APPENDIX B – BIODIVERSITY NET GAIN ASSESSMENT

Scottish & Southern Electricity Networks
TRANSMISSION

TEM-NET-ENV-XXX
Environmental

Biodiversity Net Gain Assessment Report

Project Name – LT491 Stannergate 400 kV Substation

TEM-NET-ENV-XXX	Biodiversity Net Gain Assessment Report		Applies to
			Transmission ✓
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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 should be read alongside the SSEN Biodiversity Project Toolkit Excel Sheet for the Project Site (hereafter referred to as 'the Toolkit').

This report details the BNG assessment undertaken for a new 132 kilovolt (kV) Network Rail feeder station and a 132kV Gas Insulated Switchgear (GIS) substation, located east of Dundee City Centre, immediately north of East Dock Street, and south of Broughty Ferry Road.

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 and the SSEN Transmission Assessment Methodology & Associated Guidance.
- A prediction of the post development on-site BU following successful implementation of a Landscape & Habitat Management Plan.
- A qualitative assessment against the Biodiversity Net Gain Good Practice Principles; and
- Details of the required habitat creation or enhancements required to achieve biodiversity enhancements. The BNG calculation, subject to the assumptions and limitations set out on this Report, indicates that the Proposed Development will result in an overall -39% loss in area-based BU, for which off-Site measures (the most appropriate being grassland or scrub creation/enhancement) are required to achieve a +10% net gain. Enhancement of retained Other broadleaved Woodland from Poor to Moderate condition within the Site is recommended, however, this alone is not sufficient to achieve a +10% net gain in BU. As such, an additional 1.61 BU will be required through off-Site measures. There are no linear habitats (i.e., hedgerows or watercourses) in the Site, and therefore linear BU are not relevant to the assessment.

This project does not impact any irreplaceable habitats (regarded by SSEN Transmission to be Ancient Woodland (categories 1a & 2a of the Ancient Woodland Inventory (AWI)), ancient or veteran trees, and blanket bog or raised bog in good or moderate condition). It has therefore not been necessary to produce a separate Toolkit for irreplaceable habitat, which SSEN Transmission require when such habitat is impacted.

1 Introduction

1.1 Background of the Project

1.1.1 Scottish and Southern Electricity Networks Transmission (hereafter referred to as SSEN Transmission), operating under licence held by Scottish Hydro Electric Transmission plc, operate and develop the high voltage electricity transmission system in the north of Scotland and remote islands, commissioned AECOM to undertake a Biodiversity Net Gain (BNG) assessment for LT491 Stannergate Substation. SSEN Transmission, hereafter referred to as "the Applicant", propose the development of a substation in a currently disused industrial site in Dundee, hereafter referred to as the "Proposed Development". The purpose of this report is to assess the biodiversity net gains or losses resulting from the impacts of the Proposed Development. This report also includes a qualitative assessment against the BNG principles, presented in **Annex A**.

1.1.2 The Applicant is seeking planning permission from Dundee City Council under the Town and County Planning (Scotland) Act 1997 (as amended) for the Proposed Development. The application will be supported by a Voluntary Environmental Appraisal (EA).

1.2 Site Description

1.2.1 The red line boundary of the Proposed Development (hereafter referred to as "the Site") is shown on the Baseline Habitat Plan in **Annex B**.

1.2.2 The Site is located in the council area of Dundee City Council and is approximately centred at Ordnance Survey (OS) grid reference NO4168230842.

1.2.3 The Site is a disused industrial site, dominated by Developed land - sealed surface (u1b), and Buildings and structures (u1b5) associated with the former use of the Site. A retaining wall separates the Site between the north and south, with the northern part of the Site (formerly a cattle market) comprising the more elevated of the two (hereafter referred to as the 'Upper Section' of the Site). The south of the Site is currently in the ownership of Nynas, and mainly comprises large cylindrical oil storage tanks (hereafter referred to as the 'Lower Section' of the Site). To the east of the Site, across the now overgrown Roodyards Road, is an area currently in use by Scotriders for motorbike training. This area is fringed by Other broadleaved woodland (w1g). Beyond the Site to the west and south are similar industrial areas, with the A92 road immediately to the south and east. The Site is bound to the north by the Broughty Ferry road, beyond which lies existing residential areas.

1.2.4 Areas of Modified grassland (g4) are present in various parcels in the Lower Section of the Site, growing on hardstanding substrates such as crushed stone (Photograph 5). Grassland has developed due to the disuse of the Site, and generally comprise a short sward. Couch *Elymus* sp. was the most abundant grass species with Yorkshire-fog *Holcus lanatus*, brome *Bromus* sp., and oat *Avena* sp., frequently noted, with perennial rye-grass *Lolium perenne* occasional. Although these areas were typically grass dominated, a mixture of forbs were found throughout, including herb-Robert *Geranium robertianum*, purple toadflax L*inaria purpurea*, wood avens *Geum urbanum*, biting stonecrop *Sedum acre*, dandelion *Taraxacum officinale* agg., hawksbit *Leontodon* sp., common poppy *Papaver rhoeas*, geranium *Geranium* sp., field forget-me not *Myosotis arvensis*, common ragwort *Jacobaea vulgaris*, ivy-leaved toadflax *Cymbalaria muralis*, great willow-herb *Epilobium hirsutum*, curled dock *Rumex crispus* and lesser trefoil *Trifolium dubium.* Various mosses were also noted. Additional forbs noted in the Scotriders area at the east of the Site included creeping thistle *Cirsium arvense*, shining crane's-bill *Geranium lucidum*, cleavers *Galium aparine*, field forget-me-not *Myosotis arvensis*, weld *Reseda luteola*, groundsel *Senecio vulgaris* and rosebay willowherb *Chamaenerion angustifolium*.

1.2.5 Areas of Sparsely vegetated urban land (u1f) are present that encroach areas of hardstanding, with a species composition similar to the grassland described above, but with vegetation cover under 50%. This habitat includes a large area of rubble and bricks covered with ivy-leaved toadflax located at the north of the Site. Species recorded include willow-herb sp., red dead-nettle *Lamium purpureum*, cleavers, purple toadflax, white clover *Trifolium repens*, herb-Robert, ivy *Hedera helix*, bramble *Rubus fruticosus* agg., shining crane's-bill, Yorkshire-fog, false oat-grass *Arrhenatherum elatius*, spear thistle *Cirsium vulgare*, barren brome *Anisantha sterilis*, broad-leaved dock *Rumex obtusifolius*, ribwort plantain *Plantago lanceolata,* tutstan *Hypericum androsaemum*, black medick *Medicago lupulina*, forget-me-not *Myosotis* sp. and ragwort. Sycamore *Acer pseudoplatanus* seedlings were noted scattered throughout these areas.

1.2.6 An area of Other broadleaved woodland (w1g) is present at the east of the Site. Canopy trees were noted to be semi-mature, with sycamore and ash *Fraxinus excelsior* the dominant species. Other species occasionally noted in the canopy comprise hawthorn *Crataegus monogyna* and wych elm *Ulmus glabra*. The shrub layer was noted to be patchy, with butterfly-bush *Buddleja davidii* the dominant species. Young oak *Quercus* sp. and bramble were also recorded. Ivy carpets the ground flora in areas, with other species including tutsan, bracken *Pteridium aquilinum*, foxglove *Digitalis purpurea*, giant hogweed *Heracleum mantegazzianum* and wood avens. An open area was noted in the centre of the parcel, where diseased trees had previously been felled, and giant hogweed treated. Otherwise, no woodland management was evident.

1.2.7 A large area of Mixed scrub (h3h) bisects the Site between the Upper Section and the Lower Section, and between the tanks and the Scotriders area to the east. Butterfly-bush generally dominates, although wych elm is also frequent in the Roodyards Road area. Other species occasionally noted comprise bramble, wood avens, and guelder rose *Viburnum opulus*. Some individual trees are present within the scrub, comprising elm *Ulmus* sp. and downy birch *Betula pubescens*.

1.2.8 Small areas of Other standing water (r1g) are present within the Lower Section of the Site, comprising a small square pool with railings covered by duckweed *Lemna* sp., and a permanently wet area between a building and an area of scrub with yellow iris *Iris pseudacorus*, willow *Salix* sp. and common reed *Phragmites australis* (Photograph 12). Areas of hardstanding at the Lower Section of the Site surrounding tanks were flooded with rainwater at the time of survey, likely due to poor drainage. The vast majority of these flooded surfaces lacked vegetation, with small, local patches of bulrush *Typha latifolia.* These areas have been classified as Developed land – sealed surface (u1b).

1.2.9 No Scottish Biodiversity List (SBL)[1] habitats were recorded within the Site. The Dundee Local Biodiversity Action Plan (LBAP)[2] priority habitat Ponds and Pools was recorded within the Site, comprising the small permanent wet areas in the Lower Section of the Site. The flooded areas are not considered to qualify as LBAP priority habitat. The woodland within the Site is of plantation origin and therefore does not qualify as the LBAP priority habitat Semi-natural Broadleaved Woodland.

1.3 Proposed Development Description

1.3.1 Components of the Proposed Development which are subject to the planning permission application consists of:

- New 132 kV GIS Control Building (including staff welfare and maintenance area);
- • Two 132 / 25 kV 25 MVA Traction Transformer buildings to meet Network Rail's energisation requirements;
- Two new 132 / 33 kv 120 MVA Grid Transformer (GSP) buildings;
- Distribution Network Operator (DNO) supply building (subject to a separate planning application);
- Generator building;
- 33 kV distribution compound;
- Photovoltaic (PV) panels;
- 25 kV underground cable;
- New proposed site access from Market Street;
- Onsite access roads and parking bays; and

[1] NatureScot (2020). Available at: https://www.nature.scot/doc/scottish-biodiversity-list

[2] Dundee City Council (2020). Dundee Biodiversity Action Plan 2020- 2030 [Online] available from Biodiversity | Dundee City Council

1.3.2 Adequate security measures such as palisade fencing, security lighting & CCTV.The layout plans, submitted with the application, indicate that themajority of habitats within the Site will be lost to facilitate the Proposed Development. The Upper Section will be used as a construction compound for up to three years. The permanent infrastructure associated with the Proposed Development will be situated within the Lower Section of the Site, with the removal of the majority of habitats in this section to facilitate this. The majority of the woodland at the east of the Site will be retained, with the exception of a small area to facilitate underground cables. The proposed site layout is shown in **Annex C**.

1.4 Scope of Study

1.4.1 This report sets out the results of the BNG assessment and the approach to delivering on SSEN Transmission's BNG commitments for the Proposed Development. This report identifies the baseline biodiversity measured in Biodiversity Units (BU), to achieve positive effects for biodiversity. This report should be read alongside the SSEN Transmission Biodiversity Project Toolkit for the Project Site.

1.5 Policy and Legislation

1.5.1 National Planning Framework 4 (NPF4) requires that significant biodiversity enhancements be provided in addition to any proposed mitigation stating that under Policy 3 'Biodiversity' *"Proposals for local developments will include appropriate measures to conserve, restore and enhance biodiversity, in accordance with national and local guidance. Measures should be proportionate to the nature and scale of development."* Through implementing the recommended measures for habitat enhancement and creation, the Proposed Development will achieve compliance with this aspect of NPF4. Through the use of the SSEN Transmission Biodiversity Project Toolkit, the identification of offsite biodiversity enhancements demonstrates that a net gain in biodiversity can be achieved for the Proposed Development.

1.5.2 In relation to BNG, the Dundee Council LBAP[2] has the objective "*to ensure no net loss of habitat, and where appropriate, increase the distribution and connectivity of all habitats*" in relation to the ecosystems woodlands, water and wetlands, marine and coastal, grasslands and urban green network. This includes the action "*to review any planning applications which have an impact on the biodiversity or geodiversity of Dundee seeking to reduce the amount of negative impacts*", with the outcome that "*All relevant planning applications will take biodiversity into account. Net gain of biodiversity though development is increased*".

2 Methodology

2.1 Area and Surveys

Desk Based Assessment

2.1.1 A desk study to help establish baseline conditions was undertaken. The desk study sought to identify ecological features within the Site that may be affected by its construction and operation. Ecological features searched for included:

- Any designated nature conservation sites, including locally designated sites listed in the Local Development Plan (LDP) or LBAP;
- Priority habitats listed in the LBAP or SBL that might reasonably occur within the Site;
- Woodland included on the Ancient Woodland Inventory (AWI); and
- Records of protected and/or important habitats and species.

2.1.2 The following sources were used for the desk study:

- Dundee BAP[2];
- Dundee LDP[3];
- NatureScot SiteLink webpage[4];
- NatureScot Natural Spaces webpage[5] ;
- National Biodiversity Network (NBN) Atlas Scotland[6];
- Ordnance Survey (OS) 1:25,000 maps and aerial photography[7];
- Scotland's Environment Map[8]; and
- Scottish Environment Protection Agency (SEPA) Water Classification Hub[9].

[3] Dundee City Council (2019). Dundee Local Development Plan 2019. [Online] available from: local_development_plan_2019_for_web.pdf (dundeecity.gov.uk)
[4] Nature Scot. SAC, RAMSAR and SSSIs. [Online] available from: https://sitelink.nature.scot/home
[5] Nature Scot. Natural Spaces webpage. AWI and NWSS for Scotland [Online] available from: https://cagmap.snh.gov.uk/natural-spaces/
[6] NBN Atlas Scotland. Commercially available records of protected species. [Online] available from: https://scotland.nbnatlas.org/
[7] Bing Maps. OS 1:25,000 maps and aerial photography. [Online] available from: https://www.bing.com/maps/
[8] Scotland's Environment Map [Online]. Available at: https://map.environment.gov.scot/sewebmap/
[9] SEPA Water Classification Hub. Watercourse classification data. [Online] available from: https://www.sepa.org.uk/data-visualisation/water-classification-hub/.

Field Assessment

2.1.3 Baseline habitat data were recorded using UK Habitat Classification (UKHab) categories[10]. Phase 1 habitat categories[11] and relevant habitat details (including dominant, characteristic, and notable flora and ecological characteristics, particularly those pertaining to condition) were also recorded. The condition of baseline habitats was assessed in the field by the field surveyor using the condition criteria set out for Defra Biodiversity Metric 3.1[12].

2.1.4 Collection of habitat data was carried out on 16 May 2024 and 17 June 2024 by a suitably experienced AECOM ecologist, using a GPS-enabled tablet running Esri Field Maps loaded with recent aerial photography. The habitat data were refined as necessary using desktop Esri ArcGIS and recent aerial photography, to maximise habitat mapping accuracy.

2.1.5 Relevant attribute data were extracted from Esri ArcGIS, including area/length, habitat category and habitat condition, and entered into the Toolkit. Connectivity and strategic significance were added (see Section 2.2), to enable the Toolkit to calculate baseline BU.

Evidence of Technical Competence

2.1.6 The primary field surveyor was an AECOM Ecologist with over seven years' professional experience. Field surveys were also carried out by an Associate Member of CIEEM with over four years' professional experience. The report was checked by an Associate Member of CIEEM with over 16 years' professional experience as an ecologist with specialism in habitats. The report was verified by a full Member of CIEEM, with over 20 years' professional experience leading BNG assessments across the UK.

2.2 Approach to Biodiversity Net Gain

2.2.1 A full BNG Assessment was undertaken for the Proposed Development. The BNG assessment was completed within the Toolkit following the User Guide (2023). This method has been based on the Natural England Biodiversity Metric 3.1[13], adapted to reflect the requirements of Scottish habitats, to quantify losses and gains of biodiversity. Data were collected on type, area, and condition of the habitat of the Proposed Development, indicating the biodiversity present on-site before work begins. The same Toolkit was used to calculate the biodiversity losses and the units resulting from the proposed habitat creation after works. The outcomes have been used to ensure that biodiversity targets are being met for the Proposed Development.

2.2.2 The Toolkit assesses losses of area and linear habitat separately and produces a Unit score for three categories of habitat: BU, Linear Hedgerow (H) Units and Linear Watercourse (W) Units. There are no hedgerows or watercourses present within the site therefore no linear units have been recorded.

2.3 Limitations and Assumptions

2.3.1 To produce this assessment, certain assumptions have been made:

- Detailed design and landscape information for the Proposed Development was not available at the time of writing. The BNG assessment described below is therefore

based on a 'worst-case scenario', whereby it is assumed that all habitats on-Site will be lost to hardstanding/buildings (including for areas of temporary construction compounds, for which see below) except for the woodland at the east of the Site, which will largely be retained;

- The Upper Section of the Site will be used as a construction compound for up to three years. Vegetation changes have been assumed to be permanently lost; as temporary losses can only apply to habitats which can return to the same type and condition within two years.
- The Upper Section of the Site is unlikely to be retained post-construction. As such, habitat creation/enhancement measures have been assumed to be unavailable in this area;
- The area available for proposed habitat creation/enhancement measures within the Lower Section of the Site is restricted to approximately 0.30 ha of existing broadleaved woodland which will be retained;
- Permanent loss of woodland is assumed where cables are proposed, equating to an area of approximately 0.07 ha. It has been assumed that the remainder of the woodland will be retained, and available for enhancement; and
- The construction period has not been added to the time to target condition in relation to proposed on-Site woodland enhancement within the Toolkit. This is because the woodland will be retained, with no impacts during construction owing to its location outside of the footprint of the proposed infrastructure.

2.3.2 The following minor limitations apply:

- All baseline habitat areas/lengths have been calculated in Esri ArcGIS from the digitised features of the baseline habitat map. Where habitat boundaries coincided with discernible boundaries on aerial imagery available at the time of survey, accuracy is as determined by the accuracy and clarity of the aerial imagery. Otherwise, habitat boundaries are as estimated in the field. Note also that habitats often grade into each other without a sharp boundary, and in these cases best placement of the boundary has been estimated. For these reasons, baseline habitat areas/lengths are approximations only;
- Areas of Other standing water (r1g) are present at baseline. However, there is no specific category within the Toolkit for Other standing water. The nearest habitat type, which has been used, is Urban – Artificial Lake or Pond;

[10] Butcher, B., Carey, P., Edmonds, R., Norton, L. and Treweek, J. (2020). UK Habitat Classification V1.1 http://ukhab.org

[11] Joint Nature Conservation Committee (2010). Handbook for Phase 1 habitat survey – a technique for environmental audit. Joint Nature Conservation Committee, Peterborough.

[12] Natural England (2022). Biodiversity Metric 3.1 - Habitat Condition Assessment Sheets

[13] Natural England (2022). Biodiversity Metric 3.1.

- Some areas of dense scrub were not accessible, however, these habitats could be clearly assessed (including habitat condition assessment) from their edge. This is not a significant limitation and does not impact the conclusions of this assessment;
- Calculations involving habitat areas are rounded to two decimal places in the SSEN Transmission Toolkit, therefore the calculations are to that level of accuracy; and
- Baseline habitats and conditions may change with further elapsed time since the field surveys informing this BNG assessment were completed. However, it is unlikely given the current ownership and management of the Site, and the nature of habitats, that there would be significant changes to baseline habitats for several years at least.

3 Results

3.1 Biodiversity Baseline

3.1.1 The baseline habitats affected by the Proposed Development are shown in the Baseline Habitat Plan (see **Annex B**) and detailed in the Toolkit (see **Annex D**) and are summarised here:

- Developed land; sealed surface[14]: 2.16 ha;
- Modified grassland in Poor condition: 0.46 ha;
- Buildings and structures: 0.40 ha;
- Mixed scrub in Poor condition: 0.34 ha;
- Other standing water in Poor condition[15]: 0.01 ha;
- Sparsely vegetated urban land in Poor condition: 0.07 ha;
- Sparsely vegetated urban land in Moderate condition: 0.02 ha; and
- Other broadleaved woodland in poor condition: 0.36 ha.

[14] Including flooded Developed land; sealed surface in the Lower Section of the Site

[15] Categorised as Urban – Artificial lake or pond in the Toolkit

3.1.2 The baseline area BU are 3.32.

3.1.3 There are no baseline watercourse or hedgerow BUs within the Site.

3.1.4 There are no irreplaceable area-based habitats within the footprint of the Proposed Development.

3.2 Temporary Impacts

3.2.1 Impacts to habitats which are reversible and can return to the same extent and ecological condition within two years of the initial impact, can be considered temporary. However, no temporary impacts have been identified. It has been assumed that all habitats with the Site will be lost to buildings/hardstanding (with the exception of the retained woodland), and therefore all works are considered to have a permanent impact.

3.3 Post-development Biodiversity Units

3.3.1 The post-development BUs (i.e., the BU resulting from the Proposed Development) have been calculated using the difference between the baseline and the impact on the habitat.

3.3.2 The post-development units for area-based BU are 1.20, in the absence of habitat creation and/or enhancement measures (see Section 3.4, where recommendations for these are provided). This results in a -64% net loss in area-based BU. Post-Development habitats are shown in **Annex C.**

3.3.3 There are no linear-based habitats proposed.

3.4 Habitat Creation (Within the Proposed Development Boundary)

3.4.1 Opportunities for enhancement on Site have been identified, and are discussed below:

- An area of Other broadleaved woodland is present at the east of the Site, the majority of which is assumed to be retained for ecological enhancement. The woodland was assessed to be of Poor condition, scoring a total of 22 (out of a possible 39) in the condition criteria set out for Defra Biodiversity Metric 3.1[12]. It is proposed to enhance the woodland from Poor to Moderate condition, with the following management measures recommended to enhance the condition of the woodland:
    - The woodland scored Poor in relation to condition criteria C, invasive non-native plant species[12] (INNS). Treatment and removal of INNS could uplift this indicator from Poor to Good. Butterfly-bush was noted to be the dominant shrub layer species, with giant hogweed also present. Previous treatment of giant hogweed was evident. Continued treatment and removal of INNS would contribute towards improving the condition of the woodland. Regardless, in Scotland the Wildlife and Countryside Act 1981 (WCA) as amended by the Wildlife and Natural Environment (Scotland) Act 2011 (Wane Act) makes it an offence to cause any plant to grow in the wild outside of its native range. As such, INNS treatment should be implemented for the legal implications to

avoid the spread of INNS off-Site (discussed further within Chapter 4 of the EA), in addition to improvement of the woodland condition.

- The woodland scored Moderate in relation to condition criteria D, the number of native tree species present[12]. Canopy trees were dominated by sycamore and ash. Selective felling over time of canopy trees (particularly sycamore) and planting with five or more other native species (e.g. oak *Quercus robur,* birch *Betula* spp., rowan *Sorbus aucuparia*) is recommended to uplift this indicator from Moderate to Good.
- The woodland scored Moderate in relation to condition assessment criteria F, Open space within woodland[12]. An area of open space was noted in the centre of the parcel, where diseased trees had previously been felled and giant hogweed treated. It is recommended that areas of open space are created and maintained within the woodland, to ensure 0-20% of the woodland comprises temporary open space. This would uplift condition assessment Criteria F from Moderate to Good.

- Provided the above management measures are implemented, it is considered that the condition the woodland could be uplifted from Poor (condition assessment score 22/30) to Moderate (condition assessment score 26/39) condition.

3.4.2 Enhancement of the woodland would deliver 0.84 area-based BU. When proposed woodland enhancement measures are included, the overall post-development BU are 2.04. This is not sufficient to achieve a biodiversity gain on Site and results in a -39% net loss in area-based BU.

3.4.3 In the absence of a detailed clearance plan, it is assumed that all habitats within the Site will be lost (with the exception of 0.30 ha of retained woodland). Although an urban site, the Site has been left inactive, and a variety of habitats common of disused sites have developed (such as Modified grassland, Mixed scrub, Sparsely vegetated urban land and Other standing water).

3.4.4 An additional 1.61 area-based BU are required to achieve a +10% gain, above those delivered through the recommended on-Site woodland enhancement. However, no further habitat creation is available on-Site due to its highly constrained nature in an urban setting (refer to **Annex C** and **Annex C**). As such, off-Site measures will be necessary to achieve a +10% gain, for which see Section 3.5.

3.5 Habitat Creation (Off-site)

3.5.1 Off-site habitat creation is only required when all options for on-site biodiversity enhancement provision have been explored. If no on-site opportunities can be identified, off-site habitat creation will be undertaken but kept within the locale of the Proposed Development. Compensation is targeted at delivering net gains that are ecologically equivalent in type and condition to the habitats lost, following the 'like for like or better' principle.

3.5.2 The amount of area-based BU required from off-Site habitat creation to achieve a +10% gain is 1.61.

3.5.3 No location has currently been selected to deliver off-Site biodiversity creation and/or enhancement measures. It is understood that SSEN Transmission are exploring potential off-site projects within the Dundee Council and nearby Angus Council areas[16]. It is therefore not possible to provide specific detail on the type of habitat creation and/or enhancement measures available to achieve +10% gain. However, creation and/or enhancement of the broad habitat types 'Grassland' and 'Heathland and shrub' is recommended to compensate for the loss of these habitat types, which account for the majority of area-based BU lost as a result of the Proposed Development.

3.5.4 An example of how +10% gain could be delivered off-Site (in addition to the proposed on-Site woodland enhancement) is through enhancement of 0.29 ha of Mixed scrub and 0.30 ha of Other neutral grassland from Poor to Moderate condition. However, as detailed previously, without knowing the nature of habitats at possible off-Site habitat creation and/or enhancement sites, it is not possible to provide specific detail on the type of habitat measures available to achieve a +10% gain.

[16] As communicated by SSEN Transmission.

4 Summary

4.1.1 In summary, the baseline value of the Site is 3.32 BU. A total loss of 2.12 BU is predicted, based on a worst-case scenario of all habitats within the Site being lost to the Proposed Development, with the exception of 0.30 ha of Other broadleaved woodland to be retained. In the absence of habitat creation and/or enhancement measures, there is a -64% net loss in area-based BU.

4.1.2 Enhancement of the retained woodland within the Site from Poor to Moderate condition is recommended, which would deliver 0.84 area-based BU, resulting in a -39% net loss in area-based BU. The proposed on-Site habitat enhancement measures have been designed to be achieved within a reasonable timeframe and with reasonable certainty as the outcomes from the Toolkit have been informed by the Natural England Biodiversity Metric 3.1, and are in accordance with local and national guidance. These recommended measures are considered appropriate to the nature and scale of development, given the urban nature of the Site and limited value of the baseline habitats. These enhancements have considered surrounding habitats and strengthening nature-networks, such as improving the biodiversity value of the existing woodland within the Site.

4.1.3 However, woodland enhancement alone is not sufficient to achieve a biodiversity net gain. An additional 1.61 area-based BU are required to achieve a +10% net gain in area-based BU, above those delivered through woodland enhancement. No other habitat creation and/or enhancement measures are available within the Site, owing to its highly constrained nature in an urban setting.

4.1.4 Off-Site habitat creation will be required to achieve a +10% gain in area-based BU. The amount of BU required from off-Site habitat creation to achieve a +10% gain is 1.61 BU. Creation and/or-enhancement of habitats within the broad 'Grassland' and 'Heathland and shrub' habitat categories is recommended to compensate for the loss of these habitats within the Site, which is the main cause of the net loss. SSEN Transmission will seek a suitable site to achieve this 1.61 BU to ensure the project achieves a 10% net gain.

4.2 Summary of Results

Table 1. Summary of biodiversity units

Habitat Type	Baseline Biodiversity Units	Post-Development Biodiversity Units	Change in Biodiversity Units	Change in Biodiversity Units (%)	Biodiversity Units Required Off-site to achieve 10% Net Gain
Area	3.32	2.04 (assuming on-Site habitat enhancement of retained woodland can be achieved)	-1.28	-39%	1.61
Linear (Hedgerows)	0	0	0	0	0
Linear (Watercourses)	0	0	0	0	0

4.3 Biodiversity Outcomes

4.3.1 The outcomes of the proposed habitat works will enhance the existing woodland within the Site from Poor to Moderate condition. However, it is acknowledged that off-Site habitat creation and/or enhancement measures are required to achieve a +10% net gain in area-based BU. Off-Site, it is recommended that habitats within the broad 'Grassland' and 'Heathland and shrub' habitat categories are created and/or enhanced to compensate for the loss of these habitats within the Site, which is the primary factor causing loss of BU. SSEN Transmission will seek to deliver 1.61 BUs offsite.

4.4 Implementing and Monitoring

4.4.1 Biodiversity enhancements will be achieved within the following timeframe: The time to target condition for the Broadleaved woodland enhancement is ten years. An appropriate monitoring and management plan should be developed to ensure this condition is reached. It is recommended that monitoring is undertaken in years 3, 5 and 10, with an appropriate management feedback loop, should the monitoring find the woodland is not on track to achieve the targeted condition.

4.4.2 To ensure positive enhancements are achieved long term, monitoring and maintenance procedures will be implemented by SSEN Transmission, and generally involve:

- All planting required for habitat creation will be carried out according to appropriate standards, including following the instructions provided by the tree or seed supplier; and
- Created habitats will be monitored to ensure correct establishment and the targeted condition is reached, and remedial action taken if growth fails.

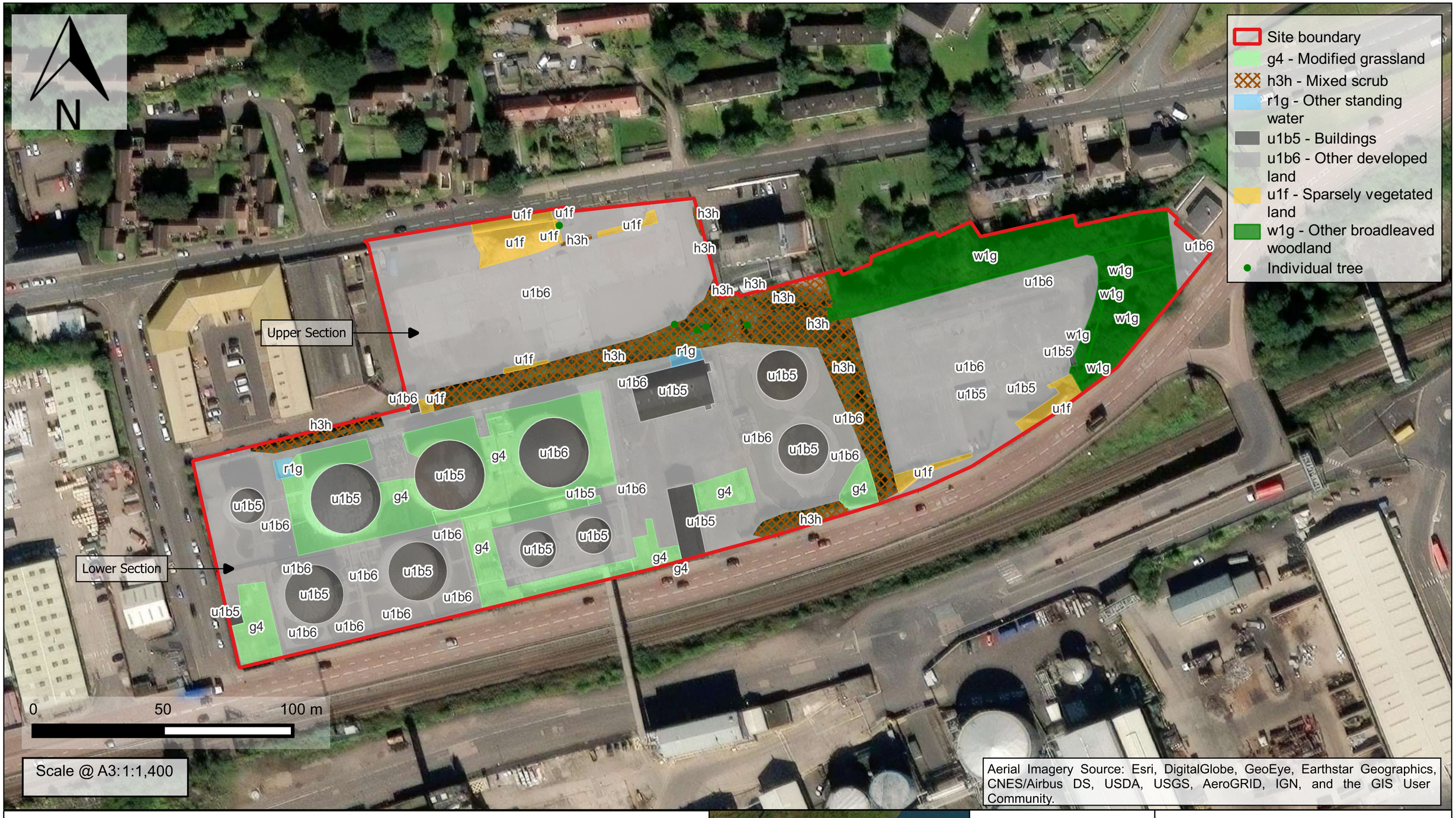
Annex A Good Practice Principles for Biodiversity Net Gain

The Proposed Development has applied the UK good practice principles for biodiversity net gain (CIRIA C776a Biodiversity net gain. Good practice principles for development. Part A: A practical guide) below:

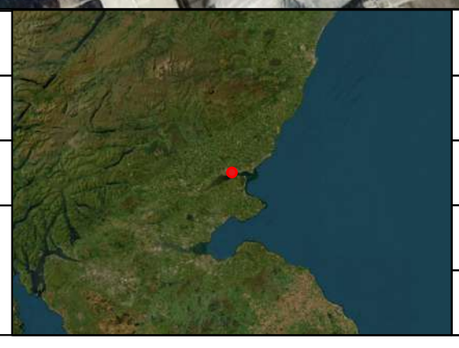
Principle	Summary of project actions
Apply the mitigation hierarchy	The mitigation hierarchy has been applied during this assessment by identifying the best ecological solutions for the Proposed Development. However, it has been determined through field surveyor and desk study that habitats within the Site are neither irreplaceable nor otherwise notable, as a result of their low quality and/or ubiquity. Thus, there is no habitat in the Site that particularly requires to be avoided. Biodiversity losses have been necessarily mitigated to seek a 10% net gain, through the proposed habitat measures (either provided on or off-Site).
Avoid losing biodiversity that cannot be offset elsewhere	There are no irreplaceable habitats within the footprint of the Proposed Development.
Be inclusive and equitable	Wider stakeholder engagement was not necessary for the Proposed Development, however SSEN Transmission and the AECOM project team have been liaised with as necessary.
Address risk	Risk in achieving net gain has been mitigated by selecting target conditions that are reasonable to attain in the light of guidance and professional judgement, based on the conditions within the Site.
Make a measurable net gain contribution	A measurable net gain is achievable for the Proposed Development as documented in this Report and the associated Toolkit, in this case through BU provision using created/enhanced habitats that are reasonable to achieve given the nature and location of the Site. Off-Site BU's will be sought by SSEN Transmission necessary to achieve a net gain for area-based habitats. Provided off-Site measures and the proposed on-Site habitat enhancements are implemented, then a measurable net gain will be achieved.
Achieve the best outcomes for biodiversity	It is proposed to enhance the woodland within the Site, which is currently of low ecological value and of poor quality, given the presence of INNS, and limited botanical diversity. Off-Site measures (to be specified at a later once a suitable site has been identified by SSEN Transmission) will ensure

Principle	Summary of project actions
	loss of area-based habitats within the Site will be compensated for.
Be additional	The recommended enhancement of the woodland is not required for any other purposes other than biodiversity enhancements and is therefore considered to be additional.
Create a net gain legacy	The woodland enhancement on-Site and off-Site measures can be expected to persist in the long-term and thus represent a net gain legacy.
Optimise sustainability	This principle has been applied throughout this assessment, but also across the wider project (i.e. deliverables beyond BNG).
Be transparent	Particular effort has been made to adopt a precautionary and transparent approach when assessing the impacts of the Proposed Development upon the baseline. An example of this is how it has been assumed that all habitats within the Site (with the exception of the retained woodland) will be lost. This BNG report will be submitted as part of the planning application and will therefore be publicly available.

Annex B Baseline Habitat Plan



Title:	Baseline Habitats
Project:	LT491 Dundee Network Rail Substation
Figure No.:	Annex B
Client:	SSEN Transmission



Project No.:	60727222
Date:	March 2025
Drawn By:	SM
Checked By:	JH
Approved By:	SK

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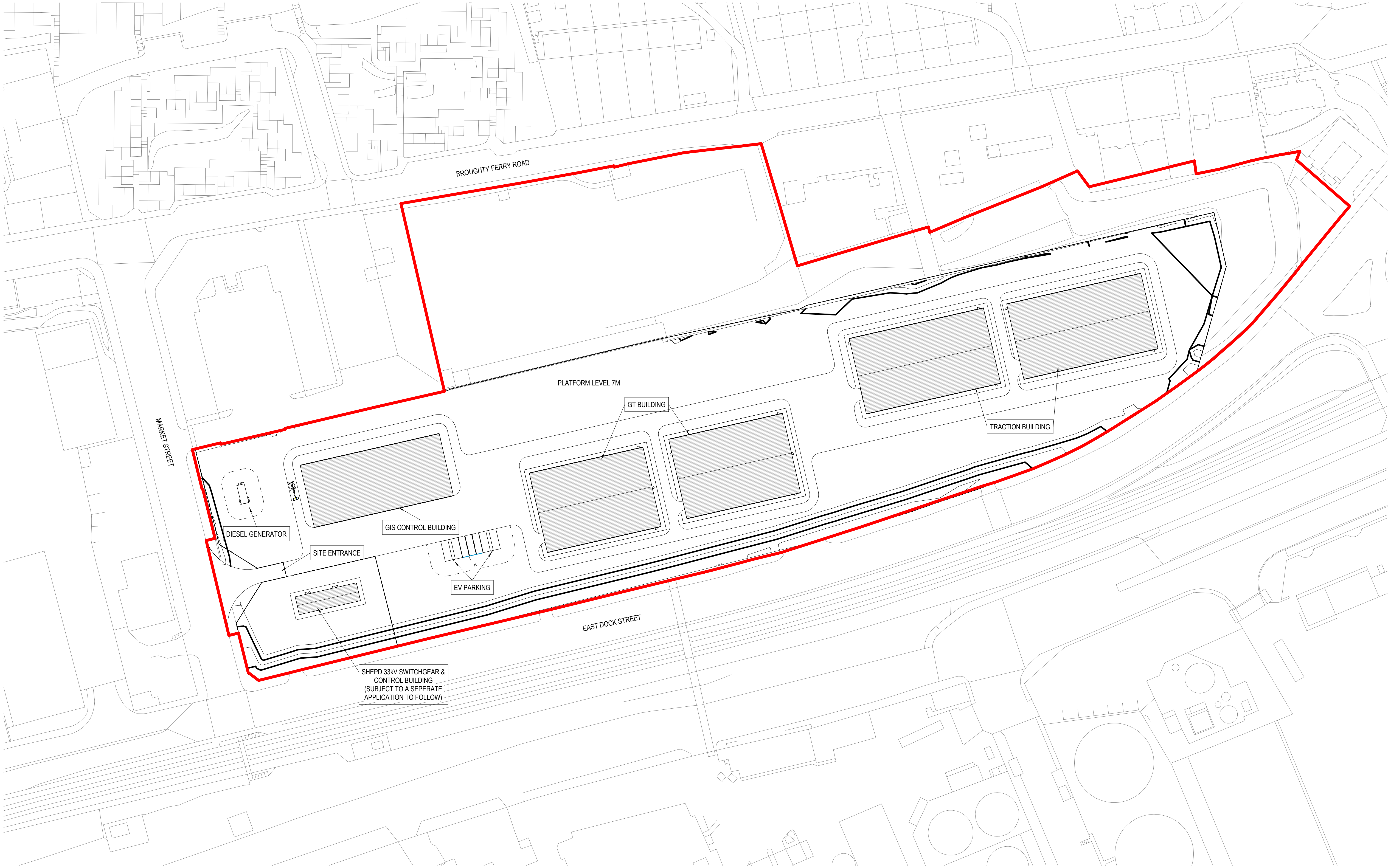
Tel: +44 131 301 8600

Annex C Proposed Site Layout

A0



1 PROPOSED SITE PLAN LAYOUT
1 : 500

SCALE 1:500
0 10m 20m 30m 40m 50m

SITE LOCATION PLAN
SCALE: N/A

NOTES:-

1. ALL DIMENSIONS GIVEN IN MILLIMETERS (mm) UNLESS NOTED OTHERWISE.

KEY
RED LINE BOUNDARY

FOR PLANNING

OS MAP - NO43SW

REV:	DATE:	DRWN:	CHKD:	APPD:	DESCRIPTION:
00	16.05.25	MS	CG	PF	APPROVED FOR FIRST ISSUE

STATUS: FOR PLANNING

CONTRACTOR:

INSERT CONTRACTOR LOGO HERE

Scottish & Southern Electricity Networks
TRANSMISSION

PROJECT: NEW 132kV STANNERGATE SUBSTATION

PROJECT NUMBER: LT491 | LOCATION: DUNDEE

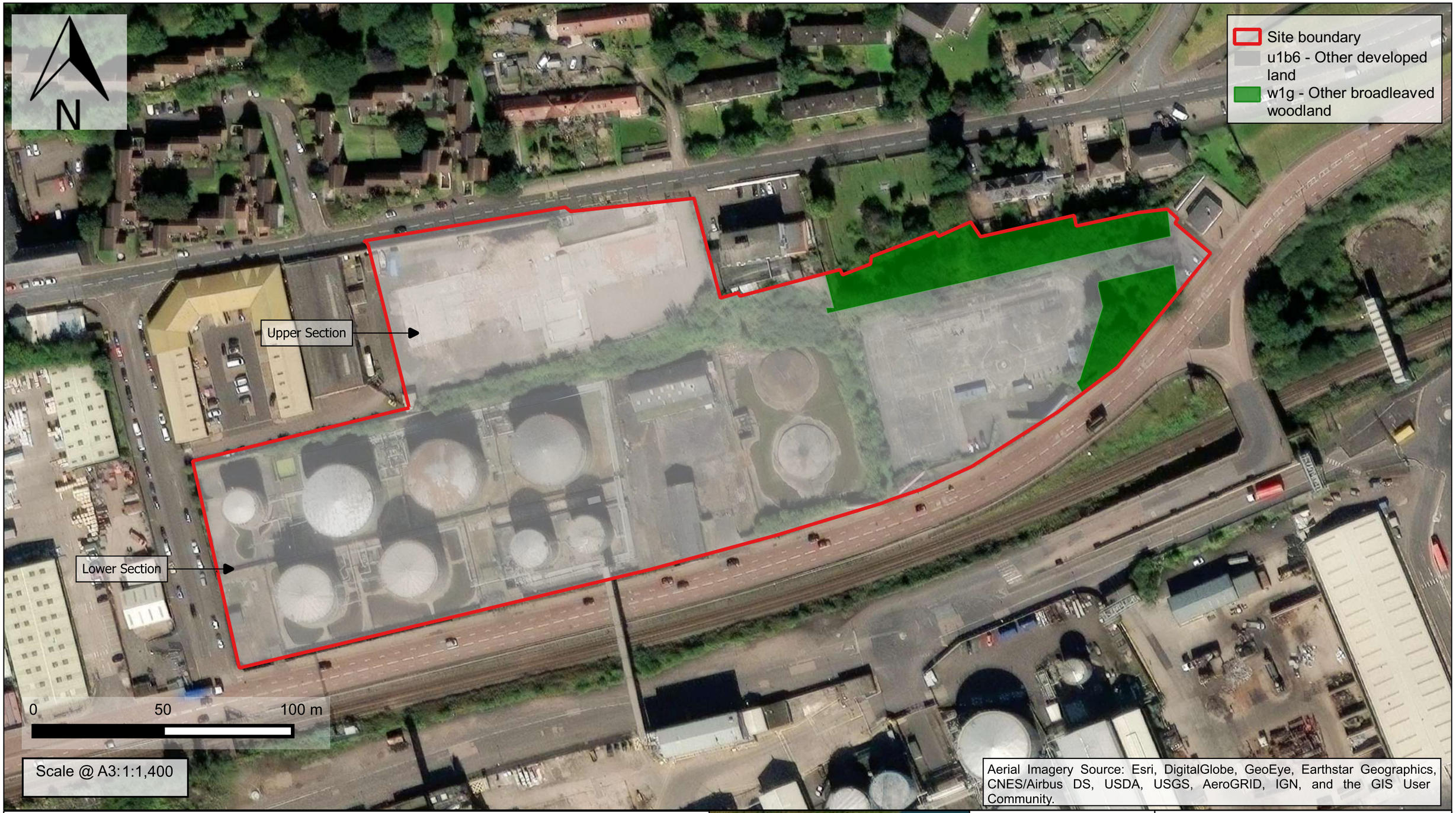
TITLE: STANNERGATE 132/33kV GIS SUBSTATION
PROPOSED SITE PLAN LAYOUT

DRAWN BY: MS	ENG CHECK: CG
DESIGNER: SSENT	COORDINATION:
SCALE: 1 : 500 @A0	APPROVED: PF
DATE OF FIRST ISSUE: 16.05.25	SECURITY: INTERNAL

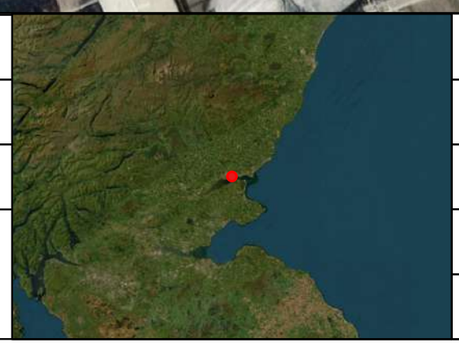
ORIGINATOR DRAWING NUMBER: LT491-STNG-0802-DR-0004
SHEET No: 01
CLIENT DRAWING NUMBER:
REV No: 00

Autodesk Docs://STANNERGATE/LT491-XXXX-1104-M3-0001.rvt

Appendix C Post-Development Habitats



Title:	Post-Development Habitats
Project:	LT491 Dundee Network Rail Substation
Figure No.:	Annex D
Client:	SSEN Transmission



Project No.:	60727222
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Annex D SSEN Transmission Toolkit Calculation

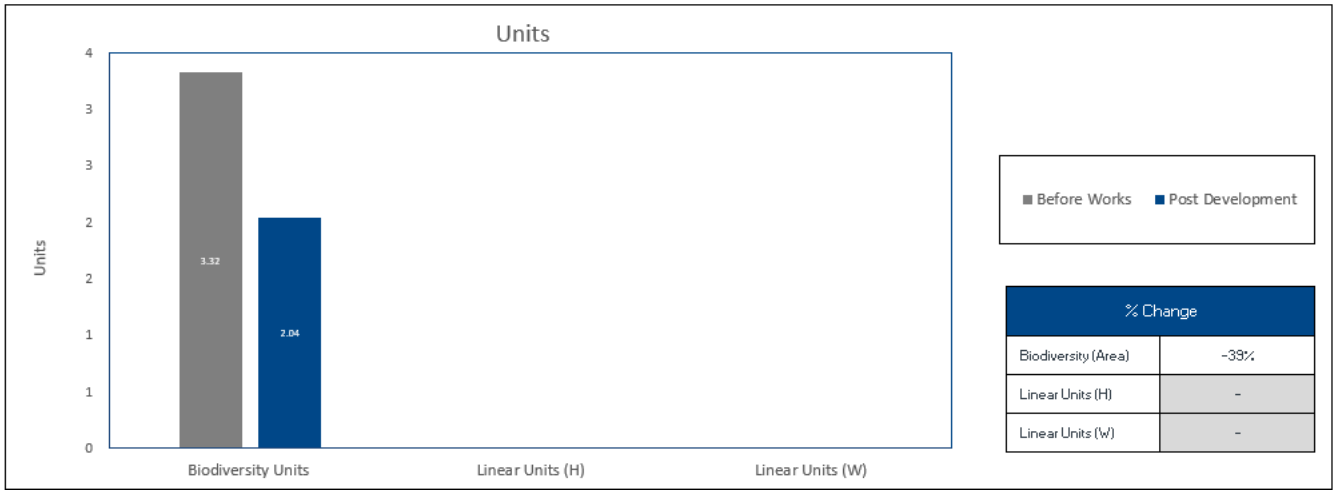
Shown below for the Site is the final output of the Toolkit. This output accounts for the proposed on-Site habitat enhancement measures set out in this Report. Note that the % change in linear units (hedgerows and watercourses) is not shown below because there are no linear habitats within the Site.

Biodiversity Project Toolkit

Scottish & Southern Electricity Networks

Summary outputs

Review the automatically updated biodiversity unit and linear habitat (hedgerow (H) and water courses (W)) results graphs to help the optioneering process and site selection.



% Change	
Biodiversity (Area)	-39%
Linear Units (H)	-
Linear Units (W)	-

Before Works	Units
Biodiversity (Area)	3.32
Linear Units (H)	0.00
Linear Units (W)	0.00

Post Development	Units
Biodiversity (Area)	2.04
Linear Units (H)	0.00
Linear Units (W)	0.00

Net Change	Units
Biodiversity (Area)	-1.28
Linear Units (H)	0.00
Linear Units (W)	0.00