Asland Walks Energy Park

on behalf of The Bretherton Energy Co-Operative and GA Pet Food Partners

Extended Habitat Survey Report- 2025 Update

avianecology

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1 INTRODUCTION

1.1 Background

1.1.1 Avian Ecology Ltd. (AEL) was commissioned by The Bretherton Energy Co-Operative and GA Pet Food Partners to undertake extended habitat surveys in relation to a 'Proposed Development' of a solar and wind energy park on land at Plocks Farm, Liverpool Road, Bretherton, Leyland PR26 9AX (termed the 'Main Site'), as illustrated on the Site Location Plans (**Figure 1** (2023) and **Figure 4** (2025)).

1.1.2 Throughout this report, common names for species are favoured over scientific names unless there is potential for confusion and in which case scientific names are also presented.

1.1.3 This report should be read in conjunction with the Green Energy Site A Preliminary Ecological Appraisal produced by Pennine Ecological in 2021[1] and is an updated version of the Aslands Walks Extended Habitats Baseline Report produced by Avian Ecology in 2023[2].

1.2 Survey Area Overview-2021-2023

1.2.1 The '2023 Survey Area', as shown in **Figure 1**, was the same area as the Pennine Ecology 2021 survey, comprised of the Main Site (an area of approximately 38ha) but with the exclusion of the proposed cable routes (see paragraph 1.3.1).

1.2.2 The 2023 Survey Area comprised habitats of predominantly arable field, bordered with grassland strips, ditches and adjacent watercourses. The River Douglas ran directly along the eastern Site boundary, with the Leeds and Liverpool Canal located along the western Site boundary.

1.2.3 In the wider context, the Main Site, was surrounded by extensive areas of farmland and scattered urban settlements.

1.3 Survey Area Overview-2025

1.3.1 Since initial survey work there have been minor amendments to the Main Site red line boundary, but most notably, the 2025 Survey Area now includes the addition of two newly proposed cable routes with substations, required to support the export of electricity from the energy park (termed the 'Cable Route(s)'). One goes north from the Main Site to Plocks Farm substation, whilst the other goes north-east towards a future connection point and proposed substation just south of North Road.

1.3.2 The Main Site has undergone a series of advanced planting enhancements for the Proposed Development since the initial 2021 and 2023 habitat surveys, including hedgerows, grassland and woodland planting around the perimeter. It is understood that the initial 2021 and 2023 habitat survey data will be used as the Biodiversity Net Gain (BNG) baseline, in liaison with the Local Planning Authority (LPA).

1.3.3 This update survey therefore measures and maps the habitat enhancements made so far in relation to the original survey data, whilst also providing baseline data for the Cable Routes, which were not previously surveyed. It also verifies that habitat types and conditions captured within the original

[1] Pennine Ecological (2021). *Green Energy Site A Preliminary Ecological Appraisal*.
[2] Avian Ecology Ltd (2023). Asland Walks Extended Habitat Baseline Survey Report.

2021/2023 surveys remain largely the same and the original survey data can be used to inform the assessment.

1.3.4 There were also several statutory International and National Designated Sites within a potential Zone of Influence (ZoI) of the Proposed Development Main Site, including the Ribble and Alt Estuaries Special Protection Area (SPA) /Ramsar site, Ribble Estuary Site of Special Scientific Interest (SSSI), and Martin Mere SSSI/ Ramsar site which are located approximately 5.1km, 5.1km and 5km from the Main Site respectively. These sites are designated for a wide suite of coastal and migratory species, including overwintering Bewick's and whooper swans and pink-footed geese, which may overfly the Main Site and use habitats within it.

1.3.5 In relation to the Cable Routes, the Ribble and Alt Estuaries SPA/ Ramsar site, Ribble Estuary SSSI and Martin Mere SSSI/ Ramsar sites are located approximately 5km, 5km and 5.95km respectively from them at the closest points.

2 METHODOLOGY

2.1 Field Surveys

Extended Habitat Surveys

2.1.1 An extended Phase 1 habitat survey of the Main Site was first undertaken by Pennine Ecological Limited on 16th June 2021. The survey followed UK industry standard Joint Nature Conservation Committee (JNCC) Phase 1 Habitat Methodology[3] and with reference to the Chartered Institute of Ecology and Environmental Management (CIEEM) Technical Guidance Series Guidelines for Preliminary Ecological Appraisal (PEA) (CIEEM, 2017)[4].

2.1.2 A validation walkover of the Main Site was then undertaken by Z. Hinchcliffe *MRes* on 23rd September 2023 to verify the baseline habitats since the 2021 survey.

2.1.3 An updated extended habitat survey of the Site (including Cable Routes) was undertaken on 11th August and 9th September 2025 by K. Love *MSc* and A. Littlechild *MSc*; two suitably competent and experienced ecologists.

2.1.4 The 2023 and 2025 surveys methodology followed the UK industry standard UKHab methodology V2.01 (UK Habitat Classification Working Group. 2023[5]), with reference to CIEEMs PEA Guidelines (CIEEM, 2017[4]).

2.1.5 During the 2025 validation survey, all habitats were mapped and described using a series of 'target notes' (TNs) to the highest level of UK habitat classification as possible, with each individual habitat feature being assigned to a primary habitat and then described with secondary codes if applicable. The survey was extended to include the additional recording of specific features indicating the

[3] Available at: https://data.jncc.gov.uk/data/9578d07b-e018-4c66-9c1b-47110f14df2a/Handbook-Phase1-HabitatSurvey-Revised-2016.pdf

[4] CIEEM. (2017). *Guidelines for Preliminary Ecological Appraisal, 2nd edition*. Chartered Institute of Ecology and Environmental Management, Winchester.

[5] https://ukhab.org/ukhab-documentation/ (Accessed: 29th August 2025)

presence, or likely presence, of protected species, invasive species and other species of conservation significance. This was also the case for the original 2021 and 2023 surveys.

Preliminary Roost Appraisal

2.1.6 A Preliminary Roost Appraisal was also incorporated into the 2025 extended habitat survey, which was based on BCT guidance (Collins *et al*. 2023[6]). The survey comprised an assessment of structures and trees for potential roost features (PRFs) and bat roost suitability.

Ground Level Tree Assessment (GLTA)

2.1.7 Notable trees were given an initial suitability appraisal of their potential to support roosting bats (as assigned by professional judgement) based on definitions described within Table 4.2 of current BCT guidelines (Collins, 2023[6]), as follows:

- **None:** Either no PRF's in the tree or highly unlikely to be any;
- **FAR:** Further assessment required to establish if PRF's are present in the tree; and,
- **PRF:** A tree with at least one Potential Roost Feature (PRF) present.

2.1.8 While trees may be assigned FAR, following Figure 6.1 within Collins (2023), only trees subject to impacts are required to have a detailed Ground Level Tree Assessment (GLTA) to assess in detail suitability of individual PRFs. In instances where a PRF was identified and readily visible, features were further assessed on their potential to support bats based on Table 6.2 of BCT guidelines (Collins, 2023), as follows:

- **PRF- I:** PRF is only suitable for individual bats or very small numbers of bats due to size or lack of suitable surrounding habitats; and,
- **PRF- M:** PRF is suitable for multiple bats and may therefore be used by a maternity colony.

2.1.9 PRF designations are preliminary and based on a ground-level perspective, and subject to review following additional surveys (e.g., PRF Inspection Surveys at height).

Preliminary Roost Assessment (PRA) – Buildings and Structures

2.1.10 Buildings and structures were assigned a category of suitability to support roosting bats, as described within the BCT guidelines (Collins, 2023[6]) as follows:

- **None** - No habitat features on site likely to be used by any roosting bats at any time of year (i.e. a complete absence of crevices/suitable shelter at all ground/underground levels).
- **Negligible** - No obvious habitat features on site likely to be used by roosting bats; however, a small element of uncertainty remains as bats can use small and apparently unsuitable features on occasion.
- **Low** - a structure with one or more potential roost sites that could be used by individual bats opportunistically at any time of the year. However, these potential roost sites do not provide enough space, shelter, protection, appropriate conditions and/or suitable surrounding habitat to

[6] Collins et al. (ed) (2023) *Bat Surveys for Professional Ecologists: Good Practice Guidelines*. 4th edition, BCT: London. Available at: https://cdn.bats.org.uk/uploads/pdf/Resources/For-professionals/Bat-Survey-Guidelines-4th-edition-AMENDED-27.03.24.pdf?v=1711530492&_gl=1*w2mz4c*_ga*MzkxMzk4MjUzLjE3NDAwNDc1Nzg.*_ga_G28378TB9V*MTc0MDA0NzU3OC4xLjAuMTc0MDA0NzU4MS4wLjAuMA.. (Accessed: 2nd October 2025)

be used regularly by larger numbers of bats (i.e. unlikely to be suitable for maternity and not a classic cool/stable hibernation site but could be used by individual bats).

- **Moderate** - a structure with one or more potential roost sites that could be used by bats due to their size, shelter, protection, conditions and surrounding habitat, but unlikely to support a roost of high conservation status (with respect to roost type only, such as maternity and hibernation – the categorisation described is made irrespective of species conservation status, which is established after presence is confirmed).
- **High** - a structure with one or more potential roost sites that are obviously suitable for use by larger numbers of bats on a more regular basis and potentially for longer periods of time due to their size, shelter, protection, conditions, and surrounding habitat. These structures have the potential to support high conservation status roosts, e.g. maternity or classic cool/stable hibernation site.

2.2 Limitations

2.2.1 The extended habitat survey visits were undertaken in September 2023 and August/September 2025, and therefore within the optimal period for botanical surveys (approximately April to September). Consequently, the timing of the visit is not considered a limitation to the survey.

2.2.2 The Site was not originally surveyed in 2021 using UKHab methodology, due to it not being released at the time of survey. However, the habitats within the Site are generally of low distinctiveness and were converted to habitats under UKHab definitions e.g. Arable farmland to Cereal Crops. Subsequent surveys were undertaken using the most upto date UKHab methodology and as such, there is not considered a limitation to these surveys.

2.2.3 An extended habitat survey does not constitute a detailed botanical survey or faunal species list or provide a full protected species survey but, enables competent ecologists to ascertain an understanding of the ecology of the Site in order to:

- Broadly identify the nature conservation value of a site and assess the significance of any potential impacts on habitat/species recorded; and/or,
- Confirm the need and extent of any additional specific ecological surveys that are required to identify the true nature conservation value of a site (if any).

3 EXTENDED HABITAT SURVEYS

3.1 Extended Habitat Survey- 2023

3.1.1 This section should be read in conjunction with the UKHab Habitat Plan as presented in **Figure 2**; habitats present in the 2023 Survey Area are provided in **Table 3.1**, and photographs are presented in **Appendix 1**.

Table 3.1: UKHab habitats summary. X = Present, - = Absent.

Habitat Code	Descriptions	Main Site	Photo No
c1c	Cereal crops	X	1,2
g3c	Other neutral grassland	X	3
r1	Standing open water and canals – ditch	X	3, 4

Main Site

3.1.2 The Main Site occupied an area of land totalling c.38ha, set within a rural landscape. Habitats within the Main Site predominantly comprised a large arable field, with other neutral grassland field margins and drainage ditches. No ponds were present within the Main Site, although five were located within 250m of the Main Site boundary at the time, as shown on **Figure 3**.

3.1.3 Habitats recorded within the Main Site were considered to be typical of dominant habitats within the wider landscape and consistent with the 2021 habitat survey. Some evidence of habitat enhancements was observed around the Main Site perimeter, however as these were in early growth stages and were not to be used as the biodiversity net gain baseline habitats, these have not been mapped on **Figure 2.**

Arable (*UKHab code: c1c)*

3.1.4 The Main Site was dominated by cereal crops which occupied almost all of the redline boundary.

Grassland *(UKHab code: g3c)*

3.1.5 A ditch within the Main Site has bankside vegetation comprising other neutral grassland with a species composition of Yorkshire fog and common reed dominating with rough meadow-grass, creeping bent, field horsetail, rosebay willowherb, great willowherb, cock's-foot, creeping thistle and common ragwort. Hard rush is occasional and rare water figwort

Standing Water *(UKHab code: r1.119.191)*

3.1.6 A drainage ditch ran north-west to south-east through the centre of the Main Site. The ditch was seasonally wet and shallow with in channel plants comprising common reed and bulrush, great willowherb, common water-starwort and common duckweed as well as floating sweet-grass.

3.2 Extended Habitat Survey- 2025

3.2.1 The 2025 extended habitat Survey Area comprised the Main Site plus the Cable Routes which were not previously surveyed. The Site location plan showing the 2025 Main Site and Cable Routes is shown in **Figure 4**. Note the Main Site has had minor red line boundary changes compared to previous surveys, with the inclusion of an additional area in the south and reducing the red line boundary proximity to the River Douglas in the north east.

3.2.2 No ponds are present within the Main Site or Cable Routes, although four are located within 250m of the Proposed Development Main Site red line boundary, and another five located within 50m of the proposed Cable Routes, as shown on **Figure 6**.

3.2.3 This section should be read in conjunction with the UKHab Habitat Plan as presented in **Figures 5a-d**; habitats present in the 2025 Survey Area are provided in **Table 3.2**, target notes provided in **Table 3.3** and photographs are presented in **Appendix 2**.

Table 3.2: UKHab habitats summary. X = Present, - = Absent.

Habitat Code	Descriptions	Main Site	Cable Route -North	Cable Route – North-east	Photo No
c1c	Cereal crops	X		X	9, 12, 13, 14
c1	Arable and horticulture	X			
c1c7	Other cereal crops			X	
c1d8	Other non-cereal crops			X	
g4	Modified grassland			X	
g4.10.16	Modified grassland - scattered scrub, tall forbs			X	
g4.14	Modified grassland - scattered rushes	X		-	9
g4.106	Modified grassland - mown	X	X	-	5, 10, 12, 17, 18
g4.801	Modified grassland - road verge or island			X	
g3c	Other neutral grassland	X		-	13
g3c.10.16.32	Other neutral grassland - scattered scrub, tall forbs, scattered trees	X		-	5
g3c.16	Other neutral grassland - tall forbs		X	X	6
w1f7.31	Other Lowland mixed deciduous woodland – secondary woodland			X	
w1f7.31.42.839	Other Lowland mixed deciduous woodland - secondary woodland, track			X	
w1g.29.201	Other broadleaved woodland - plantation- newly planted trees	X		-	10, 11
w1g.29	Other broadleaved woodland - plantation		X	X	19
w1g.33	Other broadleaved woodland - line of trees			X	
w1g.10.33	Other broadleaved woodland - line of trees, scattered scrub			X	
h2a6	Other native hedgerows (Habitat of Principal Importance)		X	X	20
h2a5	Species-rich native hedgerow (Habitat of Principal Importance)	X		X	11, 12
h2b	Non-native and ornamental hedgerow			X	

Habitat Code	Descriptions	Main Site	Cable Route -North	Cable Route – North-east	Photo No
r1g.50.500	Other standing water and canals – dry ditch			X	
r1g.50.502	Other standing water and canals – seasonally wet ditch	X		-	8
r1g.50.503	Other standing water and canals – wet ditch	X		-	7, 13
u1b	Artificial unvegetated; sealed surface	X		-	20
u1c	Artificial unvegetated; unsealed surface	X	X	-	5, 14, 18
u1d	Suburban mosaic of developed and natural surface			X	
u1e	Built linear features- fence	-	X	-	19
u1e.800	Built linear features - road		X	X	
u1e.839	Built linear features – track			X	
r2b	Other rivers and streams		X	X	6, 16

Table 3.3: Target Notes

Target note number	Descriptions	Photo No
1	Mature ash tree (FAR)[7].	-
2	Dead alder tree (PRF-I)[7].	-
3	Himalayan balsam present in offsite ditch.	-
4	Himalayan balsam 1m from Main Site and within River Douglas bankside vegetation.	-
5	Himalayan balsam in dense area within Main Site by access track.	5
6	Mature ash tree (FAR)[7].	-
7	The proposed north-eastern cable route crossing location situated at the River Douglas.	
8	Metal container type buildings within Plocks Farm- the northern Cable Route will be installed over these.	-
9	Himalayan balsam present in canal vegetation.	-
10	Offsite bridge over River Douglas. Seemed well sealed with only minimal gaps in the masonry on the sides. Bat roost potential low but only one arch was able to be viewed underneath so upgraded to moderate on a precautionary basis.	16
11	Offsite bridge over the Leeds to Liverpool Canal (north of Main Site). Bat roost potential low, access underneath via footpath revealed it to be well	-

[7] Please refer to sections 2.1.8- 2.1.10 for defined bat roost abbreviations.

Target note number	Descriptions	Photo No
	sealed on the underside with only small gaps in the mortar between masonry on northern aspect.	
12	Offsite bridge over the Leeds to Liverpool Canal (south west of Main Site). Bat roost potential low. Only small gaps on edge on southern aspect but ivy presence inhibits potential access. Underneath sheet concrete with no gaps.	-

Main Site

3.2.4 The Main Site red line boundary occupies an area of land totalling c.38ha. Habitats within the Main Site still predominantly comprise a large arable field, but with newly created mown modified grassland, native hedgerows and plantation woodland around the perimeter, with other smaller areas of other neutral grassland, drainage ditches and unsealed surface track. The habitat plan is presented in **Figures 5a-f**, with the previous 2023 habitat plan presented in **Figure 2** for comparison.

Arable- cereal crops *(UKHab code: c1 and c1c)*

3.2.5 The Site is still dominated by cereal crops which occupies the vast majority of the redline boundary. At the time of survey, roughly half the crop was recently harvested. A smaller section of the arable field, located in the south appeared to either be a temporary ley, or have been left fallow with typical arable weed species colonised the area including frequent redshank, creeping thistle, mayweed and willowherb species.

Grassland

Other neutral grassland (UKHab code: g3c)

3.2.6 The existing drainage ditch within the north of Main Site is largely unchanged since the previous survey and is surrounded by an approximately 2.5m wide grassland strip each side. Species comprised of frequent rosebay willowherb, greater willowherb, common nettle, ragwort, Yorkshire fog, cocksfoot, creeping thistle, creeping bent and rough meadow grass, with occasional common reed.

Other neutral grassland- scattered scrub, tall forbs, scattered trees (UKHab code: g3c.10.16.32)

3.2.7 Bankside vegetation associated with the Leeds to Liverpool Canal in the north of Main Site, where a thin area of it lies within the red line boundary. Species comprised of abundant cocksfoot and common reed, with frequent cranesbill species, creeping thistle, creeping dock, common nettle, bindweed, broad leaved plantain, great willowherb; occasional tufted vetch, bittersweet nightshade, hogweed, coltsfoot, ragwort and Himalayan balsam; with rare willow tree, hawthorn shrub, marsh woundwort andmeadow vetchling.

Modified grassland- mown (UKHab code: g4.106)

3.2.8 Newly created managed grassland around the perimeter of Main Site, represented on average as a 5-7m wide strip and associated with the public footpaths which are located around the edges of the field. Mown at the time of survey to a sward of 3cm in height, species comprised abundant perennial

ryegrass and white clover; with occasional redshank, mayweed, annual meadow grass, broad leaved plantain and chickweed.

Modified grassland- scattered rushes (UKHab code: g4.14)

3.2.9 Small area of grassland in the south east of Main Site surrounding a newly dug drainage ditch. Species comprised frequent common bent, creeping bent, Yorkshire fog, cocksfoot and false oat grass; occasional soft rush, perennial rye, great willowherb, curled dock and broad-leaved dock; with rare marsh foxtail, compact rush, mayweed, tufted hair grass, barren brome, common reed, creeping buttercup and horsetail.

Other broadleaved woodland- plantation- newly planted trees *(UKHab code: w1g.29.201)*

3.2.10 Newly created young woodland strips around the perimeter of Main Site, on average 2-8m wide. Trees are between average 0.5m to 2m tall, with species comprising frequent alder, occasional oak, rowan and guelder rose, with rare blackthorn, white poplar, willow and dog rose. The understory is similar the modified grassland footpath adjacent to it, but also with occasional cocksfoot, Timothy, creeping thistle, tufted vetch, tufted hair grass, Yorkshire fog, broad leaved dock, false oat grass and hogweed; with rare purple loosestrife and meadow vetchling.

Species rich native hedgerow *(UKHab code: ha15)*

3.2.11 Newly laid hedgerow separating the arable field and young plantation woodland. Only single lined planting, not stockproof with lots of gaps. Average height 0.8- 1.4m and width 0.3-0.7m, with no tree guards present. Species comprise frequent hazel, hawthorn, willow, alder, blackthorn, dog rose and guelder rose; with rare *Malus* and birch species. The understory was the same composition as the adjacent newly created woodland described above.

Artificial surfaces

Artificial unvegetated, unsealed surface (UKHab code: u1c)

3.2.12 Newly created crushed gravel and stone track running parallel to the offsite Leeds to Liverpool canal in the north of Main Site, leading from the north of Site down towards the main body. Additionally a small weather station with utility cabinets is present in the north of Main Site, situated within the arable field.

Artificial unvegetated, sealed surface (UKHab code: u1b)

3.2.13 Small section of tarmac access road in the north of the Main Site.

Standing Water

Other standing water- seasonally wet ditch (UKHab code: r1g.50.502)

3.2.14 Newly dug drainage ditch in the south of Main Site, largely between the southern part of arable field. Artificial drainage ditch, average 2m deep and 2m wide at the top, with steep horizontal edges narrowing to 20cm wide at base. Mostly dry at the time of survey, with only a small section of shallow water. Grasses, willowherb and redshank dominated the base and banks. No aquatic vegetation present.

Other standing water- wet ditch (UKHab code: r1g.50.503)

3.2.15 Existing drainage ditch in the north of Main Site which runs north-west to south-east through the northern part of the arable field, measuring roughly 1.5m wide at the top. Some wet sections but mostly dry and highly vegetated including creeping thistle, ragwort, horsetail, rosebay willowherb, great willowherb. In terms of aquatic or marginal vegetation, only rare common reed is present.

Offsite

3.2.16 The River Douglas lies offsite but adjacent to the Main Site for the majority of its eastern boundary. Two small sections are included within the Cable Routes and it is discussed further in the relevant Cable Route sections below.

3.2.17 The Leeds to Liverpool Canal also borders the majority of the northern and western Main Site boundary but the watercourse itself was not within the red line boundary. This canal was an old branch of the River Douglas, but was repurposed as a canal.

3.2.18 It had clear water with small fish present and a good diversity of floating, submerged and marginal vegetation. Associated bankside vegetation was discussed within the appropriate grassland section above but the banks were prevalent with great willowherb, common nettle and bullrush; with occasional Himalayan balsam (as shown on the habitat map on **Figure 5f** as TN's 5 and 9). The water channel contained frequent yellow water lily and floating pennywort.

Individual Trees

3.2.19 A low number of individual trees were situated at the Main Site red line boundary. These comprised mature ash and willow trees, largely located along the eastern and south eastern boundaries.

Cable Route North

3.2.20 This proposed cable route crosses underneath the River Douglas, and follows along a mown and actively managed modified grassland track (which supports existing underground cables) and then into Plocks Farm where it will join a substation. The northern Cable Route largely followed the edge of existing hardstanding facilities; over temporary cabins then fixed along the backside of an acoustic fence. A small section of plantation woodland is included within the 2.5m wide working area for the cable route where it lies adjacent to the fence but this is not expected to be impacted in anyway. A small section of further modified managed grassland and native hedgerow is included within the northern most extent of the northern Cable Route.

3.2.21 Habitats within the northern Cable Route working area (2.5m wide) predominantly comprised modified grassland and artificial unsealed surfaces, with smaller areas of plantation woodland and native hedgerow.

Grassland

Modified grassland; mown (UKHab code: g4.106)

3.2.22 Modified grassland present along the top of the river bank towards Plock Farm, with a similar species composition to the managed grassland around the perimeter of Main Site. Also mown to a short sward

of 4cm at the time of survey, with existing cabling work already underneath this area. Additional species comprise occasional coltsfoot, dandelion and moss species.

3.2.23 Small sections of urban grassland verges are also present at the entrance of Plocks Farm, and a modified grassland bank within the Plocks Farm compound areas, which then has plantation woodland on top of the bank (although this lies outside of the red line boundary). The grassland bank measures approximately 2m wide and 2.5m tall with a 45-degree profile.

Other neutral grassland- tall forbs (UKHab code: g3c.16)

3.2.24 Bankside vegetation associated with the River Douglas. Species comprised cocksfoot, false oat grass, common reed, rough meadow-grass, creeping bent, field horsetail, rosebay willowherb, great willowherb, creeping thistle and common ragwort, with frequent Himalayan balsam present along the banks.

Artificial surfaces

Artificial unvegetated, unsealed surface (UKHab code: u1c)

3.2.25 Vast majority of Plocks Farm working and compound areas, a gravel/hardcore substrate.

Artificial unvegetated, sealed surface (UKHab code: u1e.800)

3.2.26 Tarmac surface associated with the entrance and parking areas of Plocks Farm.

Built linear features (UKHab code: u1e)

3.2.27 Acoustic fence along the south east edge of Plocks Farm, approximately 8m tall.

Other broadleaved woodland- plantation *(UKHab code: w1g.29)*

3.2.28 Plantation woodland outside of Plocks Farm and adjacent to the acoustic fence as above. Only a very thin amount of this is within the red line boundary, approximately 0.25m wide (please refer to photograph 19, **Appendix 2**). Immediately east of the acoustic fence is approximately 1m gravel, then 0.5m of the wider woodland belt. Species comprised of mixed broadleaved species including horse chestnut, oak, hawthorn, blackthorn, willow and birch but with some conifer (less than 10 percent cover).

Other native hedgerow *(UKHab code: h2a6)*

3.2.29 Beech hedge measuring on average 0.5m wide and 1.5m tall, set within an area of modified, mown grassland with a short sward at the entrance to Plocks Farm.

Standing Water

Other rivers and streams (UKHab code: r2b)

3.2.30 The River Douglas borders the majority of the eastern Main Site boundary but has two small sections included where the Cable Route will be drilled underneath. This is a wide river, artificially created and at the time of survey was flowing fast with very turbid water. Associated bankside vegetation is

discussed within the appropriate grassland section above but note that Himalayan Balsam was recorded frequently along its banks (as shown on the habitat map on **Figure 5f** as TN4).

Cable Route North-East

3.2.31 This proposed cable route crosses underneath the River Douglas and initially follows along the edge of an existing track that runs adjacent to arable fields, grassland and woodlands prior to connecting with Eyes Lane to the south of Bretherton. The route then heads north within modified grassland road verges before joining the B5247 (South Road). The route is then directed east along the road through Bretherton, before heading north where it ends at the proposed substation location with a modified grassland field containing scattered rushes and tall forbs. The north eastern cable route largely follows the edge of existing hardstanding or grassland verges associated with tracks and roads, although the 2.5m wide working area includes small areas of woodland, tree lines, ditches and hedgerows.

Arable

Other cereal crops and other non-cereal crops (UKHab code: c1c7 and c1d8)

3.2.32 Where the route follows existing tracks and roads it is situated directly adjacent to the boundaries of arable fields. This included fields containing wheat, as well as a bare ground field.

Grassland

Other neutral grassland- tall forbs (UKHab code: g3c.16)

3.2.33 Bankside vegetation associated with the River Douglas. Species comprised cocksfoot, false oat grass, common reed, rough meadow-grass, creeping bent, field horsetail, rosebay willowherb, great willowherb, creeping thistle and common ragwort, with frequent Himalayan balsam present along the banks.

Modified grassland; scattered scrub, tall forbs (UKHab code: g4.10.16)

3.2.34 The River Douglas eastern bankside and margin was dominated by a tall sward of grasses, forbs and low-lying bramble. Species present included cocksfoot, couch, perennial rye grass, false-oat grass, broadleaved dock, spear and creeping thistle, field bindweed, nettle and hogweed.

Modified grassland; road verge or island (UKHab code: g4.801)

3.2.35 Multiple sections of grass verge situated along existing roads include short swards difficult for species identification at the time of survey. These were however considered largely to comprise bent and annual meadow grass.

Modified grassland; scattered rushes, tall forbs (UKHab code: g4.14.16)

3.2.36 The north eastern cable route ends where the proposed substation is located, within a fallow field dominated by perennial rye grass, Yorkshire fog, cocksfoot and false-oat grass. The field contains creeping buttercup, water mint, soft rush, horsetail, nettle, ribwort plantain, red clover, ragwort, timothy, great willowherb, hoary willowherb and ox-eye daisy.

Artificial surfaces

Suburban mosaic of developed and natural surface (UKHab code: u1d)

3.2.37 The cable route spans along roads that incorporate adjacent residential buildings, community spaces and gardens within the 2.5m wide working area.

Built linear features; roads and tracks (UKHab code: u1e.800 and u1e.839)

3.2.38 Apart from grassland areas, the cable route primarily runs along the edges of existing farm tracks and roads (including Eyes Lane and South Road).

Woodland

Other lowland mixed deciduous woodland - secondary woodland (UKHab code: w1f7.31)

3.2.39 Although not within the cable route itself, the route spans adjacent to several woodlands that partially occur within the 2.5 wide working area. This includes a narrow strip of secondary woodland along Eyes Lane that comprises mature willow and ash trees, as well as semi-mature and immature elm, hawthorn and sycamore.

Other lowland mixed deciduous woodland - secondary woodland- track (UKHab code: w1f7.31.42.839)

3.2.40 Where the route heads east along existing farm track, a copse of secondary woodland was present directly along and adjacent to the track edge. This woodland surrounded a dry depression bankside located outside the 2.5m wide working area. Trees include mature oak, willow and sycamore, as well as immature hawthorn and willow.

Other broadleaved woodland- plantation (UKHab code: w1g.29)

3.2.41 Further sections of woodland adjacent to the cable route included multiple plots of broadleaved plantation. Plantations include mature and immature trees with combinations of ash, beech, sycamore, hawthorn and/or horse-chestnut. Scattered bramble and nettle are present in non-beech woodlands.

Other broadleaved woodland- line of trees (UKHab code: w1g.10.33 and w1g.33)

3.2.42 As the route heads along South Road it passes adjacent to some sections of tree line, which includes a section of semi-mature alder and birch with dense bramble, a section of immature cherry, damson and copper beech, as well as a section of cypress, beech, turkey oak and sycamore.

Hedgerow

Species-rich native hedgerow (UKHab code: h2a5 and h2a5.50.5)

3.2.43 As the route heads north from South Road it runs adjacent to two sections of species-rich hedgerow, where one included a section of dry ditch. Both hedgerows are dominated by hawthorn and included gaps along the base. Other species recorded within the ditch containing hedgerow include blackthorn,

willow, ash, sycamore, crab apple and ivy. Those recorded within the other hedgerow include an assemblage comprising holly, ash, sycamore, privet, oak, hazel and ivy.

Other native hedgerows (UKHab code: h2a6, h2a6.11 and h2a6.50.5)

3.2.44 Multiple sections of species-poor hedgerow located along fields and garden boundaries are identified adjacent to roads. These included managed and unmanaged sections, as well as some with trees and dry ditches.

3.2.45 Hedgerows were primarily dominated by hawthorn, although some comprised privet, blackthorn, goat willow or beech. Various species assemblages were recorded comprising combinations of the following: sycamore, beech, guelder rose, oak, ash, privet, elder, holly and laurel. Hedgerows were mostly managed and intact, with some containing gaps at the base. Trees identified included mature, semi-mature and immature species of ash, damson, cherry, cypress, sycamore, horse-chestnut, birch, pear and cherry.

Non-native and ornamental hedgerow (UKHab code: h2b)

3.2.46 A section of managed 2.5m high cypress hedgerow is present along a garden boundary on South Road.

Standing Water

Ditches- dry and wet (UKHab code: r1g.50.5 and r1g.50.503)

3.2.47 As well as the dry ditches situated along hedgerows described above, several sections of shallow dry ditch are also identified along woodland edges. A single wet ditch is recorded within a woodland directly east of Eyes Lane. This ditch is 2m wide, with 0.5m deep earth banksides. The banksides were shaded from neighbouring trees, but included grass vegetation. The water depth itself was considered to be shallow and was dominated by duckweed on the surface.

Individual Trees

3.2.48 A small number of trees were recorded along the north eastern cable route, situated individually within hedgerows. This includes two mature ash trees and a semi-mature oak.

3.3 Protected and Notable Species

Birds

3.3.1 Habitats within the Site that may be suitable to support breeding birds include hedgerow, woodland, vegetated ditches and arable fields. Ground nesting species such as skylark, which are also a local biodiversity action plan species for Lancashire, may utilise arable fields and grassland habitats.

3.3.2 Martin Mere SSSI /Ramsar site lies approximately 5km south-west of the Main Site, with the Ribble and Alt Estuaries SPA/Ramsar site located approximately 5.1km north-west of the Site. The Main Site also potentially represents suitable foraging and roosting habitat for overwintering wetland birds.

3.3.3 Please refer to the Breeding and Non-Breeding Bird Survey Report – 2022-2023 (Avian Ecology, 2023[8]) for baseline survey information on breeding and wintering birds.

Bats

Roosting Bats

3.3.4 No buildings or structures present within the Main Site were considered suitable for roosting bats. A single weather station in the north of the arable field has negligible potential for roosting bats.

3.3.5 Surrounding off-Site structures include three bridges; two along Bank Bridge Road (A59) to the north of the Main Site and another on Lock Lane to the south of the Main Site. These were assessed as possessing low to moderate bat roost potential on a precautionary basis, with locations shown on the habitat map as TNs 10-12, descriptions detailed in **Table 3.3** and photographs in **Appendix 2**.

3.3.6 A low number of trees are located on or nearby the boundaries of the Main Site. These include two ash trees with FAR bat roost potential (with locations shown on the habitat map as TNs 1 and 6) and a dead alder tree with PRF-I potential (location shown on the habitat map as TN 2). These trees were not subject to detailed bat inspections but are considered possible to host minimal features to support low potential for transient bat roosts.

3.3.7 An off-Site bridge for the A59 located over the River Douglas was recorded adjacent to the Site (location shown as TN10 on the habitat map) with minimal gaps identified in the masonry on the sides. The bridge was considered to have low bat roost potential, however as only one arch was able to be viewed from underneath, the bridge was upgraded to have moderate bat roost potential on a precautionary basis.

3.3.8 Two off-Site bridges over the Leeds and Liverpool Canal were also identified to the north (TN11) and south-west of the Site (TN12). Both were considered to have low bat roost potential, with the northern bridge being recorded with only small gaps in the mortar between the masonry on its northern aspect, whilst the southern bridge had small gaps present on the edge of its southern aspect was well as ivy presence.

3.3.9 The northern Cable Route lies adjacent to plantation woodland and individual chestnut trees within the Plocks Farm compound. Whilst the trees in the woodland were not individually assessed, it is considered that they are generally not of the age or size that would typically support a bat roost. The chestnut trees by Plocks Farm entrance have negligible bat roost potential.

3.3.10 The north eastern Cable Route passed through and adjacent to several small woodland blocks, many of which considered to be of a sufficient age and stature that they may offer bat roost potential (i.e. FAR).

Foraging and Commuting Bats

3.3.11 Habitats within the Main Site primarily comprise of arable land which is considered to fit the description most closely for land of '**low**' interest for foraging bats in accordance with the BCT guidance[6]. However, habitats located around the perimeter of Site such as the planted woodland/hedgerow and habitats adjacent to the Site boundary, such as the Leeds and Liverpool

[8] Avian Ecology Ltd (2023). Asland Walks Breeding and Non-Breeding Bird Survey Report.

Canal and River Douglas with associated riparian vegetation, are considered to be of '**high**' interest for foraging bats with high-quality habitat well connected to the wider landscape.

3.3.12 Arable field dominated by cereal crop provide few opportunities for foraging and commuting bats. The perimeter linear features within and around the Site such as hedgerows, woodland, watercourses and ditches are considered to offer the most favourable habitats for foraging/commuting bats. Habitat conditions are comparable to those upon which bat activity has already been surveyed/assessed.

3.3.13 Please refer to the Bat Survey Report (Avian Ecology, 2023)[9] for baseline survey information on bat activity within the Site.

3.3.14 The Cable Routes with a very thin working area of 2.5m, both offer varied potential for bat foraging and commuting, from low interest roads and arable land to high interest watercourses and woodland blocks.

Badger

3.3.15 No signs of badger were identified within the Main Site or Cable Route survey areas. Arable land, woodland, hedgerow and watercourse bankside habitats within and adjacent to the Site is nonetheless considered suitable for foraging, commuting and sett excavation and the species may occur in the wider area.

Otter

3.3.16 Otter surveys conducted by Pennine Ecological in 2019 found no evidence of otter within or adjacent to the Site. Watercourse habitats were assessed as suitable for otter and historic data is suggestive that otters are present within tributaries of the River Douglas, including the River Douglas and Leeds to Liverpool Canal.

3.3.17 During 2023 and 2025 surveys, Avian Ecology conducted no specific otter surveys; however, no evidence of otter presence was observed along the ditches, Leeds to Liverpool Canal and River Douglas during the extended habitat surveys. The network of watercourses adjacent to the Site was assessed to have moderate otter suitability, with foraging, holt creation and commuting opportunities available. The 2025 habitat survey reveals this has not changed.

Water Vole

3.3.18 Water vole surveys conducted by Pennine Ecological in 2019 found no evidence of water voles within the Main Site or immediately adjacent habitats, however the watercourses and ditches were assessed as sub-optimal to optimal.

3.3.19 During 2023 and 2025 surveys, no specific water vole surveys have been undertaken. Whilst conducting other surveys, no incidental evidence of water vole presence was observed along the ditches during the extended habitat survey. Ditches, canal and river habitats within and adjacent to the Site however are considered to have moderate suitability to support water vole as they contain open water, bankside vegetation and could be used for burrowing, foraging and commuting purposes.

[9] Avian Ecology Ltd (2023). Asland Walks Bat Survey Report.

Amphibians and Reptiles

3.3.20 No ponds were recorded within the Site during the habitat surveys. A total of four possible ponds were identified within 250m of the Main Site and another five located within 50m of the Cable Routes.. Pond locations are shown on **Figure 6.** A network of ditches is also present on and within 250m of the Site. The ponds and ditches on and within 250m of the Site were not subject to Habitat Suitability Index (HSI) assessment following the Amphibian and Reptile Groups of the United Kingdom (ARG UK) methodology[10], or subject to Environmental DNA (eDNA) survey. As such, the ponds and ditches may be suitable for use by breeding amphibians, including great crested newt.

3.3.21 The arable habitat within the Main Site is of low foraging and refuge value for reptiles and amphibians. However, hedgerow bases, tree bases, ditches and waterbodies in and/or adjacent to the Main Site provide more suitable habitat for foraging, refuge and commuting opportunities.

3.3.22 The Cable Routes have varied suitability for amphibians. These habitats are largely of low suitability including areas of hardstanding, arable and short managed grassland, but also includes high suitability habitats such as woodland blocks and treelines. The Cable Route working areas however, are limited to a width of 2.5m and so are small in size and impact.

Other Notable Species

3.3.23 During the original 2021 habitat survey and 2025 extended habitat survey habitats within the Site were considered potentially suitable for brown hare and hedgehog.

3.3.24 Several invertebrate species such as demoiselle were observed around the Leeds to Liverpool Canal. However, the habitats within the Site are not considered to be of a floristic or structural quality which could support significant assemblages of invertebrates or other notable species.

3.4 Invasive Non-native Species

3.4.1 One invasive non-native species (INNS) was recorded within the Survey Area during the 2025 extended habitat survey: Himalayan balsam. This was recorded within small areas of both the Main Site and Cable Routes where they cross/border sections of both the Leeds to Liverpool Canal and the River Douglas. This INNS was additionally recorded in much greater density within areas that lay off-Site but adjacent to the red line boundary.

3.4.2 An additional INNS, floating pennywort, was recorded in dense matts within the off-Site Leeds to Liverpool Canal within 5m of the Main Site red line boundary. Evidence of its ongoing management was identified along the canal banks via decaying vegetation piles. It is understood that this is being managed by the Rivers and Canals Trust.

[10] ARG UK. (2010). ARG UK Advice Note 5: Great Crested Newt Habitat Suitability Index.

4 HABITAT SURVEY SUMMARY

4.1.1 The results of the update 2025 habitat survey reveal the Main Site to be largely the same since the original 2021 habitat survey and therefore validates the habitats present on Main Site which will be used as baseline habitats for biodiversity net gain metric calculations.

4.1.2 The Main Site is still predominantly comprised of an arable field, with drainage ditch and small amounts of associated grassland. However it now additionally supports thin lengths of modified grassland, plantation woodland and species rich hedgerows around the field's perimeter. There is also an unsealed track in the north east of Site and another drainage ditch in the south. These habitats were created between 2022 and 2024 as advanced planting measures for the Proposed Development. Note the Cable Routes were not previously surveyed so cannot be compared.

Figure 1: 2023 Site Location Plan

Figure 2: 2023 Habitats Plan –Main Site

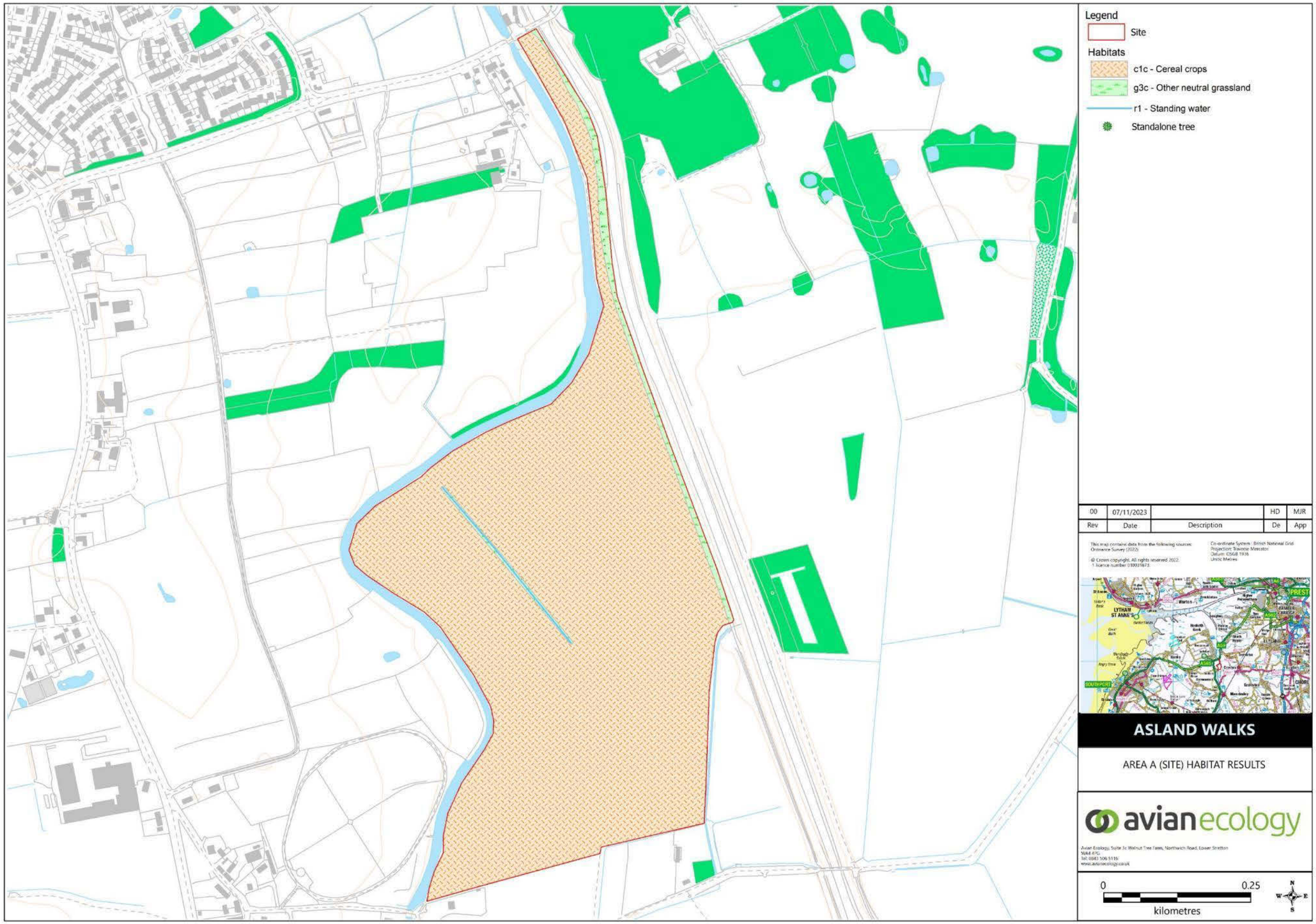


Figure 3: 2023 Pond Location Plan

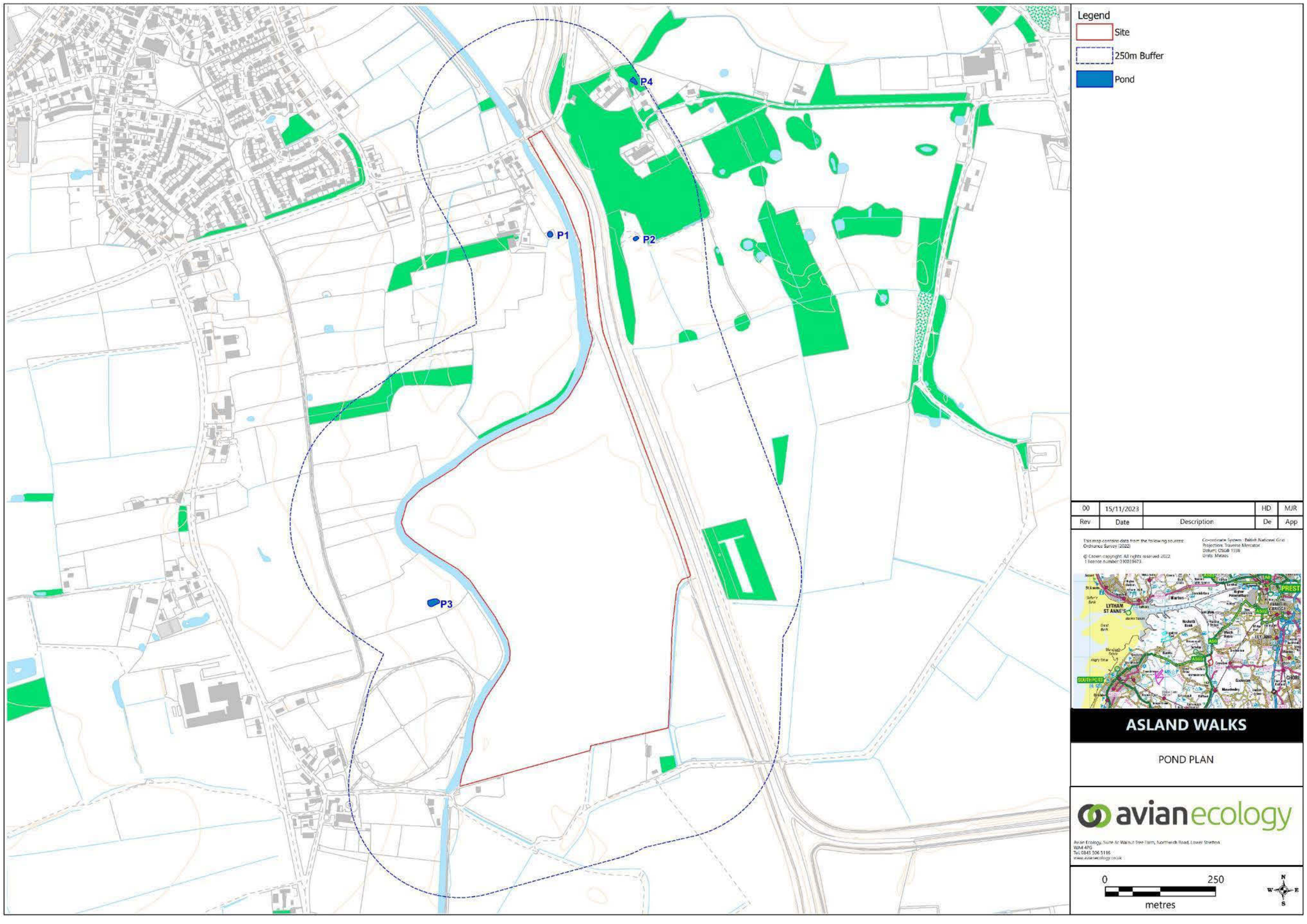


Figure 4: 2025 Site Location Plan

Figure 5a: 2025 Habitat Plan- Cable Routes Overview

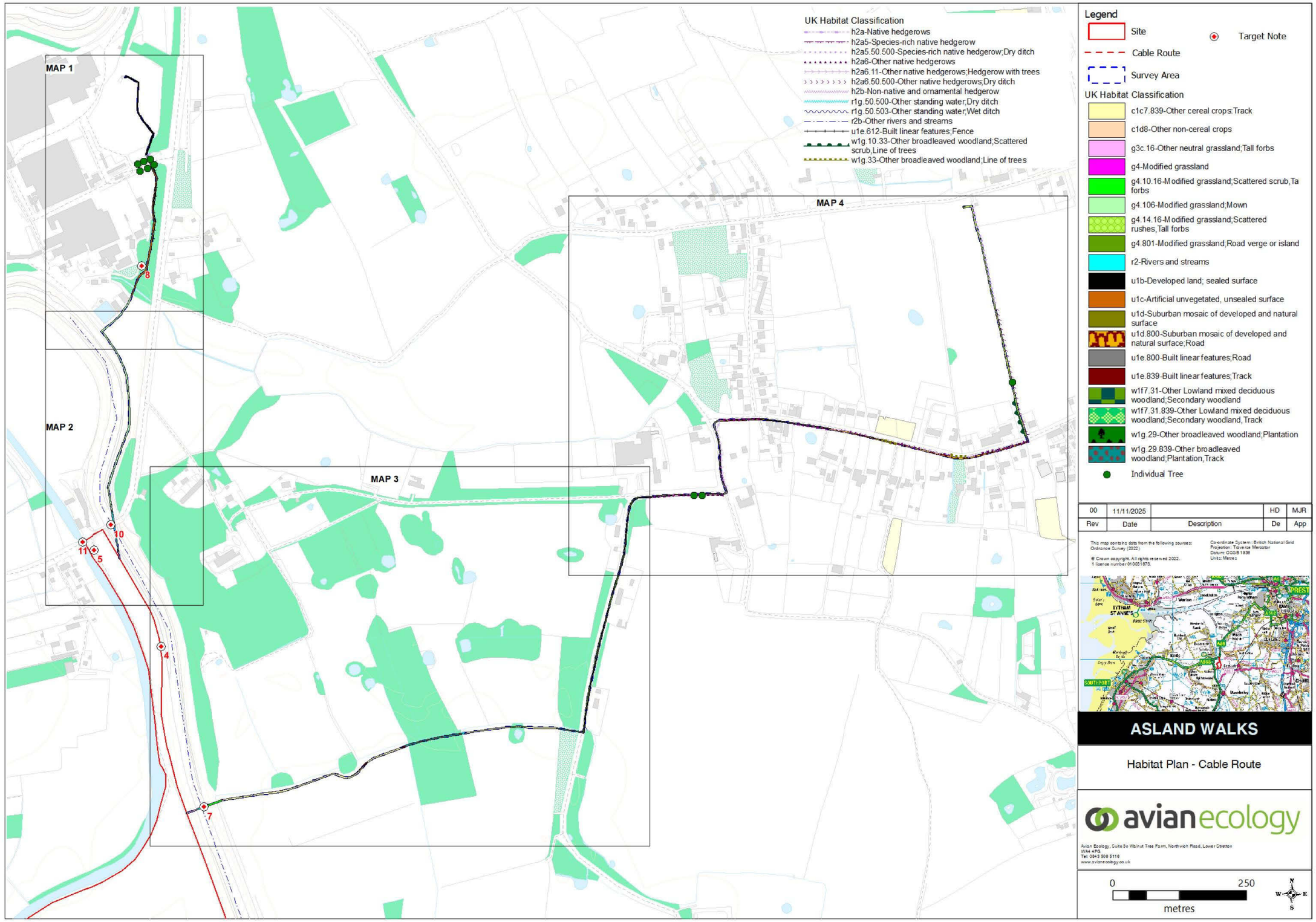


Figure 5b: 2025 Habitats Plan – Northern Cable Route

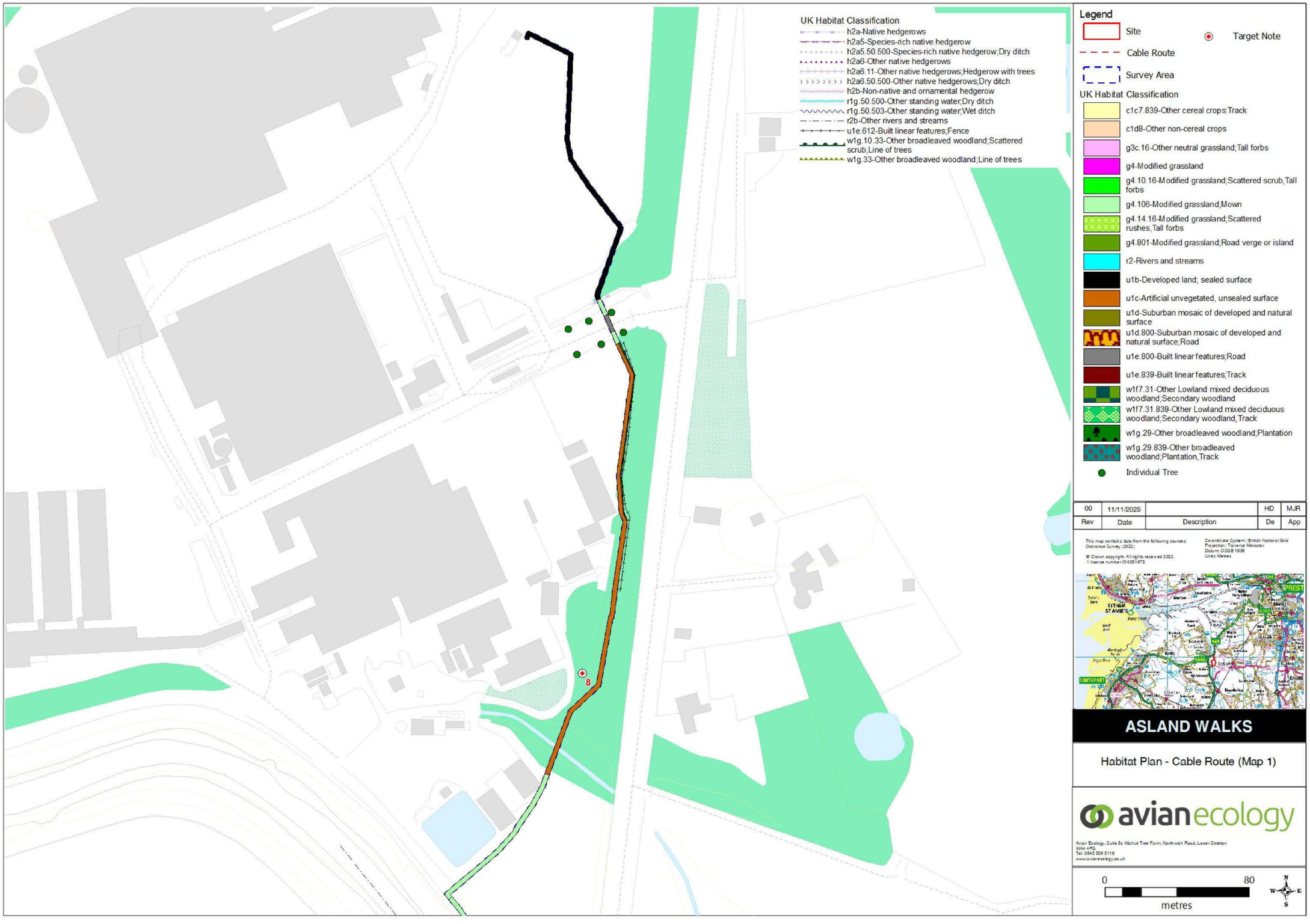


Figure 5c: 2025 Habitats Plan – Northern Cable Route

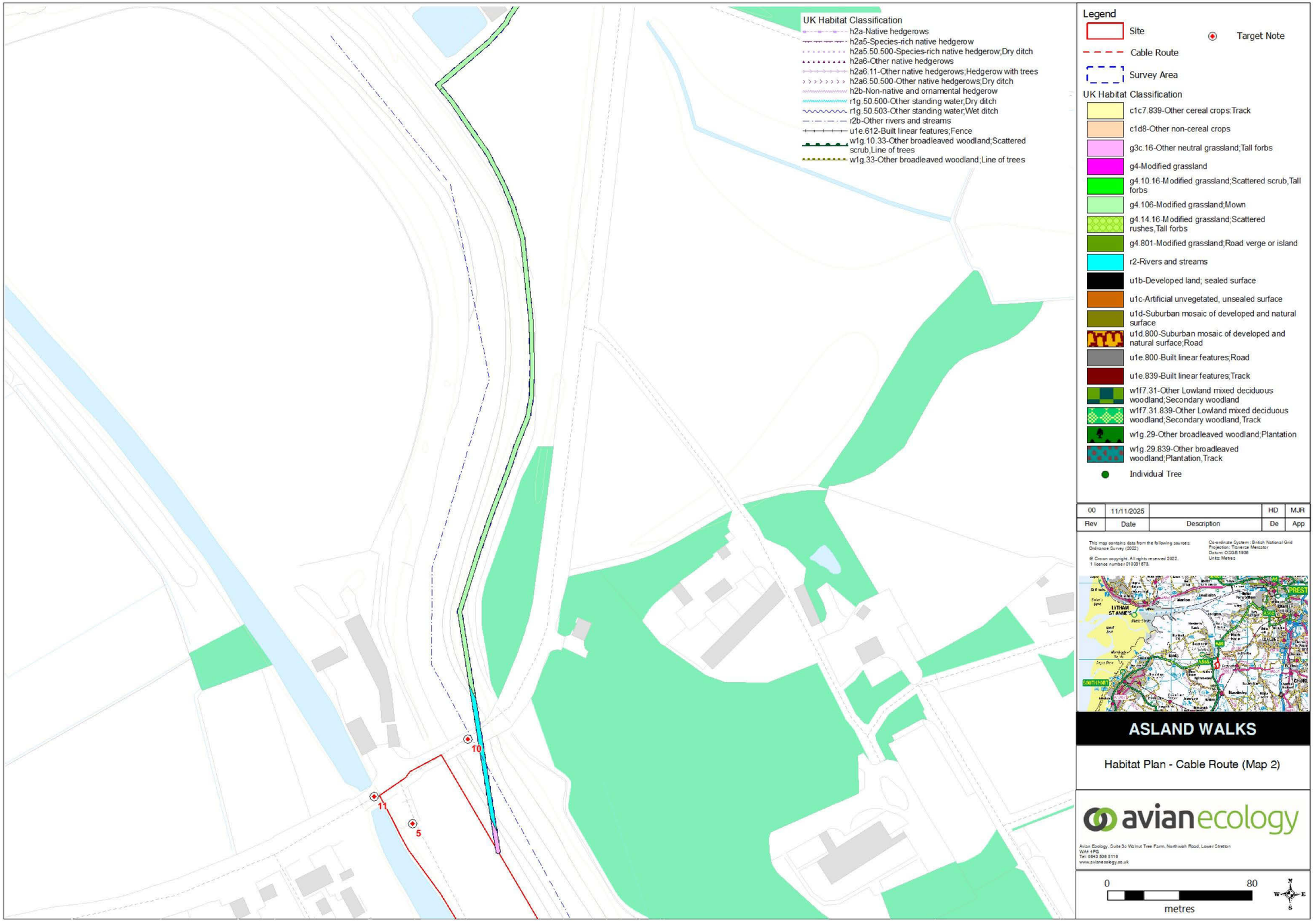


Figure 5d: 2025 Habitats Plan – North-eastern Cable Route

Figure 5e: 2025 Habitats Plan – North-eastern Cable Route

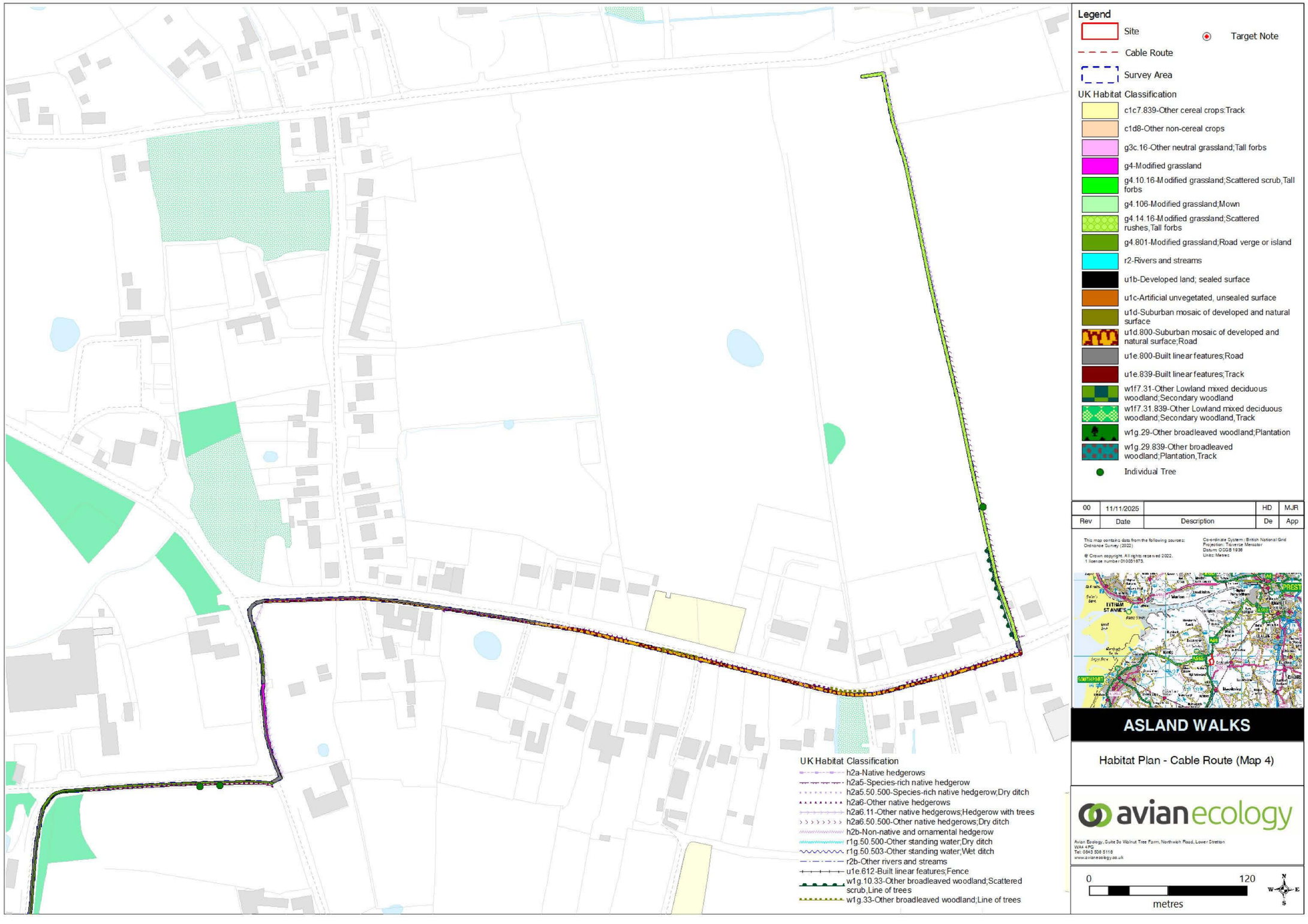


Figure 5f: 2025 Habitats Plan – Main Site

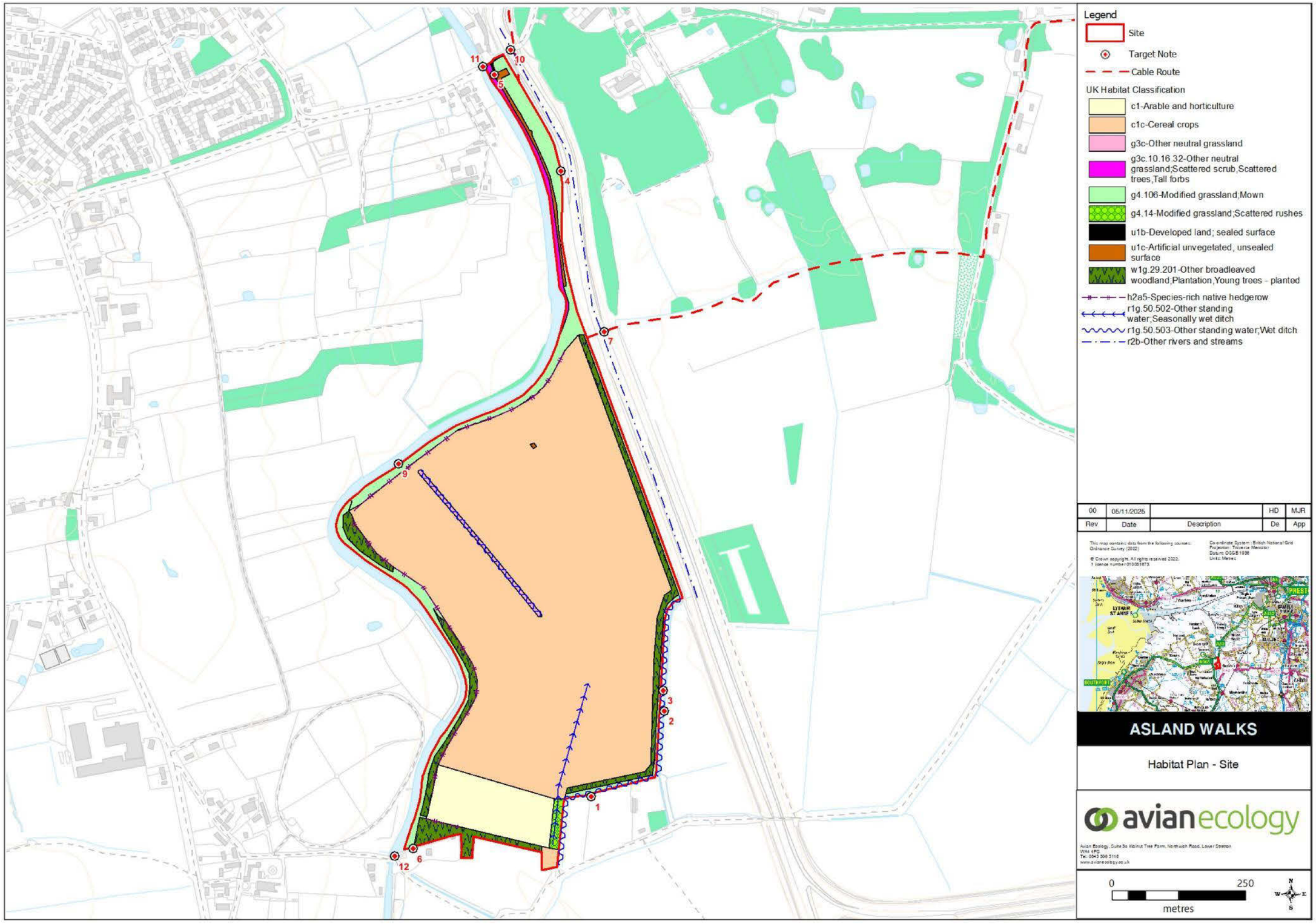
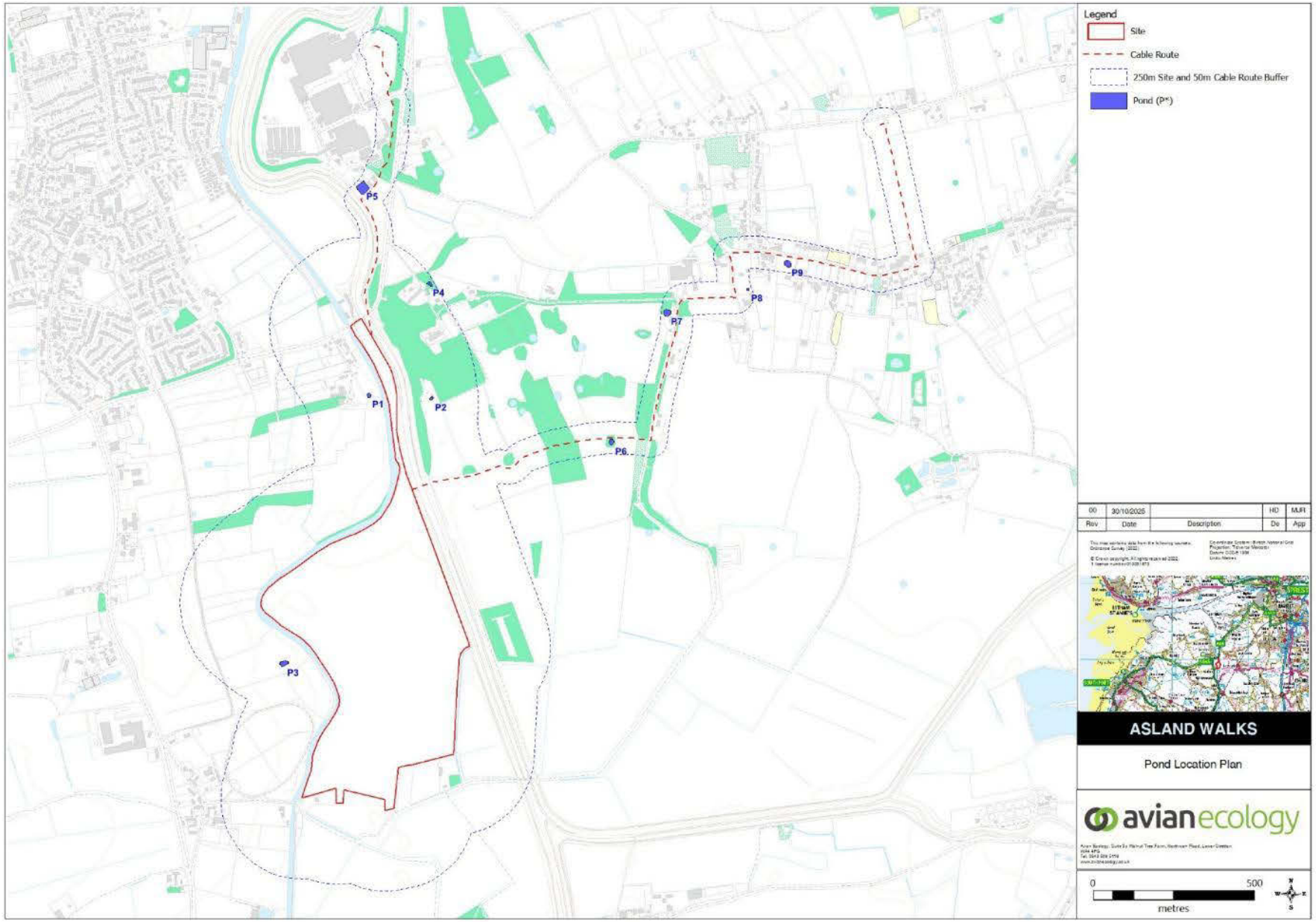


Figure 6: 2025 Pond Location Plan



APPENDIX 1: PHOTOGRAPHS- 2023

Photograph 1: Cereal crop

Photograph 2:.Former cereal crop (arable stubble at time of survey)

Photograph 3: Field boundary drainage ditch

Photograph 4: Wider drainage ditch located off-site to the east of Main Site.

APPENDIX 2: PHOTOGRAPHS- 2025

Photograph 5: Modified grassland, artificial unsealed surface track and other neutral grassland with scattered scrub, tall forbs and scattered trees which lines the Leeds to Liverpool Canal in the north of Site, facing south. INNS Himalayan Balsam was frequent in this area.

Photograph 6: River Douglas which borders Site to the east.

Photograph 7: Example of wet drainage ditch which borders Site in the south east.

Photograph 8: Newly dug drainage ditch in the south east of Site, surrounded by modified grassland with scattered rush, facing south east.

Photograph 9: Cereal crop which dominates Site.

Photograph 10: Modified grassland public footpath around the perimeter of Site, with newly planted deciduous plantation woodland separating the arable field and footpath.

Photograph 11: Example of newly planted hedgerow between the plantation woodland belt and arable field.

Photograph 12: Example of newly planted hedgerow between the modified grassland footpath and arable field.

Photograph 13: Existing drainage ditch in the north of Site, surrounded by other neutral grassland with tall forbs.

Photograph 14: Weather station in the north of the arable field.

Photograph 15: Off-Site Leeds to Liverpool Canal with dense matts of INNS floating pennywort.

Photograph 16: Modified grassland, other neutral grassland lining River Douglas and off-Site bridge in the north of Site, facing north east.

	
Photograph 17: Northern Cable route- modified grassland mown path, facing south.	**Photograph 18:** Northern Cable route- Unsealed surface within Plocks Farm, with the Cable route hugging around the perimeter**.**
	
Photograph 19: Northern Cable route- Acoustic fence, adjacent 1m unsealed surface and then plantation woodland. The cable will be fixed to the back of the fence.	**Photograph 20:** Northern Cable route- Sealed surface road, modified grassland with scattered trees and beech hedge at the entrance to Plocks Farm. The Cable route will cross this area.

APPENDIX 3: PENNINE ECOLOGICAL (2021). GREEN ENERGY SITE A PRELIMINARY ECOLOGICAL APPRAISAL (PROVIDED AS A SEPERATE DOCUMENT)