Scottish & Southern Electricity Networks
TRANSMISSION

TEM-NET-ENV-508

Environmental

Biodiversity Net Gain Assessment Report

Project Name – Emmock and Tealing Section 37 Tie-Ins

Project Code – LT455

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Executive Summary

This report sets out the results of the Biodiversity Net Gain (BNG) calculations and the approach to delivering on SSEN Transmission's BNG commitments for the Project.

This report details the BNG assessment undertaken for in the support of the proposed diversion of the final easterly sections of two existing overhead lines (OHLs) (Alyth to Tealing and Tealing to Westfield 275 kilovolt (kV) OHLs) for tie-in to the proposed Emmock 400 kV substation and for a 275 kV tie-back between Emmock Substation and the existing Tealing Substation (hereafter referred to as the 'Proposed Development').

This report includes:

- A calculation of baseline Biodiversity Units (BU) for the Proposed Development following the guidance outlined within SSEN Transmission's Biodiversity Net Gain Toolkit User Guide[1].
- A prediction of the post development on-site BU following successful implementation of a habitat management plan.
- A qualitative assessment against the Biodiversity Net Gain Good Practice Principles[2]; and
- Details of the habitat creation or enhancements required to achieve biodiversity enhancements through on-site and off-site delivery.

The report found that the baseline BNG was 26.89 BU, while the post development BNG was 22.08 BU. Overall this Proposed Development has a -17.87% decrease of the on-site BU. Therefore, off-site compensation is needed to ensure the Proposed Development has an overall 10% net gain in biodiversity.

Irreplaceable Habitats are habitats which are technically very difficult or impossible to restore, recreate, or replace once destroyed. SSEN Transmission consider Irreplaceable Habitats within their network are to be ancient woodland (categories 1a & 2a of the Ancient Woodland Inventory (AWI)), individual ancient or veteran trees, and blanket bog or raised bog in good or moderate condition. The Proposed Development will not cause any loss or a deterioration of Irreplaceable Habitats.

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[1] SSEN Transmission. 2023. TG-NET-ENV-526 Rev 2 - Biodiversity Net Gain Toolkit User Guide.
[2] CIRIA, CIEEM & IEMA (2016). Biodiversity Net Gain: Good practice principles for development.

1 Introduction

1.1 Background of the Project

Scottish and Southern Electricity Networks Transmission (SSEN Transmission), operating under licence held by Scottish Hydro Electric Transmission plc, to operate and develop the high voltage electricity transmission system in the North of Scotland and remote islands proposes diverting the eastern sections of the existing Alyth–Tealing and Tealing–Westfield overhead line (OHL) to tie into the new Emmock 400 kV substation, with a 275 kV tie-back to Tealing and associated temporary diversions and dismantling of redundant towers (the "Proposed Development"). More detail of what the development involves can be found in Section 1.3.

The Applicant is seeking consent under Section 37 of the Electricity Act 1989 from the Scottish Government's Energy Consents Unit for the Proposed Development. The application is supported by an Environmental Impact Assessment (EIA).

SSEN Transmission have commissioned LUC to undertake a Biodiversity Net Gain (BNG) assessment for the Proposed Development using the SSEN Transmission Biodiversity Project Toolkit Version 3.0 (hereafter referred to as 'the Toolkit'). The purpose of this report is to interpret the impact of the Proposed Development on the biodiversity value of the area of works, including forecasting losses and gains in Biodiversity Units (BU) measured using the Toolkit.

1.2 Site Description

The Proposed Development would be located in Angus, near the village of Tealing approximately 5 km north of Dundee (hereafter referred to as 'the Site').

The Site is in a predominantly agricultural area interspersed, particularly to the north of the Site, by a few small woodland plantations and farm shelterbelts. The land is primarily used for arable production, with some grazing land on the fields higher up the slope in the north of the Site. The area around the Site is characterised by existing utility infrastructure, in particular the OHLs for the existing Alyth to Tealing 275 kV OHL and Tealing to Westfield 275 kV OHL run in a broadly west to east direction before terminating at Tealing Substation to the southeast. A number of other OHLs also extend out from the existing Tealing Substation. There are two wind turbines in the fields located to the south of Balkemback (just south of the Alyth to Tealing 275 kV OHL and north of the Tealing to Westfield 275kV OHL) and a large telecommunications tower at the summit of Craigowl Hill, approximately 1 km north of the Alyth to Tealing 275 kV OHL.

The wider setting of the Proposed Development consists of an area of lowlands between the northern fringe of Dundee and the line of the Sidlaw Hills, forming a broad strath of gently sloping ground from south to north, which is crossed by the existing Alyth to Tealing and Tealing to Westfield 275 kV OHLs. The area is sparsely populated with a few small groups of properties generally associated with farms in the areas of Balluderon, Balkemback and Prieston. The village of Kirkton of Tealing is located approximately 1 km northeast of the Proposed Development. The settlement of Tealing lies approximately 1.5 km to the northeast of the Site. Two notable exceptions to the general pattern of the wider landscape are: Craigowl Hill, some 2 km north, with its associated elevations and woodland to the northwest; and the existing Tealing Substation to the southeast along with its associated infrastructure, including the Alyth to Tealing 275 kV and Tealing to Westfield 275 kV OHLs connecting to the existing Tealing Substation, which will be reconductored under a separate consenting process, while being diverted as part of the Proposed Development.

The Proposed Development does not intersect with any statutory or non-statutory designated sites.

An existing OHL within the southwest of the Proposed Development, and an associated proposed temporary tower, intersect with areas mapped on the Ancient Woodland Inventory (AWI) at a location marked on Ordnance Survey (OS) maps as 'Wynton Wood'. Walkover survey and aerial imagery checks confirmed the areas intersected by the Proposed Development are largely unwooded, with the temporary tower located within arable land. Given the absence of woodland structure or soils to be affected, there is no credible impact pathway to ancient woodland features. A proportionate, risk-based approach has therefore been applied. Avoidance measures and construction controls (pre-start checks, ecological watching brief, and stop-work protocol) will ensure any unexpected features are safeguarded.

Therefore, after verification via field surveys, the Proposed Development does not intersect with any Irreplaceable Habitats, Annex 1 Habitats, Scottish Biodiversity List (SBL) habitats, nor potential Groundwater Dependent Terrestrial Ecosystems (GWDTEs).

1.3 Proposed Development Description

The Proposed Development, which is the subject of an application under Section 37 of the Electricity Act 1989, comprises primary and ancillary development as detailed in the sections below.

1.3.1 Primary Development

The primary development comprises the diversion of the final easterly sections of two existing OHLs (Alyth to Tealing and Tealing to Westfield 275 kV OHLs) for tie-in to the proposed Emmock 400 kV substation and for a 275 kV tie-back between Emmock substation and the existing Tealing Substation. It includes:

- installation of a new section of Alyth to Tealing 400 kV OHL including seven new towers from the location of Tower AT2 southwards for a distance of approximately 2.2 km to connect with the northern side of the platform of the proposed Emmock substation;
- dismantling of 11 towers and the removal of tower foundations over a distance of approximately 3.5 km (see Paragraph 3.7.47) from Tower AT2 to the current connection at Tealing Substation;
- construction of a temporary tower diversion, consisting of a temporary tower AT1 to maintain transmission on the Alyth to Tealing OHL;
- installation of a new section of Tealing to Westfield OHL, comprising two new towers, WT10 and WT11, northwards for a distance of approximately 150 m to connect with the southern side of the platform of the proposed Emmock substation;
- construction of a temporary tower diversion, consisting of two new towers to maintain transmission on the Tealing to Westfield OHL; and
- installation of two new tie-back connections between Emmock and Tealing substations, the East TT and West TT, with the East-TT requiring installation of four new towers, TE1, TE2, TE3, and TEG1 and upgrading of existing end point tower TE4 currently connected to Tealing Substation; and the West TT requiring installation of tower TW1 and upgrading of existing towers WT9, TW2, TW3 and TW4.

1.3.2 Temporary Works

The following temporary works are associated with the Proposed Development and have been considered:

- Construction of temporary tower diversions, consisting of three new towers to maintain transmission.

1.3.3 Ancillary Development for which Deemed Planning Permission is Sought

The following works would be required as part of the Proposed Development to facilitate the construction and operation of the Primary Development:

- The upgrade of existing, or creation of new, bellmouths at public road access points;
- The formation of access tracks (permanent, temporary, and upgrades to existing access tracks);
- Temporary working areas around infrastructure to facilitate construction;
- Formation of flat areas from which the conductor will be pulled during construction, which will contain earthed metal working surfaces referred to as Equipotential Zones (EPZs);
- Vegetation clearance and management;
- Other temporary measures required during construction, such as measures to protect road and water crossings during construction (scaffolding etc.);

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- Public road improvements which would be required in multiple areas within the vicinity of the Proposed Development to facilitate construction traffic; and
- Removal of temporary works and site reinstatement, including replanting where required.

The following development activities fall under separate consents and are not subject to express planning permission so are not considered within this Report:

- Borrow pits and quarries to source stone for the construction of access tracks. The final location and design of borrow pits and quarries would be confirmed by the Principal Contractors and separate planning permissions would be sought as required;
- Temporary construction compounds would be required to facilitate construction. The final location and design of temporary site compounds would be confirmed by the Principal Contractors and separate planning permissions would be sought as required; and
- Modification of the existing distribution network in some areas to accommodate the proposed OHLs. These works are likely to comprise short sections of undergrounding within the vicinity of the Proposed Development and would be undertaken by Scottish Hydro Electric Power Distribution (SHEPD). Consent would be sought by SHEPD as required.

1.4 Scope of Study

This report sets out the results of the BNG Assessment and the approach to delivering on SSEN Transmission's BNG commitments for the Project. This report identifies the baseline biodiversity measured in Biodiversity Units (BU), to achieve positive effects for biodiversity.

1.5 SSEN Transmission BNG Commitments

SSEN Transmission is committed to protecting and enhancing the environment by minimising the potential impacts from their construction and operational activities. As part of this approach, SSEN Transmission has made commitments within its Sustainability Strategy[3] to deliver 10% biodiversity net gain and leave a positive legacy for nature on all projects gaining consent.

1.6 Legislation and Planning Policy

Section 1 of the Nature Conservation (Scotland) Act 2004[4] (as amended) places a duty on all public bodies and officeholders in Scotland to further the conservation of biodiversity when carrying out their functions in so far as is consistent with the proper exercise of those functions. This duty applies to the Energy Consents Unit and planning authorities in their functions as competent authorities, and to SSEN Transmission as a statutory undertaker. Section 3A of the Town & Country Planning (Scotland) Act 1997[5] requires that an outcome of the National Planning Framework is securing positive effects for biodiversity.

National Planning Framework 4 (NPF4)[6] requires biodiversity enhancements be provided in addition to any proposed mitigation. It states that "Development proposals for national or major development that require an Environmental Impact Assessment will only be supported where it can be demonstrated that the proposal will conserve, restore and enhance

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[3] SSEN Transmission. 2024. Sustainability Strategy. [Online] Available at: https://www.ssen-transmission.co.uk/about-us/sustainability/sustainability-strategy/
[4] Scottish Government. Nature Conservation (Scotland) Act 2004. [Online] Available at: https://www.legislation.gov.uk/asp/2004/6/contents
[5] Scottish Government. Town & Country Planning (Scotland) Act 1997. [Online] Available at: https://www.legislation.gov.uk/ukpga/1997/8/contents
[6] Scottish Government. 2023. National Planning Framework 4. [Online] Available at: https://www.gov.scot/publications/national-planning-framework-4/

biodiversity, including nature networks, so that they are in a demonstrably better state than without intervention. This will include future management. To inform this, best practice assessment methods should be used" (Policy 3b).

The mitigation hierarchy, as presented in NPF4, has been applied to avoid impacts to biodiversity, where avoidance is not possible, these impacts have been minimised. This is aligned to the Scottish Government's NPF4 Policy 3 for proposed developments to contribute to biodiversity enhancement.

1) Avoid – by removing the impact at the outset
2) Minimise – by reducing the impact
3) Restore – by repairing damaged habitats
4) Offset – by compensating for the residual impact that remains, with preference to on-site over off-site measure

2 Methodology

2.1 Area and Surveys

2.1.1 Desk Based Assessment

A desk study of the Site was carried out during the preparation of the Scoping Report associated with the Proposed Development[7]. Key datasets reviewed include:

- NatureScot SiteLink[8] website for details of statutory designated sites;
- Angus Council (2023)[9] for details of Local Nature Conservation Sites (LNCS) within the Angus Council area;
- Dundee City Council (2019)[10] for details of Locally Important Nature Conservation Sites (LINCS) in the Dundee City area; and
- National Biodiversity Network (NBN) Gateway[11] for records of protected[12] and notable[13] species.

Additionally, strategic datasets were reviewed to inform the Metric 'Strategic Significance' score. This included information and datasets from the following sources: AWI, Tayside Local Biodiversity Action Plan (LBAP)[14], North East Scotland Biodiversity Partnership (NESBiP)[15], North East Scotland Biological Records Centre (NESBReC)[16], Scotland's Environment

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[7] SSEN Transmission (2025) Environmental Impact Assessment (EIA) Scoping Report. LT455: Emmock and Tealing Overhead Line Tie-ins.
[8] NatureScot, n.d. SiteLink website. [Online] Available at: https://sitelink.nature.scot.
[9] Angus Council, 2023. Angus Local Nature Conservation Sites – Local Biodiversity Sites Initial Phase Report. [Online] Available at: https://www.angus.gov.uk/sites/default/files/2023-11/Report%20319_23%20Local%20Nature%20Conservation%20Sites%20in%20Angus%20-%20Initial%20Phase%20of%20Local%20Biodiversity%20Sites_App%201.pdf.
[10] Dundee City Council, 2019. Dundee Local Development Plan 2019. [Online] Available at: https://www.dundeecity.gov.uk/sites/default/files/publications/local_development_plan_2019_for_web.pdf
[11] National Biodiversity Network, n.d. NBN Atlas website. [Online] Available at: https://nbnatlas.org/.
[12] 'Protected Species' includes European Protected Species (EPS; i.e. those listed on Annex II and Annex IV of the Habitats Directive), species listed on Schedule 5 and 6 of the Wildlife and Countryside Act 1981 (as amended; WCA), and badger which is protected by the Protection of Badgers Act 1992.
[13] 'Notable species' are species not afforded legal protection but which are listed on the SBL and/or relevant LBAPs.
[14] Tayside Biodiversity Partnership (2016) Tayside Local Biodiversity Action Plan 2nd Edition 2016-2026. [Online] Available at: https://www.angus.gov.uk/sites/default/files/Tayside%20Local%20Biodiversity%20Action%20Plan%202016_2026.pdf
[15] North East Scotland Biodiversity Partnership (no date) Biodiversity Information for Developers. [Online] Available at: https://www.nesbiodiversity.org.uk/biodiversity-information-for-developers/
[16] https://nesbrec.org.uk/

Map[17], NatureScot SiteLink[18], Carbon & Peatland Map[19], and NBN Atlas[20]. No overlaps or identified priorities were recorded within the assessment area, other than AWI polygons at 'Wynton Wood'. These polygons were verified on site/aerial imagery as largely unwooded (see Section 1.2); accordingly they were not treated as ancient woodland features. Strategic significance was therefore scored 'Low (1.0)' for affected habitats in this area.

2.1.2 Field Assessment

Field surveys were undertaken by experienced ecologists in August 2023 and April, July, August and September 2024, within the survey area which is defined as the Limit of Deviation (LOD) of the Proposed Development, in which all ecology surveys were undertaken in line with good practice guidelines for all ecological features surveyed (see **Appendix E, Figure E: Habitat Survey Results**). Drawing on SSEN Transmission's best practice approach, data was collected using the UK Habitat Classification (hereafter referred to as 'UKHab') methodology[21].

The UKHabs method ensures that all habitats of conservation concern[22] are appropriately identified within both a technical and policy context. Where necessary, the National Vegetation Classification (NVC) was used for the purposes of detailed identification of habitats of conservation concern and GWDTE. An assessment was made in the field of the condition of habitats Using DEFRA Biodiversity Metric 3.1 Condition Assessment Sheets, as per guidance from SSEN Transmission. Notes are made of any invasive non-native plant species (INNS) that where encountered, to inform relevant management plans for implementation during construction and operation as appropriate.

2.1.3 Evidence of technical competence

All fieldwork was carried out by suitably qualified ecologists with membership in relevant professional bodies. The habitat surveys were led by Anna Dennis; she is an Associate Ecologist at LUC with over 10 years' experience in ecological consultancy, and is a full member of CIEEM (MCIEEM). The lead surveyor was supported by other suitably competent members of the LUC Ecology Team.

2.2 Limitations and Assumptions

To produce this assessment, certain limitations and assumptions have been made.

2.2.1 Desk-based

The data sources listed in Section 3.1.1: Desk-based Assessment may contain temporal or spatial gaps. Given the limited value of the habitats surrounding the Proposed Development, and the fieldwork undertaken, any such gap would not be anticipated to materially affect the BNG assessment.

2.2.2 Fieldwork

The habitat survey represents a snapshot of the floral assemblages at the Site during the time of survey. While the habitat survey provides an overview of the habitats present, it is possible that the type and condition of habitats could change post-survey as floral assemblages are dynamic and can change over short periods of time. However, it is considered that an appropriate level of data has been collected to enable an informed decision to be taken in relation to the identification and assessment of baseline habitats and their condition.

2.2.3 Biodiversity Net Gain Assessment

The assignment of post-development habitats in the biodiversity calculations is based on a consistent set of rules linking impact type, baseline habitat, and condition, as shown in the sections below.

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[17] https://map.environment.gov.scot/sewebmap/
[18] https://sitelink.nature.scot/home
[19] https://soils.environment.gov.scot/maps/thematic-maps/carbon-and-peatland-2016-map/
[20] https://nbnatlas.org/
[21] UK Habitat Classification, n.d. UKHab website. [Online] Available at: https://www.ukhab.org/.
[22] Habitats of conservation concern include habitats considered conservation priorities in the Habitats Directives (i.e. Annex 1 habitats); habitats considered to indicate potential groundwater dependency; habitats included on the SBL; and habitats included in LBAPs relevant to the Proposed Development.

2.2.3.1 Urban and Excluded Features

Areas recorded as 'Urban – Developed land; sealed surface' at both baseline and post-development were excluded.

Features such as Trackways were also excluded from calculations since they are temporary in BNG terms and are affected habitats that can recover to the baseline type and condition in less than 2 years.

2.2.3.2 Permanent Works

Impact types such as Access – new stone permanent and Proposed tower base are assumed to permanently convert the baseline habitat to Urban – Developed land; sealed surface.

2.2.3.3 Temporary Works Reverting to Baseline Habitat

For new stone temporary, proposed/temporary tower wider areas, vegetation clearance, working areas and working platforms, post-development habitat is assumed to revert to the baseline habitat type, with the exception of woodland (see Section 3.2.3.4: Woodland Clearance).

Target conditions on reversion were standardised:

- Cropland: N/A – Agriculture;
- Grassland: Poor; and
- Scrub: Same as baseline condition.

2.2.3.4 Woodland Clearance

All works are within the lowland context. Broadleaved and mixed woodland were set to revert to 'Grassland – Modified grassland'. No coniferous woodland was present in baseline, so no other rule was applied. Post-development condition is Poor for all woodland clearance impacts.

2.2.3.5 Works Reverting to Surrounding (Wider) Habitat

Dismantled tower bases and wider areas were assumed to revert to the surrounding habitat mosaic rather than the baseline polygon. These polygons are flagged for manual assignment based on aerial imagery and baseline data.

2.2.3.6 Time to Target Condition

Risk parameters, such as 'Time to Target Condition', have been determined with reference to Natural England's Biodiversity Metric 3.1 Technical Supplement[23]. The 'Time to Target Condition' of proposed habitats has been selected with consideration of each criterion in the relevant condition assessment; a judgement has been made in each case as to whether the criterion is deliverable within the corresponding timeframe.

Some components of the Proposed Development will result in delayed habitat restoration due to the duration of construction impacts. For construction elements such as tower footprints, new stone access tracks, and tower working areas, a delay of up to four years has been applied before habitat restoration, creation or enhancement can commence. Temporary construction practices (temporary vegetation and woodland clearance) are assumed to take place for one year. These delays are accounted for in the BNG calculations to ensure a precautionary and realistic estimate of habitat recovery timelines. Hence, the 'Time to Target Condition' has taken into account the likely delay to the commencement of restoration works as a result of the four year construction period anticipated, and additional delay was applied: +1 year for vegetation clearance and woodland clearance impacts, and +4 years for all other temporary/permanent creation types.

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[23] Natural England. 2022. Biodiversity Metric 3.1. [Online] Available at: Archive Site for Legacy Biodiversity Metrics

3 Results

3.1 Biodiversity Baseline

The baseline habitats impacted by the Proposed Development are shown in the baseline habitat map (see Appendix E).

The total baseline area units are 26.89 BU.

Linear hedgerow habitats and linear watercourse habitats are not affected by the Proposed Development, and therefore are not considered further.

Baseline habitats have been summarised in the table below (Baseline Habitat Map - Appendix E).

Table 1: Summary of Baseline Habitats

Habitat Type	Total Habitat Area (ha)	Condition	Biodiversity Units (BU)
Cropland - Cereal Crops	7.42	N/A - Agriculture	14.84
Cropland - Temporary grass and clover leys	1.37	N/A - Agriculture	2.72
Grassland - Modified grassland	0.03	Moderate	6.20
	3.07	Poor	
Grassland - Other neutral grassland	0.02	Fairly Poor	0.1
Heathland and shrub - Blackthorn scrub	0.01	Fairly Poor	0.03
Heathland and shrub - Mixed scrub	0.16	Poor	0.32
Woodland and forest - Other woodland; broadleaved	0.44	Poor	1.76
Woodland and forest - Other woodland; mixed	0.23	Poor	0.92

3.2 Temporary Impacts

Where a habitat is disturbed for a short period of time, it may be considered temporary loss and is treated as 'retained' in terms of the SSEN Transmission Biodiversity Toolkit. To be considered, the habitat must be restored in full to its baseline condition (or better) within two years of the initial impact. Where the habitat cannot be fully restored to its baseline value within two years from the date of impact this is treated as a loss of the baseline habitat, and the reinstatement of the baseline habitat is treated as a creation of that habitat.

In the Proposed Development, the impacts identified as temporary in BNG terms are those caused by temporary trackways which are anticipated to be in position for up to one year, and where these are located within habitats for which the post-development time to target condition is up to one year, resulting in a total time to target condition of two years. The habitats that are affected by such temporary impacts relating to the Proposed Development are outlined in **Table 2**.

Table 2: Summary of Temporary Habitat Loss

Habitat Type	Total Habitat Area (ha)	Condition
Cropland - Temporary grass and clover leys	0.11	N/A - Agriculture
Grassland - Modified grassland	0.42	Poor
Heathland and shrub - Mixed scrub	<0.01	Poor
Urban - Developed land; sealed surface	<0.01	N/A - No biodiversity value

3.3 Post-development Biodiversity Units

The total post-development area units are 22.01 BU.

No new linear hedgerow habitats or linear watercourse habitats are expected to occur due to the Proposed Development.

The Proposed Development has not achieved an area BU BNG of 10% on-site, therefore, additional BU are required off-site to meet SSEN Transmission requirements.

Proposed habitats have been summarised in the table below.

Table 3: Summary of the Post-development Habitats

Habitat Type	Total Habitat Area (ha)	Condition	Biodiversity Units (BU)
Cropland - Cereal Crops	7.45	N/A - Agriculture	13.35
Cropland - Temporary grass and clover leys	1.26	N/A - Agriculture	2.22
Grassland - Modified grassland	3.52	Poor	6.41
Grassland - Other neutral grassland	0.02	Fairly Poor	<0.01
		Poor	0.05
Heathland and shrub - Blackthorn scrub	0.02	Fairly Poor	0.05
Urban - Developed land; sealed surface	0.48	N/A - No biodiversity value	0.00

3.4 Forecasted changes in High Distinctiveness habitats

There is only one High Distinctiveness Habitat within the Site: Other Neutral Grassland. Only a very small area of Other Neutral Grassland is expected to be affected by the Proposed Development, under the Dismantled tower wider area and Trackway impact types. The area will be reinstated as Other Neutral Grassland (as this is the wider habitat around that tower) once the tower is dismantled.

Table 4: Summary of High Distinctness Habitats

High Distinctiveness Habitats	Baseline Area (ha)	Post-development Area (ha)	Biodiversity Unit Net Change (BU)	% Net Change
Grassland - Other neutral grassland	0.02	0.02	-0.04	-46.13%

3.5 Off-Site BNG

Off-site habitat creation and enhancement is only required when all options for on-site BNG requirements have been considered. If no on-site opportunities can be implemented, off-site habitat creation and enhancement will be undertaken but kept, wherever possible, within the locale of the Proposed Development. Compensation is targeted at delivering biodiversity net gains that are ecologically equivalent in type and condition to the habitats lost, following the 'like for like or better' principle. The off-site habitat will be assessed using the Toolkit to take into consideration the existing biodiversity present and aims to maximise benefits for biodiversity in accordance with local and national strategies.

The amount of BU required from off-site habitat creation is 7.49 BU.

Additional Ecological Benefits

Opportunities will be identified to deliver additional ecological benefits as a result of habitat creation and enhancement on-site and off-site.

In addition to numerical BNG gains, future detailed assessments will consider broader ecological and community benefits of proposed off-site biodiversity proposals. This will include consideration of opportunities to contribute towards national biodiversity targets, alignment with local plans and strategies, integration of habitats and/or collaboration with adjacent land managers, and potential to deliver community benefits.

3.6 Implementing and Monitoring

As part of this process, appropriate implementation, maintenance and monitoring procedures will be developed and agreed with stakeholders for embedding into the final proposals for off-site delivery of BNG and biodiversity enhancement. These measures will ensure that habitat enhancements remain sustainable in the long-term.

4 Summary

The results of the on-site BNG assessment are summarised in Table 5.

Table 5: Summary of the On-site Biodiversity Units

	Baseline Biodiversity Units	Post-Development Biodiversity Units	Difference Change in Biodiversity Units	Difference Change in Biodiversity Units (%)	Biodiversity Units Required Off-site
Biodiversity Units	26.89 BU	22.08 BU	-4.81 BU	-17.77	-7.49 BU

The habitat creations and enhancements will be designed to be achieved within a reasonable timeframe and with reasonable certainty as the outcomes from the Toolkit are informed by the Natural England Biodiversity Metric 3.1. We believe these measures will be appropriate to the nature and scale of the Proposed Development. These habitat creations and enhancements will consider surrounding habitats

No Irreplaceable Habitat will be affected by the Proposed Development.

This BNG report illustrates the requirements to achieve positive effects for biodiversity. As there is limited space for biodiversity on-site, and delivery of biodiversity enhancement on-site is unlikely to be best placed due to the adjacent land use, the requirements for enhancement with regards to biodiversity will be considered off-site in areas with higher potential for biodiversity.

Appendix A Approach to Biodiversity Net Gain

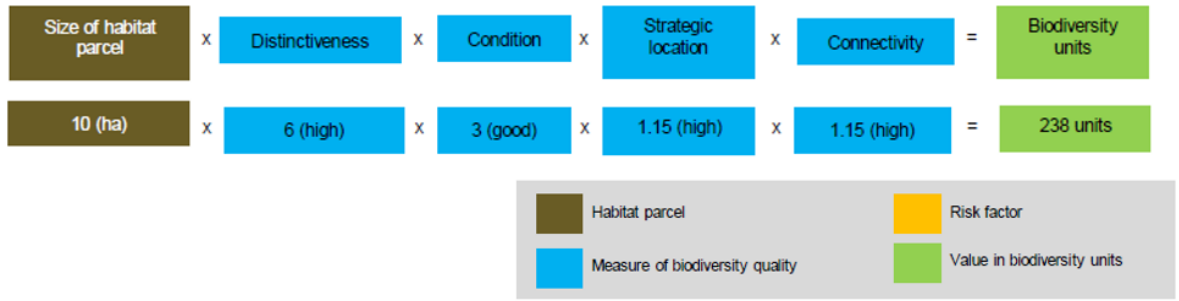
A full BNG Assessment was undertaken for the Proposed Development to quantify the change in biodiversity. The BNG assessment was completed within the Toolkit following the SSEN Transmission Biodiversity Net Gain Toolkit User Guide1. This method has been revised to align with Natural England Biodiversity Metric 3.123, adapted to reflect the requirements of Scottish habitats.

A habitat survey of the proposed site was undertaken in August 2023, and April, July, August and September 2024. The habitat survey was based on the methods described within the UK Habitat Classification User Manual[24].

The baseline multiplication uses the following characteristics of the habitats:

- Habitat area (hectares) or length (kilometres)
- Distinctiveness
- Condition
- Connectivity
- Strategic significance

Figure 1: Pre-intervention Biodiversity Calculation



Habitat Distinctiveness for the habitats relevant to the project were assigned as per Appendix C, and scored as:

- High = 6
- Medium = 4
- Low = 2
- Very low = 0

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[24] UKHab Ltd. 2023. UK Habitat Classification Version 2.0. [Online] Available at: ukhab – UK Habitat Classification

Each habitat parcel recorded was assigned a condition score (Good, Moderate, Poor, or N/A) determined by the Natural England Biodiversity Metric 3.1 Habitat Condition Assessment sheets[25] which have been adopted into the Toolkit's methodology. Intermediate categories (Fairly good and Fairly poor) were only used when it was not possible to distinguish between two main condition categories, and full justification is provided for each use.

The following scores were assigned to conditions:

- Good = 3
- Fairly Good = 2.5
- Moderate = 2
- Fairly poor = 1.5
- Poor = 1
- N/A – Agriculture = 1
- N/A - No biodiversity value = 0

The SSEN Transmission User Guide is awaiting the Scottish Biodiversity Metric to propose a watercourse condition assessment. In this interim period, SSEN Transmission has adopted the SSE Renewables User Guide[26] approach to watercourse condition assessments. This approach recommends that the condition is related to distinctiveness of the habitat, i.e.:

- High distinctiveness = Good condition
- Medium distinctiveness = Moderate condition
- Low distinctiveness = Poor condition

The SSEN Transmission User Guide has adopted the Natural England Beta Biodiversity Metric 2.0 method of assigning connectivity. The connectivity of a habitat parcel is determined based on the distinctiveness of the habitat. High distinctiveness habitats are assigned with a Moderate connectivity multiplier, whereas Moderate and Low distinctiveness habitats are assigned a Low connectivity.

The following scores were assigned for connectivity:

- High = 1.15
- Moderate = 1.1
- Low = 1

Strategic significance scores are measured using resources such as the SBL and have been assigned as follows, based on habitats identified to be of local importance:

- High = Formally identified in local strategy, plan or policy = 1.15
- Medium = Location ecologically desirable but not identified in a local strategy, plan or policy = 1.1
- Low = Not identified in a local strategy, plan or policy or no strategy or plan is in place in the area = 1

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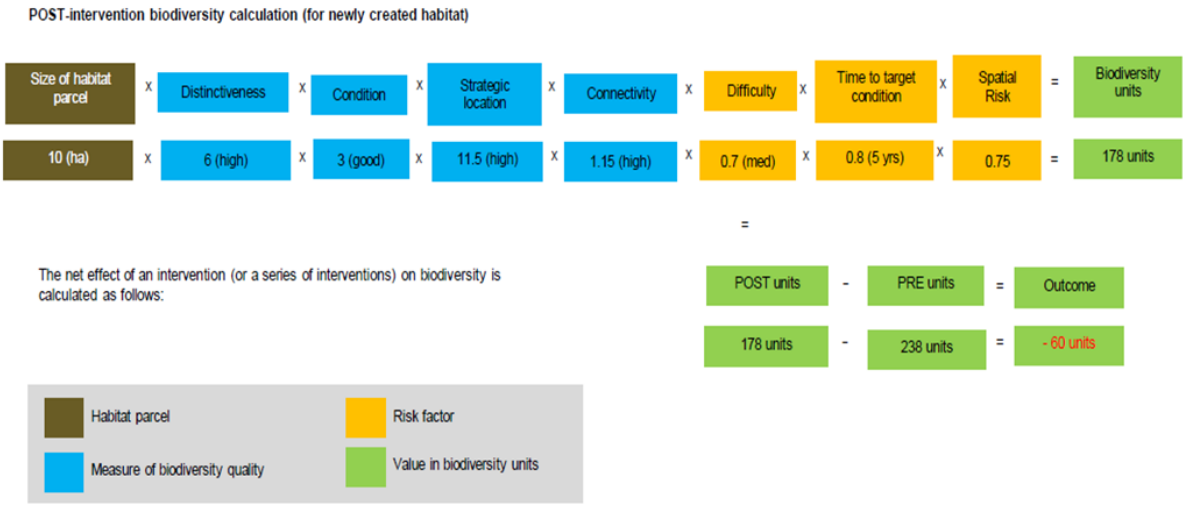
[25] Natural England. 2022. Biodiversity Metric 3.1 Habitat Condition Sheets with Instructions. [Online] Available at: https://publications.naturalengland.org.uk/publication/5850908674228224

[26] SSE Renewables. 2024. SSER Biodiversity Net Gain Toolkit User Guide V2.2 [Online] Available at: sser-bng-toolkit-user-guide_v2-2.pdf

Figure 2: Post-intervention Biodiversity Calculation



The creation and enhancement of habitats has a delivery risk multiplier assigned to each habitat to represent the difficulty in creating or restoring that habitat. The delivery risk multipliers are taken from the Biodiversity Metric 3.1 Technical Supplement:

- Very High = 0.1
- High = 0.33
- Medium = 0.67
- Low = 1

Time to target condition scores were assigned based on the Biodiversity Metric 3.1 Technical Supplement[27], which provides tables with estimated time to target for habitat creating and enhancement and uses the same multipliers. The delay to creation and/or enhancement is added on to the time to target found in the Technical Supplement to account for the Proposed Development timeline.

Table 6: Time To Target Condition Multiplier

Time to Target Condition			
Time (years)	Multiplier	Time (years)	Multiplier
0	1	17	0.546
1	0.965	18	0.527
2	0.931	19	0.508
3	0.899	20	0.490

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[27] Natural England. 2022. Biodiversity Metric 3.1 Technical Supplement. [Online] Available at: Archive Site for Legacy Biodiversity Metrics

4	0.867	21	0.473
5	0.837	22	0.457
6	0.808	23	0.441
7	0.779	24	0.425
8	0.752	25	0.410
9	0.726	26	0.396
10	0.700	27	0.382
11	0.676	28	0.369
12	0.652	29	0.356
13	0.629	30	0.343
14	0.607	31	0.331
15	0.586	32+	0.320
16	0.566		

Off-site habitat creation and enhancement is only required when all options for on-site BNG requirements have been considered. If no on-site opportunities can be identified, off-site habitat creation and enhancement will be undertaken. The Toolkit has a spatial risk multiplier to encourage off-site compensation work to occur in the locale of the Proposed Development, with reference to Local Planning Authority (LPA) or National Park Authority boundary. The Spatial Risk Categories are displayed below:

- Habitat provides compensation within the local LPA area = 1
- Habitat provides compensation outwith the local LPA but within neighbouring LPA = 0.75
- Habitat provides compensation outwith the local LPA and neighbouring LPAs = 0.5

The same Toolkit was used to calculate the net biodiversity change between the baseline habitats and the post-development habitats.

An impact to a habitat which is reversible and can return to same extent and ecological condition or better within two years of the initial impact, can be considered a temporary impact. Temporary impacts have not been included in the Toolkit calculations as there are no permanent adverse impacts.

Retained habitat are also excluded from the Toolkit as there is no recordable impact.

The Toolkit assesses both the area and linear habitat separately within the same Toolkit. The Toolkit produces a Biodiversity Unit value for the three categories of habitat type: Area Biodiversity Units (BU), Linear Hedgerow Biodiversity Units (H BU) and Linear Watercourse Biodiversity Units (W BU). These units are not interchangeable.

Appendix B Assigned UKHab Habitat Distinctiveness

Cropland - Cereal Crops	Low
Cropland - Horticulture	Low
Cropland - Intensive orchards	Low
Cropland - Non-cereal crops	Low
Cropland - Temporary grass and clover leys	Low
Cropland - Traditional orchards	High
Grassland - Bracken	Medium
Grassland - Lowland calcareous grassland	High
Grassland - Lowland dry acid grassland	High
Grassland - Lowland meadows	High
Grassland - Modified grassland	Low
Grassland - Other lowland acid grassland	Low
Grassland - Other neutral grassland	High
Grassland - Tall herb communities	High
Grassland - Upland acid grassland	High
Grassland - Upland calcareous grassland	High
Grassland - Upland hay meadows	High
Heathland and shrub - Blackthorn scrub	Low
Heathland and shrub - Bramble scrub	Low
Sparsely vegetated land - Limestone pavement	High
Sparsely vegetated land - Maritime cliff and slopes	High
Sparsely vegetated land - Other inland rock and scree	Medium
Urban - Allotments	Low
Urban - Artificial lake or pond	Low
Urban - Artificial unvegetated, unsealed surface	Very Low
Urban - Bioswale	Low
Urban - Brown roof	Low
Urban - Built linear features	Very Low
Urban - Cemeteries and churchyards	High
Urban - Developed land; sealed surface	Very Low
Urban - Extensive green roof	Low
Urban - Façade-bound green wall	Low
Urban - Ground based green wall	Low
Urban - Ground level planters	Low
Urban - Intensive green roof	Low

Heathland and shrub - Bramble scrub	Low
Heathland and shrub - Gorse scrub	Low
Heathland and shrub - Hawthorn scrub	Low
Heathland and shrub - Hazel scrub	Low
Heathland and shrub - Lowland Heathland	High
Heathland and shrub - Mixed scrub	Low
Heathland and shrub - Mountain heaths and willow scrub	High
Heathland and shrub - Rhododendron scrub	Low
Heathland and shrub - Sea buckthorn scrub	Low
Heathland and shrub - Upland Heathland	High
Rivers and Lakes - Aquifer fed naturally fluctuating water bodies	High
Rivers and Lakes - Eutrophic standing waters	High
Rivers and Lakes - Mesotrophic lakes	High
Rivers and Lakes - Natural lake or pond	High
Rivers and Lakes - Oligotrophic and dystrophic lakes	High
Rivers and Lakes - Ponds (Priority habitat)	High
Rivers and Lakes - Reservoirs	High
Sparsely vegetated land - Calaminarian grasslands	High
Sparsely vegetated land – Ephemeral	Low
Sparsely vegetated land - Inland rock outcrop and scree habitats	High
Urban - Suburban/mosaic of developed/natural surface	Low
Urban - Un-vegetated garden	Very Low
Urban - Vacant/derelict land/bare ground	Low
Native Hedgerow with trees	Low
Native Hedgerow	Low
Hedge Ornamental Non-Native	Very Low
Line of Trees (Ecologically Valuable) - with Bank or Ditch	Medium
Line of Trees (Ecologically Valuable)	Medium
Line of Trees - Associated with bank or ditch	Low
Line of Trees	Low
Urban - Vegetated garden	Low
Urban – Woodland	Medium
Wetland - Aquatic marginal vegetation	Medium
Wetland - Blanket bog	High
Wetland - Lowland fens	High

Urban - Introduced shrub	Low
Urban - Natural sports pitches	Low
Urban - Open Mosaic Habitats on Previously Developed Land	High
Urban - Orchard	Low
Urban - Rain garden	Low
Urban - Sand pit quarry or open cast mine	Low
Urban - Street tree	Low

Wetland - Lowland raised bog	High
Wetland - Other swamps	Medium
Wetland - Purple moor grass and rush pastures	High
Wetland – Reedbeds	Medium
Wetland - Upland flushes, fens and swamps	High
Woodland and forest – Felled	Low
Woodland and forest - Lowland beech and yew woodland	Medium
Woodland and forest - Lowland mixed deciduous woodland	Medium

Woodland and forest - Native pine woodlands	High
Woodland and forest - Upland oakwood	High
Woodland and forest - Wet woodland	High
Woodland and forest - Wood-pasture and parkland	High
Native Species Rich Hedgerow with trees - Associated with bank or ditch	High
Native Species Rich Hedgerow - Associated with bank or ditch	High
Native Species Rich Hedgerow with trees	Medium
Native Species Rich Hedgerow	Medium

Native Hedgerow with trees - Associated with bank or ditch	Medium
Rivers and lakes – Rivers (Priority Habitat; Very High)	Very High
Rivers and lakes – Rivers (Priority Habitat; High)	High
Rivers and lakes – Rivers (Priority Habitat; Medium)	Medium
Rivers and lakes – Other rivers and streams (Very High)	Very High
Rivers and lakes – Other rivers and streams (High)	High
Rivers and lakes – Other rivers and streams (Medium)	Medium
Rivers and lakes – Other rivers and streams (Low)	Low

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Appendix C Good Practice Principles for Biodiversity Net Gain

The Proposed Development has applied the UK good practice principles for BNG[28] below:

Table 7: Good Practice Principles for Biodiversity Net Gain

Principle	Summary of Proposed Development Actions
Apply the mitigation hierarchy	Impacts to notable habitats have been avoided through the design of the Proposed Development. Where habitat losses cannot be avoided, they are minimised. Losses of habitats will be compensated through appropriate off-site BNG delivery.
Avoid losing biodiversity that cannot be offset elsewhere	N/A - There are no irreplaceable habitats within the Site.
Be inclusive and equitable	The Proposed Development has undertaken and responded to consultation during the EIA process. The Proposed Development will identify off-site delivery partners and projects, and work alongside them to deliver the necessary biodiversity improvements to achieve 10% BNG for the Proposed Development.
Address risk	Target conditions of on-site habitats have been carefully assessed, including taking experience of local conditions into account, to ensure an appropriate selection has been made. Published, habitat-specific risk factors have been applied in accordance with guidance.
Make a measurable net gain contribution	The on-site Toolkit fixes the baseline and post-development on-site calculations. A separate Off-Site BNG Toolkit will be prepared once suitable delivery areas are identified. The combined on-site and off-site calculations will demonstrate achievement of at least 10% net gain from the baseline.
Achieve the best outcomes for biodiversity	The proposals are underpinned by sound ecological principles, including local knowledge and experience. Habitats targeted will conform to the principle of 'like for like or better', and consideration will be given to local priorities in developing off-site proposals.
Be additional	Additional off-site projects and partners will be carefully selected to ensure additionality.
Create a net gain legacy	Off-site areas will be managed in the long-term, and would be expected to deliver the range of benefits.
Optimise sustainability	Off-site BNG delivery will balance the needs of stakeholders and the local context.
Be transparent	The proposals will be made publicly available through this BNG report and the EIA documentation.

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[28] CIEEM, CIRIA, IEMA. 2020. C776a. Biodiversity Net Gain: Good Practice Principles for Development, A Practical Guide. [Online] Available at: https://cieem.net/resource/biodiversity-net-gain-good-practice-principles-for-development-a-practical-guide/

Appendix D References

Table E.1 - Scottish and Southern Electricity Networks Documents

Reference	Title
TG-NET-ENV-526	Biodiversity Net Gain Toolkit User Guide (2023)
	Sustainability Strategy (2024)

Table E.2 – Miscellaneous Documents

Title
CIEEM, Construction Industry Research and Information Association (CIRIA) & Institute of Environmental Management and Assessment (IEMA). 2020. C776a. Biodiversity Net Gain: Good Practice Principles for Development, A Practical Guide. [Online] Available at: Biodiversity Net Gain: Good Practice Principles for Development, A Practical Guide. | CIEEM (https://cieem.net/resource/biodiversity-net-gain-good-practice-principles-for-development-a-practical-guide/)
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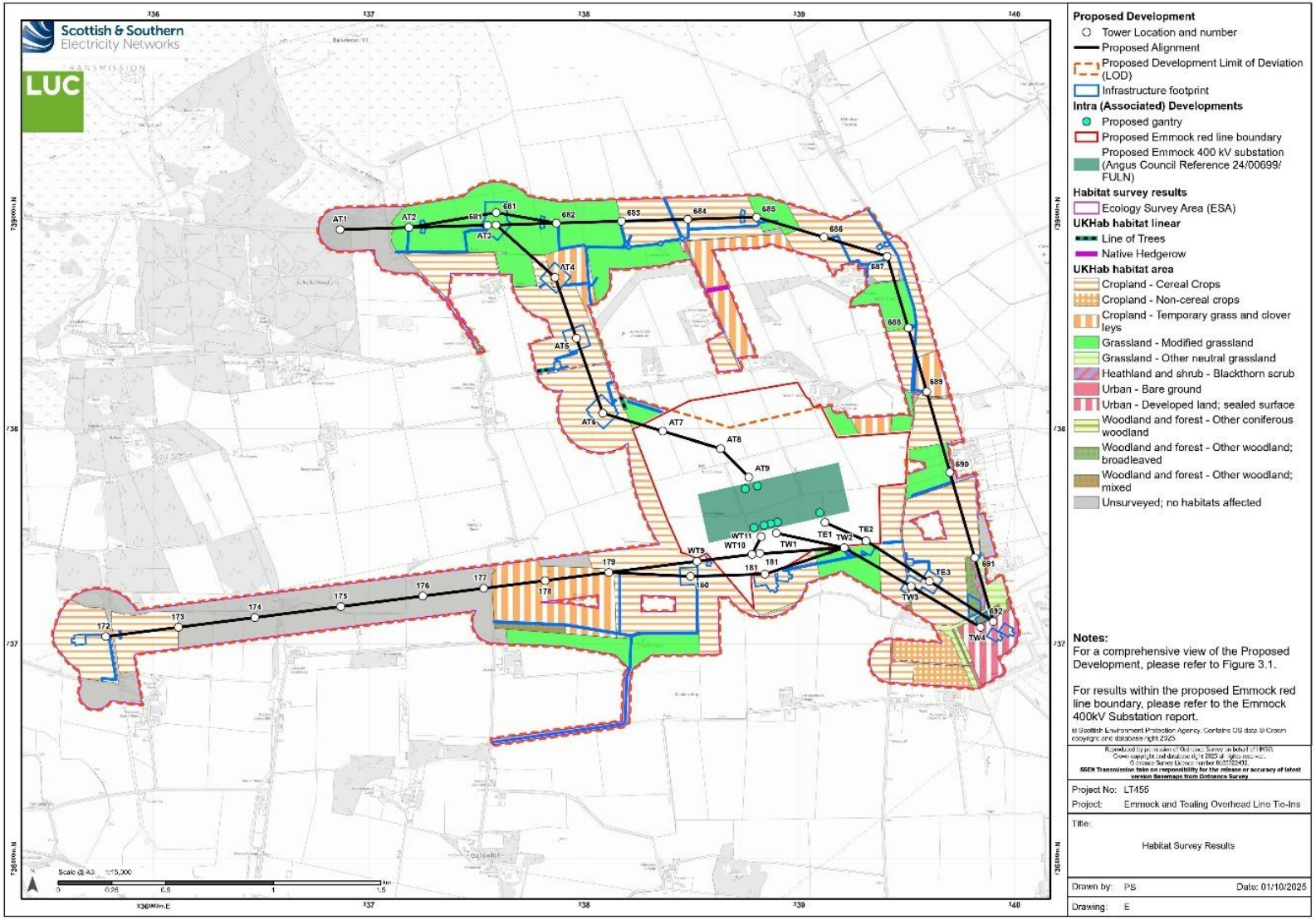
Appendix E Baseline BNG Habitat Map

Figure E: Habitat Survey Area



Appendix F Target Condition Justifications

Table K.1 below provides justification for why the proposed habitat conditions were assigned as per Section 3.2.3 in the main report.

Table K.1: Target Condition Justifications

Habitat (post-development)	Justification for assigned condition
Cropland – Cereal crops	Cropland is recorded as N/A (Agriculture) in the Toolkit.
Cropland – Temporary grass and clover leys	As above.
Grassland – Modified grassland	Standardised target on reversion is Poor (precautionary assumption); also used where woodland clearance areas are set to revert to Modified grassland (lowland context).
Grassland – Other neutral grassland	Dismantled tower wider areas revert to the surrounding habitat mosaic.
Heathland & shrub – Blackthorn scrub	Scrub targets set to the same condition as baseline on reversion.
Urban – Developed land; sealed surface	Recorded as N/A – No biodiversity value in the Toolkit.

Appendix G Revision History

No	Overview of Amendments	Previous Document	Revision	Authorisation
01	New document	n/a	1.00	Richard Baldwin
02				

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