

# **Fanellan Hub 400 kV Substation and Converter Station and Beaully Denny Overhead Line Diversion**

## **Final Biodiversity Net Gain Report**

**July 2025**



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## EXECUTIVE SUMMARY

This Final Biodiversity Net Gain (BNG) assessment report has been prepared by WSP UK Ltd on behalf of Scottish and Southern Electricity Networks Transmission (hereafter SSEN Transmission), operating under licence held by Scottish Hydro Electric Transmission plc., who owns, operates, and develops the high voltage electricity transmission system in the north of Scotland and remote islands.

SSEN Transmission seeks consent under the Town and Country Planning (Scotland) Act 1997 (as amended) to construct and operate a new 400 kV substation and a new High Voltage Direct Current (HVDC) converter station at Beauly, near Inverness (hereafter the 'Fanellan Hub'). The Town and Country Planning (Scotland) Act 1997 (as amended) application (25/00826/FUL) is supported by an Environmental Impact Assessment (EIA).

SSEN Transmission are also seeking consent under section 37 (s37) of the Electricity Act 1989 from the Energy Consents Unit (ECU) to permanently divert and tie into the Fanellan Hub, a section of the existing 400 kilovolt (kV) overhead transmission line (OHL) between Beauly and Denny, for approximately 1.7 kilometres (km) at Fanellan, near Beauly (hereafter referred to as the 'Proposed OHL Development'). The Section 37 of the Electricity Act 1989 application (ECU00005056) is supported by a voluntary Environmental Appraisal (screened as non-EIA by the ECU).

This report describes the Final BNG assessment of both the Fanellan Hub and Proposed OHL Developments to be built within 10 km of the existing Beauly substation, near Inverness. These developments would be located on land southwest of Kilmorack and the River Beauly; approximate National Grid Reference at centre NH 48736 43135 (hereafter collectively referred to as the 'Site').

This report includes:

- A Final BNG assessment of both Fanellan Hub and Proposed OHL Development, following the guidance outlined within SSEN Transmission's BNG Toolkit User Guide and the SSEN Transmission Assessment Methodology & Associated Guidance;
- A qualitative assessment against the BNG Good Practice Principles; and
- Recommendations with regards to BNG.

The Site is located within an area predominantly comprised of modified grassland and agricultural land, interspersed by built features/developed land. Small areas of woodland, scrub, acid grassland and upland heath were mapped within the Site. Linear habitat features that were recorded include non-priority hedgerows and minor watercourses. No irreplaceable habitat nor Designated Sites were recorded within the Site. A summary of the baseline and post development Biodiversity Units (BU) and linear hedgerow units (LU-H) for both the Fanellan Hub and OHL Developments are detailed in Table 1.1 below with a summary of overall BU and LU-H change. No linear watercourse units (LU-W) are included in the baseline or post development.

**Table 1.1: Baseline and Post Development Biodiversity Units per Development**

Development Element	Unit Type	Area/ Length	Baseline	Post Development	Change (% change)	Offsite Change to be secured (% change)
<b>Fanellan Hub</b>	BU	115.67 ha	269.81 BU	328.71 BU	+58.90 (+22%)	N/A
	LU-H	0.11 km	0.25 LU-H	0 LU-H	-0.25 (-100%)	+ 0.28 LU-H (+11%)
<b>Proposed OHL Development</b>	BU	12.71 ha	35.66 BU	17.13 BU	-18.53 (-52%)	+ 22.10 BU (+10%)



For Fanellan Hub, the Baseline biodiversity value is estimated to be 269.81 BU, with the Post Development BU value estimated to be 328.71 BU, a 22 % increase in BU. Therefore, Fanellan Hub is anticipated to achieve the minimum 10 % net gain in BU.

The Baseline biodiversity value of linear habitats is estimated to be 0.25 LU-H, with the Post Development LU-H value estimated to be 0.00, a 100 % decrease in LU-H. Offsite compensation of 0.28 LU-H will need to be secured to achieve a minimum 10% net gain for LU-H.

For the Proposed OHL Development, the Baseline biodiversity value is estimated to be 35.66 BU, with the Post Development biodiversity value estimated to be 17.13 BU, a 52 % decrease in BU. The Proposed OHL Development is not anticipated to achieve the minimum 10 % net gain therefore offsite compensation equating to a minimum of 22.10 BU would need to be secured.

# 1. INTRODUCTION

## 1.1 Background Information

1.1.1 Scottish Hydro Electric Transmission plc, operating and known as Scottish and Southern Electricity Networks Transmission (hereafter 'SSEN Transmission'), seeks consent from Highland Council under the Town and Country Planning (Scotland) Act 1997 (as amended)<sup>1</sup> to construct and operate a new 400 kV substation and a new High Voltage Direct Current (HVDC) converter station at Fanellan Beauly, near Inverness (hereafter the 'Fanellan Hub').

1.1.2 The Fanellan Hub works will comprise the following:

### *Substation*

- A new substation platform, of approximately 305 m x 525 metres (m) in size with a 4.2 m security fence installed around the platform.
- Installation of Air Insulated Switchgear (AIS) switchgear and busbar with a maximum height of 15m, to connect incoming circuits including the HVDC converter station and to facilitate the cable connection from the HVDC converter station.
- Installation of Step-Down Transformers in order to provide the site with Low Voltage Alternating Current (LVAC) supply.
- A new control building of 50 m x 26 m, with a maximum height of 7 m.

### *HVDC Converter Station*

- A new converter station platform, approximately 305 m x 285 m, adjacent to the new Fanellan substation.
- Main HVDC converter station buildings comprising Valve Hall; DC Hall; Reactor Hall; Transformer Hall with adjacent Service; and Control Rooms (with the largest building around 160 m x 80 m x 27.5 m high).
- Smaller ancillary and support buildings adjacent to the main converter station building.
- A connection to the AC site via overground busbar;
- Connection for the underground cable (that will run approximately 80 km from Dundonnell to Fanellan, that forms part of the Western Isles HVDC Link).
- As the site is adjacent to the Fanellan 400 kV substation, both sites will share common access, security arrangements, site drainage infrastructure and landscaping.
- a new access track including a bellmouth from the Fanellan Road to be created for construction activities and retained for operational use(to be shared access with the Proposed OHL Development).

1.1.3 SSEN Transmission are also seeking consent from the Energy Consents Unit (ECU) under *section 37 (s37) of the Electricity Act 1989*<sup>2</sup> to permanently divert, and tie into the Fanellan Hub, a section of the existing 400 kV overhead transmission line (OHL) between Beauly and Denny, for approximately 1.7 km at Fanellan, near Beauly (hereafter referred to as the 'Proposed OHL Development').

1.1.4 A temporary diversion of part of the OHL will also be needed to facilitate construction of the permanent OHL diversion works and Fanellan Hub, and that is included in the reference to 'Proposed OHL Development' throughout this report. The Proposed OHL Development is required to facilitate Fanellan Hub and the connection of it to the existing Beauly-Denny OHL. Deemed planning permission under *section 57(2) of the Town and Country Planning (Scotland) Act 1997* for the diverted OHL and ancillary infrastructure is also sought.

1.1.5 The Town and Country Planning (Scotland) Act 1997 (as amended) application (25/00826/FUL) for Fanellan Hub is supported by an Environmental Impact Assessment (EIA) ; and the Section 37 of the Electricity Act 1989 application (ECU00005056) for Proposed OHL Development is supported by a voluntary Environmental Appraisal (screened as non-EIA by the ECU).

1.1.6 The Proposed OHL Development will comprise the following:

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<sup>1</sup> Town and Country Planning Act (1997). Available at: <https://www.legislation.gov.uk/ukpga/1997/8/contents> [Accessed February 2025]

<sup>2</sup> 37 (s37) of the Electricity Act 1989. Available at: <https://www.legislation.gov.uk/ukpga/1989/29/section/37> [Accessed February 2025]

- Permanent diversion of the OHL creating approximately 1.7 km of new 400 kV OHL supported by steel lattice towers, including three new angled tension towers, two new terminal towers and one new suspension tower.
- Construction of a temporary diversion using steel lattice towers to allow for construction of both the new towers and the proposed Fanellan substation (the temporary diversion is likely to be in place longer than six months).
- The removal of a section of the existing Beauly-Denny 400 kV OHL, including four existing suspension towers, two of which will be replaced with two of the aforementioned new angle towers.
- Upgrade of an existing access track and addition of new access tracks for construction purposes and one new permanent access track. There will also be shared use of the access tracks included in the Proposed Substation planning application (25/00826/FUL)

- 1.1.7 The location of Fanellan Hub and Proposed OHL Development (hereafter referred to collectively as the 'Site' and shown on **Appendix A Figure 1.1: Site Location Plan** and **Figure 1.2 Site Location Plan**. The Site would be located on land southwest of Kilmorack and the River Beauly; approximate National Grid Reference at centre NH 48736 43135.
- 1.1.8 The layout of Fanellan Hub is shown on **Appendix A Figure 3.1 Proposed Development** and the layout of the Proposed OHL Development is shown on **Appendix A Figure 2.2 Project Design**. For full details of the Fanellan Hub, please refer to the Fanellan Hub Environmental Impact Assessment (EIA)<sup>3</sup>. For details of the Proposed OHL Development, please refer to the Fanellan Hub OHL Diversion Environmental Appraisal (EA)<sup>4</sup>.
- 1.1.9 The combined Fanellan Hub and Proposed OHL Developments also include the following ancillary works: drainage and flood design, oil pollution control, lighting, security fencing, construction and permanent access, earthworks (including landscaping), enabling works, site clearance and demolitions, construction compounds and laydown areas, storage compounds, access and earthworks (including landscaping).

It is anticipated that construction of the project would take approximately three years (though the Proposed OHL Development will be shorter in duration). Detailed programming of the works is still to be confirmed.

Construction phase losses to the baseline habitat include: temporary access tracks, temporary construction compounds, temporary laydown areas, and material and soil stockpile areas (See Limitations and Assumptions Section). As these will not be reinstated within two years of the initial impact they cannot be considered temporary impacts, as such they have been assessed as lost permanently and then reinstated within three years in the toolkit.

## 1.2 Scope of Study

- 1.2.1 WSP was commissioned by SSEN Transmission to undertake a BNG assessment to quantify the biodiversity value of the Site and the predicted post construction biodiversity value of the Site. The assessment has been split into the two development elements - the Fanellan Hub and the Proposed OHL Development. The assessment includes areas with permanent and temporary impacts only (hereafter defined as the BNG Assessment Boundary). The impacts associated with the Substation only will hereafter be referred to as Fanellan Hub BNG Assessment Area and impacts from the OHL will be hereafter referred to as Proposed OHL Development BNG Assessment Area. Any retained habitats are excluded from the assessment.
- 1.2.2 The BNG assessment was undertaken in line with SSEN Transmission's Biodiversity Net Gain Toolkit Guide<sup>5</sup>. The assessment was based upon the findings of UK Habitat Classification ('UKHab') surveys, which were undertaken in December 2022 to inform the Fanellan Hub Detailed Site Selection Stage and updated in April 2024. UKHab surveys of the permanent access track located to the west of the OHL Development were undertaken in June 2025. Habitat Condition Assessment (HCA) data using the system presented in Natural England (NE) Biodiversity Metric V3.1<sup>6</sup> was gathered during the Site surveys with full details of habitat baseline data provided in the

<sup>3</sup> SSEN (2025) Fanellan Hub Environmental Impact Assessment Volume 2, Chapter 3: Description of the Proposed Development

<sup>4</sup> SSEN Transmission (2025). Beauly- Denny Overhead Line Diversion Environmental Appraisal

<sup>5</sup> SSEN Transmission (2022), Biodiversity Net Gain Toolkit User Guide. SSEN, Perth.

<sup>6</sup> Stephen Panks A, Nick White A, Amanda Newsome A, Mungo Nash A, Jack Potter A, Matt Heydon A, Edward Mayhew A, Maria Alvarez A, Trudy Russell A, Clare Cashon A, Finn Goddard A, Sarah J. Scott B, Max Heaver C, Sarah H. Scott C, Jo Treweek D, Bill Butcher E and Dave Stone A 2022. Biodiversity metric 3.1: Auditing and accounting for biodiversity – User Guide. Natural England.

Fanellan Hub EIA Volume 4, Technical Appendix 9.1: Habitats Baseline. The biodiversity baseline value for the Project has been quantified using the SSEN Transmission's Biodiversity Site Project Toolkit (V3.0)<sup>7</sup> (herein referred to as the "toolkit(s)").

- 1.2.3 Recommendations are provided in line with the Construction Industry Research and Information Association (CIRIA), Chartered Institute of Ecology and Environmental Management (CIEEM) and Institute of Environmental Management and Assessment (IEMA) BNG Good Practice Principles<sup>8</sup> (hereafter referred to as 'Good Practice Principles') and other guidance<sup>9</sup>.

### 1.3 Policy and Legislation

- 1.3.1 All councils have a duty under the *Nature Conservation (Scotland) Act 2004*<sup>10</sup> to further the conservation of biodiversity and to report back on their biodiversity targets. The *Planning (Scotland) Act 2019*<sup>11</sup> requires the National Planning Framework 4 (NPF4)<sup>12</sup> to protect biodiversity from development, reverse biodiversity loss, deliver positive effects from development and strengthen nature networks. Policy 3 of NPF4 states:

*"Development proposals for national or major development, or for development that requires an Environmental Impact Assessment will only be supported where it can be **demonstrated that the proposal will conserve, restore and enhance biodiversity**, including nature networks so 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**."*

- 1.3.2 SSEN Transmission use their BNG approach as a valid method to demonstrate positive effects for biodiversity via NPF4.

- 1.3.3 *Highland Nature Biodiversity Action Plan 2021 to 2026*<sup>13</sup> sets the requirement for biodiversity enhancements and compensation; see Action 1 on Planning and development decisions providing biodiversity protection:

*"Commitment 1.1: The Highland Council will continue to develop Local Development Plans and policies that recognise the importance of biodiversity in line with the new Planning (Scotland) Act 2019 and the new National Planning Framework (NPF4) (...) and move towards implementation of a biodiversity net gain system for new development when the Environment Bill becomes law."*

*Commitment 1.3: Land managers have development plans that ensure the retention and creation of habitat that is good for nature. They must achieve an overall 'No Net Loss' on new infrastructure and achieve biodiversity net gain on projects gaining consent in 2025 onwards."*

### 1.4 SSEN Transmission's Biodiversity Ambition

- 1.4.1 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

<sup>7</sup> SSEN Transmission (2022), Biodiversity Project Toolkit V3.0. SSEN, Perth.

<sup>8</sup>CIEEM, CIRIA, IEMA (2016). Biodiversity Net Gain – Good practice principles for development. Available: [Biodiversity Net Gain: Good Practice Principles for Development](#). | CIEEM [Accessed: March 2025].

<sup>9</sup>CIEEM, CIRIA, IEMA (2019) Biodiversity Net Gain – Good practice principles for development. A Practical Guide.

Available: <http://cieem.net/resource/biodiversity-net-gain-good-practice-principles-for-development-a-practical-guide/> [Accessed: January 2025]

<sup>10</sup> Nature Conservation (Scotland) Act 2004 <https://www.legislation.gov.uk/asp/2004/6/contents> [Accessed March 2025]

<sup>11</sup> Planning (Scotland) Act 2019 <https://www.legislation.gov.uk/asp/2019/13/contents/enacted> [Accessed March 2025]

<sup>12</sup> National Planning Framework 4: Revised Draft. Available: <https://www.gov.scot/binaries/content/documents/govscot/publications/advice-and-guidance/2022/11/national-planning-framework-4-revised-draft/documents/national-planning-framework-4-revised-draft/national-planning-framework-4-revised-draft/govscot%3Adocument/national-planning-framework-4-revised-draft.pdf>

<sup>13</sup> Highland Council (2021). Highland Nature Local Biodiversity Action Plan 2021 to 2026. Available at : [https://www.highland.gov.uk/downloads/download/2260/highland\\_nature\\_biodiversity\\_action\\_plan\\_2021\\_to\\_2026](https://www.highland.gov.uk/downloads/download/2260/highland_nature_biodiversity_action_plan_2021_to_2026) [accessed March 2025]

commitments within its Sustainability Strategy<sup>14</sup> (2024) to deliver 10% Biodiversity Net Gain and leave a positive legacy for nature on all projects gaining consent.

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<sup>14</sup> SSEN Transmission. 2024. *Sustainability Strategy*. [Online] Available at: <https://www.ssen-transmission.co.uk/about-us/sustainability/sustainability-strategy/>

## 2. METHODOLOGY

- 2.1.1 A summary of the BNG assessment methodology and specific data sources, assessment limitations and assumptions are provided in this methodology section.

### 2.2 Desk Study

- 2.2.1 Freely downloadable datasets were searched for information on statutory and non-statutory designated sites, to determine their presence within 2 km of the Development. The search results were restricted to those designated sites with qualifying ecological/biological interest (i.e. not solely geological). Designated sites of interest are as follows:
- Local Nature Conservation Sites (LNCS);
  - Local Nature Reserves (LNR);
  - National Nature Reserves (NNR);
  - Sites of Special Scientific Interest (SSSI);
  - Special Areas of Conservation (SAC);
  - Special Protection Areas (SPA); and
  - Ramsar sites.
- 2.2.2 Qualifying features of the designated sites were obtained from the NatureScot Site Link<sup>15</sup>. Where measurements are presented in the findings, these provide the distance of the designated site from the closest point of the Draft Development.
- 2.2.3 Publicly available Native Woodland Survey of Scotland<sup>16</sup> data were reviewed to identify the presence of Ancient Woodland within 1 km of the Proposed Substation and OHL Developments. Also, 1<sup>st</sup> Edition maps (1843-1882) were reviewed on Past Map<sup>17</sup>. The Native Woodland Survey of Scotland<sup>18</sup> was further examined to acquire details on woodland habitat composition and connectivity.
- 2.2.4 The Highland Council Local Development Plan<sup>19</sup> and Highland Nature Local Biodiversity Action Plan<sup>20</sup> was obtained to assess the strategic significance scores, these have been assigned as follows, based on habitats of importance listed within the local Plans:
- wetland, woodland (except conifer plantation), acid grassland, neutral grassland, hedgerows and upland heathland were assigned high strategic significance;
  - all other habitats which are not formally identified but ecologically desirable have medium strategic significance including scrub; and
  - habitats which are neither formally identified nor ecologically desirable such as urban, cropland, and modified grassland, coniferous plantation woodland have low strategic significance; coniferous plantation woodland has also been assigned low strategic significance due to its limited biodiversity value.

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<sup>15</sup> NatureScot (online). Site Link. Available: <https://sitelink.nature.scot/map> [Accessed March 2025]

<sup>16</sup> Forestry.Gov (2021). Native Woodlands Survey Scotland. Available: <https://forestry.gov.scot/forests-environment/biodiversity/native-woodlands/native-woodland-survey-of-scotland-nwss> [Accessed: March 2025].

<sup>17</sup> Past Map. 1st Edition maps (1843-1882). Available: <https://pastmap.org.uk/map> [Accessed: March 2025].

<sup>18</sup> Scottish Forestry - Native Woodland Survey of Scotland [Accessed: March 2025].

<sup>19</sup> The Highland Council (2012) Highland Wide Local Development Plan Available: [https://www.highland.gov.uk/info/178/development\\_plans/199/highland-wide\\_local\\_development\\_plan](https://www.highland.gov.uk/info/178/development_plans/199/highland-wide_local_development_plan). [Accessed: March 2025]

<sup>20</sup> Highland Environment Forum (2021) Highland Nature: Biodiversity Action Plan 2021-2026. Available: Highland Nature: Biodiversity Action Plan 2021 – 2026 – Highland Environment Forum [Accessed March 2025]

## 2.3 UK Habitat Classification & Habitat Condition Assessment

- 2.3.1 A UK Habitat Classification (UKHab) and Habitat Condition Assessment (HCA) survey of the Site was undertaken in December 2022 and updated following site selection in April 2024. Survey of the proposed access track areas to the west of the Proposed OHL Development not previously covered by survey buffers, were surveyed in June 2025.
- 2.3.2 Surveys covered the Fanellan Hub and OHL Developments planning application boundary, plus a buffer of up to 250 m. All habitats were assigned UKHab Primary Habitats in line with UKHab Classification User Manual (Version 1.1)<sup>21</sup>. Full UKHab methodology and survey data are reported separately in Fanellan Hub EIA Volume 4, Technical Appendix 9.1: Habitats Baseline<sup>22</sup> and EA Report<sup>4</sup> for the Proposed OHL Development.
- 2.3.3 Habitat Condition Assessment (HCA) survey was conducted concurrently with UKHab surveys. HCA data for each area-based habitat or linear feature were recorded in the field using the system presented in Natural England (NE) Biodiversity Metric V3.0<sup>23</sup>.
- 2.3.4 All habitat mapping was undertaken in Arc Map Version 10.8.2.
- Surveys were led by a WSP ecologist identified as capable in conducting UKHab and HCA surveys in similar habitats<sup>24</sup>.

## 2.4 Biodiversity Calculations

- 2.4.1 The biodiversity values of the habitats were quantified in terms of area-based Biodiversity Units (BU) and Linear Hedgerow Units (LU-H). The calculations were completed using the toolkit, following the methodology outlined in the SSEN Transmission BNG Toolkit User Guide<sup>25</sup> with data obtained through the desk-based review and UKHab and HCA survey to determine condition and strategic significance. The toolkit auto-populates habitat distinctiveness based on the SSEN Transmission's Guidance document.
- 2.4.2 Difficulty and time to target condition (TTTC) values have been assigned as per the values given in Natural England Biodiversity Metric 3.1 Technical Supplement<sup>6</sup> with a delay of three years added to account for the indicative construction period. (See Section 2.6: Limitations and Assumptions). The methodology used for calculating strategic significance follows the SSEN Transmission Guidance.
- Connectivity followed 2019 Natural England Guidance<sup>26</sup> meaning all habitats of high distinctiveness were assumed to be of moderate connectivity; and all others assumed to be low.
- 2.4.3 A BNG Study Area has been defined for the biodiversity calculations as those areas of habitat which are to be impacted as a result of the Fanellan Hub and Proposed OHL Development. A temporary impact is a loss or deterioration of a habitat that can be reinstated to its baseline habitat types and condition, or better, within 2 years of the initial impact. There are no temporary impacts as a result of the development. Retained habitats have been excluded from the Assessment. Assumptions around habitat loss, reinstatement and creation are detailed in Section 2.6: Limitations and Assumptions below.
- 2.4.4 The Fanellan Hub BNG Assessment Area is shown in **Appendix A Figure 3.1: Proposed Development**. This includes the new substation and converter station platforms, all associated infrastructure, basins and the landscape forms to screen the development from the southern aspect, all of which are considered to result in permanent loss of baseline habitat. Non-permanent losses to the baseline habitat includes: access tracks, construction compounds, laydown areas, and material and soil stockpile areas (See Section 2.6.1 Limitations and Assumptions). Due to the

<sup>21</sup> UK Habitat Classification Working Group (September 2020). UK Habitat Classification User Manual V1.1. UK Habitat Classification Working Group (UKHab Ltd), Stockport, Cheshire. Available at: <https://ecountability.co.uk/ukhabworkinggroup-ukhab/> [Accessed: April 2022].

<sup>22</sup> SSEN (2025) Fanellan Hub Environmental Impact Assessment, Volume 4 Technical Appendix 9.1: Habitats Baseline

<sup>23</sup> Stephen Panks A, Nick White A, Amanda Newsome A, Mungo Nash A, Jack Potter A, Matt Heydon A, Edward Mayhew A, Maria Alvarez A, Trudy Russell A, Clare Cashon A, Finn Goddard A, Sarah J. Scott B, Max Heaver C, Sarah H. Scott C, Jo Treweek D, Bill Butcher E and Dave Stone A 2022. Biodiversity metric 3.1: Auditing and accounting for biodiversity – User Guide. Natural England.

<sup>24</sup> CIEEM (2021). Competency Framework. Available: <https://cieem.net/wp-content/uploads/2022/01/Competency-Framework-2022-Web.pdf>

<sup>25</sup> SSEN Transmission (2022). Biodiversity Net Gain Toolkit User Guide. SSEN, Perth.

<sup>26</sup> Biodiversity metric 2.0 User Guide - Beta Test Final (1).pdf. Available: <http://publications.naturalengland.org.uk/publication/5850908674228224>



duration of construction works (anticipated three years) these non-permanent losses do not fall under the definition of 'temporary' for BNG purposes and as such have been treated as permanent losses of baseline habitat. They have then been included in post development calculations to show their reinstatement, with a note to say that this will be delayed by three years to account for construction programme.

- 2.4.5 The Proposed OHL Development BNG Assessment Area is shown in **Appendix A Figure 2.2 Project Design**, including the tower locations and associated works areas which are all considered to result in permanent loss of baseline habitat. Losses to the baseline habitats include non-permanent platforms for the OHL. As above, these have been treated as permanent losses of baseline habitat due to the duration of construction meaning they won't be reinstated for three years.

## 2.5 Irreplaceable Habitats and Nationally Protected Sites

- 2.5.1 To aid understanding of the value of the irreplaceable habitats, where present these are quantified in terms of area extent or length. Woodland listed on the AWI as categories 1a and 2a<sup>27</sup>, ancient or veteran trees, and blanket and raised bog in moderate condition or above are classed as irreplaceable habitats<sup>28</sup>. In these situations, the SSEN Transmission Guidance dictates that any compensation offered to address impacts on irreplaceable habitats should be agreed directly with The Highland Council and NatureScot.
- 2.5.2 No irreplaceable habitats or Nationally Protected Sites were identified within the BNG Study Area for either the Fanellan Hub or the Proposed OHL Development. Three Veteran trees are present within the Site but are outwith the BNG Assessment Area and are not impacted by the development.

## 2.6 Limitations and Assumptions

### Design Assumptions

- 2.6.1 The following assumptions have been made in relation to the design of the Proposed Substation and OHL Developments:
- 2.6.2 Information relating to the Fanellan Hub Landscape and Visual Impact Assessment (LVIA) is available within the Fanellan Hub EIA LVIA Chapter<sup>29</sup> and the EIA Landscape Mitigation Plan Figure 8.11<sup>30</sup>. The LVIA has been completed for the Fanellan Hub using Design Stage 2D which has since been subject to minor amendments relating to the permanent access track<sup>31</sup>. The Fanellan Hub design amendments<sup>32</sup> and the Proposed OHL Development Design have been incorporated into the BNG Landscape Design shown in **Appendix A Figure 5: BNG Landscape Design**. This BNG Assessment uses the BNG Landscape Design to identify anticipated post development habitats of the Fanellan Hub and OHL Developments to help ensure that this assessment for BNG is as up to date and accurate as possible, at the time of reporting.
- 2.6.3 A Tree Removal and Protection Plan<sup>33</sup> has been created as part of the Fanellan Hub EIA and shows tree and tree groups to be felled as part of Fanellan Hub and OHL Development. The Tree Removal and Protection Plan does not show areas of scrub or small trees which require clearance or felling which are included as part of this BNG assessment. The Tree Removal and Protection Plan EIA figure has been used as a basis to create a single page figure for inclusion with this BNG Assessment showing full permanent tree and scrub felling and vegetation clearance required for the Fanellan Hub and Proposed OHL Developments. See **Appendix A Figure 6: Vegetation Clearance Plan**.

<sup>27</sup> SSEN Transmission (2023) Ancient Woodland - Approach to Assessment and Reporting

<sup>28</sup> SSEN do not consider woodland classed on the AWI as Long-Established Plantation Origin as irreplaceable habitat

<sup>29</sup> SSEN (2025) Fanellan Hub Environmental Impact Assessment Volume 4 Technical Appendix 8.1 LVIA Methodology

<sup>30</sup> SSEN (2025) Fanellan Hub Environmental Impact Assessment Volume 3 Figure 8.11 Fanellan Hub Landscape Mitigation Plan Sheet 1 and Sheet 2

<sup>31</sup> The changes to the permanent access track were included in the EIA report and planning application drawings that were submitted in March 2025.

<sup>32</sup> Provided by SSEN Transmission of February 14<sup>th</sup> 2025

<sup>33</sup> SSEN (2025) Fanellan Hub Environmental Impact Assessment Volume 4 Technical Appendix 15.2 Tree Removal and Protection Plan



- 2.6.4 Full tree and woodland felling areas have been identified by combining the BNG Landscape Design (**Appendix A Figure 5: BNG Landscape Design**), with the vegetation clearance drawings provided by SSEN Transmission and Tree Removal and Protection Plan<sup>33</sup> (**Appendix A Figure 6: Vegetation Clearance**).
- 2.6.5 There are several individual non-veteran trees located within works compounds which will be retained. Measures required to safeguard root protection areas are reported separately within the Tree Removal and Protection Plan<sup>33</sup> and accompanying Forestry chapter of the Fanellan Hub EIA<sup>34</sup>.
- Non permanent drainage proposals have not been completed at the time of writing and have therefore been excluded from this BNG Assessment.
- 2.6.6 The BNG Assessment Area includes all impacts and a 10m construction works buffer<sup>35</sup> surrounding Permanent development footprint of the Proposed Substation and OHL Developments.

### BNG Assessment Assumptions

- Area calculations are based on areas being rounded to two decimal places before being entered into the biodiversity toolkit. Therefore, there may be a difference of 0.01 hectares (ha) between the post development area and total baseline habitat area based on rounding up or down of values. Additionally, areas smaller than 0.01 ha appear as 0.00 in the toolkit. The BU achieved from these small areas is negligible and therefore this does not affect the BNG calculations.
  - Indicative programme development indicates that the construction period would be three years. TTTC for all habitats has been calculated by using the Natural England's Technical Supplement 3.1 standard TTTC plus three years as a worst-case scenario e.g., TTTC for other neutral grassland in moderate condition is five years, therefore for this habitat type the final TTTC input into the toolkit as eight years.
  - Post-development habitats that will be created as a result of the Fanellan Hub and Proposed OHL Development as shown in **Figure 5, Appendix A** have been classified based on the various seed mixes and habitat descriptions identified as part of the BNG Landscape Design:
    - Pastoral land: This habitat has been classified as UKHab Primary Habitat "modified grassland (g4).
    - SuDS: The permanently wet areas of the drainage basins will be seeded with Scotia Seeds Pond margin mix or similar with targeted plug planting. The anticipated UKHab classification for the permanently wet areas is f2f other swamp.
    - Other swamp habitat does not have a listed TTTC or difficulty of creation rating within Technical Supplement 3.1<sup>23</sup>. Therefore, TTTC and difficulty have been assigned as per guidance for similar reedbed habitats. The proposed seed and plug planting species are anticipated to establish quickly and it is considered that reedbed habitat is more similar to the anticipated post development other swamp habitat than the alternative wetland habitats which have a higher difficulty and TTTC (e.g. fens: upland and lowland).
- 2.6.7 The following post development habitats apply to the Fanellan Hub Development only:
- Wildflower meadow seeding: For the Fanellan Hub development will be seeded with Scotia Seeds MG5 Meadow Mix<sup>36</sup> (SCM8) or similar and has been classified as UKHab Primary Habitat 'other neutral grassland' (g3c).
  - Sustainable Urban Drainage Systems (SuDS): The partially inundated drainage ponds and drains (referred to as will be seeded with Scotia Seeds wet meadow mix<sup>37</sup> or Scotia Seeds Pond margin mix<sup>38</sup> or similar depending on the levels of inundation. These habitats have been classified as UKHab Primary Habitat 'other neutral grassland' (g3c) since they would not be permanently wet.

<sup>34</sup> SSEN (2025) Fanellan Hub Environmental Impact Assessment Volume 2 Chapter 9: Forestry

<sup>35</sup> 10m Construction area incorporated to allow for construction of the Permanent Infrastructure.

<sup>36</sup> Scotia Seeds: [MG5 Meadow Mix – Scotia Seeds](#) [Accessed February 2025]

<sup>37</sup> Scotia Seeds: <https://www.scotiaseeds.co.uk/shop/wet-meadow-mix/> [Accessed February 2025]

<sup>38</sup> Scotia Seeds: <https://www.scotiaseeds.co.uk/shop/pond-edge-mix/> [Accessed February 2025]

- Woodland Planting: Broadleaved woodland has been classified as UKHab Primary Habitat 'other woodland; broadleaved' (w1g).
- Plug planting and Pond Margin seed mix will create other swamp habitat (UK Habitat classification f2f) within the SuDS basins.

2.6.8 The following additional assumptions have been made for the Proposed OHL Development:

- Due to the duration of construction works on the wider Fanellan Hub (anticipated three years) the following small areas within the Proposed OHL Development do not fall under the definition of 'temporary' for BNG purposes and as such the following have been treated as permanent losses of baseline habitat.
  - Platforms for the OHL
  - Construction Access Tracks
  - Construction Access Tracks between the existing and new tower locations.

2.6.9 For those small areas where habitat can be reinstated/created for the Proposed OHL Development following the constructions works these have then been included in Proposed OHL Development post development calculations with a note to say that this will be delayed by three years in line with the substation construction, as a worst-case scenario. This applies to small areas of scrub (h3h) and modified grassland (g4).

2.6.10 Coniferous woodland (w2c plantation) and other broadleaved woodland (w1g) felled to accommodate the Proposed OHL Development cannot be reinstated to woodland habitats for health and safety reasons and to avoid encroachment within the required OHL clearance buffer. Therefore, modified grassland (g4) in poor condition referred to as Pastoral land will be created<sup>39</sup>.

### Survey limitations

2.6.11 Habitat surveys were undertaken in December 2022 and updated in April 2024, which are outside of the optimal survey season for plant species identification which is between (April and September, inclusive). UKHab surveys of the permanent access track located to the west of the OHL Development were undertaken in June 2025 which lies within the peak of the optimal survey season. Overall, there is high confidence in the data recorded due to the homogenous nature of the habitats within the Site, and this is not considered to be a limitation.

2.6.12 Access to portions of the Site were restricted due to landowner permissions and/or free roaming cattle posing a safety risk. These habitats were surveyed from their perimeter using binoculars and assumptions were made on their composition and condition based on closer inspection of habitats that were accessible with a similar structural appearance, land-use and locality. These areas of limited access are highlighted in the associated habitat results mapping. Given the homogeneity of habitats within the Site surrounding area, same broad land-use and management, and relatively low biodiversity value of these grasslands, the habitat mapping is still considered valid for the purposes of BNG Assessment.

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<sup>39</sup> As agreed in discussions and confirmed by SSENT in emails dated 18<sup>th</sup> June 2025.

### 3. RESULTS AND DISCUSSION

#### 3.1 Overview

- 3.1.1 The biodiversity baseline has been calculated within separate toolkits for the Fanellan Hub and the Proposed OHL Development, a summary of which is presented below.
- 3.1.2 There are no irreplaceable habitats or nationally protected sites for nature conservation interest within the BNG Assessment Area.
- 3.1.3 An assessment of the Fanellan Hub and OHL Development against the Good Practice Principles is included within **Appendix B**.

#### 3.2 Fanellan Hub Development

##### Baseline Biodiversity Value

- 3.2.1 The habitat baseline for the Fanellan Hub is provided in **Appendix A: Figure 4.1**. The anticipated post development habitat mapping for the Fanellan Hub is provided in **Appendix A: Figure 4.3**.
- 3.2.2 The BNG Assessment Area for the Fanellan Hub input into toolkit was calculated to be 115.39 ha in extent. The majority of habitats (~56 %) were classed as modified grassland (UK Habitat classification g4) across 65.2 ha, a habitat of low distinctiveness and generally in poor condition. Arable and horticultural land (UK Habitat classification c1c, c1c5 and c1b) were recorded across 40.3 ha (35 %), also low distinctiveness, with no condition rating. Upland birchwoods (UK Habitat classification w1e), a habitat of medium distinctiveness, in moderate or poor condition was recorded in 3.05 ha (~3 %), other woodland broadleaved (UK Habitat classification w1g) was recorded across 3.3 ha (~3 %), a habitat of medium distinctiveness, in good or poor condition.
- 3.2.3 The remaining habitat types were each recorded in less than 2 ha each of the Fanellan Hub BNG Assessment Area, each comprising less than 1 %: 0.6 ha (0.52 %) gorse and mixed scrub (UK Habitat classification h3e and h3h) of low distinctiveness in poor condition, 0.2 ha (0.18 %) bracken (UK Habitat classification g1c) - medium distinctiveness and no condition rating, 1.09 ha in total of (0.95 %) developed land- sealed surface and artificial unvegetated – unsealed surface (UK Habitat classification u1b and u1c) of very low distinctiveness and no condition rating, other Scots pine woodland (UK Habitat classification w2b) a habitat of medium distinctiveness, in moderate condition was recorded in 1.09 ha (~1 %, wet woodland (UK Habitat classification w1d) a habitat of high distinctiveness, in moderate condition was recorded in 0.21 ha (~0.18 %) and 0.14 ha (0.13 %) upland acid grassland (g1b), a high distinctiveness habitat in moderate condition.
- 3.2.4 The baseline area habitats present within the Fanellan Hub BNG Assessment Area have a total value of 269.81 BU.
- 3.2.5 The Fanellan Hub BNG Assessment Area includes the following linear habitats: 0.11 km of native hedgerow with trees (UK Habitat classification h2b) a habitat of low distinctiveness in poor condition with a value of 0.25 LU-H.

##### Post Development Biodiversity Value

- 3.2.6 Based upon the assumptions detailed in Section 2.6, the post development habitats for the Fanellan Hub BNG Assessment Area will comprise of the following: an increase in developed land, sealed surface and built linear features (UK Habitat classification u1b and u1e) to 26.6 ha (24.1 %); an increase in other woodland broadleaved (UK Habitat classification w1g) to 6.9 ha (5.6 %); a slight increase in the area of modified grassland (UK Habitat classification g4) to 65.6 ha (56.7 %) assumed to target poor condition; an increase in other neutral grassland (UK Habitat classification g3c) to 15.7 ha (13.6 %) a habitat of high distinctiveness, assumed to target moderate condition; other swamp habitat (UK Habitat classification f2f) as part of the proposed basins will occupy 0.64 ha (~0.6 %), a habitat of medium distinctiveness, assumed to target moderate condition.
- 3.2.7 All arable and horticultural land and most scrub habitat within the Site is anticipated to be removed. Most of the upland birchwood (UK Habitat classification w1e), approximately 3.0 ha is expected to be lost as part of the Fanellan Hub. Some woodland and scrub habitats totalling 0.5 ha are marked to be retained and have been excluded from the toolkit. These areas will be protected from damage and degradation during the construction period through measures to be detailed within the Construction Environmental Management Plan (CEMP)
- 3.2.8 The 0.11 km of hedgerow present within the Fanellan Hub BNG Assessment Area will be removed with no linear habitats anticipated to be provided as part of the post development design.

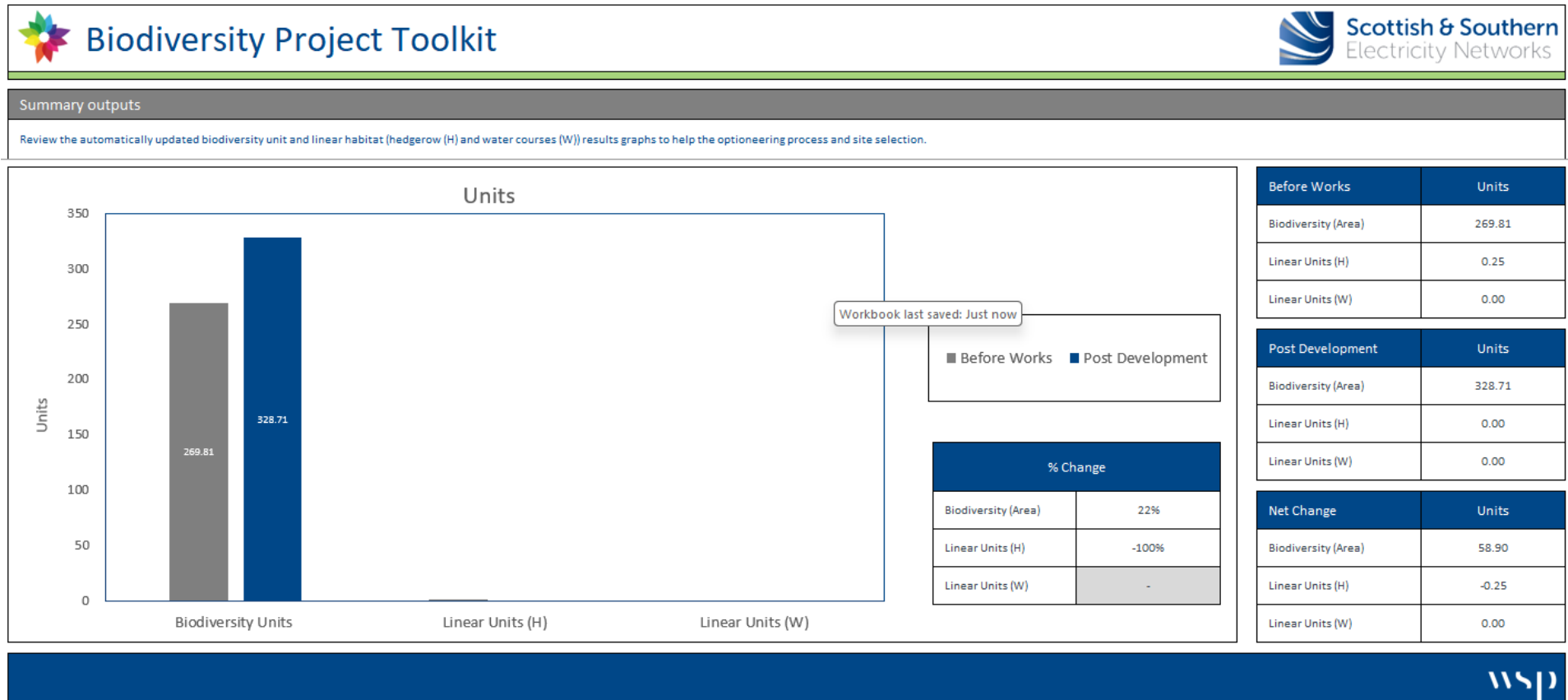
- 3.2.9 Overall, the post development habitats predicted to be present within the Fanellan Hub BNG Assessment Area have an estimated BU value of 328.71 and 0 LU-H. Fanellan Hub **Appendix A Figure 4.3 Fanellan Hub Post Development Habitats** shows the post development habitats.
- 3.2.10 Table 3.1 provides a summary of the estimated baseline and post development BU for the Fanellan Hub Development:

**Table 3.1: Estimated BU/LU-H summary for the Fanellan Hub**

Development Element	Area (ha)/Length (km)	Baseline	Post Development	BU/LU-H Change
<b>Area BU</b>	115.39 ha	269.81 BU	328.71 BU	58.90 BU (+22%)
<b>Linear LU-H</b>	0.11 km	0.25 LU-H	0.00 LU-H	-0.25 LU-H (-100%)

- 3.2.11 A screenshot of the toolkit's dashboard for the Fanellan Hub is shown overleaf (**Plate 3-1**) which summarises the biodiversity value of that Fanellan Hub.

**Plate 3-1: Dashboard Summary for the Fanellan Hub**



### 3.3 Proposed OHL Development

#### Baseline Biodiversity Value

- 3.3.1 The habitat baseline for the Proposed OHL Development is provided in **Appendix A: Figure 4.2 Proposed OHL Development Habitats**. The anticipated post development habitat mapping for the Proposed OHL Development is provided in **Appendix A: Figure 4.4 Proposed OHL Development Post Development Habitats**. The full results are shown within the toolkit, which should be viewed in conjunction with this report.
- 3.3.2 The BNG Assessment Area for the Proposed OHL Development was calculated to be 12.71 ha. The majority of the habitats (45.14 %) were classified as modified grassland (UK Habitat classification g4) in poor condition across 5.74 ha. Arable and horticultural land (UK Habitat classification c1c and c1c5) were recorded across 4.16 ha (32.74 %), also low distinctiveness, with no condition rating. Mixed scrub (UK Habitat classification h3h) of low distinctiveness, in moderate and poor condition was recorded across 1.09 ha (8.58%).
- 3.3.3 The remaining habitat types were each recorded in less than 1 ha of the Proposed OHL Development BNG Assessment Area: other woodland broadleaved (UK Habitat classification w1g) of medium distinctiveness in good condition (0.31 ha, 2.44 %); upland birchwood (UK Habitat classification w1e) of medium distinctiveness in moderate condition (0.53 ha, 4.17 %), wet woodland (UK Habitat classification w1d) of high distinctiveness in moderate condition (0.001 ha, 0.01 %), other coniferous woodland (UK Habitat classification w2c) of low distinctiveness in poor condition (0.04 ha, 0.29 %); upland heathland (UK Habitat classification h1b) of high distinctiveness and poor and good condition (0.05 ha, 0.44%); gorse scrub (UK Habitat classification h3e) of low distinctiveness and moderate condition (0.51 ha and 3.99 %).
- 3.3.4 Upland heathland (UK Habitat classification h1b) of high distinctiveness in good and poor condition (0.05 ha, 0.44 %); upland acid grassland (UK Habitat classification g1c), of high distinctiveness, in good condition (0.004 ha, 0.03 %); gorse scrub (UK Habitat classification h3e) of low distinctiveness in moderate condition (0.51 ha, 3.99 %); and artificial unvegetated – unsealed surface (UK Habitat classification u1c) of very low distinctiveness and no condition rating (0.28 ha, 2.17 %).
- 3.3.5 No linear habitats were recorded in the baseline within the Proposed OHL Development BNG Assessment Area.
- 3.3.6 Overall, the habitats present within the Proposed OHL Development BNG Assessment Area have an estimated baseline value of 35.66 BU.

#### Post Development Biodiversity Value

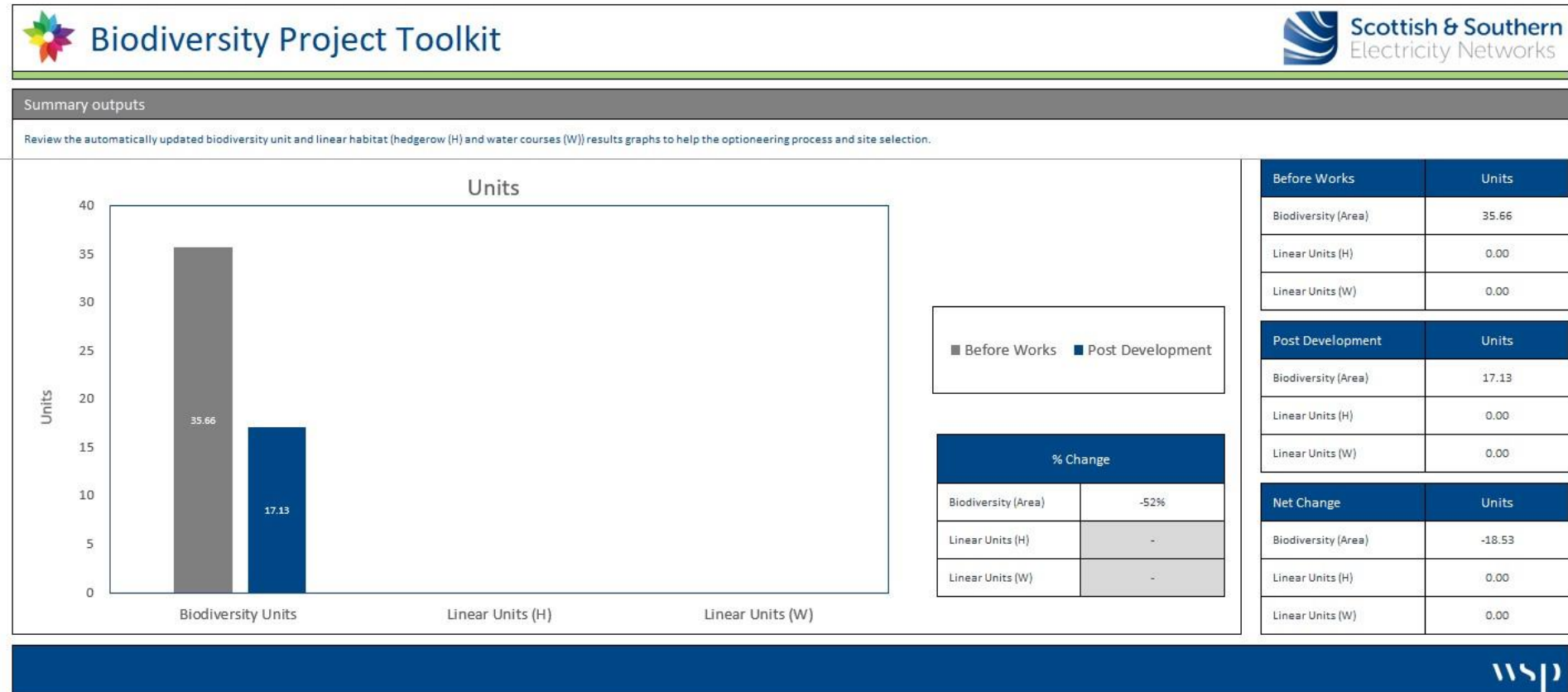
- 3.3.7 Based upon the assumptions detailed in Section 2.6, the post development habitats for the Proposed OHL Development BNG Assessment Area will comprise of the following: An increase in the area of modified grassland (UK Habitat classification g4) to 9.41 ha (74.07 %) with all areas assumed to target poor condition. There will also be an increase in developed land, sealed surface and built linear features (UK Habitat classification u1b and u1e) to 3.05 ha (23.9 %), of very low distinctiveness and no condition rating. There will be an increase in other swamp habitat (UK Habitat classification f2f) as part of the proposed basins which will occupy 0.15 ha (1.18 %), a habitat of medium distinctiveness, assumed to target moderate condition.
- 3.3.8 A decrease in arable and horticultural land (UK Habitat classification c1c and c1c5) occupying 0.07 ha, 0.59%) was calculated, low distinctiveness, with no condition rating. A decrease in mixed scrub (UK Habitat classification h3h) of low distinctiveness, in moderate and poor condition, occupying 0.02 ha (0.16%). All woodland, gorse scrub, upland heath and acid grassland habitat (UK Habitat classifications w1d, w1g, w1e, w2c, h3e, h1b and g1b) are anticipated to be removed. Some woodland habitats are anticipated to be retained and have been excluded from the toolkit.
- 3.3.9 No linear habitats are proposed for the post development areas within the Proposed OHL Development BNG Assessment Area.
- 3.3.10 Overall, the habitats present within the Proposed OHL Development BNG Assessment Area have an estimated baseline value of 17.13 BU.
- 3.3.11 Table 3.2 provides a summary of the estimated baseline and post development BU for the Proposed OHL Development:

**Table 3.2: Estimated BU summary for the Proposed OHL Development**

Development Element	Area (ha)	Baseline BU	Post Development BU	BU Change
<b>OHL Diversion Development</b>	12.71	35.66	17.13	-18.53 (-52 %)

3.3.12 A screenshot of the toolkit's dashboard for the Proposed OHL Development is shown overleaf (**Plate 3-2**) which summarises the biodiversity value of the Proposed OHL Development.

Plate 3-2: Dashboard Summary for the Proposed OHL Development





## 4. RECOMMENDATIONS AND CONCLUSIONS

- 4.1.1 For the Fanellan Hub, the area-based biodiversity baseline value is estimated to be 269.81 BU, with the Post Development BU value estimated to be 328.71 BU representing a BU net gain of 58.90 BU or 22 %.
- 4.1.2 For the Fanellan Hub, the linear biodiversity baseline value is estimated to be 0.25 LU-H, with the Post Development value estimated to be 0 LU-H representing a net loss of 100 %. To achieve a 10 % net gain in LU-H, a minimum of 0.28 LU-H would need to be secured through additional offsite habitat creation or enhancement.
- 4.1.3 For the Proposed OHL Development, the biodiversity baseline value is estimated to be 35.66 BU, with the Post Development BU value estimated to be 17.13 BU representing a net loss of 18.53 BU or 52 %. To achieve a 10 % net gain in BU, a minimum total of 22.10 BU would need to be secured through additional offsite habitat creation or enhancement.
- 4.1.4 **Table 4.1** provides a summary of the Fanellan Hub and OHL Developments with respect to BNG.

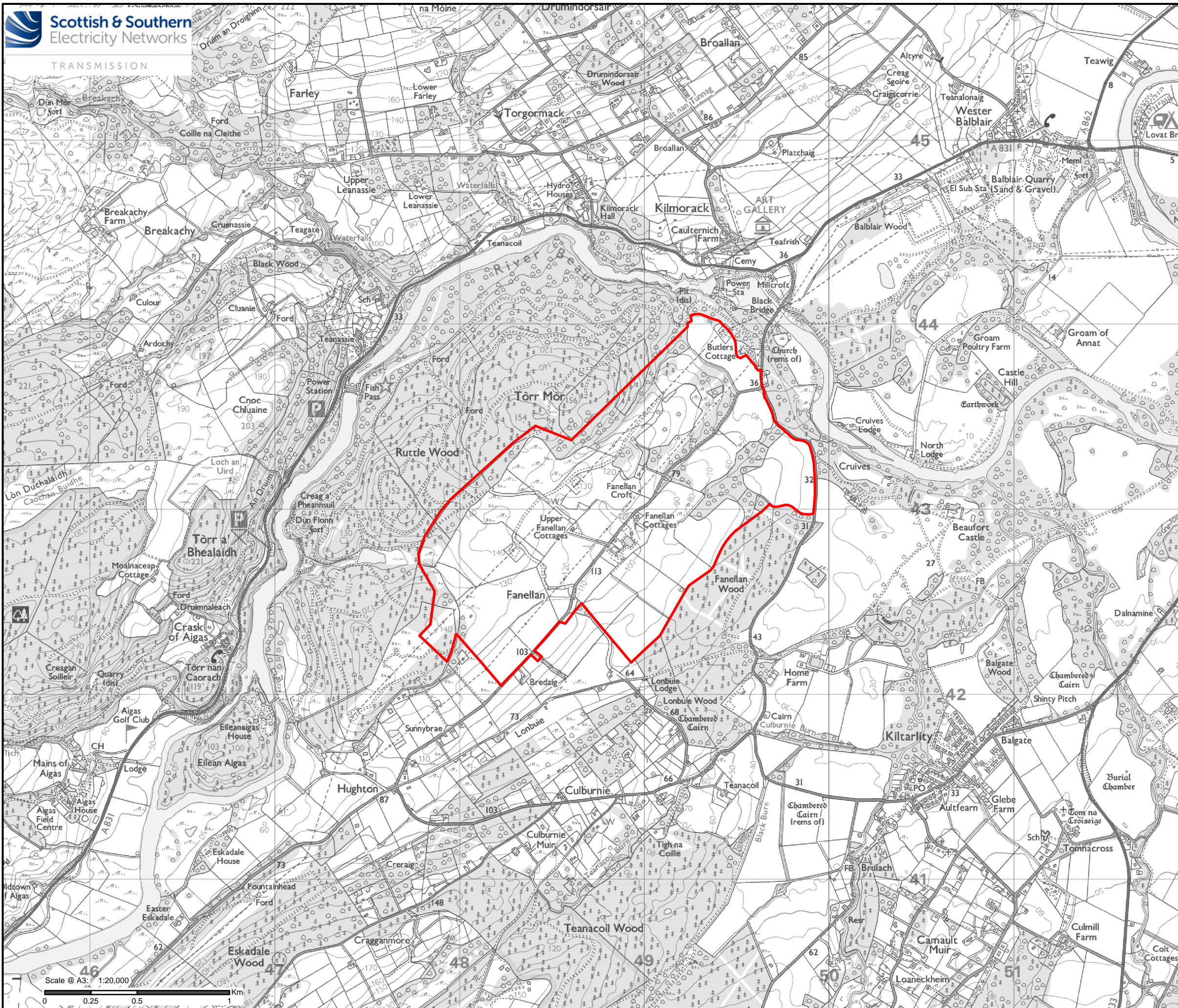
**Table 4.1: Estimated BNG summary for the Fanellan Hub and OHL Development**

Development Element	Unit Type	Area	Baseline	Post Development	Change (%change)
<b>Fanellan Hub</b>	BU	115.39 ha	269.81 BU	328.71 BU	+58.90 (+22%)
	LU-H	0.11 km	0.25 LU-H	0 LU-H	-0.25 (-100%)
<b>Proposed OHL Development</b>	BU	12.71 ha	35.66 BU	17.13 BU	-18.53 (-52%)

- 4.1.5 No irreplaceable habitats were identified within the Fanellan Hub and Proposed OHL Development BNG Assessment Area.
- 4.1.6 This BNG assessment is based upon design submitted for the planning application (and OHL design that will be submitted for the s37 application). Following detailed design, any changes made to the design assessed herein should be captured in an updated BNG assessment along with a qualitative assessment against the Biodiversity Net Gain Good Practice Principles<sup>8</sup> to provide an updated compensation estimate for achieving the required 10 % net gain in biodiversity.

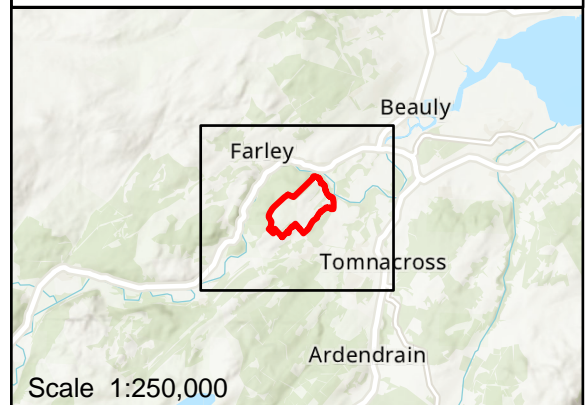
## APPENDIX A – FIGURES





## Legend

Site Boundary



Scale 1:250,000

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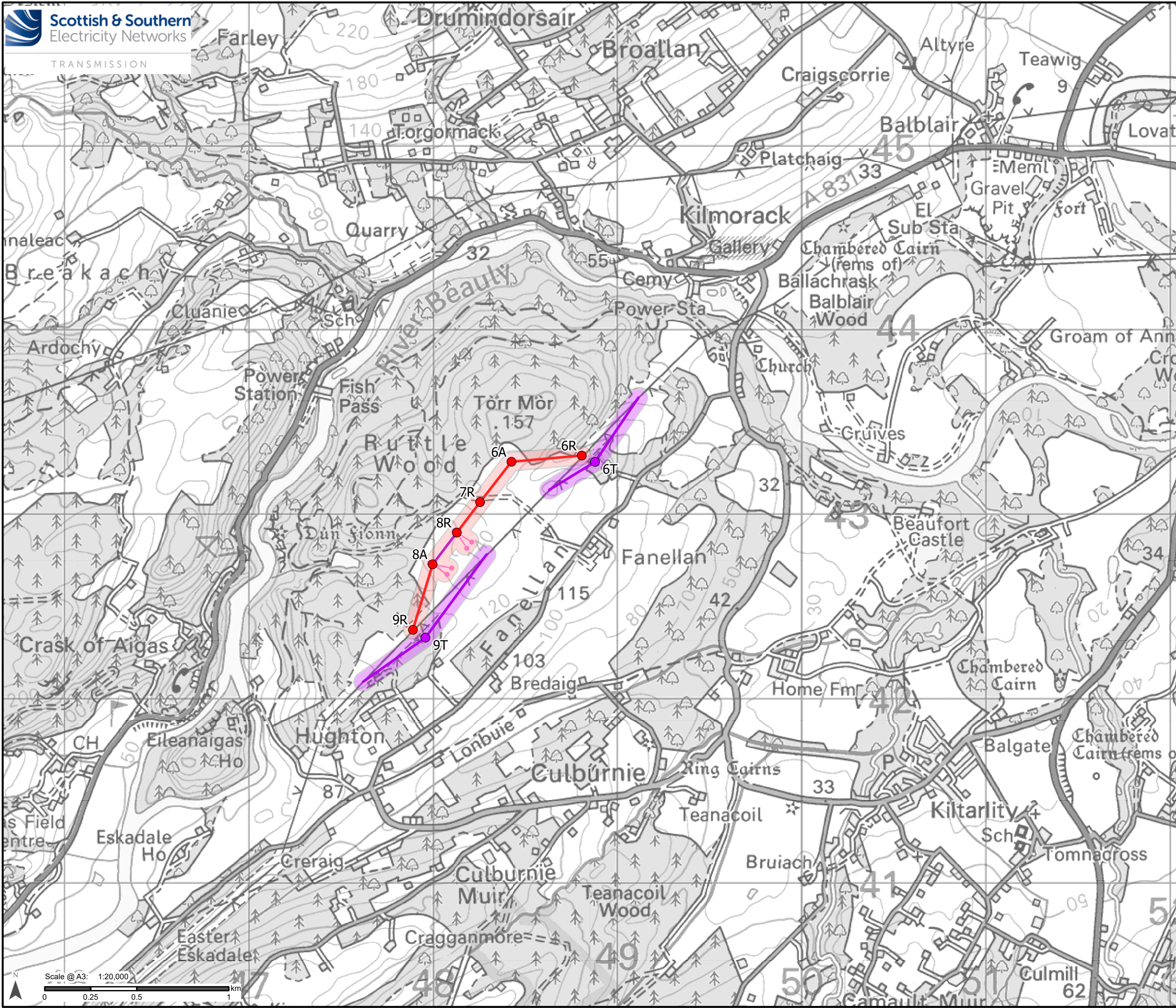
Project No: LT000459  
Project: Fanellan 400kV Substation and Converter Station

Title:  
Figure 1.1 - Location Plan

Drawn by: MAL Date: 26/02/2025

Drawing: 70112533-WSP-DR-DA-005





### Legend

- Permanent Beaulieu - Denny Overhead Line Diversion Towers
- Temporary Beaulieu - Denny Overhead Line Diversion Towers
- Permanent Beaulieu - Denny Overhead Line Diversion
- Temporary Beaulieu - Denny Overhead Line Diversion
- Downloads to Fanellan Substation
- Permanent Beaulieu - Denny Overhead Line Diversion 50m LOD
- Temporary Beaulieu - Denny Overhead Line Diversion 50m LOD

Towers 6R and 9R are already existing towers changing to angle towers.

Scale 1:300,000

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Project No: LT000459  
Project: Beaulieu-Denny Overhead Line Diversion Environmental Appraisal

Title:  
Figure 1.2 Site Location Plan

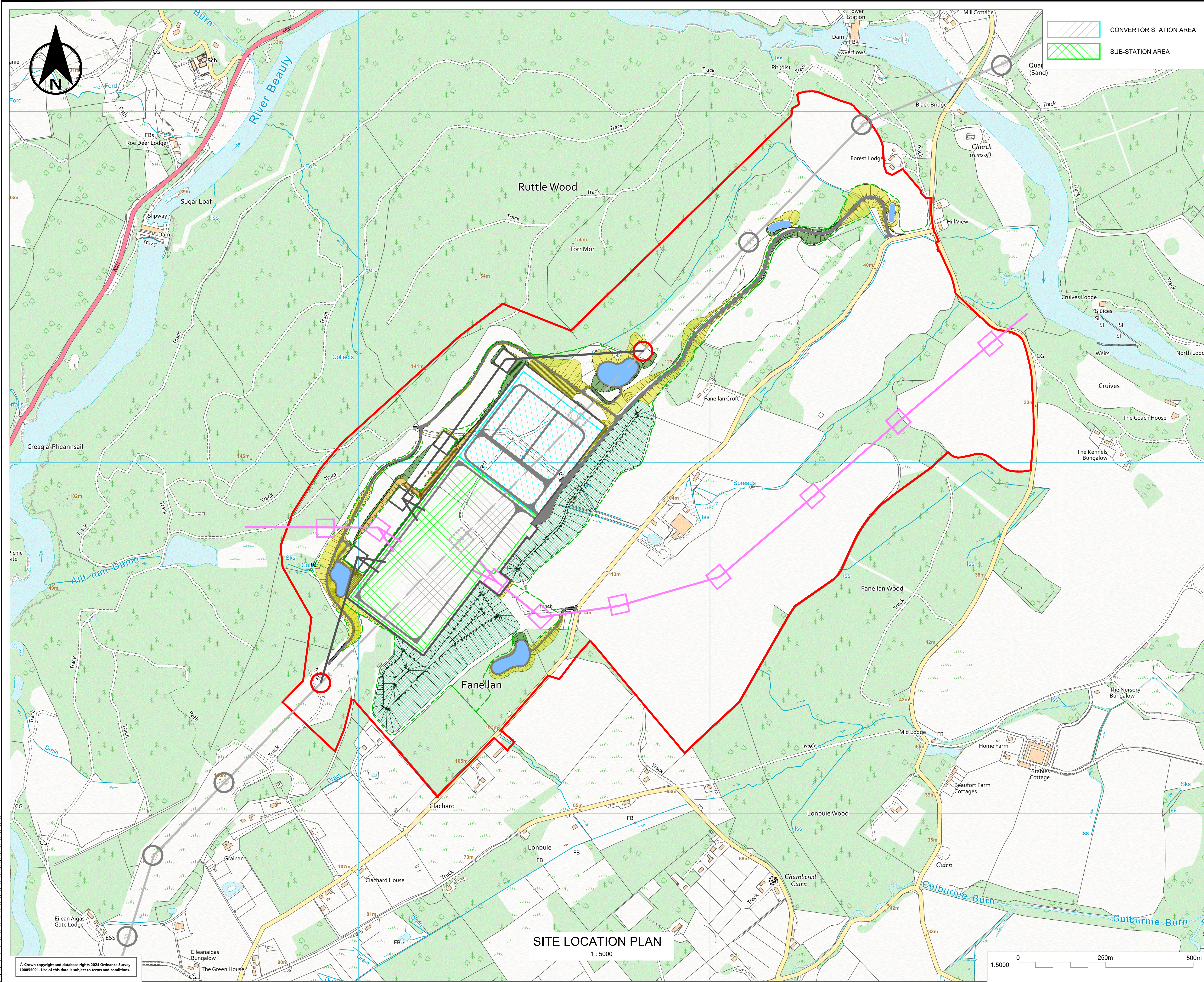
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Date: 20/06/2025

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NOTES

1. The Planning Red Line Boundary includes the proposed platform together with all other potential site requirements, including site compounds, drainage, access, parking, laydown and storage areas and landscaping proposals. Many of these requirements will be temporary and will be permanently removed upon completion. The temporary requirements are indicative at this stage and are subject to change as the construction phase is developed.

LEGEND

- Proposed Fanellan 400kV Substation and Converter
- Indicative Planning Red Line Boundary
  - Substation Boundary

Drainage

- New SuDs Basin
- New Indicative Cut-Off Ditch

Landscape and Visual Mitigation

- Landform Providing Visual Screening

Access and Earthworks

- New Access Tracks and Roads
- Cut Earthworks Slope
- Fill Earthworks Slope
- Rock Cut Earthworks Slope

Proposed Beaulie - Denny OHL Diversion (separate S37 consent)

- New Tower
- Existing Tower to be Removed
- Existing Tower to be Replaced
- Existing Tower to be Retained
- New OHL
- Existing OHL to be Retained
- Existing OHL to be Removed

Proposed new 400kV Overhead Lines from Spittal and Peterhead (separate S37 consents)

- Potential New Tower Location
- Potential OHL Alignments

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Client



Project Title

FANELLAN  
400kV SUBSTATION AND  
CONVERTER STATION

Drawing Title

Figure 3.1: Proposed Development

Purpose Of Issue

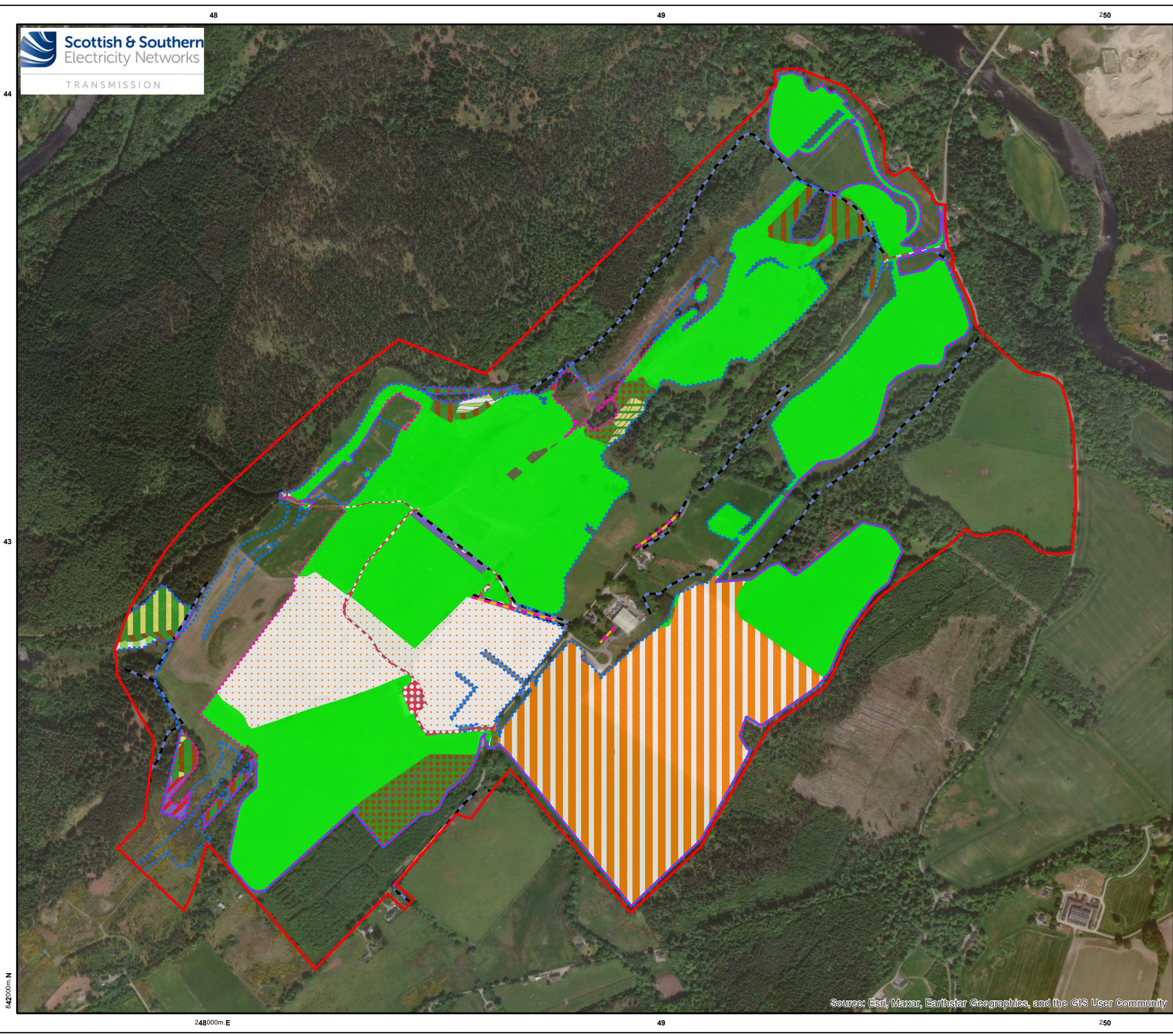
FOR CONSULTATION

Drawn RL A1	Designed RL 1:5000	Checked NG 65209842	Approved CB P07
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Drawing Number

LT459-SWE-XX-XX-D-X-0004





**Legend**

- Site Boundary
- BNG Assessment Boundary
- Fanellan Hub BNG Assessment Area
- UK Habitat Classification**
- c1b - temporary grass and clover leys
- c1c - cereal crops
- c1c5 - winter stubble
- g1b - upland acid grassland
- g1c - bracken
- g4 - modified grassland
- h3e - gorse scrub
- h3h - mixed scrub
- u1b - developed land, sealed surface
- u1b5 - buildings
- u1c - artificial unvegetated unsealed surface
- w1d - wet woodland
- w1e - upland birchwoods
- w1g - other woodland, broadleaved
- w2b - other scots pine woodland
- w2c - other coniferous woodland
- h2b - non native and ornamental hedgerow
- r2b - other river and streams

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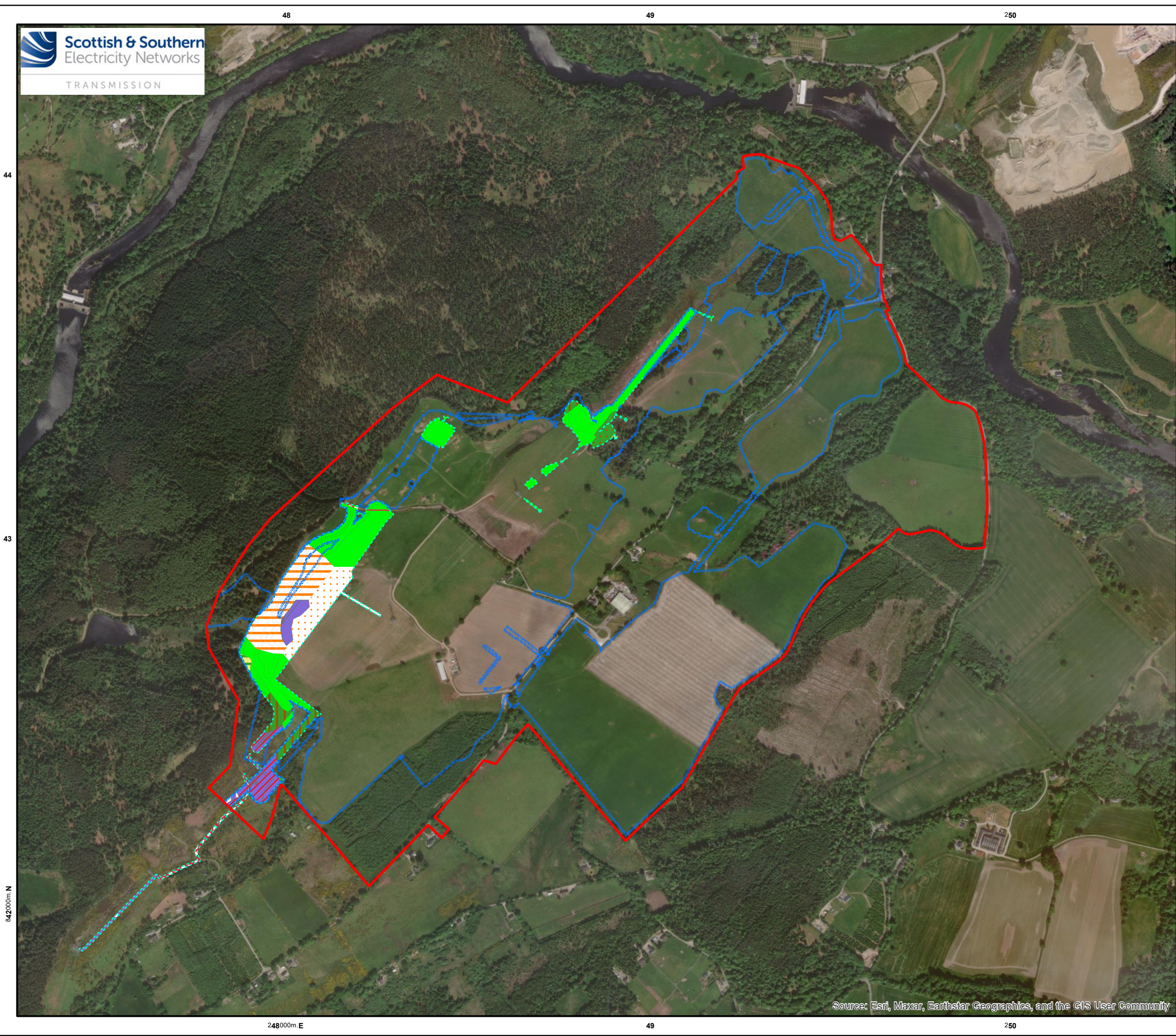
Project: Fanellan 400kV Substation & Converter Station

Title:  
Figure 4.1 Proposed Substation Development Baseline  
Habitat Map

Drawn by: NC

Drawing: Figure 4.1





**Legend**

- Site Boundary
- BNG Assessment Boundary
- Proposed OHL Development BNG Assessment Area with Access Track

**UK Habitat Classification**

- c1c - cereal crops
- c1c5 - winter stubble
- g1b - upland acid grassland
- g4 - modified grassland
- h1b - upland heathland
- h3e - gorse scrub
- h3h - mixed scrub
- u1c - artificial unvegetated unsealed surface
- w1d - wet woodland
- w1e - upland birchwoods
- w1g - other woodland, broadleaved
- w2c - other coniferous woodland

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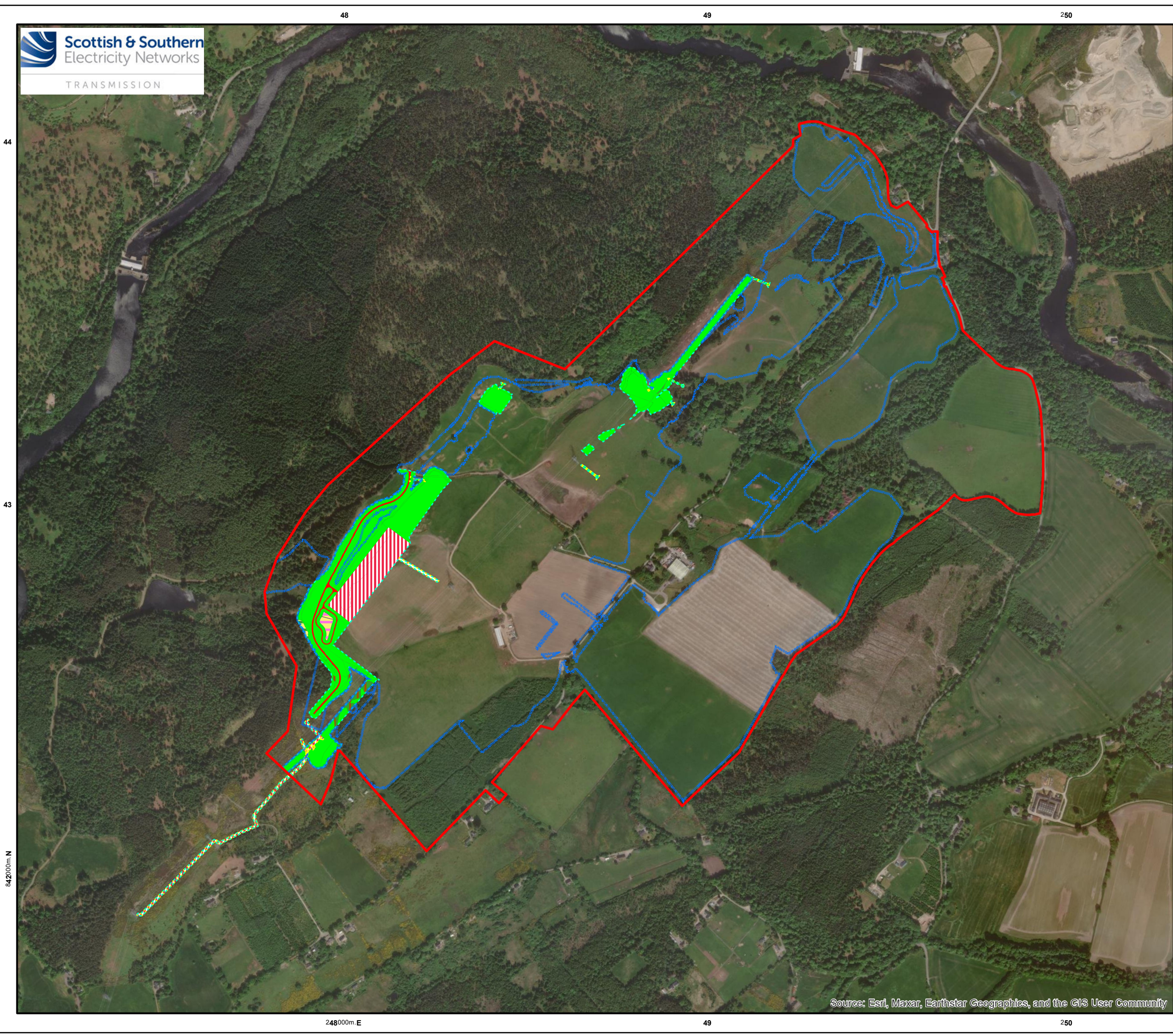
Project: Fanellan 400kV Substation & Converter Station

Title:  
Figure 4.2- Proposed OHL Development Baseline Habitat Map

Drawn by: NC

Drawing: Figure- 4.2





**Legend**

- Site Boundary
- BNG Assessment
- Proposed OHL Development BNG Assessment Area with Access Track
- Access Track

**UK Habitat Classification**

- c1c5 - winter stubble
- f2e - reedbeds
- g4 - modified grassland
- h3h - mixed scrub
- u1b - developed land, sealed surface
- u1e - built linear features
- w1d - wet woodland
- w1e - upland birchwoods
- w1g - other woodland, broadleaved
- w2c - other coniferous woodland

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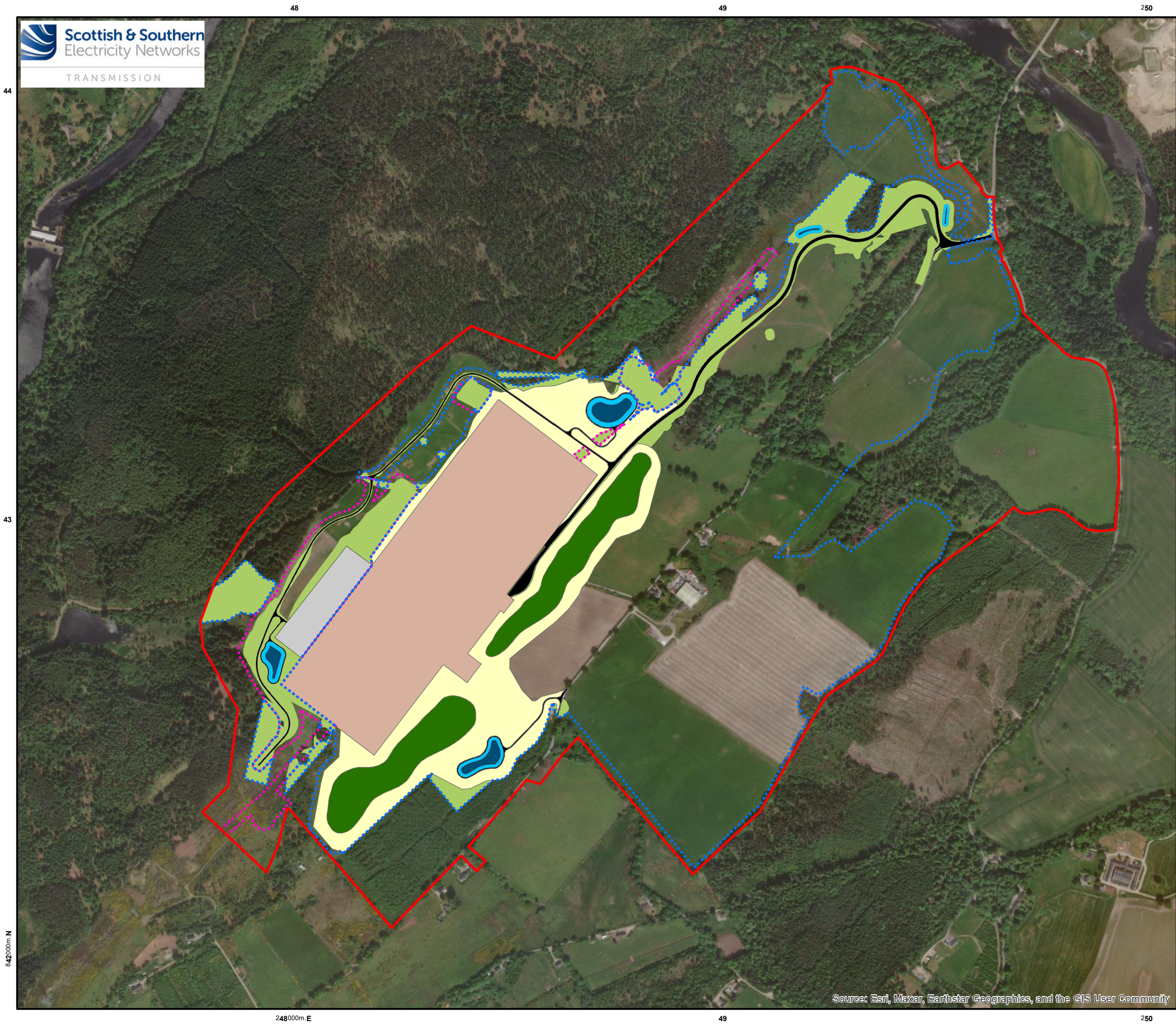
Project: Fanellan 400kV Substation & Converter Station

Title:  
Figure 4.4 Proposed OHL Post Development  
Habitat Map

Drawn by: NC

Drawing: Figure 4.4





## Legend

- Site Boundary
- Proposed Substation Development  
BNG Assessment Area
- Proposed OHL Development BNG  
Assessment Area

## BNG Landscape Design

- Access Track
- OHL Platform
- Pastoral Land
- Drainage Basin
- SuDs Margin Planting
- Substation Platform
- Wildflower Meadow Seeding
- Woodland Planting

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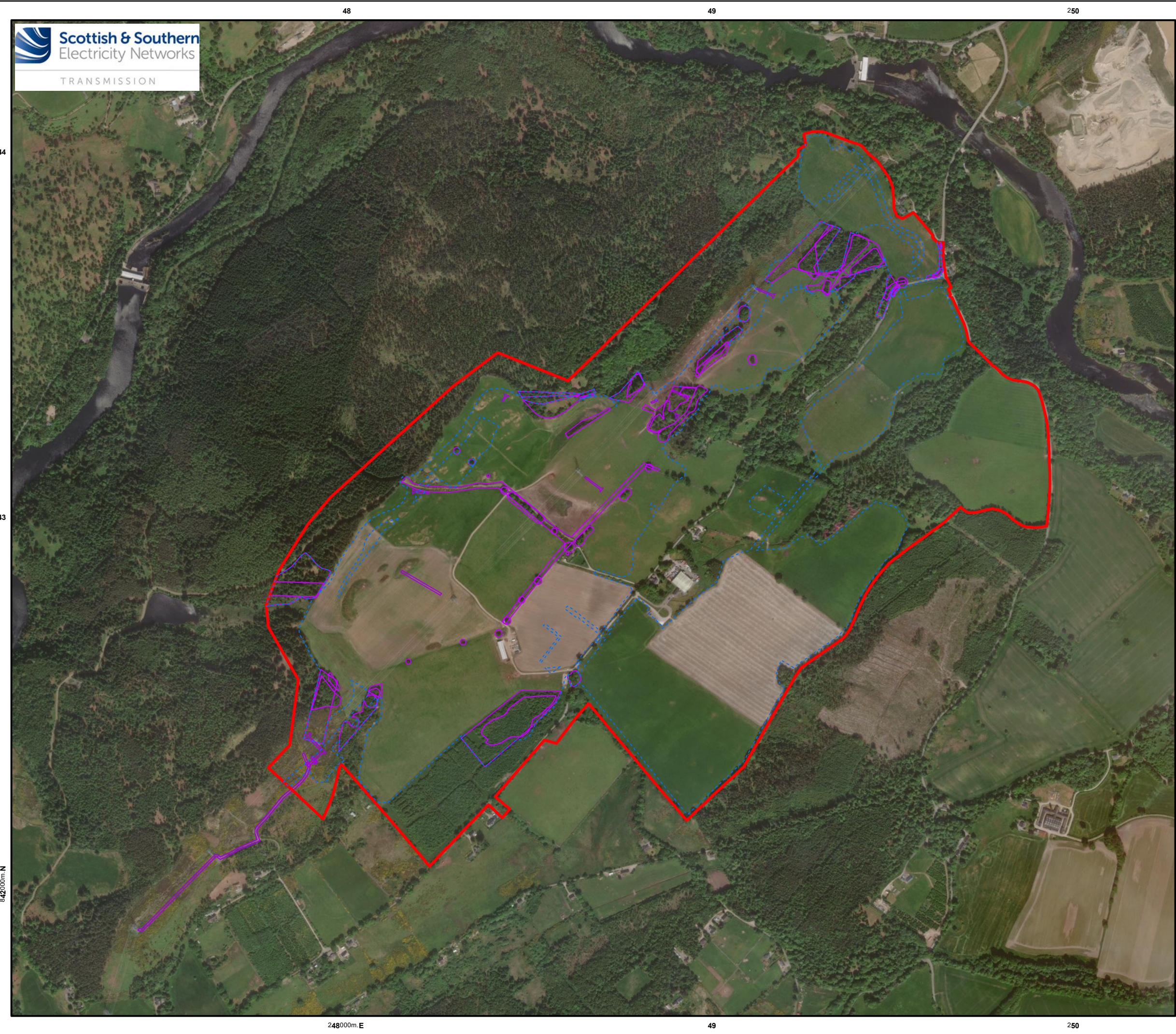
Project: Fanellan 400kV Substation & Converter Station

Title:  
Figure 5 BNG Landscape Design

Drawn by: NC

Drawing: Figure 5





Legend

- Site Boundary
- BNG Assessment Boundary
- Vegetation Clearance

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Project No: LT000459

Project: Fanellan 400kV Substation & Converter Station

Title:  
Figure 6 - Vegetation Clearance

Drawn by: SS

Drawing: Figure 6



## **APPENDIX B– GOOD PRACTICE PRINCIPLES FOR BIODIVERSITY NET GAIN**

## Appendix B: Good Practice Principles for biodiversity net gain

**Table B-1** sets out the review of the Fanellan Hub and OHL Development against the Good Practice Principles. This review has identified that five of the Good Practice Principles<sup>8</sup> have been achieved and five are on-target to be achieved following construction and when the proposed habitat creation areas reach target habitat type and condition.

**Table B-1: Recommendations for Achieving Good Practice Principles**

Principle	Outcomes	Progress
<b>1. Apply the mitigation hierarchy</b>	The mitigation hierarchy has been followed through the design development and EIA undertaken as part of the planning application.	Achieved
<b>2. Avoid losing biodiversity that cannot be offset by gains elsewhere</b>	<p>No irreplaceable habitat would be lost as part of the Fanellan Hub and OHL Development.</p> <p>Veteran trees were identified within the Site and will be avoided due to early consideration in the design process and appropriate survey to accurately identify their condition, location and required root protection areas.</p> <p>No designated sites would be directly impacted within the Site.</p>	Achieved
<b>3. Be inclusive and equitable</b>	<p>Through the EIA process, no discussions have been held with statutory bodies and stakeholders to explore and agree approaches for biodiversity. However, THC have reviewed and approved the use of the SSEN Toolkit and associated guidance to support planning applications.</p> <p>Feedback from stakeholders, THC and statutory bodies as part of the planning submission and review will be assessed to ensure approaches for biodiversity are inclusive, equitable and appropriate for the project type and Site location.</p>	On-target
<b>4. Address risks</b>	<p>The habitat reinstatement in the areas of non-permanent loss would follow recognised best practice techniques to minimise the risk of damage to the soils and aid recovering habitats.</p> <p>An outline Landscape and Habitat Management Plan (oLHMP) has been produced for Fanellan Hub, which includes details on management and monitoring requirements, to ensure the habitats reach their targeted condition. Should habitat creation, reinstatement or enhancement be unsuccessful in any location, the oLHMP includes a feedback loop, to ensure that active management would be undertaken, and remedial measures implemented. A Long Term Habitat Management Plan (LTHMP) for Fanellan Hub would be produced</p>	Achieved

Principle	Outcomes	Progress
	incorporating and developing recommendations included within the oLHMP following detailed design.	
<b>5. Make a measurable Net Gain contribution</b>	<p>The Fanellan Hub is predicted to comfortably achieve SSEN Transmissions commitment to delivering a significant biodiversity enhancement of 22 % net gain for BU with no additional off-site habitat creation or enhancement measures required.</p> <p>The Fanellan Hub is predicted to result in a 100 % net loss in LU-H. Recommendations have been made to secure hedgerow creation within offsite compensation areas.</p> <p>The Proposed OHL Development is predicted to not achieve a 52 % Net Loss for BU; therefore, offsite habitat creation or enhancement measures will be required for area habitats.</p>	On-target
<b>6. Achieve the best outcomes for biodiversity</b>	<p>The BNG Landscape Design sets out to create grassland, woodland and other swamp habitats within the Site, all of which would provide benefits to breeding and foraging birds, mammals, and invertebrates. The native species planting would provide valuable habitat for pollinators and birds.</p> <p>These habitat restoration and creation measures are in line with local and national targets.</p> <p>Implementation of the oLHMP and Construction Environmental Management Plan (CEMP) for Fanellan Hub alongside the proposed LTHMP would ensure that proposed landscaping is successfully implemented for Fanellan Hub.</p>	On-target
<b>7. Be additional</b>	<p>The BNG Assessment of Fanellan Hub demonstrates that additional positive outcomes would be achieved for biodiversity through exceeding the minimum requirement of a 10 % Net Gain (NG) for area-based habitats. This is anticipated to be achieved through the creation of high distinctiveness grassland, low distinctiveness grassland, medium distinctiveness woodland and medium distinctiveness wetland.</p> <p>The BNG Assessment of the Fanellan Hub demonstrates a predicted overall 100 % loss of LU-H. Recommendations have been made to create 0.6 km of medium distinctiveness native species rich hedgerow of moderate condition to achieve an 11 % NG at an offsite location to be determined.</p>	On-target

Principle	Outcomes	Progress
	The BNG Assessment of the Proposed OHL Development demonstrates a 52% decrease on the on-site biodiversity. The minimum amount of biodiversity units required from off-site habitat creation is 22.10 BU for the Proposed OHL Development.	
<b>8. Create a Net Gain Legacy</b>	<p>The habitat creation as part of the Fanellan Hub and OHL Developments would provide long-term benefits by adaptive management planning and dedicated funding for long-term management.</p> <p>Additionally, biodiversity benefits would extend beyond the Site by providing suitable foraging, resting, breeding habitats for notable or protected species within the wider landscape and provides higher distinctiveness habitats than the baseline Site.</p>	On-target
<b>9. Optimise sustainability</b>	BNG has been integrated from the start of the initial development design stages with input across multiple disciplines to optimise the sustainability of the final Fanellan Hub and Proposed OHL Development.	Achieved
<b>10. Be transparent</b>	<p>SSEN Transmission is keen to ensure that approaches following on from this project are shared to ensure that any lessons learned through BNG assessment, habitat enhancement/ creation and habitat management can be factored into future projects.</p> <p>SSEN Transmission are also acting with transparency by assessing and reporting impacts within the Toolkit.</p>	Achieved