Swansea BESS

784-B070706

Preliminary Ecological Appraisal

Statkraft UK Ltd

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EXECUTIVE SUMMARY

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Site Location	The site is located south of Swansea North 400 kV GIS substation and is centred at Ordnance Survey National Grid Reference SN 65374 00903 (Figure 1).
Proposals	The development proposal is the installation of a 100MW Battery Energy Storage System (BESS) to the immediate south of the Swansea Greener Grid Park.
Scope of this Survey(s)	Desk study to obtain existing information on statutory and non-statutory sites of nature conservation interest and of protected/notable species. UK Habitat Classification (UKHab) survey to record habitats and evidence of protected flora and fauna. Evaluation of potential ecological receptors on site and any potential constraints to development with recommendations for further surveys, mitigation or enhancement (where appropriate). To provide guidance on potential biodiversity benefits of the development.
Results and Evaluation	<u>Protected sites</u> Nant y Crimp Site of Special Scientific Interest (SSSI) is located approximately 1.5 km north-west of the site and is designated for its habitats and plants species. Due to its distance from the site and the scale and localised nature of the development, it is considered unlikely to be impacted by the scheme. The proposed development is not anticipated to have significant impacts on Llety-Morfil Site of Importance for Nature Conservation (SINC), Felindre Grasslands SINC and Waun Garn Wen SINC. However, there are potential pathways via hydrological links. <u>Habitats</u> The habitat onsite is predominantly other neutral grassland, with hedges, ecologically valuable lines of trees and scrub, a ditch and a stream located along the boundaries. All these habitats are of Local importance. Condition assessments in accord with the biodiversity net gain (BNG) have been provided. <u>Protected species</u> The site has the potential to support a number of protected and notable species including badger, hazel dormouse, bats, birds, reptiles and hedgehog.
Recommendations	<u>Further Surveys / Assessment</u> Further aerial assessment (tree climbing) of trees (with PRFs (TNs 13, 14, 15 & 16); Ecological Clerk of Works (ECoW) checks for badger prior to the works; Further invasive non-native plant species (INNPS) survey in June -July. <u>Avoidance Measures</u>

All SINCs to be protected during the works;
Due to the distance to the SINCs, noise, vibration and dust impacts must also be considered. Precautionary avoidance measures are to be implemented to protect these SINCs in accordance with best practice guidance for pollution (GPP5 (Natural Resources Wales (NRW)), 2017).
Protection of adjacent habitats during the works;
Existing habitats (including hedgerows / line of trees / mature trees retained where possible; trees with the potential to support roosting bats are recommended to be retained and protected);
ECoW for birds - works undertaken during the nesting bird season (March to September inclusive) risks disturbing bird nests. Vegetation clearance and groundwork must be preceded by a nesting bird check; if nesting birds are found, active nests must remain undisturbed in situ until young have fledged and confirmation is obtained from a suitably experienced ecologist;
ECoW for reptiles and hedgehogs - refugia on site including brash piles and debris are to be hand searched prior to clearance and sheltering wildlife such as hedgehogs moved to a safe location away from the works area. It is recommended that clearance of refugia is undertaken at a time of year when sheltering hedgehogs are most likely to be active, i.e. April to Octoberand reptiles where habitats are being removed;
Hazel dormouse habitat removal under Non-Licence method Statement (NLMS);
Good practice measures (such as covering excavations or providing means of escape) are to be implemented to prevent entrapment of wildlife;
A sensitive lighting scheme must be developed for the site that minimises disturbance to sensitive ecological receptors (e.g. hedgerows, trees and bat boxes); and
General precautionary measures to prevent the introduction and spread of INNPS must be undertaken due to INNS Himalayan balsam and Japanese knotweed in the vicinity.

Enhancements

Other neutral grassland reseeding with wildflower meadow mix to improved from poor condition to good condition;
Restoration of defunct hedgerows along boundaries of the site to raise conditon of hedgerows from poor to good;
New 0.5km length species rich native hedgerow planting;
1.1ha of new lowland mixed deciduous woodland planting;
Bat boxes;
Bird boxes;
Hibernacula for common amphibians and reptiles; and
Insect hotel for invertebrates.

Retained, enhanced and created habitats will be managed in accordance with a long term ecological management.

Conclusion	Provided the recommendations within this report for further survey and mitigation can be adopted, it is anticipated that a design could be brought forward for this site that would be compliant with current local and national biodiversity planning policy.

1.0 INTRODUCTION

1.1 BACKGROUND

Tetra Tech Limited (Tetra Tech) was commissioned by Statkraft UK Ltd in December 2024 to undertake a Preliminary Ecological Appraisal (PEA) of the land south of Swansea Greener Grid Park, hereafter referred to as “the site”.

This report has been prepared by Project Ecologist Laura Grice BSc (Hons) MBA PGDip ACIEEM and Graduate Ecologist Ellie Burrows BSc (Hons) and the conditions pertinent to it are in Appendix A.

1.2 SITE DESCRIPTION

The site is located southeast of Swansea North 400kV GIS substation and is centred at Ordnance Survey National Grid Reference SN 65374 00903 (Figure 1). It comprises grazed other neutral grassland divided by lines of trees, including oak standards, newly formed banks, and banks of species rich native hedgerow. There is bramble scrub, a stream and a ditch along site boundaries. The wider environment comprises sheep and horse grazed pastures divided by hedges and farm buildings. A house and plantation (Maes Eglwys) are also located to the south of the site.

1.3 DEVELOPMENT PROPOSALS

The proposal is for the installation of a 100MW Battery Energy Storage System (BESS) to the immediate southeast of Swansea North 400kV GIS substation.

The current proposed Landscape Masterplan 2242 (Figure 4) Swansea BESS (TGP Landscape Architects) is included in Appendix B.

1.4 PURPOSE OF REPORT

The purpose of this report is to:

- Undertake a desk study to obtain existing information on statutory and non-statutory sites of nature conservation interest and relevant records of protected / notable species within the site and its zone of influence.
- Present the results of an extended Habitat Classification Survey, involving a walkover of the site to record habitat types and dominant vegetation, including any invasive species and evidence of protected flora, fauna or habitats capable of supporting such species.
- Evaluate potential ecological receptors on site and within the zone of influence.
- Identify any constraints to the site's development and make any recommendations for further surveys, mitigation or enhancement.

Scientific names are provided at the first mention of each species and common names (where appropriate) are then used throughout the rest of the report for ease of reading.

1.5 QUALITY

Project Ecologist Laura Grice BSc (Hons) MBA PGDip has Associate membership of CIEEM. Graduate Ecologist Ellie Burrows BSc (Hons) has Qualifying membership of the Chartered Institute of Ecology and Environmental Management (CIEEM).

Our Ecologists follow CIEEM's Code of Professional Conduct (CIEEM, 2024), with all surveys completed in accordance with Tetra Tech's Biosecurity Policy (Tetra Tech, 2023).

All staff have completed Health and Safety training. Risk Assessment Method Statements have been completed and verified prior to the site visit, with Dynamic Risk Assessments completed by all site staff upon arrival at site.

1.6 VALIDITY

This report will remain valid for a period of 18 months (i.e., until 13th July 2026), in accordance with CIEEM's guidelines (CIEEM, 2019). After this time, an Ecologist must be consulted to confirm if an update assessment is required. The recommendations within this report must be reviewed (and reassessed if necessary) should there be any changes to the habitats present, red line boundary or development proposals upon which this report was based.

2.0 METHODOLOGY

2.1 HISTORIC SURVEYS

Previous reports relevant to the site have been reviewed and discussed within Section 3.1. These reports were undertaken in support of the wider Swansea GGP including:

Reptile Report (Arcus, 2021a);
Reptile Method Statement (Arcus, 2021b);
Hazel Dormouse Method Statement (Arcus, 2021c);
Preliminary Ecological Appraisal (Wardell Armstrong, 2022a);
Preliminary Biodiversity Impact Assessment (Wardell Armstrong, 2022b);
Hazel Dormouse Survey Report (Tetra Tech, 2024); and
Hazel Dormouse EPSML (ref. S093147-1) Method Statement v2. (Tetra Tech, 2024a).

2.2 DESK STUDY

The desktop study comprised two elements:

A data search obtained from South East Wales Biodiversity Records Centre (SEWBReC) in November 2022 and in April 2024 for the previous PEAs of the wider site (Wardell Armstrong, 2022a) and Tetra Tech, 2024)) with biological records limited to the last 10 years accordingly.

An online element including a search using MAGIC Maps, Defra's interactive, web-based database for statutory designations (https://magic.defra.gov.uk) and Ordnance Survey (OS) and Aerial Imagery (https://www.bing.com/maps).

The geographical extent of the search area was related to the significance of sites and species and potential zones of influence. For this site, the following search areas were considered appropriate:

10 km for sites of International Importance (e.g. Special Areas of Conservation (SAC), Special Protection Area (SPA), Ramsar sites);

2 km for sites of National or Regional Importance (e.g. Sites of Special Scientific Interest (SSSI), protected or otherwise notable species and non-statutory designated sites of County Importance (e.g. Site for Importance for Nature Conservation (SINCs));

In addition, any Impact Risk Zones (for identifying likely impacts on SSSIs / SACs / SPAs & Ramsar sites) overlapping the site were identified;

2 km for biological records; and

1 km for ancient woodland and mapped priority habitats.

The data search did not cover Tree Preservation Orders (TPOs); or Conservation Areas designated for their special architectural and historic interest.

Further information on relevant species / environmental legislation and planning policy can be found in Appendix C.

2.3 FIELD SURVEYS

The following methodologies have been used to identify the ecological receptors present on or near the site and which are relevant to the proposed development. The survey extended beyond the site to a distance of 50 m where accessible.

2.3.1 Habitats

An extended Habitat Classification Survey was undertaken on the site on 13th January 2025 by Tetra Tech Consultant Ecologist Laura Grice ACIEEM BSc (Hons) MBA PGDip ACIEEM and Graduate Ecologist Ellie Burrows BSc (Hons). The weather conditions were 6°C, 100% cloud cover, with no rain and a gentle breeze.

The habitats present on site were mapped in accordance with the UK Habitat Classification Professional Edition – Version 2.0 (UK Hab Ltd., 2023), hereafter referred to as 'UKHab'. The habitats have been classified to a minimum of 'Level 3' (in accordance with UKHab). Where habitats occur in multiple areas of the site or are of different condition, additional polygons of the same habitat have been mapped so that their condition could be assessed independently.

The minimum recording unit used for habitats was 25 m^2 and 5 m length for linear habitats (such as hedgerows or watercourses). Dominant plant species were recorded for each habitat present using standard nomenclature (Stace, 2019). Target notes, including list of all plants seen was also compiled using estimates of frequency by eye using the DAFOR scale (D=Dominant, A=Abundant, F =Frequent, O = Occasional, R=Rare) and is provided in Appendix D.

Habitat condition

The condition of each habitat is assessed using the methods set out in the Statutory Biodiversity Metric - The Statutory Biodiversity Metric -Technical Annex 1: Condition Assessment Sheets and Methodology November 2023 (Department for Environment Food & Rural Affairs (DEFRA), 2024b).

The baseline condition assessment data for each habitat can be found in Appendix E.

2.3.2 Protected and Notable Species

The site was inspected for evidence of, and its potential to support, protected or notable species, especially those listed under the Schedule 2 of the Habitat Regulations 2017 (as amended), Schedule 5 of the Wildlife and Countryside Act (W&CA) 1981 (as amended), the Countryside Rights of Way (CRoW) Act 2000, those given extra protection under the Environment (Wales) Act 2016, and species included in the Swansea Local Biodiversity Action Plan (LBAP).

The presence of some species was determined using standard best practice guidance and are listed below.

Badger

The site was surveyed for evidence of badger *Meles meles* setts or other badger activity such as paths, latrines or signs of foraging. Methodologies used and any setts recorded were classified according to published criteria (Harris, et al., 1989).

Hazel Dormouse

The site was surveyed for its suitability to support hazel dormouse *Muscardinus avellanarius* based on best practice guidance (Bright, Morris, & Mitchell-Jones, 2006).

Bats

Roosting Bats – Trees

Any suitable buildings, structures or trees on site were assessed from the ground for their suitability to support breeding, resting and hibernating bats using survey methods based on the BCT Good Practice Guidelines (Collins, 2023), hereafter referred to as the 'BCT Guidelines'.

Categorisation of Trees

A preliminary assessment of trees was undertaken, and trees were categorised to highlight whether additional assessment is required referring to the categories in Table below. Professional judgement was used to identify trees where features could be obscured by foliage or other branches. If a feature was identified on the tree the tree was categorised as PRF as the tree had at least 1 potential roost feature (PRF) present.

Table 1. Categorisation of Trees

Suitability	Description
None	Either no PRFs in the tree or highly unlikely to be any.
FAR	Further assessment required (FAR) to establish if PRFs are present in the tree.
PRF	A tree with at least one potential roost feature (PRF) present.

Birds

Bird species identified at the time of survey were noted, however, nesting birds were not recorded (apart from pigeons) due to the time of the survey. An assessment of habitats was undertaken to determine the likely value to breeding and foraging birds.

Great Crested Newt & Common Amphibians

The site was appraised for its suitability to support great crested newt (GCN) *Triturus cristatus* based on guidance outlined in the Herpetofauna Workers' Manual (Gent & Gibson, 2003) and the *Great Crested Newt Conservation Handbook* (Langton, et al., 2001). This appraisal also considered waterbodies within 500 m of the site and their potential to be used for breeding newts.

Habitat suitability and evidence of other common amphibians was recorded on site where relevant.

Reptiles

The site was appraised for its suitability to support reptiles using guidance outlined in the Herpetofauna Workers' Manual (Gent & Gibson, 2003).

Invertebrates

The site's habitats were appraised for suitability to support assemblages of invertebrates and commented on in the report as appropriate.

Other Species

The site was also appraised for its suitability to support other protected or notable flora and fauna (e.g. hedgehogs *Erinaceus europaeus*) with regard to the Guidelines for Preliminary Ecological Appraisal (CIEEM, 2017) and BS42020:2013 Biodiversity – Code of Practice for Planning and Development (BSI, 2013). Evidence of any current or historical presence of such species was recorded.

Invasive Species

Evidence of species listed on Schedule 9 of the Wildlife and Countryside Act 1981 (as amended), and the Invasive Alien Species (Enforcement and Permitting) Order 2019 (as amended) were recorded as seen.

Scoped Out

Otter *Lutra lutra* and water vole *Arvicola amphibius* were scoped out of the survey and are not discussed further in the report. This is due to the lack of suitable habitats recorded on site. The site is also heavily grazed by sheep, and therefore lacks suitable habitat structure to provide shelter or otherwise significantly suitable habitat for these species.

2.4 LIMITATIONS

Any absence of desk study records cannot be relied upon to infer absence of a species/habitat as the absence of records may be a result of under-recording within the given search area.

The optimal period to undertake an extended UKHab survey is April-September, inclusive. The survey was undertaken in January, which is outside of the optimal survey window, however the dominant species of the respective vegetation types were visible and identifiable at the time of the survey. The grassland has been classified to a minimum of 'Level 3'. The small area within the site and nearby habitats were also surveyed for the other projects in the wider area during summer and they were recorded as being of the same character. Therefore, this is not considered to be a significant limitation for habitat classification.

A 50 m buffer area was not fully assessed during the walkover due to access. Construction works have been carried to the north of the site during the site visit. This is due to the nature of the development which seeks to restore green infrastructure connectivity within the wider site boundary of the Swansea GGP project. The area has been inspected from the distance, where possible, and this is not considered to be a limitation as soil has been already partially or fully removed and lots of disturbance has been to the ground.

One waterbody was located c. 0.11 m north-east of the site, however, no access was available due to thick vegetation. This is not considered to be a limitation as the SEWBReC desk study and the previous PEA (Wardell Armstrong, 2022a) reported no records of GCN within 2 km of the site. Furthermore, the GCN Habitat Suitability Index (HSI) (Oldham R. S., Keeble, Swan, & Jeffcote, 2000) puts the site in Zone C (i.e. GCN are rare or absent from that geographic location).

The invasive non-native plant species (INNPS) are difficult to survey out of season as they die out and are not always visible. This is considered to be a limitation to the accurate assessment of INNPS on site and a further survey is required during April to September, inclusive.

To determine presence or likely absence of protected species usually requires multiple visits at suitable times of the year. This survey focuses on assessing the potential of the site to support species of note, which are considered to be of principal importance for the conservation of biodiversity with reference to those given protection under UK or European wildlife legislation, from only a single visit. This report

cannot, therefore, be considered a comprehensive assessment of the ecological interest of the site. However, it does provide an assessment of the ecological interest present on the day the site was visited and highlights areas where further survey work may be recommended.

3.0 RESULTS & EVALUATION

3.1 PROTECTED SITES

European and National designated sites identified within 10 km of the proposed development are presented in Table with the designation, qualifying features and proximity from the development site also indicated. Details of local non-designated sites within 2 km and obtained from the SEWBReC are also included.

Table 2. Statutory and Non-Statutory Designated Sites Identified During the Desk Study

Site Name	Distance and Direction from Site		Reasons for Designation
Statutory Designated Sites:			
Nant y Crimp	SSSI	c. 1.5 km NW	Special interest for its wet pastures, species-rich neutral grasslands, and semi-natural woodland and scrub hosting several uncommon plant species. Site habitats are scarce in the Welsh lowlands as most has been lost to agricultural improvement.
Crymlyn Bog	Ramsar	c. 6.5 km SE	One of the largest valley floodplain mires in Wales and forms part of an extensive inter-estuarine complex. A mosaic of habitats owing from nutrient-poor and nutrient-rich conditions. Notable for its plant communities and rich invertebrate fauna.
Carmarthen Bay and Estuaries / Bae Caerfyrddin ac Aberoedd	SAC	c. 6.5 km W	Annex I habitats that are a primary reason for selection of this site: Transition mires and quaking bogs; Calcareous fens with *Cladium mariscus* and species of the *Caricion davallianae*. Annex I habitats present as a qualifying feature, but not a primary reason for selection of this site: Alluvial forests with *Alnus glutinosa* and *Fraxinus excelsior*.
Burry Inlet	Ramsar	c. 8.5 km SW	The large estuarine complex of the Burry Inlet includes extensive areas of intertidal sand and mud-flats and the largest continuous area of salt-marsh in Wales (22 square kilometres). Burry Inlet regularly supports internationally important numbers of overwintering wildfowl and waders that feed in the saltmarshes and on the intertidal areas.

	SPA		Burry Inlet SPA was designated for supporting internationally import assemblages of overwintering birds including duck pintail *Anas acuta*, northern shoveler *Anas clypeata*, Eurasian teal *Anas crecca*, wigeon *Anas penelope*, dunlin *Calidris alpina alpina*, red knot *Calidris canutus*, oystercatcher *Haematopus ostralegus*, curlew *Numenius arquata*, grey plover *Pluvialis squatarola*, redshank *Tringa tetanus*, and shelduck *Tadorna tadorna.*
Gower Commons / Tiroedd Comin Gwyr	SAC	c. 9.8 km SW	Area covering around 70 km^2 supporting several extensive tracts of lowland vegetation of wet heath. The site of comprises strong populations of whorled caraway *Carum verticillatum* and the Annex II butterfly 1065 Marsh fritillary *Euphydryas aurinia.* Gower commons also represents lowland European dry heaths in south Wales and supports Annex II species in Wales southern damselfly *Coenagrion mercurial.*
Non-statutory designated sites:			
Llety-Morfil	SINC	c. < 0.01 km S and N	The presence of the moth, wall brown *Lasiommata megera*, patches of ancient woodland, wet woodland and purple moor grass and rush pasture was the purpose behind the designation of Llety-Morfil.
Felindre Grasslands	SINC	c. < 0.02 km SW	The common linnet *Carduelis cannabina*, red kite *Milvus milvus*, common redstart *Phoenicurus phoenicurus*, wood warbler *Phylloscopus sibilatrix* and common starling *Sturnus vulgaris* are present within Felindre Grasslands. Large amounts of bracken and assemblages of ancient woodland indicator species are significant on this site.
Waun Garn Wen	SINC	c. 0.02 km N	This site, dominated by purple moor-grass and rush pasture and wet woodlands, supports a large variety of bird including herring gull *Larus argentatus*, lesser black-backed gull *Larus fuscus*, house sparrow *Passer domesticus,* stonechat *Saxicola torquatus*, common starling and song thrush *Turdus philomelos*.
Pant Lasau	SINC	c. 0.03 km S	Wet woodland with purple moor- grass and rush pasture. Designated for birds and insects, including lesser redpoll, common bullfinch, song thrush, cinnabar moth and small heath.
Middle Llan	SINC	c. 0.03 km SE	No citation available for designation from SEWBReC data search.
Middle Lliw	SINC	c. 0.05 km W	Four bird species, reed bunting *Emberiza schoeniclus*, house sparrow, common starling and song thrush are all found within Middle Lliw and are partially responsible for the SINC designation. In addition,

			assemblages of ancient woodland indicator species, purple moor-grass and rush pasture and species-rich neutral grassland contribute to its designation.
Rhyd-Y-Pandy Valley and Grasslands	SINC	c. 0.05 km E	Populations of red kite and barn owl, along with other significant bird species, present within the Rhyd-Y-Pandy Valley and Grasslands, and the purple moor-grass and rush pasture, wet woodland, AWI assemblages and scrub encompassed the reasons for the SINC designation.
Penllergaer Forest	SINC	c. 0.5 km NW	Penllergaer forests SINC supports a wide variety of bird, plant and invertebrate assemblages but the main species that are protected under the Section 1 of the Wildlife and Countryside Act 1981 include the northern goshawk *Accipiter gentilis*, common kingfisher *Alcedo atthis*, common crossbill *Loxia curvirostra* and red kite. This large 201-ha site contains 98-ha of ancient woodland indicator species with the rest of the site supporting scrub, mixed deciduous woodland and purple moor-grass and rush pasture.
Cefn Forest Stream	SINC	c. 0.5 km NW	This relatively small SINC hosts a wide variety of invertebrate, plant and bird assemblages within a 56-ha area but the most ecologically significant species include the barn owl *Tyto alba*, sky lark *Alauda arvensis*, common linnet, wall brown and royal fern. The dominant habitat present is the purple moor-grass and rush pasture but there are fragments of mixed ash woodland, assemblages of ancient woodland indicator species and neutral grassland.
Cilfaen	SINC	c. 1.0 km N	The citation implies no species were involved in the designation of Cilfaen but the wet woodland, purple moor-grass and rush pasture and assemblages of ancient woodland indicator species directly justified the designation.
Rhos Fawr	SINC	c. 1.0 km N	Although the site contains and dominated by similar habitats to other SINC, purple moor-grass and rush pasture and scrub, only two species of significance were identified, the tree pipit *Anthus trivialis* and common cuckoo *Cuculus canorus*.
Coed Barcud	Wildlife trust reserve	c. 1.0 km N	Coed Barcud supports communities of lesser redpoll *Carduelis cabaret*, reed bunting, common bullfinch *Pyrrhula pyrrhula* and song thrush.
Llangyfelach Common	SINC	c. 1.0 km S	Llangyfelach Common was designated because of the bird species present; Common kestrel *Falco tinnuculus*, house sparrow and common starling, while also hosting habitats of purple moor and rush pasture, deciduous and wet woodland and land dominant in scrub.

Llangyfelach Common	SINC	c. 1.0 km S	Llangyfelach Common was designated because of the bird species present; Common kestrel *Falco tinnuculus*, house sparrow and common starling, while also hosting habitats of purple moor and rush pasture, deciduous and wet woodland and land dominant in scrub.
Lower Lliw Resevoir	SINC	c. 1.5 km N	No citation available for designation from SEWBReC data search.
Cwm Nant-Ddu	SINC	c. 1.5 km NE	Ancient semi-natural woodland, gorse, scrub and species-rich purple moor- grass and rush pasture designated for birds -common linnet, red kite, common redstart, wood warbler and common starling.

Ancient Woodland and Priority Habitats

There are eight parcels of restored ancient woodland within 1 km of the site, both to the north-west and south. A parcel of ancient semi-natural woodland is also located c. 0.27 km north–west of the site. The area of woodland around Swansea North substation, designated as ancient woodland site of unknown category, is c. 0.11 km west of the site. There is limited connectivity to these remnant ancient woodlands through defunct hedges on site.

Four parcels of semi-natural broadleaved woodland are also located in the vicinity and Maes Eglwys woodland plantation c.017 km south of the site.

There are two parcels of lowland dry acid grassland approximately 0.85 km north-east of the site, however, connectivity is low and it is unlikely to be impacted by proposals directly or indirectly, so this is not discussed further.

3.2 HABITATS

The following habitats (Table 3) have been identified through the field assessment. A UKHab map can be found in Figure 2, with detailed Target Notes (TNs) and Photographic Plates included in Appendix F. Condition assessments for each habitat are provided in Appendix E.

Table 3. Habitats

Habitat (UKHab Code)	Result	Importance Assessment	Size / length of habitat within site	Condition assessment
h2a6 – other native hedgerows	Defunct overgrown hedge (TN10) with oak, ash *Fraxinus excelsior* and hawthorn, understory of bramble; 3-5 m high, 2.5-3 m wide.	Local – common in the area.	0.13km	Moderate
h2a5 – species-rich native hedgerow	Defunct species rich hedgerow (Target note 1 (TN1) on 0.5 m bank; height 3-5 m, width 2.5-3 m, with obvious gaps, understorey of bramble, dominated by	Local – species rich hedge on earth bank.	To the south of the site with survey area.	Moderate

Habitat (UKHab Code)	Result	Importance Assessment	Size / length of habitat within site	Condition assessment
	hazel *Corylus avellana*. For full species list see Appendix *C.*			
W1f – Lowland mixed deciduous woodland Secondary codes: Ecologically valuable line of trees (34) **w1f 34**	Ecologically valuable line of trees (TN2 & TN5) on 1 m bank with pedunculate oak *Quercus robur* standards. Classifies as Ecologically valuable due to presence of mature pedunculate oak standards.	Local – established mature and younger trees.	0.02ha	Good
g3c - Other neutral grassland Secondary codes: Grazed (102) Bare ground (510)	The site comprises large areas of other neutral grassland (TN3); sward height 2-7 cm, moderately species diverse, dominated by Yorkshire fog *Holcus lanatus,* creeping bent *Agrostis stolonifera* and common mouse-*ear Cerastium fontanum*, grazed by sheep at the time of walkover. For full species list see Appendix *C.*	Local – moderately species diverse grassland.	4.55ha	Poor
u1e – Built linear feature Secondary codes: Mid-field bund (605)	Fenced in bank in between fields with sown grasses (TN4).	Negligible - of limited ecological value.	0.55ha	n/a
h3d – Bramble scrub	Bramble *Rubus fruticosus agg*. scrub (TN6) with occasional hawthorn *Crataegus monogyna.*	Local – established habitat; common in the area.	0.03ha	n/a
r1g – Other standing water Ditch (50)	Ditch (TN9) with willow and defunct overgrown hedge next to it, depth 5-10 cm.	Local – common in the area.	0.23km	Poor
Rural trees	Mature pedunculate oak standards (TN 11-16) on small area of remaining earth banks around them.	Local - trees, particularly those of mature status have intrinsic ecological	11 individuals	Good

Habitat (UKHab Code)	Result	Importance Assessment	Size / length of habitat within site	Condition assessment
		value and may support protected species (see Section 4).		
g3c - Other neutral grassland Secondary codes: **510**	Bare ground (TN17), topsoil removed.	Negligible - of limited ecological value.	0.75ha	Poor
u1c – Artificial unvegetated; unsealed surface	Construction compound with car park (TN18), compacted ground with stones.	Negligible - of limited ecological value and easily replaceable in the short term.	0.38ha	N/a
u1e – Developed land; sealed surface	The access route (TN19) extending past the area that was visible and accessible during site walkover.	Negligible - of limited ecological value and easily replaceable in the short term.	0.55ha	N/a

3.3 PROTECTED AND NOTABLE SPECIES

Data obtained from SEWBReC and data from the previous PEA (Wardell Armstrong, 2022a) confirmed the presence of a number of protected and notable species within 2 km of the site. Protected and notable species identified as a receptor for the site are detailed in Table . Further information on relevant species / environmental legislation and planning policy can be found in Appendix D.

Table 4. Species Desk and Field Survey Results and Importance Assessment

Species	Legal Protection	Result	Importance Assessment
Badger	Protection of Badgers Act 1992; Wildlife and Countryside Act 1981 (as amended) Schedule 6.	**Desk Study** SEWBReC returned eight records of badger within 2 km of the site boundary in the last 10 years. The closest badger record was approximately 1.5 km south-east. The woodland to the surrounding of the site has suitability for sett creation and foraging badgers. The previous PEA (Wardell Armstrong, 2022a) reported 102 records of badger in the wider area. **Field Survey** No evidence of badger setts or associated badger field signs were recorded on site. The hedgerows and earth banks may provide some suitable sett building habitat, however, due to lack of significant cover, waterlogged habitat nearby and the use of fields for regular sheep dog training, the site was assessed as having limited suitability for badger sett building. However, the site has some suitability for badger commuting and foraging. The site is connected to the wider area, which has more suitable habitat for badger foraging and sett building.	Site – suitable for badger commuting and foraging within the grasslands onsite.; limited suitability for sett building.
Hazel Dormouse	Conservation of Habitats and Species Regulations 2017 Schedule 2; Wildlife and Countryside Act 1981 (as amended) Schedules 5 & 6; Section 7 of Environment (Wales) Act 2016.	**Desk Study** The SEWBReC data search returned no records of hazel dormice within 2 km of the site over the last 10 years. The previous PEA for the GGP development in the wider area concluded that woodlands could support hazel dormouse and recommended a precautionary method statement for the removal of scrub and woodland (Wardell Armstrong, 2022a).	Negligible – the site has negligible suitability for dormouse foraging and nest building due to lack of suitable habitat onsite. Dense scrub, woodlands and hedges adjacent to the site are

Species	Legal Protection	Result	Importance Assessment
		Tetra Tech deployed dormouse tubes and boxes in the woodland to the south-west of the site in 2023 and found evidence of dormouse. An EPS mitigation licence S093147-1 was granted from NRW for this species (Tetra Tech, 2023)). **Field Survey** The site itself has been assessed as having negligible suitability for dormouse foraging and nest building within the hedges due to their gappy nature and lack of structure, but there is suitable habitat for dormouse within woodlands, hedges and dense scrub in the wider area. However, connectivity to those areas is poor.	suitable for dormouse nest building and foraging and dormouse populations are known to exist in woodlands within the wider landscape.
Bats	Conservation of Habitats and Species Regulations 2017 (as amended) Schedule 2; Wildlife and Countryside Act 1981 (as amended); Section 7 of Environment (Wales) Act 2016.	**Desk Study** SeWBREC returned 10 records of six species of bats within the vicinity of the site. Species included brown long eared bat *Plecotus auritus*, common pipistrelle *Pipistrellus pipistrellus*, Daubenton's bat *Myotis daubentonii*, greater horseshoe bat *Rhinolophus ferrumequinum*, lesser horseshoe bat *Rhinolophus hipposideros* and soprano pipistrelle *Pipistrellus pygmaeus*. The closest record was of a Daubenton's roost approximately 0.5 km south. The previous PEA (Wardell Armstrong, 2022a) reported a variety of bat species from SEWBReC. This included brown long eared bat, common pipistrelle, Daubenton's bat, greater horseshoe bat, lesser horseshoe bat, Natterer's bat *Myotis nattereri*, noctule *Nyctalus noctula* and soprano pipistrelle. **Field Survey** The defunct hedgerow and lines of trees provide some suitable foraging and commuting habitat for bats, however, the large gaps in the hedgerow may reduce the suitability of this habitat. The grasslands provide suitable foraging habitat, with large mature trees and farm buildings likely to support roosting bats. Four mature pedunculate oak trees positioned in the field and on the eastern boundary have potential roosting features (PRFs) for bats. There is also suitable habitat for bat commuting and foraging in the wider area. The site has been assessed as being suitable for bat commuting and foraging. Further assessment required (FAR) to establish presence or absence of roosting bats.	Local –suitable habitat for foraging and commuting bats (grasslands, tree lines & hedges). Unknown - roosting habitat; potential bat roosting features for individual bats (PRF-I) recorded in the oaks (in the tree (TNs 13, 14, 15 &16);

Species	Legal Protection	Result	Importance Assessment
Birds	Wildlife and Countryside Act 1981 (as amended).	**Desk Study** Numerous bird records within 2 km search area including WCA Schedule 1 listed species, and RSPB UK Red and amber listed birds of conservation concern. **Field Survey** Trees and shrubs which form parts of the defunct hedgerow are to support common nesting bird species. Seven skylark *Alauda arvensis* records are provided within 2 km of site (the nearest record for skylark is 1.74 km north-west of the site). However, the grasslands are not likely to be used by ground nesting birds due to disturbance, as the grasslands are regularly used to train sheep dogs. During the walkover, linnet *Linaria cannabina*, European robin *Eritacus rubecula*, song thrush *Turdus philomelos*, black bird *Turdus merula*, and wren *Troglodytes troglodytes* were observed on site.	Local – suitable habitats present for bird foraging and nesting in the hedges, bramble scrub and trees; unlikely to be used by ground nesting birds.
GCN and Common Amphibians	*GCN*: Conservation of Habitats and Species Regulations 2017 (as amended) Schedule 2; Wildlife and Countryside Act 1981 (as amended) Schedules 5; Section 7 of Environment (Wales) Act 2016. *Other amphibians:* Wildlife and Countryside Act 1981 (as amended); Section 7 of Environment (Wales) Act 2016.	**Desk Study** The SEWBReC data search returned no records of GCN within 2 km of the site boundary in the last 10 years. However, nine records of common toad *Bufo bufo* (a Section 7 species), eight records of common frog *Rana temporaria*, and five records of palmate newt *Lissotriton helveticus* were recorded within 2 km of the site. The previous PEA (Wardell Armstrong, 2022a) reported no records of GCN within 2 km of the site. The GCN Habitat Suitability Index (HSI) (Oldham R. S., Keeble, Swan, & Jeffcote, 2000) puts the site in Zone C (location is unsuitable). **Field study** One waterbody was located on aerial maps c. 0.11 m north-east of the site with unbroken habitat connectivity to the site. However, its suitability for breeding GCN is unknown due to no access during the site visit. Aerial maps show that it is within densely vegetated area in the woodland. Although there may be suitable terrestrial habitat between this pond and the site, it is considered that, if GCN were present in that pond, there is no suitable refugia	Negligible – no suitable GCN & common amphibian habitat present onsite.

Species	Legal Protection	Result	Importance Assessment
		present within the site that could support this species, i.e. grassland is heavily grazed by sheep, lack of tussocky grassland structure and hedgerows are open. The stream adjacent to the site does not provide suitable habitat for common amphibians, and the flow would not be slow enough to support a breeding population of GCN. The ditch is likely to dry out in spring and is not suitable for common amphibian breeding.	
Reptiles	*Adder, grass snake, slow worm and common lizard*: Wildlife and Countryside Act 1981 (as amended) Schedule 5; Section 7 of Environment (Wales) Act 2016.	**Desk Study** SEWBREC returned 35 records of adder *Vipera berus*, 10 records of common lizard *Zootoca vivipara*, eight records of grass snake *Natrix helvectica*, and nine records of slow-worm *Anguis fragilis* from within 2 km of the site. Arcus undertook reptile surveys in 2020 of a section of land within the site boundary which found a low population of common lizard (Arcus, 2021a). Tetra Tech also undertook reptile surveys in 2023 of land to the north-west of site where the approved (21/0034/PP) access road is proposed. Tetra Tech also carried out reptile surveys in 2023. A low population of common lizard was recorded on site. **Field study** The vegetated earth banks provide some suitable cover for reptiles as well as basking habitat, however no hibernation features (log piles, rubble etc.) were noted during the survey. The grasslands are heavily grazed, have a lack of tussocky grassland structure, and are not suitable for reptile foraging.	Local – some suitable habitat within hedgerows and bramble scrub.
Invertebrates	Some invertebrates are protected under Conservation of Habitats and Species Regulations 2017 (as amended) and Wildlife and Countryside Act 1981 (as amended); Section 7 of Environment (Wales) Act 2016.	**Desk Study** There were 28 records of invertebrates identified within 2 km of site over the last 10 years. Of these, 25 records consisted of species within the Lepidoptera family and 10 of these were of the marsh fritillary *Euphydryas aurinia*. The other three records were singular records of the long-horned bee *Eucera longicornis*, brown-banded carder bee *Bombus humilis* and the oxbow diving beetle *Hydroporus rufifrons*. Numerous records of common invertebrates were reported in the previous PEA including marsh fritillary, and small heath *Coenonympha pamphilius,* both Section 7 priority species (Wardell Armstrong, 2022a).	Local - habitats on site have the potential to support common and widespread invertebrate species.

Species	Legal Protection	Result	Importance Assessment
		Field study Habitats including scrub, hedgerows and trees are considered suitable to support invertebrates. However, the lack of significant vegetation assemblage to support priority species indicates that significant populations of invertebrates are unlikely to occur on site. The site has been assessed as suitable for common invertebrates.	
Invasive species	Wildlife and Countryside Act 1981 (as amended) Schedule 9; The Invasive Alien Species (Enforcement and Permitting) Order 2019 (as amended); Environmental Protection Act 1990.	**Desk Study** There were 11 records of invasive plant species returned within 2 km of the site over the last 10 years. Six species were identified, Himalayan balsam *Impatiens glandulifera*, Japanese knotweed *Reynoutria japonica*, hollyberry cotoneaster *Cotoneaster bullatus*, wall cotoneaster *Cotoneaster horizontalis*, Himalayan cotoneaster *Cotoneaster simonsii* and rhododendron ponticum *Rhododendron ponticum*. Japanese knotweed, rhododendron, wall cotoneaster and Himalayan balsam were identified as being present within the wider area of the site during the previous PEA (Wardell Armstrong, 2022a; Tetra Tech, 2023). **Field study** No invasive species were noted on site at the time survey, however, due to the time of year, invasive flora (Himalayan balsam & Japanese knotweed) may have died back for winter and was not readily identified by the ecologist. Himalayan balsam and Japanese knotweed are known to be present in local area.	Not applicable
Other mammals (including European hedgehogs)	Wildlife and Countryside Act 1981 (as amended); Environment (Wales) Act Section 7.	**Desk Study** The SEWBReC desk study returned one record of hedgehog within 2 km of the site over the last 10 years, c. 0.18 km north-east. **Field study** There is better, more suitable habitat within the wider area, however, grasslands onsite could have some feeding potential and the site could be used for commuting. The vegetated earth banks has some potential for small mammals burrowing and foraging.	Site – some suitability for hedgehog feeding or commuting.

4.0 RECOMMENDATIONS

4.1 MITIGATION AND FURTHER SURVEY

All of the works outlined in Table should be assumed as likely requirements for the pre-planning stage to inform a planning application, unless otherwise stated. An assessment of the ecosystem reliance evaluation in line with DECCA Framework: Diversity, Extent, Condition, Connectivity and Aspects of ecosystem resilience (CIEEM 2022) has been included as appropriate. The main habitats present onsite include other neutral grassland, scrub, hedgerows, line of trees, bare ground and artificial unvegetated unsealed surface. Each of the semi-natural habitats have an important function in climate regulation through sequestration and storage of carbon as well as a role in managing air pollution, noise alleviation and surface water regulation.

The net-benefits for biodiversity approach by Welsh Government (that includes the DECCA framework noted above) has the intent to deliver an overall improvement in biodiversity. It puts the emphasis on proactive consideration of biodiversity and wider ecosystem benefits within a placemaking context early in the design process. There is no mandatory length of time that management is required for in Wales.

It is likely the proposed development will have relatively small-scale impacts on the ecosystems as the semi-natural habitats will largely be retained or enhanced / created. In addition, the aim will be to maintain and enhance the overall diversity and condition of the habitat and species components found on site, as detailed in Table 4. Specific Key Performance Indicators will be included in the PEA report which will be monitored to target an increased resilience of the retained habitats and wider landscape through quantifiable improvements to their condition and diversity. In addition, maintaining the connectivity of semi-natural habitats is key to increasing resilience, allowing the continued movement of species as a result of changing site conditions. The proposed development will retain connectivity throughout its boundaries, allowing foraging and commuting of species across a larger area.

Table 5. Mitigation and Further Survey / Assessment

Ecological Receptor	Further Survey / Assessment	Mitigation Required	Opportunity for Enhancement
Designated sites	Nant y Crimp SSSI is located approximately 1.5 km north-west of the site and is designated for its habitats and plants species. Due to its distance from the site and the scale and localised nature of the development is considered unlikely to be impacted by the scheme. Llety-Morfil SINC is located c. 0.01 km south and north, Felindre Grasslands SINC c. 0.02 km south-west and Waun Garn Wen SINC c. 0.02 km north of the site. There are potential impacts via dust and pollution and in the absence of mitigation could have negative impacts to these SINCs during the Construction phase.	The designated sites will need to be protected throughout the duration of the works. Best practice pollution prevention measures listed below will be adopted: Measures to minimise dust arising, when necessary, including the use of dust control machinery and wet machinery; Measures to prevent pollution / contamination events through surface run-off; and Measures to minimise other pollution events such as noise, vibration and wind-blown litter.	No enhancement required for designated sites.
Habitats	The proposed development will result in the loss of an area of other neutral grassland in the north of site and trees within the hedges and grassland.	It is recommended that grassland, all mature trees, and hedgerows are retained where possible, together with suitable buffers / root protection zones. The retained habitats will need to be protected throughout the duration of the works. Best practice pollution prevention measures (GPP5 (NRW, 2017)) and PPG6 (Environment Agency, 2012) listed below must be adopted:	The Environment (Wales) Act focuses on the sustainable management of natural resources and building resilience in line with the DECCA Framework. There are opportunities to enhance the site for biodiversity and manage the habitats for a wide range of species. The following enhancement measures are proposed as per Indicative Landscape Masterplan 2242 (Figure 4) Swansea BESS (TGP Landscape Architects): 1.80ha of other neutral grassland reseeding with wildflower meadow mix and appropriate management to bring to 'good' condition;

Ecological Receptor	Further Survey / Assessment	Mitigation Required	Opportunity for Enhancement
		Measures to minimise dust arising, when necessary, including the use of dust control machinery and wet machinery; Measures to prevent pollution / contamination events through surface run-off; and Measures to minimise other pollution events such as noise, vibration and wind-blown litter.	Restoration of defunct 0.13km of hedgerows along with boundaries of the site; 0.54km of new hedge species rich hedgerow planting and Planting and subsequent management of 1.11ha of new lowland mixed deciduous woodland. The connectivity of semi-natural habitats will increase resilience allowing the movement of species (such as bats and hazel dormouse) as a result of changing site conditions. Connectivity on site and to the wider landscape is associated with the hedges and lines of trees. Some of the grassland and trees will be lost and replaced by additional area of woodland and in the form of standard hedgerow trees. The loss of these trees will not impact the connectivity across the site and to the wider landscape. The reestablishment of species rich lowland neutral grassland through reseeding with wildflower meadow mix and subsequent management over the long term will benefit a wide range of species including small mammals and pollinators. A long term ecological management plan will be produced to specify the long term management of all enhanced and created habitats. This document will specify cutting and / or grazing regimes as well as detailing the requirement for appropriate monitoring and remediation where necessary.
Badger	The ECoW will undertake checks for badger at the beginning of the works, to confirm that badger setts remain absent from within 30 m from the proposed development area. Should a badger sett be	It is recommended appropriate precautionary working measures are included as part of the Construction Phase. Any materials or chemicals must be stored within site compounds, and these must be fenced to ensure that no badgers can obtain access.	Restoration of hedgerows as well as planting of new woodlands and hedgerows will provide commuting routes and the area of woodland will likely create opportunities for badger sett building.

Ecological Receptor	Further Survey / Assessment	Mitigation Required	Opportunity for Enhancement
	found, a licence to disturb or remove a sett will be required from NRW.	It is also recommended that any holes or trenches dug as part of the proposed development are either covered at night or else a plank of wood or similar is placed in them in such a manner as to afford a ready escape route must a badger or any other animal fall in.	
Hazel Dormouse	Hazel dormouse are known to be present in the local environment, however, the site currently offers negligible potential to support dormouse. No further survey necessary.	Avoiding additional lighting along the access road and directional lighting onto dormouse habitat during construction and operation phases. Lights must be controlled with movement sensors and timers. Any areas of hedgerows, trees and scrub require clearance , the works to be undertaken under ECoW as per NLMS.	Restoration of hedgerows, new hedge planting and the establishment of new woodlands will provide and enhanced and extended woodland resource suitable for dormouse populations within the wider landscape.
Bats	**Roosting** Trees within the site offer bat roosting potential. Bats are fully protected under the Habitats Regulations 2017 (as amended) and the Wildlife and Countryside Act 1981 (as amended). **Further aerial tree assessment is required for trees (TN 13, 14, 15 &16) that are marked for removal** to inform the proposals and any licensing requirements. **Foraging And Commuting**	**Roosting** Mitigation measures and any licensing requirements to be determined following further aerial assessment for the trees in the grassland (TNs 13, 14, 15 &16) and will be specified within a bat survey report. If roosting bats are found, a European Protected Species (EPS) mitigation licence will be required. The applicant may apply to the Natural Resources Wales with the assistance of an Ecologist for an EPS mitigation Licence. It is recommended that all trees with the potential to support roosting bats are retained and protected on site. **Foraging and Commuting**	The inclusion of native nectar producing plants (to attract insects) within the final landscaping plans in the enhanced grassland will provide opportunity for foraging and commuting bats. Additionally, bat boxes, such as the Vivara Pro WoodStone Bat Box and Vincent Pro Bat Box (or equivalents), could also be installed on the retained mature trees to provide additional roosting opportunities for bats.

Ecological Receptor	Further Survey / Assessment	Mitigation Required	Opportunity for Enhancement
	The site was assessed as offering some foraging suitability over the grasslands, lines of trees, and hedges.	The works must take place during daylight hours. If night work is unavoidable then any construction lighting will need to be agreed with an ecologist and will need to be directional, avoiding lighting important foraging/commuting habitats such as hedges and the access road, which bats might use as commuting corridor. A sensitive lighting scheme has been devised for the development, that avoids lighting sensitive receptors (mature trees and vegetated corridors). Technology such as cowls and hoods that limit light spill, timers and sensors must be used to minimise disturbance where lighting cannot be avoided, this must be designed in conjunction with (ILP, 2023).	
Birds	No further surveys required.	Hedgerows, scrub, and trees to be retained within the development, wherever possible. To avoid committing an offence by damaging or destroying an active nest or destroying eggs or killing / injuring the young whilst in their nest, suitable for bird habitat clearance works must be undertaken outside of the nesting bird season, i.e. clearance must take place between October to February inclusive. If clearance during this time is not possible, a check for nesting birds will need to be undertaken within 48 hours prior to clearance of vegetation / buildings by an ecologist. If an active bird nest is found, a buffer (typically around 5 m, but more for some species) will	Enhancements can be implemented on site by erecting four bird boxes, such as the Vivara Pro Seville 32mm WoodStone Nest Box (or similar), on existing mature trees.

Ecological Receptor	Further Survey / Assessment	Mitigation Required	Opportunity for Enhancement
		need to be established. Active nests must remain undisturbed in situ until young have fledged and confirmation is obtained from a suitably experienced ecologist. It is important to recognise that, if nesting birds are found, this may result in a substantial adjustment to the proposed works timetable.	
GCN and Common Amphibians	No further surveys required.	Mitigation is likely to be limited to sensitive clearance of habitats under supervision of an ECoW who will give a detailed Toolbox Talk prior to the start of each working day. This will likely include fingertip search prior to habitat clearance, appropriate timings and safeguarding of retained habitats. Any existing soil / brash piles acting as potential hibernacula must be removed under supervision of the ecologist. In the unlikely event a GCN is identified at any point during the works, all activities must cease, and a suitably licenced ecologist contacted for further advice. This precautionary method of works will also seek to ensure that common amphibians are not harmed during the works.	Hibernacula could be created on site to provide additional habitat resource for common amphibians.
Reptiles	No further surveys required.	Mitigation is likely to be limited to sensitive clearance of habitats under supervision of an ECoW, appropriate timings and safeguarding of retained habitats.	Hibernacula could be created on site to provide additional habitat resource for reptiles.

Ecological Receptor	Further Survey / Assessment	Mitigation Required	Opportunity for Enhancement
		Any existing soil / brash piles acting as potential hibernacula must be removed under supervision of the ecologist. In order to further reduce risks, it is recommended that vegetation clearance is undertaken following a precautionary method of works (PMW). Precautionary working measures to safeguard any reptiles which must include: a toolbox talk with details of reptile identification; identification of any areas of higher suitability for reptiles; working measures to be followed during activities with potential to harm reptiles e.g., vegetation clearance; and appropriate actions to take must reptiles be identified during the works. During the works period contractors must adhere to precautionary methods such as storing materials off the ground and capping any open excavations and dismantling any piles of rubble by hand. If any reptiles are found during the works period, they must be allowed to escape unharmed, and an ecologist contacted for advice. If numerous reptiles are found works must cease and methodology be re-evaluated.	

Ecological Receptor	Further Survey / Assessment	Mitigation Required	Opportunity for Enhancement
Invertebrates	No further survey required.	The retention of grassland, hedgerows and trees where possible is recommended; and works must not impact offsite habitats e.g., through runoff, dust deposition, etc.	Two insect hotels should be erected within grassland area. Increasing botanical and physical diversity of the site (e.g., wildflower planting within grassland, increasing number of woody species within hedgerows, basking banks) can also increase the site's suitability for notable invertebrate species.
Invasive non-native plant species (INNPS)	INNPS survey is required during the optimal survey period (June-July) due to the large number of records close to the site. The site must also be regularly monitored for INNPS due to Himalayan balsam presence in the area during and post construction in order to prevent spread (and therefore an offence under the Wildlife and Countryside Act).	General precautionary measures to prevent the introduction and spread of INNPS must be undertaken (such as clean, check, dry policy for tools and machinery before entering site). In the event an invasive species is identified at any point during the works, findings must be reported to a suitably licenced Ecologist.	Not applicable.
Other mammals (including European hedgehogs)	No additional survey is required.	General precautionary measures to be applied for the site. To avoid harm to hedgehogs during the construction phase of the development, it is recommended that a search by hand for hedgehogs is carried out immediately prior to removing any dense vegetation and brash piles. This can be completed by site staff but is recommended to be restricted to periods where hedgehogs are likely to be active if possible (April-October). If any hedgehogs are found, they must be moved to a safe area away from the	The inclusion of native trees and shrubs with a diverse structure within the landscape design, and retention of cut vegetation in brash piles at the site's peripheries will contribute to the resource available to hedgehogs for sheltering and hibernation (operational phase, when risks of harm from construction activities have ceased).

Ecological Receptor	Further Survey / Assessment	Mitigation Required	Opportunity for Enhancement
		development works, or, if hibernating, taken to a local hedgehog rescue centre. During construction, good practice working methods are recommended, including back-filling or coverage of excavations when not in use and checking the site / stored materials at the beginning of each day. Alternatively, means of escape (such as a wooden ramp) could be provided. Similarly open pipe works are recommended to be capped when not in use, to prevent entry of wildlife.	

5.0 CONCLUSIONS & RECOMMENDATIONS

Nant y Crimp SSSI is located approximately 1.5 km north-west of the site and is designated for its habitats and plants species. Due to its distance from the site and the scale and localised nature of the development is considered unlikely to be impacted by the scheme.

The proposed development is not anticipated to have significant impacts on Llety-Morfil SINC, Felindre Grasslands SINC and Waun Garn Wen SINC, however, there are potential pathways via hydrological links. Therefore, best practice pollution prevention measures to prevent pollution / contamination events through surface run-off must be adopted. In the absence of mitigation, the works could have negative impacts to these SINCs during the Construction and Operational phases.

Due to the distance to the SINCs noise, vibration and dust must also be considered. Without appropriate mitigation measures, these factors could negatively influence the integrity of the SINCs. Prior to the EcOW, precautionary avoidance measures to be implemented to protect these SINCs in accordance with best practice guidance for pollution (GPP5 (Natural Resources Wales (NRW)), 2017).

The habitat onsite is predominantly other neutral grassland, with hedges, ecologically valuable lines of trees, scrub, and a ditch and a stream located along the boundaries. All these habitats are of Local importance.

To achieve **biodiversity benefit** in accordance with the Environment (Wales) Act 2016 a Landscape and Ecological Management Plan will be produced specifying how existing habitats (grassland, hedgerows) will be enhanced and how new habitats (woodland, hedgerows) will be created as well as how these habitats will be managed in the long term.

The site has the potential to support a number of protected and notable species including badger, hazel dormouse, bats, birds, reptiles and hedgehog.

Key recommendations for further survey:

Aerial assessment of trees with PRF-Is (TNs 13, 14, 15 & 16).

Key recommendation for mitigations:

Construction Environment Management Plan should be produced to specify how the following will be protected:

- all SINCs;
- adjacent habitats; and
- existing habitats on site to be retained and enhanced.

Existing habitats (hedgerows / lines of trees / mature trees) retained where possible; trees with the potential to support roosting bats are recommended to be retained and protected;
Invasive non-native plant species (INNPS) survey is required during the optimal survey period (June-July) due to the large number of records close to the site. General precautionary measures to prevent the introduction and spread of INNPS must also be undertaken due to INNPS Himalayan balsam and Japanese knotweed in the vicinity;
ECoW checks for badger prior the works;

ECoW supervision for birds -works undertaken during the nesting bird season (usually considered to be March to September inclusive) risks disturbing bird nests. Vegetation clearance and groundwork must be preceded by a nesting bird check; if nesting birds are found, active nests must remain undisturbed in situ;
ECoW supervision for reptiles and hedgehogs - refugia on site including brash piles, log piles and debris (bricks, fence panels) are to be hand searched prior to clearance and sheltering wildlife such as hedgehogs moved to a safe location away from the works area. It is recommended that clearance of refugia is undertaken at a time of year when sheltering hedgehogs are most likely to be active, i.e. April to Octoberand reptiles where habitats are being removed;
Hazel dormouse habitat removal under NLMS and if necessary under EcOW supervision;
Good practice measures (such as covering excavations or providing means of escape) are recommended to prevent entrapment of wildlife (this will be specified within the CEMP); and
A sensitive lighting scheme has been submitted with the application that will minimise disturbance to sensitive ecological receptors (e.g. hazel dormouse, bats).

The following enhancement for site are recommended:

The enhancement of neutral grassland reseeding with wildflower meadow mix to raise the condition of the grassland to good;
Restoration of 0.13ha of defunct hedgerows along with boundaries of the site the condition of the grassland to good;
0.54km of new species rich native hedgerow planting;
1.11ha of new lowland mixed deciduous woodland planting;
Bat boxes;
Bird boxes;
Hibernacula for common amphibians and reptiles; and
Insect hotel for invertebrates.

The long term management of the above should be specified within an Ecological Management Plan for the site.

Provided the measures within this report for further survey and mitigation can be adopted, it is anticipated that a design could be brought forward for in a manner that provides a net benefit for the ecology within the context of the local and wider landsacpe. This site would therefore be compliant with current local and national biodiversity planning policy.

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FIGURES

APPENDICES

Site Location Plan

Swansea BESS

DWD Ltd

Legend

Site boundary

Survey area

Notes:

Drawn by: CHRIS.DAWE

Checked by: Laura Grice

Figure No. 1

Revision No. B

04 February 2025

0 100 200 300 400 Meters

Scale 1:7,500 @A3

British National Grid

NGR: 264835E 200899N

TETRA TECH

3 Sovereign Square
Sovereign Street
Leeds
United Kingdom
LS1 4ER

Tetra Tech Limited.
Registered in England
number: 01959704

UK Hab Habitat Plan

Swansea BESS

DWD Ltd

Legend

- Site Boundary
- Survey Area
- g3c - Other neutral grassland
- h3d - Bramble scrub
- u1b - Developed land, sealed surface
- u1c - Artificial unvegetated unsealed surface
- w1f - Lowland mixed deciduous woodland
- h2a5 - Species-rich native hedgerow
- h2a6 - Other native hedgerows
- r1g - Other Standing Water
- r2 - Rivers and streams
- u1e - Built linear feature
- Rural Tree
- Target Notes

Secondary Codes:
34 - Ecologically valuable line of trees
50 - Ditch
102- Sheep grazed
510 - Bare ground
605 - Mid-field bund

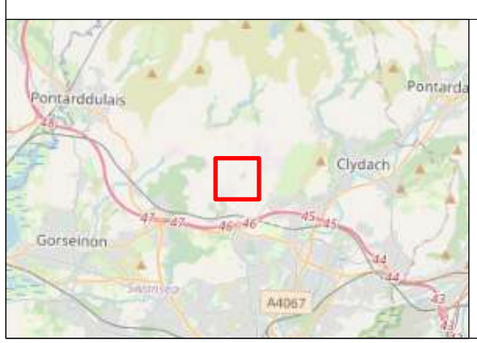
Symbology defined by UK Habs. https://ukhab.org/ukhab-documentation/

Drawn by: CHRIS.DAWE
Checked by: Laura Grice

Figure No. 2
Revision No. B
04 February 2025

0 50 100 150 200 Meters
Scale 1:5,200 @A3

British National Grid
NGR: 264835E 200899N



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APPENDIX A: REPORT CONDITIONS

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The report refers, within the limitations stated, to the environment of the site in the context of the surrounding area at the time of the inspections'. Environmental conditions can vary and no warranty is given as to the possibility of changes in the environment of the site and surrounding area at differing times. No investigative method can eliminate the possibility of obtaining partially imprecise, incomplete or not fully representative information. Any monitoring or survey work undertaken as part of the commission will have been subject to limitations, including for example timescale, seasonal and weather-related conditions. Actual environmental conditions are typically more complex and variable than the investigative, predictive and modelling approaches indicate in practice, and the output of such approaches cannot be relied upon as a comprehensive or accurate indicator of future conditions. The "shelf life" of the Report will be determined by a number of factors including; its original purpose, the Client's instructions, passage of time, advances in technology and techniques, changes in legislation etc. and therefore may require future re-assessment.

The whole of the report must be read as other sections of the report may contain information which puts into context the findings in any executive summary.

Tetra Tech reserves the right to share this Report and any related materials, surveys, drawings and/or documents at any time with the relevant Local Ecological Records Centre (SEWBReC), any relevant statutory body or any equivalent organisation as Tetra Tech may reasonably require from time-to-time.

The performance of environmental protection measures and of buildings and other structures in relation to acoustics, vibration, noise mitigation and other environmental issues is influenced to a large extent by the degree to which the relevant environmental considerations are incorporated into the final design and specifications and the quality of workmanship and compliance with the specifications on site during construction. Tetra Tech accept no liability for issues with performance arising from such factors.

APPENDIX B: LANDSCAPE MASTERPLAN

Consented Swansea Greener Grid Park (GGP) - Under Construction

Block Native Small-scale Woodland Planting w/ Standards Included

Block Woodland Planting - Part of GGP installation

Block Woodland Planting - Part of GGP installation

Block Woodland Planting/Tree Planting/Hedgerow Enhancement/Bio-diverse Seeding - Part of GGP installation

Proposed BESS

Proposed Wildflower meadow (SCM1)

New Field Boundary Hawthorn Hedge Planting

Proposed Wildflower meadow (SCM1)

Block Native Small-scale Woodland Planting w/ Standards Included

Existing Grassland retained and maintained

In-fill Field Boundary Tree and Hawthorn Hedge Planting (Restorative Planting)

Existing Grassland retained and maintained

In-fill Field Boundary Tree and Hawthorn Hedge Planting (Restorative Planting)

N

Legend

- Site Boundary
- Ownership Boundary
- Existing Overhead Cable Route
- Existing Telecom Route
- Watercourse
- Proposed Security Fence
- Existing Woodland/Tree retained and maintained
- Removed Tree Material
- Proposed Native Woodland Mix planting (W1) with Woodland Meadow Mix seeding underneath (SCM3)
- Proposed Native Wildflower Meadow (SCM1)
- Existing Grassland retained and maintained
- Proposed hedge/in-fill hedge planting
- Proposed SuDS
- Proposed Native Wetland Meadow (SCM2)

Rev A 17.02.2025 - Alter base map/GGP site; Remove access wayleave; Alter plan colours/legend; Add plan notation (GGP landscape).

TGP LANDSCAPE ARCHITECTS
Suite 1.01, 142 St. Vincent Street, Glasgow, G2 5LA Tel: 0141 429 2999
info@tgp.uk.com/www.tgp.uk.com
Also in Edinburgh & Newcastle

Project	Swansea BESS		
Title	Landscape Mitigation Masterplan		
Date	Scale	Drawn	Checked
17/02/25	1:1000 @ A2	CL/RPD	NH

Job	Suitability	No.	Issue	Revision
2242	-	L01	-	A

LI WORKSTAGE: 0/1 ☐ 2 ☐ 3 ☒ 4 ☐ 5 ☐ 6 ☐

APPENDIX C: TARGET NOTES & SURVEY DATA

Project Number	784-B070706
Project Name	Swansea Bess
Date of Survey	13 January 2025
Surveyor	Laura Grice
Temperature	6°C
Cloud Cover	100%
Wind	3 - Gentle breeze
Precipitation	No precipitation
General Notes	

<table>
<tr><th>Target Note</th><th>Description</th><th>Photos</th></tr>
<tr><td>TN1</td><td>Defunct native sp. Hedge.
Defunct hedge on a bank c.0.5 m, height 3-5m, width 2.5-3m, with obvious gaps, understory of bramble

Species List:
<table>
<tr><th>Common Name</th><th>Latin Name</th><th>Dafor</th></tr>
<tr><td>Hazel</td><td>Corylus avellana</td><td>1 – Dominant (d)</td></tr>
<tr><td>Hawthorn</td><td>Crataegus monogyna</td><td>2 – Abundant (a)</td></tr>
<tr><td>Bramble</td><td>Rubus fruticosus agg.</td><td>4 – Occasional (o)</td></tr>
<tr><td>Common ivy</td><td>Hedera helix</td><td>4 - Occasional</td></tr>
<tr><td>Holly</td><td>Ilex aquifolium</td><td>5 – Rare (r)</td></tr>
<tr><td>Wild privet</td><td>Ligustrum vulgare</td><td>5 - Rare</td></tr>
</table>
British National Grid (m): 265481E, 200793N

WGS84 (Lat/Long): 51.6897°N, -3.9475°E</td><td>  </td></tr>
<tr><td>TN2</td><td>Line of trees of hawthorn (d), ash (r), ivy (o), English oak (r), Blackthorn (o), Holly(o), sycamore (r), on a bank c.1 m heigh</td><td></td></tr>
</table>

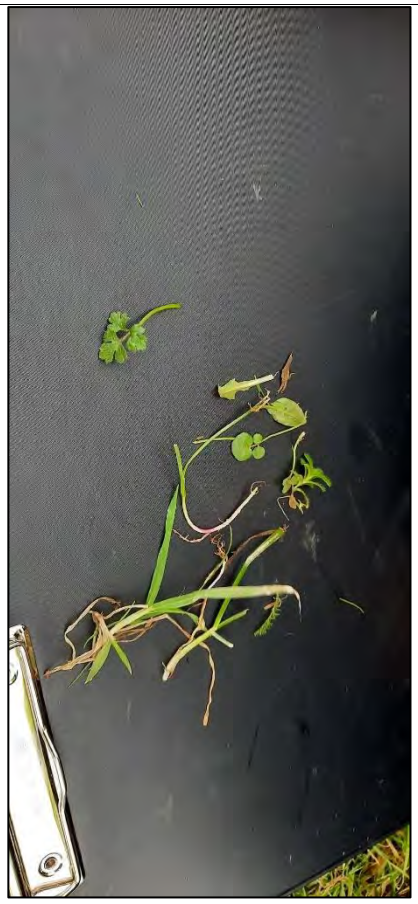
<table>
<tr>
<td></td>
<td>Ground flora of foxglove, hard rush, common knapweed, bracken, ox eye daisy, sheep sorel, bramble, dandelion.

British National Grid (m): 265405E, 200824N

WGS84 (Lat/Long): 51.69°N, -3.9486°E</td>
<td>  </td>
</tr>
<tr>
<td>TN3</td>
<td>Sheep grazed other neutral grassland sward height 2-7cm, heavily grazed by sheep, no tussocky structure visible.
Species List:
<table>
<tr><th>Common Name</th><th>Latin Name</th><th>Dafor</th></tr>
<tr><td>Creeping bent</td><td>Agrostis stolonifera</td><td>2 - Abundant</td></tr>
<tr><td>Yorkshire-fog</td><td>Holcus lanatus</td><td>2 - Abundant</td></tr>
<tr><td>Common mouse-ear</td><td>Cerastium fontanum</td><td>3 - Frequent</td></tr>
<tr><td>Cock's-foot</td><td>Dactylis glomerata</td><td>4 - Occasional</td></tr>
<tr><td>Creeping buttercup</td><td>Ranunculus repens</td><td>4 - Occasional</td></tr>
<tr><td>Dandelion</td><td>Taraxacum agg.</td><td>4 - Occasional</td></tr>
<tr><td>Ribwort plantain</td><td>Plantago lanceolata</td><td>4 - Occasional</td></tr>
<tr><td>Timothy</td><td>Phleum pratense</td><td>4 - Occasional</td></tr>
<tr><td>White clover</td><td>Trifolium repens</td><td>4 - Occasional</td></tr>
<tr><td>Common sorrel</td><td>Rumex acetosa</td><td>5 - Rare</td></tr>
<tr><td>Yarrow</td><td>Achillea millefolium</td><td>5 - Rare</td></tr>
</table>
British National Grid (m): 265441E, 200802N

WGS84 (Lat/Long): 51.6898°N, -3.9481°E</td>
<td> 
  </td>
</tr>
</table>

		
TN4	Fenced in bank in between fields with sown grasses (d), sow thistle (r) and creeping thistle (o) **British National Grid (m):** 265440E, 200810N **WGS84 (Lat/Long):** 51.6899°N, -3.9481°E	
TN5	Ecologically valuable line of trees on a bank c.1m high, comprised of English oak frequent (f), Holly (f), hawthorn (f), ivy (r), ground flora as in TN2. **British National Grid (m):** 265392E, 200968N **WGS84 (Lat/Long):** 51.6913°N, -3.9489°E	
TN6	Bramble scrub with occasional hawthorn (o) and English oak saplings (o). **British National Grid (m):** 265554E, 200836N **WGS84 (Lat/Long):** 51.6901°N, -3.9465°E	

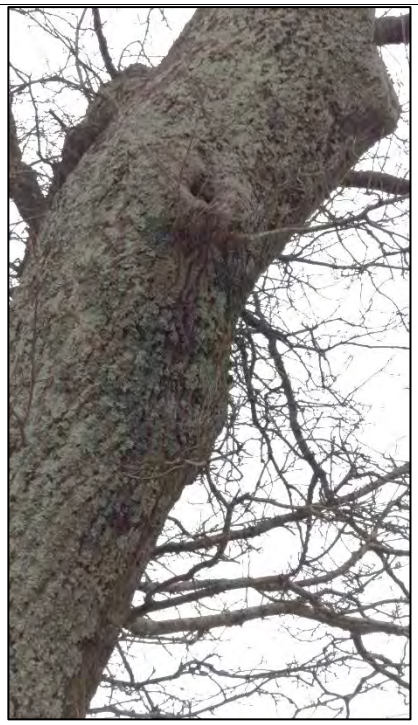
		
TN7	Stream, 5-10cm deep overgrown with brambles (a) on both sides with occ hawthorn **British National Grid (m):** 265564E, 200857N **WGS84 (Lat/Long):** 51.6903°N, -3.9463°E	
TN8	Rabbit burrow by the stream **British National Grid (m):** 265592E, 200988N **WGS84 (Lat/Long):** 51.6915°N, -3.946°E	

		
TN9	Ditch with willow and defunct overgrown hedge next to it, depth 5-10cm **British National Grid (m):** 265538E, 201124N **WGS84 (Lat/Long):** 51.6927°N, -3.9468°E	
TN10	Defunct hedge of pedunculate oak (o), holly (r), ash (r), hawthorn (o) and goat willow (f), understory of bramble not well established. **British National Grid (m):** 265541E, 201129N **WGS84 (Lat/Long):** 51.6928°N, -3.9468°E	

TN11	Standard pedunculate oak tree on a former earth bank **British National Grid (m):** 265459E, 201028N **WGS84 (Lat/Long):** 51.6918°N, -3.9479°E	
TN12	Rabbit hole **British National Grid (m):** 265458E, 201021N **WGS84 (Lat/Long):** 51.6918°N, -3.9479°E	
TN13	Multiple holes 2-4m high on different aspects south, north, west of an oak tree and a split branch on eastern aspect c. 4m high, suitable for individual bat roosting. **British National Grid (m):** 265458E, 201021N	

	WGS84 (Lat/Long): 51.6918°N, -3.9479°E	 

		
TN14	3 potential holes for individual bat roosting on oak **British National Grid (m):** 265488E, 201003N **WGS84 (Lat/Long):** 51.6916°N, -3.9475°E	

		
TN15	3 holes **British National Grid (m):** 265529E, 200965N **WGS84 (Lat/Long):** 51.6913°N, -3.9469°E	
TN16	1 hole potentially **British National Grid (m):** 265579E, 200948N **WGS84 (Lat/Long):** 51.6911°N, -3.9461°E	

		 
TN17	Bare ground, topsoil removed **British National Grid (m):** 265425E, 201061N **WGS84 (Lat/Long):** 51.6922°N, -3.9489°E	
TN18	Construction compound with car park, compacted ground with stones	

	British National Grid (m): 265444E, 201136N **WGS84 (Lat/Long):** 51.6928°N, -3.9494°E	

APPENDIX D: KEY LEGISLATION

Habitats Directive

The Council Directive 92/43/EEC on the Conservation of Natural Habitats and of Wild Fauna and Flora, or the 'Habitats Directive', is a European Union directive adopted in 1992 in response to the Bern Convention. Its aims are to protect approximately 220 habitats and 1,000 species listed in its several Annexes.

In the UK, the Habitats Directive is transposed into national law via the Conservation of Habitats and Species Regulations 2017 (as amended) in England and Wales, and via the Conservation (Natural Habitats, etc.) Regulations (Northern Ireland) 1995 (as amended) in Northern Ireland.

Birds Directive

The EC Directive on the Conservation of Wild Birds (791409/EEC) or 'Birds Directive' was introduced to achieve favourable conservation status of all wild bird species across their distribution range. In this context, the most important provision is the identification and classification of Special Protection Areas (SPAs) for rare or vulnerable species listed in Annex 1 of the Directive, as well as for all regularly occurring migratory species, paying particular attention to the protection of wetlands of international importance.

Conservation of Habitats and Species Regulations 2017 (as amended)

Regulations place a duty on the Secretary of State to propose a list of sites which are important for either habitats or species (listed in Annexes I or II of the Habitats Directive respectively) to the European Commission. These sites, if ratified by Ministers, are then designated as Special Protection Areas (SPAs) within six years. Public bodies must also help preserve, maintain and re-establish habitats for wild birds.

The 2018 amendments mainly related to the impact of the *People Over Wind* decision and some implications arising for neighbourhood plan development and a range of other planning tools including Local Development Orders and Permission in Principle – see here for full details:

https://www.legislation.gov.uk/uksi/2018/1307/note/made

The 2019 amendments related to the EU exit. Most of these changes involved transferring functions from the European Commission to the appropriate authorities in England and Wales. All other processes or terms in the 2017 Regulations remain unchanged and existing guidance is still relevant. The obligations of a competent authority in the 2017 Regulations for the protection of sites or species do not change.– see here for full details:

https://www.legislation.gov.uk/ukdsi/2019/9780111176573

The Regulations make it an offence to deliberately capture, kill, disturb or trade in the animals listed in Schedule 2, or pick, uproot, destroy, or trade in the plants listed in Schedule 5.

Wildlife & Countryside Act 1981 (as amended)

This is the principal mechanism for the legislative protection of wildlife in the UK. This legislation is the chief means by which the 'Bern Convention' and the Birds Directive are implemented in the UK. Since it was first introduced, the Act has been amended several times.

The Act makes it an offence to (with exception to species listed in Schedule 2) intentionally:

kill, injure, or take any wild bird;
take, damage or destroy the nest of any wild bird while that nest is in use; or
take or destroy an egg of any wild bird.

Or to intentionally do the following to a wild bird listed in Schedule 1:

disturbs any wild bird while it is building a nest or is in, on or near a nest containing eggs or young; or
disturbs dependent young of such a bird.

In addition, the Act makes it an offence (subject to exceptions) to:

intentionally or recklessly kill, injure or take any wild animal listed on Schedule 5;
interfere with places used for shelter or protection, or intentionally disturbing animals occupying such places; and
The Act also prohibits certain methods of killing, injuring, or taking wild animals.

Finally, the Act also makes it an offence (subject to exceptions) to: intentionally pick, uproot or destroy any wild plant listed in Schedule 8, or any seed or spore attached to any such wild plant; unless an authorised person, intentionally uproot any wild plant not included in Schedule 8; or sell, offer or expose for sale, or possess (for the purposes of trade), any live or dead wild plant included in Schedule 8, or any part of, or anything derived from, such a plant.

Following all amendments to the Act, Schedule 5 'Animals which are Protected' contains a total of 154 species of animal, including several mammals, reptiles, amphibians, fish and invertebrates. Schedule 8 'Plants which are Protected' of the Act, contains 185 species, including higher plants, bryophytes and fungi and lichens. A comprehensive and up-to-date list of these species can be obtained from the JNCC website.

Part 14 of the Act makes unlawful to plant or otherwise cause to grow in the wild any plant which is listed in Part II of Schedule 9.

It is recommended that plant material of these species is disposed of as bio-hazardous waste, and these plants should not be used in planting schemes.

Environment Protection Act 1990

The Act imposes a classification of soil and other waste containing viable propagules of invasive non-native plant species as controlled waste. This has been applied to Japanese Knotweed *Reynoutria japonica*, with the result that waste containing this species must be disposed of in accordance with the duty of care set out in section 34 of the Act.

Protection of Badgers Act 1992

The main legislation protecting badgers in England and Wales is the Protection of Badgers Act 1992 (the 1992 Act). Under the 1992 Act it is an offence to: wilfully kill, injure, take or attempt to kill, injure or take a badger; dig for a badger; interfere with a badger sett by, damaging a sett or any part thereof, destroying a sett, obstructing access to a sett, causing a dog to enter a sett or disturbing a badger while occupying a sett.

The 1992 Act defines a badger sett as: “any structure or place which displays signs indicating current use by a badger”.

Hedgerow Regulations 1997

The Hedgerow Regulations were made under Section 97 of the Environment Act 1995 and came into force in 1997. They introduced new arrangements for local planning authorities in England and Wales to protect important hedgerows in the countryside, by controlling their removal through a system of notification. Important hedgerows are defined by complex assessment criteria, which draw on biodiversity features, historical context and the landscape value of the hedgerow.

The Invasive Alien Species (Enforcement and Permitting) Order 2019 (as amended)

This Order is concerned with the prevention and management of the introduction and spread of invasive alien species.

Birds of Conservation Concern

This is a review of the status of all birds occurring regularly in the United Kingdom. It is regularly updated and is prepared by leading bird conservation organisations, including the British Trust for Ornithology (BTO), Joint Nature Conservation Committee (JNCC) and The Royal Society for the Protection of Birds (RSPB).

The latest report was produced in 2021 (Eaton *et al*, 2021) and identified 70 red list species, 103 amber species, and 72 green species. The criteria are complex, but generally:

Red list species are those that have shown a decline of the breeding population, non-breeding population or breeding range of more than 50% in the last 25 years.

Amber list species are those that have shown a decline of the breeding population, non-breeding population or breeding range of between 25% and 50% in the last 25 years. Species that have a UK breeding population of less than 300 or a non-breeding population of less than 900 individuals are also included, together with those whose 50% of the population is localised in 10 sites or fewer and those whose 20% of the European population is found in the UK.

Green list species are all regularly occurring species that do not qualify under any of the red or amber criteria are green listed.

Global IUCN Red List

The International Union for Conservation of Nature (IUCN) Threatened Species was devised to provide a list of those species that are most at risk of becoming extinct globally. It provides taxonomic, conservation status and distribution information about threatened taxa around the globe.

The system catalogues threatened species into groups of varying levels of threat, which are: Extinct (EX), Extinct in the Wild (EW), Critically Endangered (CE), Endangered (EN), Vulnerable (VU), Near Threatened (NT), Least Concern (LC), Data Deficient (DD), Not Evaluated (NE). Criteria for designation into each of the categories is complex, and consider several principles.

Local Biodiversity Action Plan (LBAP)

Local Biodiversity Action Plans (LBAP) identify habitat and species conservation priorities at a local level (typically at the County level),and are usually drawn up by a consortium of local Government organisations and conservation charities.

Some LBAP’s may also include Habitat Action Plans (HAP) and/or Species Action Plans (SAP), which are used to guide and inform the local decision making process.

Wild Mammals (Protection) Act 1996

This Act offers protects a form of protection to all wild species of mammals, irrespective of other legislation, and focussed on animal welfare, rather than conservation.

Unless covered by one of the exceptions, a person is guilty of an offence if he mutilates, kicks, beats, nails or otherwise impales, stabs, burns, stones, crushes, drowns, drags or asphyxiates any wild mammal with intent to inflict unnecessary suffering.

It's application is typically restricted to preventing deliberate harm to wildlife (in general) during construction works etc.

National Planning Policy (Wales)

The national planning policy guidance is found principally in Planning Policy Wales Edition 11 (PPW) dated February 2021 (Welsh Government, 2021). The document is supported by a series of Technical Advice Notes (TANs) with the most relevant for ecology being TAN 5: Nature Conservation and Planning (Welsh Government, 2009), which provides advice on how the land use planning system should contribute to protecting and enhancing biodiversity and geological conservation. A summary of the main points relevant to the ecological assessment of the development is provided below.

Paragraph 6.4.2 states that local planning authorities, along with other public bodies, as part of the Environment (Wales) Act 2016 have a duty to take reasonable steps, consistent with the proper exercise of their functions, to further the conservation and enhancement of biodiversity and help maximise contributions to achieve well-being goals.

Paragraph 6.4.3 states that the planning system has a key role to play in helping to reverse the decline in biodiversity and increasing the resilience of ecosystems, at various scales, by ensuring appropriate mechanisms are in place to both protect against loss and to secure enhancement. Addressing the consequences of climate change should be a central part of any measures to conserve biodiversity and the resilience of ecosystems. Development plan strategies, policies and development proposals must consider the need to:

- support the conservation of biodiversity, in particular the conservation of wildlife and habitats;
- ensure action in Wales contributes to meeting international responsibilities and obligations for biodiversity and habitats;
- ensure statutorily and non-statutorily designated sites are properly protected and managed;
- safeguard protected and priority species and existing biodiversity assets from impacts which directly affect their nature conservation interests and compromise the resilience of ecological networks and the components which underpin them, such as water and soil, including peat; and
- secure enhancement of and improvements to ecosystem resilience by improving diversity, condition, extent and connectivity of ecological networks.

Paragraph 6.4.4 states that biodiversity and resilience considerations should be taken into account at an early stage in development planning. All reasonable steps must be taken to maintain and enhance biodiversity and promote the resilience of ecosystems which should be balanced with the wider economic and social needs of business and local communities.

Paragraph 6.4.5 states that planning authorities must seek to maintain and enhance biodiversity in the exercise of their functions, and that development should not cause any significant loss of habitats or populations of species, locally or nationally and must provide a net benefit for biodiversity. The diversity of, connections between, the scale, the condition and the adaptability of ecosystems must be taken into account.

Paragraphs 6.4.11, 6.4.14 and 6.4.22 state that planning authorities must have regard to the relative significance of international, national and local designations in considering the weight to be attached to nature conservation interests, and that the international and national responsibilities and obligations for conservation should be fully met. Statutorily designated sites must be protected from damage and deterioration, with their important features conserved and enhanced by appropriate management. Statutorily protected species protected under European or UK legislation, or under Section 7 of the Environment (Wales) Act 2016 are material considerations if a development would result in disturbance or harm to the species or its habitat, and the range and population of the species should be sustained

Paragraph 6.4.21 states 'Planning authorities must follow a step-wise approach to maintain and enhance biodiversity and build resilient ecological networks by ensuring that any adverse environmental effects are firstly avoided, then minimized, mitigated, and as a last resort compensated for; enhancement must be secured wherever possible'.

Paragraphs 6.4.24-26 also gives emphasis to the importance of trees, hedgerows and woodlands (especially ancient woodland) and states 'Ancient woodland and semi-natural woodlands and individual ancient, veteran and heritage trees are irreplaceable natural resources, and have significant landscape, biodiversity and cultural value. Such trees and woodlands should be afforded protection from development which would result in their loss or deterioration unless there are significant and clearly defined public benefits; this protection should prevent potentially damaging operations and their unnecessary loss. In the case of a site recorded on the Ancient Woodland Inventory, authorities should consider the advice of NRW.'

Related to these Biodiversity and Ecological Network policies, Section 6.2 gives weight to the protection and enhancement of multi-functional green infrastructure, which is important for sustainable management of natural resources. Green infrastructure should be incorporated into development through appropriate site selection and use of creative design.

Circular Letter CL-05-04 reaffirmed the Welsh Government's commitment to ensuring that designated sites and species of nature conservation importance are protected from damage and deterioration, with their important features conserved by appropriate management. The letter advised that under specific circumstances a pre-commencement condition should be attached to planning consents requiring the applicant to provide the LPA with a copy or their European Protected Species (EPS) Licence (once issued by NRW). The Circular Letter was withdrawn in March 2018 in an attempt to reduce the number of pre-commencement conditions, with LPA's advised to instead use a replacement informative (to be attached to all relevant consent notices) to avoid unnecessary duplication controls of other legislation.

Environment (Wales) Act

As part of the Welsh Government's commitment to reversing the decline in biodiversity in Wales and increasing the resilience of its ecosystems, the Environment (Wales) Act 2016 aims to build greater resilience into our ecosystems. Biodiversity and well-functioning ecosystems provide natural solutions that build resilience, which in turn help society create jobs, support livelihoods and human well-being, adapt to the adverse impacts of climate change and contribute to sustainable development.

Part 1 of the Environment Act sets out Wales' approach to planning and managing natural resources at a national and local level with a general purpose linked to statutory 'principles of sustainable management of natural resources' defined within the Act.

Section 6 under Part 1 of the Act places an enhanced duty on public authorities to 'seek to maintain and enhance biodiversity' so far as it is consistent with the proper exercise of those functions. In so doing, public authorities must also seek to 'promote the resilience of ecosystems'. This duty replaces the section 40 duty in the Natural Environment and Rural Communities Act 2006 (NERC Act 2006), in relation to Wales, and applies to those authorities that fell within the previous duty.

Section 7 replaces the duty in section 42 of the NERC Act 2006. The Welsh Ministers will publish, review and revise lists of living organisms and types of habitat in Wales, which they consider are of key significance to sustain and improve biodiversity in relation to Wales. The Welsh Ministers must also take all reasonable steps to maintain and enhance the living organisms and types of habitat included in any list published under this section, and encourage others to take such steps. Certain public authorities will also be required to consider the section 7 list, in complying with the new biodiversity duty under section 6 of the Act. The list is important in assisting public bodies to identify potential issues that they may wish to address in meeting their well-being objectives, in addition to contributing to the well-being goal 'a resilient Wales' (Goal 2). The current Section 7 lists are interim lists which are exactly the same as the previous list under Section 42 of the NERC Act, and is under review in consultation with NRW.

Part 1 of the Act, including Sections 6 and 7, came into force on 21st May 2016.

DECCA Framework

The Environment (Wales) Act, the Well-Being of Future Generations Act and the Chief Planner's letter frame biodiversity with respect to its contribution to achieving ecosystem resilience.

Natural Resources Wales (NRW) has developed a framework for evaluating ecosystem resilience based on five attributes and properties specified in the Environment (Wales) Act. This is referred to as DECCA: Diversity, Extent, Condition, Connectivity and Aspects of ecosystem resilience.

The attributes provide a framework for considering the state of ecosystem resilience in Wales and can be applied across different habitats and land uses and for a range of different scales.

NRW works to the definition of ecosystem resilience published in its State of Natural Resources Report in 2020, which is: "An environment that can respond to pressures by resisting, recovering or adapting to change; and is able to continue to provide natural resources and benefits to people.''

When assessing planning applications, Planning Policy Wales instructs planning authorities to take account of and promote the resilience of ecosystems, in particular the five attributes of ecosystem resilience. The DECCA attributes are explained further in NRW's Terrestrial and freshwater Resilient Ecological Networks: a guide for practitioners in Wales17 , but as a broad summary, the definitions are as follows:

Diversity: maintaining and enhancing diversity at every scale, including genetic, structural, habitat and between-habitat levels. This supports the complexity of ecosystem functions and interactions that deliver services and benefits.

Extent: incorporating measures which maintain and increase the area of semi-natural habitat/features and linkages between habitats. In general, smaller ecosystems have reduced capacity to adapt, recover or resist disturbance.

Condition: The condition of an ecosystem is affected by multiple and complex pressures acting both as short term and longer term types of disturbance. Both direct and wider impacts should be considered, for example avoiding or mitigating pressures such as climate change, pollution, invasive species, land management neglect etc.

Connectivity: This refers to the links between and within habitats, which may take the form of physical corridors, stepping stones in the landscape, or patches of the same or related vegetation types that together create a network that enables the flow or movement of genes, species and natural resources. Developments should take opportunities to develop functional habitat and ecological networks within and between ecosystems, building on existing connectivity.

Aspects of ecosystem resilience (adaptability, recovery and resistance): ecosystem resilience is a product of the above four attributes. Adaptability, recovery and resistance to/from a disturbance are defining features of ecosystem resilience.

Swansea Local Development Plan 2010-2025 (Swansea Council, 2019)

ER 8: HABITATS AND SPECIES	Development proposals that would have a significant adverse effect on the continued viability of habitats and species, including those identified as priorities in the UK or Swansea Local Biodiversity Action Plan, will only be permitted where: i. The need for development outweighs the nature conservation importance of the site; ii. The developer demonstrates that there is no satisfactory alternative location for the development which avoids nature conservation impacts; and iii. Effective mitigation measures are provided by the developer. iv. Any unavoidable harm is minimised by effective mitigation to ensure that there is no reduction in the overall nature conservation value of the area. Where this is not feasible, compensation measures designed to conserve, enhance, manage and, where appropriate, restore natural habitats and species must be provided. Paragraph 2.9.60 states development proposals should aim to minimise detrimental impacts on habitats and species. There should be no net loss in overall biodiversity as a result of development and where possible there should be biodiversity gains.

	Paragraph 2.9.61 states protected habitats and species are those protected under European or UK legislation, as identified in TAN 5 and including the Habitats Directive, Birds Directive, Wildlife and Countryside Act, Environment Act, Section 42 of the Natural Environment and Rural Communities (NERC) Act 2006 [the latter now replaced by Section 7 of the Environment (Wales) Act]. They include priority habitats and species that are protected in UK and Local Biodiversity Action Plans. Paragraph 2.9.62 states factors to be taken into consideration in assessing the significant adverse effect development proposals are likely to have on habitats and species are: • The current distribution and status of the protected habitat or species within the county; • All likely effects, including cumulative effects and impacts during construction; • The role of the habitats as connectivity pathways; and • Whether effective mitigation and/or compensatory measures have been provided. Paragraph 2.9.63 states where habitats and species are likely to be disturbed or harmed, development proposals will be assessed in accordance with National Planning Policy and Guidance. Developers will be expected to provide: an ecological survey; an assessment of the likely impact of the proposal on the protected species/habitats; and, where necessary, make appropriate provision for their safeguarding, mitigation and/or compensatory measures. In addition, opportunities to enhance biodiversity, such as through habitat creation, will be encouraged.
ER 9: ECOLOGICAL NETWORKS AND FEATURES OF IMPORTANCE FOR BIODIVERSITY	Development proposals will be expected to maintain, protect and enhance ecological networks and features of importance for biodiversity. Particular importance will be given to maintaining and enhancing the connectivity of ecological networks which enable the dispersal and functioning of protected and priority species. Development proposals that could result in a significant adverse effect on the connectivity of ecological networks and features of importance for biodiversity will only be permitted where: i. The need for the development outweighs the nature conservation value of the site; ii. It can be demonstrated that there is no satisfactory alternative location for the development; iii. A connected element of the natural resource is retained as part of the design of the development; and iv. Compensatory provision will be made of comparable ecological value to that lost as a result of the development. Paragraph 2.9.64 states there are a significant number of ecological habitats and features within the County, in addition to those that are legally protected, that lie outside the designated areas and make a significant contribution to the overall biodiversity resource. These include linear wildlife corridors such as rivers, hedgerows and cycle tracks and also 'stepping stones' such as ponds and copses. Paragraph 2.9.65 states the wildlife corridors and stepping stones are a vital part of the ecological network. Whilst it is important to protect and enhance biodiversity sites and species of importance dispersed throughout the County this cannot be achieved without protecting and enhancing the intervening habitats and spaces that provide crucial links between the designated sites. Paragraph 2.9.66 states the protection, management and enhancement of ecological networks is recognised as being particularly important for nature conservation. Wildlife corridors allow species to move between fragmented habitats, to recolonise areas and to move in response to climate change and development that may have destroyed part of their habitat. For example, the water vole, which is a priority species will not travel through unvegetated ground. If its habitat becomes isolated through development and then the colony within this isolated habitat become endangered, for example through disease, it is likely that it will not survive. Paragraph 2.9.67 states the Plan has been informed by an assessment of ecological connectivity across the whole of the County. This assessment maps the existing ecological connectivity network and also identifies locations where ecological connectivity has the potential to be enhanced. The latest version of the Swansea Ecological Connectivity Assessment will inform the implementation of this Policy. Paragraph 2.9.68 states providing ecological connectivity is an important ecosystem service of the green infrastructure network and its protection and/or enhancement accords with Policy ER 2 Strategic Green Infrastructure Network.

APPENDIX E: BASELINE CONDITION ASSESSMENT DATA

Condition Sheet: Ditch TN9			
Condition Assessment Criteria		**Criterion passed (Pass or FAIL)**	**Notes (such as justification)**
A	The ditch is of good water quality, with clear water (low turbidity) indicating no obvious signs of pollution.	**PASS**	Stained but clear water
B	A range of emergent, submerged and floating-leaved plants are present. As a guide >10 species of emergent, floating or submerged plants present in a 20 m ditch length.	**FAIL**	No vegetation present
C	There is less than 10% cover of filamentous algae and or duckweed *Lemna* spp. (these are signs of eutrophication).	**PASS**	No vegetation present
D	A fringe of aquatic marginal vegetation is present along more than 75% of the ditch.	**FAIL**	No vegetation present
E	Physical damage is evident along less than 5% of the ditch, with examples of damage including: excessive poaching, damage from machinery use or storage, or any other damaging management activities.	**PASS**	None
F	Sufficient water levels are maintained - as a guide a minimum summer depth of approximately 50 cm in minor ditches and 1 m in main drains.	**FAIL**	10-20 cm depth in winter. Likely dry during summer.
G	Less than 10% of the ditch is heavily shaded.	**FAIL**	Overgrown willow and hedgerow shading ditch.
H	There is an absence of non-native plant and animal species[1].	**PASS**	No vegetation present
Number of criteria passed		**4**	**POOR**

Condition Assessment Result (out of 8 criteria)	**Condition Assessment Score**	**Score Achieved ×/✓**
Passes 8 criteria	Good (3)	**X**
Passes 6 or 7 criteria	Moderate (2)	**X**
Passes 5 or fewer criteria	Poor (1)	**✓**

Condition sheet: HEDGEROW					
Habitat Type					
Native hedgerow with trees (TN10)					
Hedgerow favourable condition attributes					
Attributes and functional groupings (A, B, C, D and E)		**Criteria - the minimum requirements for 'favourable condition'**	**Criteria description**	**Criterion passed (PASS or FAIL)**	**Notes (such as justification)**
Core groups - applicable to all hedgerow types					
A1.	Height	>1.5 m average along length	The average height of woody growth estimated from base of stem to the top of the shoots, excluding any bank beneath the hedgerow, any gaps or isolated trees.	PASS	Hedge c. 3-5 m tall with oak standards up to 15 m tall
A2.	Width	>1.5 m average along length	The average width of woody growth estimated at the widest point of the canopy, excluding gaps and isolated trees. Outgrowths (such as blackthorn *Prunus spinosa* suckers) are only included in the width estimate when they are >0.5 m in height. Laid, coppiced, cut and	FAIL	1-1.5 m wide
B1.	Gap - hedge base	Gap between ground and base of canopy <0.5 m for >90% of length	This is the vertical 'gappiness' of the woody component of the hedgerow, and its distance from the ground to the lowest leafy growth. Certain exceptions to this	FAIL	Gaps bigger than 0.5 m
B2.	Gap - hedge canopy continuity	Gaps make up <10% of total length; and No canopy gaps >5 m	This is the horizontal 'gappiness' of the woody component of the hedgerow. Gaps are complete breaks in the woody canopy (no matter how small).	PASS	Continuous canopy

C1.	Undisturbed ground and perennial vegetation	>1 m width of undisturbed ground with perennial herbaceous vegetation for >90% of length: · Measured from outer edge of hedgerow; and · Is present on one side of the hedgerow (at least).	This is the level of disturbance (excluding wildlife disturbance) at the base of the hedgerow. Undisturbed ground is present for at least 90% of the hedgerow length, greater than 1 m in width and must be present along at least one side of the hedgerow. This criterion recognises	**PASS**	No disturbance
C2.	Nutrient-enriched perennial vegetation	Plant species indicative of nutrient enrichment of soils dominate <20% cover of the area of undisturbed ground.	The indicator species used are nettles *Urtica* spp., cleavers *Galium aparine* and docks *Rumex* spp. Their presence, either singly or together, does not exceed the 20% cover threshold.	**PASS**	No plants indicating nutrient enrichment
D1.	Invasive and neophyte species	>90% of the hedgerow and undisturbed ground is free of invasive non-native plant species (including those listed on Schedule 9 of WCA[3]) and recently introduced species.	Recently introduced species refer to plants that have naturalised in the UK since AD 1500 (neophytes). Archaeophytes count as natives. For information on archaeophytes and neophytes see the JNCC website[4], as well as the BSBI website[5] where the 'Online Atlas of the British and Irish Flora'[6] contains an up-to-date list of the status of species. For information on invasive non-native species see the GB Non-Native Secretariat website[7].	**PASS**	No invasive plants present

D2.	Current damage	>90% of the hedgerow or undisturbed ground is free of damage caused by human activities.	This criterion addresses damaging activities that may have led to or lead to deterioration in other attributes. This could include evidence of pollution, piles of manure or rubble, or inappropriate management practices (for example, excessive hedgerow cutting).	PASS	No damage by human activities
Additional group - applicable to hedgerows with trees only					
E1.	Tree class	There is more than one age-class (or morphology) of tree present (for example: young, mature, veteran and or ancient[8]), and there is on average at least one mature, ancient or veteran tree present per 20 - 50m of hedgerow.	This criterion addresses if there are a range of age-classes or morphologies which allow for replacement of trees and provide opportunities for different species.	PASS	Mature and young trees present
E2.	Tree health	At least 95% of hedgerow trees are in a healthy condition (excluding veteran features valuable for wildlife). There is little or no evidence of an adverse impact on tree health by damage from livestock or wild animals, pests or diseases, or human activity.	This criterion identifies if the trees are subject to damage which compromises the survival and health of the individual specimens.	PASS	Trees healthy
Condition categories for hedgerows with trees				MODERATE	
Category		**Category Requirements**	**Criterion passed**	**8**	
Footnotes					

Footnote 1 – DEFRA (2007) *Hedgerow Survey Handbook. A standard procedure for local surveys in the UK.* [online] A
layout (hedgelink.org.uk)

Footnote 2 – STALEY, J.T. ET AL. (2020) *Definition of Favourable Conservation Status for Hedgerows.* [online] Availab
Definition of Favourable Conservation Status for Hedgerows

Footnote 3 – Wildlife and Countryside Act 1981 (as amended).

Footnote 4 – CHEFFINGS, C. M. et al. (2005) *The Vascular Plant Red Data List for Great Britain.* Species Status 7: 1-116. [online] Available on:
The Vascular Plant Red Data List for Great Britain (Species Status No. 7) |

Footnote 5 – BOTANICAL SOCIETY OF BRITAIN AND IRELAND (BSBI). *Definitions: wild, native or alien?* [online] Availa
Definitions: wild, native or alien? – Botanical Society of Brita

Footnote 6 – BSBI and Biological Records Centre (BRC) (2022) *Online Atlas of the British and Irish Flora.* [online] Ava
Acknowledgements | Online Atlas of the British and Irish Flo

Footnote 7 – GB NON-NATIVE SPECIES SECRETARIAT (GBNNSS) (2022) Available on:
Home » NNSS (nonnativespecies.org)

Footnote 8 – See gov.uk standing advice on ancient and veteran trees. Available from:
Keepers of time: ancient and native woodland and trees policy in England

and

Ancient woodland, ancient trees and veteran trees: advice for making plan

Condition sheet: HEDGEROW					
Habitat Type					
Native hedgerow TN1					
Hedgerow favourable condition attributes					
Attributes and functional groupings (A, B, C, D and E)		**Criteria - the minimum requirements for 'favourable condition'**	**Criteria description**	**Criterion passed (PASS or FAIL)**	**Notes (such as justification)**
Core groups - applicable to all hedgerow types					
A1.	Height	>1.5 m average along length	The average height of woody growth estimated from base of stem to the top of the shoots, excluding any bank beneath the hedgerow, any gaps or isolated trees. Newly laid or coppiced hedgerows are indicative of good management and pass this criterion for up to a maximum of four years (if undertaken according to good practice). A newly planted hedgerow does not pass this criterion (unless it is >1.5 m height).	PASS	Height 3-5 m, overgrown hedgerow, unmanaged
A2.	Width	>1.5 m average along length	The average width of woody growth estimated at the widest point of the canopy, excluding gaps and isolated trees. Outgrowths (such as blackthorn *Prunus spinosa* suckers) are only included in the width estimate when they are >0.5 m in height. Laid, coppiced, cut and newly planted hedgerows are indicative of good management and pass this criterion for up to a maximum of four years (if undertaken according to good practice).	PASS	Width 2.5-3 m

B1.	Gap - hedge base	Gap between ground and base of canopy <0.5 m for >90% of length	This is the vertical 'gappiness' of the woody component of the hedgerow, and its distance from the ground to the lowest leafy growth. Certain exceptions to this criterion are acceptable (see page 65 of the Hedgerow Survey Handbook).	**FAIL**	Gaps for >90% of length
B2.	Gap - hedge canopy continuity	Gaps make up <10% of total length; and No canopy gaps >5 m	This is the horizontal 'gappiness' of the woody component of the hedgerow. Gaps are complete breaks in the woody canopy (no matter how small). Access points and gates contribute to the overall 'gappiness' but are not subject to the >5 m criterion (as this is the typical size of a gate).	**FAIL**	Canopy is not continuos, with gaps more than 10% of total length
C1.	Undisturbed ground and perennial vegetation	>1 m width of undisturbed ground with perennial herbaceous vegetation for >90% of length: · Measured from outer edge of hedgerow; and · Is present on one side of the hedgerow (at least).	This is the level of disturbance (excluding wildlife disturbance) at the base of the hedgerow. Undisturbed ground is present for at least 90% of the hedgerow length, greater than 1 m in width and must be present along at least one side of the hedgerow. This criterion recognises the value of the hedgerow base as a boundary habitat with the capacity to support a wide range of species. Cultivation, heavily trodden footpaths, poached ground etc. can limit available habitat niches.	**FAIL**	Adjacent to sheep grazed grassland & footpath on the other side
C2.	Nutrient-enriched perennial vegetation	Plant species indicative of nutrient enrichment of soils dominate <20% cover of the area of undisturbed ground.	The indicator species used are nettles *Urtica* spp., cleavers *Galium aparine* and docks *Rumex* spp. Their presence, either singly or together, does not exceed the 20% cover threshold.	**PASS**	No nettles & docks

D1.	Invasive and neophyte species	>90% of the hedgerow and undisturbed ground is free of invasive non-native plant species (including those listed on Schedule 9 of WCA[3]) and recently introduced species.	Recently introduced species refer to plants that have naturalised in the UK since AD 1500 (neophytes). Archaeophytes count as natives. For information on archaeophytes and neophytes see the JNCC website[4], as well as the BSBI website[5] where the 'Online Atlas of the British and Irish Flora'[6] contains an up-to-date list of the status of species. For information on invasive non-native species see the GB Non-Native Secretariat website[7].	**PASS**	No invasive or neophyte plant species
D2.	Current damage	>90% of the hedgerow or undisturbed ground is free of damage caused by human activities.	This criterion addresses damaging activities that may have led to or lead to deterioration in other attributes. This could include evidence of pollution, piles of manure or rubble, or inappropriate management practices (for example, excessive hedgerow cutting).	**PASS**	The hedge is undisturbed by human activities

The hedgerow condition assessment generates a weighting (score) ranging from 1 - 3, which is used within the Statutory Biodiversity Metric. The scores for each are set out in the tables below.

Number of criteria passed			**3**	
Condition categories for hedgerows without trees			**Score Achieved ×/✓**	**Condition**
Category	**Category Requirements**	**Metric Score**		**Moderate**
Good	No more than 2 failures in total; **AND** No more than 1 failure in any functional group.	3	**x**	

Moderate	No more than 4 failures in total; **AND** Does not fail both attributes in more than one functional group (for example, fails attributes A1, A2, B1 and C2 = Moderate condition).	2	✓	
Poor	Fails a total of more than 4 attributes; **OR**	1	**x**	

Footnotes

Footnote 1 – DEFRA (2007) *Hedgerow Survey Handbook. A standard procedure for local surveys in the UK.* [online] Avail
layout (hedgelink.org.uk)

Footnote 2 – STALEY, J.T. ET AL. (2020) *Definition of Favourable Conservation Status for Hedgerows.* [online] Available o
Definition of Favourable Conservation Status for Hedgerows

Footnote 3 – Wildlife and Countryside Act 1981 (as amended).

Footnote 4 – CHEFFINGS, C. M. et al. (2005) *The Vascular Plant Red Data List for Great Britain.* Species Status 7: 1-116.
The Vascular Plant Red Data List for Great Britain (Species Status No. 7) | JNCC R

Footnote 5 – BOTANICAL SOCIETY OF BRITAIN AND IRELAND (BSBI). *Definitions: wild, native or alien?* [online] Available
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Footnote 6 – BSBI and Biological Records Centre (BRC) (2022) *Online Atlas of the British and Irish Flora.* [online] Availab
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Home » NNSS (nonnativespecies.org)

Footnote 8 – See gov.uk standing advice on ancient and veteran trees. Available from:
Keepers of time: ancient and native woodland and trees policy in England (publish
and
Ancient woodland, ancient trees and veteran trees: advice for making planning de

Limitations (if applicable)			Habitat parcel reference			
			TN11	TN14	TN15	
			Grid reference			
Condition Assessment Criteria			**Criterion passed (Yes or No)**			**Notes (such as justification)**
A	The tree is a native species (or at least 70% within the block are native species).		**PASS**	**Yes**	**Yes**	All trees are pedunculate oak
B	The tree canopy is predominantly continuous, with gaps in canopy cover making up <10% of total area and no individual gap being >5 m wide (individual trees automatically pass this criterion).		**Yes**	**Yes**	**Yes**	Automatically pass
C	The tree is mature (or more than 50% within the block are mature)[1].		**Yes**	**Yes**	**Yes**	Trees are mature
D	There is little or no evidence of an adverse impact on tree health by human activities (such as vandalism, herbicide or detrimental agricultural activity). And there is no current regular pruning regime, so the trees retain >75% of expected canopy for their age range and height.		**FAIL**	**FAIL**	**FAIL**	Bark at base of trees has been worn away by sheep
E	Natural ecological niches for vertebrates and invertebrates are present, such as presence of deadwood, cavities, ivy or loose bark.		**Yes**	**Yes**	**Yes**	Deadwood and holes for bats and owls
F	More than 20% of the tree canopy area is oversailing vegetation beneath.		**Yes**	**Yes**	**Yes**	Oversailing ONG
Number of criteria passed			**5**	**5**	**5**	
Condition Assessment Result (out of 6 criteria)		**Condition Assess**	**Score Achieved ×/✓**			
Passes 5 or 6 criteria		Good (3)	✓	✓	✓	
Passes 3 or 4 criteria		Moderate (2)				
Passes 2 or fewer criteria		Poor (1)				
Note that 'Fairly Good and Fairly Poor' condition categories are not available for this broad habitat type.						

Condition Sheet: LINE OF TREES				
Line of trees TN2 & TN5				
Limitations (if applicable)			**Target note**	
Condition Assessment Criteria		TN2	TN5	**Notes (such as justification)**
		Criterion passed (PASS or FAIL)		
A	At least 70% of trees are native species.	**PASS**	**PASS**	TN2: Native species 95% in total; TN5: 100%
B	Tree canopy is predominantly continuous with gaps in canopy cover making up <10% of total area and no individual gap being >5 m wide.	**FAIL**	**FAIL**	Canopy is not continuous, individual gaps more than 5 m
C	One or more trees has veteran features and or natural ecological niches for vertebrates and invertebrates, such as presence of standing and attached deadwood, cavities, ivy or loose bark.	**FAIL**	**FAIL**	
D	There is an undisturbed naturally-vegetated strip of at least 6 m on both sides to protect the line of trees from farming and other human activities (excluding grazing). Where veteran trees are present, root protection areas should follow standing advice[2].	**PASS**	**FAIL**	TN2:Grasslands are grazed by sheep on both sides, no human activity; TN5: there's atrack next to one side of the tree line, used for driving
E	At least 95% of the trees are in a healthy condition (deadwood or veteran features valuable for wildlife are excluded from this). There is little or no evidence of an adverse impact on tree health by damage from livestock or wild animals, pests or diseases, or human activity.	**PASS**	**PASS**	No evidence of damage
Number of criteria passed		3	2	

Condition Assessment Result	**Score Achieved ×/✓**	
Condition	**MODERATE**	**POOR**
Passes 5 criteria	Good (3)	**x**
Passes 3 or 4 criteria	Moderate (2)	✓ TN5
Passes 2 or fewer criteria	Poor (1)	✓TN2

Footnotes

Footnote 1 – DEFRA (2007) *Hedgerow Survey Handbook: A standard procedure for local surveys in the UK.* 2nd ed [online].
Keepers of time: ancient and native woodland and trees policy in England (publishing.service.go
and:
Ancient woodland, ancient trees and veteran trees: advice for making planning decisions - GOV.

Return to ‘Selecting condition sheet’ tab

Condition Assessment Sheet: Grassland TN3

Condition Assessment Criteria		Criterion passed (PASS or FAIL)	Notes (such as justification)
A	The parcel represents a good example of its habitat type, with a consistently high proportion of characteristic indicator species present relevant to the specific habitat type (and relative to Footnote 3 suboptimal species which may be listed in the UKHab description).[1] **Note - this criterion is essential for achieving Moderate or Good condition for non-acid grassland types only.**	PASS	Grassland with abundant Yorkshire fog and creeping bent and occasional timothy and creeping butttercup.
B	Sward height is varied (at least 20% of the sward is less than 7 cm and at least 20% is more than 7 cm) creating microclimates which provide opportunities for insects, birds and small mammals to live and breed.	FAIL	Grassland sward height 2-7cm, heavily grazed by sheep
C	Cover of bare ground is between 1% and 5%, including localised areas, for example, rabbit warrens[2].	FAIL	No bare ground
D	Cover of bracken *Pteridium aquilinum* is less than 20% and cover of scrub (including bramble *Rubus fruticosus* agg.) is less than 5%.	PASS	No bracken or bramble within grassland
E	Combined cover of species indicative of suboptimal condition[3] and physical damage (such as excessive poaching, damage from machinery use or storage, damaging levels of access, or any other damaging management activities) accounts for less than 5% of total area. If any invasive non-native plant species[4] (as listed on Schedule 9 of WCA[5]) are present, this criterion is automatically failed.	FAIL	Combined cover of creeping buttercup c. 15 %, damage area c. 1% , a small area used for animal feedling
Additional Criterion - must be assessed for all non-acid grassland types			
F	There are 10 or more vascular plant species per m^2 present, including forbs that are characteristic of the habitat type (species referenced in Footnote 3 and 5 cannot contribute towards this count). **Note - this criterion is essential for achieving Good condition for non-acid grassland types only.**	FAIL	11 vascular plant species per m2, however, some of them listed in Footnote 3.

Essential criterion for Good condition achieved (for non-acid grassland) (Yes or No)		**Yes**	
	Number of criteria passed	**2**	
Condition Assessment Result	**Condition Assessment Score**	**Score Achieved ×/✓**	**Poor**
Non-acid grassland types (Result out of 6 criteria)			
Passes 5 or 6 criteria, including essential criterion A and additional criterion F.	Good (3)	x	
Passes 3 - 5 criteria, including essential criterion A.	Moderate (2)	x	
Passes 2 or fewer criteria; OR Passes 3 or 4 criteria excluding criterion A and F.	Poor (1)	✓	