Windhill Lane, Staincross

Preliminary Ecological Appraisal

19th May 2021



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Site Name Windhill Lane	Location Staincross, Barnsley
Local Authority Barnsley Metropolitan Borough Council	**Grid Reference** SE 3239 1116
Surveyor Peter Middleton MCIEEM	**Date of Survey** 02/03/2021
National Character Area The Nottinghamshire, Derbyshire and Yorkshire Coalfield (NCA 38)	**Designation of Site** None

UK Primary Habitats g3c Other neutral grassland, g3 Neutral grass (with secondary codes 17, 115 & 176), h3h Mixed scrub, u1b5 Buildings, u1b6 Other developed land.
Secondary (habitat) Codes 10 Scattered scrub, 11 Scattered trees, 12 Scattered bracken, 17 Ephemeral, 69 Fence, 77 Neglected, 115 Track, 176 Bryophyte dominant.
Protected/Notable Species, Constraints on Site None
HPIs and SPIs under NERC Act 2006 None
Barnsley BAP None

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1. Summary

1.1.1 The Preliminary Ecological Appraisal of land off Windhill Lane was commissioned by planning consultant James Roberts on behalf of the client Pit Stop Productions on 18th March 2021. The survey was commissioned to inform a planning application for a proposed development, comprising a single building for business use. The field survey was undertaken on 23rd March 2021.

1.1.2 Site habitats are considered to be of importance to nature conservation at the site level only. The site is not considered to be of importance to any species or species group at greater than the site level.

1.1.3 The proposed landscaping plan will comprise the creation of native mixed scrub across 15.5% of the site. Existing trees at the boundaries will be retained. British Standard 5837 (2012): Trees in relation to design, demolition and construction, should be followed. Root Protection Zones (RPZ's) should be calculated and implemented to prevent harm to trees on-site or near the boundary. This should also apply to any trees out-with the site, up to 5 m from the boundary.

1.1.4 Species rich grassland will be established on regraded land to with sub soil from the excavations used to create a nutrient poor seed bed. Any imported soils will be restricted to subsoil only. The aim during grassland creation will be to reduce the fertility of the soils and sow with a neutral seed mix typical of MG5 grassland. A permeable grass grid will be used in place of tarmac for the access road and car parking area and 382m of species rich hedgerow will be planted at the site's boundaries.

1.1.5 In addition to the mitigation and compensation detailed above, enhancement recommendations include:

- The new building should include two wall-integrated bat boxes, situated high on south and north facing gables and away from artificial light spill. Boxes should not be located directly above windows or doors.
- Two house sparrow terraces should be installed integral to the fabric of the building under soffits.

1.1.6 Using the Biodiversity Metric 2.0 it has been calculated the post-development site will have an ecological value of 3.95 Habitat Units, resulting in an increase of 0.35 Habitat Units on site (+ 9.72 % net gain). Also 1.58 hedgerow units will be gained.

2. Introduction

2.1.1 The Preliminary Ecological Appraisal of land off Windhill Lane was commissioned by planning consultant James Roberts on behalf of the client Pit Stop Productions on 18th March 2021. The field survey was undertaken on 23rd March 2021.

2.1.2 The survey was commissioned to inform a planning application for a proposed development, comprising a single building for employment use (recording studio).

2.1.3 The site consists of a plot of land (one field) adjacent to Windhill Lane. The site is in a somewhat rural location on the northern side of Staincross and Mapplewell approximately 5km north-northwest of Barnsley town centre.

2.1.4 The purpose of this report is to present the findings of a UK Habitat Classification survey together with determining the potential for, or presence of, protected and notable species. An appended map of the site shows the habitats present. Where impacts can be confidently determined, recommendations in relation to avoiding, mitigating and compensating for these impacts are included in this report, together with biodiversity enhancement recommendations.

2.1.5 Key legislation relating to designated sites and protected species and habitats is presented in Appendix 3. The implications of legislation are detailed in the body of the report where necessary.

3. Site Description

3.1.1 The site consists of 0.94ha of land on the northern side of Windhill Lane on the outskirts of Staincross near Barnsley. Semi natural habitats on site are restricted to rank neutral grassland together with a few immature scattered trees and a little scrub.

3.1.2 Land adjacent to the site to the south and east consists of residential properties and associated gardens. Either side of the site are fields of neutral grassland and adjacent to the northeast boundary is a small area of remnant heath which is now covered in bracken. Beyond to the north is grassland and arable (see Figure 1).

3.1.3 The site falls within National Character Area 38: The Nottinghamshire, Derbyshire and Yorkshire Coalfield. This National Character Area (NCA) comprises a generally low-lying area, with hills and escarpments above wide valleys, the landscape embraces major industrial towns and cities as well as villages and countryside. Over half of the NCA is currently designated as greenbelt land; this maintains some distinction between settlements and represents areas that are often under pressure for development and changes in land use. Very little of the NCA is designated for geology or nature conservation, but instead the landscape is dotted with many pockets and patches of habitat where species find refuge. This is often on land that was once worked for minerals or occupied by major industry.

3.1.4 The soils in the area comprise freely draining slightly acid loamy soils.

Figure 1. The site location, as indicated by red line boundary.



4. Methodology

4.1 Data Consultation

4.1.1 Barnsley Biological Records Centre (BBRC) were contacted to request the following information for locations within a 1.5km radius of the site:

- Protected and notable species records
- The boundaries of non-statutory designated sites of nature conservation interest

4.1.2 A search of the Multi-Agency Geographical Information for the Countryside (MAGIC) website was undertaken to determine the following:

- The boundaries of statutory designated sites of nature conservation interest.
- The locations of historic European Protected Species (EPS) licences granted by Natural England.

4.2 Field Survey

4.2.1 The site was surveyed on 23rd March 2021 using the UK Habitat Classification survey methodology (Butcher *et al*., 2020) by Peter Middleton. The surveyor is a competent botanist who was a major contributor to the South Yorkshire Plant Atlas (Wilmore *et. al*., 2011). He has more than 20 years' experience of undertaking botanical surveys including appraisals of Local Wildlife Sites (LWSs) in Barnsley, Doncaster and East Yorkshire, as well as National Vegetation Classification (NVC) survey in the Yorkshire Dales National Park.

4.2.2 Notable, rare or scarce plant species were highlighted if present. Evidence of protected species or species of nature conservation importance was recorded where

present at the time of survey. Species recorded are included within the report as appropriate. Information is presented on the UK Habitat Classification plan, using Secondary Codes and Target Notes where appropriate to identify particular features of interest, where appropriate. Additionally, and where possible, habitats were classified using the National Vegetation Classification (NVC), as described in the JNCC National Vegetation Classification – Users Handbook (Rodwell, 2006).

4.2.3 Ariel photographs (Google Earth) were studied to place the site in its wider context and to look for ecological features that would not be evident on the ground during the walkover survey. This is particularly useful for identifying wildlife corridors and ponds but because the latter are often not apparent on aerial photographs, OS 1:25 000 scale maps are also used.

4.2.4 Habitats of Principal Importance (HPIs) and Species of Principal Importance (SPIs) are included on Section 41 of the Natural Environment and Rural Communities (NERC) Act 2006 were noted together with priority species and habitats as included on the Local Biodiversity Action Plan (LBAP).

4.3 Methods of assessment

4.3.1 The value and sensitivity of ecological features present on site were determined based on the guidance provided within 'Guidelines on Ecological Impact Assessment in the UK and Ireland' (CIEEM, 2018). Individual ecological receptors (habitats and species that could be affected by the development) for the scheme were assigned levels of importance for nature conservation. The highest level is international, then decreasing in order of importance through national, regional, county, local and lastly site.

4.4 Biodiversity Calculation

4.4.1 Biodiversity calculations provide a numeric method of calculating biodiversity gains and losses as a result of a proposed development.

4.4.2 The Biodiversity Metric 2.0 (Crosher *et al*., 2019) is used to calculate the biodiversity impact of this scheme. This metric uses habitat as a proxy for wider biodiversity with different habitat types scored according to their relative biodiversity value. This value is then adjusted depending on the condition and location of the habitat, to calculate 'biodiversity units. Biodiversity Metric 2.0 incorporates similar but separate calculations for habitats that require a different method of measurement such as hedgerows, lines of trees, rivers, streams and street trees. Calculations are undertaken in a purpose designed spreadsheet, which provides the main output of the process.

4.5 Survey Limitations

4.5.1 The survey was undertaken outside of the survey season for botanical surveys, however, considering the habitats that are present on site, this is not a significant constraint as habitat types could be confidently determined.

5. Ecological Baseline

5.1 Data Consultation

5.1.1 Designated sites present within 1.5km of the application area are detailed in Table 1.

(also see Appendix 4). There are four ancient semi natural woodlands within a two-kilometre radius of the site, the nearest is Husband Wood which is 450m west of the application site.

Table 1. Designated sites

Designation	Name	Interest	Distance from site
Local Nature Reserve (LNR)	Notton Wood	Broad leaved woodland	1.23 km east
Local Wildlife Site (LWS)	Mapplewell Tip	Coal spoil/heath	1.4km south

5.1.2 Records of protected and notable species obtained are discussed in the species sections of the results.

5.2 Field Survey

UK Habitat Classification Survey

5.2.1 The arrangement of site habitats is shown on the UK Habitat Classification plan in Appendix 1, whilst a field survey botanical species list is provided in Appendix 2.

5.2.2 The site is considered to be of no more than site level importance to nature conservation for the habitats supported. The site is not considered to be of importance to any species or species groups at greater than the site level.

5.2.3 A detailed description of the site habitats and the site's potential to support protected and notable species is provided below.

Habitats

G3c Other neutral grassland

5.2.4 This habitat constitutes the majority of the site. The grassland has been neglected and consequently it has become rank and tussocky with cocksfoot *Dactylis glomerata*, common and creeping bent *Agrostis capillaris/stolonifera* appearing the most abundant grass species together with occasional red fescue *Festuca rubra* and Yorkshire fog *Holcus lanatus*. Locally frequent herb species include yarrow *Achillea millefolium*, creeping buttercup *Ranunculus repens*, common sorrel *Rumex acetosa*, hogweed *Heracleum sphondilium*, broad leaved dock *Rumex obtusifolius* and spear thistle *Cirsium vulgare*, whilst occasional species include ragwort *Senecio jacobea*, creeping thistle *Cirsium arvense*, dandelion *Taraxacum officinale* agg. and ribwort plantain *Plantago lanceolata*. The grassland has previously been horse grazed and is considered to be in poor condition as there are numerous undesirable species (i.e. broad leaved dock, creeping thistle and ragwort) with a cover in excess of 15%. In the north of the site there is abundant scattered bracken *Pteridium aquilinum* (secondary code 12) which is spreading from the adjacent land north of the boundary. There are also three immature scattered trees (secondary code 11) comprising one willow *Salix* near the buildings and two ash *Fraxinus excelsior* near the southwestern boundary plus scattered scrub comprising gorse *Ulex*, silver birch *Betula pendula*, elder *Sambucus nigra* and bramble (secondary code 10).

Plate 1. Other neutral grassland with single *Salix* near buildings



Plate 2. Looking north (western boundary on left)



g3 17 115 176 Neutral grassland (ephemeral/track/bryophyte dominant),

5.2.5 A track from the highway to the buildings which has a hardcore substrate is dominated by ubiquitous bryophytes (secondary code 176) together with varying amounts of grass comprising largely creeping bent and Yorkshire fog. Vascular plants present include frequent dovesfoot cranesbill *Geranium molle*, white clover *Trifolium repens* and ribwort plantain. Species present in smaller quantities include common mousear *Cerastium fontanum*, heath speedwell *Veronica officinalis* and birdsfoot trefoil *Lotus corniculatus* (see Plate 3). It is considered to be in poor condition as it fails much of the assessment criteria, for example, undesirable species and physical damage are more than 5% cover (it is a track).

h3h Mixed scrub

5.2.6 Adjacent to the entrance track off Windhill Lane is an area of scrub dominated by bramble *Rubus fruticosus* agg. together with two silver birch (Plate 3). The scrub is considered to be in poor condition as it fails to meet the criteria for scrub in good or moderate condition as less than 10% of it comprises woody species.

Plate 3. Entrance track with mixed scrub on left and single ash in distance



u1b5 Buildings

5.2.7 The onsite buildings comprise a row of horse stables and associated outbuildings (Plate 4), their potential to support roosting bats is detailed in the species section of the report.

u1b6 Other developed land

5.2.8 Near to the buildings are areas of hard surface including tarmac, in-situ concrete and concrete paving (see Plate 4 & Appendix 1).

Plate 4. Concrete paving and onsite buildings



Species and species groups

Amphibians

5.2.9 No Great Crested Newt (GCN) *Triturus cristatus* record was provided by BBRC for a location within a 1.5km radius of the site.

5.2.10 No GCN EPS mitigation licences has been issued for any locations within a 2km radius of the site. No GCN have been confirmed as present in the GCN pond surveys 2017-2019 dataset, for locations within 2km of the site.

5.2.11 One pond was identified during the pond search for a location within 1km of the application site (Figure 2). The nearest pond is 800m west northwest of the site. It is separated from the site by Windhill Lane which is considered a barrier to GCN movement.

5.2.12 Taking into account the distance from the nearest pond and the site and barrier to GCN movement, GCN are considered highly unlikely to be a receptor to the proposed scheme.

5.2.13 Two common frog *Rana temporaria* and two common toad *Bufo bufo* records were provided by BBRC for locations within a 1.5km radius of the site. The nearest was recorded in in 2011 and involved both species from a location 1.2km south-southeast of the site.

Figure 2. 500m pond search, ponds, as indicated by red circles.



Badger

5.2.14 Badger *Meles meles* records were provided by BBRC for locations within 1.5km radius of the site. No badger setts or other evidence of usage were found on site. Badger is not considered a receptor to the proposed scheme; however, they may use the site as a wider foraging area.

Bats

Historical records

5.2.15 Sixteen bat records of at least four species were provided by BBRC. Species included in the records comprised common pipistrelle *Pipistrellus pipistrellus*, soprano pipistrelle *Pipistrellus pygmaeus*, noctule *Nyctalus noctula* and Leisler's bat *Nyctalus leislerI*, with

other records ascribed to either an unidentified pipistrelle species or an unidentified bat species. The closest record to site involves a foraging noctule, recorded in 2011, from a location 930m west of the site.

5.2.16 No historic bat EPS mitigation licences have been obtained for locations within 2km of the application site.

5.2.17 Two buildings are present on site. No signs of bat presence were recorded from the buildings. The buildings and their potential to accommodate bats are detailed below.

Description of buildings

5.2.18 Buildings comprise a long row (six compartments) of timber framed stables with a pitched roof and horizontally fitted wood cladding (Plates 5 & 6). Adjacent to the stables is a complex of timber framed outbuildings beneath mono-pitched sheet metal roofs with walls also clad with metal sheets. There is a large wood door at the rear (Plate 6) and a single pane wood framed window and door on the southeast elevation of one section (Plate 5).

Plate 5. Timber framed sheet metal clad out-buildings



External inspection of buildings

5.2.19 The buildings are largely single skin and devoid of crevices and voids with potential for usage by roosting bats. Where there are internal boards at low level, there is no access from the outside to the void. On some sections, there is no roof covering and the wood sarking is open to the elements.

Internal inspection of buildings

5.2.20 All the building sections are open to the underside of the roof coverings. The interior is again devoid of features with the potential to accommodate roosting bats. A single old blackbird *Turdus merula* nest was located in one of the buildings.

Plate 6. Northwest elevation (rear) of stables



Summary of building inspection

5.2.21 No bats were found roosting in the buildings during the preliminary daytime assessment and there were no signs of bat occupation. The surveyed buildings lack potential roost features and are considered to offer negligible potential for use by roosting bats.

Site trees, Bat foraging and commuting habitat

5.2.22 No site trees display features which have potential to accommodate roosting bats and the site as a whole, together with adjacent habitats, provides suboptimal foraging habitat for bats.

Birds

5.2.23 Bird species recorded on site during the walkover survey included robin *Erithacus rubecula* and wood pigeon *Columba palumbus*. The list is not exhaustive, and the site has the potential to support a larger assemblage of common birds which may use these habitats for both foraging and nesting. For example, Kestrel *Falco tinnunculus* is likely to forage in the rank grassland.

Hedgehog

5.2.24 One hedgehog *Erinaceus europaeus* record was provided by BBRC for a location within a 1.5km radius of the site. This species was recorded in 2012 from a location 1km east of the site. The site would offer some appeal to this species but no more than is offered by surrounding habitats.

Invasive species

5.2.25 No invasive species included on Schedule 9 of the Wildlife & Countryside Act 1981 (as amended) were recorded on site.

Invertebrates

5.2.26 The rank vegetation and ubiquitous vascular plants on site are unlikely to support notable assemblages of invertebrates.

Plants

5.2.27 The rank grassland on site which shows signs of nutrient enrichment is not conducive to supporting rare or notable species of vascular plants and none were recorded during the survey.

Reptiles

5.2.28 One common lizard *Zootoca vivipara* record was provided by BBRC for a location within 1.5km of the site centroid. The record was collected in 2019 from a location 1.45km east of the site. Considering the rank vegetation on site, lack of waterbodies and that there is little connectivity with suitable habitats elsewhere, reptiles are not considered likely to be a receptor to the proposed scheme.

5.3 Biodiversity Calculation

5.3.1 The existing site's value as calculated by the Biodiversity Metric 2.0 tool is 3.65 Habitat Units (Appendix 5).

6. Assessment

6.1 Proposals

6.1.1 The assessment of impacts is based upon the site plan; Site Plan as Proposed, Ref 102-35, Dwg No 05, April 2021. NYP Architectural Services Ltd. Existing trees and scrub will be retained, and impacts are restricted to the loss of a small area of poor-quality grassland.

6.2 Assessment of Impacts

Designated sites

6.2.1 No impacts are anticipated upon designated sites due to the nature of the development and the distance of designated sites from the application area.

Habitats

6.2.2 Habitats within the red line boundary that will be lost as a result of the proposed development largely comprise poor quality neutral grassland plus buildings and hard surface. The impact associated with the loss of these habitats is considered to be of site level importance to nature conservation. Existing site trees will be retained.

6.2.3 The development risks damage to the root systems or stems of one site tree within the red line boundary, as a result of demolition and construction works.

Species

Bats

6.2.4 Negative impacts upon bats are unlikely to occur as a result of the scheme as the buildings offer negligible bat roost potential and the site comprises suboptimal bat foraging habitat.

Birds

6.2.5 If active nests are present in scrub and/or site buildings at the time of site clearance, then damage to or the destruction of nests is a possibility. Nesting birds are subject to strong legal protections as outlined in Appendix 3. The appeal of the site to birds for both foraging and nesting will increase as a consequence of the landscaping proposals if implemented.

6.2.6 Impacts upon birds resulting from noise from the proposed recording studio are considered to be negligible and result in no more than site level impacts. Screening provided by hedgerows and scrub together with the controlled nature of the recording environment which will not be continuous, is unlikely to be as noisy as the traffic from the road.

6.3 Further Survey and Mitigation

Habitats

6.3.1 Habitats within the red line boundary that will be lost as a result of the proposed development largely comprise other neutral grassland in poor condition. The impact associated with the loss of site habitats are considered to be of site level importance to nature conservation.

6.3.2 The proposed landscaping plan (Appendix 6) will comprise the creation of native species rich scrub across 15% of the site. Existing trees at the boundaries will be retained. British Standard 5837 (2012): Trees in relation to design, demolition and construction, should be followed. Root Protection Zones (RPZ's) should be calculated and implemented to prevent harm to trees on-site or near the boundary. This should also apply to any trees out-with the site, up to 5 m from the boundary.

6.3.3 Species rich grassland will be established on regraded land to with sub soil from the excavations used to create a nutrient poor seed bed. Any imported soils will be restricted to subsoil only. The aim during grassland creation will be to reduce the fertility of the soils and sow with a neutral seed mix typical of MG5 grassland.

6.3.4 In order to further reduce and offset the scheme's ecological impact, car parking will be on a geogrid seeded with a grassland mix, whilst 382m of species-rich hedgerow will be planted around the site boundaries.

6.3.5 The proposed habitat enhancement measures could be secured through a planning condition requiring an Ecological Design Strategy (EDS), to be produced.

Species

Bats

6.3.6 The proposed landscaping scheme and tree planting will increase the appeal of the site to foraging bats. The quality of habitat on site and its appeal to foraging bats will increase with age has trees and understorey planting matures.

Birds

6.3.7 Nesting birds are subject to legal protection (Appendix 6) which amongst other things makes it an offence to take, damage or destroy a bird nest. In the absence of mitigation, the removal of buildings, trees and scrub has potential to result in the destruction of active nests. Consequently, site clearance should not be undertaken during the bird nesting period (March-August (inclusive)) or be proceeded by a nesting bird check, to be undertaken by an ecologist.

6.4 Enhancements

6.4.1 In accordance with the aims of planning policy NPPF: 15, it is suggested that the developer follows the recommendations detailed below. Please note that the enhancements have been informed by the results and findings of the field survey.

- The new building should include two wall-integrated bat boxes, situated high on south or west facing gables and away from artificial light spill. Boxes should not be located directly above windows or doors.
- Two house sparrow terraces should be installed integral to the fabric of the building or externally mounted under soffits.

6.5 Biodiversity Calculation

6.5.1 It is calculated the post-development site will have an ecological value of 3.95 Habitat Units, resulting in an increase of 0.35 Habitat Units on site (+ 9.72% net gain). Also, 1.58 hedgerow units will be gained.

6.6 Conclusion and Residual Effects

6.6.1 In order to reduce scheme impacts and to ensure the scheme maximises potential benefits to nature conservation, it is recommended that all mitigation and enhancement measures detailed in Sections 6.3 and 6.4 are adopted.

7. References

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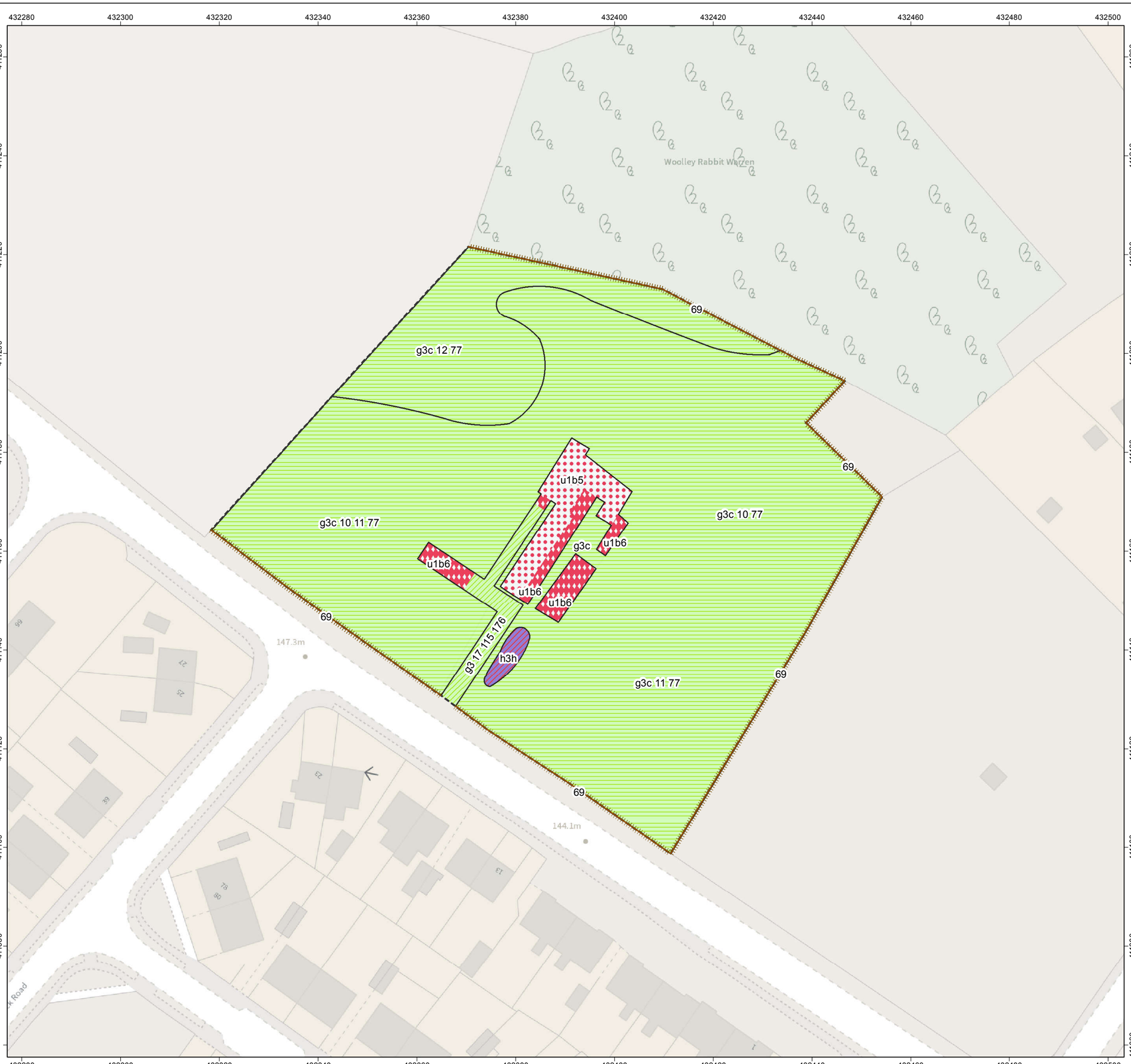
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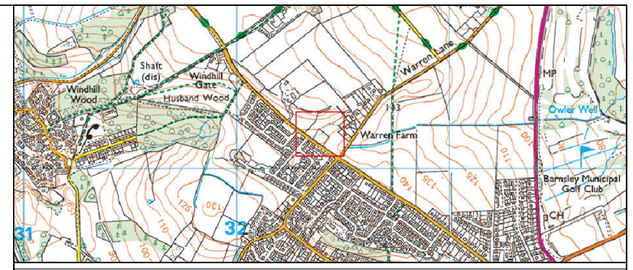
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Appendix 1. UK Habitat Classification Plan





Survey Information

Site boundary (9,431.5m^2)

UK Habitat Survey (Primary Habitats)

- g3 - Neutral grassland (165.7m^2)
- g3c - Other neutral grassland (8,777.5m^2)
- h3h - Mixed scrub (48.7m^2)
- u1b5 - Buildings (238.5m^2)
- u1b6 - Other developed land (201.1m^2)
- 69 - Fence

Secondary codes:

10 - Scattered scrub
11 - Scattered trees
12 - Scattered bracken
77 - Neglected
115 - Track
176 - Bryophyte dominated

Source:
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N

0 5 10 20
Metres

PROJECT TITLE

WINDHILL LANE, STAINCROSS

DRAWING TITLE

Figure 1. UK Habitat Survey Plan

VER	DATE	REMARKS	Drawn	Checked
1.2	29/03/21	UKHab	MP	PM

DRAWING NUMBER:
MIDDLETONBELLECOLOGY/WindhillLane/UKHab

SCALE	PLOT SIZE	DATUM	PROJECTION
1:750	A3	OSGB	BNG

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Appendix 2. Plant Species Recorded on Site

D = Dominant, **A** = Abundant, **F** = Frequent, **O** = Occasional, **R** = Rare

Species	Common Name	DAFOR Rating	Habitat
Symphytum officinale x asperum x tuberosum	Comfrey	R	Grassland
Betula pendula	Silver Birch	R	Mixed scrub
Fraxinus excelsior	Ash	R	Grassland
Salix	Willow	R	Grassland
Sambucus nigra	Elder	R	Grassland
Lotus corniculatus	Bird's-foot trefoil	R	Ephemeral
Cerastium fontanum	Common Mouse-ear	O	Ephemeral
Veronica	Speedwell	R	Ephemeral
Trifolium repens	White Clover	O	Ephemeral
Narcissus	daffodils	O	Grassland
Geranium molle	Dove's-foot Crane's-bill	F	Ephemeral
Plantago major	Greater Plantain	R	Grassland
Taraxacum officinale agg.	Dandelion	O	Grassland
Juncus effusus	Soft rush	R	Grassland
Ulex	Gorse	R	Grassland
Rumex acetosa	Common Sorrel	Loc F	Grassland
Pteridium aquilinum	Bracken	A	Grassland
Galium aparine	Cleavers	R	Grassland
Anthriscus sylvestris	Cow Parsley	O	Grassland
Rubus fruticosus agg.	Bramble	R	Mixed scrub/Grassland
Urtica dioica	Common Nettle	F	Grassland
Dipsacus fullonum	Wild Teasel	Loc F	Grassland
Heracleum sphondylium	Hogweed	Loc F	Grassland
Cirsium vulgare	Spear Thistle	Loc F	Grassland
Cirsium arvense	Creeping Thistle	O	Grassland
Jacobaea vulgaris	Common Ragwort	O	Grassland
Rumex obtusifolius	Broad-leaved Dock	F	Grassland
Ranunculus repens	Creeping Buttercup	F	Grassland
Plantago lanceolata	Ribwort Plantain	O	Grassland/Ephemeral
Achillea millefolium	Yarrow	O/F	Grassland
Festuca rubra	Red Fescue	O	Grassland
Arrhenatherum elatius	False Oatgrass	O	Grassland
Dactylis glomerata	Cock's-foot	A	Grassland
Holcus lanatus	Yorkshire fog	Loc O	Grassland/Ephemeral
Agrostis stolonifera	Creeping Bent	F	Grassland/Ephemeral
Agrostis capillaris	Common Bent	F	Grassland

Appendix 3. Relevant Legislation and Policy

Wildlife legislation relating to statutory designated sites and species is summarised in Table A1 and A2 below. This legal information is intended for summary only, and the original legal documents should be consulted if a detailed understanding is required.

Table A1. Legislation relating to designated sites and habitats.

Designated Site	Legal Status
Local Nature Reserves (LNR)	LNRs are of local, but not necessarily national, importance. An LNR can also be an SSSI (Site of Special Scientific Interest), but often is not, or may have other designations. Except where the site is an SSSI, there is no legal necessity to manage an LNR to any set standard and there is no national legal protection specifically for LNRs. An LWS has certain protection against development on and around it. This protection is usually given via the local plan, (produced by the Local Planning Authority (LPA), and often supplemented by local by-laws.
Local Wildlife Site (LWS)	While they have no direct legal status, Local Wildlife Sites are considered important enough to receive recognition within the planning system. National planning policy requires local authorities to identify Local Wildlife Sites and provide for their protection through local policy.

Table A2. Legislation relating to species.

Species	Legal Status
European protection	
European Protected Species (EPS) (including bats, Great Crested Newt (GCN), otter and hazel dormouse)	These animal species and their breeding sites or resting places are protected under Regulation 41 of the Conservation of Habitats and Species (Amendment) Regulations 2012, which makes it illegal to: • Intentionally or deliberately capture, injure or kill any such animal or to deliberately take or destroy their eggs. • Deliberately disturb such an animal. • Damage or destroy a breeding site or resting place of such an animal. European Protected Species (EPS) licences can be granted by Natural England in respect of development to permit activities that would otherwise be unlawful under the Conservation Regulations, providing that the following 3 tests (set out in the EC Habitats Directive) are passed: • The development is for reasons of overriding public interest. • There is no satisfactory alternative; and • The favourable conservation status of the species concerned will be maintained and/or enhanced. Under Regulation 9(5) of the Conservation Regulations, Planning Authorities have a legal duty to 'have regard to the requirements of the EC Habitats Directive in the exercise of their functions'. This means that they must consider the above 3 tests when determining whether Planning Permission should be granted for developments

Species	Legal Status
	likely to cause an offence under the Conservation Regulations. As a consequence, Planning Applications for such developments must demonstrate that the 3 tests will be passed. Natural England also allow sites to be registered on the Bat Low Impact Class Licence to permit activities that would otherwise be unlawful under the Conservation Regulations where the 3 tests can be passed and the bat roosts to be impacted are of low conservation status.
National protection	
European Protected Species and other species including water vole and white clawed crayfish	These animals receive full protection under the Wildlife and Countryside Act 1981 (as amended by the Countryside and Rights of Way Act 2000), which makes it illegal (subject to exceptions) to: • Intentionally kill, injure or take any such animal. • Intentionally or recklessly damage, destroy or obstruct any place used for shelter or protection by any such animal; and • Intentionally or recklessly disturb such animals while they occupy a place used for shelter or protection.
Common amphibians and reptile species	These animals receive limited protection under The Wildlife and Countryside Act 1981 (as amended by the Countryside and Rights of Way Act 2000), which makes it illegal to intentionally kill or injure any such animal.
Badger	The Protection of Badgers Act 1992 makes it illegal to wilfully kill or injure a Badger or attempt to do so and also make it illegal to intentionally or recklessly interfere with a Badger sett. This includes damaging or destroying a sett, obstructing access to a sett and disturbing a Badger while it is occupying a sett. Licences can be granted by Natural England to permit sett closure and/or disturbance between July and November inclusive.
Schedule 1 birds	Special penalties relate to offences concerning birds listed on Schedule 1 of the Wildlife and Countryside Act 1981 (as amended). In addition to the offences detailed above relating to all wild birds, it is illegal to intentionally or recklessly disturb any Schedule 1 bird or their dependent young while nesting.
All bird species	All wild birds are protected under the Wildlife and Countryside Act 1981 (as amended by the Countryside and Rights of Way Act 2000), which makes it illegal (subject to exceptions) to: • Intentionally kill, injure or take any wild bird. • Take, damage or destroy the nest (whilst being built or in use) or eggs of any wild bird.
Invasive species	The Wildlife and Countryside Act 1981 (as amended) contains measures for preventing the establishment of non-native species which may be detrimental to native wildlife, prohibiting the release of animals and planting of plants listed in Schedule 9 of the Act. In relation to Schedule 9 plants, it is an offence to plant or otherwise cause these plant species to grow in the wild.

Species and Habitats of Principal Importance

Planning authorities have a duty under Section 40 of the NERC Act 2006 to have regard to priority species and habitats in exercising their functions including development control and planning. In compliance with Section 41 of the NERC Act, the Secretary of State has published a list of species and habitats considered to be of principal importance for conserving

biodiversity in England under the UK Post-2010 Biodiversity Framework. This is known as the list of Habitats and Species of Principal Importance (HPI/SPI). The HPI/SPI list is used to guide planning authorities in implementing their duty under the NERC Act.

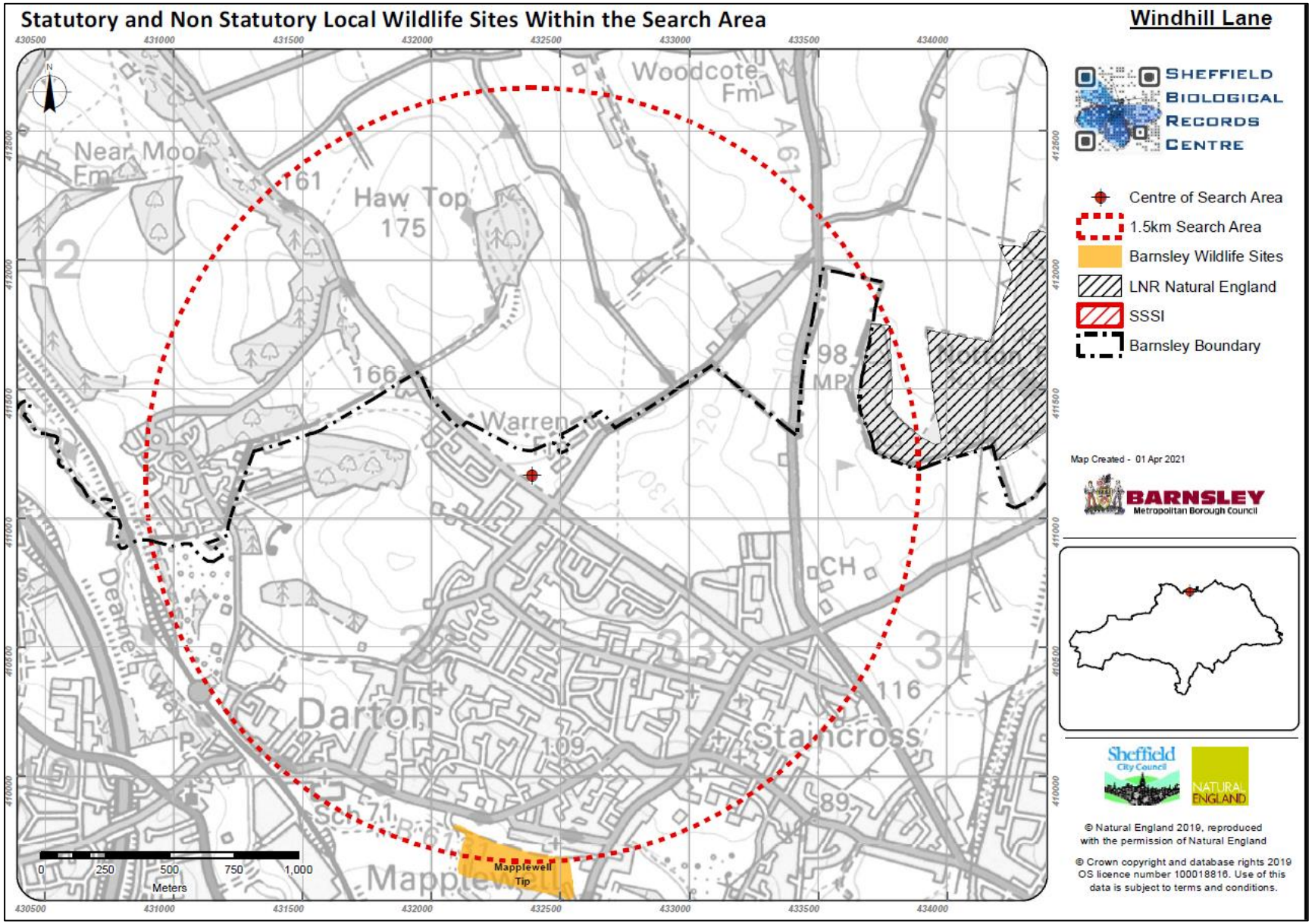
National Planning Policy Framework

The National Planning Policy Framework for England was revised in 2019. The NPPF's policy on biodiversity has been summarised by the Government as: "The Framework underlines that the planning system should seek not just to protect, but, where possible to enhance biodiversity – making sure we don't just have isolated pockets of wildlife, but rich and connected green spaces for all kinds of species to thrive. Planning permission should be refused for development resulting in the loss or deterioration of irreplaceable habitats, including ancient woodland."

Local Biodiversity Action Plans

The HPI/SPI list included on Section 41 of the NERC Act 2006 is supported by a series of Local Biodiversity Action Plans (LBAPs), usually set up on a local authority local authority administrative boundary basis. Each LBAP identifies those habitats and species considered to be most important in that area (usually referred to as priority habitats and species). Commonly, an LBAP will identify a number of habitats and species for which "action plans" have been prepared.

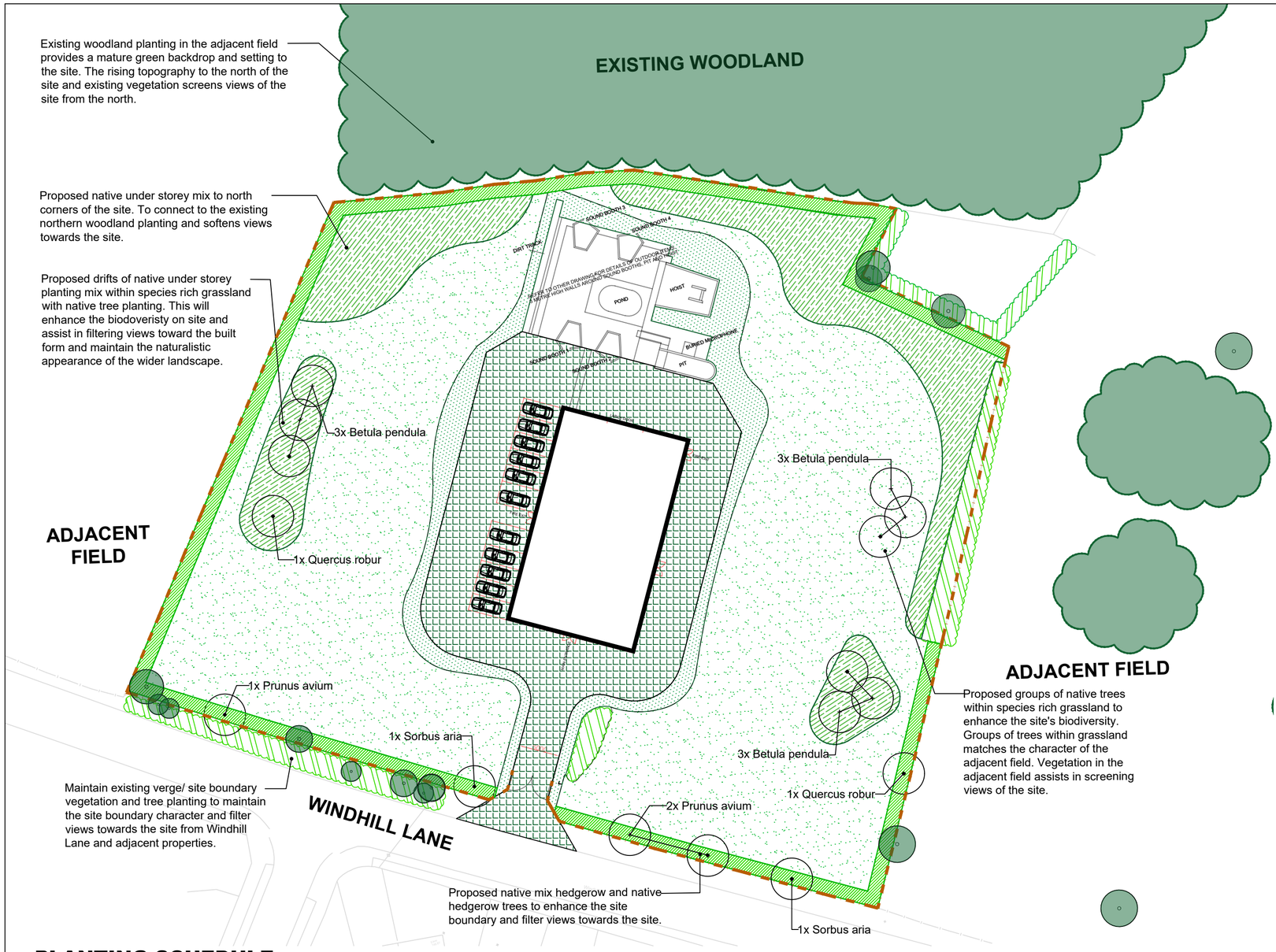
Appendix 4. Designated Sites Map



Appendix 5. Metric Headline Results

On-site baseline	*Habitat units*	3.60
	Hedgerow units	0.00
	River units	0.00
On-site post-intervention (Including habitat retention, creation, enhancement & succession)	*Habitat units*	3.95
	Hedgerow units	1.58
	River units	0.00
Off-site baseline	*Habitat units*	0.00
	Hedgerow units	0.00
	River units	0.00
Off-site post-intervention (Including habitat retention, creation, enhancement &	*Habitat units*	0.00
	Hedgerow units	0.00
	River units	0.00
Total net unit change (including all on-site & off-site habitat retention/creation)	*Habitat units*	0.35
	Hedgerow units	1.58
	River units	0.00
Total net % change (including all on-site & off-site habitat creation + retained habitats)	*Habitat units*	9.72%
	Hedgerow units	Check Data
	River units	0.00%

Appendix 6. Landscaping plan



LANDSCAPE KEY

(Refer to Architect's plan for hard materials. Planting: refer to planting schedule & specification for planting details)

- Existing woodland block and tree planting within and around the site to be retained. All existing trees to be protected to BS 5837.
- Existing scrub and associated boundary vegetation to be retained where possible.
- Proposed tree planting.
- Proposed native understorey shrub mix planting.
- Proposed mown edges to the grassland to maintain a tidy appearance in proximity to the development.
- Proposed species rich grassland.To be sown on nutrient poor subsoil.
- Proposed grass-grid to access road and parking bays.
- Proposed mixed native species hedge.
- Existing post and rail boundary fence.

SOFTWORKS SPECIFICATION NOTES

The contractor is responsible to ensure that no products or practices are to be used that do not comply with relevant British Standards, Codes of Practice and Construction Regulations. Contractor to be fully satisfied with locations of services prior to excavations.

Site clearance generally: Where necessary remove rubbish, concrete, metal, glass, decayed vegetation and contaminated topsoil. Remove stones exceeding 75 mm. Remove material containing toxins, pathogens or other extraneous substances harmful to plant, animal or human life.

Retain and protect trees and vegetation where necessary. Grub up any large roots and dispose of without undue disturbance of soil and adjacent areas.

Works within the root protection area (RPA):
There shall be no trafficking of machinery, cultivation, ripping or harrowing of the soil, or importing of top soil, within the root protection area (RPA) of the existing trees to be retained. No trenches shall be dug within the RPA of the existing trees. New hedging plants within the RPA of the existing trees shall be notch planted.

Imported subsoil material for species rich grassland - to BS 38601:2013. When importing soil for grassland, if required bring in only nutrient poor subsoil to spread for the new grassland.

Imported topsoil material - TO BS 3882 Provide as necessary to make up any deficiency of topsoil existing on site and to complete the work. Classification: Multipurpose. Grade: 5-10mm. Locally sourced. Topsoil requirements - Where there is no existing topsoil, spread topsoil from site stockpile to the following depths after settlement: Planted areas/ hedge 450mm, Trees 900mm.

Soil Sampling - Existing topsoil and inert sub soils, shall be analysed in accordance with BS3882:2007 to determine available nutrients, texture, organic matter content and pH. Nutrient poor subsoil is required for grassland.

Cultivation - Earth works vehicles to be small scale and tracked to minimise compaction. Flail existing ruderal vegetation to ground level and remove arisings prior to cultivation. If existing subsoil horizon is found to consist of heavy clay, all proposed seeded areas to be tine ripped to 200mm depth at 300mm centres to increase drainage. Areas to be seeded to be chain harrowed to a fine tilth and lightly rolled to provide firm seed bed. Remove all stones over 30mm dia in any direction.

Finished levels of soil after settlement: Above adjoining paving or kerbs: 20 mm, within root spread of existing trees: Unchanged. Adjoining soil areas: Marry in. Thickness of turf or mulch: Included.

Compost to tree/shrub pits - Shall be well rotted sterilised spent mushroom compost max. pH 6.8 or Target Treestart compost. The contractor shall provide a Certificate of Analysis to show that the material being supplied complies with the above criteria. Incorporate spent mushroom compost or equivalent approved peat free compost into tree pits at a rate of 3 parts topsoil to 1 part compost, thoroughly mix together.

Planting - Minimise trafficking of graded slopes. All plants to be preferably planted between Nov. - March. Nursery stock trees and shrubs to conform to BS3936, to be supplied and planted in accordance with British Standards and the Horticultural Association's Plant Handling Guide. Container grown shrubs to be thoroughly watered before planting; trees and bare root shrubs watered after planting.

Times of year for planting: Deciduous Trees, hedges and shrubs: Late October to late March. Evergreen hedges and shrubs: September/ October or April/ May. Container grown plants: At any time if ground and weather conditions are favourable. Watering and weed control: Provide as necessary.

Shrub/Hedge/Herbaceous planting pits: Timing: Excavate 1-2 days (maximum) before planting. Pit sizes: Wide enough to accommodate roots when fully spread and 75 mm deeper than root system. Pit bottom improvement Break up to a depth of 150 mm, incorporating 25 g of slow release fertiliser per planting pit. Backfilling material: Reuse excavated material. Watering: Immediately after planting, thoroughly and without damaging or displacing plants or soil. Firming: Lightly firm soil around plants and fork and/ or rake soil, without damaging roots,to a fine tilth with gentle cambers and no hollows.

Tree pit sizes - Standard trees excavate a tree pit 1.2m x 1.2m x 900mm. Break up sides and bottom of pits to a depth of 100mm to ensure free drainage.

Tree pit treatment: Soil ameliorant worked into pit bottoms. Pit sides: Scarify. Backfilling material: Topsoil as per specification
Drainage Layer: Provide 200mm layer washed, clean gravel to base of pits to aid drainage (tree pit to be actively drained if poor draining soil or clay discovered by contractor).

Typically trees in soft landscape to be staked unless stated otherwise by the Landscape Architect. Underground guying is recommended for to trees in hard landscape and in public areas.

Trees to be double staked using 1.8m long x 75mm dia. round timber stakes (size of stakes to be adjusted to suit size of tree) . Cross member to be installed min. 75mm x 25mm (larger trees will need large cross members). Locate proprietary rubber buffer on cross member and install rubber ties to manufacturer's instructions.

Tree pit accessories by Green Blue Urban or similar: Underground guying and perforated plastic irrigation/ ventilation pipe to landscape architects approval.

Tree pit root barrier to be used wherever the installed rootball will be within 2m of a building foundation or within proximity to underground utilities (distance at which root barrier is required is as per utility providers standards should be confirmed prior to installation). Root barrier by Green Blue Urban or similar to be installed vertically to supplier/landscape architect recommendations.

Mulch - Approved medium course chipped tree bark composted for at least 4 weeks. Particle size 25-75mm dia, max. 20% fines, pests and disease free and free of Methyl Bromide contamination. Clear any weeds and water soil before applying mulch. All planting areas should receive an even 50mm depth of bark mulch, Top of mulch to be 15mm min. below adjacent hardstanding to avoid spillage.

Seed Preparation and Implementation for Species Rich Grassland
After cultivating and grading prepare seed bed to fine, firm tilth with good crumb structure (Depth: 25 mm) Rake to a true, even surface, friable and lightly firmed but not over compacted. Remove surface stones/earth clods. Extend cultivation into existing adjacent amenity grassed areas sufficient to ensure full marrying in of levels where required. Evenly distribute seeds at the manufacturers recommended application rate. Establish good seed contact with the root zone to promote healthy, consistent growth. Lightly harrow or rake to cover seed. Thoroughly water completed seeding.

Maintenance - 1 year Defects Liability Period applies. All dead or failing plants to be replaced the following growing season. Maintain a weedfree bare earth area 600mm dia minimum around individual trees and shrubs. Herbicide shall be non-residual translocated and applied with spray guard all to approval of SEPA as required. Prior to spraying ensure all spirals are tight to ground level and leaves within spray range are fully enclosed. Arisings: Remove. Trim all edges. Weed control: Substantially free of broad leaved weeds. Method: Application of a suitable selective herbicide. Remove any stones 25 mm in any dimension brought to the surface. Watering: To ensure establishment.

A management plan of 5-10 years for the grassland should be developed in response to the landscape layout scheme and should promote ecological management principles.

PLANTING SCHEDULE:

Trees:

Species are to be selected from schedules included.
The schedules provide an indicative but not exhaustive list.

TREES					
Total	Species	Height	Girth	Size	Spec.
2	Quercus robur	425-600	14-16	EHS	RB, clear stem 175-200mm
3	Prunus avium	425-600	14-16	EHS	RB, clear stem 175-200mm
9	Betula pendula	425-600	14-16	EHS	RB, clear stem 175-200mm
2	Sorbus aria	425-600	14-16	EHS	RB, clear stem 175-200mm
16					

NATIVE UNDERSTOREY SHRUB MIX				
Species	% of mix	Size	Spacing	Spec.
Prunus spinosa	25	40-60cm	1-1.5m centres	BR
Corylus avellana	20	40-60cm	1-1.5m centres	BR
Ilex aquifolium	5	40-60cm	1-1.5m centres	BR
Rosa Canina	25	40-60cm	1-1.5m centres	BR
Crataegus monogyana	25	40-60cm	1-1.5m centres	BR

Native Hedge Mix:

Species are to be selected from schedules included.
The schedules provide an indicative but not exhaustive list.

MIXED SPECIES NATIVE HEDGE				
Name	% of mix	Size	Spec	Notes
Crataegus monogyana	50	90-120cm	BR	5 plants per metre in a double staggered row
Ilex aquifolium	5	90-120cm	BR	5 plants per metre in a double staggered row
Viburnum opulus	10	60-80cm	BR	5 plants per metre in a double staggered row
Prunus spinosa	10	60-80cm	BR	5 plants per metre in a double staggered row
Acre campestre	10	60-80cm	BR	5 plants per metre in a double staggered row
Euonymus europaeus	10	60-80cm	BR	5 plants per metre in a double staggered row
Corylus avellana	5	60-80cm	BR	5 plants per metre in a double staggered row

Species Rich Grassland:

Species are to be selected from schedules included.
The schedules provide an indicative but not exhaustive list.

MG5 GRASSLAND
Germinal RE1 Traditional Hay Meadow (MG5 Grassland) 5g/m2
Achillea millefolium, Rumex acetosa, Gallium verum, Leucanthemum vulgare, Plantago lanceolata, Agrimonia eupatorium, Prunella vulgaris, Succisa pratensis, Filipendula ulmaria,Sanguisorba minor,Lotus corniculatus,Trifolium repens,Trifolium pratense,Rhinanthus minor,Leontodon autumnalis,Centaurea nigra,Lathyris pratensis,Pimpinella saxifraga,Festuca rubra litoralis,Cynosurus cristatus,Trisetum flavescens, Festuca pratensis ,Festuca ovina,Agrostis capillaris, Briza media

Project: Windhill Lane
Client: Pitstop Productions
Title: Outline Landscape Plan & Specification
Drawn: SS | **Chk'd:** SH | **App'd** SH
Drawing Number: PWP.530.001
Revision: 03
Drawing Scale: 1:500@A2

Rev	Date	Detail	Made	Chk'd	App'd
03	19/05/21	Hedge species list amended.	SS	SH	SH
02	19/05/21	Amended in line with comments.	SS	SH	SH
01	18/05/21	Amended in line with comments.	SS	SH	SH
00	17/05/21	Issued for comment	SS	SH	SH

Notes:
1. Not for construction all dimensions to be confirmed on site.
2. Based on Layout Drawing - 102-35-05 Proposed Site Plan by NYP Architectural Services.
3. Refer to architects/engineers drawing for site levels, drainage, retaining walls, services and utilities .
4. Build ups/footings to engineers specification.
5. Location of services to be confirmed by contractor prior to installation of any planting.
6. All existing trees to be protected to BS 5837.

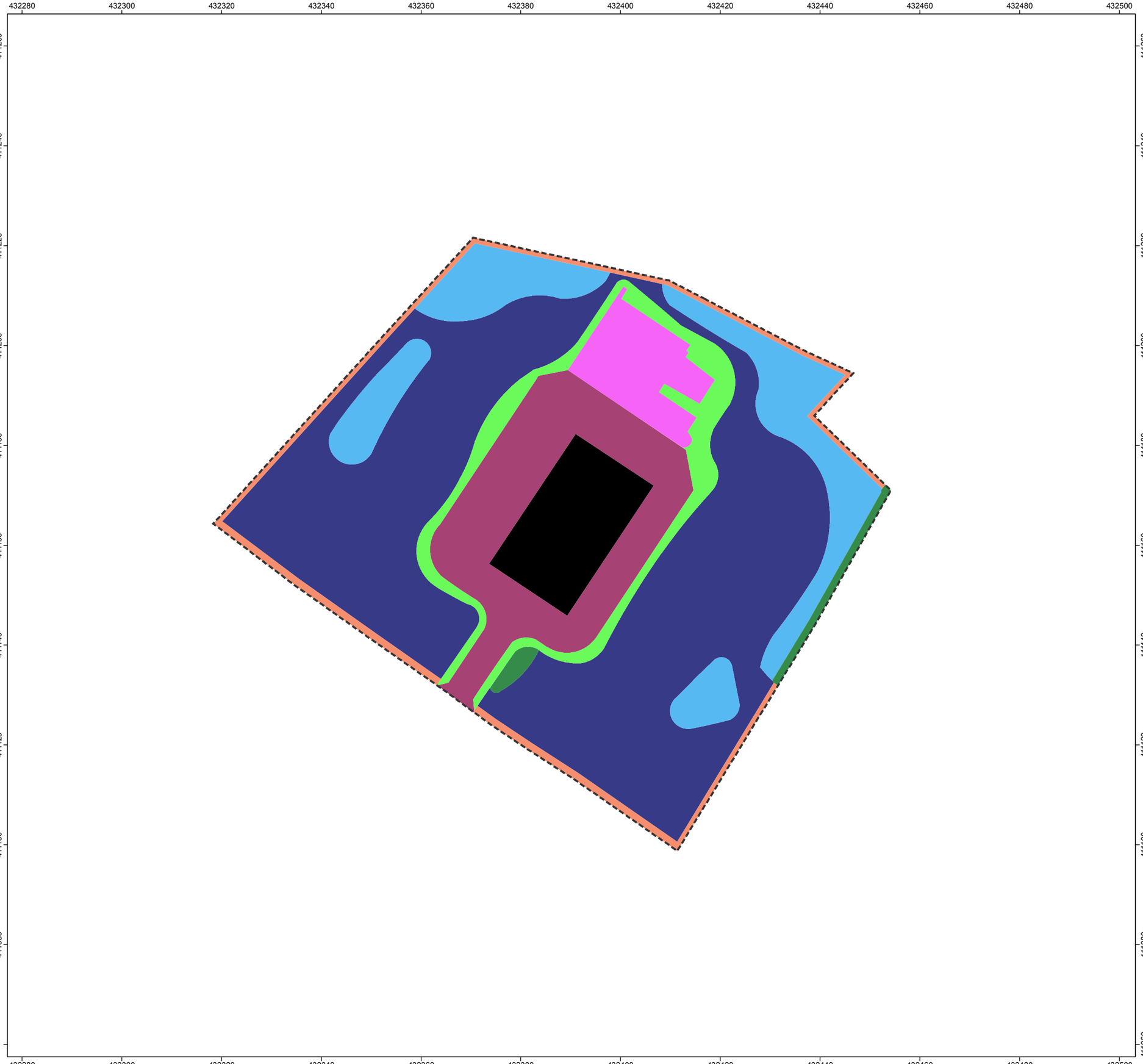
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info@pwpdesign.co.uk

PWP DESIGN

Appendix 7. Metric calculation plan

Type	m2
Building	587.1
Grass grid	1356.0
Mixed native species hedge	381.9
Mown grassland	590.2
Native understorey shrub mix	1281.5
Outdoor area	432.1
Retained scrub	106.2
Species rich grassland	4696.4



Survey Information

Site boundary (9,431.5m^2)

UK Habitat Survey (Primary Habitats)

Proposed

Type

- Building
- Grass grid
- Mixed native species hedge
- Mown grassland
- Native understorey shrub mix
- Outdoor area
- Retained scrub
- Speceis rich grassland

Source:
Ordnance Survey © Crown copyright 2021, All rights reserved. License Number 100049837.

N

0 5 10 20
Metres

PROJECT TITLE

WINDHILL LANE, STAINCROSS

DRAWING TITLE

Figure 1. UK Habitat Survey Plan

VER	DATE	REMARKS	Drawn	Checked
1.2	19/05/21	UKHab	MP	PM

DRAWING NUMBER:
MIDDLETONBELLECOLOGY/WindhillLane/UKHab

SCALE	PLOT SIZE	DATUM	PROJECTION
1:750	A3	OSGB	BNG

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