Speed	Wind Dir.	Rain	Cloud Cover	Cloud Height	Visibility	Frost	Snow
						Hr 1	4	NW	0	60	2	2	0	0
						Hr 2	3	NW	0	60	2	2	0	0
						Hr 3	4	NW	0	50	2	2	0	0
	VP2	28/05/2021	05:00	08:00	05:04/21:16	Start	2	SE	1	90	2	2	0	0
						Hr 1	2	E	1	100	2	2	0	0
						Hr 2	2	E	2	100	2	1	0	0
	VP3	30/05/2021	07:00	10:00	05:02/21:19	Hr 3	2	E	1	90	2	2	0	0
						Start	2	E	0	10	2	2	0	0
						Hr 1	2	E	0	10	2	2	0	0
						Hr 2	2	E	0	10	2	2	0	0
						Hr 3	2	E	0	10	2	2	0	0
6	VP1	01/06/2021	07:30	10:30	05:00/21:21	Start	4	E	0	5	2	2	0	0
						Hr 1	4	E	0	5	2	2	0	0
						Hr 2	4	E	0	5	2	2	0	0
						Hr 3	4	E	0	5	2	2	0	0
	VP2	03/06/2021	13:25	16:25	04:59/21:23	Start	5	SW	0	60	2	2	0	0
						Hr 1	4	SW	0	60	2	2	0	0
						Hr 2	4	SW	0	50	2	2	0	0
						Hr 3	4	SW	0	50	2	2	0	0
	VP3	03/06/2021	13:30	16:30	04:59/21:23	Start	3	SW	0	70	2	2	0	0
						Hr 1	4	SW	0	70	2	2	0	0
						Hr 2	4	SW	0	70	2	2	0	0
						Hr 3	4	SW	0	50	2	2	0	0
7	VP1	04/06/2021	06:00	09:00	04:58/21:24	Start	1	NW	0	50	2	2	0	0
						Hr 1	1	NW	0	50	2	2	0	0

Survey No	VP No	Date	Start Time	Finish Time	Sunrise/ Sunset Time	Timing	Wind Speed	Wind Dir.	Rain	Cloud Cover	Cloud Height	Visibility	Frost	Snow
	VP2	04/06/2021	06:15	09:15	04:58/21:24	Hr 2	1	NNW	0	35	2	2	0	0
						Hr 3	1	NNW	0	50	2	2	0	0
						Start	3	NW	0	5	2	2	0	0
						Hr 1	2	NW	0	5	2	2	0	0
						Hr 2	2	NW	0	10	2	2	0	0
						Hr 3	1	NW	0	10	2	2	0	0
	VP3	09/06/2021	17:00	20:00	04:55/21:29	Start	4	SW	1	100	2	2	0	0
						Hr 1	5	SW	0	90	2	2	0	0
						Hr 2	5	SW	0	100	1	1	0	0
						Hr 3	5	SW	0	100	0	1	0	0
8	VP1	15/06/2021	10:00	13:00	04:52/21:31	Start	1 to 2	E	0	5	2	2	0	0
						Hr 1	2	E	0	5	2	2	0	0
						Hr 2	1 to 2	E	0	5	2	2	0	0
						Hr 3	2 to 4	S	0	5	2	2	0	0
	VP2	15/06/2021	14:00	17:00	04:52/21:31	Start	0 to 2	S	0	5	2	2	0	0
						Hr 1	0 to 4	S	0	5	2	2	0	0
						Hr 2	0 to 2	S	0	5	2	2	0	0
						Hr 3	0 to 2	S	0	5	2	2	0	0
	VP3	16/06/2021	12:00	15:00	04:55/21:34	Start	2	S	0	10	2	2	0	0
						Hr 1	2 to 3	S	0	10	2	2	0	0
						Hr 2	3	S	0	20	2	2	0	0
						Hr 3	3 to 4	S	0	60	2	2	0	0
9	VP1	29/06/2021	06:00	09:30	04:57/21:34	Start	4	NNE	0	90	2	2	0	0
						Hr 1	4	NNE	0	90	2	2	0	0
						Hr 2	4	NE	0	90	2	2	0	0

Survey No	VP No	Date	Start Time	Finish Time	Sunrise/ Sunset Time	Timing	Wind Speed	Wind Dir.	Rain	Cloud Cover	Cloud Height	Visibility	Frost	Snow
	VP2	29/06/2021	09:30	12:30	04:57/21:34	Hr 3	4	NNE	0	90	2	2	0	0
						Start	4	NNE	0	100	2	2	0	0
						Hr 1	4	NNE	0	90	2	2	0	0
						Hr 2	4	NNE	0	90	2	2	0	0
						Hr 3	4	NNE	0	100	2	2	0	0
	VP3	29/06/2021	10:30	13:30	04:57/21:34	Start	6	E	0	90	1	2	0	0
						Hr 1	6	E	0	80	1	2	0	0
						Hr 2	5-6	E	3	98	1	1	0	0
						Hr 3	6	E	0/1	98	1	2	0	0
10	VP1	26/07/2021	10:00	13:00	05:26/21:09	Start	1	N	0	20	2	1	0	0
						Hr 1	2-3	N	0	40	2	1	0	0
						Hr 2	0-1	N	0	80	2	2	0	0
						Hr 3	3-4	E	0	90	2	2	0	0
	VP2	26/07/2021	09:00	12:00	05:26/21:09	Start	1	WNW	0	5	2	2	0	0
						Hr 1	1	W	0	5	2	2	0	0
						Hr 2	2	W	0	50	2	2	0	0
						Hr 3	1	W	0	70	2	2	0	0
	VP3	26/07/2021	05:30	08:30	05:26/21:09	Start	1	WNW	0	50	2	2	0	0
						Hr 1	1	WNW	0	10	2	2	0	0
						Hr 2	1	WNW	0	5	2	2	0	0
						Hr 3	1	W	0	5	2	2	0	0
11	VP1	30/07/2021	15:00	18:00	05:30/21:03	Start	6	E	0	90	2	2	0	0
						Hr 1	5	E	1	100	2	1	0	0
						Hr 2	6	E	1	95	2	1	0	0
						Hr 3	4	E	0	98	2	1	0	0

Survey No	VP No	Date	Start Time	Finish Time	Sunrise/ Sunset Time	Timing	Wind Speed	Wind Dir.	Rain	Cloud Cover	Cloud Height	Visibility	Frost	Snow
	VP2	30/07/2021	14:30	17:30	05:30/21:03	Start	5	WNW	0	90	2	2	0	0
						Hr 1	5	WNW	0	90	2	2	0	0
						Hr 2	5	WNW	0	90	2	2	0	0
						Hr 3	5	W	0	75	2	2	0	0
	VP3	30/07/2021	18:00	21:00	05:30/21:03	Start	5	W	0	100	2	2	0	0
						Hr 1	5	W	0	100	2	2	0	0
						Hr 2	4	W	0	100	2	2	0	0
						Hr 3	5	W	0	100	2	1	0	0
12	VP1	12/08/2021	07:00	10:00	05:52/20:42	Start	5	WNW	0	100	0	0	0	0
						Hr 1	4-5	W	0	100	0	0	0	0
						Hr 2	3	W	0	90	1	1	0	0
						Hr 3	3-4	W	0	90	1	1	0	0
	VP2	12/08/2021	16:30	19:30	05:52/20:42	Start	5	SW	0	50	2	2	0	0
						Hr 1	5	SW	0	50	2	2	0	0
						Hr 2	4	SW	0	40	2	2	0	0
						Hr 3	5	SW	0	30	2	2	0	0
	VP3	12/08/2021	13:30	16:30	05:52/20:42	Start	5	SW	0	90	2	2	0	0
						Hr 1	6	SW	1	100	2	2	0	0
						Hr 2	5	SW	0	80	2	2	0	0
						Hr 3	5	SW	0	60	2	2	0	0

**Table EDP A9.1.15:** Date, Timing, and Weather During Winter/Passage Vantage Point (VP) Surveys 2021–2022

Survey No	VP No	Date	Start Time	Finish Time	Sunrise/ Sunset Time	Timing	Wind Speed	Wind Dir.	Rain	Cloud Cover	Cloud height	Visibility	Frost	Snow
1	VP1	13/09/2021	12:00	15:00	06:43/19:33	Start	4	SW	0	100	1	1	0	0
						Hr 1	5	E	0	100	1	1	0	0
						Hr 2	4	ESE	0	100	1	1	0	0
						Hr 3	4-5	S	0	100	2	1	0	0
	VP2	14/09/2021	06:45	09:45	06:45/19:29	Start	3	NE	0	60	2	2	0	0
						Hr 1	4	NE	0	60	2	2	0	0
						Hr 2	4	NE	0	70	2	2	0	0
						Hr 3	4	NE	0	80	2	2	0	0
	VP3	13/09/2021	15:30	18:30	06:43/19:33	Start	3	S	0	100	2	1	0	0
						Hr 1	3	S	0	100	2	2	0	0
						Hr 2	1	S	0	100	2	2	0	0
						Hr 3	2	S	0	100	2	2	0	0
2	VP1	17/09/2021	14:30	17:30	06:49/19:19	Start	3-4	W	0	90	2	2	0	0
						Hr 1	4-5	W	0	70	2	2	0	0
						Hr 2	3-4	W	0	50	2	2	0	0
						Hr 3	3	W	0	60	2	2	0	0
	VP2	17/09/2021	13:00	16:00	06:49/19:23	Start	4	S	0	70	2	2	0	0
						Hr 1	4	S	0	60	2	2	0	0
						Hr 2	3	S	0	90	2	2	0	0
						Hr 3	3	S	0	90	2	2	0	0
	VP3	17/09/2021	16:30	19:30	06:49/19:23	Start	3	SSE	0	70	2	2	0	0
						Hr 1	2	SSE	0	50	2	2	0	0
						Hr 2	2	SSE	0	60	2	2	0	0
						Hr 3	3	SE	0	70	2	1	0	0
3	VP1	22/09/2021	17:00	20:00	06:58/19:12	Start	4	SW	0	70	2	2	0	0

Survey No	VP No	Date	Start Time	Finish Time	Sunrise/ Sunset Time	Timing	Wind Speed	Wind Dir.	Rain	Cloud Cover	Cloud height	Visibility	Frost	Snow
						Hr 1	5	SW	0	85	2	2	0	0
						Hr 2	4-5	SW	0	90	2	1	0	0
						Hr 3	5	SW	0	90	2	0	0	0
	VP2	22/09/2021	10:30	13:30	06:58/19:12	Start	4	W	0	40	2	2	0	0
						Hr 1	5	W	0	60	2	2	0	0
						Hr 2	4	W	0	50	2	2	0	0
	VP3	22/09/2021	13:30	16:30	06:58/19:12	Hr 3	4	W	0	60	2	2	0	0
						Start	1-2	SW	0	30	2	2	0	0
						Hr 1	2	S	0	50	2	2	0	0
						Hr 2	1-2	S	0	30	2	2	0	0
						Hr 3	2	SW	0	70	2	2	0	0
4	VP1	24/09/2021	09:30	12:30	07:01/19:07	Start	6	W	0	90	2	2	0	0
						Hr 1	6	W	0	99	2	2	0	0
						Hr 2	5	W	0	95	0	1-0	0	0
						Hr 3	4	W	0	95	0	1-0	0	0
	VP2	24/09/2021	16:30	19:30	07:01/19:07	Start	4	W	0	100	1	1	0	0
						Hr 1	2	W	0	90	1	1	0	0
						Hr 2	3	W	0	100	1	1	0	0
						Hr 3	4	W	0	100	0	0	0	0
	VP3	24/09/2021	13:00	16:00	07:01/19:07	Start	5	W	0	100	1	2	0	0
						Hr 1	2	W	0	70	1	2	0	0
						Hr 2	3	W	0	98	2	2	0	0
						Hr 3	3	W	0	95	1	1	0	0
5	VP1	29/09/2021	09:30	12:30	07:09/18:56	Start	6	W	0	50	1	1	0	0
						Hr 1	6	W	0	70	2	1	0	0
						Hr 2	4-5	W	0-4	80	1	1	0	0

Survey No	VP No	Date	Start Time	Finish Time	Sunrise/ Sunset Time	Timing	Wind Speed	Wind Dir.	Rain	Cloud Cover	Cloud height	Visibility	Frost	Snow
	VP2	29/09/2021	12:30	15:30	07:10/18:57	Hr 3	5	W	4	90	0	0	0	0
						Start	5	WNW	0	60	2	2	0	0
						Hr 1	6	WNW	0	70	2	2	0	0
						Hr 2	6	WNW	0	50	2	2	0	0
	VP3	29/09/2021	16:00	19:00	07:09/18:56	Hr 3	5	WNW	0	50	2	2	0	0
						Start	6	WNW	0	50	2	2	0	0
						Hr 1	4	W	0	20	2	2	0	0
						Hr 2	3	W	0	20	2	2	0	0
6	VP1	07/10/2021	11:00	14:00	07:29/18:37	Hr 3	2	W	0	30	2	1	0	0
						Start	6	SE	0	100	0	0	0	0
						Hr 1	5-6	E	1	100	0	0	0	0
						Hr 2	4-5	E	1	100	0	0	0	0
	VP2	07/10/2021	12:00	15:00	07:22/18:37	Hr 3	5-6	E	1	100	0	0	0	0
						Start	4	SW	0	100	1	1	0	0
						Hr 1	4	SW	0	100	1	1	0	0
						Hr 2	3	SW	0	100	2	2	0	0
	VP3	07/10/2021	15:30	18:30	07:23/18:37	Hr 3	4	SW	0	100	2	2	0	0
						Start	4	SW	0	80	2	2	0	0
						Hr 1	3	SW	0	100	2	2	0	0
						Hr 2	2	SSW	0	95	2	2	0	0
7	VP1	15/10/2021	10:30	13:30	07:35/18:15	Hr 3	2	SSW	0	100	2	1	0	0
						Start	3	N	1	100	0	1	0	0
						Hr 1	2	N	0	100	1	2	0	0
						Hr 2	2	N	0	100	1	2	0	0
	VP2	15/10/2021	11:30	14:30	07:36/18:19	Hr 3	3	N	0	100	1	2	0	0
						Start	2	NW	0	100	2	2	0	0
						Hr 1	2	NW	0	100	2	2	0	0
						Hr 2	2	NW	0	100	2	2	0	0



Survey No	VP No	Date	Start Time	Finish Time	Sunrise/ Sunset Time	Timing	Wind Speed	Wind Dir.	Rain	Cloud Cover	Cloud height	Visibility	Frost	Snow
						Hr 1	1	ENE	0	100	2	2	0	0
						Hr 2	1	ENE	0	100	2	2	0	0
						Hr 3	1	ENE	0	100	2	2	0	0
	VP3	15/10/2021	15:00	18:00	07:36/18:19	Start	2	ENE	0	100	2	2	0	0
						Hr 1	2	ENE	0	100	2	2	0	0
						Hr 2	2	ENE	0	40	2	2	0	0
						Hr 3	2	ENE	0	40	2	0	0	0
8	VP1	20/10/2021	15:15	18:15	07:45/18:09	Start	5	SW	0/1	50	2	2	0	0
						Hr 1	5	SW	0	70	2	2	0	0
						Hr 2	4	SW	0	95	1	2	0	0
						Hr 3	4	SW	0	100	1	0	0	0
	VP2	22/10/2021	15:00	18:00	07:48/18:05	Start	5	WNW	0	50	2	2	0	0
						Hr 1	4	WNW	0	80	2	2	0	0
						Hr 2	5	W	0	80	2	2	0	0
						Hr 3	3	WNW	0	90	2	1	0	0
	VP3	22/10/2021	11:30	14:30	07:48/18:05	Start	5	WNW	0	90	2	2	0	0
						Hr 1	5	WNW	0	100	2	2	0	0
						Hr 2	4	WNW	0	80	2	2	0	0
						Hr 3	4	WNW	0	80	2	2	0	0
9	VP1	26/10/2021	15:00	18:00	07:55/17:55	Start	6	N	1	100	0	0	0	0
						Hr 1	6	N	1	100	0	0	0	0
						Hr 2	6	N	1	100	0	0	0	0
						Hr 3	6	N	1	100	0	0	0	0
	VP2	26/10/2021	11:00	14:00	07:57/17:55	Start	4	SW	1	100	1	1	0	0
						Hr 1	4	SW	0	100	1	1	0	0
						Hr 2	4	WSW	2	100	1	1	0	0

Survey No	VP No	Date	Start Time	Finish Time	Sunrise/ Sunset Time	Timing	Wind Speed	Wind Dir.	Rain	Cloud Cover	Cloud height	Visibility	Frost	Snow
10	VP3	30/10/2021	13:00	16:00	08:02/17:48	Hr 3	4	SW	2	100	1	1	0	0
						Start	5	WSW	0	40	2	2	0	0
						Hr 1	4	W	0	50	2	2	0	0
						Hr 2	4	W	0	60	2	2	0	0
	VP1	13/11/2021	10:45	13:45	07:26/16:25	Hr 3	3	WSW	0	50	2	2	0	0
						Start	3	WNW	0	70	2	2	0	0
						Hr 1	1	WNW	0	50	2	2	0	0
						Hr 2	2	WNW	0	30	2	2	0	0
		11/11/2021	13:30	16:30	07:24/16:29	Hr 3	2	WNW	0	35	2	2	0	0
						Start	3	S	0	100	2	2	0	0
						Hr 1	4	S	0	100	2	1	0	0
						Hr 2	4	S	0	100	2	2	0	0
						Hr 3	5	S	0	100	2	1	0	0
	VP3	11/11/2021	10:00	13:00	07:24/16:29	Start	2	SSW	0	100	1	1	0	0
						Hr 1	2	SSW	0	100	1	1	0	0
						Hr 2	3	SSW	0	100	2	2	0	0
						Hr 3	4	SSW	0	100	2	2	0	0
11	VP1	22/11/2021	11:30	14:30	07:42/16:14	Start	5	W	0	10	2	2	1	0
						Hr 1	5	W	0	5	2	2	0	0
						Hr 2	4	W	0	10	2	2	0	0
						Hr 3	4	W	0	15	2	2	0	0
	VP2	23/11/2021	09:30	12:30	07:44/16:13	Start	1	NNW	0	10	2	2	0	0
						Hr 1	1	N	0	90	2	2	0	0
						Hr 2	1	NNE	0	90	2	2	0	0
						Hr 3	3	NNE	0	90	2	2	0	0
	VP3	23/11/2021	13:00	16:00	07:44/16:13	Start	3	NE	0	100	2	2	0	0

Survey No	VP No	Date	Start Time	Finish Time	Sunrise/ Sunset Time	Timing	Wind Speed	Wind Dir.	Rain	Cloud Cover	Cloud height	Visibility	Frost	Snow					
12						Hr 1	2	NE	0	90	2	2	0	0					
						Hr 2	2	NNE	0	80	2	2	0	0					
						Hr 3	2	NNE	0	90	2	1	0	0					
	VP1	09/12/2021	11:00	14:00	08:06/16:02	Start	4	W	0	80	1	1	0	0					
						Hr 1	4	W	0	90	1	1	0	0					
						Hr 2	5	W	0	95	1	1	0	0					
						Hr 3	4	W	3	100	1	1	0	0					
						VP2	15/12/2021	12:20	15:20	08:12/16:02	Start	5	WSW	0	100	2	2	0	0
											Hr 1	4	WSW	0	100	2	2	0	0
Hr 2											4	WSW	0	100	2	2	0	0	
Hr 3	3	WSW	0	100	1						1	0	0						
VP3	12/12/2021	12:00	15:00	08:09/16:02	Start	4	SW	1	100	1	1	0	0						
					Hr 1	4	SSW	1	100	1	1	0	0						
					Hr 2	3	SSW	0	100	2	2	0	0						
					Hr 3	3	SSW	0	90	2	2	0	0						
13	VP1	20/12/2021	12:00	15:00	08:16/16:04	Start	4	NE	1	100	0	0-1	0	0					
						Hr 1	4	NE	0	100	0	1-0	0	0					
						Hr 2	4	E	0	100	0	0-1	0	0					
						Hr 3	4	E	0	100	0	0-1	0	0					
	VP2	20/12/2021	09:00	12:30	08:16/16:04	Start	3	ENE	0	100	2	1	0	0					
						Hr 1	3	E	0	100	1	1	0	0					
						Hr 2	3	E	0	100	1	0	0	0					
						Hr 3	3	E	0	100	1	0	0	0					
	VP3	20/12/2021	12:30	15:30	08:16/16:04	Start	3	E	0	100	2	2	0	0					
Hr 1						3	E	0	100	2	2	0	0						
Hr 2						3	E	0	100	2	1	0	0						

Survey No	VP No	Date	Start Time	Finish Time	Sunrise/ Sunset Time	Timing	Wind Speed	Wind Dir.	Rain	Cloud Cover	Cloud height	Visibility	Frost	Snow
						Hr 3	3	E	0	100	2	1	0	0
14	VP1	11/01/2022	08:15	11:15	08:15/16:26	Start	1	SW	0	20	2	2	0	0
						Hr 1	2	SW	0	10	2	2	0	0
						Hr 2	2	SW	0	30	2	2	0	0
						Hr 3	2	SW	0	30	2	2	0	0
	VP2	13/01/2022	08:15	11:15	08:13/16:29	Start	1	NE	0	20	2	2	1	0
						Hr 1	1	E	0	10	2	2	0	0
						Hr 2	2	NE	0	10	2	2	0	0
						Hr 3	2	NE	0	10	2	2	0	0
	VP3	24/01/2022	09:45	12:45	08:03/16:47	Start	3	E	0	100	0	1	0	0
						Hr 1	3	E	0	100	1	1	0	0
						Hr 2	3	E	0	100	1	1	0	0
						Hr 3	1	E	0	100	1	1	0	0
15	VP1	26/01/2022	10:30	13:30	08:01/16:50	Start	3	W	0	100	1	1	0	0
						Hr 1	3	W	0	100	1	1	0	0
						Hr 2	4	W	0	100	2	2	0	0
						Hr 3	5	W	0	100	2	2	0	0
	VP2	26/01/2022	14:00	17:00	08:01/16:50	Start	4	W	0	95	2	2	0	0
						Hr 1	4	W	0	95	2	2	0	0
						Hr 2	5	NW	0	95	2	2	0	0
						Hr 3	5	NW	0	95	2	2	0	0
	VP3	25/01/2022	13:45	16:45	08:02/16:49	Start	0	-	0	100	0	1	0	0
						Hr 1	0	-	0	100	0	1	0	0
						Hr 2	1	W	0	100	0	1	0	0
						Hr 3	1	W	0	100	0	1	0	0
16	VP1	10/02/2022	11:00	14:00	07:36/17:17	Start	4	W	0	60	2	2	0	0

Survey No	VP No	Date	Start Time	Finish Time	Sunrise/ Sunset Time	Timing	Wind Speed	Wind Dir.	Rain	Cloud Cover	Cloud height	Visibility	Frost	Snow
						Hr 1	3	W	0	90	2	2	0	0
						Hr 2	4	NW	0	80	2	2	0	0
						Hr 3	4	NW	0	60	2	2	0	0
	VP2	10/02/2022	14:15	17:15	07:36/17:17	Start	4	NW	0	20	2	2	0	0
						Hr 1	3	NW	0	30	2	2	0	0
						Hr 2	3	NW	0	40	2	2	0	0
	VP3	10/02/2022	10:00	13:00	07:37/17:17	Hr 3	2	NW	0	40	2	2	0	0
						Start	4	W	0	60	2	2	0	0
						Hr 1	3	W	0	90	2	2	0	0
						Hr 2	4	NW	0	80	2	2	0	0
						Hr 3	4	NW	0	60	2	2	0	0
17	VP1	23/02/2022	15:10	18:10	07:11/17:42	Start	6	W	0	100	1	2	0	0
						Hr 1	6	W	0	100	1	2	0	0
						Hr 2	6	W	0	100	1	2	0	0
						Hr 3	6	W	0	100	1	2	0	0
	VP2	17/02/2022	14:30	17:30	07:22/17:30	Start	4	W	0	50	2	2	0	0
						Hr 1	3	W	0	60	2	2	0	0
						Hr 2	3	W	0	90	2	2	0	0
						Hr 3	3	W	1	100	1	1	0	0
	VP3	23/02/2022	12:00	15:00	07:11/17:42	Start	6	W	0	100	1	2	0	0
						Hr 1	5	W	0	90	1	2	0	0
						Hr 2	6	W	0	90	1	2	0	0
						Hr 3	6	W	2	100	1	2	0	0
18	VP1	18/03/2022	12:00	15:00	06:18/18:23	Start	2	ESE	0	40	2	2	0	0
						Hr 1	2	ESE	0	25	2	2	0	0
						Hr 2	2	ESE	0	20	2	2	0	0

Survey No	VP No	Date	Start Time	Finish Time	Sunrise/ Sunset Time	Timing	Wind Speed	Wind Dir.	Rain	Cloud Cover	Cloud height	Visibility	Frost	Snow	
	VP2	18/03/2022	08:30	11:30	06:18/18:23	Hr 3	2	ESE	0	15	2	2	0	0	
						Start	3	ENE	0	10	2	2	0	0	
						Hr 1	2	E	0	40	2	2	0	0	
						Hr 2	3	E	0	50	2	2	0	0	
						Hr 3	2	E	0	50	2	2	0	0	
	VP3	18/03/2022	12:00	15:00	06:18/18:23	Start	4	ESE	0	50	2	2	0	0	
						Hr 1	4	ESE	0	30	2	2	0	0	
						Hr 2	3	ESE	0	10	2	2	0	0	
						Hr 3	3	ESE	0	20	2	2	0	0	
	19	VP1	22/03/2022	10:00	13:00	06:11/18:26	Start	3	SSE	0	10	2	1	0	0
							Hr 1	3	SSE	0	10	2	1	0	0
							Hr 2	3	SSE	0	5	2	1	0	0
Hr 3							2	SSE	0	5	2	1	0	0	
VP2		22/03/2022	10:00	13:00	06:11/18:26	Start	2	ESE	0	10	2	2	0	0	
						Hr 1	2	ESE	0	10	2	2	0	0	
						Hr 2	3	SE	0	10	2	2	0	0	
						Hr 3	3	SE	0	10	2	2	0	0	
VP3		22/03/2022	13:15	16:15	06:11/18:26	Start	5	WSW	0	30	2	2	0	0	
						Hr 1	4	SE	0	50	2	2	0	0	
						Hr 2	3	ESE	0	10	2	2	0	0	
						Hr 3	3	ESE	0	10	2	2	0	0	
20	VP1	28/03/2022	15:00	18:00	06:58/19:39	Start	3	WSW	0	40	2	1	0	0	
						Hr 1	4	WSW	0	60	2	1	0	0	
						Hr 2	5	WSW	0	90	2	1	0	0	
						Hr 3	6	WSW	0	90	2	1	0	0	
	VP2	28/03/2022	09:15	12:15	06:58/19:39	Start	2	NE	0	10	2	2	0	0	

Survey No	VP No	Date	Start Time	Finish Time	Sunrise/ Sunset Time	Timing	Wind Speed	Wind Dir.	Rain	Cloud Cover	Cloud height	Visibility	Frost	Snow
						Hr 1	2	NE	0	30	2	2	0	0
						Hr 2	2	ENE	0	20	2	2	0	0
						Hr 3	2	E	0	20	2	2	0	0
	VP3	28/03/2022	12:30	15:30	06:58/19:39	Start	3	E	0	20	2	2	0	0
						Hr 1	3	ENE	0	10	2	2	0	0
						Hr 2	3	E	0	30	2	2	0	0
						Hr 3	3	ENE	0	50	2	2	0	0
	VP1	05/04/2022	12:15	15:15	06:50/19:42	Start	4	WNW	0	98	2	2	0	0
						Hr 1	4	WNW	1	98	2	2	0	0
						Hr 2	3	WNW	0	98	2	2	0	0
						Hr 3	3	WNW	0	98	2	2	0	0
21	VP2	05/04/2022	12:00	15:00	06:50/19:42	Start	5	W	0	95	2	2	0	0
						Hr 1	5	W	0	90	2	2	0	0
						Hr 2	5	W	0	100	2	2	0	0
						Hr 3	5	W	0	100	2	2	0	0
	VP3	05/04/2022	15:15	18:15	06:50/19:42	Start	4	W	0	100	2	2	0	0
						Hr 1	4	W	0	100	2	2	0	0
						Hr 2	5	WSW	0	100	2	2	0	0
						Hr 3	5	WSW	0	100	2	2	0	0
22	VP1	13/04/2022	13:30	16:30	06:20/20:05	Start	3	WNW	0	95	2	2	0	0
						Hr 1	3	WNW	0	95	2	2	0	0
						Hr 2	3	WNW	2	100	2	2	0	0
						Hr 3	3	WNW	0	95	2	2	0	0
	VP2	11/04/2022	10:00	13:00	06:26/20:02	Start	3	ESE	0	80	2	2	0	0
						Hr 1	3	ESE	0	80	2	2	0	0
						Hr 2	4	ESE	0	90	2	2	0	0

Survey No	VP No	Date	Start Time	Finish Time	Sunrise/ Sunset Time	Timing	Wind Speed	Wind Dir.	Rain	Cloud Cover	Cloud height	Visibility	Frost	Snow
						Hr 3	4	ESE	0	90	2	2	0	0
	VP3	11/04/2022	13:30	16:30	06:26/20:02	Start	5	ESE	0	90	2	2	0	0
						Hr 1	5	SE	0	90	2	2	0	0
						Hr 2	5	SE	0	70	2	2	0	0
						Hr 3	5	SE	0	60	2	2	0	0
23	VP1	19/04/2022	11:30	14:30	06:08/20:16	Start	2	E	0	60	2	2	0	0
						Hr 1	3	E	0	60	2	2	0	0
						Hr 2	2	E	0	70	2	2	0	0
						Hr 3	2	E	0	80	2	2	0	0
	VP2	19/04/2022	10:00	13:00	06:08/20:16	Start	2	N	0	40	2	2	0	0
						Hr 1	2	N	0	50	2	2	0	0
						Hr 2	2	N	0	60	2	2	0	0
						Hr 3	2	NNW	0	60	2	2	0	0
	VP3	19/04/2022	13:30	16:30	06:08/20:16	Start	2	NNW	0	70	2	2	0	0
						Hr 1	2	WNW	0	90	2	2	0	0
						Hr 2	2	NW	0	100	2	2	0	0
						Hr 3	3	NW	0	100	2	2	0	0



## Annex EDP 9.2 Complete Species List

**Table EDP A9.2.1.** List of Species Recorded Throughout the Bird Surveys 2020–2022

Common Name	Scientific Name
Blackbird	<i>Turdus merula</i>
Blackcap	<i>Sylvia atricapilla</i>
Blue Tit	<i>Cyanistes caeruleus</i>
Bullfinch	<i>Pyrrhula pyrrhula</i>
Buzzard	<i>Buteo buteo</i>
Carrion Crow	<i>Corvus corone</i>
Chaffinch	<i>Fringilla coelebs</i>
Chiffchaff	<i>Phylloscopus collybita</i>
Coal Tit	<i>Periparus ater</i>
Cormorant	<i>Phalacrocorax carbo</i>
Common Crossbill	<i>Loxia curvirostra</i>
Cuckoo	<i>Cuculus canorus</i>
Dunnoek	<i>Prunella modularis</i>
Fieldfare	<i>Turdus pilaris</i>
Goldcrest	<i>Regulus regulus</i>
Goldfinch	<i>Carduelis carduelis</i>
Goshawk	<i>Accipiter gentilis</i>
Great Spotted Woodpecker	<i>Dendrocopos major</i>
Great Tit	<i>Parus major</i>
Green Woodpecker	<i>Picus viridis</i>
Greenfinch	<i>Chloris chloris</i>
Grey Heron	<i>Ardea cinerea</i>
Hen Harrier	<i>Circus cyaneus</i>
Herring Gull	<i>Larus argentatus</i>
Hobby	<i>Falco subbuteo</i>
Jackdaw	<i>Corvus monedula</i>
Jay	<i>Garrulus glandarius</i>
Kestrel	<i>Falco tinnunculus</i>
Lesser Black-backed Gull	<i>Larus fuscus</i>
Lesser Redpoll	<i>Acanthis cabaret</i>
Linnet	<i>Linaria cannabina</i>
Long-eared Owl	<i>Asio otus</i>
Long-tailed Tit	<i>Aegithalos caudatus</i>
Magpie	<i>Pica pica</i>
Mallard	<i>Anas platyrhynchos</i>
Meadow Pipit	<i>Anthus pratensis</i>
Merlin	<i>Falco columbarius</i>

Common Name	Scientific Name
Mistle Thrush	<i>Turdus viscivorus</i>
Nightjar	<i>Caprimulgus europaeus</i>
Nuthatch	<i>Sitta europaea</i>
Peregrine	<i>Falco peregrinus</i>
Pied Flycatcher	<i>Ficedula hypoleuca</i>
Pied Wagtail	<i>Motacilla alba</i>
Raven	<i>Corvus corax</i>
Red Grouse	<i>Lagopus lagopus</i>
Red Kite	<i>Milvus milvus</i>
Redstart	<i>Phoenicurus phoenicurus</i>
Redwing	<i>Turdus iliacus</i>
Reed Bunting	<i>Emberiza schoeniclus</i>
Robin	<i>Erithacus rubecula</i>
Rook	<i>Corvus frugilegus</i>
Siskin	<i>Spinus spinus</i>
Skylark	<i>Alauda arvensis</i>
Snipe	<i>Gallinago gallinago</i>
Song Thrush	<i>Turdus philomelos</i>
Sparrowhawk	<i>Accipiter nisus</i>
Starling	<i>Sturnus vulgaris</i>
Stock Dove	<i>Columba oenas</i>
Stonechat	<i>Saxicola rubicola</i>
Swallow	<i>Hirundo rustica</i>
Swift	<i>Apus apus</i>
Tawny Owl	<i>Strix aluco</i>
Tree Pipit	<i>Anthus trivialis</i>
Treecreeper	<i>Certhia familiaris</i>
Wheatear	<i>Oenanthe oenanthe</i>
Whinchat	<i>Saxicola rubetra</i>
Willow Warbler	<i>Phylloscopus trochilus</i>
Woodcock	<i>Scolopax rusticola</i>
Woodpigeon	<i>Columba palumbus</i>
Wren	<i>Troglodytes troglodytes</i>

## Annex EDP 9.3 Results of Breeding Bird Survey 2021

**Table EDP A9.3.1:** Summary of Activity During Breeding Bird Survey 2021

Common Name	Scientific Name	Sch 1	BoCCW Status	Priority Species <sup>43</sup>	EOAC Status <sup>44</sup>	Est. Breeding Pop/Pop Status	Study Area Status
Red Grouse	<i>Lagopus lagopus</i>		Red	✓	PR	1-2 pairs north of the Survey Boundary	Recorded in April, May and July 2021 with a pair recorded in April and single birds in the subsequent months. All three records located in a similar location within moorland to the north of the Survey Boundary
Swift	<i>Apus apus</i>		Red		NB	-	Foraging inside Survey Boundary
Cuckoo	<i>Cuculus canorus</i>		Red	✓	PO	1-2 pairs	Likely parasitising meadow pipit. Recorded calling from woodland edge habitats within and to the north of the Survey Boundary on three occasions
Stock Dove	<i>Columba oenas</i>		Green		PR	1-2 pairs	A pair recorded in suitable breeding habitat to the north of the Survey Boundary during the April survey
Woodpigeon	<i>Columba palumbus</i>		Green		PR	5-7 pairs	A total of 29 birds recorded across the breeding bird surveys in individuals and small groups.
Herring Gull	<i>Larus argentatus</i>		Red	✓	NB	-	Registrations limited to fly-overs and occasional foraging only
Lesser Black-backed Gull	<i>Larus fuscus graellsii</i>		Red		NB	-	Registrations limited to fly-overs and occasional foraging only

<sup>43</sup> Section 7 of Environment (Wales) Act 2016

<sup>44</sup> CB – confirmed breeding, PR – probable breeding, PO – possible breeding & NB – non-breeding.

Common Name	Scientific Name	Sch 1	BoCCW Status	Priority Species <sup>43</sup>	EOAC Status <sup>44</sup>	Est. Breeding Pop/Pop Status	Study Area Status
Red Kite	<i>Milvus milvus</i>	✓	Green		CB	1-2 pairs	Nest recorded close to the south-east of the Survey Boundary
Buzzard	<i>Buteo buteo</i>		Green		CB	1-3 pairs	Recorded on nearly every breeding bird survey with juveniles and nest locations recorded within and adjacent to the Survey Boundary
Great Spotted Woodpecker	<i>Dendrocopos major</i>		Green		PO	3-5 pairs	Present in plantations
Green Woodpecker	<i>Picus viridis</i>		Amber		PO	1-2 pairs	Recorded on every survey in woodland edge and open ground habitats
Kestrel	<i>Falco tinnunculus</i>		Red	✓	PR	0-1 pair	Only one female recorded during the breeding bird surveys but a pair was observed during the breeding season on a separate survey
Peregrine	<i>Falco peregrinus</i>	✓	Green		CB	1 pair	Nest located in the quarry within the Survey Boundary
Jay	<i>Garrulus glandarius</i>		Green		PO	1 pair	One recorded within suitable nesting habitat
Magpie	<i>Pica pica</i>		Green		PO	1-3 pairs	Present in plantations
Jackdaw	<i>Corvus monedula</i>		Green		CB	5-15 pairs	Recorded nesting in quarry to the north-east of the Survey Boundary. Likely to be nesting in trees within the Survey Boundary and in farm buildings adjacent to the Survey Boundary
Carrion Crow	<i>Corvus corone</i>		Green		PR	10-20 pairs	Individuals and small flocks in plantations and scattered large trees across the Study Area

Common Name	Scientific Name	Sch 1	BoCCW Status	Priority Species <sup>43</sup>	EOAC Status <sup>44</sup>	Est. Breeding Pop/Pop Status	Study Area Status
Raven	<i>Corvus corax</i>		Green		CB	5-10 pairs	Nests recorded to the north of the Survey Boundary and pairs recorded within the Survey Boundary
Coal Tit	<i>Periparus ater</i>		Green		CB	4-6 pairs	Present in plantations
Blue Tit	<i>Cyanistes caeruleus</i>		Green		PR	10-20 pairs	Present in plantations
Great Tit	<i>Parus major</i>		Green		PO	5-10 pairs	Present in plantations
Skylark	<i>Alauda arvensis</i>		Amber	✓	CB	20-40 pairs	Very common in all grassland and moorland areas
Swallow	<i>Hirundo rustica</i>		Green		NB	-	Breeding away from Study Area, feeding over moorland and grassland
Willow Warbler	<i>Phylloscopus trochilus</i>		Red		PR	4-6 pairs	Recorded in plantations and woodland edge habitats
Chiffchaff	<i>Phylloscopus collybita</i>		Green		CB	4-6 pairs	Recorded in plantation and woodland edge habitats
Blackcap	<i>Sylvia atricapilla</i>		Green		PO	1-2 pairs	Single male recorded singing within the Survey Boundary
Goldcrest	<i>Regulus regulus</i>		Red		CB	3-6 pairs	Present in plantations
Wren	<i>Troglodytes troglodytes</i>		Green		CB	20-30 pairs	Recorded in plantation and edge habitats
Nuthatch	<i>Sitta europaea</i>		Green		PO	1-3 pairs	Recorded on three of the four surveys within plantations

Common Name	Scientific Name	Sch 1	BoCCW Status	Priority Species <sup>43</sup>	EOAC Status <sup>44</sup>	Est. Breeding Pop/Pop Status	Study Area Status
Starling	<i>Sturnus vulgaris</i>		Red	✓	NB	-	Small numbers recorded foraging only, including juveniles. Likely to be breeding within the wider area
Song Thrush	<i>Turdus philomelos</i>		Green	✓	CB	7-10 pairs	Recorded singing from scattered trees and plantation edge habitats across the Study Area
Mistle Thrush	<i>Turdus viscivorus</i>		Amber		PR	2-4 pairs	Recorded on all surveys across the Study Area
Blackbird	<i>Turdus merula</i>		Green		CB	15-25 pairs	Widespread in plantations and scrub habitats across the Survey Boundary and in the north-east of the Study Area, with juveniles recorded
Robin	<i>Erithacus rubecula</i>		Green		CB	7-10 pairs	Widespread in plantations and scrub habitats across the Survey Boundary and in the north-east of the Study Area, with juveniles recorded
Pied Flycatcher	<i>Ficedula hypoleuca</i>		Amber	✓	PR	1 pair	Two recorded during the May survey, including a singing male, located within trees in the north of the Survey Boundary
Redstart	<i>Phoenicurus phoenicurus</i>		Green		CB	2-5 pairs	Recorded on every survey
Whinchat	<i>Saxicola rubetra</i>		Red		PR	1-2 pairs	One recorded in both June and July from same location within moorland/grassland habitats in the north-east of the Study Area
Stonechat	<i>Saxicola rubicola</i>		Green		CB	10–15 pairs	Pairs recorded throughout moorland and grassland habitats
Wheatear	<i>Oenanthe oenanthe</i>		Amber		CB	10 -15 pairs	Pairs and juveniles recorded within moorland/grassland habitats
Dunnock	<i>Prunella modularis</i>		Green	✓	PR	10-15 pairs	Recorded in plantations and scrub habitats across the Survey Boundary and in the north-east of the Study Area

Common Name	Scientific Name	Sch 1	BoCCW Status	Priority Species <sup>43</sup>	EOAC Status <sup>44</sup>	Est. Breeding Pop/Pop Status	Study Area Status
Pied Wagtail	<i>Motacilla alba yarrellii</i>		Green		CB	5-7 pairs	Recorded around the edges of the Survey Boundary on every survey
Meadow Pipit	<i>Anthus pratensis</i>		Red		CB	20-40 pairs	Widespread in moorland and grassland habitats
Tree Pipit	<i>Anthus trivialis</i>		Amber	✓	PR	2-5 pairs	Seven recorded across the first two surveys only, including a pair and five singing males. Recorded within the centre and north of the Survey Boundary
Chaffinch	<i>Fringilla coelebs</i>		Amber		PR	20-25 pairs	Widespread in plantations
Bullfinch	<i>Pyrrhula pyrrhula</i>		Red	✓	CB	1-2 pairs	Bred in plantation edge habitat
Greenfinch	<i>Chloris chloris</i>		Red		PO	1-2 pairs	Single bird recorded calling within woodland edge habitat in the centre of the Survey Boundary
Linnet	<i>Carduelis cannabina</i>		Red	✓	CB	5-10 pairs	Recorded on every survey within grassland habitat
Goldfinch	<i>Carduelis carduelis</i>		Green		CB	15-25 pairs	Widespread in plantations and scattered trees
Siskin	<i>Carduelis spinus</i>		Green		PO	5-8 pairs	Recorded on every survey, in plantation edge habitats
Reed Bunting	<i>Emberiza schoeniclus</i>		Green	✓	PR	2-4 pairs	Recorded on the first two surveys only, in moorland habitats within the Survey Boundary

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## Annex EDP 9.4

### Vantage Point Survey Flightline Data

**Table EDP 9.4.1:** Key to Target Species Codes

Species Code/Description	Species
CA	Cormorant ( <i>Phalacrocorax carbo</i> )
GI	Goshawk ( <i>Accipiter gentilis</i> )
H.	Grey heron ( <i>Ardea cinerea</i> )
HG	Herring gull ( <i>Larus argentatus</i> )
HH	Hen harrier ( <i>Circus cyaneus</i> )
K.	Kestrel ( <i>Falco tinnunculus</i> )
KT	Red kite ( <i>Milvus milvus</i> )
LB	Lesser black-backed gull ( <i>Larus fuscus</i> )
'Mixed <i>Larus</i> species'	Mixed flock of herring and lesser black-backed gull
ML	Merlin ( <i>Falco columbarius</i> )
PE	Peregrine ( <i>Falco peregrinus</i> )
SN	Snipe ( <i>Gallinago gallinago</i> )

**Table EDP 9.4.2:** Vantage Point (VP) Data for Target Species During Breeding Season 2020 (HB = height band)

Date	VP	Species	Count	Start Time	Total duration (s)	HB 1 (s)	HB2 (CRZ) (s)	HB3 (s)
30/04/2020	1	KT	2	15:31	105	105	0	0
30/04/2020	1	KT	1	15:38	30	30	0	0
30/04/2020	1	KT	1	15:43	45	45	0	0
30/04/2020	2	LB	1	17:44	60	45	15	0
30/04/2020	2	KT	2	18:27	75	0	60	15
30/04/2020	3	LB	2	12:46	45	0	30	15
30/04/2020	3	KT	1	13:15	300	180	120	0
11/05/2020	1	KT	1	11:02	75	0	75	0
11/05/2020	1	KT	1	11:36	45	45	0	0
11/05/2020	1	KT	1	12:59	60	60	0	0
11/05/2020	2	LB	3	10:40	30	0	30	0
11/05/2020	2	HG	9	12:25	90	75	15	0
11/05/2020	2	KT	1	12:47	240	105	135	0
15/05/2020	3	LB	2	06:02	45	0	45	0
15/05/2020	3	KT	1	06:24	60	0	60	0
15/05/2020	3	KT	1	07:49	150	0	90	60
15/05/2020	3	PE	1	08:37	65	0	45	15
26/05/2020	1	HG	5	08:57	180	60	120	0
26/05/2020	1	LB	2	09:26	45	0	45	0
26/05/2020	1	HG	1	09:50	30	0	15	15
26/05/2020	1	HG	3	10:30	60	30	30	0
26/05/2020	1	KT	1	10:33	240	0	75	165
26/05/2020	1	HG	18	10:33	120	30	60	30
26/05/2020	1	HG	10	10:45	420	90	210	120
26/05/2020	1	HG	33	11:08	600	150	300	150
26/05/2020	1	HG	2	11:30	60	15	45	0
26/05/2020	2	LB	2	09:02	45	15	30	0
26/05/2020	2	LB	3	09:43	15	0	15	0
26/05/2020	2	HG	1	10:40	120	90	30	0

Date	VP	Species	Count	Start Time	Total duration (s)	HB 1 (s)	HB2 (CRZ) (s)	HB3 (s)
26/05/2020	2	HG	1	10:44	75	45	30	0
26/05/2020	2	HG	1	11:10	30	15	15	0
26/05/2020	2	GI	1	11:24	30	30	0	0
26/05/2020	2	KT	1	11:27	120	0	120	0
26/05/2020	2	KT	1	11:31	45	45	0	0
26/05/2020	2	KT	1	11:40	75	45	30	0
26/05/2020	2	KT	1	11:48	45	45	0	0
26/05/2020	3	HG	1	12:21	45	0	15	30
26/05/2020	3	HG	2	12:27	60	15	45	0
26/05/2020	3	KT	1	13:17	240	30	120	90
26/05/2020	3	KT	1	13:48	105	30	30	45
08/06/2020	1	HG	1	13:08	45	0	15	30
08/06/2020	1	HG	1	13:29	45	15	30	0
08/06/2020	1	HG	1	13:49	15	15	0	0
08/06/2020	1	HG	1	14:28	60	0	60	0
08/06/2020	1	LB	1	14:48	30	0	30	0
08/06/2020	1	LB	1	14:55	15	0	0	15
08/06/2020	1	LB	1	15:08	35	15	15	0
08/06/2020	1	KT	1	15:29	30	30	0	0
08/06/2020	1	KT	1	15:33	30	30	0	0
08/06/2020	1	KT	1	15:42	45	0	45	0
08/06/2020	2	LB	2	09:21	75	15	45	15
08/06/2020	2	LB	1	09:25	30	0	30	0
08/06/2020	2	HG	1	09:29	45	0	45	0
08/06/2020	2	HG	60	09:34	-	0	0	0
08/06/2020	2	LB	35	09:34	-	0	0	0
08/06/2020	2	LB	2	09:54	30	15	15	0
08/06/2020	2	KT	1	10:06	60	15	45	0
08/06/2020	2	LB	1	10:13	10	0	15	0
08/06/2020	2	LB	3	10:19	30	0	30	0
08/06/2020	2	LB	1	10:28	15	0	15	0
08/06/2020	2	KT	1	10:51	15	0	15	0
08/06/2020	2	HG	2	11:47	40	0	15	15
08/06/2020	2	GI	1	09:33	45	0	45	0
08/06/2020	3	HG	6	-	630	0	120	510
15/06/2020	1	K.	1	14:13	30	0	30	0
15/06/2020	1	HG	1	14:47	30	0	30	0
15/06/2020	1	HG	1	16:23	30	0	30	0
15/06/2020	2	LB	1	18:23	15	0	15	0
15/06/2020	2	K.	1	18:25	120	30	90	0
15/06/2020	2	KT	1	19:10	90	0	90	0
15/06/2020	2	KT	1	19:12	60	60	0	0
15/06/2020	2	PE	1	19:18	45	0	15	30
15/06/2020	2	KT	1	19:26	60	60	0	0
15/06/2020	3	LB	1	17:17	30	0	0	30
15/06/2020	3	LB	1	18:30	60	30	30	0
15/06/2020	3	HG	1	19:12	15	0	15	0
15/06/2020	3	HG	1	19:15	30	0	0	30
29/06/2020	1	HG	1	10:41	30	0	30	0
29/06/2020	1	LB	1	12:17	30	0	30	0
29/06/2020	2	HG	3	17:37	45	0	45	0
29/06/2020	2	KT	1	17:59	45	45	0	0
29/06/2020	2	KT	1	18:37	60	15	45	0

Date	VP	Species	Count	Start Time	Total duration (s)	HB 1 (s)	HB2 (CRZ) (s)	HB3 (s)
29/06/2020	2	KT	1	19:12	75	75	0	0
29/06/2020	2	PE	1	19:23	45	0	0	45
29/06/2020	2	KT	1	19:42	45	45	0	0
01/07/2020	3	HG	3	16:03	30	0	30	0
01/07/2020	3	KT	1	17:15	30	0	30	0
06/07/2020	1	HG	1	18:19	45	0	30	15
06/07/2020	1	LB	1	19:52	20	15	0	0
06/07/2020	1	KT	1	20:17	90	90	0	0
06/07/2020	1	KT	1	20:24	30	30	0	0
06/07/2020	1	PE	1	20:33	30	0	30	0
07/07/2020	2	HG	1	14:41	45	0	45	0
06/07/2020	3	LB	1	18:45	15	0	15	0
20/07/2020	1	HG	1	15:16	45	0	0	45
20/07/2020	1	KT	1	17:29	45	45	0	0
20/07/2020	1	KT	1	17:51	60	0	60	0
20/07/2020	1	PE	1	18:02	45	0	45	0
20/07/2020	2	KT	1	13:12	30	0	0	30
20/07/2020	2	HG	1	14:31	60	0	30	30
31/07/2020	1	PE	1	07:32	105	15	45	45
31/07/2020	1	LB	2	07:41	15	15	0	0
31/07/2020	1	K.	1	08:52	45	30	15	0
31/07/2020	2	LB	1	13:12	30	0	0	30
31/07/2020	2	KT	1	13:20	90	30	60	0
31/07/2020	2	KT	1	14:01	60	0	60	0
31/07/2020	2	PE	1	14:11	30	0	30	0
31/07/2020	3	LB	1	11:33	120	0	120	0
31/07/2020	3	LB	1	12:17	45	0	45	0
07/08/2020	1	CA	1	06:33	30	15	15	0
07/08/2020	1	LB	1	07:01	30	0	0	30
07/08/2020	1	LB	1	07:27	45	0	15	30
07/08/2020	1	LB	1	07:41	15	0	15	0
07/08/2020	1	LB	1	07:59	30	0	0	30
07/08/2020	1	HG	1	08:16	45	0	0	45
10/08/2020	2	LB	1	13:50	45	0	45	0
10/08/2020	2	KT	1	14:51	90	15	30	45
10/08/2020	2	PE	1	15:51	30	0	15	15
10/08/2020	3	KT	1	10:57	45	0	45	0
10/08/2020	3	LB	3	11:06	15	0	15	0
10/08/2020	3	HG	1	12:08	15	0	15	0
18/08/2020	1	PE	1	17:16	20	15	0	0
18/08/2020	1	HG	1	17:51	20	0	0	15
21/08/2020	2	LB	2	08:01	30	0	0	30
18/08/2020	3	LB	3	17:11	45	0	45	0
18/08/2020	3	KT	1	17:16	240	90	150	0
18/08/2020	3	KT	1	17:26	300	300	0	0
18/08/2020	3	KT	1	17:42	15	0	0	15
18/08/2020	3	LB	6	17:31	30	0	30	0
18/08/2020	3	LB	7	17:54	30	30	0	0
18/08/2020	3	PE	1	18:45	60	0	60	0
18/08/2020	3	LB	1	19:10	15	15	0	0
18/08/2020	3	LB	2	19:24	60	0	60	0
18/08/2020	3	LB	1	19:40	30	0	30	0
18/08/2020	3	LB	26	19:47	45	0	45	0

Date	VP	Species	Count	Start Time	Total duration (s)	HB 1 (s)	HB2 (CRZ) (s)	HB3 (s)
24/08/2020	1	LB	1	17:16	30	0	0	30
24/08/2020	1	HG	3	18:17	45	0	0	45
24/08/2020	1	LB	1	18:37	30	0	30	0
24/08/2020	1	LB	3	19:03	45	0	0	45
28/08/2020	2	K.	1	17:59	90	0	90	0
28/08/2020	2	HG	1	18:12	45	0	0	45
28/08/2020	2	H.	1	18:19	15	15	0	0
28/08/2020	2	LB	2	19:15	30	0	30	0
28/08/2020	2	KT	1	19:41	30	0	30	0
28/08/2020	2	KT	1	19:55	60	60	0	0
24/08/2020	3	HG	3	18:14	30	0	30	0
24/08/2020	3	LB	2	19:08	30	0	30	0
24/08/2020	3	HG	1	19:08	30	0	30	0

**Table EDP 9.4.3:** Vantage Point (VP) Data for Target Species During Non-breeding Season 2020–2021  
(HB = height band)

Date	VP	Species	Count	Start Time	Total duration (s)	HB 1 (s)	HB2 (CRZ) (s)	HB3 (s)
07/09/2020	1	LB	1	13:50	45	0	45	0
07/09/2020	2	K.	1	09:47	75	0	15	60
07/09/2020	2	LB	1	10:23	30	0	0	30
07/09/2020	3	K.	1	14:16	240	180	60	0
07/09/2020	3	LB	1	15:18	15	15	0	0
07/09/2020	3	HG	4	15:25	45	45	0	0
07/09/2020	3	HG	2	15:47	120	0	60	60
07/09/2020	3	LB	2	15:47	120	0	60	60
16/09/2020	1	K.	1	11:45	45	0	15	30
16/09/2020	1	K.	1	12:09	45	30	15	0
16/09/2020	1	K.	1	12:37	60	0	0	60
16/09/2020	1	KT	1	12:48	30	30	0	0
16/09/2020	1	KT	1	13:01	60	0	30	30
16/09/2020	1	K.	1	13:22	30	0	30	0
16/09/2020	1	K.	1	14:36	120	30	90	0
16/09/2020	2	K.	1	12:29	30	0	30	0
16/09/2020	2	K.	1	12:52	180	60	120	0
16/09/2020	2	K.	2	13:37	60	60	0	0
16/09/2020	2	K.	2	14:25	240	150	90	0
16/09/2020	2	K.	1	14:55	120	120	0	0
16/09/2020	3	LB	22	07:44	15	15	0	0
16/09/2020	3	LB	2	07:59	15	15	0	0
16/09/2020	3	PE	1	08:17	30	0	0	30
16/09/2020	3	LB	2	09:11	45	0	15	30
13/10/2020	1	KT	2	11:55	225	45	165	15
13/10/2020	1	PE	1	12:14	30	15	15	0
13/10/2020	1	KT	1	12:20	90	0	0	90
13/10/2020	1	KT	1	12:51	435	120	195	120
07/10/2020	2	KT	1	09:07	60	0	0	60
08/10/2020	3	KT	1	11:03	60	15	30	15
08/10/2020	3	KT	1	12:27	45	30	15	0
22/10/2020	1	K.	1	12:23	15	15	0	0
22/10/2020	1	Mixed <i>Larus</i> spp.	3	12:40	30	0	0	30
20/10/2020	2	CA	1	11:30	60	60	0	0
20/10/2020	2	HG	2	12:02	45	0	0	45
20/10/2020	3	Mixed <i>Larus</i> spp.	60	09:30	180	0	180	0

Date	VP	Species	Count	Start Time	Total duration (s)	HB 1 (s)	HB2 (CRZ) (s)	HB3 (s)
06/11/2020	1	KT	1	09:07	225	120	105	0
06/11/2020	1	PE	1	09:28	30	0	30	0
06/11/2020	2	K.	1	10:47	75	0	60	15
06/11/2020	2	K.	1	11:23	105	0	0	105
06/11/2020	3	K.	1	12:36	60	60	0	0
06/11/2020	3	Mixed <i>Larus</i> spp.	5	13:11	30	0	30	0
26/11/2020	2	KT	1	11:22	135	15	90	30
26/11/2020	2	PE	1	12:41	30	0	30	0
26/11/2020	2	HH	1	13:17	60	60	0	0
26/11/2020	3	KT	1	12:04	105	15	90	0
26/11/2020	3	KT	1	12:06	420	0	420	0
26/11/2020	3	KT	1	12:18	1020	0	1020	0
26/11/2020	3	ML	1	13:30	15	15	0	0
26/11/2020	3	LB	1	13:48	45	0	45	0
26/11/2020	3	LB	1	14:15	30	30	0	0
26/11/2020	3	KT	1	14:15	15	0	15	0
14/12/2020	1	KT	1	13:05	60	60	0	0
14/12/2020	1	KT	1	13:24	90	60	30	0
14/12/2020	1	KT	1	13:47	30	0	30	0
14/12/2020	1	HG	1	14:19	90	0	0	90
14/12/2020	1	KT	1	14:43	30	15	15	0
14/12/2020	1	KT	1	14:54	90	0	75	15
14/12/2020	2	HG	2	09:12	30	0	30	0
14/12/2020	2	KT	1	09:22	75	15	60	0
14/12/2020	2	KT	1	09:58	45	15	30	0
14/12/2020	3	KT	1	15:14	120	0	120	0
05/01/2021	2	KT	1	12:22	45	0	45	0
05/01/2021	3	KT	1	11:30	30	0	30	0
05/01/2021	3	KT	1	11:51	75	75	0	0
05/01/2021	3	LB	2	12:06	120	0	120	0
05/01/2021	3	LB	5	13:10	15	0	15	0
05/01/2021	3	KT	1	13:33	120	0	120	0
05/01/2021	3	LB	2	13:34	30	0	30	0
05/01/2021	3	LB	1	13:45	120	0	120	0
09/02/2021	1	PE	1	10:37	15	0	0	15
09/02/2021	1	PE	1	11:48	75	0	0	75
09/02/2021	3	SN	2	12:35	15	15	0	0
09/02/2021	3	H.	1	14:41	30	0	30	0
09/02/2021	3	KT	1	15:21	90	75	15	0
12/02/2021	2	GI	1	11:59	60	15	45	0
11/02/2021	3	LB	1	10:00	30	30	0	0
11/02/2021	3	KT	1	10:10	30	30	0	0
11/02/2021	3	KT	1	11:38	45	30	15	0
11/02/2021	3	SN	1	12:15	60	45	15	0
11/02/2021	3	LB	1	12:32	120	0	120	0
05/03/2021	1	KT	1	13:07	105	105	0	0
05/03/2021	1	KT	1	13:34	45	45	0	0
05/03/2021	1	LB	3	13:51	165	0	165	0
05/03/2021	1	KT	2	13:50	135	0	0	135
05/03/2021	1	KT	2	14:01	225	45	120	60
05/03/2021	1	HH	1	14:26	45	45	0	0
06/03/2021	2	KT	2	07:01	60	15	45	0
06/03/2021	2	KT	1	07:53	45	0	45	0
06/03/2021	2	PE	1	08:27	30	0	0	30
05/03/2021	3	KT	1	12:25	60	60	0	0

Date	VP	Species	Count	Start Time	Total duration (s)	HB 1 (s)	HB2 (CRZ) (s)	HB3 (s)
05/03/2021	3	KT	1	13:55	30	30	0	0
05/03/2021	3	LB	3	15:07	15	0	15	0
22/03/2021	1	KT	1	16:16	75	75	0	0
22/03/2021	1	PE	1	18:04	45	0	45	0
22/03/2021	2	GI	1	13:56	135	0	15	120
22/03/2021	2	KT	1	14:14	75	30	45	0
22/03/2021	2	KT	1	14:38	45	0	0	45
22/03/2021	3	KT	1	12:59	30	0	30	0

**Table EDP 9.4.4:** Vantage Point (VP) Data for Target Species During Breeding Season 2021 (HB = height band)

Date	VP	Species	Count	Start Time	Total duration (s)	HB 1 (s)	HB2 (CRZ) (s)	HB3 (s)
06/04/2021	1	HG	1	11:23	45	0	45	0
12/04/2021	2	H.	2	08:01	60	60	0	0
12/04/2021	2	KT	1	08:23	165	45	120	0
12/04/2021	2	GI	1	09:06	45	0	45	0
12/04/2021	3	HG	1	10:33	15	15	0	0
12/04/2021	3	KT	1	10:41	240	0	240	0
12/04/2021	3	Mixed <i>Larus</i> spp.	15	10:51	30	0	30	0
12/04/2021	3	HH	1	11:32	30	15	15	0
12/04/2021	3	Mixed <i>Larus</i> spp.	14	11:50	180	0	180	0
12/04/2021	3	KT	1	13:09	60	0	60	0
12/04/2021	1	LB	2	10:52	30	30	0	0
12/04/2021	1	LB	7	11:15	60	60	0	0
12/04/2021	1	Mixed <i>Larus</i> spp.	13	11:47	75	75	0	0
12/04/2021	1	LB	1	11:59	30	0	30	0
23/04/2021	2	K.	1	14:07	30	0	30	0
23/04/2021	2	KT	1	14:51	180	0	180	0
23/04/2021	2	LB	2	16:54	30	0	30	0
23/04/2021	3	LB	4	14:03	45	0	45	0
23/04/2021	3	LB	1	14:34	15	15	0	0
23/04/2021	3	HG	1	14:54	75	75	0	0
23/04/2021	3	HG	5	14:59	120	0	120	0
23/04/2021	3	LB	1	15:11	150	150	0	0
23/04/2021	3	HG	1	16:15	30	0	30	0
06/05/2021	1	KT	1	11:56	45	45	0	0
06/05/2021	1	HG	2	13:12	90	75	15	0
06/05/2021	1	HG	1	13:48	45	0	45	0
07/05/2021	2	KT	1	13:30	135	105	30	0
07/05/2021	2	KT	1	13:46	60	60	0	0
07/05/2021	3	HG	2	15:12	60	0	60	0
07/05/2021	3	HG	2	16:31	120	0	120	0
19/05/2021	1	HG	3	14:11	30	30	0	0
19/05/2021	2	LB	1	16:17	30	30	0	0
19/05/2021	2	LB	2	16:21	60	60	0	0
19/05/2021	2	LB	1	16:51	15	15	0	0
19/05/2021	2	HG	2	16:58	45	45	0	0
19/05/2021	2	KT	1	17:09	90	90	0	0
19/05/2021	2	HG	3	17:23	30	30	0	0
19/05/2021	2	LB	1	17:39	45	45	0	0
12/05/2021	3	KT	1	13:41	30	30	0	0
12/05/2021	3	LB	1	14:12	15	0	15	0
12/05/2021	3	LB	1	14:15	150	0	150	0

Date	VP	Species	Count	Start Time	Total duration (s)	HB 1 (s)	HB2 (CRZ) (s)	HB3 (s)
12/05/2021	3	HG	1	14:32	15	0	15	0
12/05/2021	3	Mixed Larus spp.	1	14:46	15	0	15	0
12/05/2021	3	KT	1	15:42	120	0	120	0
28/05/2021	2	KT	1	05:11	60	60	0	0
28/05/2021	2	LB	3	05:19	75	75	0	0
28/05/2021	2	PE	1	05:40	120	0	120	0
28/05/2021	2	HG	2	05:53	45	0	45	0
28/05/2021	2	HG	1	06:27	60	0	60	0
28/05/2021	2	LB	2	06:39	90	60	30	0
28/05/2021	2	HG	3	06:44	30	0	30	0
28/05/2021	2	LB	5	07:01	30	30	0	0
28/05/2021	2	PE	1	07:45	60	0	60	0
28/05/2021	2	KT	1	07:56	90	60	30	0
28/05/2021	2	LB	2	07:59	30	0	30	0
26/05/2021	1	PE	1	14:36	60	15	45	0
26/05/2021	1	HG	1	15:06	45	0	45	0
26/05/2021	1	LB	1	15:11	135	0	135	0
26/05/2021	1	LB	1	15:20	60	30	30	0
26/05/2021	1	LB	1	16:10	150	0	150	0
26/05/2021	1	HG	3	16:27	30	15	15	0
26/05/2021	1	HG	1	16:46	45	45	0	0
30/05/2021	3	HG	2	07:06	60	60	0	0
30/05/2021	3	PE	1	07:12	60	30	30	0
30/05/2021	3	LB	3	07:30	150	0	150	0
30/05/2021	3	LB	1	07:33	45	45	0	0
30/05/2021	3	HG	2	07:50	75	0	75	0
30/05/2021	3	K.	1	08:42	45	0	45	0
30/05/2021	3	LB	3	09:25	105	30	75	0
01/06/2021	1	Mixed Larus spp.	5	08:43	60	45	15	0
01/06/2021	1	LB	4	09:09	270	90	180	0
01/06/2021	1	HG	2	09:16	45	45	0	0
01/06/2021	1	LB	1	09:44	60	45	15	0
01/06/2021	1	HG	36	10:26	240	0	75	165
01/06/2021	1	LB	2	10:28	120	90	30	0
03/06/2021	2	HG	1	15:09	90	0	90	0
03/06/2021	2	KT	1	15:14	210	30	180	0
03/06/2021	2	Mixed Larus spp.	23	15:49	150	0	90	60
03/06/2021	2	KT	1	15:58	75	0	75	0
03/06/2021	2	KT	1	16:12	90	90	0	0
03/06/2021	2	LB	1	16:16	75	0	75	0
03/06/2021	2	HG	3	16:18	90	60	30	0
03/06/2021	2	KT	1	16:21	120	120	0	0
03/06/2021	2	PE	1	16:24	75	15	60	0
03/06/2021	3	LB	1	14:35	45	0	45	0
03/06/2021	3	LB	2	15:05	30	0	30	0
03/06/2021	3	LB	1	15:45	30	0	30	0
03/06/2021	3	LB	4	16:23	30	0	30	0
04/06/2021	1	HG	1	06:47	60	45	15	0
04/06/2021	1	HG	2	07:24	30	30	0	0
04/06/2021	1	HG	1	07:36	60	60	0	0
04/06/2021	1	HG	2	07:49	90	90	0	0
04/06/2021	1	HG	1	07:53	15	15	0	0
04/06/2021	1	LB	1	08:30	60	30	30	0
04/06/2021	1	HG	1	08:30	60	60	0	0
04/06/2021	1	HG	3	08:38	60	45	15	0

Date	VP	Species	Count	Start Time	Total duration (s)	HB 1 (s)	HB2 (CRZ) (s)	HB3 (s)
04/06/2021	1	HG	1	08:39	15	15	0	0
04/06/2021	2	HG	3	06:38	75	0	75	0
04/06/2021	2	HG	1	06:50	90	0	90	0
04/06/2021	2	LB	1	07:30	60	0	60	0
04/06/2021	2	HG	2	07:48	120	0	120	0
04/06/2021	2	Mixed <i>Larus</i> spp.	12	08:02	60	0	60	0
04/06/2021	2	LB	2	08:10	135	120	15	0
04/06/2021	2	Mixed <i>Larus</i> spp.	17	08:16	180	90	90	0
04/06/2021	2	LB	5	08:24	60	60	0	0
04/06/2021	2	Mixed <i>Larus</i> spp.	17	08:32	90	90	0	0
04/06/2021	2	KT	1	08:41	180	0	180	0
04/06/2021	2	LB	8	08:46	90	0	90	0
04/06/2021	2	HG	10	08:50	120	90	30	0
04/06/2021	2	KT	1	08:59	75	75	0	0
04/06/2021	2	HG	5	09:07	45	0	45	0
04/06/2021	2	Mixed <i>Larus</i> spp.	20	09:10	225	0	0	225
09/06/2021	3	HG	2	17:50	60	0	60	0
09/06/2021	3	LB	1	18:20	90	0	90	0
09/06/2021	3	HG	2	18:37	60	60	0	0
09/06/2021	3	LB	3	19:10	75	0	75	0
15/06/2021	1	HG	17	10:13	20	15	0	0
15/06/2021	1	K.	2	10:28	31	15	0	0
15/06/2021	1	HG	12	10:47	25	15	0	0
15/06/2021	1	HG	11	11:17	27	15	0	0
15/06/2021	1	HG	1	11:26	15	15	0	0
15/06/2021	1	K.	1	11:37	28	15	0	0
15/06/2021	1	HG	7	11:40	26	15	0	0
15/06/2021	1	HG	25	11:45	67	0	60	0
15/06/2021	1	HG	1	12:22	17	0	15	0
15/06/2021	1	HG	1	12:43	12	0	15	0
15/06/2021	2	HG	1	14:49	23	0	15	0
15/06/2021	2	K.	1	15:34	81	15	60	0
16/06/2021	3	HG	3	12:51	31	30	0	0
16/06/2021	3	KT	1	14:03	121	60	60	0
16/06/2021	3	KT	1	14:37	98	45	45	0
29/06/2021	1	HG	2	06:30	45	45	0	0
29/06/2021	1	LB	1	07:18	30	30	0	0
29/06/2021	1	LB	1	07:30	45	45	0	0
29/06/2021	2	LB	1	09:30	30	30	0	0
29/06/2021	3	HG	2	11:40	31	0	30	0
29/06/2021	3	LB	1	11:40	32	0	30	0
29/06/2021	3	HG	1	11:45	16	0	15	0
29/06/2021	3	KT	1	11:49	37	15	15	0
29/06/2021	3	KT	1	11:57	119	30	90	0
29/06/2021	3	HG	1	12:09	27	0	15	0
29/06/2021	3	LB	1	12:16	33	0	30	0
29/06/2021	3	LB	1	12:19	35	0	30	0
29/06/2021	3	HG	2	12:19	37	30	0	0
26/07/2021	3	LB	1	05:56	45	45	0	0
26/07/2021	3	LB	1	06:07	45	45	0	0
30/07/2021	2	HG	2	16:30	60	0	60	0
30/07/2021	2	HG	5	16:41	60	0	60	0
30/07/2021	2	LB	1	16:57	45	0	45	0
30/07/2021	3	KT	1	18:37	30	30	0	0
30/07/2021	3	HG	4	19:01	30	30	0	0



Date	VP	Species	Count	Start Time	Total duration (s)	HB 1 (s)	HB2 (CRZ) (s)	HB3 (s)
30/07/2021	3	HG	8	20:06	30	30	0	0
30/07/2021	3	LB	1	20:28	45	45	0	0
12/08/2021	2	KT	1	18:49	105	30	75	0
12/08/2021	2	GI	1	19:11	30	30	0	0
12/08/2021	3	HG	2	14:00	120	0	120	0
12/08/2021	3	KT	1	14:27	105	45	60	0

**Table EDP 9.4.5:** Vantage Point (VP) Data for Target Species During Non-breeding Season 2021–2022 (HB = height band)

Date	VP	Species	Count	Start Time	Total duration (s)	HB 1 (s)	HB2 (CRZ) (s)	HB3 (s)
13/09/2021	1	K.	1	13:01	136	15	120	0
13/09/2021	1	K.	3	13:21	377	75	420	0
13/09/2021	1	K.	2	13:32	251	0	240	0
13/09/2021	1	K.	1	13:55	342	75	345	0
13/09/2021	1	KT	1	13:59	107	30	75	0
13/09/2021	1	KT	1	14:16	122	30	90	0
14/09/2021	2	K.	1	06:57	240	30	210	0
14/09/2021	2	K.	1	07:11	195	75	120	0
14/09/2021	2	LB	4	07:39	75	0	0	75
14/09/2021	2	KT	1	08:37	120	120	0	0
14/09/2021	2	LB	2	09:27	60	0	60	0
13/09/2021	3	K.	1	15:51	65	0	60	0
13/09/2021	3	K.	1	15:59	567	0	555	0
13/09/2021	3	LB	1	16:36	31	0	0	30
13/09/2021	3	LB	1	16:38	40	0	0	30
17/09/2021	1	K.	1	14:37	17	0	15	0
17/09/2021	1	K.	1	14:54	317	0	315	0
17/09/2021	1	K.	1	15:01	29	0	15	0
17/09/2021	1	GI	1	15:14	46	30	45	0
17/09/2021	1	HG	1	15:22	81	0	0	75
17/09/2021	1	K.	1	16:16	83	0	75	0
17/09/2021	1	HG	1	16:32	46	0	45	0
17/09/2021	3	K.	1	16:40	30	30	0	0
17/09/2021	3	HG	1	17:08	45	45	0	0
17/09/2021	3	K.	1	18:51	120	90	30	0
17/09/2021	3	K.	1	18:55	480	180	300	0
22/09/2021	1	HG	3	17:24	64	0	60	0
22/09/2021	1	KT	1	17:39	47	0	45	0
22/09/2021	1	KT	1	17:51	31	15	15	0
22/09/2021	2	HH	1	13:10	30	30	0	0
24/09/2021	1	HH	1	09:32	16	15	0	0
24/09/2021	1	HH	1	09:35	22	15	0	0
24/09/2021	3	K.	1	13:07	9	15	0	0
24/09/2021	3	K.	1	14:01	27	15	0	0
29/09/2021	1	HG	1	10:39	216	0	210	0
29/09/2021	1	HH	1	10:43	12	15	0	0
29/09/2021	1	K.	1	11:17	276	0	270	0
29/09/2021	1	HH	1	11:21	24	15	0	0
29/09/2021	1	KT	1	11:26	228	0	225	0
29/09/2021	1	K.	1	11:31	66	30	30	0
29/09/2021	3	KT	1	16:46	45	45	0	0
07/10/2021	3	KT	1	16:27	45	45	0	0
15/10/2021	1	KT	1	12:16	673	675	0	0

Date	VP	Species	Count	Start Time	Total duration (s)	HB 1 (s)	HB2 (CRZ) (s)	HB3 (s)
15/10/2021	1	KT	1	12:32	615	0	615	0
15/10/2021	1	KT	2	13:02	736	0	750	0
15/10/2021	1	KT	2	13:17	931	0	930	0
15/10/2021	2	KT	2	13:03	180	180	0	0
15/10/2021	2	KT	2	13:23	240	0	240	0
15/10/2021	3	HG	1	15:01	30	30	0	0
15/10/2021	3	LB	1	15:56	30	30	0	0
20/10/2021	1	KT	2	16:10	612	45	555	0
20/10/2021	1	KT	1	16:26	383	30	345	0
20/10/2021	1	HG	1	16:40	89	0	75	0
20/10/2021	1	LB	3	16:42	33	0	30	0
20/10/2021	1	HG	1	16:43	46	0	45	0
22/10/2021	3	KT	1	13:09	45	15	30	0
26/10/2021	1	KT	2	15:33	49	45	0	0
30/10/2021	3	KT	1	15:03	60	60	0	0
30/10/2021	3	KT	2	15:18	60	0	60	0
13/11/2021	1	KT	1	12:21	73	60	0	0
13/11/2021	1	K.	1	13:26	133	0	120	0
22/11/2021	1	KT	1	11:36	41	30	0	0
22/11/2021	1	GI	1	12:37	20	15	0	0
22/11/2021	1	LB	9	13:36	42	0	30	0
23/11/2021	2	KT	1	11:38	45	45	0	0
23/11/2021	2	KT	1	12:50	30	30	0	0
23/11/2021	3	KT	1	14:08	15	15	0	0
09/12/2021	1	KT	1	11:32	737	0	735	0
09/12/2021	1	KT	1	11:58	107	0	105	0
12/12/2021	3	K.	1	12:58	240	240	0	0
12/12/2021	3	HG	1	14:04	45	0	45	0
12/12/2021	3	K.	1	14:05	45	45	0	0
13/01/2022	2	HG	1	08:57	90	0	90	0
24/01/2022	3	HG	1	10:47	90	0	0	90
24/01/2022	3	HG	1	12:15	45	0	0	45
24/01/2022	3	LB	4	12:39	75	0	45	30
26/01/2022	1	KT	2	11:20	165	30	135	0
26/01/2022	1	KT	1	12:53	120	15	105	0
10/02/2022	1	KT	1	14:30	195	0	195	0
10/02/2022	3	KT	1	12:00	75	0	75	0
10/02/2022	3	LB	3	12:05	15	15	0	0
17/02/2022	2	KT	1	15:08	135	45	90	0
23/02/2022	3	KT	1	12:15	585	240	240	105
23/02/2022	3	KT	1	12:33	240	105	135	0
23/02/2022	3	KT	1	12:56	45	0	0	45
23/02/2022	3	KT	1	13:42	75	0	75	0
18/03/2022	1	KT	1	12:06	628	0	615	0
18/03/2022	1	KT	1	13:07	142	0	135	0
18/03/2022	1	KT	1	14:11	372	0	360	0
18/03/2022	2	KT	1	10:22	30	30	0	0
18/03/2022	3	KT	1	12:22	180	45	135	0
22/03/2022	1	KT	1	12:21	412	285	120	0
22/03/2022	1	LB	5	12:52	221	0	210	0
28/03/2022	1	LB	1	15:12	182	0	180	0
28/03/2022	1	HG	4	15:24	261	0	255	0
28/03/2022	1	K.	1	16:40	573	0	570	0
28/03/2022	1	K.	2	17:01	877	0	870	0
28/03/2022	2	KT	1	10:21	75	75	0	0

Date	VP	Species	Count	Start Time	Total duration (s)	HB 1 (s)	HB2 (CRZ) (s)	HB3 (s)
28/03/2022	2	KT	1	10:55	60	60	0	0
28/03/2022	3	LB	1	12:45	60	30	30	0
05/04/2022	1	LB	1	12:21	53	0	45	0
05/04/2022	2	HG	1	13:01	105	0	105	0
13/04/2022	1	LB	1	14:21	48	0	45	0
13/04/2022	1	LB	1	15:25	37	0	30	0
13/04/2022	1	HG	10	15:27	43	0	30	0
11/04/2022	2	LB	1	11:01	30	0	30	0
11/04/2022	2	KT	1	12:32	30	0	30	0
11/04/2022	2	KT	1	12:59	30	30	0	0
11/04/2022	2	LB	3	12:59	30	0	30	0
11/04/2022	3	LB	3	15:25	60	15	45	0
19/04/2022	1	HG	1	11:57	58	0	30	0
19/04/2022	2	HG	1	10:00	30	0	30	0
19/04/2022	3	KT	1	14:35	45	0	45	0

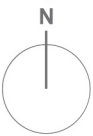
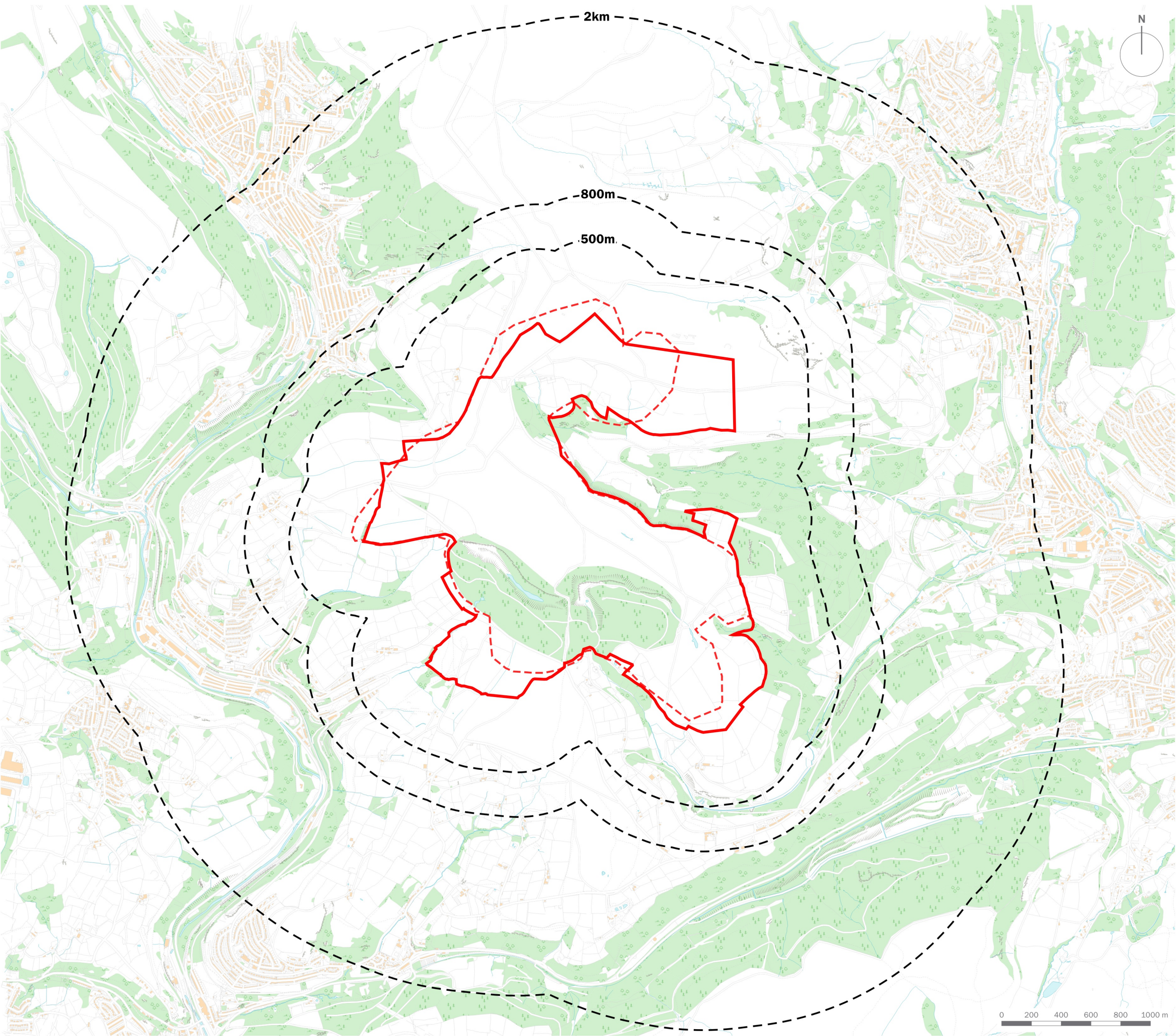
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## Plans

<b>Plan EDP 9.1</b>	Survey Boundary and Study Areas (edp6367_d042a 26 July 2022 MCa/RFo)
<b>Plan EDP 9.2</b>	Phase 1 Habitat Survey (edp6367_d002e 14 August 2024 RBa/KHe)
<b>Plan EDP 9.3</b>	Botanical Survey (edp6367_d016e 14 August 2024 RBa/KHe)
<b>Plan EDP 9.4</b>	Proposed Access Route – Extended Phase 1 Survey, July 2022 (edp6367_d125b 14 August 2024 GYo/KHe)
<b>Plan EDP 9.5</b>	Proposed Grid Connection Corridor – Extended Phase 1 Survey, August 2022 (edp6367_d097c 14 August 2024 GYo/KHe)
<b>Plan EDP 9.6</b>	Vantage Point Locations and Zones of Theoretical Visibility (ZTV) (edp6367_d001c 14 August 2024 MCa/RFo)
<b>Plan EDP 9.7</b>	Moorland Breeding Bird Survey Transect Routes (edp6367_d012a 26 July 2022 MCA/RFo)
<b>Plan EDP 9.8</b>	Raptor Survey Routes and Vantage Points (edp6367_d011a 26 July 2022 MCa/RFo)
<b>Plan EDP 9.9</b>	Nightjar and Owl Survey Transect Routes (edp6367_d010a 26 July 2022 MCa/RFo)
<b>Plan EDP 9.10</b>	Winter Bird Survey Transect Route (edp6367_d043a 26 July 2022 MCa/RFo)
<b>Plan EDP 9.11</b>	Hen Harrier Survey Transect Routes and Vantage Points (edp6367_d044a 26 July 2022 MCa/RFo)
<b>Plan EDP 9.12</b>	International and National Designated Ornithology Sites (edp6367_d069 07 September 2022 MCa/KHe)
<b>Plan EDP 9.13</b>	Non-statutory Designated Sites (edp6367_d015c 22 September 2022 MCa/KHe)
<b>Plan EDP 9.14</b>	Local Designated Ornithology Sites (edp6367_d115 29 June 2022 MCa/RFo)

<b>Plan EDP 9.15</b>	Raptor, Moorland, and Nightjar Breeding Bird Survey Results 2020-2022 (Confidential) (edp6367_d084a 14 August 2024 MCa/RFo)
<b>Plan EDP 9.16a</b>	Raptor Summer Flight Activity – April to August 2020 (edp6367_d085 21 July 2022 MCa/RFo)
<b>Plan EDP 9.16b</b>	Raptor Summer Flight Activity – April to August 2021 (edp6367_d086 21 July 2022 MCa/RFo)
<b>Plan EDP 9.17a</b>	Gulls and Other Notable Species Summer Flight Activity – April to August 2020 (edp6367_d087 21 July 2022 MCa/RFo)
<b>Plan EDP 9.17b</b>	Gulls and Other Notable Species Summer Flight Activity – April to August 2021 (edp6367_d088 21 July 2022 MCa/RFo)
<b>Plan EDP 9.18a</b>	Raptor Winter Flight Activity – September 2020 to March 2021 (edp6367_d089 21 July 2022 MCa/RFo)
<b>Plan EDP 9.18b</b>	Raptor Winter Flight Activity – September 2021 to April 2022 (edp6367_d090 20 July 2022 MCa/RFo)
<b>Plan EDP 9.19a</b>	Waders, Gulls, and Other Notable Species Winter Flight Activity – September 2020 to March 2021 (edp6367_d091 21 July 2022 MCa/RFo)
<b>Plan EDP 9.19b</b>	Gulls and Other Notable Species Winter Flight Activity – September 2021 to April 2022 (edp6367_d118 20 July 2022 MCa/KHe)





Survey Boundary 2021 and 2022

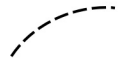


Survey Boundary 2020

Study Area Buffers



500m Buffer - Nightjar/Owls



800m Buffer - Moorland Breeding Birds



2km Buffer - Raptors

0 200 400 600 800 1000 m

client

**Pennant Walters**

project title

**Mynydd Llanhilleth Wind Farm**

drawing title

**Survey Boundary and Study Areas**

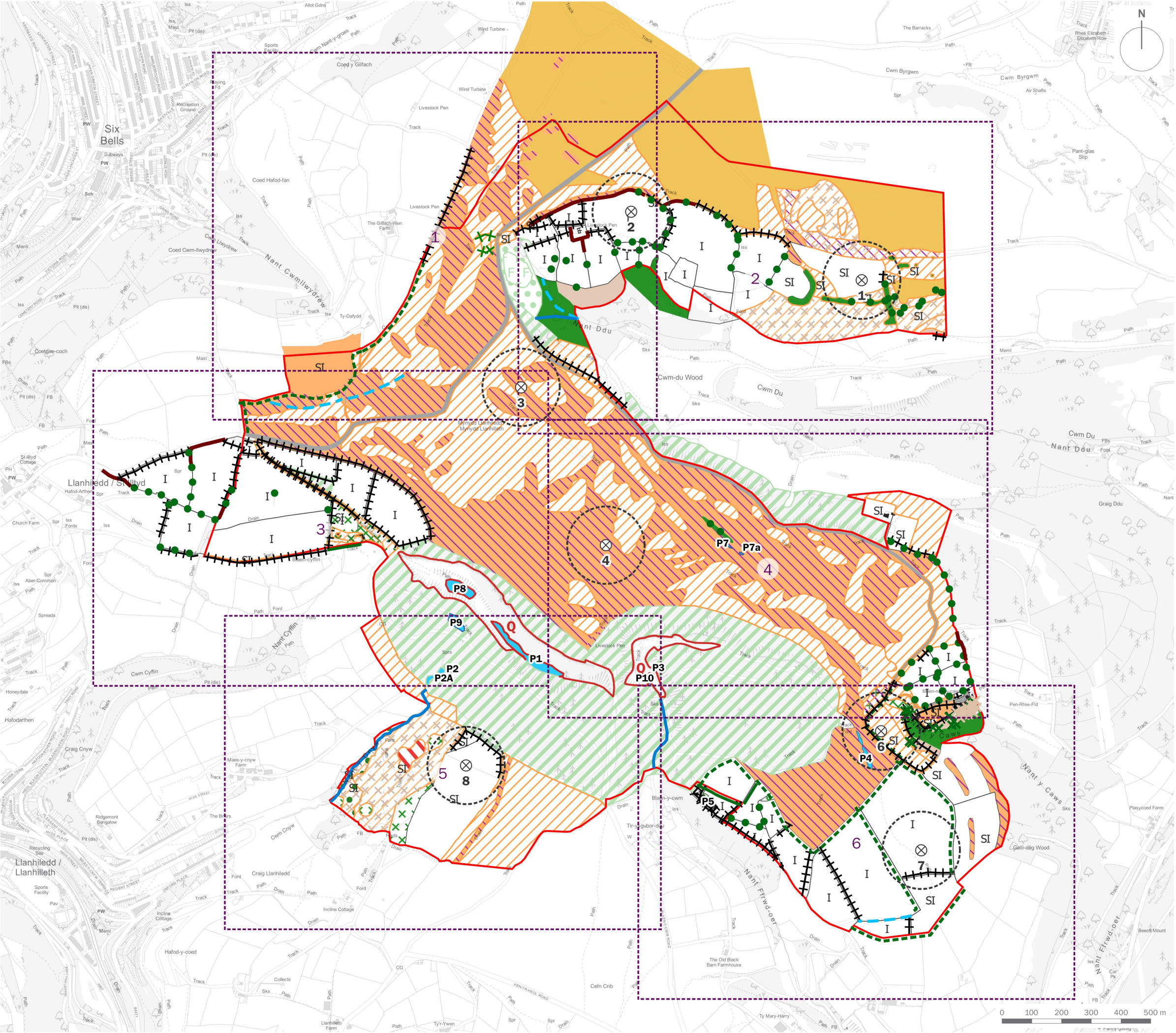
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drawing number **edp6367\_d042a**  
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drawn by **MCa**  
checked **RFo**  
QA **GYo**



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Survey Boundary

Proposed Turbine Locations

130m Buffer From Turbine

client

**Pennant Walters**

project title

**Mynydd Llanhilleth Wind Farm**

drawing title

**Phase 1 Habitat Survey (Overview)**

date

**14 AUGUST 2024**

drawn by

**RBa**

drawing number

**edp6367\_d002e**

checked

**KHe**

scale

**1:12,500 @ A3**

QA

**GYo**

edp

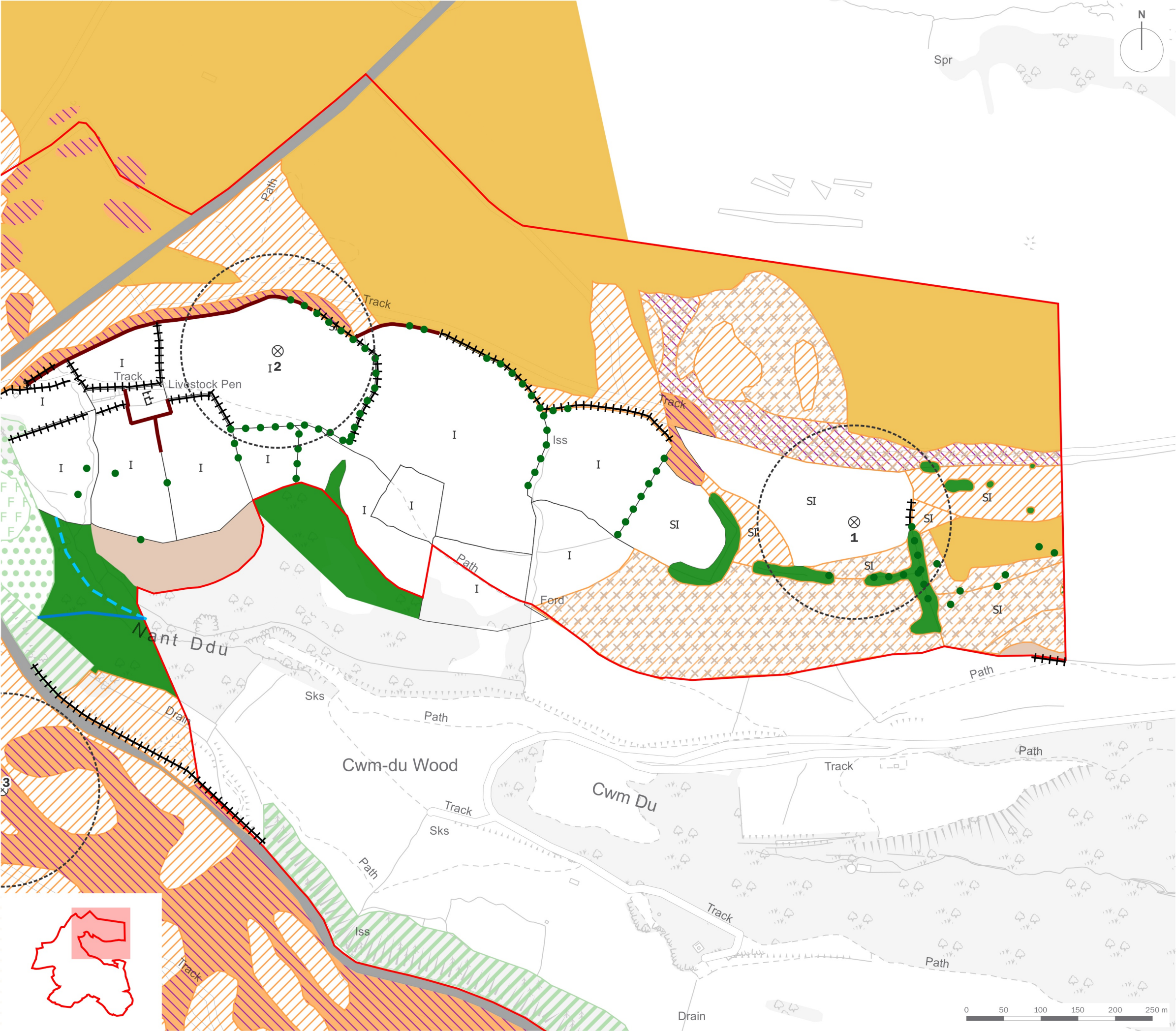
the environmental dimension partnership

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- Survey Boundary
- Proposed Turbine Locations
- 130m Buffer From Turbine
- Broadleaved Semi-natural Woodland
- Coniferous Plantation Woodland
- Scattered Trees/Parkland (Coniferous)
- Recently Felled Woodland (Coniferous)
- Dense Continuous Scrub
- I

Improved Grassland
- SI

Poor Semi-improved Grassland
- Unimproved Acid Grassland
- SI

Semi-improved Acid Grassland
- Marsh/Marshy Grassland
- Dry Dwarf Shrub Heath
- Continuous Bracken
- Acid Grassland with Dense Bracken
- SI

Mosaic of Semi-improved Acid Grassland and Bracken
- Mosaic of Acid Grassland, Dense Bracken and Marshy Grassland
- Hardstanding
- Building
- Scattered Trees/Parkland (Broadleaved)
- Running Water
- Dry Ditch
- Fence
- Wall
- Scattered Trees (Broadleaved)



client			
Pennant Walters			
project title			
Mynydd Llanhilleth Wind Farm			
drawing title			
Phase 1 Habitat Survey (Sheet 2 of 6)			
date	14 AUGUST 2024	drawn by	RBa
drawing number	edp6367_d002e	checked	KHe
scale	1:5,000 @ A3	QA	GYo







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dimension partnership
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- Survey Boundary
- Proposed Turbine Locations
- 130m Buffer From Turbine
- Broadleaved Semi-natural Woodland
- Coniferous Plantation Woodland
- Dense Continuous Scrub
- Tall Ruderal
- Improved Grassland
- Poor Semi-improved Grassland
- Semi-improved Neutral Grassland
- Unimproved Acid Grassland
- Semi-improved Acid Grassland
- Marsh/Marshy Grassland
- Continuous Bracken
- Mosaic of Semi-improved Acid Grassland and Bracken
- Mosaic of Moss Species, Marshy Grassland and Acidic Arassland
- Hardstanding
- Building
- Bare Ground
- Standing Water
- Quarry
- Defunct Species-poor Hedgerow
- Scattered Trees/Parkland (Broadleaved)
- Running Water
- Fence
- Wall
- Scattered Trees (Broadleaved)
- Scattered Scrub
- Scattered Bracken

client

**Pennant Walters**

project title

**Mynydd Llanhilleth Wind Farm**

drawing title

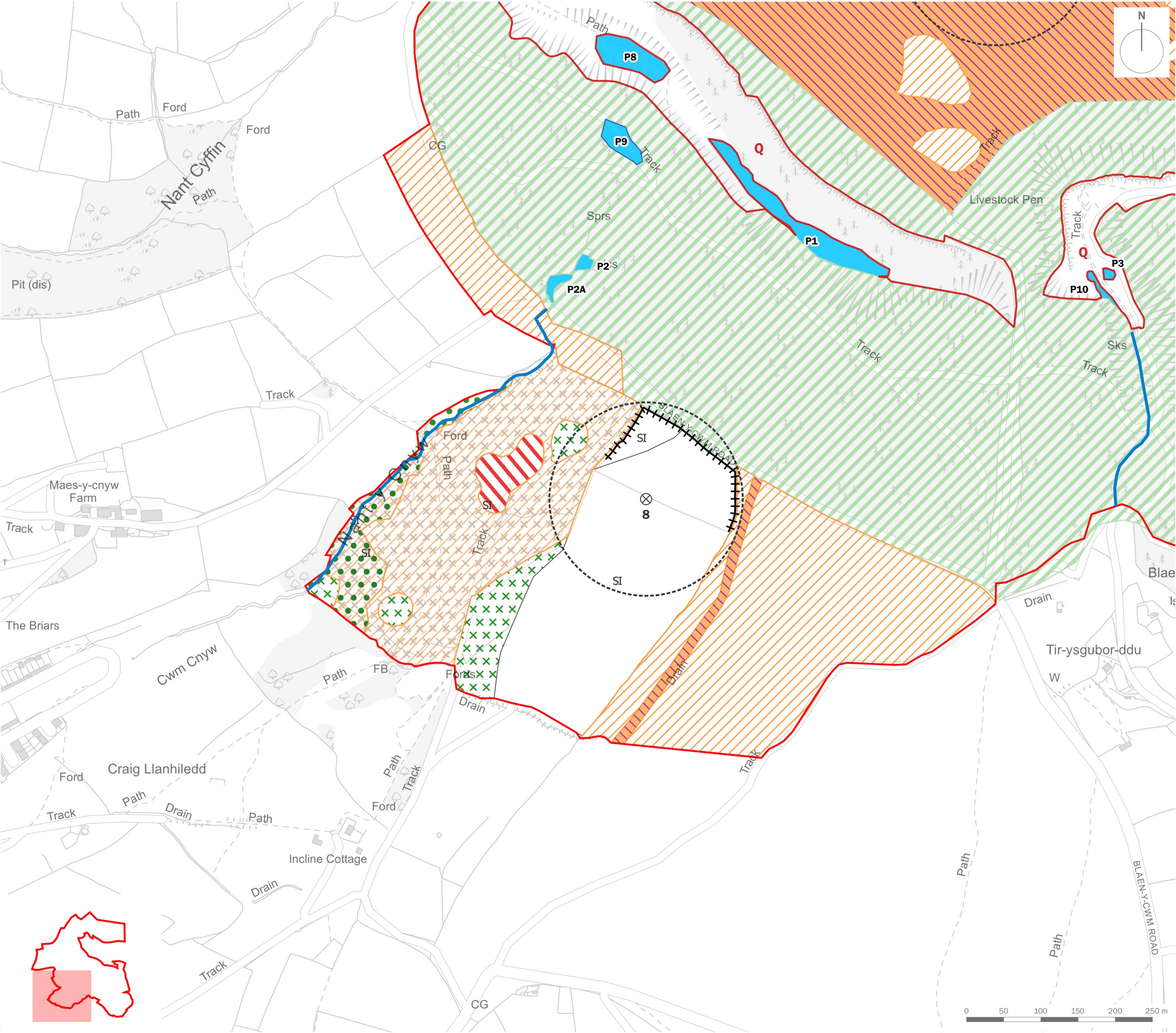
**Phase 1 Habitat Survey  
(Sheet 4 of 6)**

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drawing number	<b>edp6367_d002e</b>	checked	<b>KHe</b>
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- Survey Boundary
- ⊗

Proposed Turbine Locations
- - -

130m Buffer From Turbine
- Coniferous Plantation Woodland
- Scattered Trees/Parkland (Broadleaved)
- < x x x x

Scattered Scrub
- SI

Poor Semi-improved Grassland
- Unimproved Acid Grassland
- Marsh/Marshy Grassland
- SI

Mosaic of Semi-improved Acid Grassland and Bracken
- Semi-improved Acid Grassland with Bracken and Scattered Trees
- Standing Water
- Q

Quarry
- Spoil
- Running Water
- +++++

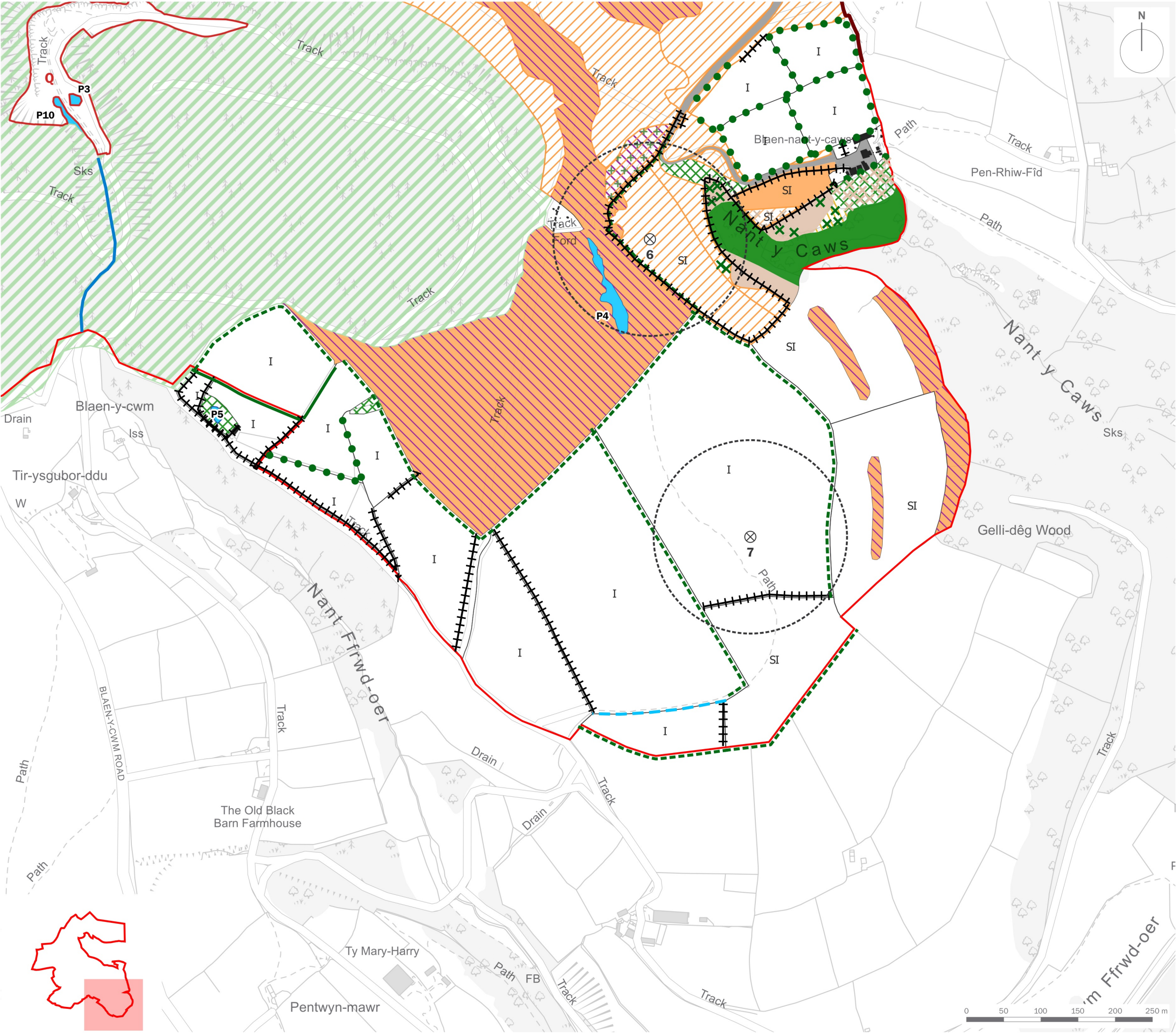
Fence

client			
Pennant Walters			
project title			
Mynydd Llanhilleth Wind Farm			
drawing title			
Phase 1 Habitat Survey (Sheet 5 of 6)			
date	14 AUGUST 2024	drawn by	RBa
drawing number	edp6367_d002e	checked	KHe
scale	1:5,000 @ A3	QA	GYo



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- Survey Boundary
- ⊗

Proposed Turbine Locations
- 130m Buffer From Turbine
- Broadleaved Semi-natural Woodland
- Coniferous Plantation Woodland
- Dense Continuous Scrub
- Tall Ruderal
- I

Improved Grassland
- SI

Poor Semi-improved Grassland
- SI

Semi-improved Neutral Grassland
- Unimproved Acid Grassland
- SI

Semi-improved Acid Grassland
- Marsh/Marshy Grassland
- Continuous Bracken
- SI

Mosaic of Semi-improved Acid Grassland and Bracken
- Mosaic of Moss Species, Marshy Grassland and Acidic Arassland
- Hardstanding
- Building
- Bare Ground
- Standing Water
- Q

Quarry
- Intact Species-poor Hedgerow
- Defunct Species-poor Hedgerow
- ● ● ●

Scattered Trees/Parkland (Broadleaved)
- Running Water
- Dry Ditch
- +++++

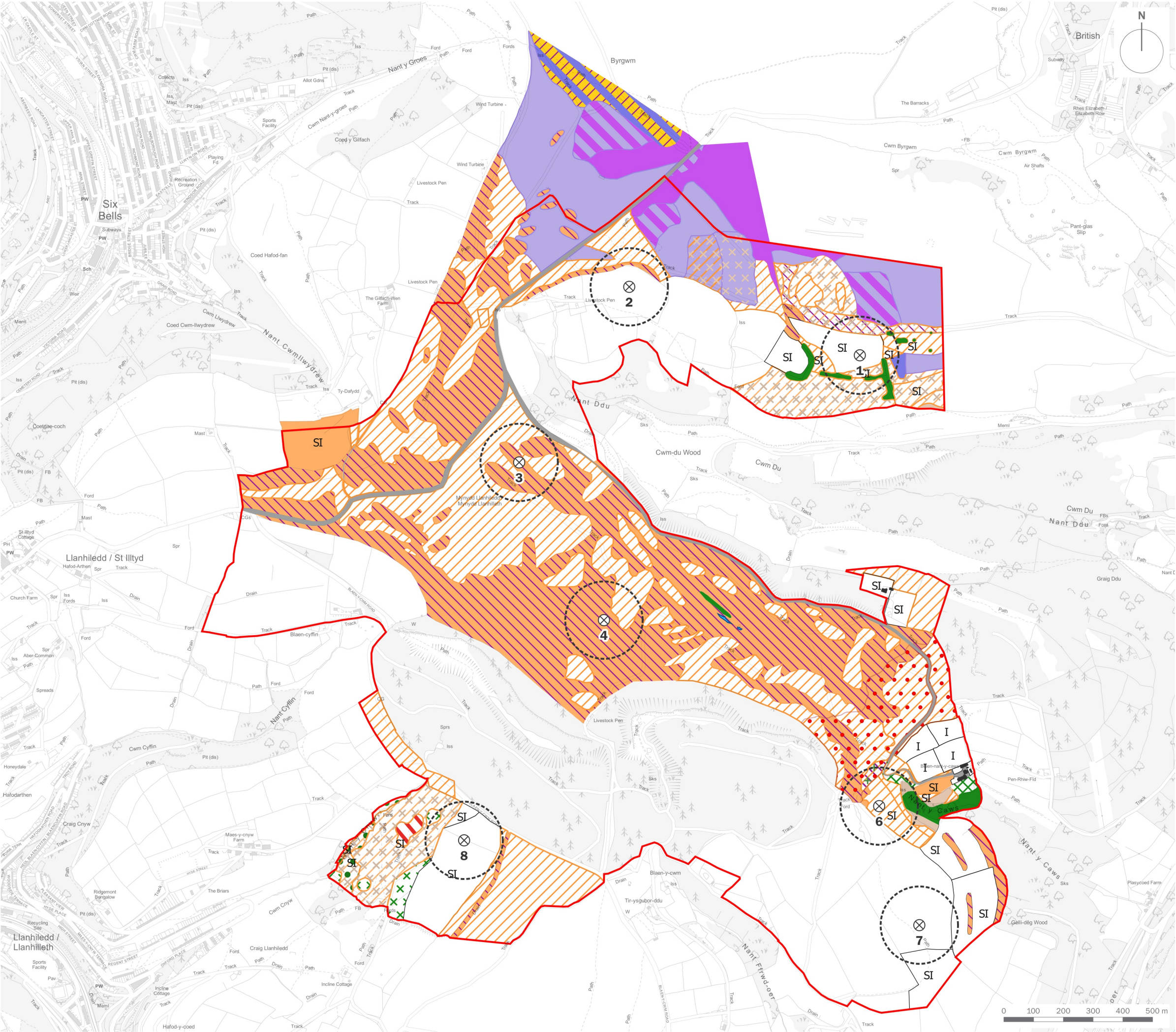
Fence
- Wall
- ✕

Scattered Scrub
- ✕

Scattered Bracken

client			
Pennant Walters			
project title			
Mynydd Llanhilleth Wind Farm			
drawing title			
Phase 1 Habitat Survey (Sheet 6 of 6)			
date	14 AUGUST 2024	drawn by	RBa
drawing number	edp6367_d002e	checked	KHe
scale	1:5,000 @ A3	QA	GYo





Survey Boundary

Proposed Turbine Locations

130m Buffer from Turbine

Unimproved Acid Grassland

SI

Semi-improved Acid Grassland

SI

Semi-improved Neutral Grassland

SI

Poor Semi-improved Grassland

I

Improved Grassland

Acid Grassland with Dense Bracken

Continuous Bracken

Marshy Grassland  
(Juncus Effusus Dominant)

SI

Mosaic of Semi-improved Acid  
Grassland and Bracken

Mosaic of Acid Grassland, Dense  
Bracken and Marshy Grassland

Bilberry-dominated Community

Bracken Over Bilberry-dominated  
Community

Bracken Over Sparse Bilberry and  
Acidic Grassland

Crowberry-dominated Community

Bilberry and Crowberry Co-dominant

Heather-dominated Community

Heather-dominated Dwarf Shrub

Mosaic of Moss Species, Marshy  
Grassland and Acidic  
Grassland

SI

Semi-improved Acid Grassland  
with Bracken and Scattered  
Trees

< x x x x

Scattered Scrub

Broadleaved Semi-natural Woodland

Dense Continuous Scrub

Scattered Trees/Parkland (Broadleaved)

Standing Water

Hardstanding

Building

Bare Ground

Spoil

Area Impacted by Fire: Regeneration  
Occurring

client

Pennant Walters

project title

Mynydd Llanhilleth Wind Farm

drawing title

Botanical Survey

date

14 AUGUST 2024

drawn by

RBa

drawing number

edp6367\_d016e

checked

KHe

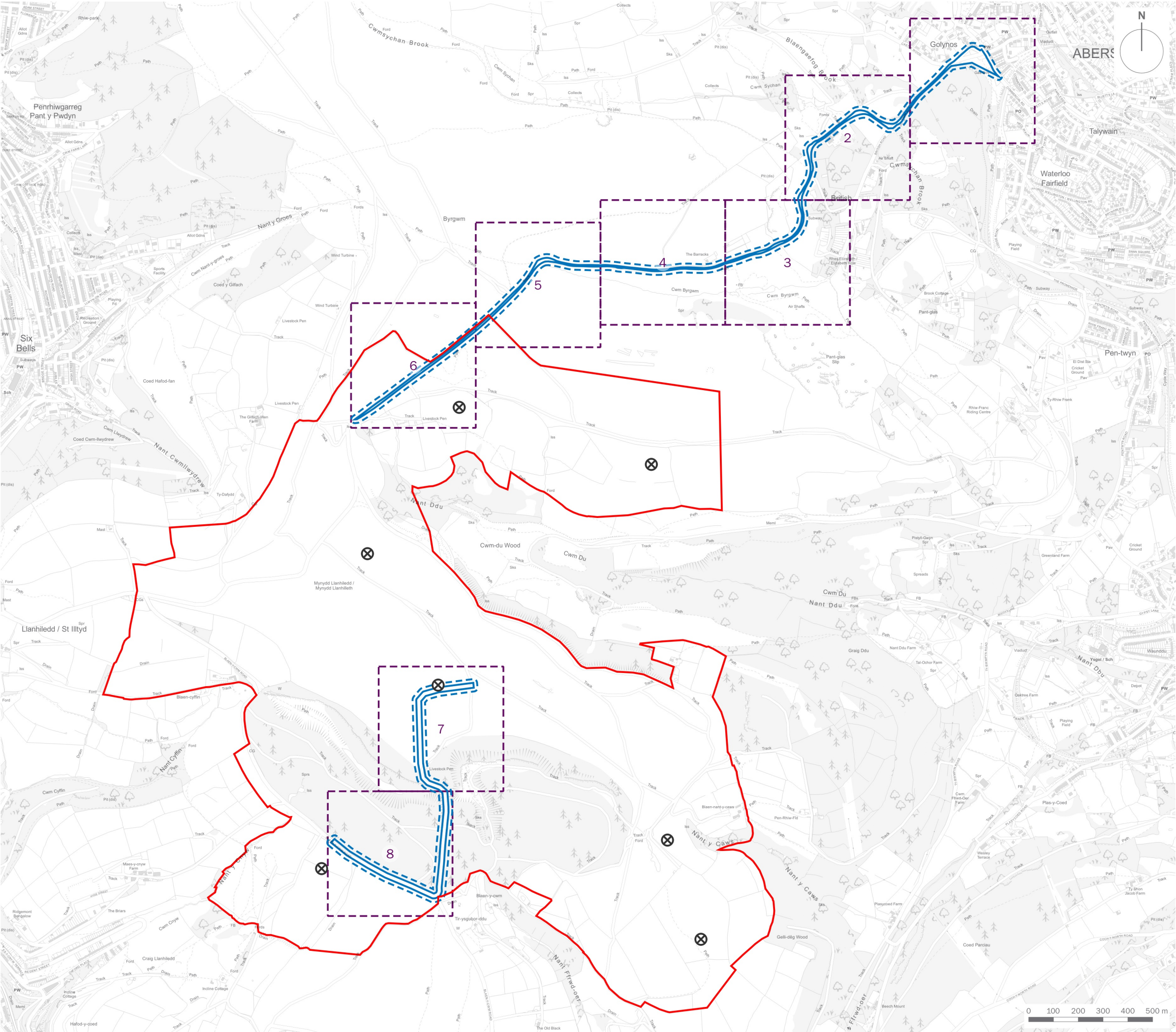
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QA

GYo





- Site Boundary
- Access Route
- Access Route Survey Area
- Proposed Turbine Locations

client			
Pennant Walters			
project title			
Mynydd Llanhilleth Wind Farm			
drawing title			
Proposed Access Route – Extended Phase 1 Survey, July 2022 (Overview)			
date	14 AUGUST 2024	drawn by	GYo
drawing number	edp6367_d125b	checked	KHe
scale	1:15,000 @ A3	QA	JFr





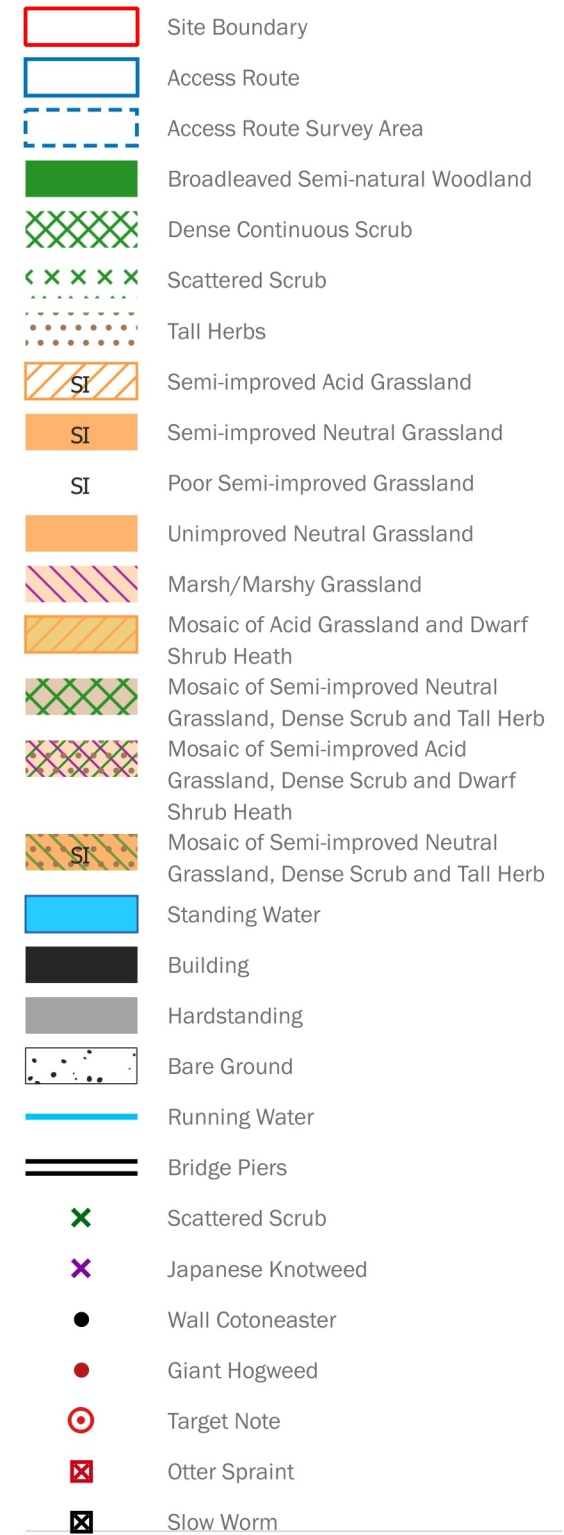
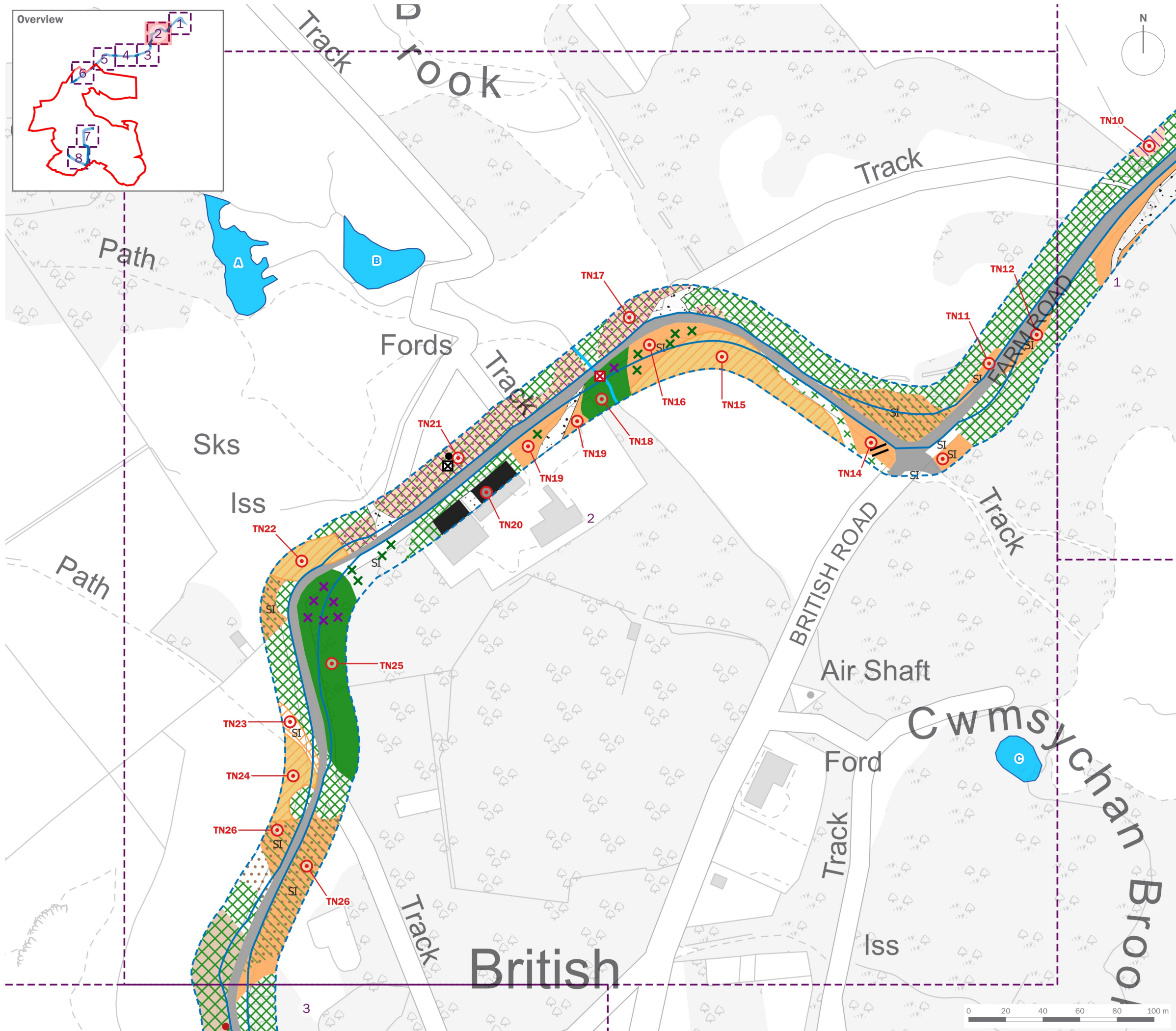
- Site Boundary
- Access Route
- Access Route Survey Area
- Dense Continuous Scrub
- Continuous Bracken
- Tall Herbs
- A Amenity Grassland
- SI Semi-improved Neutral Grassland
- SI Poor Semi-improved Grassland
- Unimproved Neutral Grassland
- Marsh/Marshy Grassland
- SI Mosaic of Semi-improved Neutral Grassland, Dense Scrub and Tall Herb
- Building
- Hardstanding
- Bare Ground
- Fence
- Bridge Piers
- Scattered Trees (Broadleaved)
- Scattered Scrub
- Tall Ruderal
- Japanese Knotweed
- Japanese Rose
- Target Note

client			
Pennant Walters			
project title			
Mynydd Llanhilleth Wind Farm			
drawing title			
Proposed Access Route – Extended Phase 1 Survey, July 2022 (Sheet 1 of 8)			
date	14 AUGUST 2024	drawn by	GYo
drawing number	edp6367_d125b	checked	KHe
scale	1:2,000 @ A3	QA	JFr



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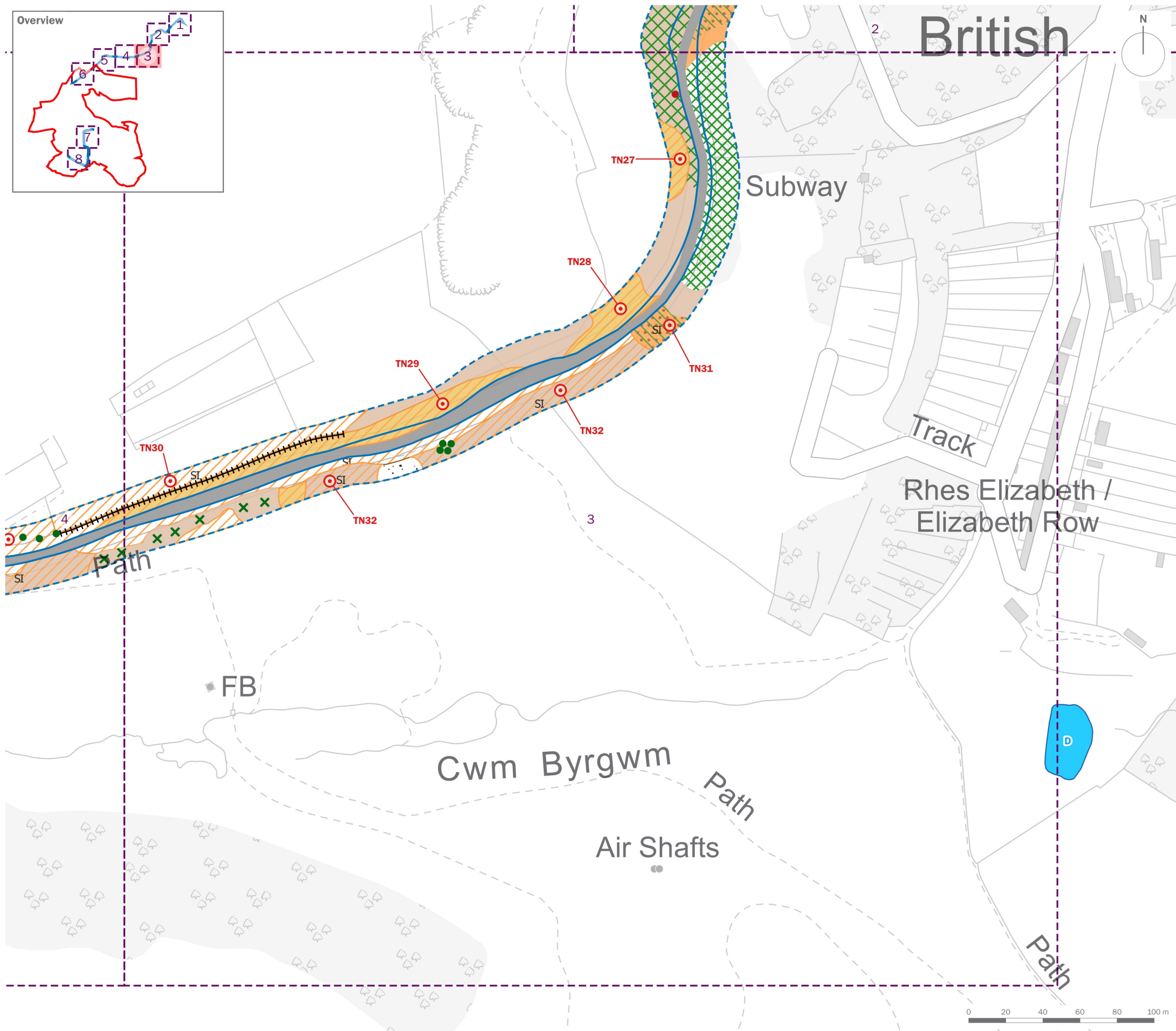


client	Pennant Walters		
project title	Mynydd Llanhilleth Wind Farm		
drawing title	Proposed Access Route – Extended Phase 1 Survey, July 2022 (Sheet 2 of 8)		
date	14 AUGUST 2024	drawn by	GYo
drawing number	edp6367_d125b	checked	KHe
scale	1:2,000 @ A3	QA	JFr



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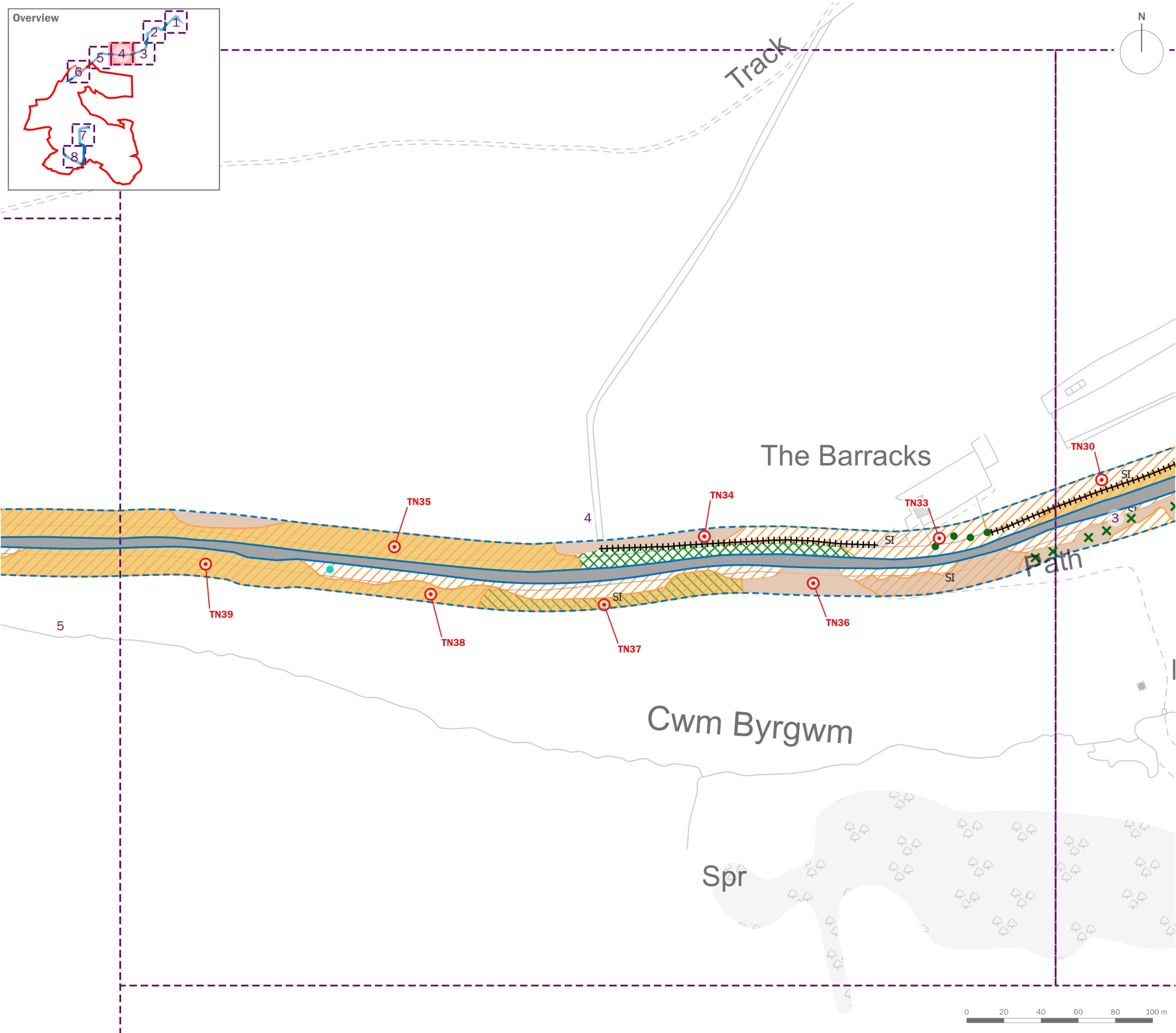


- Site Boundary
- Access Route
- Access Route Survey Area
- Dense Continuous Scrub
- Continuous Bracken
- Semi-improved Acid Grassland
- Unimproved Acid Grassland
- Unimproved Neutral Grassland
- Mosaic of Acid Grassland and Dwarf Shrub Heath
- Mosaic of Semi-improved Neutral Grassland, Dense Scrub and Tall Herb
- Mosaic of Semi-improved Neutral Grassland, Dense Scrub and Tall Herb
- Semi-improved Acid Grassland with Bracken Invading
- Standing Water
- Hardstanding
- Bare Ground
- Fence
- Scattered Trees (Broadleaved)
- Scattered Scrub
- Giant Hogweed
- Target Note

client			
Pennant Walters			
project title			
Mynydd Llanhilleth Wind Farm			
drawing title			
Proposed Access Route – Extended Phase 1 Survey, July 2022 (Sheet 3 of 8)			
date	14 AUGUST 2024	drawn by	GYo
drawing number	edp6367_d125b	checked	KHe
scale	1:2,000 @ A3	QA	JFr



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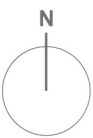
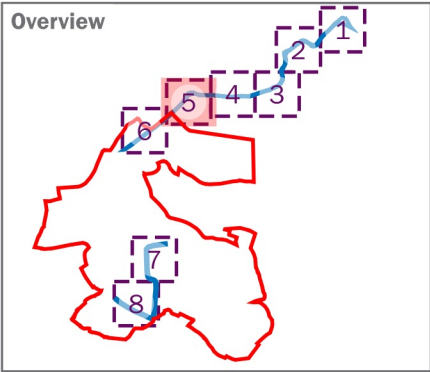
- Site Boundary
- Access Route
- Access Route Survey Area
- Dense Continuous Scrub
- Continuous Bracken
- SI Semi-improved Acid Grassland
- Unimproved Acid Grassland
- Mosaic of Acid Grassland and Dwarf Shrub Heath
- SI Mosaic of Semi-improved Acid Grassland, Dense Scrub and Dwarf Shrub Heath
- SI Semi-improved Acid Grassland with Bracken Invading
- Hardstanding
- Fence
- Scattered Trees (Broadleaved)
- Scattered Scrub
- Common Cudweed
- Target Note

client			
Pennant Walters			
project title			
Mynydd Llanhilleth Wind Farm			
drawing title			
Proposed Access Route – Extended Phase 1 Survey, July 2022 (Sheet 4 of 8)			
date	14 AUGUST 2024	drawn by	GYo
drawing number	edp6367_d125b	checked	KHe
scale	1:2,000 @ A3	QA	JFr

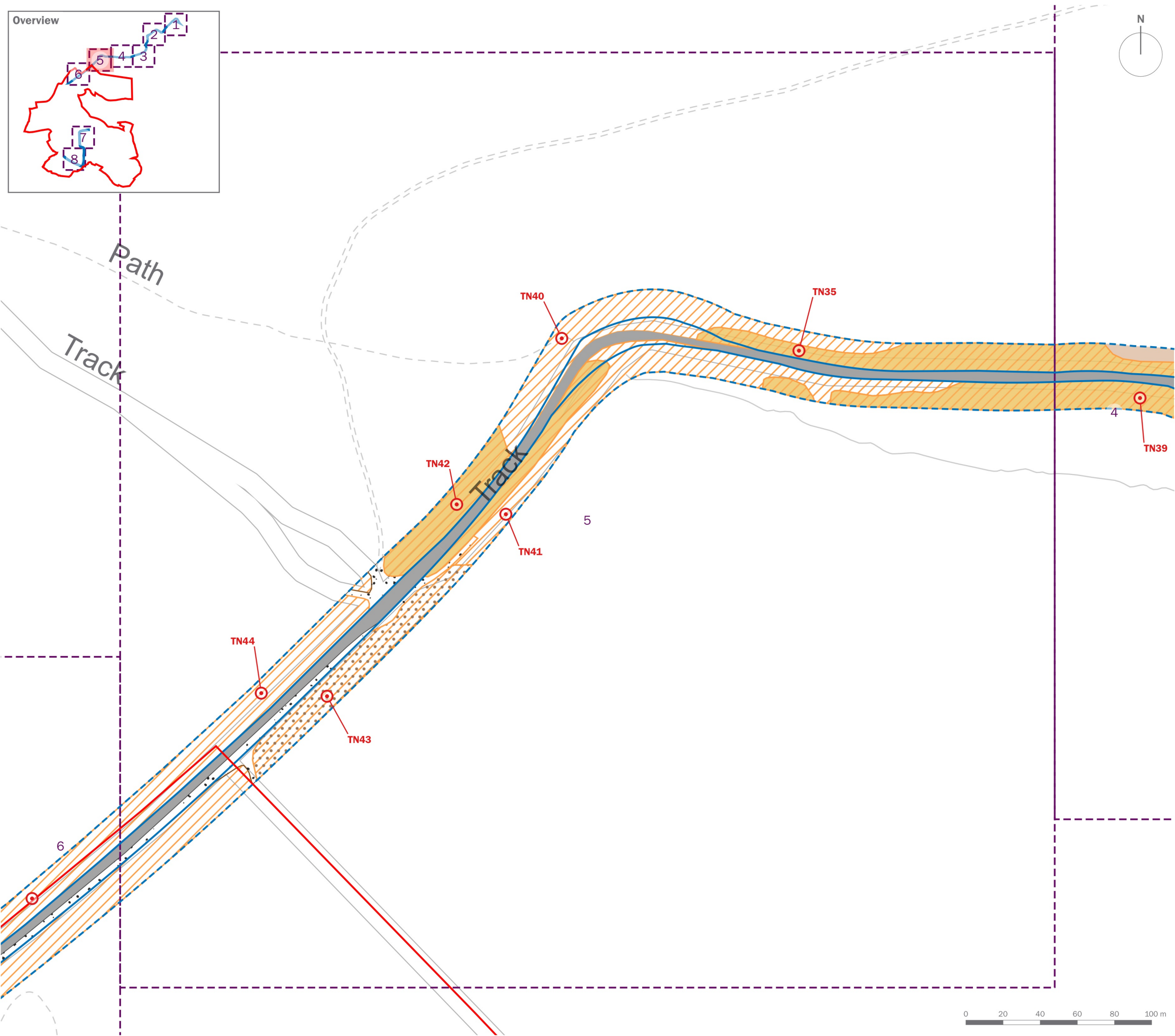


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- Site Boundary
- Access Route
- Access Route Survey Area
- Continuous Bracken
- Unimproved Acid Grassland
- Mosaic of Acid Grassland and Dwarf Shrub Heath
- Mosaic of Marshy Grassland, Dense Scrub and Tall Herb
- Hardstanding
- Bare Ground
- Target Note



client

**Pennant Walters**

project title

**Mynydd Llanhilleth Wind Farm**

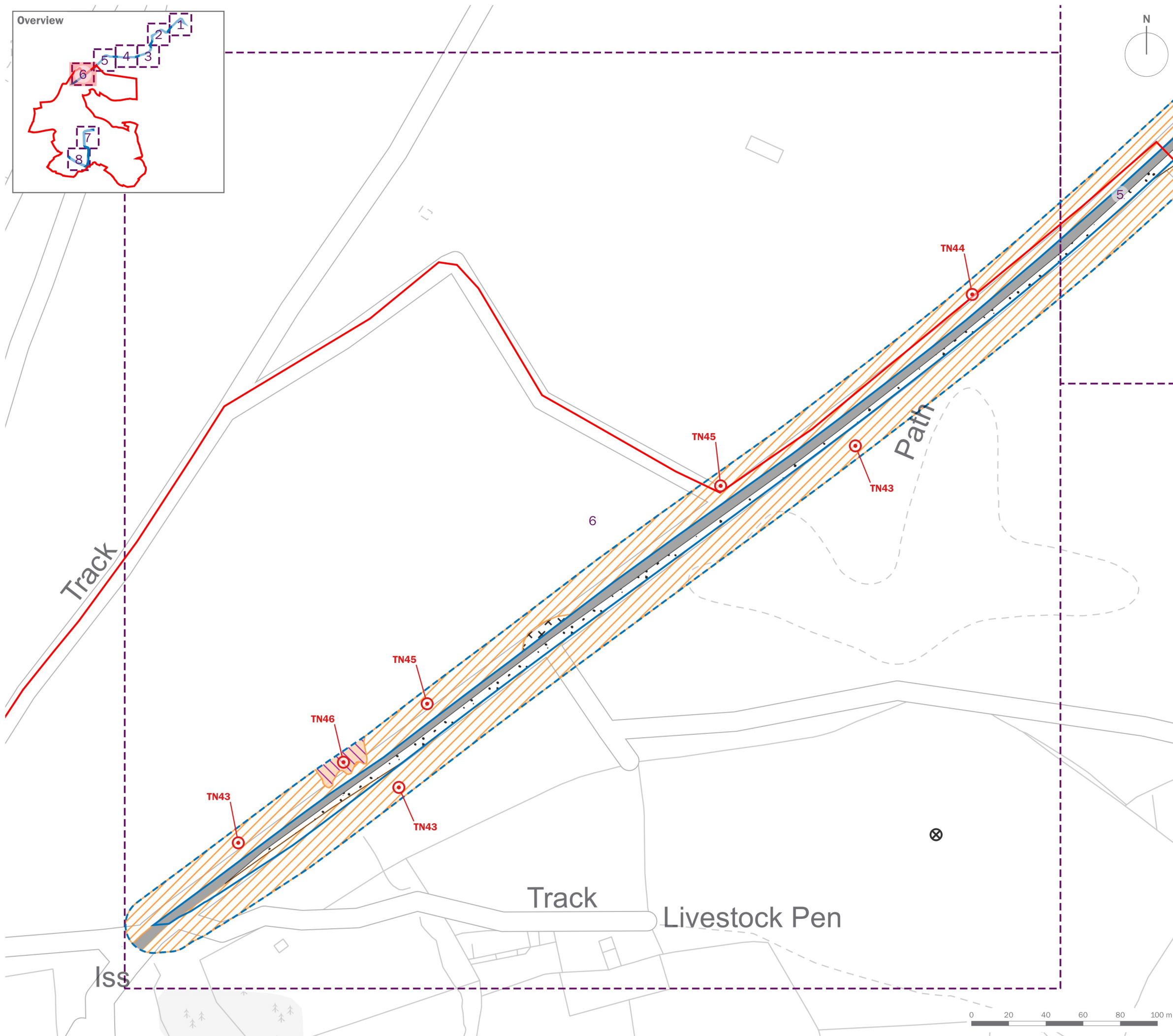
drawing title

**Proposed Access Route – Extended Phase 1  
Survey, July 2022 (Sheet 5 of 8)**

date	<b>14 AUGUST 2024</b>	drawn by	<b>GYo</b>
drawing number	<b>edp6367_d125b</b>	checked	<b>KHe</b>
scale	<b>1:2,000 @ A3</b>	QA	<b>JFr</b>



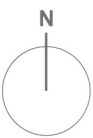
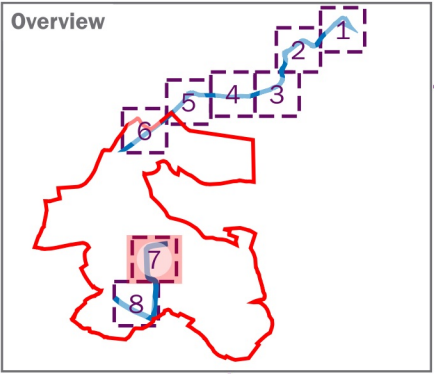
Registered office: 01285 740427 - [www.edp-uk.co.uk](http://www.edp-uk.co.uk) - [info@edp-uk.co.uk](mailto:info@edp-uk.co.uk)



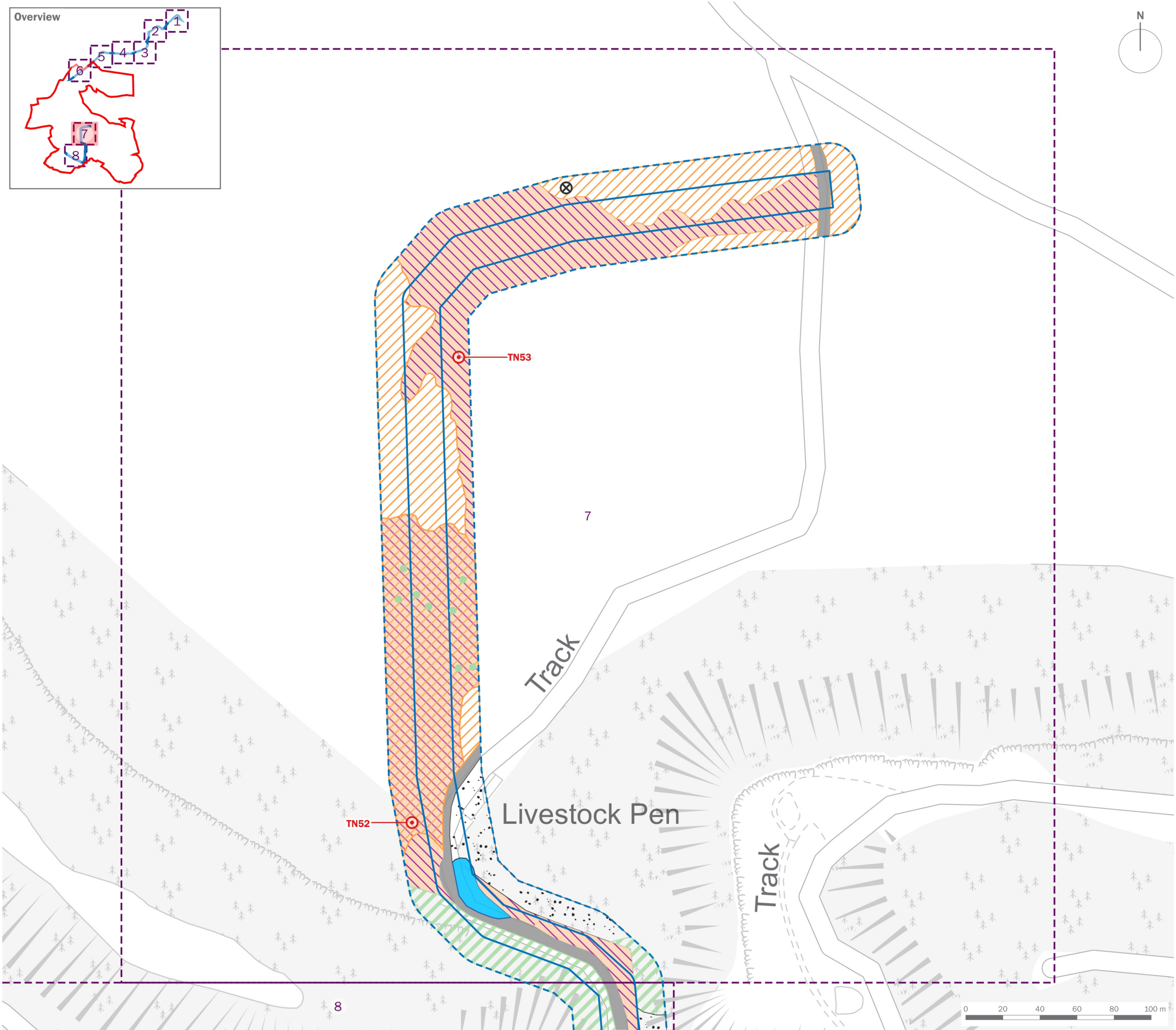
- Site Boundary
- Access Route
- Access Route Survey Area
- Ephemeral/short Perennial
- Unimproved Acid Grassland
- Marsh/Marshy Grassland
- Hardstanding
- Bare Ground
- Target Note

client			
Pennant Walters			
project title			
Mynydd Llanhilleth Wind Farm			
drawing title			
Proposed Access Route – Extended Phase 1 Survey, July 2022 (Sheet 6 of 8)			
date	14 AUGUST 2024	drawn by	GYo
drawing number	edp6367_d125b	checked	KHe
scale	1:2,000 @ A3	QA	JFr





- Site Boundary
- Access Route
- Access Route Survey Area
- Coniferous Plantation Woodland
- Unimproved Acid Grassland
- Marsh/Marshy Grassland
- Mosaic of Acid Grassland and Marshy Grassland
- Standing Water
- Hardstanding
- Bare Ground
- Scattered Trees (Coniferous)
- Target Note

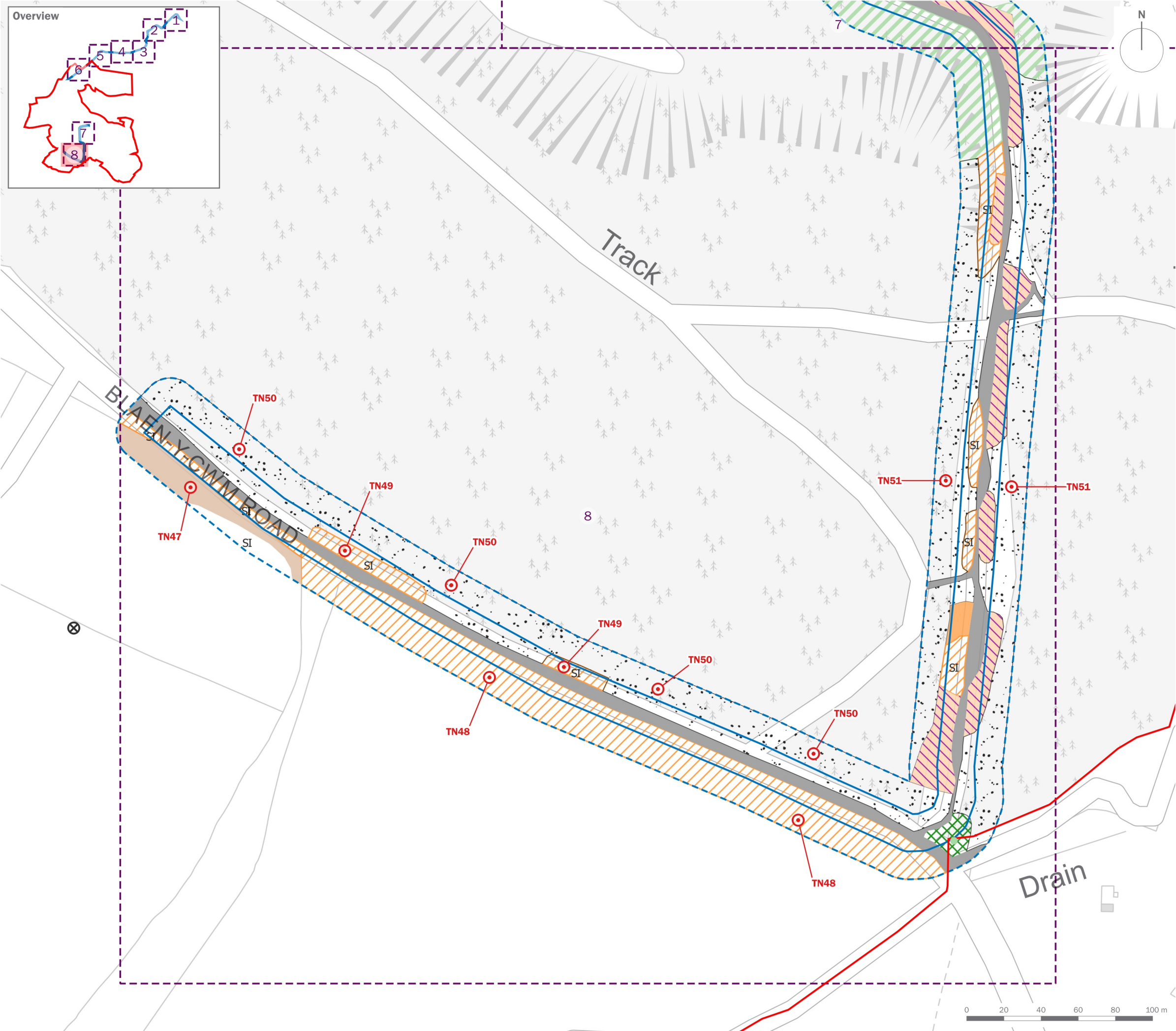


client			
Pennant Walters			
project title			
Mynydd Llanhilleth Wind Farm			
drawing title			
Proposed Access Route – Extended Phase 1 Survey, July 2022 (Sheet 7 of 8)			
date	14 AUGUST 2024	drawn by	GYo
drawing number	edp6367_d125b	checked	KHe
scale	1:2,000 @ A3	QA	JFr



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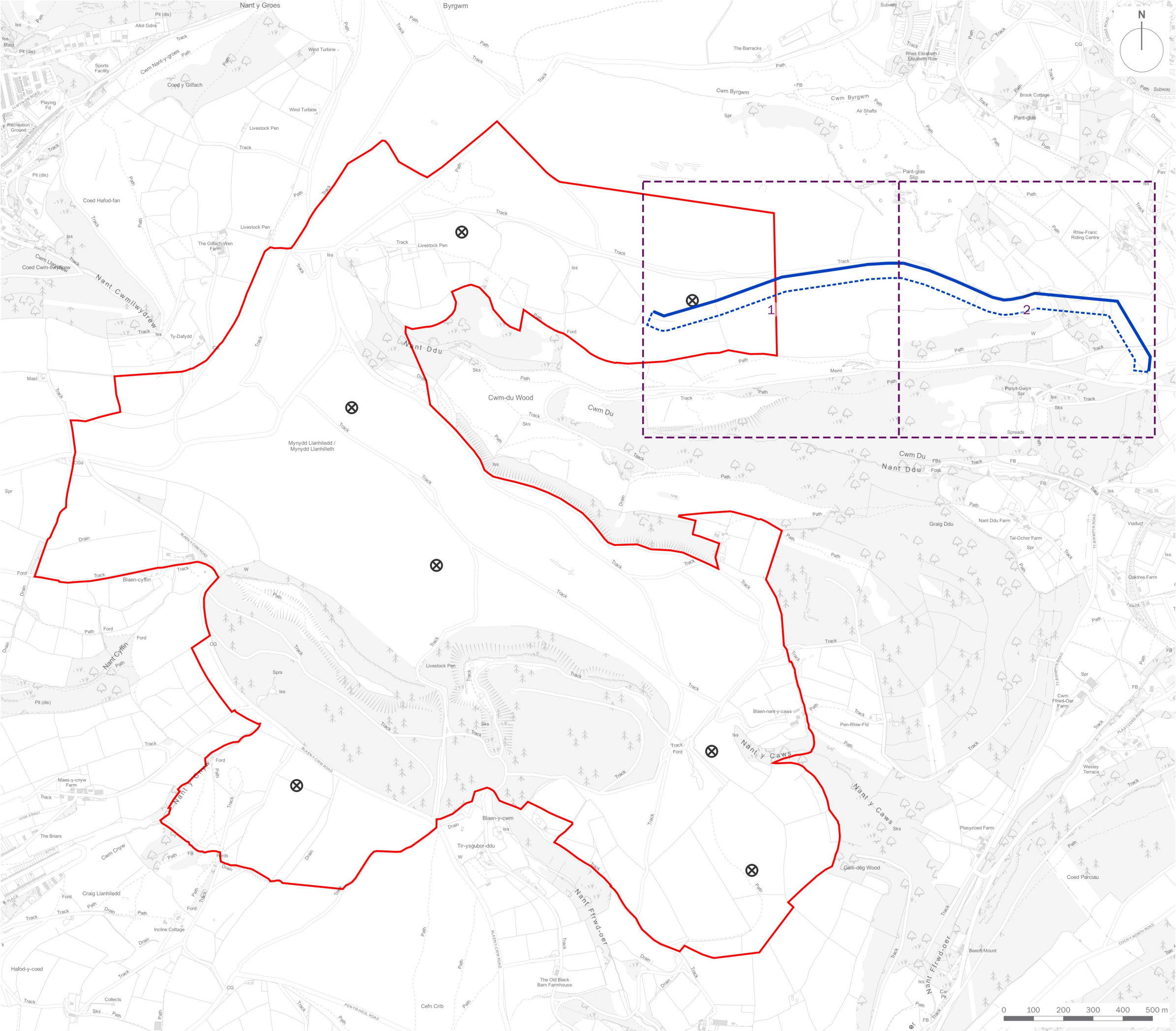




- Site Boundary
- Access Route
- Access Route Survey Area
- Coniferous Plantation Woodland
- Dense Continuous Scrub
- Continuous Bracken
- Semi-improved Acid Grassland
- Poor Semi-improved Grassland
- Unimproved Acid Grassland
- Unimproved Neutral Grassland
- Marsh/Marshy Grassland
- Hardstanding
- Bare Ground
- Scattered Trees (Coniferous)
- Target Note

client			
Pennant Walters			
project title			
Mynydd Llanhilleth Wind Farm			
drawing title			
Proposed Access Route – Extended Phase 1 Survey, July 2022 (Sheet 8 of 8)			
date	14 AUGUST 2024	drawn by	GYo
drawing number	edp6367_d125b	checked	KHe
scale	1:2,000 @ A3	QA	JFr

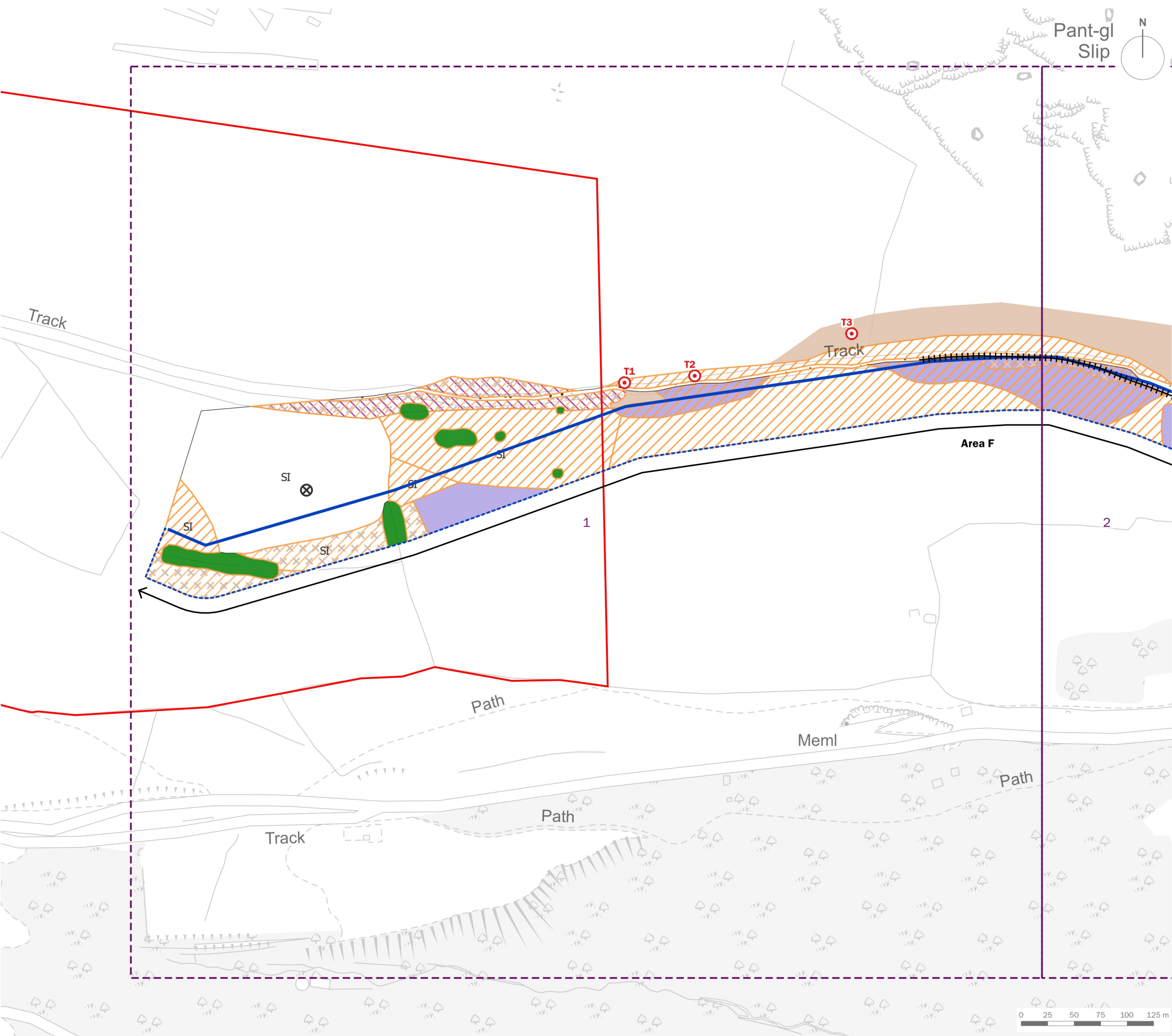




- Survey Boundary
- Grid Connection Corridor
- Grid Connection Corridor 50m Southern Buffer
- Proposed Turbine Locations

client			
Pennant Walters			
project title			
Mynydd Llanhilleth Wind Farm			
drawing title			
Proposed Grid Connection Corridor – Extended Phase 1 Survey, August 2022 (Overview)			
date	14 AUGUST 2024	drawn by	GYo
drawing number	edp6367_d097c	checked	KHe
scale	1:12,500 @ A3	QA	JFr

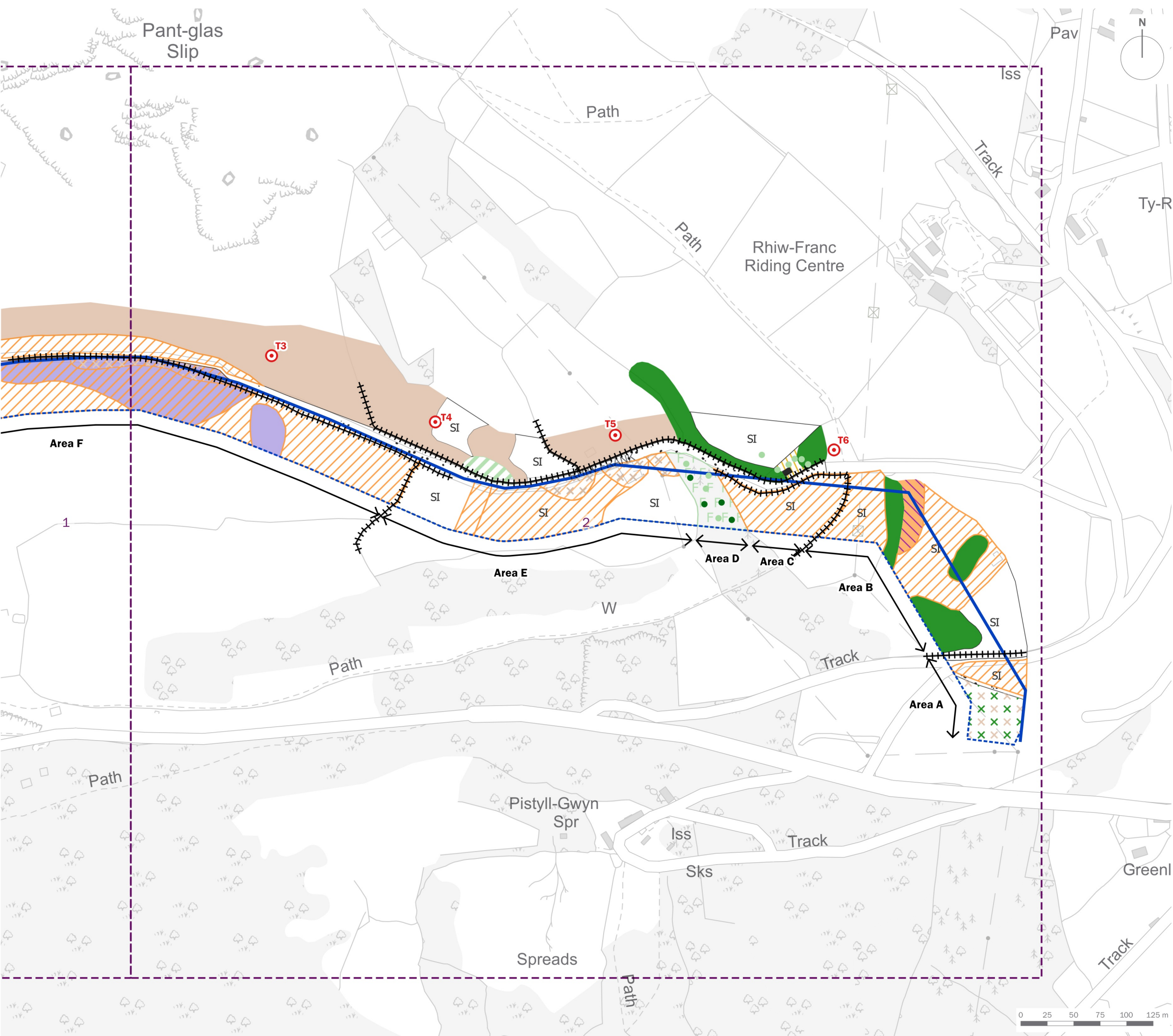




- Survey Area
- Grid Connection Corridor
- Grid Connection Corridor 50m Southern Buffer
- Broadleaved Semi-natural Woodland
- Poor Semi-improved Grassland
- Unimproved Acid Grassland
- Semi-improved Acid Grassland
- Continuous Bracken
- Bilberry-dominated Community
- Acid Grassland with Dense Bracken
- Bracken Over Mosaic of Acid Grassland and Bilberry
- Mosaic of Semi-improved Acid Grassland and Bracken
- Mosaic of Semi-improved Acid Grassland and Bracken
- Mosaic of Acid Grassland, Dense Bracken and Marshy Grassland
- Bare Ground
- Fence
- Target Note

client			
Pennant Walters			
project title			
Mynydd Llanhilleth Wind Farm			
drawing title			
Proposed Grid Connection Corridor – Extended Phase 1 Survey, August 2022 (Sheet 1 of 2)			
date	14 AUGUST 2024	drawn by	GYo
drawing number	edp6367_d097c	checked	KHe
scale	1:3,500 @ A3	QA	JFr





- Grid Connection Corridor
- Grid Connection Corridor 50m Southern Buffer
- Broadleaved Semi-natural Woodland
- Coniferous Plantation Woodland
- Recently Felled Woodland (Coniferous)
- Tall Ruderal
- SI Poor Semi-improved Grassland
- Unimproved Acid Grassland
- SI Semi-improved Acid Grassland
- Marsh/Marshy Grassland
- Continuous Bracken
- Bilberry-dominated Community
- Acid Grassland with Dense Bracken
- Bracken Over Mosaic of Acid Grassland and Bilberry
- Mosaic of Semi-improved Acid Grassland and Bracken
- Mosaic of Scattered Scrub, Dense Scrub and Bracken
- Building
- Bare Ground
- Fence
- Scattered Trees (Broadleaved)
- Scattered Trees (Coniferous)
- Target Note

client

**Pennant Walters**

project title

**Mynydd Llanhilleth Wind Farm**

drawing title

**Proposed Grid Connection Corridor – Extended Phase 1 Survey, August 2022 (Sheet 2 of 2)**

date **14 AUGUST 2024**

drawing number **edp6367\_d097c**

scale **1:3,500 @ A3**

drawn by **GYo**

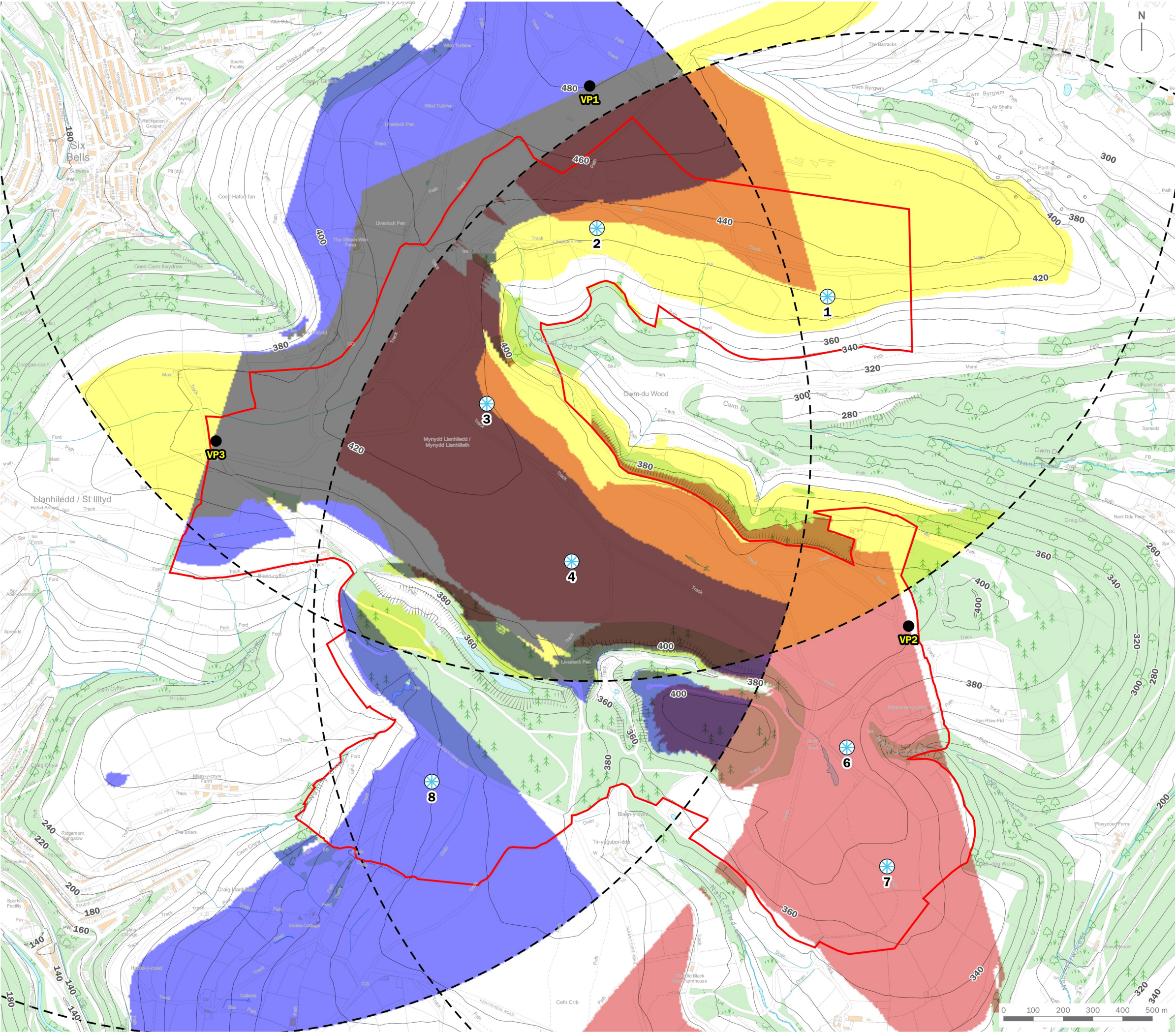
checked **KHe**

QA **JFr**



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- Survey Boundary
- Vantage Point Locations
- 2km Range Ring
- Final Turbine Locations
- Vantage Point 1 ZTV
- Vantage Point 2 ZTV
- Vantage Point 3 ZTV
- Contours (20m Intervals)

Zone of Theoretical Visibility (ZTV) Parameters:

- Visibility at 25m Above Ground Level
- Observer height: 1.75m
- Woodland height: 18m
- 180° Field of View
- 5m Terrain Model

client

**Pennant Walters**

project title

**Mynydd Llanhilleth Wind Farm**

drawing title

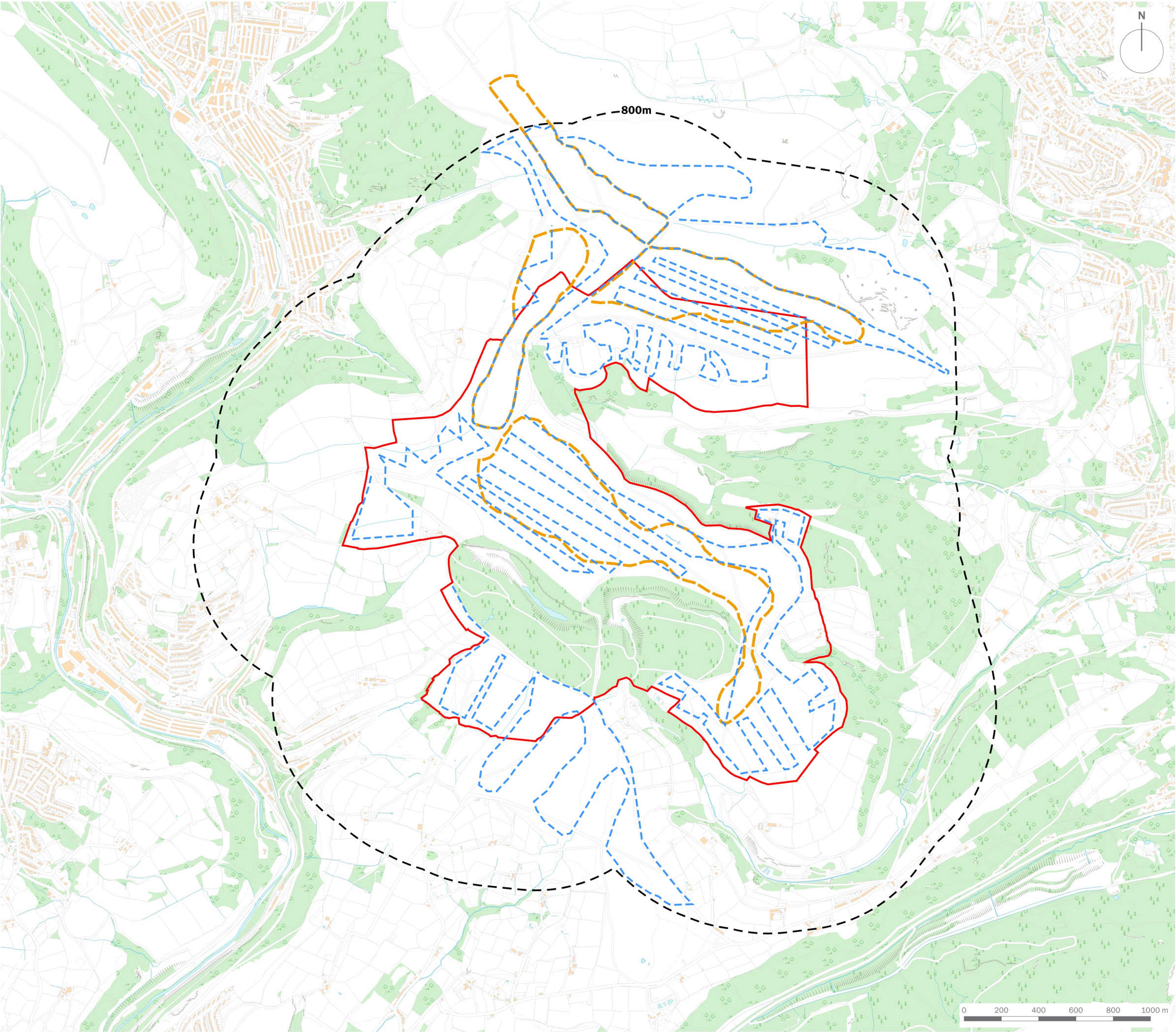
**Vantage Point Locations and Zones of Theoretical Visibility (ZTV)**

date	<b>14 AUGUST 2024</b>	drawn by	<b>MCa</b>
drawing number	<b>edp6367_d001c</b>	checked	<b>RFO</b>
scale	<b>1:12,500 @ A3</b>	QA	<b>GYo</b>



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Survey Boundary

800m Buffer

Moorland Breeding Bird Transect Routes

2021

2020

NB: Indicative route shown targeting moorland habitats

client

Pennant Walters

project title

Mynydd Llanhilleth Wind Farm

drawing title

Moorland Breeding Bird Survey Transect Routes

date

26 JULY 2022

drawn by

MCa

drawing number

edp6367\_d012a

checked

RFo

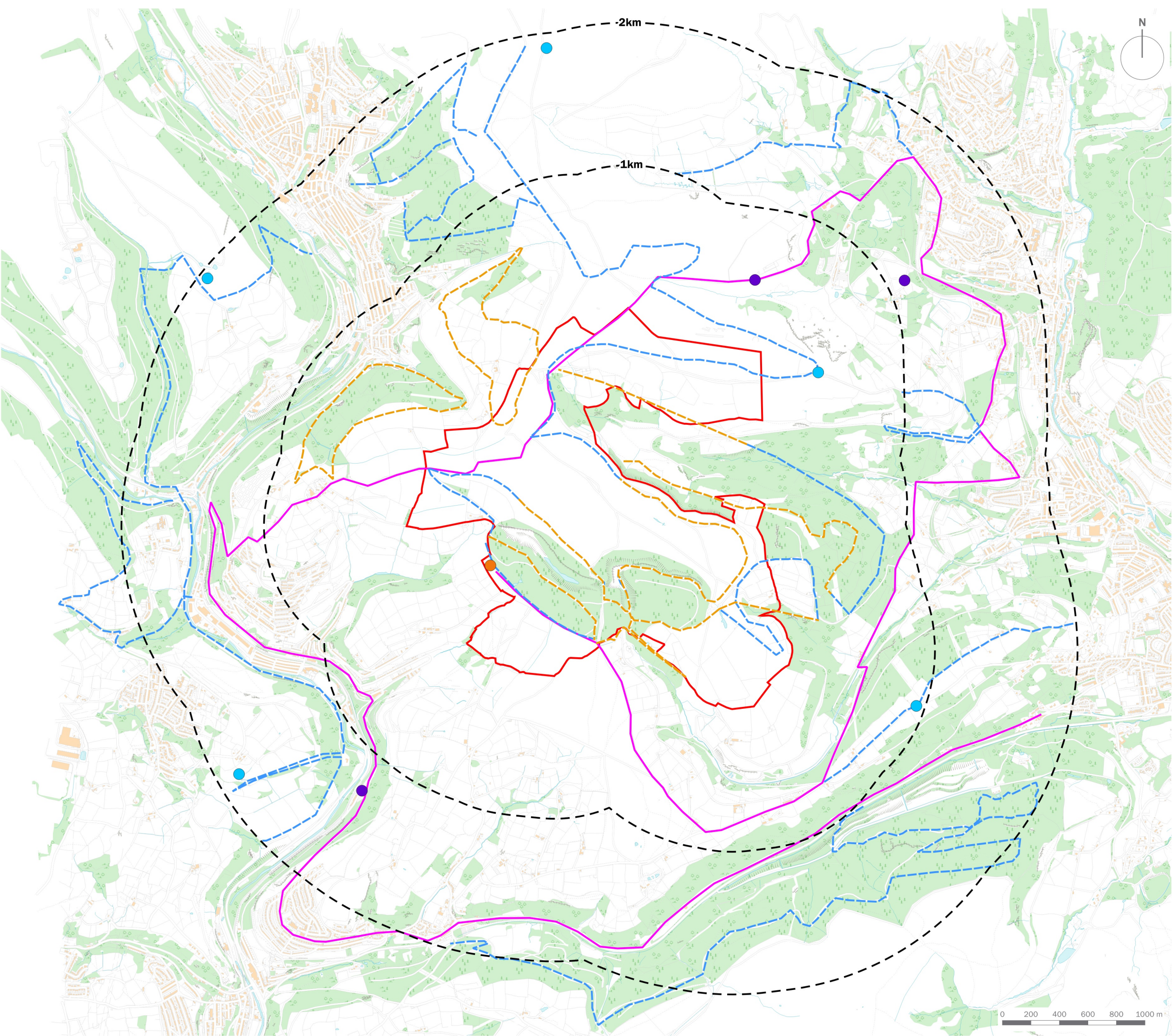
scale

1:20,000 @ A3

QA

GYo





Survey Boundary

Range Rings (at 1km intervals)

Transect Routes

2021 Walked

2020 and 2021 Walked

2020 and 2021 Driven

Vantage Points

2021

2020

2020 and 2021

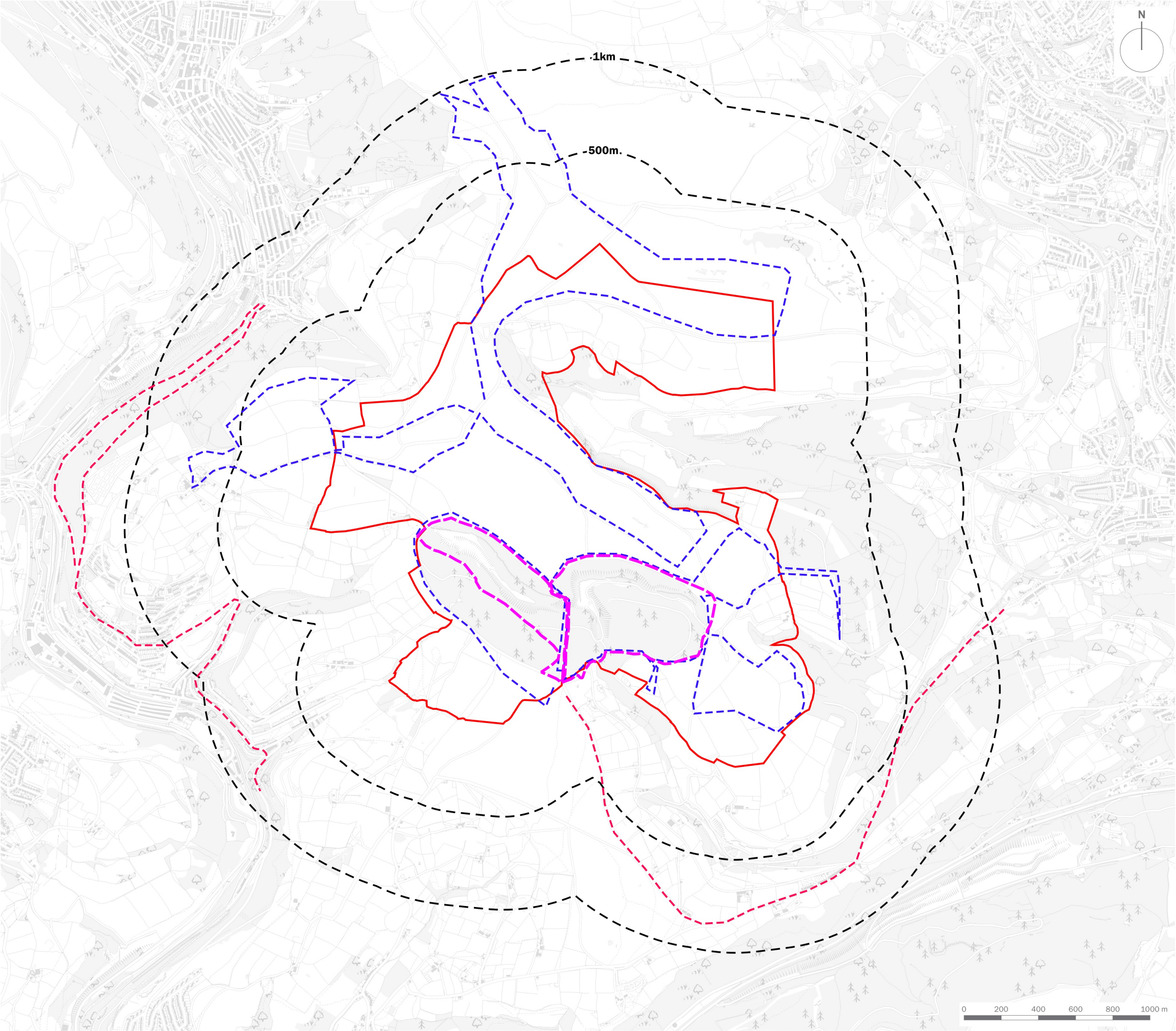
NB: Indicative routes shown with the number of visits to each area subject to breeding activity recorded. If a potential nesting territory appeared to be unoccupied on the basis of the first two visits then further visits to that territory were omitted.

client			
Pennant Walters			
project title			
Mynydd Llanhilleth Wind Farm			
drawing title			
Raptor Survey Routes and Vantage Points			
date	26 JULY 2022	drawn by	MCa
drawing number	edp6367_d011a	checked	RFo
scale	1:26,000 @ A3	QA	GYo



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Survey Boundary

Range Rings (at 500m intervals)

Nightjar and Owl Survey Transect Routes

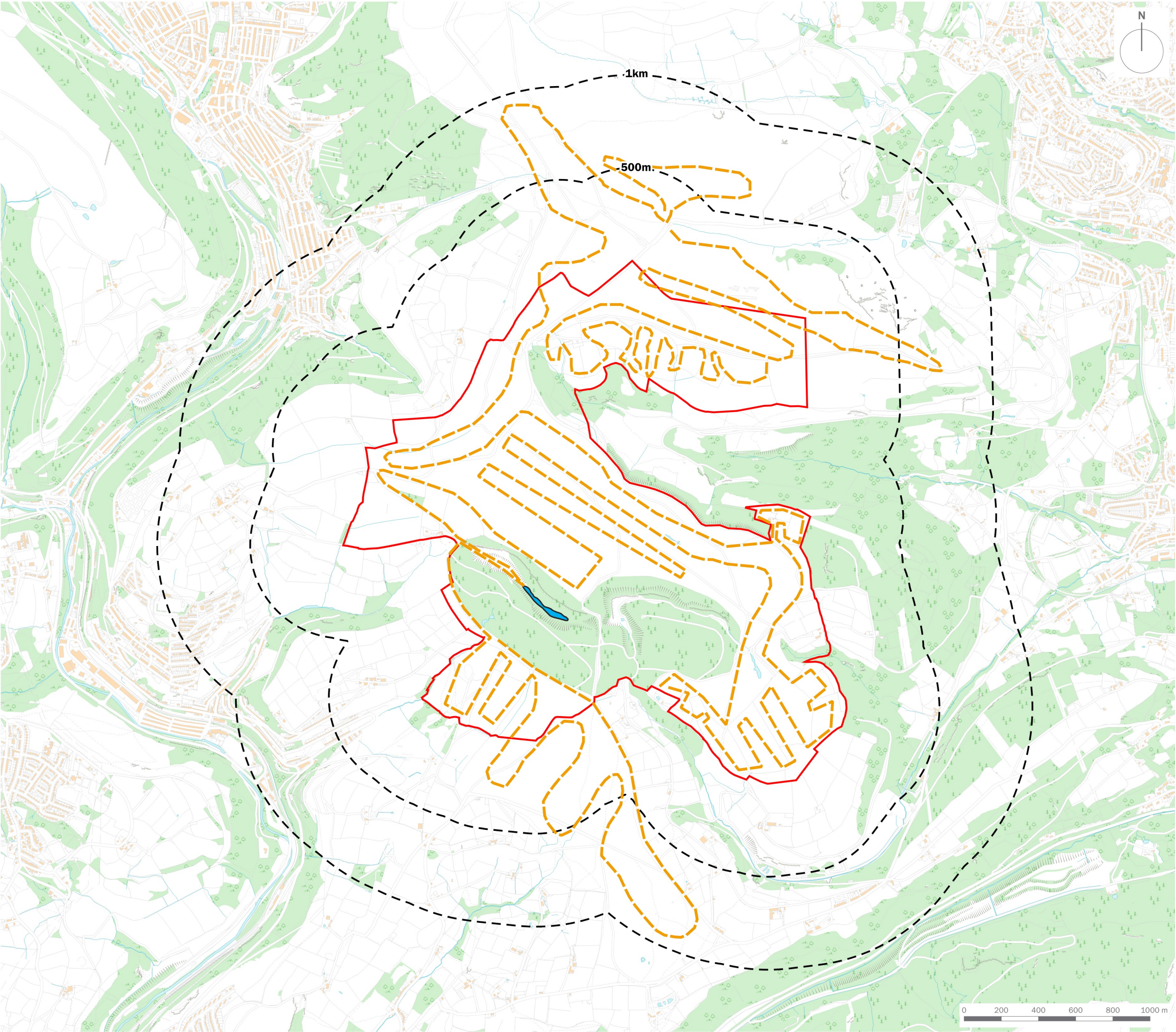
2020 and 2021 - Walked Route


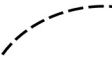


2021 - Driven Route

2022 - Nightjar Only Route

client			
Pennant Walters			
project title			
Mynydd Llanhilleth Wind Farm			
drawing title			
Nightjar and Owl Survey Transect Routes			
date	26 JULY 2022	drawn by	MCa
drawing number	edp6367_d010a	checked	RFo
scale	1:20,000 @ A3	QA	GYo





-  Survey Boundary
-  Range Rings (at 500m intervals)
-  Winter Bird Survey Transect Route
-  Blue Lagoon

NB: Indicative route shown

client

**Pennant Walters**

project title

**Mynydd Llanhilleth Wind Farm**

drawing title

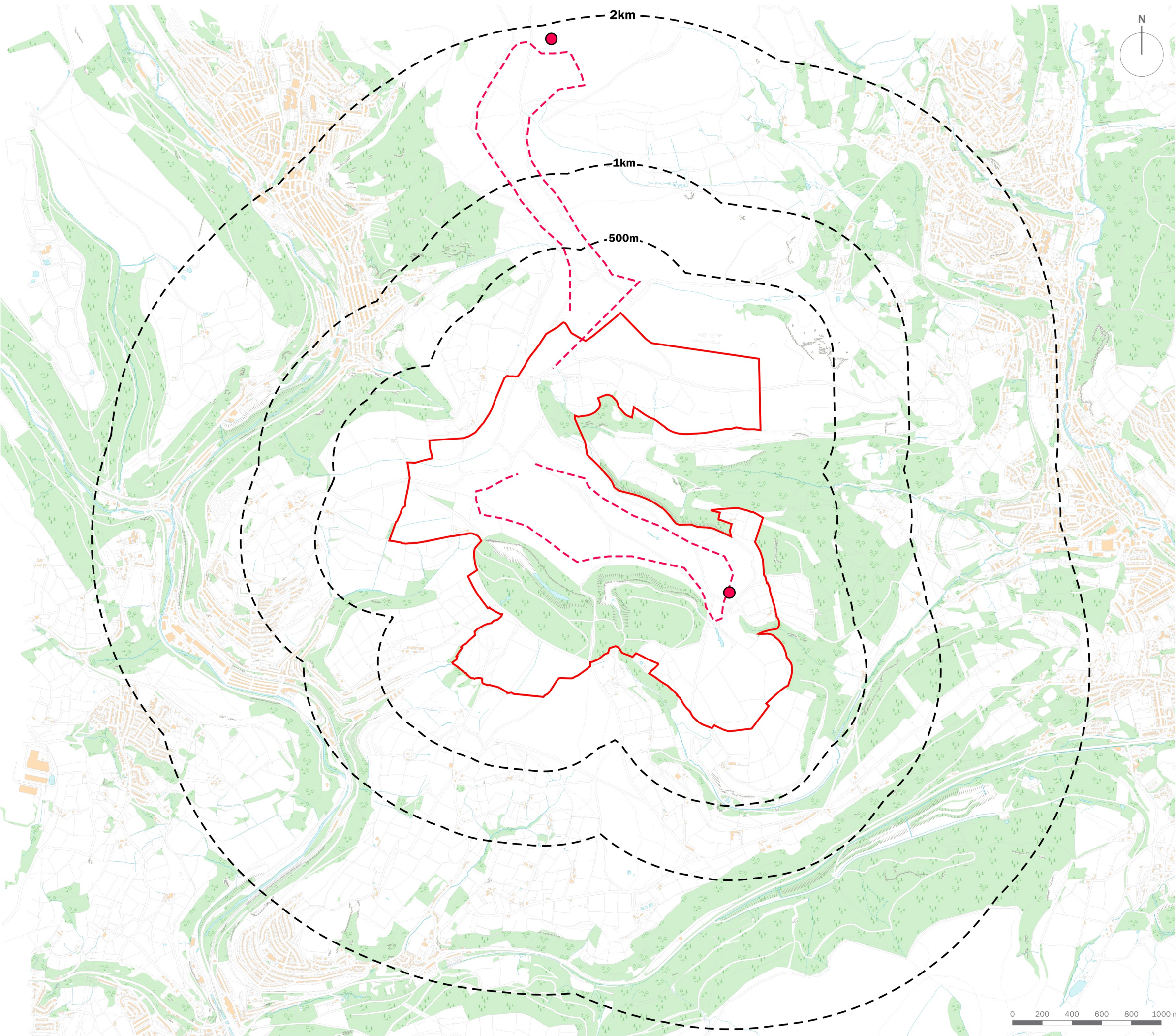
**Winter Bird Survey Transect Route**


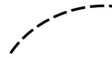


date	26 JULY 2022	drawn by	MCa
drawing number	edp6367_d043a	checked	RFo
scale	1:20,000 @ A3	QA	GYo



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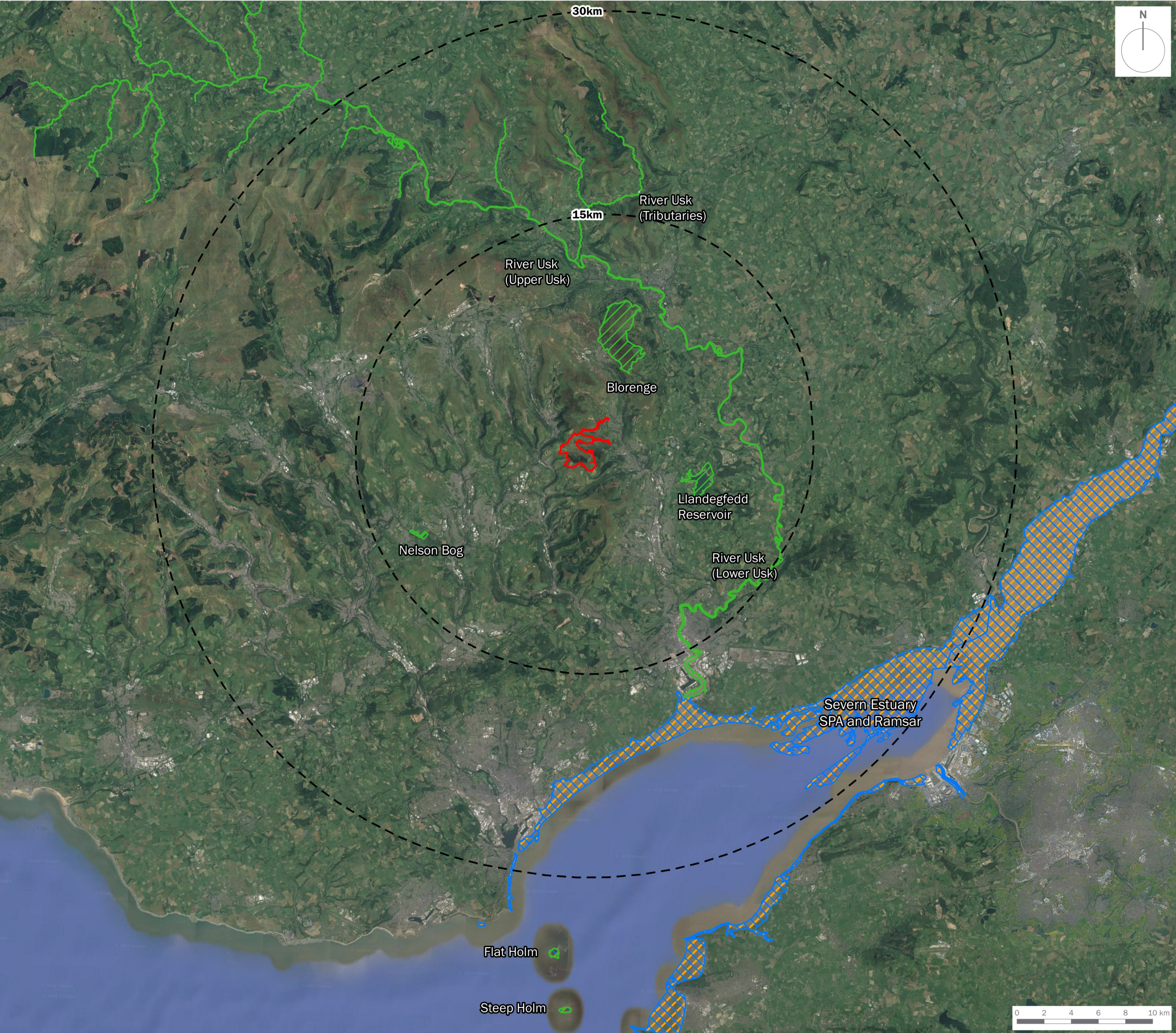




-  Survey Boundary
-  Range Rings (at 500m, 1km and 2km)
-  Hen Harrier Survey Route
-  Hen Harrier Vantage Points

client			
Pennant Walters			
project title			
Mynydd Llanhilleth Wind Farm			
drawing title			
Hen Harrier Survey Transect Routes and Vantage Points			
date	26 JULY 2022	drawn by	MCa
drawing number	edp6367_d044a	checked	RFo
scale	1:25,000 @ A3	QA	GYo





Survey Boundary

Range Rings (at 15km intervals)

Internationally Designated Sites (30km)

Special Protection Area (SPA)

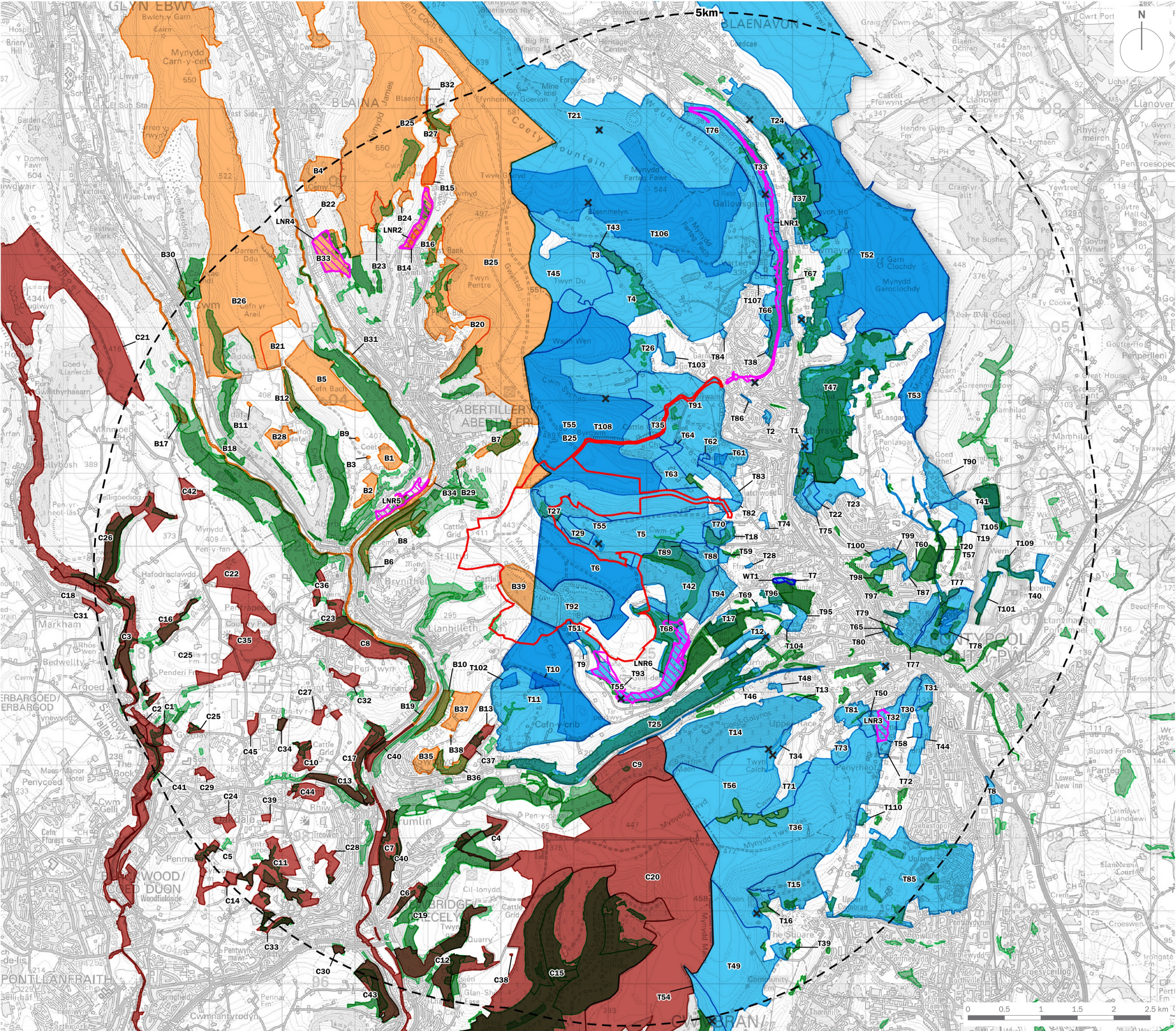
Ramsar Site

Nationally Designated Sites (15km)

Site of Special Scientific Interest (SSSI)

client			
Pennant Walters			
project title			
Mynydd Llanhilleth Wind Farm			
drawing title			
International and National Designated Ornithology Sites			
date	07 SEPTEMBER 2022	drawn by	MCa
drawing number	edp6367_d069	checked	KHe
scale	1:275,000 @ A3	QA	GYo





Survey Boundary

5km Buffer

Local Nature Reserve (LNR)

Wildlife Trust Reserve

Ancient Semi-natural Woodland

Sites of Importance for Nature Conservation (SINC)  
(by local authority)

Blaenau Gwent

Caerphilly

Torfaen

Key to Labels:  
B - Blaenau Gwent SINC  
C - Caerphilly SINC  
LNR - Local Nature Reserve  
T - Torfaen SINC  
✕ - Disused Quarries - Mynydd Henlys Common  
(Torfaen SINC with multiple locations)  
WT - Wildlife Trust Reserve

See sheet 2 for list of site names

client

Pennant Walters

project title

Mynydd Llanhilleth Wind Farm

drawing title

Non-statutory Designated Sites (Sheet 1 of 2)

date	22 SEPTEMBER 2022	drawn by	MCa
drawing number	edp6367_d015c	checked	KHe
scale	1:51,000 @ A3	QA	Gyo

edp

the environmental  
dimension partnership

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Blaenau Gwent SINC

Label	Name
B1	Arail Farm Slopes North
B2	Arail Farm Slopes South
B3	Arail Pond
B4	Bourneville Slip, Blaina
B5	Cefn Bach
B6	Coed Argoed
B7	Coed y Gilfach
B8	Coedcae Coch, Aberbeeg
B9	Coetgae Pond
B10	Craig Swffryd
B11	Craig y Deri Pond
B12	Cwm Big North, Aberbeeg
B13	Cwm Farm Pond
B14	Cwmtillery Lakes
B15	Cwmtillery Reservoir
B16	East of Gwastad Farm
B17	East of Penrhiwgwingi
B18	Ebbw River South Section
B19	Ebbw River South Tip Section
B20	Greenmeadow Farm
B21	Hafod-y-Dafal acid grassland
B22	Land to east of Bourneville Road
B23	Llanerch Padarn West
B24	Llanerch Paderm East
B25	Mulfran, Mynydd Coity, Mynydd James & Gwastad
B26	Mynydd Carn-y-Cefn and Cefn-yr-Arail
B27	North of Hendre Gwyndwr
B28	Pond Group 3
B29	Quarry at Gilfach Wen Farm
B30	Rear of New Cwm Terrace
B31	River Ebbw Fach
B32	River Tyleri
B33	Roseheyworth Community Woodlands
B34	Six Bells Colliery Site
B35	Sofrydd Quarry
B36	Swffryd Wood
B37	Swffryd-fach
B38	Swyffryd Ganol Pond
B39	Tirpentwys Cut

Caerphilly SINC

Label	Name
C1	Blackwood Riverside Woodlands, North East of Blackwood
C2	Caeau Cwm-Corrwg, North of Oakdale
C3	Coed Argoed, East of Bedwellty
C4	Coed Cil-Lonydd, East of Newbridge
C5	Coed Cwm Philkins, East of Penmaen
C6	Coed Gawni, East of Newbridge
C7	Coed Goferau, Crumlin
C8	Coed Trinant, East of Pentwyn
C9	Coedcae Watkin Dafydd, East of Crumlin
C10	Crumlin Old Farm Meadows, Crumlin
C11	Cwm Dows Valley, East of Penmaen
C12	Cwm Hafod-Fach Woodlands, North of Abercarn
C13	Cwm Kendon, Crumlin
C14	Cyncoed Fields, East of Penmaen
C15	Gwydon Valley Woodlands, Abercarn
C16	Hafodrisclawdd, East of Markham
C17	Llanerch-Isaf Woodland, Crumlin
C18	Markham Railway Line, Markham
C19	Monmouth to Brecon Canal
C20	Mynydd Maen, East of Newbridge
C21	Mynydd Manmoel, North of Manmoel
C22	Mynydd Pen-y-Fan, South East of Manmoel
C23	Nant Gwynt Woodland, Glandwr
C24	Nant Philkins Fields, Oakdale
C25	Nant-Gau and Darran Woodlands, North of Oakdale
C26	Nant-y-Felin Wood, North East of Markham
C27	Pant-Glas Meadow, Trinant
C28	Pant-Ysgawen Fields, Treowen
C29	Pen-Rhiw Bengi Marsh, Oakdale
C30	Pen-Rhiw-Bica, South of Newbridge
C31	Pen-Rhiw'r-Eglwys, East of Markham
C32	Pentwyn Fields, Pentwyn
C33	Pentwyn-Isaf Woodlands, Pentwynmawr
C34	Pen-y-Fan Industrial Estate Woodland, Oakdale
C35	Pen-y-Fan Pond and Meadows, West of Pentwyn
C36	Pen-y-Fan-Fach Grasslands, Glandwr
C37	Pontbren, North of Crumlin
C38	Pwllgwinau, East of Newbridge
C39	Remploy Factory Grounds, Oakdale
C40	River Ebbw
C41	River Sirhowy
C42	Twyn y Bleiddiaid, South East of Manmoel
C43	Tyle-Coch Wood, North of Abercarn
C44	Ty-Mawr Wood, Rhiw
C45	Valentec Nature Reserve, North of Croespenmaen

Torfaen SINC

Label	Name
T1	Abersychan Quarry
T2	Bewdley Reptile Site
T3	Blaen Ffrwd
T4	Blaengaefog Rifle Range
T5	Blaensychan Valley
T6	Blaen-y-cwm upland pasture
T7	Branches Fork Meadows
T8	Butcher's Grassland
T9	Cefin Crib Top
T10	Cefn Crib Bog
T11	Cefn y Crib
T12	Coch North Field 3 Hay fields
T13	Coed Gobynos Flushes
T14	Coed Golynos Mixed Woodkand
T15	Coed Gwaun-y-ffeiriad
T16	Coed Gwaun-y-fferiad grasslands
T17	Coed Parciau
T18	Coed Pistyll Gwyn
T19	Coedcae
T20	Coedcae Marsh
T21	Coity and Mynydd James mountains
T22	Cold Barn Farm
T23	Cold Barn Farm
T24	Craig Capel Newydd/ Blaenavon Community Woodland
T25	Craig Gwent Wood Ancient Woodland
T26	Cwm Blaengaefog
T27	Cwm Ddu Woods, Blaenserchan
T28	Cwm Ffrwd-oyer Pasture
T29	Cwm Sychan
T30	Cwmynyscoy
T31	Cwmynyscoy Hill
T32	Cwmynyscoy Quarry
T33	Cycle path from Blaenavon to Garndiffaith
T34	Disused Quarries - Mynydd Henllys Common
T35	Disused Quarry colonised by acidic grassland and dry acidic heath
T36	Edlogan Common
T37	Furlong Wood
T38	Garn Teg School Pond
T39	Gelli Gravog Pastures
T40	Gofmy Wood (Lower Wern Wood)
T41	Govera planted ancient woodland site
T42	Graig Ddu/Gelli-Deg Wood
T43	Graig-ddu, Blaenavon
T44	Griffithstown Fields
T45	Gwastad Common
T46	Hafodyrynys Road Verge
T47	Lasgarn Wood, Cwm Lasgarn, Freehold Wood (HAPA-7-13), Company's Wood (HAPA-7-14)

Label	Name
T48	Lower Race
T49	Magna Porta Common
T50	Mount Pleasant, Cwmynyscoy
T51	Mount View, Blaen-y-Cwm
T52	Mynydd Garn Chlochdy
T53	Mynydd Garn Wen
T54	Mynydd Henllys Common
T55	Mynydd Llanhilleth Common
T56	Mynydd Maen and Mynydd Llwyd Common
T57	Nant Y Gollen Tributary
T58	New Farm Pasture
T59	Oaktree Farm
T60	Old Penygarn East
T61	Pant - glas Meadow
T62	Pant Glas Marsh
T63	Pant Glas Slip
T64	Pant-glas Pond
T65	Pearl House / Hypervalue Combination Bat Roost
T66	Pen y Lan Heath/Garndiffaith rugby club
T67	Pen Y Lan Wood
T68	Penrhiwfid Fields
T69	Pentranch
T70	Pentrepod Tip
T71	Penyrheol Marshes
T72	Penyrheol Meadows
T73	Penyrheol Reservoir
T74	Pontnewynydd Cricket Club
T75	Pontnewynydd Junior and Infants Bat Roost
T76	Pontypool Blaenavon Railway Site 2
T77	Pontypool Park
T78	Pontypool Park - parkland
T79	Pontypool Park Bowling Green
T80	Pontypool Tramway Tunnel
T81	Race Farn - SINC
T82	Rhiw Frank Meadows (2 Hay meadows)
T83	Rhiw Frank Spoil
T84	Severn View Meadows
T85	South Sebastopol Grasslands (Fields 2,3,4,5,6 and 14) and Streams
T86	Steepfield
T87	Tabarnacle Church yard and adjacent field
T88	Tal-ochor Meadow
T89	Tal-ochr Colliery spoil
T90	The Bloreng Common
T91	The British
T92	Tirpentwys Cut
T93	Tirpentwys LNR
T94	Tranch Fields
T95	Tranch Heath

Label	Name
T96	Tranch Wood, Pontypool
T97	Trevethin Chapel Bat Roost
T98	Trevethin Fields
T99	Trevethin Fields
T100	Trevethin Fields
T101	Ty Poeth Wood
T102	Ty'r y-wen Farm
T103	Tyr-Beili Wood
T104	Upper Gillipystyll
T105	Upper Govera Wood
T106	Varteg (HAPD-3-5), Ffrwd y Blaen Melyn (HAPE-1-8), Varteg Reservoir (HAPE-1-3), Varteg Pasture North
T107	Varteg Meadows
T108	Waun Wen & Cwmbyrgwm
T109	Wern Wood
T110	Whitehall Marsh

client

Pennant Walters

project title

Mynydd Llanhilleth Wind Farm

drawing title

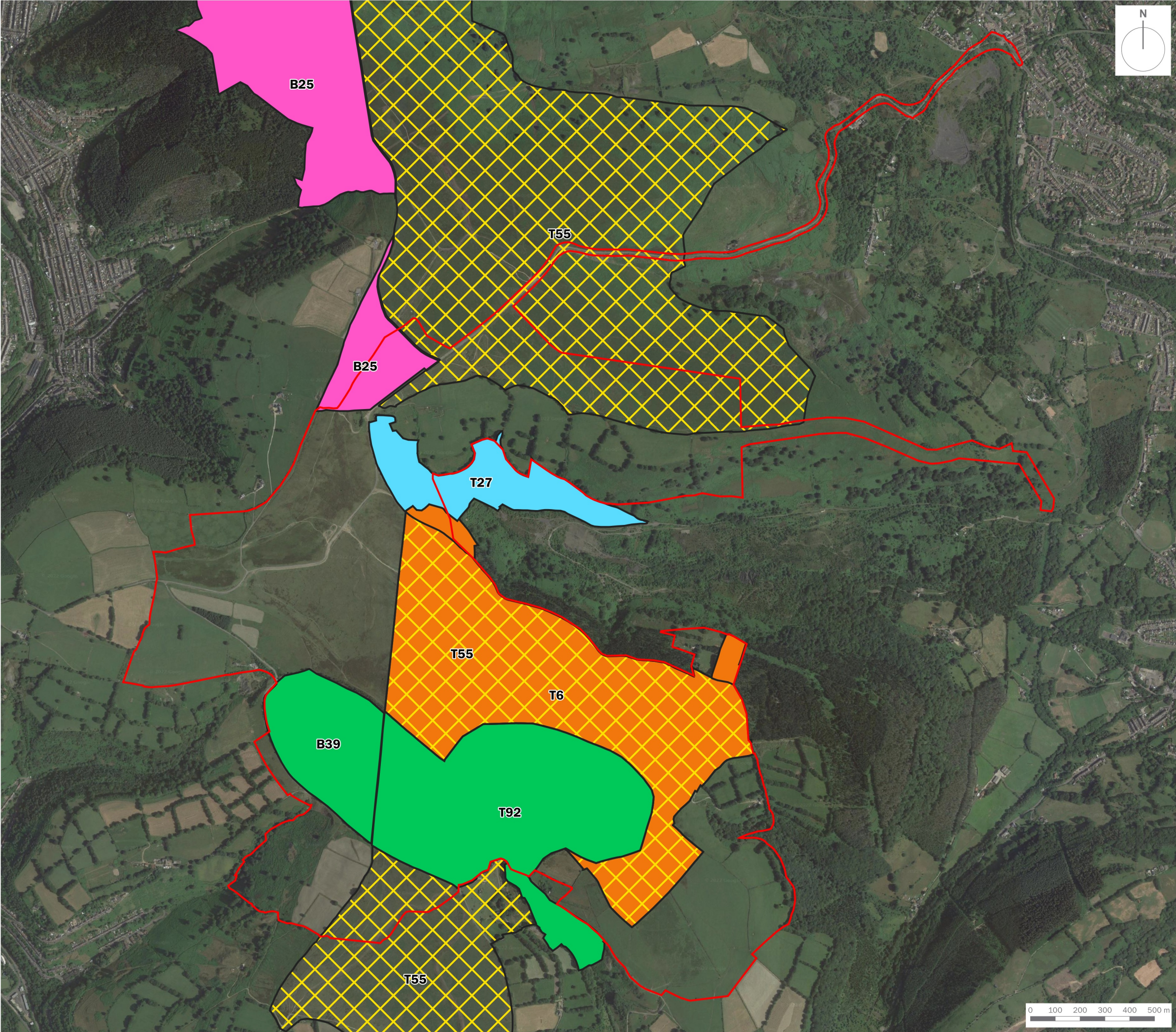
Non-statutory Designated Sites (Sheet 2 of 2)

date	22 SEPTEMBER 2022	drawn by	MCa
drawing number	edp6367_d015c	checked	KHe
scale	Not to scale @ A3	QA	GYo



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Survey Boundary

Sites of Importance for Nature Conservation (SINCs)

Blaen-y-Cwm Upland Pasture - T6

Cwm Ddu Woods, Blaenserchan - T27

Mulfran, Mynydd Coity, Mynydd James & Gwastad - B25

Mynydd Llanhilleth Common (3 parts) - T55

Tirpentwys Cut - B39 & T92

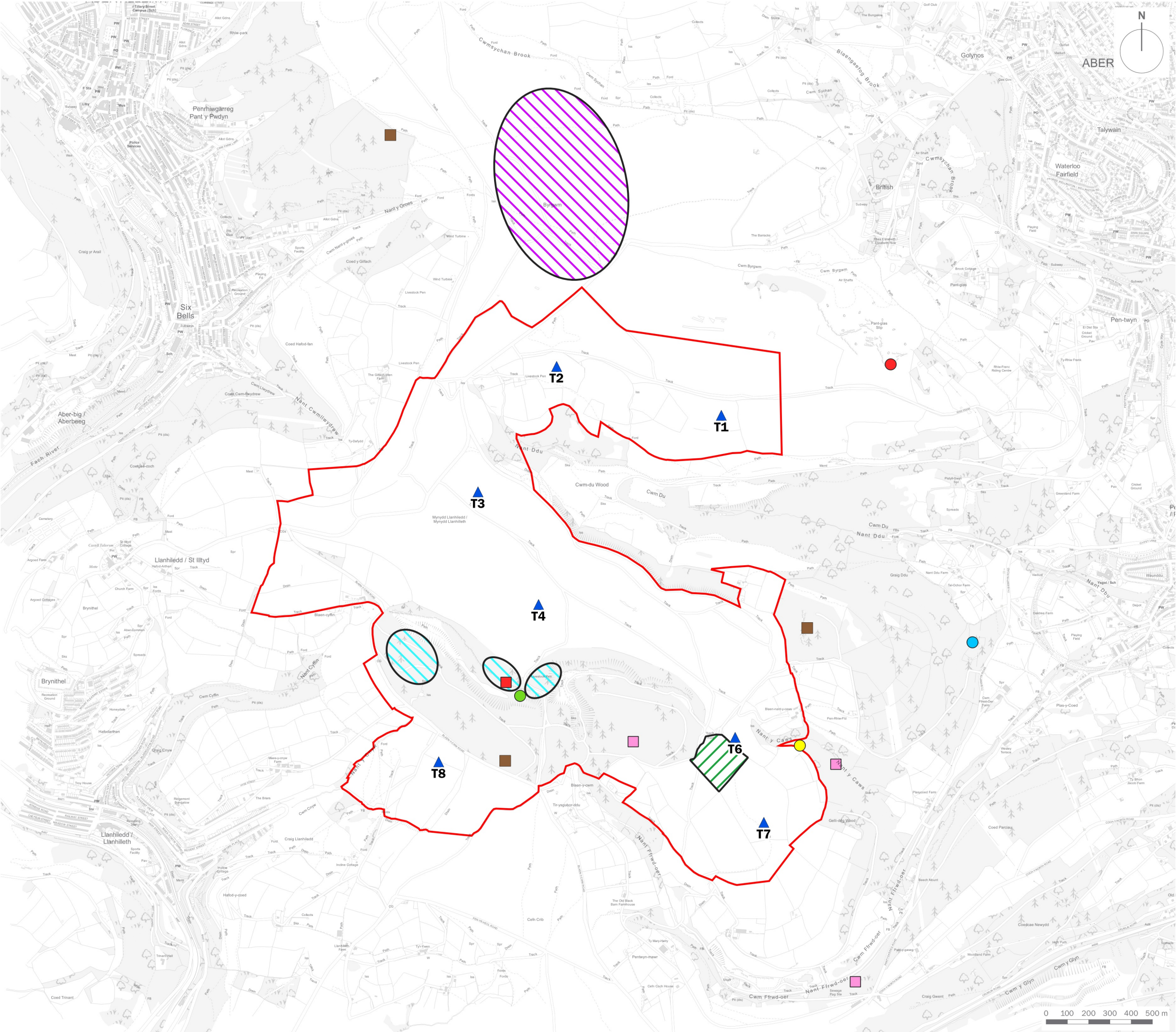
client			
Pennant Walters			
project title			
Mynydd Llanhilleth Wind Farm			
drawing title			
Local Designated Ornithology Sites			
date	29 JUNE 2022	drawn by	MCa
drawing number	edp6367_d115	checked	RFo
scale	1:15,000 @ A3	QA	GYo

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Survey Boundary

Turbine Locations

Species

Buzzard

Goshawk

Long-eared Owl

Peregrine

Raven

Red Kite

Year Nested

2020

2021

Indicative Red Grouse Nest Location (2021)

Indicative Snipe Nest Location (2021)

Indicative Nightjar Nest Locations (2022)

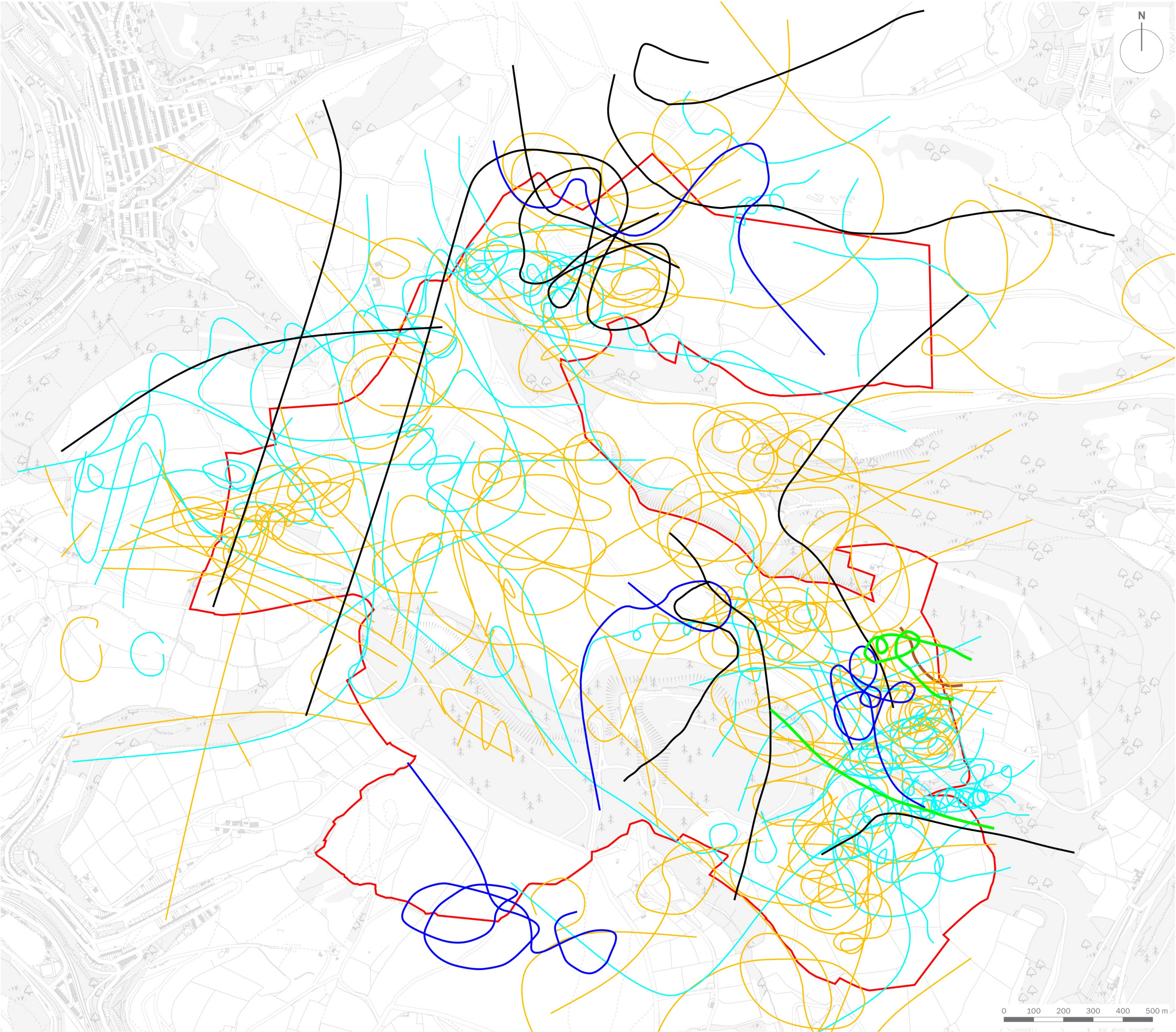
CONFIDENTIAL

client	Pennant Walters		
project title	Mynydd Llanhilleth Wind Farm		
drawing title	Raptor, Moorland, and Nightjar Breeding Bird Survey Results 2020-2022 (Confidential)		
date	14 AUGUST 2024	drawn by	MCa
drawing number	edp6367_d084a	checked	RGo
scale	1:17,500 @ A3	QA	Gyo



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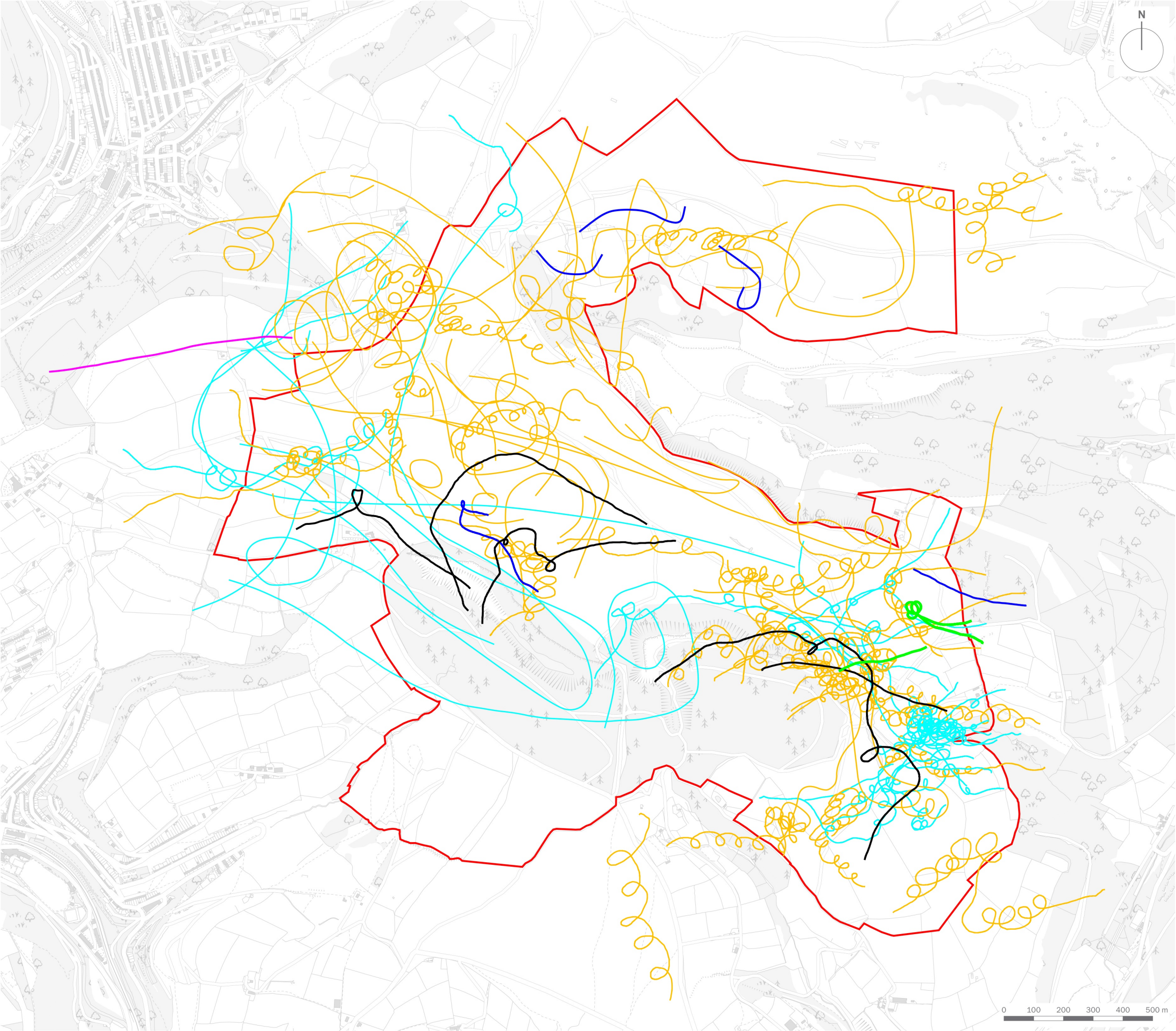
- Survey Boundary
- Species
- Buzzard
  - Goshawk
  - Kestrel
  - Peregrine
  - Red Kite
  - Sparrowhawk

client			
Pennant Walters			
project title			
Mynydd Llanhilleth Wind Farm			
drawing title			
Raptor Summer Flight Activity – April to August 2020			
date	21 JULY 2022	drawn by	MCa
drawing number	edp6367_d085	checked	RFo
scale	1:12,500 @ A3	QA	GYo



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Survey Boundary

Species

Buzzard

Goshawk

Hen Harrier

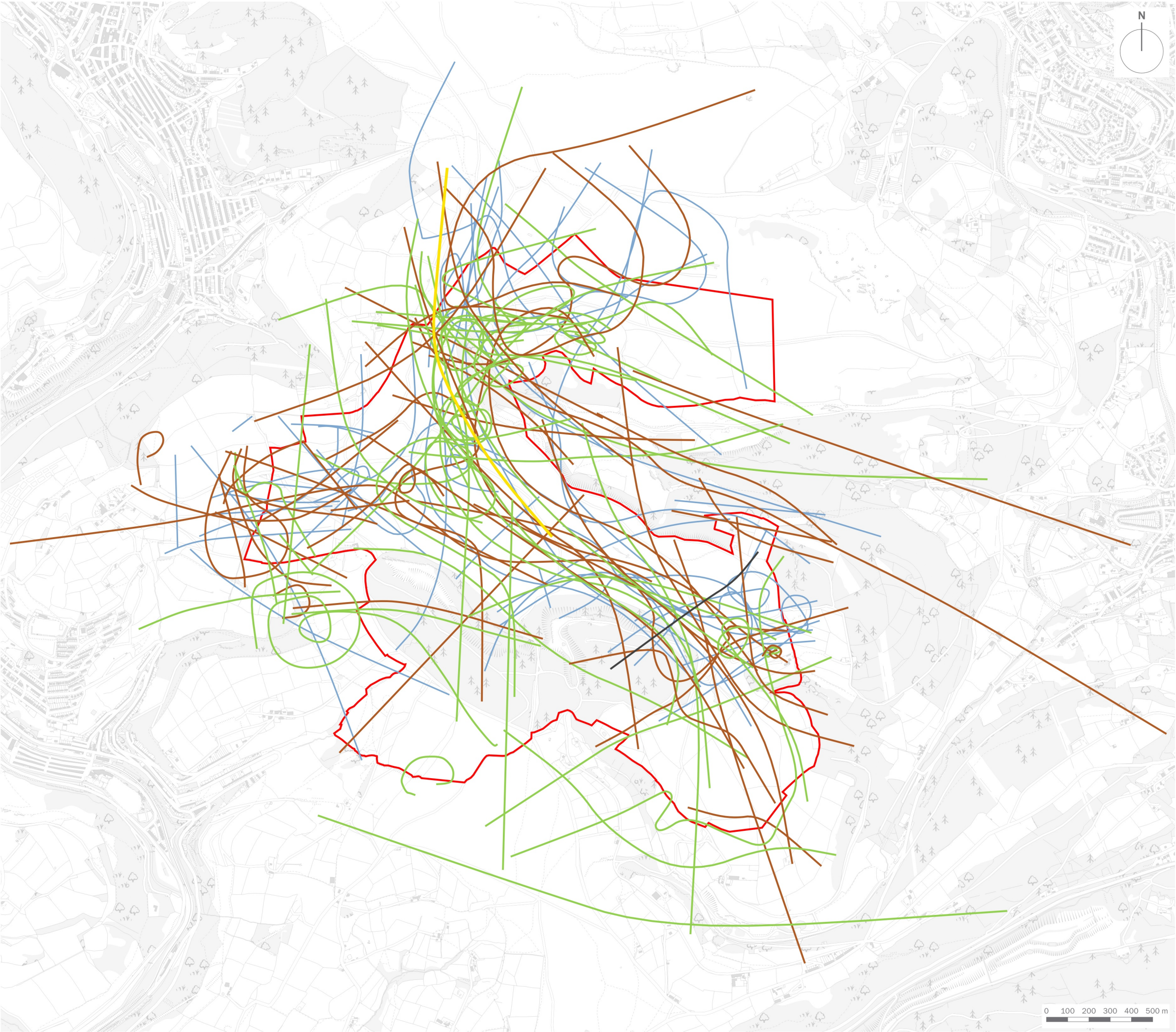
Kestrel

Peregrine

Red Kite

client			
Pennant Walters			
project title			
Mynydd Llanhilleth Wind Farm			
drawing title			
Raptor Summer Flight Activity – April to August 2021			
date	21 JULY 2022	drawn by	MCa
drawing number	edp6367_d086	checked	RFo
scale	1:12,500 @ A3	QA	GYo





Survey Boundary

Species

Cormorant

Grey Heron

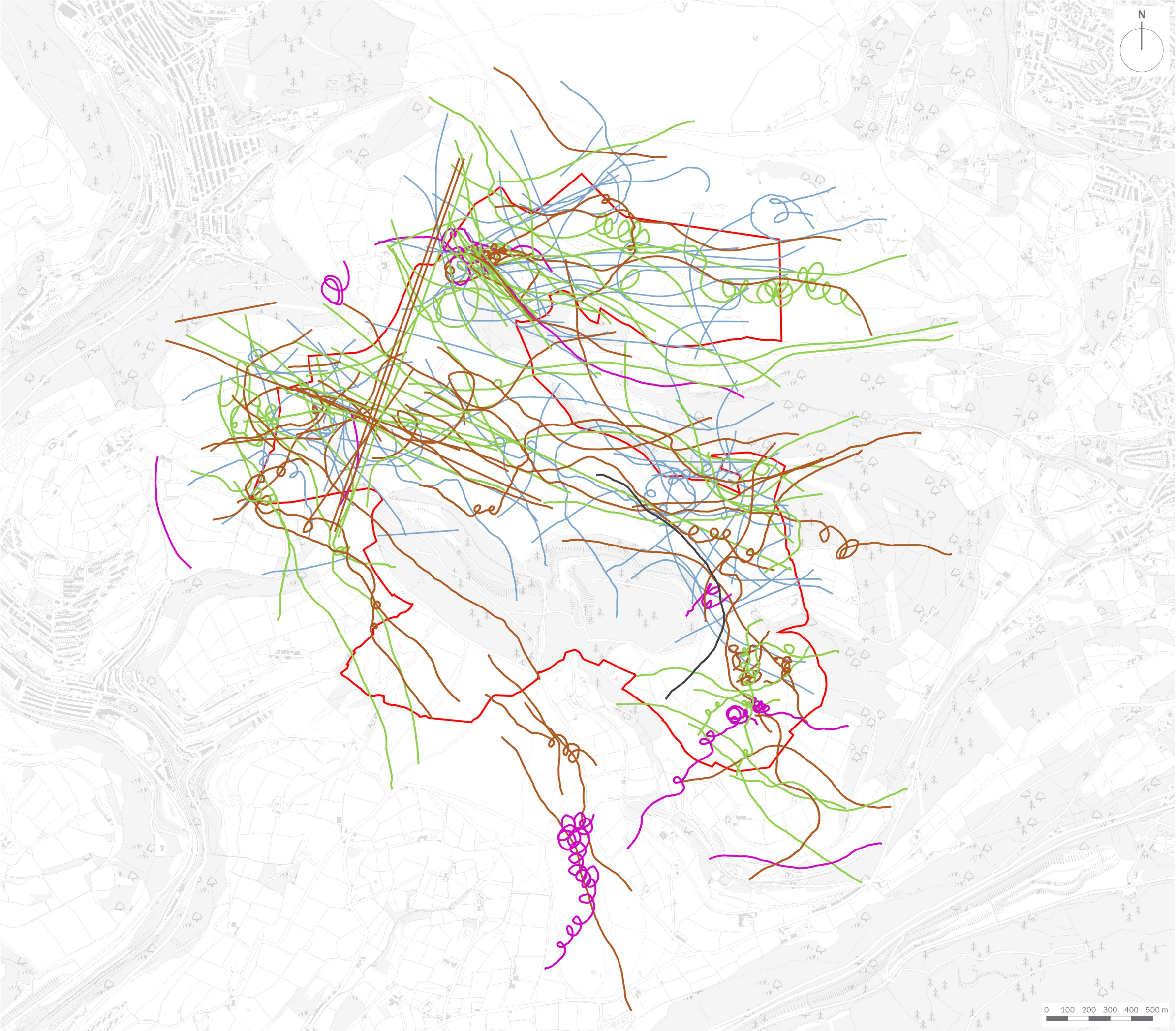
Herring Gull

Lesser Black-backed Gull

Raven

client				
Pennant Walters				
project title				
Mynydd Llanhilleth Wind Farm				
drawing title				
Gulls and Other Notable Species Summer Flight Activity – April to August 2020				
date	21 JULY 2022	drawn by	MCa	
drawing number	edp6367_d087	checked	RFo	
scale	1:17,500 @ A3	QA	GY	





Survey Boundary

Species

Grey Heron

Herring Gull

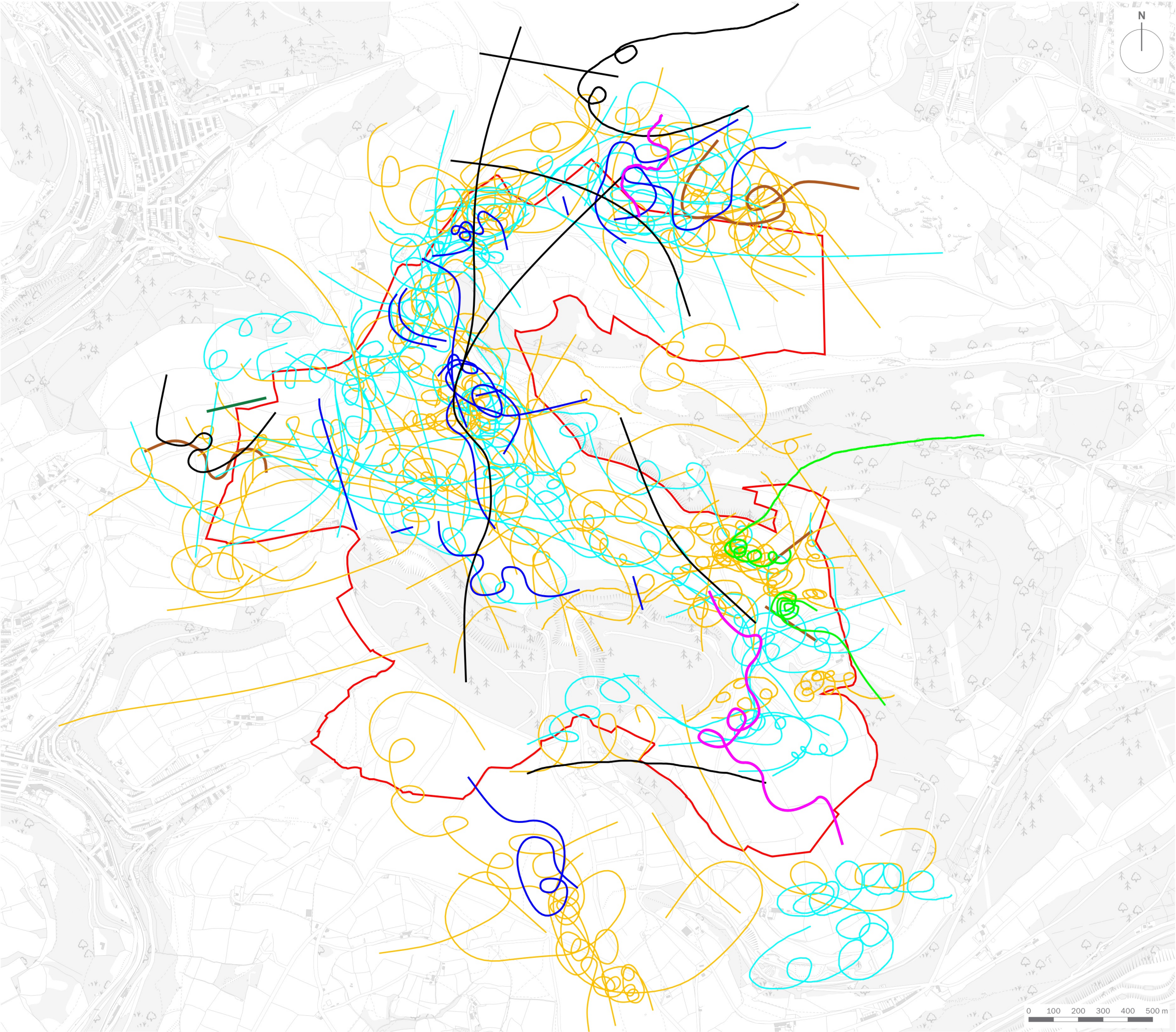
Lesser Black-backed Gull

Mixed Larus flock

Raven

client			
Pennant Walters			
project title			
Mynydd Llanhilleth Wind Farm			
drawing title			
Gulls and Other Notable Species Summer Flight Activity – April to August 2021			
date	21 JULY 2022	drawn by	MCa
drawing number	edp6367_d088	checked	RFo
scale	1:17,500 @ A3	QA	GYo

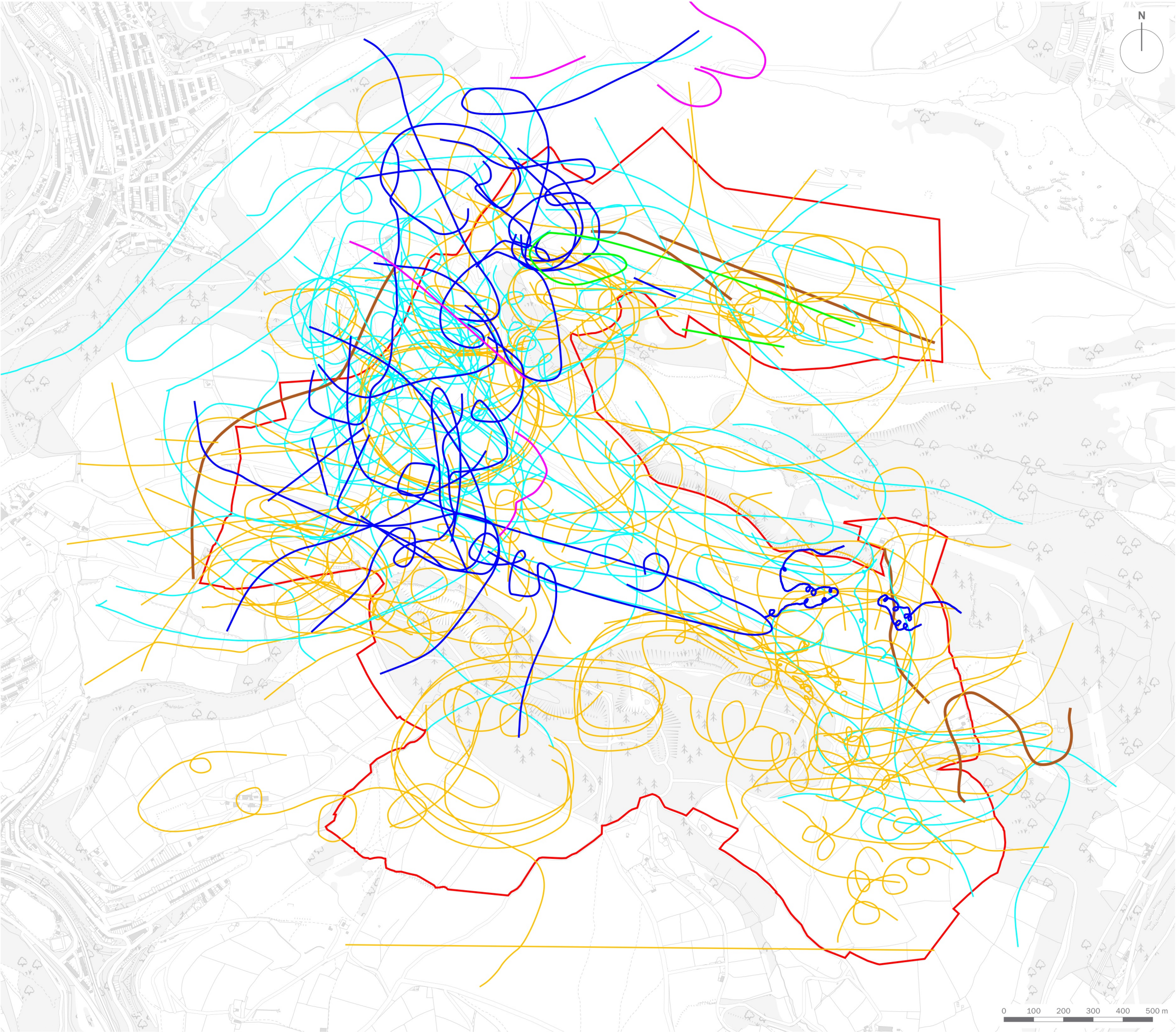




- Survey Boundary
- Species
- Buzzard
- Goshawk
- Hen Harrier
- Kestrel
- Merlin
- Peregrine
- Red Kite
- Sparrowhawk

client			
Pennant Walters			
project title			
Mynydd Llanhilleth Wind Farm			
drawing title			
Raptor Winter Flight Activity – September 2020 to March 2021			
date	21 JULY 2022	drawn by	MCa
drawing number	edp6367_d089	checked	RFo
scale	1:15,000 @ A3	QA	GYo





Survey Boundary

Species

Buzzard

Goshawk

Hen Harrier

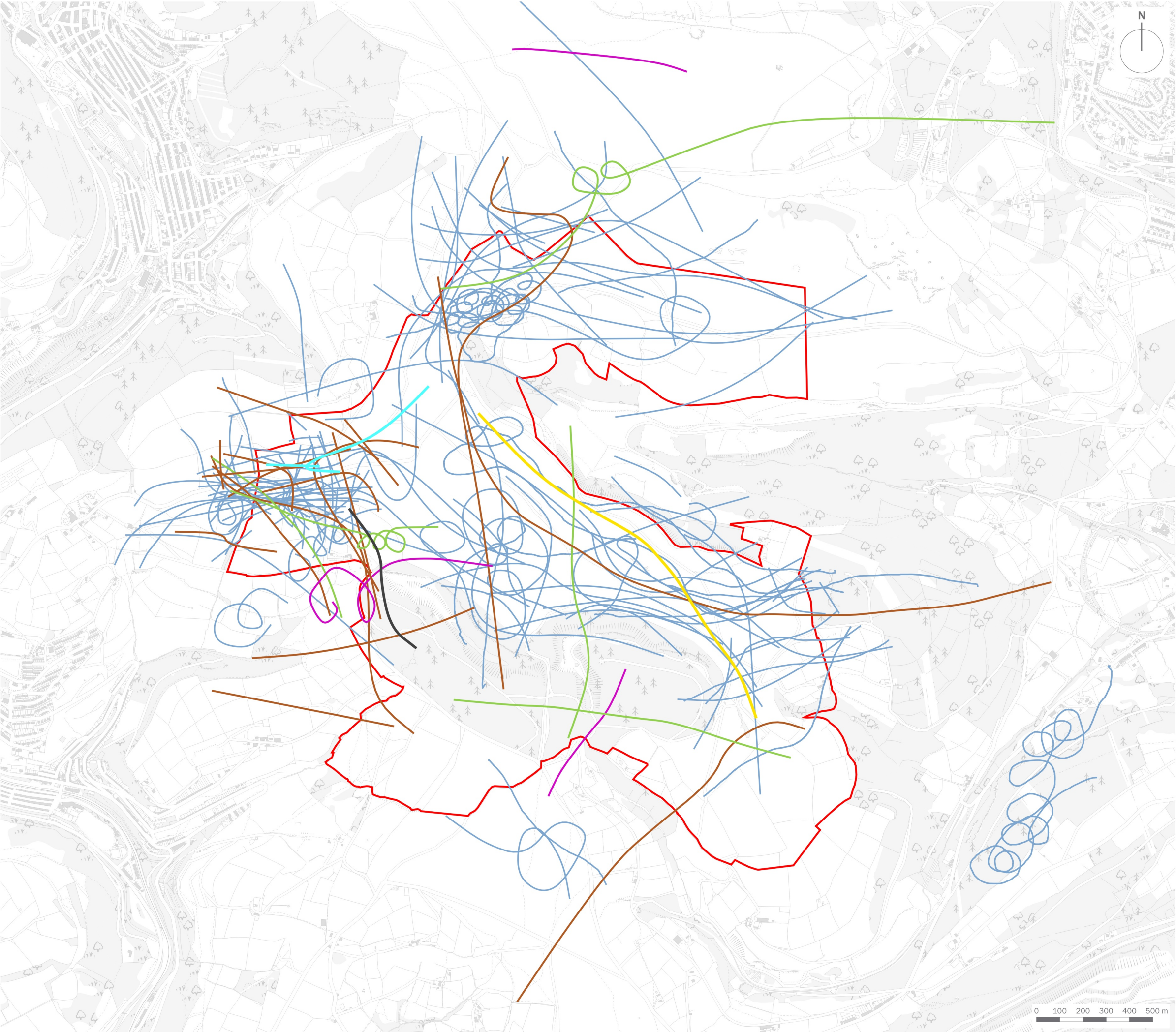
Kestrel

Red Kite

Sparrowhawk

client			
Pennant Walters			
project title			
Mynydd Llanhilleth Wind Farm			
drawing title			
Raptor Winter Flight Activity – September 2021 to April 2022			
date	20 JULY 2022	drawn by	MCa
drawing number	edp6367_d090	checked	KHe
scale	1:12,500 @ A3	QA	GYo

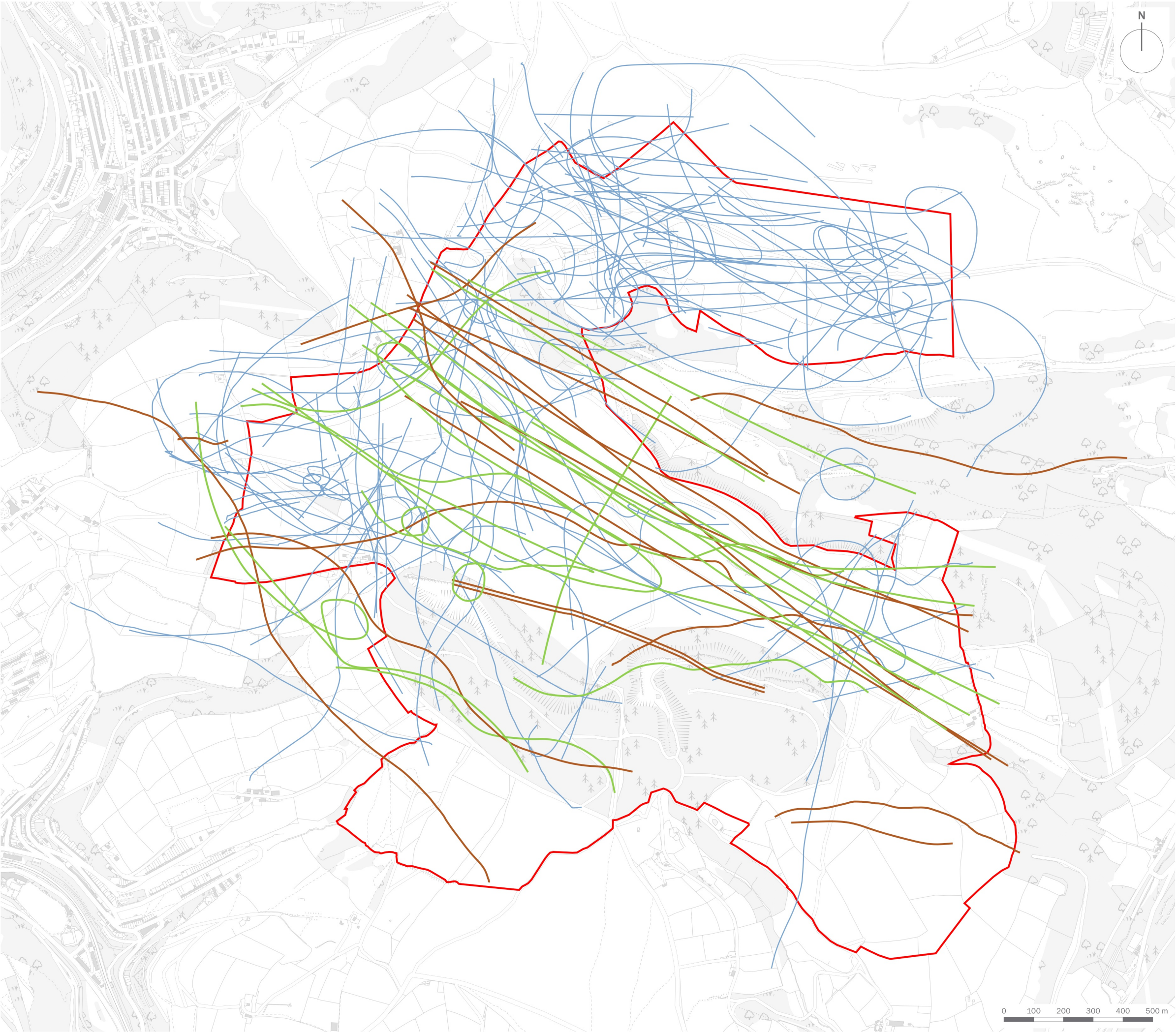




- Survey Boundary
- Species
- Cormorant
- Grey Heron
- Herring Gull
- Lesser Black-backed Gull
- Mixed Larus flock
- Raven
- Snipe

client			
Pennant Walters			
project title			
Mynydd Llanhilleth Wind Farm			
drawing title			
Waders, Gulls, and Other Notable Species Winter Flight Activity – September 2020 to March 2021			
date	21 JULY 2022	drawn by	MCa
drawing number	edp6367_d091	checked	RFo
scale	1:16,000 @ A3	QA	GYo





Survey Boundary

Species

Herring Gull

Lesser Black-backed Gull

Raven

client			
Pennant Walters			
project title			
Mynydd Llanhilleth Wind Farm			
drawing title			
Gulls and Other Notable Species Winter Flight Activity – September 2021 to April 2022			
date	20 JULY 2022	drawn by	MCa
drawing number	edp6367_d118	checked	KHe
scale	1:12,500 @ A3	QA	GYo





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GROUP** REGISTERED  
PRACTICE



**Landscape  
Institute**  
Registered practice