DRAFT GREEN INFRASTRUCTURE AND NET BENEFIT FOR BIODIVERSITY REPORT

Padeswood Carbon Dioxide Spur Pipeline Proposed Development

Town and Country Planning Act 1990

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EXECUTIVE SUMMARY

1.1.1. A Net Benefit for Biodiversity (NBB) is defined by Planning Policy Wales 12 as ensuring that developments leave biodiversity and ecosystems in a better state than before. This is achieved by securing long-term, measurable, and demonstrable benefits (Welsh Government, 2024).

1.1.2. The following Draft NBB and Green Infrastructure report was produced in response to the recent advice note on the approach to delivering NBB in Wales produced by the Welsh Government. This advises that developments in Wales must demonstrate they have maintained and enhanced biodiversity and created resilient ecological networks, by relevant legislation and policy.

1.1.3. The NBB approach emphasises a proactive consideration of biodiversity and wider ecosystem benefits early in the design process. This has been considered throughout the Padeswood Spur Pipeline Proposed Development's planning stages by conducting early ecological walkovers, engaging stakeholders early on in the process and utilising the stepwise approach.

1.1.4. The 'stepwise approach' aims firstly to avoid, then minimise, mitigate, as a last resort compensate for adverse impacts on the environment that occur as part of a development[1]. By following this approach, as detailed within the following draft report (see Table 7).

1.1.5. A Net Benefit for Biodiversity is achieved for all low-value and high-value habitats on site, subject to landowner agreements for the enhancement measures stated in section 6.1.1. Hedgerow translocation will be deployed to directly replace S7 Priority Habitat Hedgerow being removed as part of the Padeswood Spur Proposed Development. This will ensure the integrity of existing hedgerows are maintained. To achieve a net benefit for biodiversity additional hedgerow creation and habitat enhancement will be

[1] Avoidance Seek options that avoid harm to ecological features (for example, by locating on an alternative site). Mitigation Negative effects should be avoided or minimised through mitigation measures, either through the design of the project or subsequent measures that can be guaranteed – for example, through a condition or planning obligation. Compensation Where there are significant residual negative ecological effects despite the mitigation proposed, these should be offset by appropriate compensatory measures. Enhancement Seek to provide net benefits for biodiversity over and above requirements for avoidance, mitigation or compensation (CIEEM, 2018).

implemented in mitigation areas and maintained for the long-term.

1.1.6. As part of the final design, mitigation and compensation measures related to hedgerow loss should be reviewed to ensure a Net Benefit of hedgerows on site or within offsite compensation areas is achieved within the Padeswood Spur Pipeline Proposed Development design.

1.1.7. For the Padeswood Spur Pipeline Proposed Development to provide NBB in the long-term; management and monitoring requirements are provided. These include habitat management over 5 years, inclusive of a management and monitoring plan for habitat creation and enhancement highlighted in Section 6.1. Landowner discussions are still ongoing for habitat enhancements required within habitat enhancement areas.

1.1.8. Due to the nature of the Padeswood Spur Pipeline Proposed Development, a below ground pipeline, the draft NBB Report and Green Infrastructure Statement have been produced as one report due to the linkages between them and the limited scope to introduce green infrastructure to the Padeswood Spur Pipeline Proposed Development. Section 8 highlights how the Building with Nature Principles have been considered within the design where possible.

2. INTRODUCTION

2.1. DOCUMENT PURPOSE

2.1.1. In response to recent developments in Welsh policy on Net Benefit for Biodiversity (NBB) and Green Infrastructure (GI) in Wales, this Statement has been prepared by WSP UK Ltd ('WSP') on behalf of Liverpool Bay CCS Limited (part of the Eni SpA group) (the 'Applicant') to accompany a Planning Application for consent to construct a new carbon dioxide pipeline in Flintshire, Wales and an associated Above Ground Installation (AGI) in line with Planning Policy Wales (PPW) 12 (Chapter 6 – Distinctive and Natural Places).

2.2. PROJECT BACKGROUND

2.2.1. The new carbon dioxide pipeline will connect the Padeswood Carbon Capture and Storage (CCS) Plant, located in Padeswood, Flintshire to Northop Hall AGI (the 'Padeswood Carbon Dioxide Spur Pipeline Proposed Development'). The Padeswood Carbon Dioxide Spur Pipeline Proposed Development (Padeswood Spur Pipeline Proposed Development) will form part of the wider HyNet Project (the 'Project').

2.2.2. The Project aims to reduce carbon dioxide emissions from industry and transport and support economic growth in England and North Wales. The location of the Site is in Appendix A -Figure 1.

2.2.3. The Planning Application will seek approval for the Construction, Operation and end-of-life Decommissioning of the following key elements which form the Padeswood Spur Pipeline Proposed Development, as described further in Chapter 3 – Description of the Padeswood Spur Pipeline Proposed Development (Document Reference: PW.3.2.3):

- The Padeswood Above Ground Installation (AGI);
- Padeswood Carbon Dioxide Spur Pipeline; a pipeline approximately 11km in length, connecting Padeswood Carbon Capture and Storage (CCS) Plant located in Padeswood, Flintshire (at Padeswood Cement Works) to Northop Hall AGI;
- Additional equipment at Northop Hall AGI;
- Other infrastructure, including telecommunication connections, Cathodic Protection (CP) equipment, leak detection equipment, and pipeline marker posts; and

- Temporary works to facilitate the construction of the Padeswood Spur Pipeline Proposed Development, including Construction Compounds and temporary

2.2.4. Further details in relation to the works proceeding within the Padeswood Spur Pipeline Proposed Development are provided in Chapter 3 – Description of the Padeswood Spur Pipeline Proposed Development (Document Reference: PW.3.2.3):

2.1. APPROACH TO NET BENEFIT FOR BIODIVERSITY ASSESSMENT

2.1.1. During the design process a number of design freezes (DF) have been utilised to enable proportionate assessments to be undertaken. This has been refined as the design has been progressed, starting with a larger options boundary (DF0), to a more refined survey boundary (DF1a) through to the final design (DF3). This assessment has been written at DF2b, which is the Red Line Boundary used Pre-Application Consultation.

2.2. SCOPE OF REPORT

2.2.1. Edition 12 of Planning Policy Wales (PPW) (Welsh Government, 2024) secures the delivery of biodiversity enhancements in Welsh policy. This includes an approach to delivering Net Benefit for Biodiversity (NBB) in Wales, with the onus being placed on demonstrating both a measurable NBB and promoting ecosystem resilience. The NBB approach intends to deliver an overall improvement in biodiversity. It does not utilise a metric. It instead assesses this improvement in biodiversity qualitatively, putting the emphasis on proactive consideration of biodiversity and wider ecosystem benefits within a placemaking context early in the design process. This approach encourages the consideration of features that may not necessarily be protected, but are crucial for ecosystem functioning, leading to more joined up spaces for nature. There is no mandatory length of time that post-construction management is required in Wales.

2.2.2. The aim of this NBB and GI Statement is to assess if the Padeswood Spur Pipeline Proposed Development achieves an NBB whilst also promoting ecosystem resilience, thus demonstrating compliance with planning requirements. The scope of this draft report is to assess:

1. The pre-development (baseline) biodiversity value of onsite habitats, utilising Phase 1 Habitat Survey methodology (Joint Nature Conservation Committee);
2. Provide details of how the Padeswood Spur Pipeline Proposed Development follows the 'stepwise approach' (further information is provided in Section 6.2)
3. Provide details of how the Padeswood Spur Pipeline Proposed Development promotes the resilience of ecosystems through reference to the DECCA Framework (further information is provided in Section 7).
4. The estimated % in hectares (ha) of habitat retained, lost, enhanced or created on site, based on the Padeswood Spur Pipeline Proposed Development's current design;
5. The overall result for the Padeswood Spur Pipeline Proposed Development (including on site measures only) indicating whether a Net Benefit for Biodiversity will be achieved.

2.3. ECOLOGICAL BACKGROUND

2.3.1. The Site has been subject to several ecological surveys and assessments by the Applicant, including the following:

- A Phase 1 Habitat Survey was undertaken in May, June and July 2024 following the JNCC methodology;
- Appendix 9.1: Arboriculture Impact Assessment (PW.3.3.9.1);
- Padeswood ES Chapter 9 (Biodiversity) (Document Reference: PW.3.2.9);
- ES Appendix 9.2: Preliminary Ecological Appraisal (Document Reference: PW.3.3.9.2);
- ES Appendix 9.3: Great Crested Newt Survey Report (Document Reference: PW.3.3.9.3);
- ES Appendix 9.4: Bat Survey Report (Document Reference: PW.3.3.9.4);
- ES Appendix 9.5: Hedgerow Survey Report (Document Reference: PW.3.3.9.5);
- ES Appendix 9.6: Badger survey Technical Appendix (Document Reference: PW.3.3.9.6);
- ES Appendix 9.7: Riparian Mammal Survey Report (Document Reference: PW.3.3.9.7);

- ES Appendix 9.8: Preliminary Aquatic Ecological Appraisal (Document Reference: PW.3.3.9.8);
- ES Appendix 9.9: Aquatic Ecology Baseline Report; (Document Reference: PW.3.3.9.9) and
- A Habitats Regulations Assessment undertaken to predict the likely significant effects (Document Reference: PW.4.4).

3. RELEVANT LEGISLATION AND POLICY

MANDATORY APPROACH UNDER THE ENVIRONMENT ACT (WALES) 2016

3.1.1. The Environment (Wales) Act 2016 (Welsh Government, 2016) provides legislation needed to plan and manage Wales' natural resources. It delivers against the Welsh Government's Programme for Government commitment to introduce new legislation for the environment. This positions Wales as a low-carbon, green economy, ready to adapt to the impacts of climate change.

3.1.2. Section 6 under Part 1 (Welsh Government, 2016) of the Environment (Wales) Act introduced an enhanced duty (the S6 duty) (Welsh Government, 2016) for public authorities in the exercise of functions in relation to Wales. The S6 duty requires that public authorities *''must seek to maintain and enhance biodiversity so far as consistent with the proper exercise of their functions and in so doing promote the resilience of ecosystems''*. This will apply to the Local Planning Authority in determining planning applications.

THE WELL-BEING OF FUTURE GENERATIONS (WALES) ACT 2015

3.1.3. The Well-being of Future Generations (Wales) Act 2015 (Welsh Government, 2015) aims to improve the social, economic, environmental, and cultural well-being of Wales. The Act emphasises the importance of maintaining and enhancing biodiversity to ensure ecosystem resilience and sustainability for future generations.

FUTURE WALES: THE NATIONAL PLAN 2040

3.1.4. Future Wales: the National Plan 2040 (Welsh Government, 2019, 2024) emphasises the importance of delivering a Net Benefit for Biodiversity. This plan includes policies aimed at improving the resilience of ecological networks and ecosystem services, identifying areas for green infrastructure, and ensuring that developments contribute positively to biodiversity.

PLANNING POLICY WALES (PPW) EDITION 12 AND NATIONAL DEVELOPMENT FRAMEWORK (2024)

3.1.5. PPW 12 (Welsh Government, 2024) and the National Development Framework (2024) (Welsh Government, 2019, 2024) sets out the importance of delivering a Net Benefit for Biodiversity and

ecosystem resilience. This aligns with the Section 6 duty under the Environment (Wales) Act 2016 (Welsh Government, 2016), which requires public authorities to maintain and enhance biodiversity and promote the resilience of ecosystems. The following must be included in the planning process:

- Net Benefit for Biodiversity: All developments must result in a Net Benefit for Biodiversity. This means that developments should not cause significant loss of habitats or species and must contribute positively to biodiversity;
- Ecosystem Resilience: The planning system must ensure that developments enhance the resilience of ecosystems, supporting their ability to adapt to changes and disturbances, in compliance with the DECCA framework;
- Integration into Planning: Biodiversity considerations are integrated early in the planning process to ensure that ecological benefits are maximised, and potential negative effects are minimised;
- Green Infrastructure (paragraph 6.2.1): Emphasis should be placed on the development of Green Infrastructure, which supports biodiversity and provides multiple benefits for local communities.

3.1.6. Public Authorities must pay attention to improving Green Infrastructure. Paragraph 6.2.1 states that " Green *Infrastructure is the network of natural and semi-natural features, green spaces, rivers and lakes that intersperse and connect places. Green Infrastructure can function at a range of different scales; from entire ecosystems such as wetlands and rivers to parks, fields and gardens at the local scale and street trees, hedgerows, roadside verges, and green roofs/walls at the micro scale*".

3.1.7. Paragraph 6.2.5 states that *"planning authorities must, as part of adopting a strategic and proactive approach to green infrastructure, biodiversity and ecosystems resilience, produce up to date inventories and maps of existing green infrastructure and ecological assets and networks. Green Infrastructure Assessments provide key evidence to support the preparation of development plans and where authorities are not already actively undertaking assessments, they should be undertaken as part of development plan preparation."*

3.1.8. PPW 12 supports the Section 6 duty of the Environment (Wales) Act 2016 by emphasising the delivery of Net Benefits for Biodiversity, as well as aligning with the promotion of sustainable development to improve the socio-economic and cultural well-being of Wales.

TECHNICAL ADVICE NOTE (TAN) 5: NATURE CONSERVATION AND PLANNING (2009)

3.1.9. The Nature Conservation and Planning Technical Advice Note (2009) (Welsh Government , 2009) supplementary advice note for the Planning Policy Wales (2002) provides advice about how the land-use planning system should contribute to protecting and enhancing biodiversity and geological conservation. The document brings together advice on sources of legislation relevant to various nature conservation topics which may be encountered by Local Planning Authorities. It sets out the key principles of planning for nature conservation, provides advice about the preparation and review of development plans, including the relevant statutory requirements, and addresses nature conservation in development control procedures. The note also deals with the conservation of internationally and nationally designated sites and habitats and also covers Local Sites and deals with the conservation of protected and Priority Species.

NATURE RECOVERY ACTION PLAN WALES (NRAP) – THE BIODIVERSITY STRATEGY FOR WALES. PART 1: OUR STRATEGY FOR NATURE (2015) AND PART 2: NATURE RECOVERY ACTION PLAN (2020-21)

3.1.10. The NRAP aims to create a sustainable and resilient natural environment in Wales, ensuring long-term benefits for both nature and society (Welsh Government, 2020).

3.1.11. The NRAP ambition is '*To reverse the decline in biodiversity, for its intrinsic value, and to ensure lasting benefits to society*' - p.g.4 (Welsh Government, 2020).

3.1.12. Both revisions of the NRAP set the framework for addressing the United Nations Environment Programmes' Convention on Biological Diversity Strategic Plan (Convention on Biological Diversity , 2020) and the Aichi Biodiversity Targets (Convention on Biological Diversity, 2020).

3.1.13. The updated NRAP in 2021 focused on biodiversity recovery with specific regard to resilient ecological networks, monitoring and management of ecosystems, securing investment for funding of biodiversity projects and establishing frameworks for governance and progressive ecosystem reporting. Natural Resource Wales' DECCA Framework aligns with the 2021 objectives set out in the NRAP to support compliance through the planning process.

THE BUILDING WITH NATURE (BWN) STANDARDS FRAMEWORK 2.0

3.1.14. The building with Nature Standards provides a comprehensive framework for integrating high-quality green infrastructure into development projects. These standards are designed to ensure that green infrastructure benefits both people and wildlife. The standards are built around four key themes: Core, Wellbeing, Water and Wildlife (Building With Nature, 2023).

NATURAL RESOURCES WALES GREEN INFRASTRUCTURE ASSESSMENT

3.1.15. Natural Resources Wales (NRW)has developed guidance for assessing green infrastructure in Wales (Natural Resource Wales, 2023). This method should be used alongside PPW 12 principles to developments across Wales to demonstrate net benefit.

NATURAL RESOURCES WALES AREA STATEMENTS

3.1.16. Natural Resources Wales has developed seven area statements These area statements are high level assessments of the key challenges and opportunities at the local level In Wales (Natural Resource Wales, 2024). Area statements should be used as an important source of information for planning of green infrastructure and net benefit.

LOCAL POLICY ON NET BENEFIT FOR BIODIVERSITY AND GREEN INFRASTRUCTURE

3.1.17. The Padeswood Spur Pipeline Proposed Development has been considered against the key policy documents relating to NBB, and nature recovery adopted by Flintshire County Council (FCC). The following documents were considered to inform this assessment:

- Local Nature Partnership (LNP) (LNP, 2024) for Northeast Wales Nature Recovery Action Plan (NRAP) (Wales Biodiversity Partnership, 2015)(Flintshire);

- Climate Change Strategy (2022-2030) (Flintshire County Council , 2022);
- Council Plan (2021-2023) (Flintshire County Council , 2023);
- An Assessment of Well-Being in Flintshire (2022) (Flintshire County Council, 2022);
- Supplementary Planning Guidance (8) – Nature Conservation and Development (2017) (Flintshire County Council, 2017); and
- Flintshire County Council Section 6 Duty Report (2022) (Flintshire County Council , 2022).

4. METHODOLOGY

4.1. QUALITY ASSURANCE

4.1.1. This draft report has been completed and quality assured by a team of ecologists competent in NBB, with a collective long-standing experience, in delivering ecological mitigation and compensation under best practice guidelines.

4.1.2. Baseline habitat surveys were completed by competent WSP ecologists, with a collective long-standing experience in Phase 1 and UKHab survey methodology and ecological assessment.

4.1.3. River Habitat Surveys have been completed and checked by surveyors experienced in River Habitat Survey.

4.1.4. For a full description of the methodology used for the River Habitat Survey please refer to Appendix 17.3 – Water Framework Directive Assessment (Document Reference PW.3.3.17.3) Annex C.

4.2. GUIDANCE AND TOOLS

4.2.1. The Net Benefit for Biodiversity Assessment will apply the following guidance and tools:

- CIEEM Briefing: Welsh Government's Approach to Net Benefits for Biodiversity and the DECCA framework (CIEEM, 2022)
- State of Natural Resources Report (SoNaRR) (2020): Assessment of the sustainable management of natural resources. Chp4. Resilient Ecosystems (Natural Resource Wales , 2020)
- Ecosystem Resilience Field Guide (2021) (Natural Resource Wales, 2021)
- Biodiversity and resilience of ecosystems duty (section 6): guidance for public authorities (Welsh Government, 2022)
- Green Infrastructure Assessments 'A guide to key NRW data sets and how to use them as part of a Green Infrastructure Assessment' (Natural Resource Wales, 2023)
- Nature Conservation and Planning Document Technical Advice Note (Welsh Government , 2009)
- NRW: How to avoid or reduce the effects of development on Ancient Woodland (Natural Resource Wales, 2021)
- River Habitat Survey Manual (2003) (HM Government, 2013)

- LANDMAP – the Welsh landscape baseline (Natural Resource Wales, 2024)

4.3. DATA SOURCES

4.3.1. The following data sources have been used to complete this NBB Assessment and GI Statement:

- An initial desk study using publicly available data (Data Map Wales) (Welsh Government, 2024), National Biodiversity Network Trust (NBN Atlas) (NBN, 2024) and local datasets to identify potential/likely habitats of Priority Ecological Networks (PENs), Special Protection Areas (SPAs), Special Areas of Conservation (SACs) and Sites of Special Scientific Interest (SSSI).
- A habitat survey utilising both UKHab and Phase 1 methodologies was undertaken in May, June and July 2024 following best practice guidelines. The survey provided baseline habitat data which detailed the habitat types present on-site, their area (ha) and/or length (km) and their geographic distribution. Full details of the survey method are provided within the Preliminary Ecological Appraisal Report (Document Reference PW.3.3.9.2) and Environmental Impact Assessment Chapter 9 – Biodiversity (Document Reference: PW.3.2.9).
- The construction and design information, including the temporary and permanent works, presented in Chapter 3 – Description of Padeswood Spur Pipeline Proposed Development (Document Reference: PW3.2.3) have been used to assess areas of habitat to be retained, together with the short-term and long-term impacts. Annex A – Figure 2 highlights areas of permanent and temporary works throughout the Padeswood Spur Pipeline Proposed Development.

RIVER HABITAT SURVEY

4.3.2. The River Habitat Survey (RHS) methodology was applied for watercourses present within the Padeswood Spur Pipeline Proposed Development and the resulting information used to inform the NBB assessment.

4.3.3. RHS is a standard field survey methodology (Environment Agency, 2022)which is compliant with CEN standards for hydromorphology (CEN, 2021) ,(CEN, 2020)and provides quantitative analytical tools for assessing physical habitat modification and habitat quality

relevant to the catchment setting. RHS surveys were undertaken between 4 and 5 June 2024 on those watercourses within the Red Line Boundary where there was at least 500 m linear length of watercourse to enable a full RHS survey to be completed.

4.3.4. The RHS data enables quantitative assessment of the degree of habitat modification (Environment Agency, 2003) and habitat quality of the watercourse (Environment Agency, 2003) and The RHS data enables comparison of the data collected against a sub-set of sites of similar type within the catchment setting. This contextual analysis provides a statistically robust means of determining the river habitat quality of a given site. It may be used to inform enhancement measures appropriate to river type as part of the NBB mitigation for the Padeswood Spur Pipeline Proposed Development and NBB enhancements. In the absence of a specific methodology for quantitatively assessing NBB in Wales, the RHS survey and the RHS analytical tools are considered a robust approach to identify appropriate enhancements for the watercourses potentially impacted by the Padeswood Spur Pipeline Proposed Development.

4.3.5. The RHS data were analysed within the RHS database, which has inbuilt quality control tools and automates the calculation of the indices. Post development scenarios were run on the RHS data, plus enhancement scenarios to determine potential NBB outcomes. Further details on the RHS analysis and results will be provided within association of the Water Framework Directive (Document reference PW.3.3.17.3) and Chapter 14 Water Resources and Flood Risk in the Environmental Statement (ES) (Document Reference PW.3.2.17.).

4.4. STEP-WISE APPROACH

4.4.1. The Padeswood Spur Pipeline Proposed Development has been designed in accordance with the stepwise approach (see section 6.2). Biodiversity enhancements that achieve NBB must be delivered following the implementation of the 'stepwise approach' of firstly avoiding, then minimising, mitigating and, as a last resort, compensating for adverse impacts on the environment that occur as part of a development. Therefore, compensation should only be considered as a last resort, where it has been demonstrated clearly that adverse effects on the environment cannot be avoided or fully mitigated. If compensation is necessary, this must be delivered on-

site where possible but off-site compensation can be sought if demonstrated that this is not possible.

4.4.2. This approach will encourage the consideration of features that may not necessarily be protected, but are crucial for ecosystem functioning, leading to more joined up spaces for nature.

4.5. DECCA FRAMEWORK

4.5.1. PPW 2024 instructs planning authorities to take account of and promote the resilience of ecosystems when assessing planning applications.

4.5.2. Natural Resources Wales has developed a framework for evaluating ecosystem resilience based on five attributes and properties specified in the Environment (Wales) Act 2016 (Welsh Government, 2016) . This is hereinafter referred to as the DECCA framework and comprises the objectives listed:

- Diversity – maintaining and enhancing diversity at every scale, including genetic, structural, habitat and between-habitat levels. This supports the complexity of ecosystem functions and interactions that deliver services and benefits.
- Extent – incorporating measures which maintain and increase the area of semi-natural habitat/features and linkages between habitats. In general, smaller ecosystems have reduced capacity to adapt, recover or resist disturbance.
- Condition – the condition of an ecosystem is affected by multiple and complex pressures acting both as short term and longer-term types of disturbance. Both direct and wider impacts should be considered, for example avoiding or mitigating pressures such as climate change, pollution, invasive species, land management neglect etc.
- Connectivity – this refers to the links between and within habitats, which may take the form of physical corridors, stepping stones in the landscape, or patches of the same or related vegetation types that together create a network that enables the flow or movement of genes, species and natural resources. Developments should take opportunities to develop functional habitat and ecological networks within and between ecosystems, building on existing connectivity.
- Adaptability to change – involves the ability of ecosystems to resist and recover from pressures. This achieved when the

attributes of ecosystem resilience – diversity, extent, condition and connectivity are in good condition. Enhancing resilient ecological networks and green infrastructure is crucial for achieving this, as well as supporting social and economic resilience goals outlined in Well-being for future generations act.

4.5.3. NRW define ecosystem resilience as “An environment that can respond to pressures by resisting, recovering or adapting to change, and is able to continue to provide natural resources and benefits to people” (Natural Resource Wales , 2020).

4.5.4. NRW has a duty to ensure that the environment and natural resources of Wales are sustainably maintained, sustainably enhanced and sustainably used. Article 4 of the Natural Resource Body for Wales (Establishment) Order 2012 (HM Government, 2012) sets a general purpose for NRW to pursue the Sustainable Management of Natural Resources (SMNR) in the exercise of its functions. In order to achieve this, NRW applies a set of 9 principles: deliver outcomes, be intelligent, be prepared to challenge, use the full range of tools available, be flexible, bring the right skills and/or expertise together, be efficient and effective and be clear on what NRW do and why (Natural Resource Wales, 2024).

4.5.5. Importantly, the objective of the SMNR is to maintain and enhance the resilience of ecosystems and the benefits they provide and, in so doing, meet the needs of present generations of people without compromising the ability of future generations to meet their need and contribute to the achievement of the well-being goals of the Well-being of Future Generations Act 2015 (Welsh Government, 2015).

4.6. ASSUMPTIONS AND LIMITATIONS

4.6.1. Habitats indicated within UKHab surveys (UKHab, 2023)have also been recorded using Phase 1 Habitat Survey Methodology using the statutory metric habitat translation guide (DEFRA, 2024)and the Handbook for Phase 1 habitat Survey (Joint Nature Conservation Committee) Ecological expertise has also been utilised in translation, where neither data source provides full clarity.

4.6.2. The UKHab and Phase 1 survey data were limited to locations where landowner permission was available. Refer to ES Chapter 9 Biodiversity (Document Reference: PW.3.2.9), for further detail.

4.6.3. Woodland on site has been classified as semi-natural broadleaved/ lowland mixed deciduous woodland Priority Habitat within Phase 1 survey methodology (inclusive of Ancient Woodland).

4.6.4. To be classified as a Section 7 Priority Habitat, Lowland Mixed Deciduous Wood needs to meet the UK Biodiversity Action Plan criteria (UK Biodiversity Action Plan, 2008). The following criteria has been met and recorded by surveyors during on-site surveys:

- Woodland is small with <20ha of coverage along the length of the Red Line Boundary;
- Woodland lies in areas of low altitude;
- Woodland grows on a full range of soil conditions;
- Canopy and understorey species identified include sycamore (*Acer pseudoplatanus*), oak species (*Quercus spp*), blackthorn (*Prunus spinosa*), hawthorn (*Crataegus monogyna*), elder (*Sambucus nigra*), alder (*Alnus glutinosa*), apple (*Malus sp*), ash (*Fraxinus excelsior*), holly (*Ilex aquifolium*), beech (*Fagus sylvatica*), wych elm (*Ulmus glabra*), European lime (*Tilia x europaea*) and rowan (*Sorbus aucuparia*);
- The ground flora often comprised Ancient Woodland Indicator Species (AWIS) including wood sorrel (*Oxalis acetosella*), dog's mercury (*Mercurialis perennis*), bluebell (*Hyacinthoides non-scripta)* wood anemone (*Anemone nemorosa*), pignut (*Conopodium majus*) and wood speedwell (*Veronica montana* as well as common nettle (*Urtica dioica*), bramble (*Rubus fruticosus agg.*), cleavers (*Galium aparine*), hogweed (*Heracleum sphondylium*), herb robert (*Geranium robertianum*) and dock species (*Rumex spp.*)

4.6.5. For further details for the woodlands that met the Lowland Mixed Deciduous woodland criteria refer to Table 9.9 in Padeswood ES Chapter 9 Biodiversity (Document Reference: PW.3.2.9).

4.6.6. RHS survey data were only collected where there was a minimum of 500m of channel length within the Red Line Boundary and where land access was granted. However, the RHS methodology and analytical tools are designed to provide general characterisation of the watercourses within the study area.

4.6.7. The details of potential trackway lay down, vehicle movements, and materials for the access track through Warred Wood are still to be confirmed by the Construction Contractor. Most of Wared Wood is classified as Restored Ancient Woodland, except a pre-

existing access track (section 5.2). Except in an emergency it is assumed that all access through Wared Wood will be of vehicle sizes no larger than a typical 4 x 4 with trailer and the current access track will not need to be reinforced or widened to accommodate the works access in this area. Based on the assumptions above, the Ancient Woodland will be retained.

4.6.8. Areas of short term, long-term impact and retainment have been determined using the Red Line Boundary and available construction information for the Padeswood Spur Pipeline Proposed Development. The following assumptions have been applied for this NBB assessment (see Table 1):

- Permanent land-take associated with the Padeswood and Northop Hall AGI have been excluded from this assessment as they are assessed as part of the Padeswood CCS Project Application (DNS Reference: CAS-02009-W1R1Z7) and the Hynet Main Onshore Carbon Dioxide Pipeline DCO (PINS Reference: EN070007) respectively.
- Where high value and low value habitat intersects with trenchless crossing methods, including horizontal directional drilling (HDD), habitats are classified as retained;
- Where high value habitats intersect with the entry and exit points of trenchless crossing methods, including HDD, habitats are classified as permanent loss;
- Where low value habitats intersect with the entry and exit points of trenchless crossing methods, including HDD, habitats are classified as having a temporary loss;
- Where high value habitats intersect with temporary access tracks, habitats are classified as permanent loss;
- Where low value habitats intersect with temporary access tracks, habitats are classified as having a temporary loss;
- Where high value habitats directly intersect with the 25m pipeline easement, habitats are classified as a permanent loss;
- Where low value habitats directly intersect with the 25m pipeline easement, habitats are classified as a temporary loss;
- Where the pipeline crosses hedgerows and trees, a minimum construction corridor of 12m (crossings at 90 degree angle) and maximum of 17m (crossing at an angle <90 degrees), habitats will be classified as a temporary loss, with the assumption that all hedgerows will be translocated and relocated back to their

original position within the pipeline easement (see section 7 for further detail on hedgerow translocation).

- Where temporary access track entrances require vegetation removal, a maximum of 6m vegetation clearance will be applied. High value habitats within the 6m clearance will be classified as a permanent loss (as defined by Table 1).

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Table 1: Assumptions of habitat retention and loss as a result of the Padeswood Spur Proposed Development

Habitat Type	Phase 1 code	Proposed Development Works				
		Pipeline easement 25m diameter	Pipeline easement 12-17m easement diameter	Temporary Access tracks	Open-cut crossings, trenchless crossings and HDD entry/ exit compounds	Open-cut crossings, trenchless crossings and HDD pipeline route
Arable	J1.1	Short-Term	N/A	Short-term	Short-term	No impact
Broadleaved woodland - semi-natural	A1.1.1	Long-term	N/A	Long-term	Long-term	
Dense Scrub	A2.1	Long-term	N/A	Long-term	Long-term	
Hard Standing	HS	N/A				
Improved grassland	B4	Short-term	N/A	Short-term	Short-term	
Neutral Grassland - semi-improved	B2.2	Long-term	N/A	Long-term	Long-term	
Standing Water	G1	Long-term	N/A	Long-term	Long-term	
Line of Trees	A3.1	N/A	Long-term	Long-term	Long-term	
Individual Trees	A3.1	Long-term	N/A	Long-term	Long-term	
Native Hedgerow (species-rich)	J2.1.1	N/A	Short-term	Short-term	Short-term	
Native Hedgerow with trees (species-rich)	J2.3.1	N/A	Short-term	Short-term	Short-term	

Native Hedgerow with trees (species-rich), at location SJ258996672	J2.3.1	N/A	Long-term	N/A	N/A	
Ditches	G1	Short-term	Short-term	Short-term	Short-term	
Dry Ditches	J2.6					
Watercourses	G1; G2; J2.6					

5. BIODIVERSITY BASELINE

5.1. DESIGNATED SITES

5.1.1. Three designated sites are identified within 2km of the Red Line Boundary comprising Deeside and Buckley Newt sites Special Area of Conservation (SAC),Maes y Grug, Buckley Claypits and Commons, and Connah's Quay Ponds and Woodland Sites of Special Scientific Interest (SSSI) and Local Nature Reserves (LNR), .

5.1.2. Deeside and Buckley Newt sites (SAC) (Wales) is adjacent to the Red Line Boundary, at approximate location NGR SJ291678. Due to the proximity to the Padeswood Spur Pipeline Proposed Development, and surrounding ecological connectivity which supports the SAC, land adjacent to this SAC has been identified as a potential enhancement opportunity (see section 6.1.10). The SAC baseline habitats comprise the following:

- Inland water bodies (standing water and running water);
- Bogs, Marshes, Water fringed vegetation, Fen;
- Heath, Scrub, Maquis and Garrigue, Phygrana;
- Dry grassland, Steppes;
- Humid grassland, Mesophile grassland;
- Improved grassland;
- Broadleaved deciduous woodland;
- Coniferous woodland; and
- Mixed woodland.

5.1.3. Waterbodies throughout the site support one of the largest breeding populations of the great crested newt in Great Britain, along with other widespread amphibian species including smooth newt (*Triturus vulgaris)* palmate newt (*Triturus helveticus)* common frog (*Rana temporaria)* and common toad (*Bufo bufo).* The presence of great crested newt is the primary reason for SAC designation due to the size of the population supported by the sites that make up this SAC.

5.1.4. Forty-nine non-statutory designated sites, all of which are Local Wildlife Sites (LWS) but referred to as Wildlife Sites (WS) in Flintshire, within 2km of the Red Line Boundary.

5.1.5. For further detail on statutory and non-statutory designated sites, refer to ES Chapter 9 Biodiversity, Section 9.5 (Document Reference: PW.3.2.9).

5.2. IRREPLACEABLE HABITAT

5.2.1. Irreplaceable habitats (as defined in Planning Policy Wales Ed 12) are '*habitats, including the natural resources which underpin them, which would be technically very difficult (or take a very significant time) to restore, recreate or replace once destroyed, considering their age, uniqueness, species diversity or rarity. Examples include, ancient woodland and veteran trees, ancient hedgerows, wet woodlands, sand dunes, peatland, species-rich grassland, long undisturbed soils, blanket bog, salt marsh and lowland fen'* (Welsh Government, 2024).

5.2.2. The following irreplaceable habitat were identified on site:

- Restored Ancient Woodland, in approximate location NGR SJ 25985 67387

5.2.3. As it stands, a single temporary access track is to be utilised through an area which is bordered by Restored Ancient Woodland, totalling 0.04ha (see Annex A – Figure 2). There is currently an existing track through Wared Wood which is used by the current landowner for farm access and moving cattle between fields. The mapped Ancient Woodland on DataMap Wales (Welsh Government, 2024) does not include this farm access track. Based on the assumptions listed in Section 4.6 this area of Ancient Woodland will be retained for this assessment. Further details of mitigation and protection measures to ensure the retention of the Ancient Woodland will be confirmed in the Construction Contractors' .

5.2.4. On site mitigation for areas of Ancient Woodland crossed by the Padeswood Spur Pipeline Proposed Development is listed in Section 6.2 and included in the Outline Environmental Management Plan (OEMP) (Document Reference: PW.4.1).

5.3. PRIORITY ECOLOGICAL NETWORKS

5.3.1. Priority Ecological Networks (PENS) (as defined by NRW) are '*areas that have relatively high ecological connectivity between protected sites for a range of broad habitats and so provide a framework for targeting activities such as habitat improvement,*

restoration and creation to build a functionally connected and resilient series of the best biodiversity sites' (Welsh Government, 2023) ' Where possible PENS should be avoided and incorporated into habitat improvement and restoration as part of achieving NBB.

5.4. SECTION 7 HABITATS

5.4.1. Section 7 lists Priority Habitats (as defined by Environment Act (Wales) 2016) that are of principal importance for the purpose of maintaining and enhancing biodiversity in Wales. Developers are required to take all reasonable steps to maintain and enhance habitats included in Section 7 list (Welsh Government, 2016) and (Wales Biodiversity Partnership, 2025).

5.4.2. The following habitats have been classified as 'high value' habitats within the Red Line Boundary, under Section 7 – Priority Habitats (Welsh Government, 2016):

- Broadleaved woodland; semi-natural (including restored Ancient Woodland) (for assumptions on habitat type see section 4.6);
- Trees;
- Hedgerows;
- Rivers and Streams;
- Ponds.

5.5. CURRENT BIODIVERSITY VALUE

5.5.1. Baseline ecological field data was gathered by suitably experienced ecologists during May, June and July 2024, with habitats classified UK Habitat (UKHab) Classification version 2.0 (UKHab Ltd, 2023) methodology (see Preliminary Ecological Appraisal, Document Reference PW.3.3.9.2). UKHab data was then translated into Phase 1 habitat survey data by ecologists familiar in the use of Phase 1 Habitat Survey methodology to feed into the NBB assessment.

5.5.2. Habitats were surveyed at the appropriate time of year for the habitat types, with data captured and stored in GIS format (polygon, line and point data (See Baseline Phase 1 Map - Annex A-Figure 1.

5.5.3. Table 2 below summarises the baseline habitats present within the Red Line Boundary based on UKHab survey data and translated into Phase 1 Habitat.

5.5.4. Habitat areas in hectares for the length of the Padeswood Spur Proposed Development are summarise in Table 3.

Table 2: Baseline Habitats of the Padeswood Spur Pipeline Proposed Development.

Phase 1 Habitat	Phase 1 code
Arable	J1.1
Neutral grassland - semi-improved	B2.2
Broadleaved woodland - semi- natural	A1.1.1
Dense Scrub	A2.1
Hardstanding	HS
Improved grassland	B4
Standing water	G1
Ditch	G1
Dry Ditch	J2.6
Line of Trees	A3.1
Individual Trees	A3.1
Native Hedgerows - Species rich	J2.1.1
Native Hedgerows with trees- Species rich	J2.3.1
Rivers and Streams	G2

Table 3:Habitat types and their extent within the Red Line Boundary.

Habitat Name	UKHab habitat type	Phase 1 habitat Type	S7 Priority Habitat	Irreplaceable habitat	Area in site boundary
Arable	c1c	J1.1	No	n/a	4.06ha
Neutral grassland - semi-improved	g3c	B2.2	No	n/a	1.96ha
Broadleaved woodland - semi-natural	w1f/w1g/w1h	A1.1.1	Yes	Yes	2.88ha
Dense Scrub	h3	A2.1	No	n/a	0.03ha
Hardstanding	u1b	HS	No	n/a	1.45ha
Improved grassland	g4	B4	No	n/a	57.12ha
Standing water	r1g	G1	Yes	n/a	0.02ha
Ditch	r1g	G1	No	n/a	0.89km
Dry Ditch	r1g	J2.6	No	n/a	0.05km
Line of Trees	w (33)	A3.1	No	n/a	0.69km
Individual Trees	w (203)	A3.1	No	n/a	n/a
Native Hedgerows - Species rich	h2/h2a/h2b	J2.1.1	Yes	Yes	2.42km
Native Hedgerows with trees-Species rich	h2/h2a/h2b	J2.3.1	Yes	Yes	3.96km
Rivers and Streams		G2	Yes	Yes	0.44km
Area Habitat total					67.65ha
Linear Habitat total					7.45km

5.6. WATERCOURSES

5.6.1. River Habitat Surveys (RHS) were undertaken on the following watercourses which lay within the Red Line Boundary:

- Black Brook Tributary 1;
- Brackens Drain;
- Wat's Dyke;
- River Alyn;
- Tributary of Alltami Brook 1; and
- Wepre Brook.

5.6.2. The detailed analysis and results of the RHS data is provided in Appendix 17.3 – Water Framework Directive Assessment (Document Reference PW.3.3.17.3) of the ES.

5.6.3. The Habitat Modification Score rules for RHS data categorise the data into classes depending on the degree of physical modification to the channel and banks. The HMS is categorised as shown in Table 4

5.6.4. In summary, the baseline Habitat Modification Class (HMC) and Habitat Quality Assessment class (HQA) results are provided in Table 5 and Table 6 respectively.

Table 4: RHS Habitat Modification Class - Key

HMC	HMC Description	HMS Score
1	Pristine/semi-natural	0-16
2	Predominantly unmodified	17-199
3	Obviously modified	200-499
4	Significantly modified	500-1399
5	Severely modified	1400+

Table 5: Baseline Habitat Modification Class results generated by the RHS data

Watercourse	Habitat Modification Class (HMC)
Black Brook Tributary 1	2
Brackens Drain	3

Wat's Dyke	1
River Alyn	3
Tributary of Alltami Brook 1	4
Wepre Brook	2

Table 6: Baseline Habitat Quality Assessment class results generated by the RHS data

Watercourse	Habitat Quality Assessment Class (HQA)
Black Brook Tributary 1	1
Brackens Drain	2
Wat's Dyke	3
River Alyn	1
Tributary of Alltami Brook 1	1
Wepre Brook	3

6. POST-DEVELOPMENT

6.1. HABITAT LOSS, RETENTION AND CREATION

6.1.1. An overview of habitat loss, retained and created within the Padeswood Spur Pipeline Proposed Development is provided below.

HABITAT RETENTION

The application of the stepwise approach during the design process resulted in biodiversity habitats of S7 Priority Habitat, high and low value being retained, where possible, within the Padeswood Spur Pipeline Proposed Development.

6.1.2. Retained area based habitats measure approximately 41.58 ha. These are split by the following habitat:

- 2.40ha of Arable;
- 1.45ha of Neutral grassland – semi-improved;
- 2.50ha of Broadleaved woodland – semi-natural
- 0.12 of Ancient woodland
- 0.02ha of dense scrub;
- 31.88ha of Improved grassland; and
- 0.02ha of standing water;
- 1.45ha of Hardstanding.

6.1.3. Retained linear habitats measure approximately 6.46km. These are split by the following habitats:

- 1.95km of Native Hedgerow
- 2.96km of Native Hedgerow with Trees
- 0.50km of Ditch;
- 0.03km of Dry Ditch;
- 0.63km of Line of trees;
- 0.39km of Rivers and Streams.

HABITAT LOSS

6.1.4. Some habitats will have a short term/temporary impact due to the nature of construction, i.e. temporary access track, temporary compounds (see Section 4.6). Short-term impact has also been defined as any impact to low value habitats that can be reinstated

to baseline condition within five years post-construction. Post-construction these habitats will be reinstated for further detail see Table 7.

6.1.5. Temporary lost area based habitats measure approximately 26.90ha. A temporary loss can only apply to low value habitats. These are split by the following habitats:

- 1.66ha of Arable; and
- 25.24ha of Improved grassland.

6.1.6. Temporary lost linear based habitats measure approximately 1.93 km. These are split by the following habitats:

- 0.39km of Ditch;
- 0.02km of Dry Ditch; and
- 0.05km of Rivers and Streams
- 0.47km of Native hedgerows species-rich;
- 0.86km of Native hedgerows with trees, species-rich

6.1.7. High value habitats (except hedgerows) and habitats listed as a S7 Priority Habitat will have a long-term or permanent impact due to the difficulty of reinstating long-standing, mature habitats within five years post-construction and the designation of being a S7 Priority Habitat under the Environment (Wales) Act 2016 (Welsh Government, 2016).

6.1.8. Permanently lost area based habitats measure approximately 0.90ha. These are split by the following habitat:

- Loss of 0.38ha of Semi-natural broadleaved woodland;
- Loss of 0.01ha of dense Scrub; and
- Loss of 0.51ha of semi-improved grassland.

6.1.9. Permanently lost linear habitats measure approximately 0.75km. These are split by the following habitats:

- 9 Individual Trees; and
- 0.6km of Line of trees
- 0.15km Native species-rich hedgerows with trees.

HABITAT CREATION AND ENHANCEMENT

6.1.10. Two potential ecological compensation/enhancement areas have been identified within the Red Line Boundary, for enhancements only. These are to be formally agreed with landowners. No

permanent or temporary works will occur within these areas. The two areas are located at NGR SJ 27296 63125 and NGR SJ 26007 66568 (see Appendix A - Figure 3).

6.1.11. The following ecological enhancements have been advised in each of the two enhancement areas:

ENHANCEMENT AREA 1

- Improving the condition of the woodland, on the western border of ecological enhancement area 1 (NGR SJ 27296 63125) by sympathetic management, e.g. removal of non-native coniferous trees to improve the functioning of ancient woodland.
- An area of improved grassland is located between two parcels of priority ecological network. This area is to turn into woodland to connect the ecological corridor within the wider landscape.
- Active management of woodland, e.g. coppice management, removal of undesirable species e.g. non-native invasive species.

Riverine Enhancements

6.1.12. Riparian enhancements have been proposed on the Bracken's Drain, which has been identified as an ecological enhancement area for the Padeswood Spur Pipeline Proposed Development. The RHS data for the Bracken's Drain was manipulated to simulate riparian enhancements along the 500 m survey reach. The results of the enhancement scenario in comparison to the baseline for the HMC and HQA are provided in Table 7 and Table 9.

Table 6: Enhancement scenario Habitat Modification Class results generated by RHS data

Watercourse	Baseline Habitat Modification Class (HMC)	Post Development Habitat Modification Class (HMC)
Brackens Drain	3	3

Table 7: Enhancement scenario Habitat Quality Assessment class results generated by the RHS data.

Watercourse	Baseline Habitat Quality Assessment Class (HQA)	Post Development Habitat Quality Assessment Class (HQA)
Brackens Drain	2	1

6.1.13. For the enhancement scenario, no modifications would be introduced to the Bracken's Drain and no existing modifications removed, therefore there is no change to the degree of habitat modification.

6.1.14. The baseline habitat quality of the Bracken's Drain is classified into HQA class 2, which is High habitat quality. The simulation of riparian enhancements focused on improving bank vegetation, vegetation structure, and tree coverage. The resulting proposed enhancements to the riparian zone of the Bracken's Drain improved the habitat quality from HQA class 2 (High habitat quality) to HQA class 1 (Very High habitat quality).

ENHANCEMENT AREA 2

6.1.15. Enhancement proposals for this area could include:

- Introduce a traditional hay meadow management area by overseeding of wildflower species and introducing low intensity grazing to reduce nutrient content over time.
- Planting a limited number of scattered parkland trees (suitable to the area) across the grassland and allowing them to mature.

ADDITIONAL COMPENSATION

6.1.16. Additional compensation is required to account for woodland loss, and the feasibility of successfully translocating 1.33km of Hedgerow. A ratio for habitat creation that accounts for high biodiversity value habitats that will be permanently lost within the Padeswood Spur Pipeline Proposed Development is summarised below, and must be applied within any creation within the designated enhancement areas:

- 2:1 Semi-natural broadleaved woodland and Lowland Mixed Deciduous Woodland Priority Habitat that is not ancient woodland. Trees, woodland, will be replaced at a minimum 3:1 ratio;
- 3:1 Hedgerows Priority Habitat (all hedgerow onsite are species-rich and Important under the Hedgerow Regulations 1997); and
- 6:1 Ancient Woodland (and veteran trees)– although no loss of this habitat is anticipated. Trenchless Crossing (TRX-12) is proposed to be executed by Horizontal Directional Drilling (HDD) (See Chapter 3 Description of Padeswood Spur Pipeline

Proposed Development, Document Reference: PW.3.2.3), to ensure no loss of Ancient Woodland.

6.2. STEPWISE APPROACH TAKEN TO DELIVER NBB

6.2.1. This section outlines the 'stepwise approach' that has been followed to avoid, minimise, mitigate and compensate impacts resulting from the Padeswood Spur Pipeline Proposed Development.

6.2.2. Biodiversity and wider ecosystem benefits were considered early in the design process for the Padeswood Spur Pipeline Proposed Development. This led to design and programme changes, including the retention of habitats and avoidance of disturbance where possible. This accords with the 'Avoidance' principle of the stepwise approach. Further information on this process can be found in Chapter 4 Consideration of Alternatives (Document Reference: PW.3.2.4).

6.2.3. Where it was not possible to avoid specific biodiversity impacts, measures to minimise the impacts were recommended. This led to the recommendation of several strategies and method statements which will aim to minimise the Padeswood Spur Pipeline Proposed Development's impact on biodiversity. This accords with the 'Minimise' principle of the stepwise approach.

6.2.4. Where predicted impacts may still occur following avoidance measures and measures to minimise impacts, mitigation measures will be implemented. Mitigation and enhancement measures have been designed to reduce the impacts of the Padeswood Spur Pipeline Proposed Development, supporting the 'Mitigate' principle of the stepwise approach.

6.2.5. Additional compensation was considered as a last resort when biodiversity impacts could not be fully mitigated. Two areas within the Red Line Boundary have been kept as ecological compensation areas and will be used to offset any impact from the Padeswood Spur Pipeline Proposed Development (Annex A -Figure 3). This accords with the 'Compensate' principle of the stepwise approach.

6.2.6. The stepwise approach applied for ecological receptors through the development of proposals is summarised in Table 7.

Table 7: Stepwise approach taken to deliver NBB for the Padeswood Spur Proposed Development

Habitat Type	Avoid	Minimise	Mitigate	Compensate
All Habitats	The Red Line Boundary has been devised to avoid important and designated biodiversity receptors such as ponds, ancient woodland, including protected and notable species (see ES Chapter 9 - Biodiversity, Document Reference: PW.3.2.9 for further detail).	• An Outline Environmental Management Plan (OEMP).(Document Reference: PW.4.1) has been produced. The measures in it will be included in Construction Environmental Management Plan (CEMP) or Operation and Maintenance Management Plan as appropriate. This will ensure compliance with environmental risks and mitigations identified onsite, inclusive of habitat enhancement and creation suggestions. It will also ensure that environmental best practice is followed so that habitats and species are safeguarded during the Operational Stage of the Padeswood Spur Pipeline Proposed Development; • Produce and adhere to a Precautionary Method of Working (PMoW). This will include a pre-works check to confirm that Site conditions have not changed and that no additional ecological receptors require consideration before the commencement of works. This will minimise impacts to ecological receptors and will be outlined as part of the CEMP. • Employ an ECoW during construction to ensure compliance with the CEMP. Vegetation clearance will be supervised by the ECoW. Where habitats are considered to be suitable for reptile and amphibians, this clearance of vegetation will be carried out in a staged process. Details of vegetation clearance methodology will be detailed in the PMoW. • Carry out vegetation clearance outside of the breeding bird season where possible.	See specific habitat mitigation below.	• As it stands the provision of compensation and Net Benefit entirely reside within the Site, with no Offsite compensation considered; • Two compensation areas have been identified within the Red Line Boundary to enable habitat enhancement, in line with DECCA attributes. This will compensate for the loss S7 and high-value habitat, including, woodland, trees, semi-improved natural grassland and hedgerows throughout the Padeswood Spur Pipeline Proposed Development (see section 6.1 for details on habitat enhancement). • Provision of compensation areas, which are anticipated to be adjacent to existing habitats for which compensation will be required. This will ensure that the connectivity of the Site is maintained, and will benefit commuting and foraging species such as bats, and other small mammals, and badger
Designated Sites	• The design is such that the construction and operational footprint required has been minimised as far as possible, thereby avoiding land take of designated sites within	• A Habitats Regulations Assessment has been undertaken to determine whether the Padeswood Spur Pipeline Proposed Development has the potential to result in significant impacts of designated	N/A	• Ecological Enhancement area 2 at approximate location SJ 26007 66568 has been identified due to its proximity to Deeside and Buckley Newt SAC and its potential to create a suitable habitat to support the

	proximity to the Site, including Deeside and Buckley Newt Site.	sites within close proximity to the Red Line Boundary.		designation of the SAC and improve habitat connectedness within that area.
Irreplaceable Habitat (Ancient Woodland)	• Construction methods have been chosen and will be applied to areas of irreplaceable habitat (restored ancient woodland) to avoid direct impact. Horizontal Directional Drilling (HDD) will be used in areas where designated restored ancient woodland lies.	• In areas of ancient woodland, access tracks have been limited to pre-existing tracks only. Temporary access tracks will be micro-sited to limit incursion in areas of Ancient Woodland which are not currently used within areas of the pre-existing access track.	• Where access tracks cannot be fully micro-sited to not impact the ground flora, or trees within the Ancient Woodland, temporary access track way will be used to limit the compaction of Ancient Woodland soils and other direct impacts from the use of this access track by works machinery. ` • Installation of temporary access trackway within Ancient Woodland will be supervised by ECoW.	• N/A
S7 Priority Habitat (Including Lowland Mixed Deciduous Woodland, Hedgerow, Rivers and Ponds)	• The design is such that the construction and operational footprint required has been minimised as far as possible, thereby avoiding land take of S7 habitats. However, this was not entirely possible site wide, therefore the stepwise approach has been applied. • Construction methods have been chosen and will be applied to certain areas of S7 Priority Habitat (including ancient woodland, all Ponds and Rivers) to avoid direct impact. HDD will be used in specific areasto achieve this.	• The easement of the pipeline has carefully been considered through each design phase to be as narrow as possible. A construction corridor width of 25m is used for this assessment. Where the pipeline crosses hedgerows a minimum easement of 12m (crossings at 90 degree angle) and maximum of 17m (crossing at an angle <90 degrees), habitats will be classified as a temporary loss due to the translocation of hedgerows being deployed, minimising the impacts, where possible.	• All hedgerows impacted within the minimum easement of 12m (crossings at 90 degree angle) and maximum of 17m (crossing at an angle <90 degrees), will be translocated to avoid permanent impact. In total, 1.33km of Hedgerow will be translocated along the length of the Padeswood Spur Pipeline Proposed Development. • Constructing the Padeswood Spur Pipeline will require removing six individual trees, in addition to those being removed as part of a woodland habitat. The worst-case scenario for tree loss has been evaluated in **Appendix 9.1 - Arboriculture Impact Assessment Report (Document Reference: PW.3.3.9.1)**. Trees cannot be replanted above or within 12 m of the pipeline. Where feasible, replacement trees or hedgerows will be planted nearby, comprising native species. Planting of additional trees will be highlighted within the OEMP.	• Post construction, all hedgerows subject to hedgerow temporary loss through translocation to facilitate construction, will be reinstated with native species of local provenance in-keeping with the overall species compositions of hedgerows. Reinstatement will comprise a combination planting of whips and standard-sized shrubs to infill between translocated hedgerows. Planting shall be selected to match as close as possible, the height and species of any adjacent retained hedgerow. • Hedgerows directly impacted as a result of the Padeswood Spur Pipeline Proposed Development (i.e. those not impacted as a result of Construction Compounds) will be reinstated within 1 year of impact; although where translocation will be deployed, this will be a much shorter timeline (within weeks) to ensure success of this method of mitigation. • Habitat creation at a minimum 1:1 ratio (2:1 for Priority Habitats and hedgerow lengths, and 3:1 for trees)) for habitats lost. This will include creating habitats of higher ecological value. • Where woodland and trees are to be lost to facilitate construction of

				the Padeswood Spur Pipeline Proposed Development, these will be mitigated for through the planting of trees across areas identified within the OEMP (Document Reference: PW.4.1); • Hedgerows will be replaced at a ratio of 2:1 and will comprise planting of native species of local provenance, in-keeping with local hedgerows within the wider landscape. Areas for planting will be sought to prioritise areas based on connections to, and to enhance, existing green infrastructure. Management of newly planted hedgerows will be prescribed by the detailed CEMP but will broadly follow management across a 10-year period during establishment. Management of other habitat types (e.g. scrub and riparian planting) will be subject to a 5-year management plan. • • Trees will be replaced at a ratio of 3:1 and will comprise planting of native species of local provenance, in-keeping with woodland within the wider landscape. Areas for planting will be sought to prioritise areas based on connections to, and to enhance, existing green infrastructure. Management of newly planted woodland and trees will be prescribed by the detailed CEMP but will broadly follow management across a 10-year period during establishment. Management of other habitat types (e.g. scrub and riparian planting) will be subject to a 5-year management plan. • In Enhancement area 1 an area of improved grassland is located between two parcels of priority ecological network. This area is to turn into woodland to connect an ecological corridor within the wider landscape.

				• In Enhancement area 1 improve the condition of the woodland on the western border of the parcel, by sympathetic management, e.g. removal of non-native coniferous trees to improve the functioning of ancient woodland. • In Enhancement area 2 Introduce a traditional hay meadow management area by overseeding of wildflower species and introducing low intensity grazing to reduce nutrient content over time.
Non-S7 Priority Habitat	The design is such that the construction and operational footprint required has been minimised as far as possible. The land take for the Proposed Development targets habitats of low value, where possible, that are not classified as S7 habitats, for the main easement of the pipeline. The step wise approach has been followed for any habitat impacted by the Padeswood Spur Proposed Development Pipeline.		• Where areas of grassland are to be removed as part of Proposed Development, storage of topsoil where removed, will be put in place, to preserve the seedbank during the construction of the pipeline. • Post-construction, areas will need re-seeding with suitable seed mix (based on pH and drainage, ideally local source). A suitable mowing regime can be introduced post-development to ensure nutrient uplift and species uplift.	N/A

7. GREEN INFRASTRUCTURE STATEMENT

7.1. GREEN INFRASTRUCTURE OVERVIEW

7.1.1. The Environment (Wales) Act 2016 (Welsh Government, 2016) provides context for the delivery of multi-functional green infrastructure in fulfilling the Section 6 biodiversity duty. Green Infrastructure (GI) can act as a resilient ecological network feature to ensure that network links between habitats and biodiversity hot spots are maintained, to provide maximum NBB and Well-being. All planning applications must include a Green Infrastructure Statement, detailing how green infrastructure is incorporated into the development of the design.

GREEN INFRASTRUCTURE STANDARDS

7.1.2. The recent update to Section 6 of the Planning Policy Wales (PPW) (Welsh Government, 2024) establishes the submission of proportionate Green Infrastructure Statements with planning applications and signposting Building with Nature Standards.

7.1.3. The Building with Nature (BwN) Standards Framework 2.0 (Building With Nature, 2023) will be used to assess GI, alongside the NBB assessment. The twelve (12) Standards provide a pathway for, and recognition of, early and sustained engagement in the design, implementation and long-term stewardship of high-quality GI. The standards focus on the opportunities to put existing and planned-for habitat and wildlife at the heart of development for the benefit of people and nature. Each Standard is defined by its purpose and key characteristics, which are presented in the form of questions. These questions have been used to inform how the design meets each Standard.

7.1.4. Table 9 below highlights the BwN standards (Building With Nature, 2023) and how the Padeswood Spur Pipeline Proposed Development will meet those standards where it is possible. In order to remain proportionate, Standards 2- 10 have been scoped out of this Green Infrastructure Statement. The Padeswood Carbon Dioxide Spur Pipeline will be an underground pipeline, therefore once the Construction Stage is completed, the land will be returned to its existing use. As a result, there is little scope for community use and the creation of new green infrastructure. Padeswood AGI will be constructed on land owned by Heidelberg Materials UK and will

form part of the wider Carbon Capture and Storage infrastructure to be consented at the site (DNS Reference: CAS-02009-W1R1Z7). As such, the opportunity to introduce green infrastructure to the Padeswood AGI site is limited due to the industrial nature, the functional requirements of the proposed equipment and on-site safety implications. The purpose of the Padeswood Spur Pipeline Proposed Development is to transport CO_2 within a below ground pipeline, therefore the interaction with the wider community will be limited.

Table 8: Building with Nature Standards

Standard	Description [2]	Justification
Core Standards		
Standard 1: Optimises Multifunctionality and Connectivity	*'The green infrastructure optimises multifunctionality and connectivity within the boundary of the project and links with existing and planned for green infrastructure in the surrounding area'.*	Although not possible to incorporate directly into the design of the Padeswood Spur Pipeline Proposed Development, ecological connectivity within the Red Line Boundary has been considered where possible. Translocation and replacement planting of hedgerows will help to main connectivity with wider habitats for species such as bats. At the enhancement areas, additional hedgerow, shrub or tree planting and enhancement of existing woodland will be undertaken. This has been considered in order to link with habitats in the surrounding landscape. Existing Public Rights of Way (PROWs) will be temporarily diverted or closed during the Construction Stage to ensure public safety. On completion of the works, all affected PROWs will be reopened.
Standard 2: Positively	*The green infrastructure is designed to be climate*	While the Padeswood Spur Pipeline Proposed Development is part of the wider CCS network contributing to an overall

Standard	Description [2]	Justification
Responds to the Climate Emergency	*resilient by incorporating mitigation and adaptations that respond to the impacts of climate change. The green infrastructure is designed to promote low carbon behaviours and contributes to achieving zero carbon development by optimising carbon sequestration and demonstrating low carbon approaches to design, construction and long-term maintenance.*	reduction in CO_2 emissions from industry, as discussed in paragraph 8.1.4, the nature of the Padeswood Spur Pipeline Proposed Development means that there are few opportunities to incorporate green infrastructure into the design. This Standard has been scoped out. The design will satisfy current construction standards to ensure the design is resilient to changes in climate. Where appropriate, the Construction Contractor will use low carbon approaches to construction (see the **Outline Environmental Management Plan, Document Reference: PW.4.1).**
Standard 3: Maximises Environmental Net Gains	*The green infrastructure is designed to actively mitigate any unavoidable harmful environmental impacts of development on soil and air quality and to minimise light and noise pollution. In addition, it delivers environmental net gains, including improving air and*	As discussed in paragraph 8.1.4, the nature of the Padeswood Spur Pipeline Proposed Development means that there are few opportunities to incorporate green infrastructure into the design. This Standard has been scoped out. During operation, noise pollution will be limited, and the AGI will only be lit for maintenance purposes (see the **Outline Environmental Management Plan, Document Reference: PW.4.1).**

Standard	Description [2]	Justification
	water quality and wherever possible includes quiet spaces for people and wildlife.	
Standard 4: Champions a Context Driven Approach	*The green infrastructure positively responds to the local context, including the physical environment, such as landscape and urban character and social, economic and environmental priorities, including the evidenced needs and strengths of existing and future local communities.*	As discussed in paragraph 8.1.4, the nature of the Padeswood Spur Pipeline Proposed Development means that there are few opportunities to incorporate green infrastructure into the design. This Standard has been scoped out.
Standard 5: Creates Distinctive Place	*The green infrastructure is integral to the project and is designed to reinforce local distinctiveness and/or create a distinctive sense of place.*	As discussed in paragraph 8.1.4, the nature of the Padeswood Spur Pipeline Proposed Development means that there are few opportunities to incorporate green infrastructure into the design. This Standard has been scoped out.
Standard 6: Secures Effective Place-Keeping	*The green infrastructure is subject to management arrangements that demonstrate a commitment*	As discussed in paragraph 8.1.4, the nature of the Padeswood Spur Pipeline Proposed Development means that there are few opportunities to incorporate green infrastructure into the design. This Standard has been scoped out.

Standard	Description [2]	Justification
	to effectively implement, establish and maintain features at all stages of the development process. This should include details of funding, governance, maintenance, monitoring, remediation and, where appropriate, community involvement and stewardship.	
Wellbeing Standards		
Standard 7: Brings Nature Closer to People	*The green infrastructure is close to where people live, work, learn, play and/or visit and is designed to optimise use and enjoyment for everyone across the year, to maximise health and wellbeing outcomes and to promote active living for existing and future communities.*	As discussed in paragraph 8.1.4, the nature of the Padeswood Spur Pipeline Proposed Development means that there are few opportunities to incorporate green infrastructure into the design. This Standard has been scoped out.

Standard	Description [2]	Justification
Standard 8: Supports Equitable and Inclusive Places	*The green infrastructure is designed to encourage and enable everyone, including those from vulnerable or excluded groups, to use and enjoy it, to help reduce health inequalities and to build a shared sense of community and belonging.*	As discussed in paragraph 8.1.4, the nature of the Padeswood Spur Pipeline Proposed Development means that there are few opportunities to incorporate green infrastructure into the design. This Standard has been scoped out
Water Standards		
Standard 9: Delivers Climate Resilient Water Management	*The green infrastructure is integral to sustainable drainage using above ground features to manage flood risk, maintain the natural water cycle and improve water quality within the boundary of the project and at a catchment scale. The green infrastructure is designed to be drought resistant and wherever possible, includes*	As discussed in paragraph 8.1.4, the nature of the Padeswood Spur Pipeline Proposed Development means that there are few opportunities to incorporate green infrastructure into the design. This Standard has been scoped out The drainage system at Padeswood AGI will connect to the wider drainage infrastructure of the Padeswood CCS Project which is currently seeking planning permission (see DNS Reference: CAS-02009-W1R1Z7).

Standard	Description [2]	Justification
	measures for the retention and reuse of rainwater	
Standard 10: Brings Water Close to People	*The green infrastructure is designed to integrate water, including areas of standing water, flowing water, seasonal and ephemeral features, to bring additional amenity and wildlife benefits.*	As discussed in paragraph 8.1.4, the nature of the Padeswood Spur Pipeline Proposed Development means that there are few opportunities to incorporate green infrastructure into the design. This Standard has been scoped out.
Wildlife Standards		
Standard 11 Delivers Wildlife Enhancement	*The green infrastructure optimises long term and climate resilient net benefits for nature, by retaining and enhancing existing ecological assets and creating locally relevant new habitats within the boundary of the project. Wildlife measures are secured at all stages of implementation and where applicable, across multiple phases of development.*	*Hedgerows affected by construction will be mitigated by translocation and planting of mature shrubs using locally characteristic species of local provenance.* *To achieve wildlife enhancement additional hedgerow, shrub or tree planting and enhancement of existing woodland will be undertaken in enhancement areas outside the scheme footprint, as detailed in* ***paragraphs 6.1.11 to 6.1.14****.*

Standard	Description [2]	Justification
Standard 12 Underpins Nature's Recovery	*The green infrastructure creates effective links with existing and planned for ecological features and networks beyond the boundary of the project to support the creation and restoration of resilient ecological networks in the wider landscape.*	*The above proposed enhancement measures connect to valuable habitats such as ancient woodland in the south of the scheme and the Deeside and Buckley Newt Sites SAC in the north. The aim of the enhancement measures will be to enhance the quality of existing habitats and improve connectivity to these valuable receptors for a range of biodiversity and specifically great crested newts in the north as detailed in* ***paragraphs 6.1.11 to 6.1.14***

8. DECCA FRAMEWORK

8.1.1. NBB does not utilise a metric, demonstrating an overall net benefit is not quantifiable. The Welsh approach aims to demonstrate an increase in ecosystem resilience; this is difficult to quantify as ecosystems are complex and dynamic. This is where the Welsh Government and NRW have developed the DECCA framework (see Section 4.5), which is utilised for a better understanding of aspects of ecosystem resilience.

8.1.2. The construction of the Padeswood Spur Pipeline Proposed Development will result in the permanent loss of 0.9ha of area based habitat and 0.6km of linear habitat. Habitat compensation will ensure that habitats are replaced equal or above for their compensation. For compensation replacement ratios per habitat see Table 7. Where habitats cannot be replaced and fully mitigated for their loss (Hedgerows) , other habitats within the site will be enhanced to increase the Site's biodiversity value, for habitat creation and enhancements identified within two enhancement areas (see section 6.1).

8.1.3. To date all losses on site have been able to be mitigated on site, with no offsite mitigation or enhancement being required, subject to landowner approval.;

8.1.4. The Padeswood Spur Pipeline Proposed Development demonstrates a proactive consideration for biodiversity and the wider ecosystem throughout the design process. Where impacts to biodiversity were predicted, following the application of avoidance measures and measures to minimise impacts, mitigation was implemented, and compensation provided. The measures aiming to increase ecosystem resilience could be categorised per mitigation/compensation type and are summarised below in Table 9. Each measure's contribution to ecosystem resilience is also highlighted using the DECCA Framework.

Table 9: Mitigation and compensation measures and their contribution to ecosystem resilience

Habitat Impacted Mitigation or Compensation Measure		DECCA Framework Attributes Diversity	Extent	Condition	Connectivity	Adaptability to change
Trees	Tree Planting (Mitigation)	Planting of different ages, sizes and species of tree will contribute to the structural diversity of Trees within the Padeswood Spur Pipeline Proposed Development.	Replanting of trees that will be lost will maintain the extent of trees on site Trees will be replanted at a ratio of 3:1.	Trees will be replanted at the pre-existing condition of trees within the Red Line Boundary.	Trees will be replanted in areas that promote ecological connectivity, where possible, these will be near priority ecological network areas, or areas where tree removal occurred.	This mitigation measure is likely to support adaptability to change through the provision of ecosystem service resilience.
Semi - Improved Neutral grassland	Preservation of seed bank for areas of semi-improved grassland and replanting. (Mitigation)	By preserving the seed bank, a wide variety of plant species, including native and rare species, are maintained.	Recreating the extent of grassland where replanted in order to maintain the size of semi-improved grassland onsite.	The condition of the grassland is maintained by preserving the seed bank and re-seeding with a suitable seed mix.	Preserving and replanting grasslands can enhance habitat connectivity, allowing species to move and disperse more freely.	A diverse seedbank allows for greater adaptability to changing environmental conditions. In addition, by maintain semi-improved grassland post-construction it provides essential ecosystem services such as soil stabilisation, water filtration and carbon sequestration.
	Creation of Traditional hay meadow (Compensation in Ecological Enhancement area 2)	Hay meadows are rich in a diverse range of plant species, supporting a wide variety of flora and fauna.	Creation of a hay meadow will improve the overall extent of good condition grassland.	Managed hay meadow can maintain a high-quality habitat that support a range of species, contributing to the overall condition of the area.	Traditional hay meadow can act as an ecological corridor by connecting fragmented habitat either side of the ecological area allowing species to move freely.	Hay meadows provide essential services such as pollination, soil fertility, and water regulation.
Hedgerow	Replanting of hedgerow over pipeline (Mitigation)	A mix of whips and standard-	To achieve a net benefit for biodiversity it	In the long term replanted hedgerows will mature and form	Replanting where gaps are created by	This mitigation measure is likely to support adaptability to change through the provision of ecosystem service resilience.

Habitat Impacted Mitigation or Compensation Measure		DECCA Framework Attributes Diversity	Extent	Condition	Connectivity	Adaptability to change
	Translocation of Hedgerow over the pipeline (Mitigation) Creation of Hedgerows in Enhancement Areas (Compensation)	sized shrubs of native species of local provenance in-keeping with the overall species composition of hedgerows affected will be used in replanting of hedgerows to maintain the species diversity of the existing species-rich hedgerows.	is proposed that additional hedgerows will be created within the enhancement areas to increase the extent of hedgerows within the scheme which will also compensate for potential failures in hedgerow translocation. .	part of the fully functioning hedgerow.	the project will maintain connectivity of the hedgerow network in the long term. A mix of whips and standard-sized shrubs of native species of local provenance in-keeping with the overall species compositions of hedgerows affected will be used in replanting of hedgerows.	
Lowland Mixed Deciduous Woodland	Improve condition of woodland (Compensation in ecological enhancement areas	Enhancing the condition of the woodland promotes the composition and diversity of a variety of native plant and animal species, increasing biodiversity	N/A	The overall health and functionality of the woodland ecosystem are improved through active management and restoration efforts. This includes enhancing soil quality, increasing native plant cover, and controlling invasive species	Well-maintained woodlands serve as important ecological corridors, facilitating the movement and dispersal of species.	An increase in woodland extent, improved condition and well-managed woodland is better equipped to adapt to environmental changes, such as climate change. This compensation measure is likely to support adaptability to change through the provision of ecosystem service resilience.
	Creation of woodland	Traditional hay meadows are rich in plant species, including many wildflowers and grasses. This	Additional woodland creation will increase the extent of woodland onsite, and extended the priority	Woodland will be created against the baseline condition.	Establishing hay meadows can extend and connect existing habitats, forming ecological corridors that	

Habitat Impacted Mitigation or Compensation Measure		DECCA Framework Attributes Diversity	Extent	Condition	Connectivity	Adaptability to change
		high plant diversity supports a wide range of invertebrates and birds.	ecological network habitat corridor.		facilitate the movement and dispersal of species. Most notably, extending ecological wildlife corridor of Deeside and Buckley SPA.	
	Active management of woodland	Coppice management promotes a variety of plant and animal species by creating a mosaic of habitats at different stages of growth		The overall health and functionality of the woodland ecosystem are improved through active management. Coppicing helps maintain soil quality, increase native plant cover, and control invasive species.	Coppice woodlands can serve as important ecological corridors, facilitating the movement and dispersal of species	
Rivers	Riparian Planting	Improving bank vegetation, vegetation structure, and tree coverage increases plant species diversity	N/A	Upgrading the habitat quality to class 1 will improve the condition of the watercourse and provide long-term benefits downstream.	Improved riparian zones act as ecological corridors, facilitating the movement of species.	This compensation measure is likely to support adaptability to change through the provision of ecosystem service resilience.

9. FUTURE MANAGEMENT AND MONITORING

9.1.1. All habitat enhancement and creation suggested to achieve a Net Benefit for Biodiversity will need to be managed and monitored for 5 years post-development. Confirmation of management and monitoring commitments are ongoing, due to landownership agreements.

9.1.2. An OEMP has been produced for the Padeswood Spur Pipeline Proposed Development. Measures for habitat creation, management and monitoring for maintaining species-rich grassland habitat proposed to be created within the north of the Site, woodland ehanceent and other enhancement proposals within enhancement areas of the Site will be provided in the detailed CEMP and subsequent Landscape and Ecological Management Plan (LEMP). The LEMP will identify the vision and objective for the Site and any relevant mitigation areas. It will include a clear timetable, management commitments and remedial actions over 5 years.

9.1.3. Hedgerow translocation methodology will be fully detailed in the CEMP prior to the Construction Contractor commencing on site. Compensation enhancement measures for habitat creation (grassland/hedgerows/trees) will subsequently be input into the CEMP and LEMP to ensure these measures are implemented fully.

9.1.4. The LEMP will determine the frequency of habitat management and monitoring in line with best practice.

9.1.5. The monitoring of establishing habitats should include a condition assessment, including the presence of negative and positive indicator species, and any remedial actions (e.g. removal of INNS).

9.1.6. Post-construction monitoring will determine the efficacy of mitigation measures and help to identify where management, mitigation improvements or changes are necessary.

9.1.7. The implementation of the above measures will help to ensure the delivery of NBB and ecosystem resilience in the long-term.

10. CONCLUSION

10.1.1. To ensure that the Padeswood Spur Pipeline Proposed Development delivers NBB and ecosystem resilience, it will be necessary that the mitigation and compensation discussed in Table 7 is applied alongside long-term management of onsite creation and enhancement discussed in Section 9.

10.1.2. A Net Benefit for Biodiversity is achieved for all low-value and high-value habitats on site, subject to landowner agreements for the enhancement measures stated in section 6.1.1.

10.1.3. As part of the final design, mitigation and compensation measures related to all habitats should be reviewed to ensure a Net Benefit for Biodiversity is achieved and ensure the management and monitoring of these habitats has been secured for 5 years post-development.

10.1.4. If on site compensation of habitats cannot be achieved, due to landowner agreements, off site options will be explored to offset the impact of all permanently and temporarily lost habitats and achieve an overall Net Benefit for Biodiversity of the Padeswood Spur Pipeline Proposed Development.

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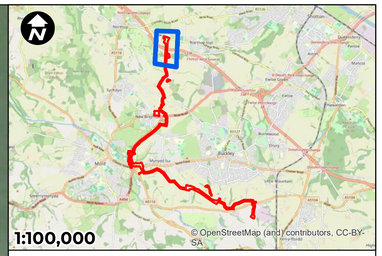
Appendices

Appendix A

FIGURES



Key:

- Red Line Boundary

Phase 1 Habitat Classification

- Hardstanding
- Broadleaved woodland - semi-natural
- Improved grassland
- Neutral grassland - semi-improved
- Hedge with trees - native species-rich
- Intact hedge - native species-rich
- Running water

SCALE: 1:2,000

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PROJECT TITLE

Padeswood Carbon Dioxide Spur Pipeline

DRAWING TITLE

NBB Baseline map
(NBB Strategy)

Page 1 of 9

DRAWING STATUS

FOR CONSULTATION

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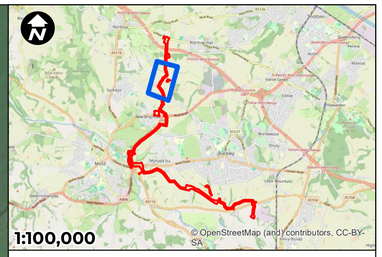

Key:

- Red Line Boundary

Phase 1 Habitat Classification

- Hardstanding
- Improved grassland
- Ditch
- Broadleaved Parkland/scattered trees
- Hedge with trees - native species-rich
- Intact hedge - native species-rich
- Individual trees

SCALE: 1:2,000

0 85 170 Metres

eni

PROJECT TITLE

Padeswood Carbon Dioxide Spur Pipeline

DRAWING TITLE

NBB Baseline map
(NBB Strategy)

DRAWING STATUS

FOR CONSULTATION

DRAWN	CHECKED	APPROVED	AUTHORISED
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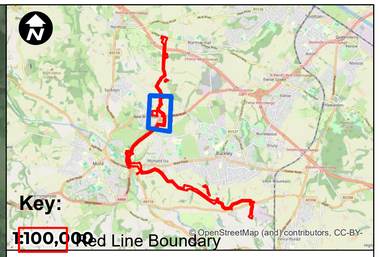

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Phase 1 Habitat Classification

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- Neutral grassland - semi-improved
- Ditch
- Broadleaved Parkland/scattered trees
- Hedge with trees - native species-rich
- Intact hedge - native species-rich
- Individual trees

SCALE: 1:2,000

0 85 170 Metres

eni

PROJECT TITLE

Padeswood Carbon Dioxide Spur Pipeline

DRAWING TITLE

NBB Baseline map
(NBB Strategy)

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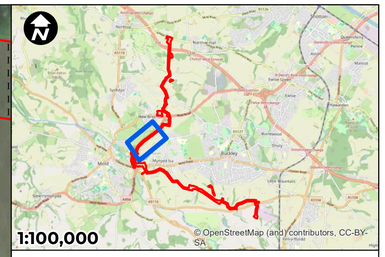

Key:

- Red Line Boundary

Phase 1 Habitat Classification

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SCALE: 1:2,000

0 85 170 Metres

eni

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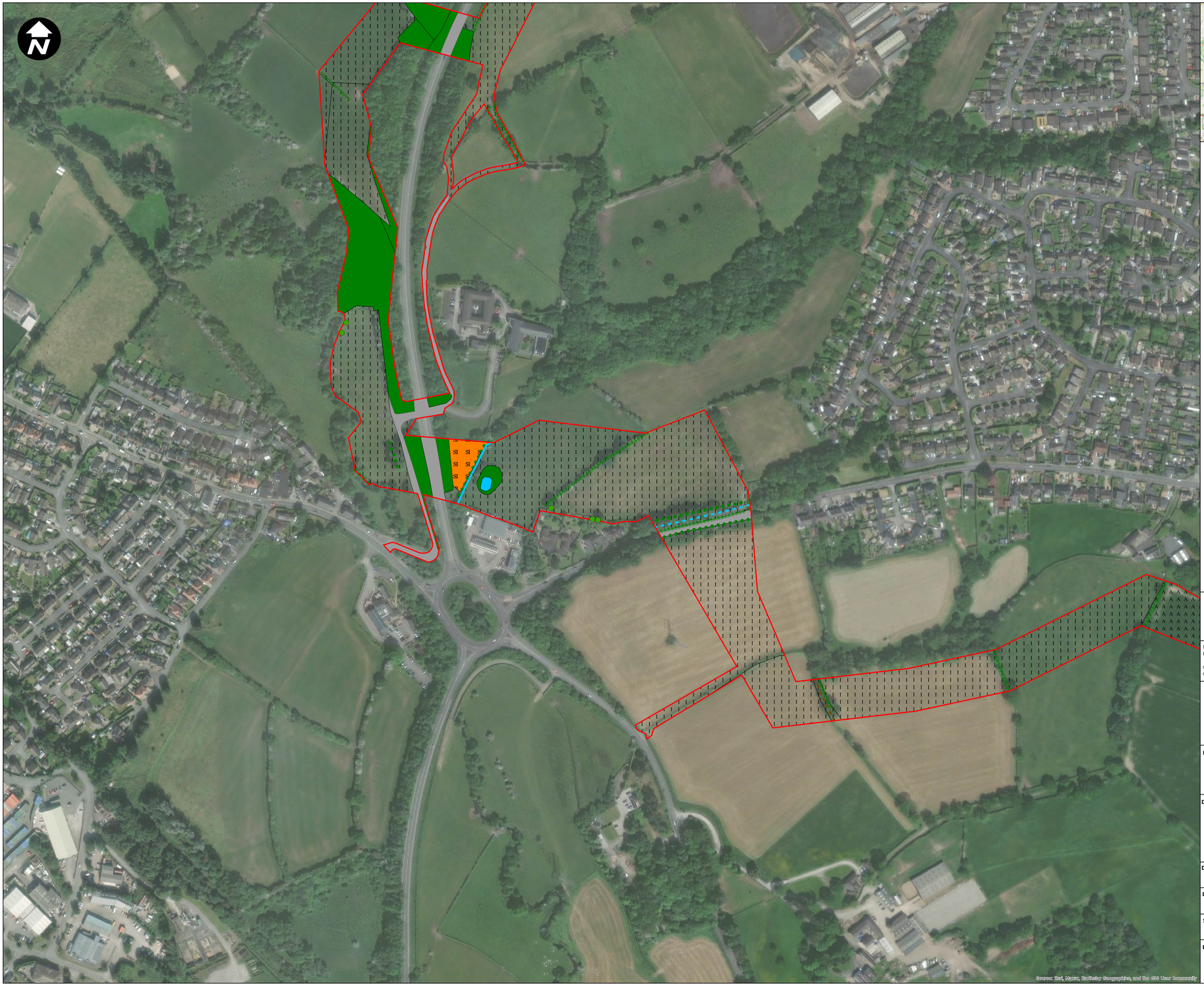

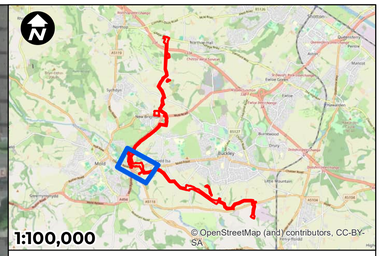

Key:

- Red Line Boundary

Phase 1 Habitat Classification

- Hardstanding
- Broadleaved woodland - semi-natural
- Improved grassland
- Neutral grassland - semi-improved
- Standing water
- Ditch
- Broadleaved Parkland/scattered trees
- Dry ditch
- Hedge with trees - native species-rich
- Intact hedge - native species-rich
- Running water
- Individual trees

SCALE: 1:2,000

0 85 170 Metres

eni

PROJECT TITLE

Padeswood Carbon Dioxide Spur Pipeline

DRAWING TITLE

NBB Baseline map
(NBB Strategy)

Page 5 of 9

DRAWING STATUS

FOR CONSULTATION

DRAWN	CHECKED	APPROVED	AUTHORISED
KS	MG	RB	TB

SCALE @ A1 SIZE	DATE	REVISION
1:2,000	07/03/2025	A

DRAWING NUMBER

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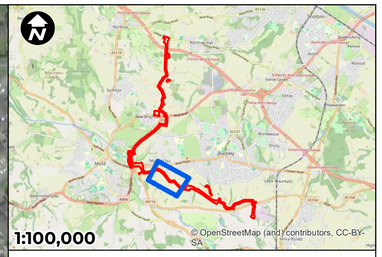


Key:

- Red Line Boundary

Phase 1 Habitat Classification

- Hardstanding
- Cultivated/disturbed land - arable
- Improved grassland
- Ditch
- Broadleaved Parkland/scattered trees
- Hedge with trees - native species-rich
- Intact hedge - native species-rich

SCALE: 1:2,000

0 85 170 Metres

eni

PROJECT TITLE

Padeswood Carbon Dioxide Spur Pipeline

DRAWING TITLE

NBB Baseline map
(NBB Strategy)

DRAWING STATUS

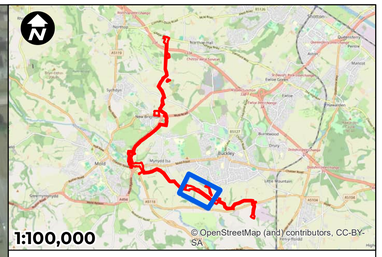
FOR CONSULTATION

DRAWN	CHECKED	APPROVED	AUTHORISED
KS	MG	RB	TB

SCALE @ A1 SIZE	DATE	REVISION
1:2,000	07/03/2025	A

DRAWING NUMBER

70116227-PW.4.3-Figure1-Sheet6



Key:

- Red Line Boundary

Phase 1 Habitat Classification

- Hardstanding
- Broadleaved woodland - semi-natural
- Cultivated/disturbed land - arable
- Improved grassland
- Neutral grassland - semi-improved
- Broadleaved Parkland/scattered trees
- Hedge with trees - native species-rich
- Intact hedge - native species-rich
- Running water
- Individual trees

SCALE: 1:2,000

0 85 170 Metres

eni

PROJECT TITLE

Padeswood Carbon Dioxide Spur Pipeline

DRAWING TITLE

NBB Baseline map
(NBB Strategy)

DRAWING STATUS

FOR CONSULTATION

DRAWN	CHECKED	APPROVED	AUTHORISED
KS	MG	RB	TB

SCALE @ A1 SIZE	DATE	REVISION
1:2,000	07/03/2025	A

DRAWING NUMBER

70116227-PW.4.3-Figure1-Sheet7

Key:

- Red Line Boundary

Phase 1 Habitat Classification

- Hardstanding
- Broadleaved woodland - semi-natural
- Improved grassland
- Neutral grassland - semi-improved
- Broadleaved Parkland/scattered trees
- Hedge with trees - native species-rich
- Intact hedge - native species-rich
- Running water
- Individual trees

SCALE: 1:2,000

0 85 170 Metres

eni

PROJECT TITLE

Padeswood Carbon Dioxide Spur Pipeline

DRAWING TITLE

NBB Baseline map
(NBB Strategy)

DRAWING STATUS

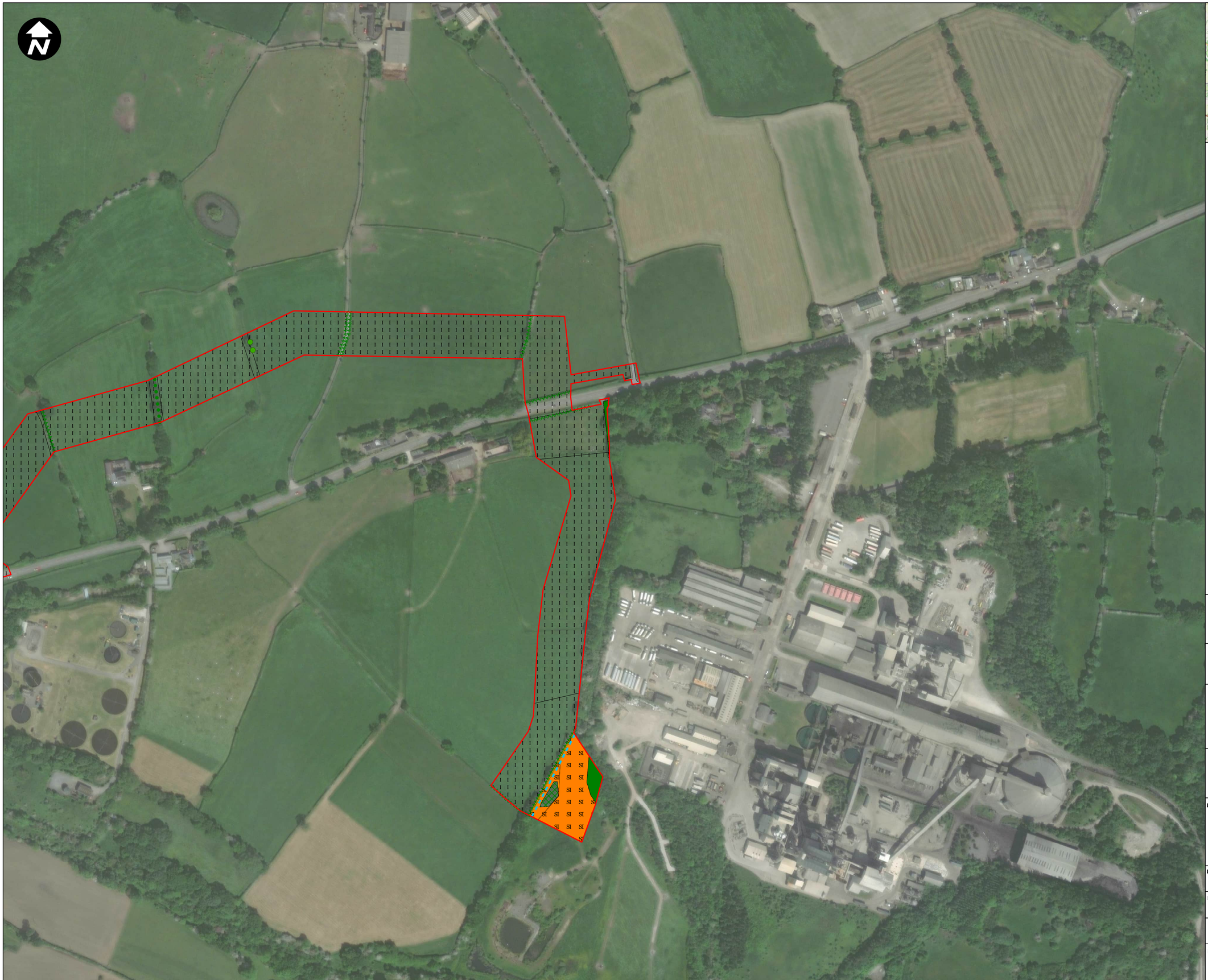
FOR CONSULTATION

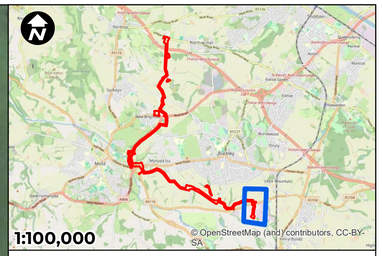
DRAWN	CHECKED	APPROVED	AUTHORISED
KS	MG	RB	TB

SCALE @ A1 SIZE	DATE	REVISION
1:2,000	07/03/2025	A

DRAWING NUMBER

70116227-PW.4.3-Figure1-Sheet8





Key:

- Red Line Boundary

Phase 1 Habitat Classification

- Hardstanding
- Broadleaved woodland - semi-natural
- Improved grassland
- Neutral grassland - semi-improved
- Scrub - dense/continuous
- Ditch
- Hedge with trees - native species-rich
- Intact hedge - native species-rich

SCALE: 1:2,000

0 85 170 Metres

eni

PROJECT TITLE

Padeswood Carbon Dioxide Spur Pipeline

DRAWING TITLE

NBB Baseline map
(NBB Strategy)

Page 9 of 9

DRAWING STATUS

FOR CONSULTATION

DRAWN	CHECKED	APPROVED	AUTHORISED
KS	MG	RB	TB

SCALE @ A1 SIZE	DATE	REVISION
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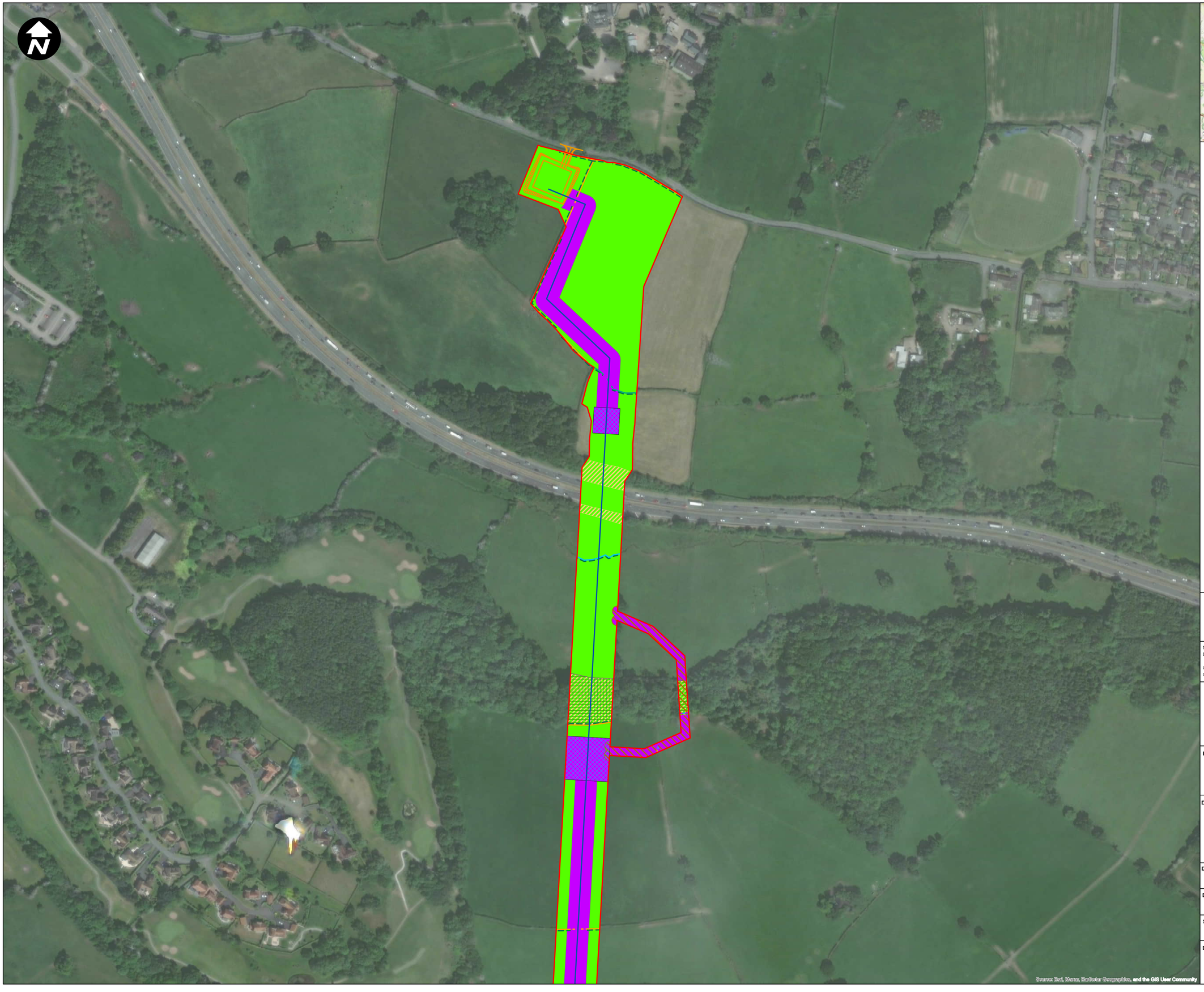
DRAWING NUMBER

70116227-PW.4.3--Figure1-Sheet9



Key

- **Red Line Boundary**
- Section 7 Area Habitats
- Ancient Woodland
- Temporary Access Areas
- TRX Compounds
- Indicative Pipeline Routing
- AGIs

Post-Development Linear Features

- Retained
- Temporary Loss

Baseline Linear Features

- Native Hedgerows - Species rich
- Native Hedgerows with trees- Species rich
- Rivers and Streams

Post-Development Area Habitats

- Retained
- Temporary Loss

SCALE: 1:2,000

0 85 170 Metres

eni

PROJECT TITLE

Padeswood Carbon Dioxide Spur Pipeline

DRAWING TITLE

NBB Baseline Map
(NBB Strategy)

DRAWING STATUS

FOR CONSULTATION

DRAWN	CHECKED	APPROVED	AUTHORISED
KS	MG	TB	TB

SCALE @ A1 SIZE	DATE	REVISION
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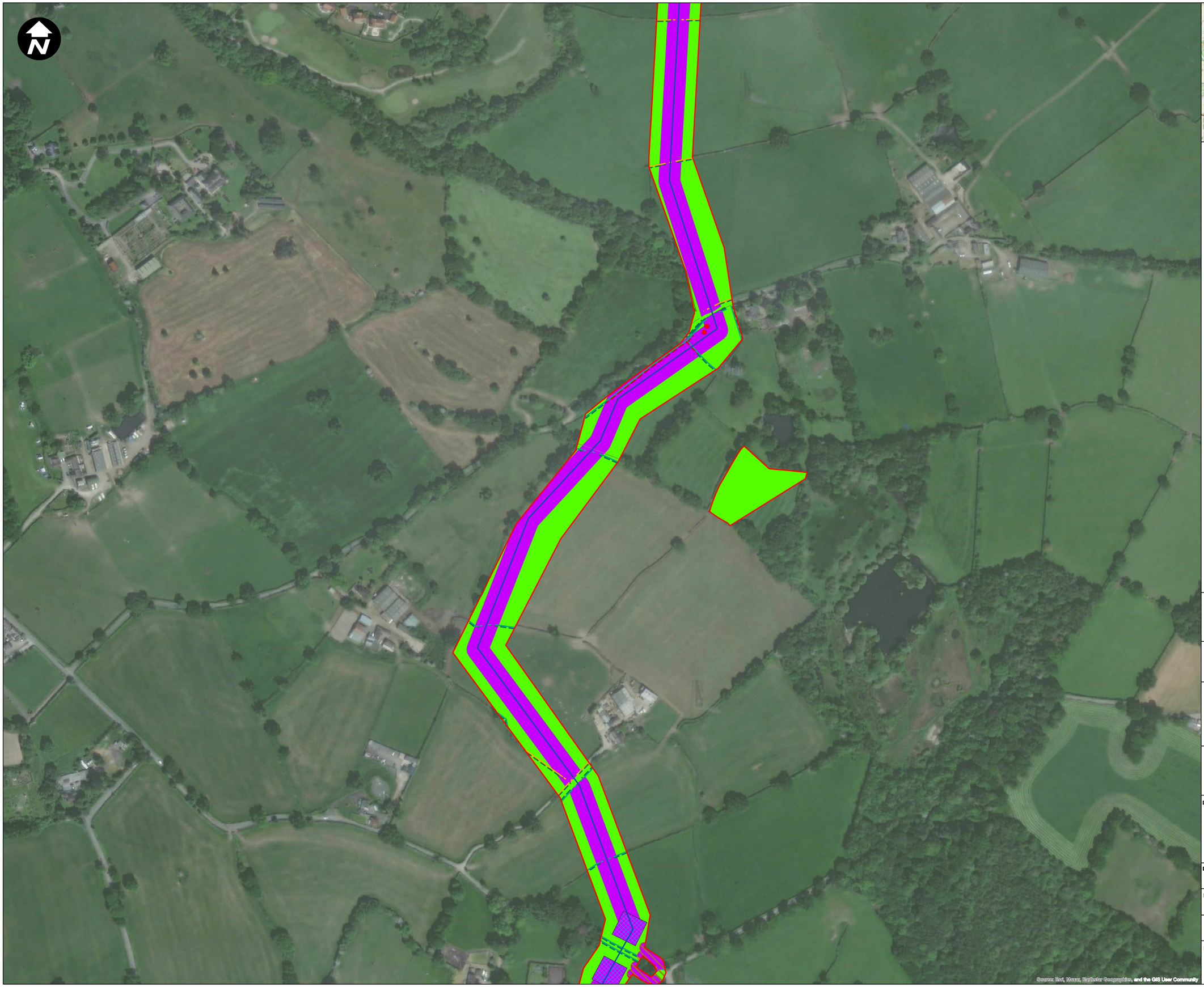
DRAWING NUMBER

70116227-PW.4.3-Figure 2-Sheet1



Key

Red Line Boundary

Ancient Woodland

Temporary Access Areas

TRX Compounds

Indicative Pipeline Routing

Post-Development Linear Features

Retained

Permanent Loss

Temporary Loss

Baseline Linear Features

Ditch

Line of Trees

Native Hedgerows - Species rich

Native Hedgerows with trees- Species rich

Post-Development Area Habitats

Retained

Temporary Loss

Individual trees

Permanent Loss

SCALE: 1:2,000

0 85 170 Metres

eni

PROJECT TITLE

Padeswood Carbon Dioxide Spur Pipeline

DRAWING TITLE

NBB Baseline Map
(NBB Strategy)

DRAWING STATUS

FOR CONSULTATION

DRAWN	CHECKED	APPROVED	AUTHORISED
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SCALE @ A1 SIZE	DATE	REVISION
1:2,000	3/13/2025	A

DRAWING NUMBER

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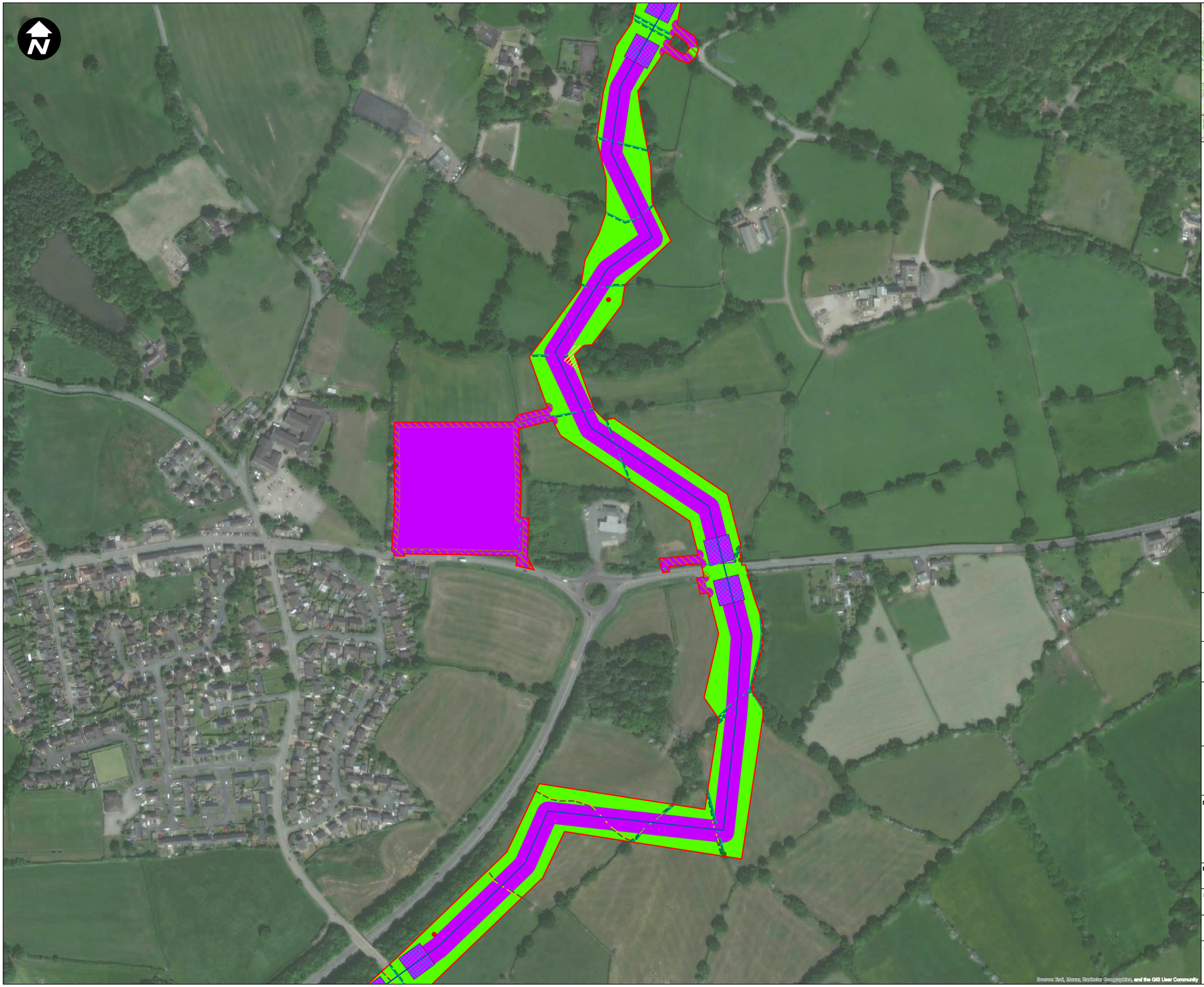

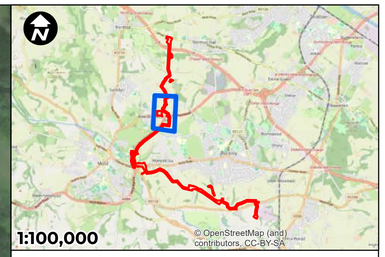

Key

Red Line Boundary

Section 7 Area Habitats

Ancient Woodland

Temporary Access Areas

TRX Compounds

Indicative Pipeline Routing

Post-Development Linear Features

Retained

Temporary Loss

Baseline Linear Features

Ditch

Line of Trees

Native Hedgerows - Species rich

Native Hedgerows with trees- Species rich

Post-Development Area Habitats

Retained

Permanent Loss

Temporary Loss

Individual trees

Permanent Loss

Retained

SCALE: 1:2,000

0 85 170 Metres

eni

PROJECT TITLE

Padeswood Carbon Dioxide Spur Pipeline

DRAWING TITLE

NBB Baseline Map
(NBB Strategy)

DRAWING STATUS

FOR CONSULTATION

DRAWN	CHECKED	APPROVED	AUTHORISED
KS	MG	TB	TB

SCALE @ A1 SIZE	DATE	REVISION
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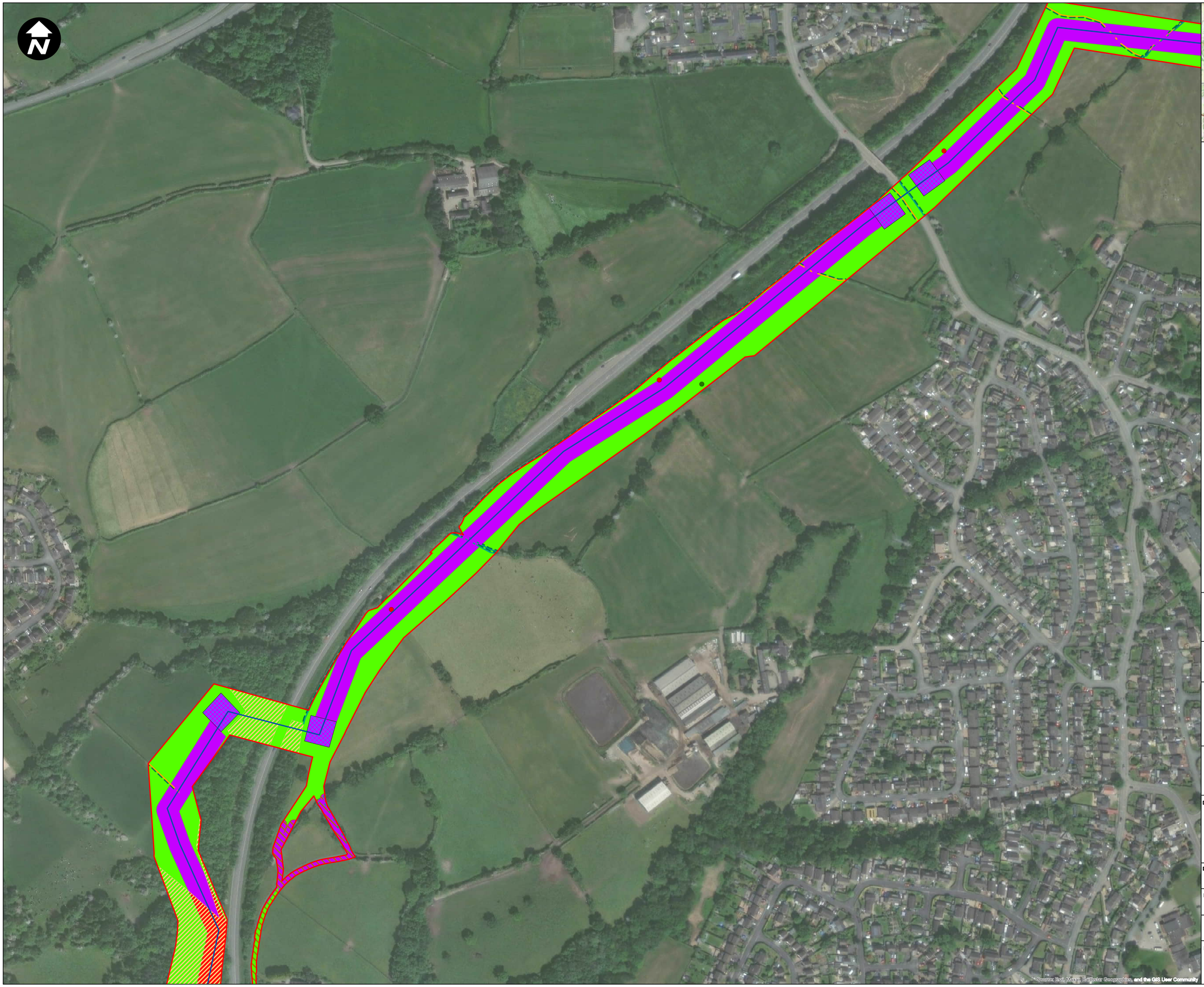
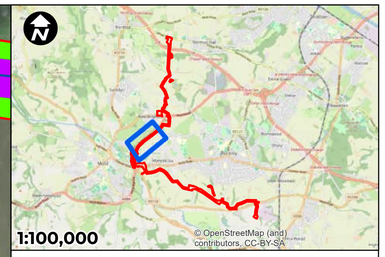
DRAWING NUMBER

70116227-PW.4.3-Figure 2-Sheet3





Key

Red Line Boundary

Section 7 Area Habitats

Ancient Woodland

Temporary Access Areas

TRX Compounds

Indicative Pipeline Routing

Post-Development Linear Features

Retained

Temporary Loss

Baseline Linear Features

Ditch

Native Hedgerows - Species rich

Native Hedgerows with trees- Species rich

Post-Development Area Habitats

Retained

Temporary Loss

Individual trees

Permanent Loss

Retained

SCALE: 1:2,000

0 85 170 Metres

eni

PROJECT TITLE

Padeswood Carbon Dioxide Spur Pipeline

DRAWING TITLE

NBB Baseline Map
(NBB Strategy)

DRAWING STATUS

FOR CONSULTATION

DRAWN	CHECKED	APPROVED	AUTHORISED
KS	MG	TB	TB

SCALE @ A1 SIZE	DATE	REVISION
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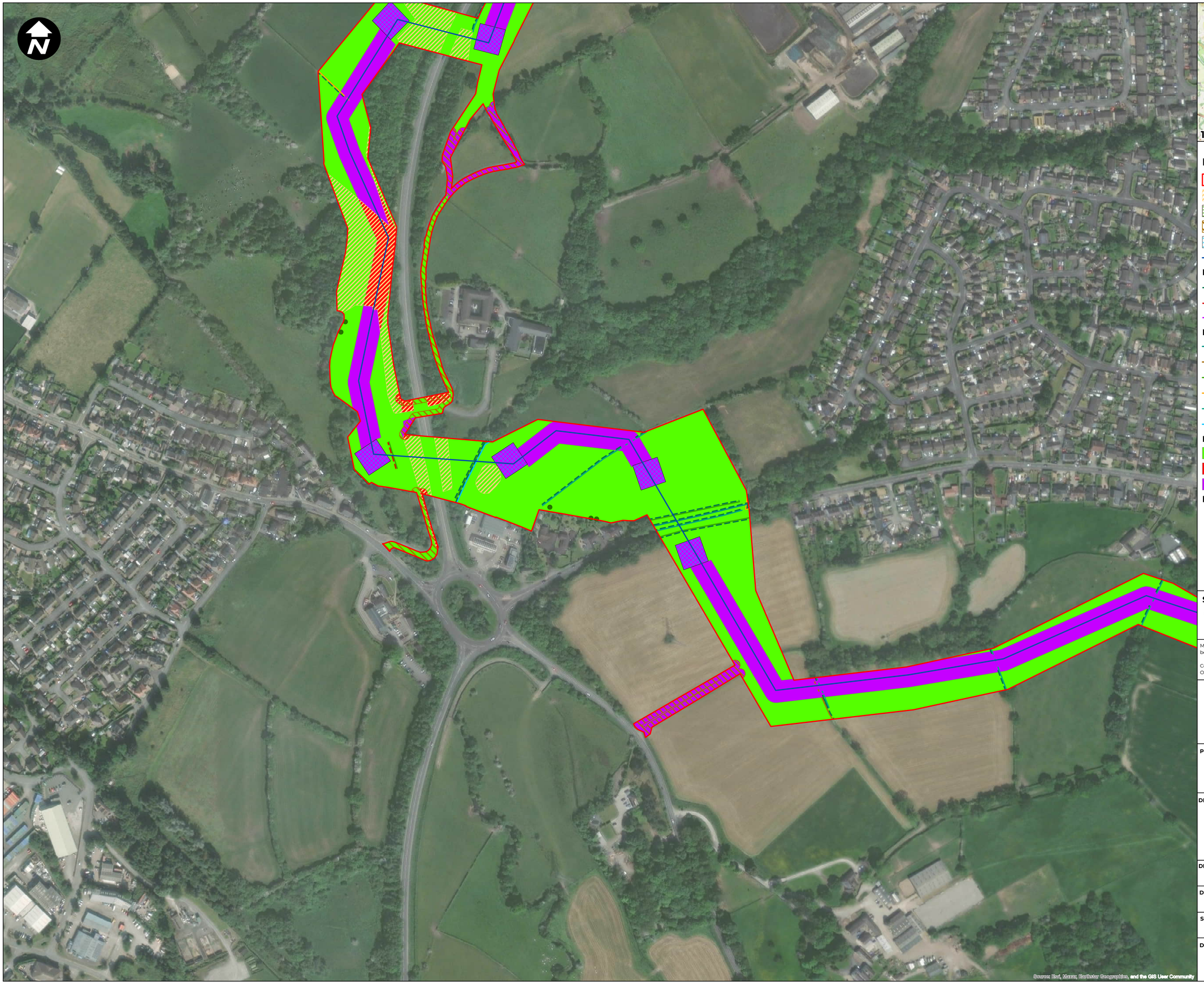
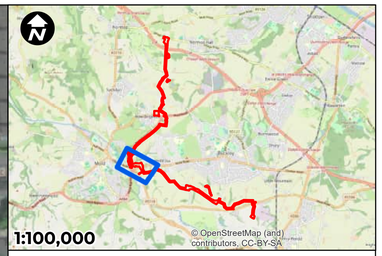
DRAWING NUMBER

70116227-PW.4.3-Figure 2-Sheet4





Key

Red Line Boundary

Section 7 Area Habitats

Ancient Woodland

Temporary Access Areas

TRX Compounds

Indicative Pipeline Routing

Post-Development Linear Features

Retained

Permanent Loss

Temporary Loss

Baseline Linear Features

Ditch

Dry Ditch

Line of Trees

Native Hedgerows - Species rich

Native Hedgerows with trees- Species rich

Rivers and Streams

Post-Development Area Habitats

Retained

Permanent Loss

Temporary Loss

Individual trees

Retained

SCALE: 1:2,000

0 85 170 Metres

eni

PROJECT TITLE

Padeswood Carbon Dioxide Spur Pipeline

DRAWING TITLE

NBB Baseline Map
(NBB Strategy)

DRAWING STATUS

FOR CONSULTATION

DRAWN	CHECKED	APPROVED	AUTHORISED
KS	MG	TB	TB

SCALE @ A1 SIZE	DATE	REVISION
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DRAWING NUMBER

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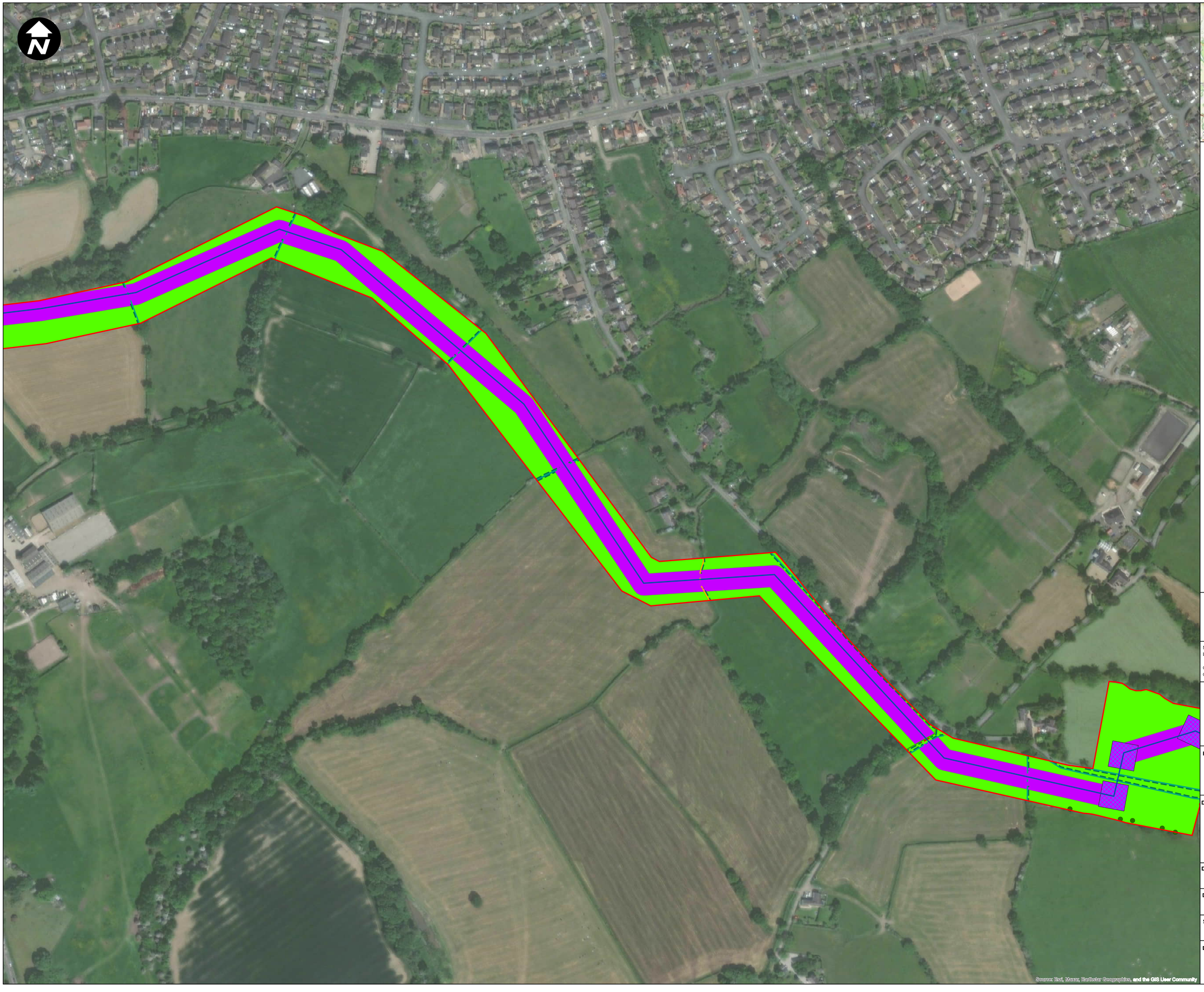

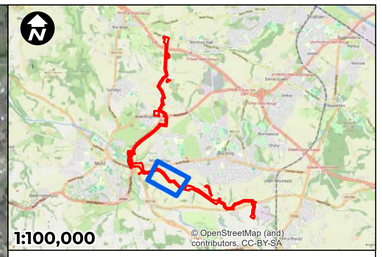

Key

Red Line Boundary

Indicative Pipeline Routing

Post-Development Linear Features

- Retained
- Permanent Loss
- Temporary Loss

Baseline Linear Features

- Ditch
- Line of Trees
- Native Hedgerows - Species rich
- Native Hedgerows with trees- Species rich

Post-Development Area Habitats

- Retained
- Temporary Loss

Individual trees

- Retained

SCALE: 1:2,000

0 85 170 Metres

eni

PROJECT TITLE

Padeswood Carbon Dioxide Spur Pipeline

DRAWING TITLE

NBB Baseline Map
(NBB Strategy)

DRAWING STATUS

FOR CONSULTATION

DRAWN	CHECKED	APPROVED	AUTHORISED
KS	MG	TB	TB

SCALE @ A1 SIZE	DATE	REVISION
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DRAWING NUMBER

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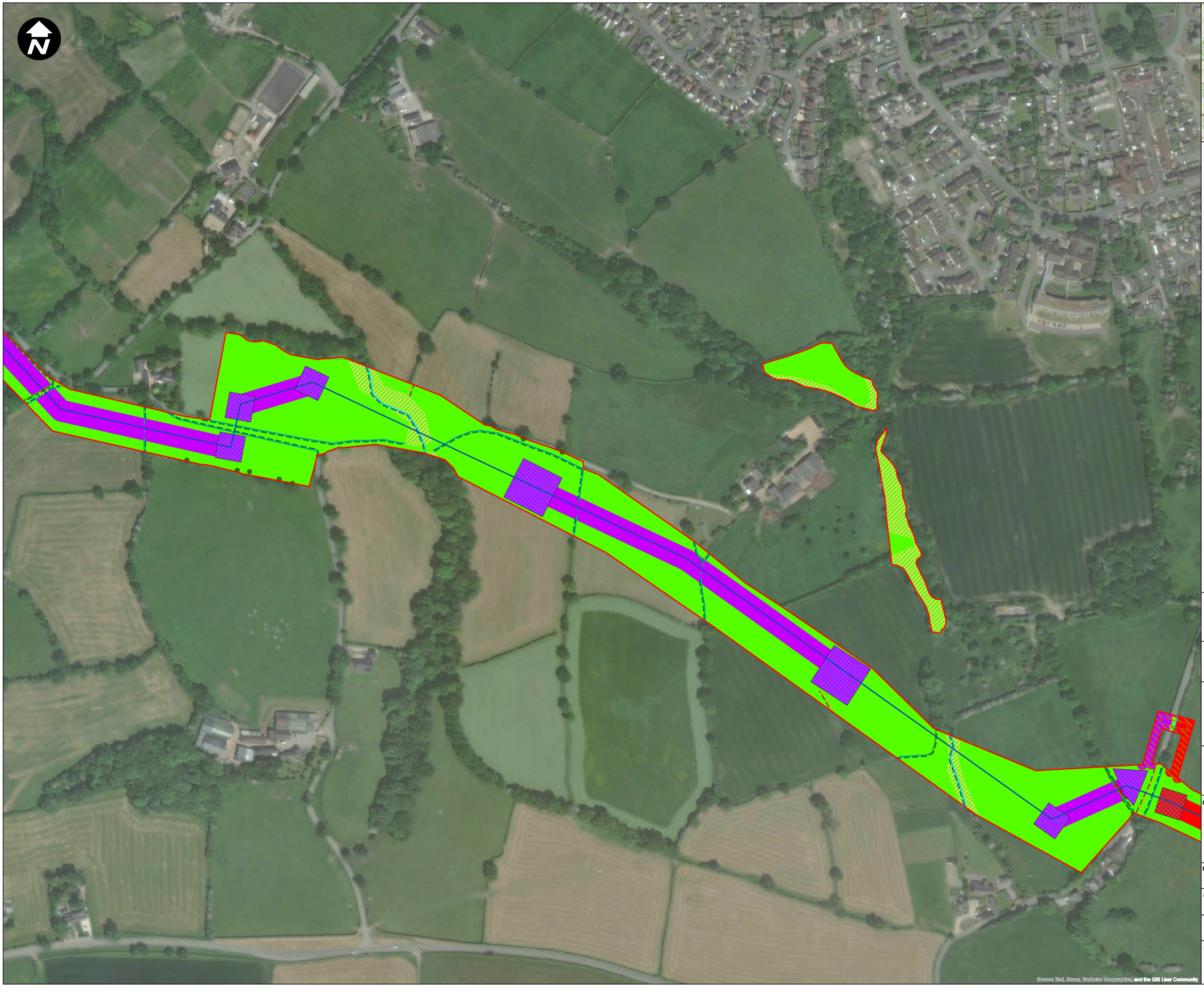
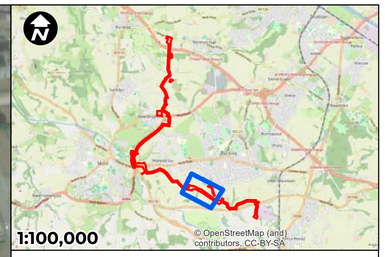




Key

Red Line Boundary

- Section 7 Area Habitats
- Ancient Woodland
- Temporary Access Areas
- TRX Compounds
- Indicative Pipeline Routing

Post-Development Linear Features

- Retained
- Temporary Loss

Baseline Linear Features

- Line of Trees
- Native Hedgerows - Species rich
- Native Hedgerows with trees- Species rich
- Rivers and Streams

Post-Development Area Habitats

- Retained
- Temporary Loss

Individual trees

- Retained

SCALE: 1:2,000

0 85 170 Metres

eni

PROJECT TITLE

Padeswood Carbon Dioxide Spur Pipeline

DRAWING TITLE

NBB Baseline Map
(NBB Strategy)

DRAWING STATUS

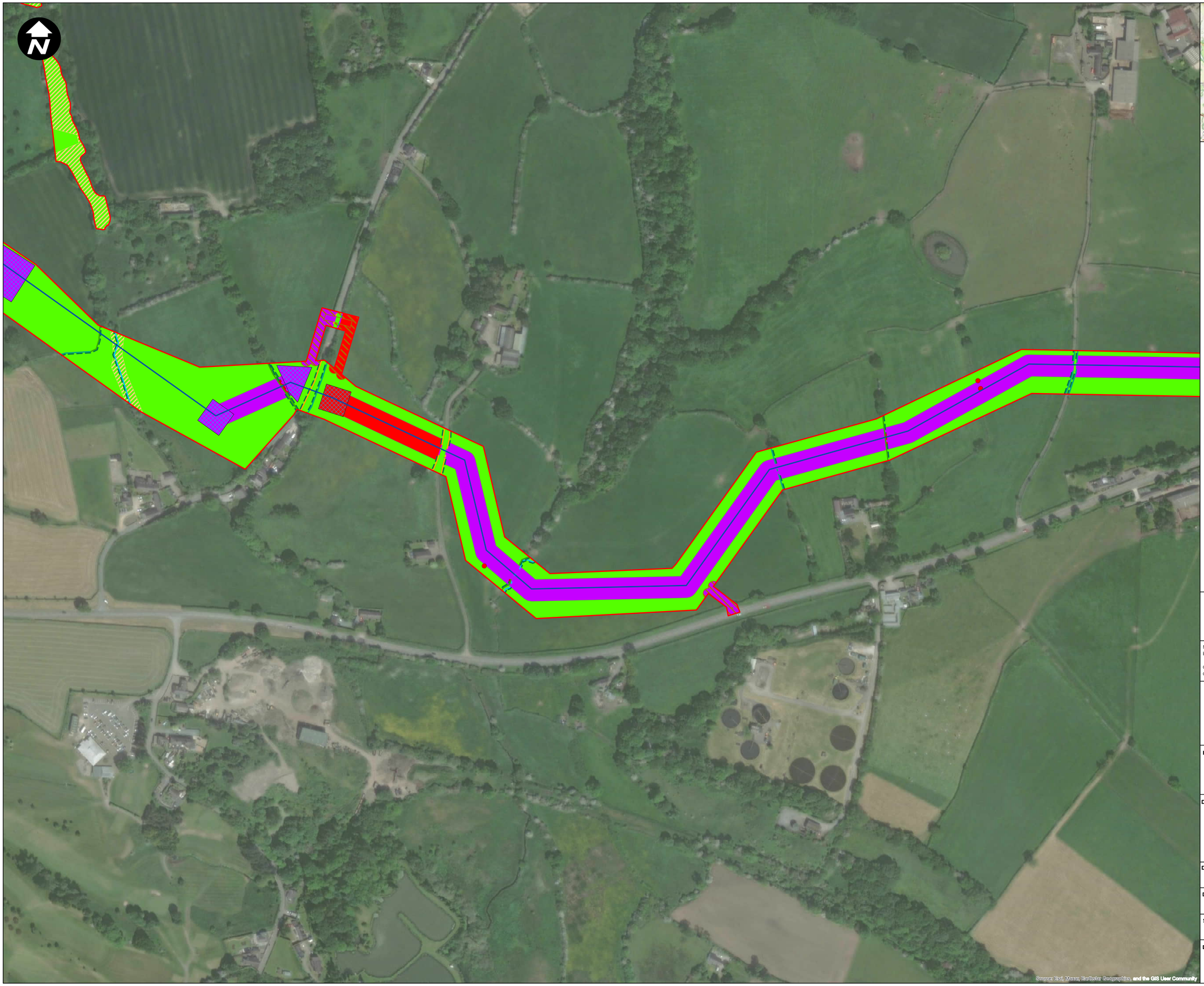
FOR CONSULTATION

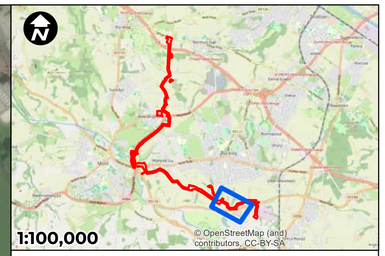
DRAWN	CHECKED	APPROVED	AUTHORISED
KS	MG	TB	TB

SCALE @ A1 SIZE	DATE	REVISION
1:2,000	3/13/2025	A

DRAWING NUMBER

70116227-PW.4.3-Figure 2-Sheet7





Key

Red Line Boundary

Section 7 Area Habitats

Ancient Woodland

Temporary Access Areas

TRX Compounds

Indicative Pipeline Routing

Post-Development Linear Features

Retained

Permanent Loss

Temporary Loss

Baseline Linear Features

Line of Trees

Native Hedgerows - Species rich

Native Hedgerows with trees- Species rich

Rivers and Streams

Post-Development Area Habitats

Retained

Permanent Loss

Temporary Loss

Individual trees

Permanent Loss

SCALE: 1:2,000

0 85 170 Metres

eni

PROJECT TITLE

Padeswood Carbon Dioxide Spur Pipeline

DRAWING TITLE

NBB Baseline Map
(NBB Strategy)

DRAWING STATUS

FOR CONSULTATION

DRAWN	CHECKED	APPROVED	AUTHORISED
KS	MG	TB	TB

SCALE @ A1 SIZE	DATE	REVISION
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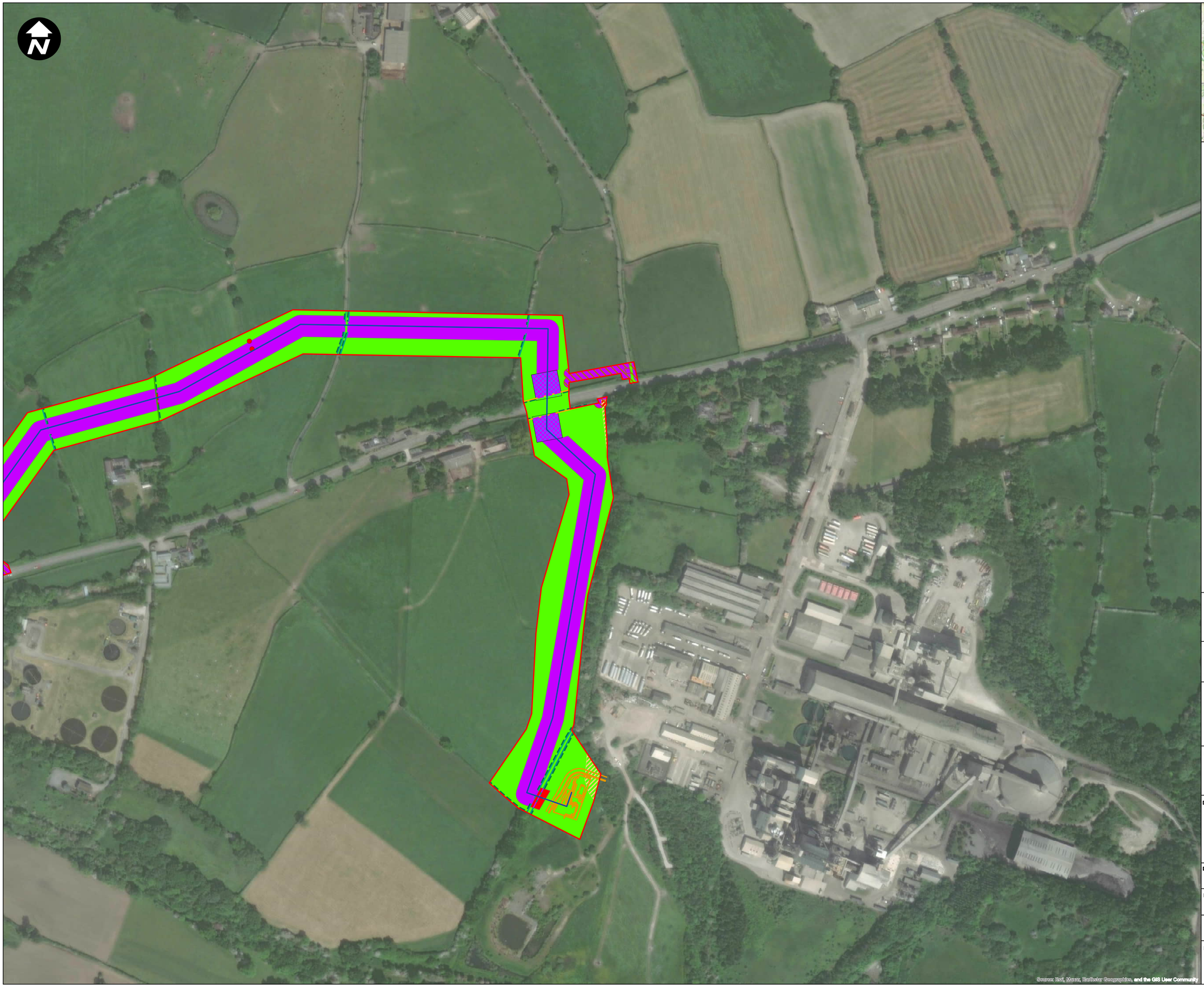
DRAWING NUMBER

70116227-PW.4.3-Figure 2-Sheet8



Key

Red Line Boundary

Section 7 Area Habitats

Ancient Woodland

Temporary Access Areas

TRX Compounds

Indicative Pipeline Routing

AGIs

Post-Development Linear Features

Retained

Temporary Loss

Baseline Linear Features

Ditch

Native Hedgerows - Species rich

Native Hedgerows with trees- Species rich

Post-Development Area Habitats

Retained

Permanent Loss

Temporary Loss

Individual trees

Permanent Loss

SCALE: 1:2,000

0 85 170 Metres

eni

PROJECT TITLE

Padeswood Carbon Dioxide Spur Pipeline

DRAWING TITLE

NBB Baseline Map
(NBB Strategy)

DRAWING STATUS

FOR CONSULTATION

DRAWN	CHECKED	APPROVED	AUTHORISED
KS	MG	TB	TB

SCALE @ A1 SIZE	DATE	REVISION
1:2,000	3/13/2025	A

DRAWING NUMBER

70116227-PW.4.3-Figure 2-Sheet9

Key

Red Line Boundary

SCALE: 1:12,000

0 500 1,000 Metres

eni

PROJECT TITLE

Padeswood Carbon Dioxide Spur Pipeline

DRAWING TITLE

Figure 3 - Enhancement Areas within Red Line Boundary (NBB Report)

DRAWING STATUS

FOR CONSULTATION

DRAWN	CHECKED	APPROVED	AUTHORISED
KS	JC	JC	TB

SCALE @ A1 SIZE	DATE	REVISION
1:12,000	28/02/2025	A

DRAWING NUMBER

70116227-PW.4.3-Figure 3-Sheet1