

ENVIRONMENTAL STATEMENT (VOLUME II)

Chapter 12 – Landscape and Visual

Padeswood Carbon Dioxide Spur Pipeline Proposed Development

Town and Country Planning Act 1990

Document Reference Number PW.3.2.12

Applicant: Liverpool Bay CCS Limited

English Version

REVISION: A

DATE: March 2025

DOCUMENT OWNER: WSP UK Limited

PUBLIC

QUALITY CONTROL

Document Reference		PW.3.2.12			
Document Owner		WSP UK Ltd			
Revision	Date	Comments	Author	Checker	Approver
A	March 2025	Revision for Pre-Application Consultation	SL	DR	AW

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12. LANDSCAPE AND VISUAL

12.1. INTRODUCTION

- 12.1.1. This Chapter reports the assessment of likely significant effects of the Padeswood Spur Pipeline Proposed Development on landscape character and visual amenity and describes:
- Relevant, legislation, policy and guidance;
 - Consultation undertaken;
 - Assessment methodology;
 - Baseline conditions
 - Potential effects of the Construction, Operational and Decommissioning Stages of the Padeswood Spur Pipeline Proposed Development;
 - Potential design, mitigation and enhancement measures;
 - Residual effects; and
 - Next steps.
- 12.1.2. This chapter (and its associated figures and appendices) is intended to be read as part of the wider Environmental Statement (ES), with particular reference to **Chapter 3 – Description of the Padeswood Spur pipeline Proposed Development (Document Reference: PW.3.2.3)**, **Chapter 8 - Cultural Heritage (Document Reference: PW.3.2.8)**, **Chapter 9 – Biodiversity (Document Reference: PW.3.2.9)** and **Chapter 18 – Combined and Cumulative Effects (Document Reference: PW.3.2.18)**. The ES will contain an **Arboricultural Impact Assessment (Document Reference: PW.3.3.9.1)** as detailed within **Chapter 5 – EIA Methodology (Document Reference: PW.3.2.5)**.
- 12.1.3. The LVIA has been prepared and reviewed by appropriately qualified Landscape Architects at WSP on behalf of the Applicant.
- 12.1.4. Landscape and visual assessment considers two distinct but closely related areas: landscape character and visual amenity.
- The landscape assessment considers the effects of a proposed development on landscape character and landscape as a resource; and
 - The visual assessment considers the views that are available to people who may be affected by a proposed development and their perception and responses to changes in these views.

12.2. LEGISLATIVE AND POLICY FRAMEWORK

12.2.1. A summary of the international, national, and local legislation, planning policy and guidance relevant to the landscape and visual assessment for the Padeswood Spur Pipeline Proposed Development is set out below.

LEGISLATIVE FRAMEWORK

International

European Landscape Convention

12.2.2. The UK is a signatory to the Council of Europe Landscape Convention (ELC) (Council of Europe, Accessed 2024) which was ratified in 2006 and became binding in the UK from 1 March 2007.

12.2.3. The ELC requires *“landscape to be integrated into regional and town planning policies and in cultural, environmental, agricultural, social and economic policies, as well as any other policies with possible direct or indirect impacts on landscape”*.

National

Countryside Rights of Way Act 2000

12.2.4. The Countryside and Rights of Way Act 2000 ('CRoW') (United Kingdom Government, 2000) provides a statutory framework for protected landscapes, including Areas of Outstanding Natural Beauty (AONB) (now referred to as National Landscapes), and introduced an additional right of access requiring the identification of “open access land”.

Environment Act 1995

12.2.5. The Environment Act 1995 provides National Parks with two purposes; the first of conserving and enhancing their natural beauty, wildlife and cultural heritage and the second encouraging understanding and enjoyment of their special qualities. The hedgerow act (Section 97) facilitates the protection of important hedgerows.

POLICY

National

National Policy Statement

12.2.6. The Overarching National Planning Policy Statement for Energy ('EN-1') (UK Government Department for Energy Security & Net Zero, 2024) was updated in January 2024 and provides a number of statements and

guidance of relevance to the landscape, including green infrastructure ('GI') and visual impacts of energy infrastructure in general.

- 12.2.7. Section 5.10 of EN-1 sets out the requirements for assessing and mitigating landscape and visual impacts of proposed Nationally Significant Energy Infrastructure Projects (NSIPs).

Planning Policy Wales (PPW)

- 12.2.8. The PPW (Welsh Government, 2024) sets out key guidance and planning policies for development and achieving good design throughout Wales, with reference to landscape and natural spaces.

Local

Flintshire County Council (FCC)

- 12.2.9. The Flintshire Local Development Plan 2015-2030 (FCC, 2023) was adopted in January 2023 and provides key guidance for the development throughout Flintshire. The Development Plan provides a number of policies relating to landscape and sets out a number of design ambitions for the area. Policies considered to be of particular relevance in landscape and visual terms include:

- Policy STR4: Principles of Sustainable Development, Design and Placemaking
- Policy STR13: Natural and Built Environment, Green Networks and Infrastructure
- Policy PC3: Design
- Policy EN4: Landscape Character
- Policy EN7: Development Affecting Trees, Woodland and Hedgerows
- Policy EN11: Green Wedges

GUIDANCE

- 12.2.10. The LVIA follows the methodology set out in **Appendix 12.1 – Landscape and Visual Methodology** which has been written in accordance with industry best practice set out in Guidelines for Landscape and Visual Impact Assessment, 3rd Edition (GLVIA3) (Landscape Institute (LI) and the Institute of Environmental Management and Assessment (IEMA), 2013).

- 12.2.11. The following sources have also been referred to in the preparation of the methodology for the LVIA and the production of visual representations:

- Landscape Institute Technical Guidance Note 02/21 - Assessing landscape value outside national designations (Landscape Institute, 2021)
- Landscape Institute - Visual Representation of Development Proposals (Landscape Institute, 2019 (under review 2024))

12.3. SCOPING OPINION AND CONSULTATION

RESPONSE TO THE SCOPING OPINION

- 12.3.1. An EIA Scoping Opinion was received by the Applicant from the Local Planning Authority (LPA) on 8 May 2024, including formal responses from Statutory Consultees. The responses from the LPA in relation to landscape character and visual amenity and how these requirements should be addressed by the Applicant are set out in **Appendix 1.3 Scoping Opinion Responses (Document Reference: PW.3.3.1.3)**.

CONSULTATION UNDERTAKEN TO DATE

- 12.3.2. **Table 12-1** provides a summary of the consultation undertaken to inform the landscape and visual assessment to date.

Table 12.1 - Summary of Consultation Undertaken

Organisation	Meeting dates and form of consultation	Summary of the outcome of discussions
National Resource Wales (NRW)	Email correspondence response to scoping	<p>NRW agreed that due to the distance from the application site (at least 3 km), the low height of above ground elements and proposed workings, and the predominantly underground nature of the Padeswood Spur Pipeline Proposed Development, will not result in significant impacts upon the Clwydian Range and Dee Valley AONB/National Landscape.</p> <p>Response: NRW are in agreement with WSPs initial proposal for scoping out the Clwydian Range and Dee Valley AONB/National Landscape. It is therefore scoped out.</p> <p>No further action required.</p>
Flintshire County Council (FCC)	Email correspondence response to scoping	<p>Query regarding encroachment on two Green Wedges. Request for visual effects upon the openness of the Green Wedges to be considered.</p> <p>Response: It is not standard practice for this to be within the LVIA chapter given it is planning policy and not a designation as is acknowledged by the commenting officer. Information that will support planning policy is located in in Appendix 12.3 Visual Analysis. Specific reference to the Green Wedges in relation to planning policy can be found in the Planning, Design and Access Statement, (Document Reference: PW.2.3).</p>

12.4. SCOPE OF THE ASSESSMENT

- 12.4.1. The scope of this assessment has been established through an ongoing scoping process. Further information can be found in **Chapter 5: EIA Methodology (Document Reference: PW.3.2.5)** of this ES.
- 12.4.2. This section provides an update to the scope of the assessment and re-iterates the evidence base for scoping out elements following further iterative assessment.

ELEMENTS SCOPED OUT OF THE ASSESSMENT

- 12.4.3. The elements shown in **Table 12-2** are not considered to give rise to likely significant effects as a result of the Padeswood Spur Pipeline Proposed Development and have therefore not been considered within this assessment.

Table 12.2 - Elements Scoped Out of the Assessment

Element Scoped Out	Justification
Temporary Venting	All works associated with temporary venting have been scoped out of the assessment due to the short term and temporary nature, alongside the planned infrequency, it is unlikely they will give rise to significant effects. The most visible of the temporary venting, would be the Manifold Venting with the installation of a temporary max 10m height vent stack. It will take place within the AGI and will take place only initially once every two years, increasing to once every five years. This will be removed once the temporary venting has been completed and would last only up to two hours.
Landscape and Visual Impacts associated with the Northop Hall AGI and Carbon Dioxide Pipeline previously assessed as part of the HyNet Development Consent Order (DCO) works.	An assessment of landscape and visual impacts for the Northop Hall Above Ground Installation (AGI) and HyNet Main Onshore Carbon Dioxide Pipeline was undertaken within the previously submitted DCO Application. These features are therefore excluded from this assessment.
Clwydian Range AONB/National Landscape	Following an initial desktop review of the Padeswood Spur Pipeline Proposed Development's proximity to the Clwydian Range AONB/National Landscape the anticipated intervisibility is limited and unlikely to result in a significant effect due primarily to the physical separation of the AONB/National Landscape from the Padeswood Spur Pipeline Proposed Development, located 3.2 km from the nearest development boundary. An assessment of the potential effects on the AONB/National Landscape has therefore been scoped out.
Receptors beyond 2km	Due to the anticipated height of the Padeswood Spur Pipeline Proposed Development, location of Above Ground Installation, temporary nature of the effects associated with the Padeswood Spur Carbon Dioxide Pipeline and physical separation of views beyond 2 km, receptors located further than 2 km from the Padeswood Spur Pipeline Proposed Development Scoping Boundary have been scoped out.
Changes to the existing landscape character and visual amenity associated with the Conservation Areas at Plas Bellin Northop Hall, Northop, Mold and Leeswood Hall	The physical separation of the Padeswood Spur Pipeline Proposed Development, in addition to the presence of intervening built form, ensures that the Padeswood Spur Pipeline Proposed Development will not result in any significant effects upon these designations. The identified conservation areas have therefore been scoped out for further assessment. They will, however, be included with regards to contributing to the value of the landscape character area that they fall within. Conservation areas are considered in more detail within Chapter 8: Cultural Heritage (Document Reference: PW.3.2.8).
Viewpoints and associated receptors	<p>Following scoping, design development and further study, a number of receptors associated with viewpoints have been descoped from further assessment as it has been concluded that no significant effects are likely to be experienced at Construction or Operation Stage. The descoped viewpoints with justification are listed below.</p> <p>Viewpoint S2 – Representative of residential views from the southern edge of Buckley. The Padeswood Spur Pipeline Proposed Development lies within the valley and will therefore be barely perceptible within the view.</p> <p>Viewpoint S5 – Representative of residential views from the southern edge of Buckley. The Padeswood Spur Pipeline Proposed Development lies within the valley and will therefore be barely perceptible within the view.</p> <p>Viewpoint S7 – View from PRoW Mold 46A. Views are typically of Low susceptibility, located directly adjacent to a busy junction and therefore is unlikely to experience significant effects.</p> <p>Viewpoint NAG11 – Representative of residential views from Northop. The Padeswood Spur Pipeline Proposed Development will extend down the slope and will be unlikely to appear visible in views from this location.</p>
Assessment of night-time effects from lighting	During construction, task orientated lighting will be used in shifts at the lowest luminosity necessary for safe delivery of each task. It will be designed, positioned, and directed to reduce the intrusion into adjacent properties and habitats. The exception to this will be at trenchless crossings where 24-hour working may be

Element Scoped Out	Justification
	<p>required for a limited number of weeks. It is therefore considered temporary in nature and unlikely to result in significant effects.</p> <p>During operation, the Padeswood AGI is the only project element with lighting. While there will be permanent lighting columns at the AGI during operation, these will be operated manually only for maintenance or inspection purposes. Lighting will therefore only be required for short, temporary periods and within the existing context of a lit industrial area. It is therefore unlikely that lighting will result in significant effects.</p> <p>At decommissioning, lighting will be similar to that at construction for a temporary period before then being permanently removed.</p>

ELEMENTS SCOPED INTO THE ASSESSMENT

Construction Stage

12.4.4. The following elements have been scoped into the assessment due to construction activities and associated plant:

- Changes to the landscape character within the Padeswood Spur Pipeline Proposed Development Red Line Boundary and Study Area.
- Changes to existing visual amenity of surrounding sensitive receptors.

Operation Stage

12.4.5. The following elements have been scoped into the assessment:

- Changes to landscape character within the Padeswood Spur Pipeline Proposed Development Red Line Boundary and Study Area due to new built form, use of new infrastructure, and landscaping.
- Changes in existing visual amenity of surrounding sensitive receptors due to new built form and landscaping.

Decommissioning Stage

12.4.6. The following elements have been scoped into the assessment due to construction activities and associated plant:

- Changes to the landscape character within the Padeswood Spur Pipeline Proposed Development Red Line Boundary and Study Area.
- Changes to existing visual amenity of surrounding sensitive receptors.

12.5. ASSESSMENT METHODOLOGY AND SIGNIFICANCE CRITERIA

STUDY AREA

12.5.1. The Guidelines for Landscape and Visual Impact Assessment (GLVIA 3) (Landscape Institute (LI) and the Institute of Environmental Management and Assessment (IEMA), 2013) clarify how study areas should be determined on a project-specific basis. Paragraph 5.2 of GLVIA 3 states that the Study Area extent should be "... *based on the extent of Landscape Character Areas likely to be significantly*

affected either directly or indirectly” or “on the extent of the area from which the development is potentially visible, defined as the Zone of Theoretical Visibility, or a combination of the two.”

12.5.2. The study area is based on professional judgement which includes an initial analysis of the anticipated scale and likely geographical influence of the Padeswood Spur Pipeline Proposed Development. A desktop review including the preparation of an initial Google Viewshed based on a maximum 6 m height of the proposed Padeswood AGI demonstrates visibility towards the AGI is available within approximately 500 m in all directions, with further visibility focussed towards the south and west within 2 km. The Zone of Theoretical Visibility (ZTV) (**Figure 12.1– ZTV**) was based on five locations at 2 km intervals to account for potential visibility of construction activity along the total length of the route, with an assumed maximum 6 m height for both construction plant and features, and 6 m for the maximum height of the Padeswood AGI. This demonstrates visibility is predominantly to the west and south west of the Padeswood Spur Pipeline Proposed Development towards the elevated ground associated with the Clwydian Range. This desktop study demonstrates that an initial Study Area of 2 km offset from the proposed route is appropriate to capture significant landscape and visual effects during construction, operation and decommissioning.

12.5.3. The route of the Padeswood Carbon Dioxide Spur Pipeline is shown on **Figure 3.2 – Padeswood Spur Pipeline Proposed Development (Document Reference: PW.3.4.3.2)**.

METHOD OF BASELINE DATA COLLECTION

Desk Study

12.5.4. Information on the existing (‘baseline’) landscape within the Study Area has been collected through a desk-based study incorporating reference to Local Plans, Ordnance Survey (OS) maps and ZTV mapping using the locations of the proposed AGI and the route of the proposed pipeline.

12.5.5. Sources of information used to define the baseline include:

- Natural Resources Wales (NRW) National Landscape Character Assessment (Natural Resource Wales, 2014);
- NRW LANDMAP tools including Area Statement - North East Wales Landscape (NRW, n.d.);

- Clwydian Range and Dee Valley AONB Supplementary Planning Guidance Note, June 2018 (Clwydian Range and Dee Valley AONB Joint Committee, 2018);
- NRW Open Spatial Data portal (National Resource Wales, n.d.);
- OS 1:25k and 1:50k mapping;
- Google Maps, Google Street View; and
- Google Earth Pro

Site Visits and Surveys

- 12.5.1. An initial field survey was undertaken by a Chartered Landscape Architect 22nd January 2024 with a further visit undertaken on 6th and 7th March 2024 to collect views for the landscape and visual assessment.
- 12.5.2. Site visits were conducted to ascertain the appropriateness of the Study Area, to review the ZTV in the field and to obtain a general understanding of the landscape character and visual amenity within the Study Area and to capture baseline photography to support the LVIA.

IMPACT ASSESSMENT METHODOLOGY

- 12.5.3. The methodology for the Landscape and Visual Impact Assessment (LVIA) has been produced in accordance with best practice by suitably qualified Landscape Architects including Chartered Members of the Landscape Institute (CMLI).
- 12.5.4. The full LVIA methodology is set out in **Appendix 12.1 - LVIA Methodology (Document Reference: PW.3.3.12.1)**.

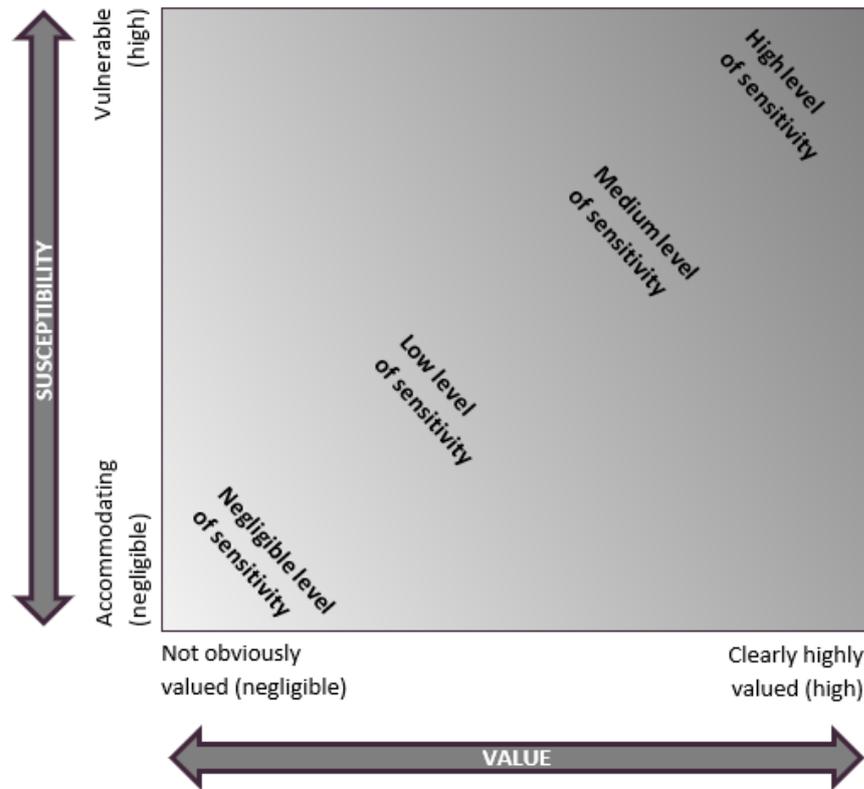
SIGNIFICANCE CRITERIA

- 12.5.5. A summary of the approach to determining the significance of effect on landscape and visual receptors is provided below. Full significance criteria are set out in **Appendix 12.1 - LVIA Methodology (Document Reference: PW.3.3.12.1)**.

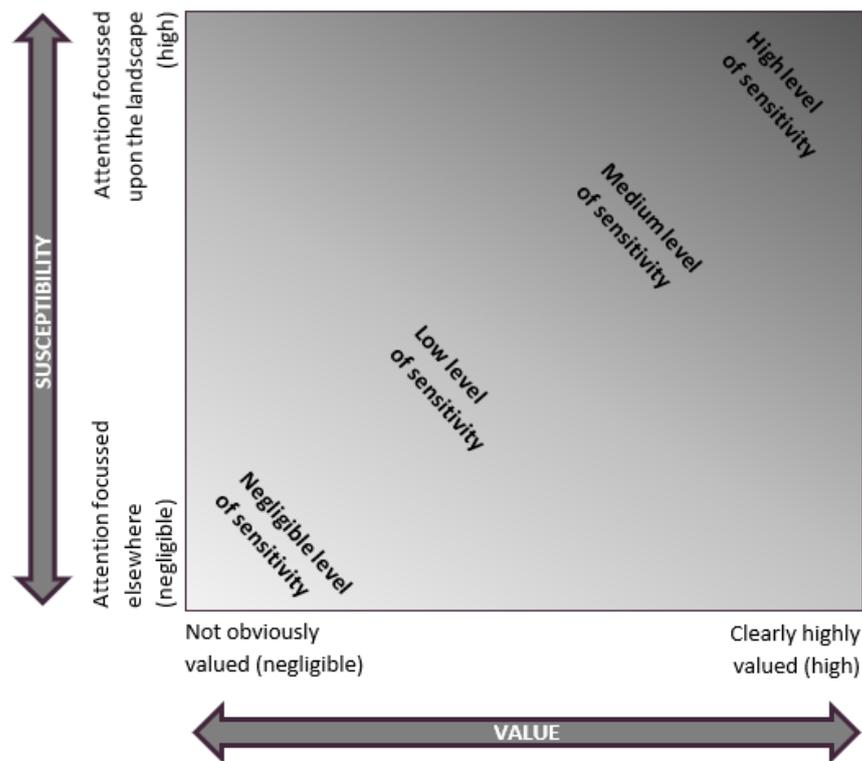
Determining Sensitivity

- 12.5.6. Sensitivity is determined by combining value and susceptibility. The diagrams presented as **Insert 12-1 and Insert 12-2** illustrate how value and susceptibility can be combined for landscape and visual receptors respectively. When determining overall sensitivity, it should be noted that the levels are indicative and fall on a sliding

scale from high to negligible and professional judgement is always used to determine the overall level of sensitivity.



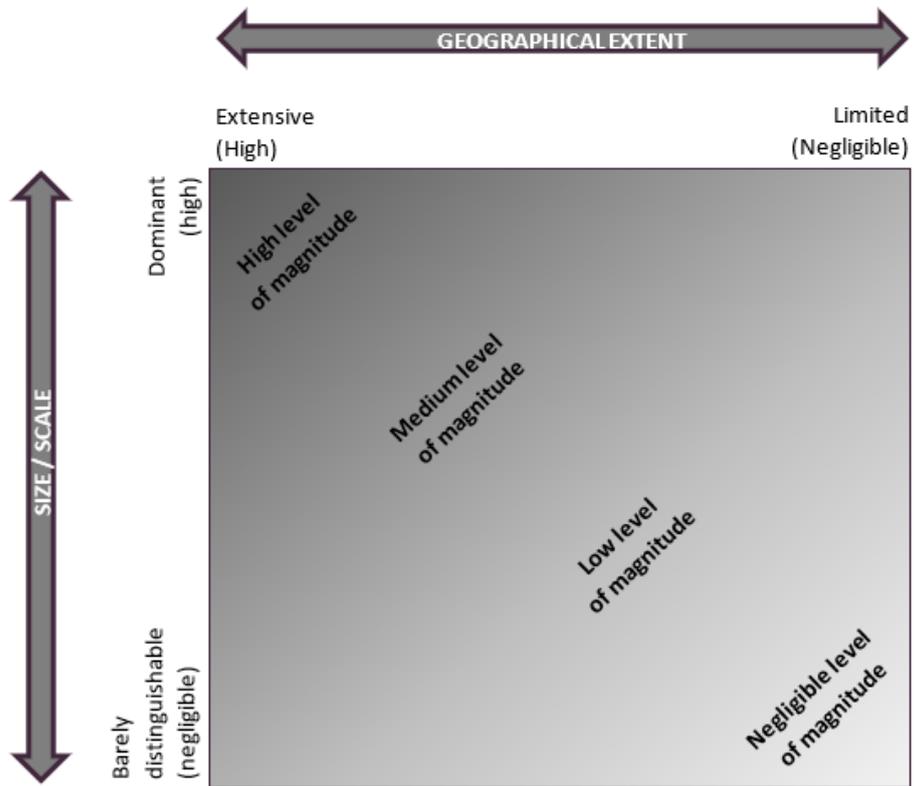
Insert 12-1– Level of Landscape Sensitivity Diagram



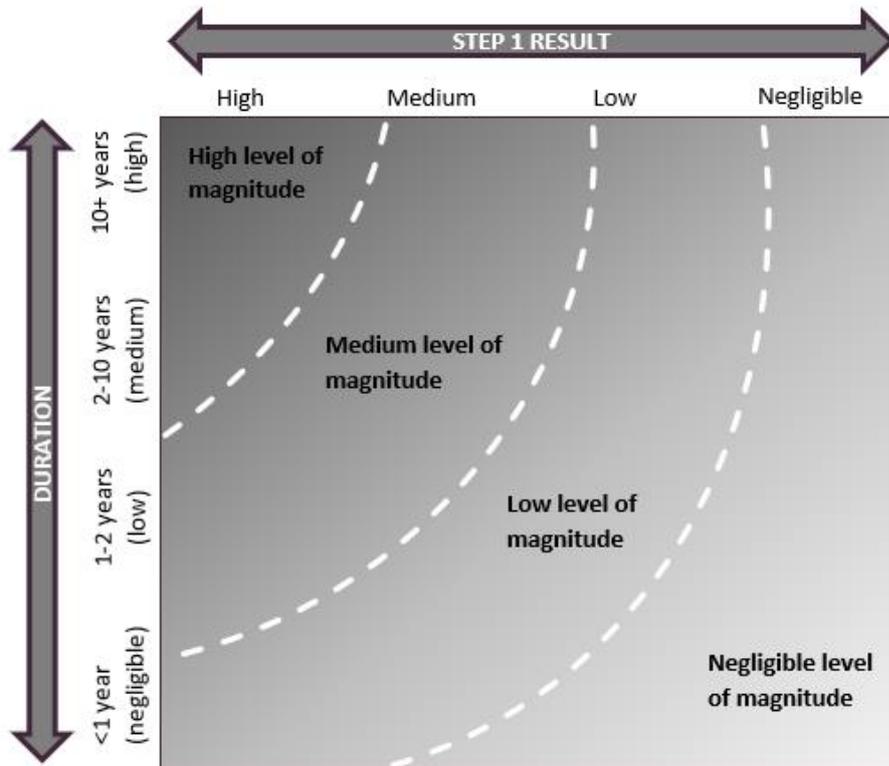
Insert 12-2– Visual Sensitivity Diagram

Determining Magnitude of Change

- 12.5.7. Magnitude of change is determined by combining a combination of factors including:
- The size, scale, and nature of change in relation to the context.
 - The geographical extent of the area influenced.
 - Its duration and reversibility.
- 12.5.8. As illustrated in **Insert 12-3** and **Insert 12-4**, there is a two-step process for determining magnitude of change. First by considering size and scale together with the geographical extent in step one.
- 12.5.9. For Step two, the preliminary result from step 1 is then considered alongside the duration and reversibility which can either increase or decrease the rating accordingly.



Insert 12-3– Magnitude of Change Diagram: Step 1



Insert 12-4– Magnitude of Change Diagram: Step 2

Level of Effect and Significance

12.5.10. Professional judgement is used to combine sensitivity and magnitude to gauge the level of effect and determine whether it is significant or not with a clear rationale for the overall judgement. **Table 12-3** provides general guidance on the inter-relationship between magnitude of change and sensitivity of receptor. However, this matrix is used as a framework and guide for consistency, not as a prescriptive formula.

Table 12.3 - Significance Matrix

		Magnitude			
		High	Medium	Low	Negligible
Sensitivity	High	Major	Major or Moderate	Moderate	Minor or Negligible
	Medium	Major or Moderate	Moderate	Moderate or Minor	Negligible
	Low	Moderate	Moderate or Minor	Minor	Negligible
	Negligible	Negligible	Negligible	Negligible	Negligible

12.5.11. **Table 12.4** and **Table 12.5** present the sliding scale for the levels of landscape and visual effects and their typical descriptors.

Table 12.4 - Landscape Level of Effect

Landscape level of effect	
Major	The Proposed Development would result in major changes to landscape character, and these would be considered significant.
Moderate	The Proposed Development would result in moderate changes to landscape character, and these would be considered significant.

Landscape level of effect	
Minor	The Proposed Development would result in minor changes, and these would be considered non-significant.
Negligible	The Proposed Development would result in negligible changes to landscape character, and these would be considered non-significant.

Table 12.5 - Visual Level of Effect

Visual level of effect	
Major	The Proposed Development would result in major changes to visual receptors, and these would be considered significant.
Moderate	The Proposed Development would result in moderate changes to visual receptors, and these would be considered significant.
Minor	The Proposed Development would result in minor changes to visual receptors, and these would be considered non-significant.
Negligible	The Proposed Development would result in negligible changes to visual receptors, and these would be considered non-significant.

- 12.5.12. Using professional judgement and with reference to the Guidelines for Environmental Impact Assessment (IEMA 2004), the assessments within this chapter consider effects of moderate and greater to be significant.
- 12.5.13. For the purposes of proportionality and to ensure the effects that are significant are the key focus of this assessment, any landscape or visual receptors assigned a negligible level of sensitivity will not be further considered as part of the assessment on the basis that significant effects are highly unlikely.
- 12.5.14. Any receptors assigned an overall negligible level of effect at year 1 will not be further considered or assessed in year 15 on the basis that effects are highly unlikely to increase to a level of significance at year 15 given year 1 is considered to present the worst-case scenario at operation.

ASSUMPTIONS AND LIMITATIONS

12.5.15. To ensure transparency within the EIA process, the following limitations and assumptions have been identified:

- The Padeswood AGI is a fixed location with a specific **Landscape Layout (Document Reference: PW.4.5)** provided which forms part of the design and embedded mitigation;
- For the Padeswood Spur Pipeline Proposed Development route, the limit of deviation is greater than that of AGI locations and therefore it is not possible to define exactly at this stage which trees/features will be lost, and which will be retained. It is anticipated that this will be refined as the design progresses. In locations where it has not been possible to define a specific route, the assessment in these locations will assume that all vegetation features within the Red Line Boundary in those locations will be removed during construction which presents the reasonable worst case scenario.
- For the Padeswood Carbon Dioxide Spur Pipeline operational years, it will be assumed that some vegetation retention is possible and where vegetation loss avoidance has not been possible, that replacement will be on a like-for-like basis in the same locations or as close to original locations as is reasonably practicable. Where this is not possible due to utility constraints or the constraint of the proposed pipeline route, replacement blocks of vegetation will be identified. These blocks will therefore also be assumed to be planted during operation years 1 and 15;
- Where land is disturbed temporarily for construction purposes, it will be assumed it will be returned to its previous use;
- The assessment will assume that all proposed soft landscaping, including hedgerow, tree planting and grassland planting will be planted during or towards the end of the Construction Stage so that they are in place by winter operation year 1;
- It will be assumed that the mitigation planting proposed to replace vegetation loss around the AGI will utilise appropriate root protection measures and will be established by operation year 15, to reinstate existing screening;
- As discussed in **Chapter 9 – Biodiversity (Document Reference: PW.3.2.9)** there are potential limitations regarding survey data on hedgerows and trees. Where this is the case, for the purposes of

the LVIA aerial photography will be used to estimate existing vegetation; and

- It will be assumed that the hedgerow loss will be replaced like-for-like in like-for-like locations except for in locations of permanent access.

BASELINE CONDITIONS

12.5.16. To establish the baseline conditions, a combination of desktop study, walkovers of the area and ZTVs have been carried out. The existing baseline assessment have been split into two parts covering both landscape character and visual amenity with the findings of this baseline research outlined below:

EXISTING BASELINE

Landscape Character

12.5.17. As displayed on **Figure 12.2 Landscape Character Areas (Document Reference: PW.3.4.12.2)**, the Padeswood Spur Pipeline Proposed Development lies within 5 Visual and Sensory aspect areas. A brief description of these areas has been provided in **Table 12-6** below.

Table 12.6 - LANDMAP Visual and Sensory Aspect Areas

Visual and Sensory Area (VSA)	Key Characteristics
Valley Floor (FLNTVS013)	Flat floor of Alyn Valley with fertile regular arable & pastoral fields, linear woodland, settlements & industry. There are noted to be attractive views both into and out of this aspect area.
Farmland Fringe (FLNTVS009)	Gently rolling lowland farmland with a mixture of small traditional fields, larger more improved fields and urban and fringe uses including currently unused quarries and golf courses. There is a large cement work in the southern part of the area. This has large industrial structures, which are locally prominent, rising out of the predominantly rural landscape. There are noted to be attractive views both into and out of this aspect area.
Wooded Valley and Parkland (FLNTVS011)	Narrow and moderately sloping sinuous lowland wooded small river valleys with associated parkland and pastoral farmland. There are noted to be attractive views both into and out of this aspect area.

Visual and Sensory Area (VSA)	Key Characteristics
A55 and A494 Road Corridors (FLNTVS084)	The A55 and A494 are busy dual carriageways which link the North Wales coast to England and south Wales. These are busy roads with substantial commercial traffic and therefore affect the tranquillity of the adjacent areas. The embankments and cuttings consist of either rough grass or deciduous and mixed plantation which is now semimature helping to mitigate the visual impact of the road in places although traffic is still visible from the lower land. Broad views of the coast are possible from the road and also of commercial areas. With reference to landscape value, it is noted that it is a road development of little scenic quality. The landscape treatment is well maintained generally although some gorse has encroached. The road has no distinct character. Roads of this type are common. There are noted to be attractive views out towards the coast.
Estuary Edge and Valleys (FLNTVS014)	Gently sloping and rolling lowland estuary edge with distinct east/west grain and mosaic of wooded linear stream valleys, traditional & improved farmland, and a linear settled and urban fringe lower edge; and an overall estuarine influence. There are noted to be attractive views both into and out of this aspect area.

Visual Amenity

- 12.5.18. In terms of visual receptors (people with views), the Padeswood Spur Pipeline Proposed Development will be overlooked by a number of settlements and Public Rights of Way (PRoW) with several crossing the Padeswood Spur Pipeline Proposed Development route corridor, including Wat's Dyke Way long distance recreational route.
- 12.5.19. Following a desktop study, including a review of the ZTV, Google Viewshed Analysis, an initial site visit was undertaken on 22nd January 2024, with an additional survey undertaken on the 6th and 7th March 2024 to identify potential visual receptors.
- 12.5.20. Potential views have been presented within a series of viewpoints **Figure 12-3 Viewpoint Photography (Document Reference: PW.3.4.12.3)**. **Figure 12.4–Viewpoint Plan (Document Reference: PW.3.4.12.4)** shows the locations from which photographs have

been taken to represent views from people in sensitive locations, such as houses and footpaths. These have been presented as Type 1 Annotated photographs. A list of these viewpoints is provided within **Table 12-7**. Each viewpoint or receptor has a reference number so that it can be easily location as set out on **Table 12 7: List of Viewpoint Locations and Identified Receptors below**. Those with PAGI refer to viewpoints or receptors surrounding the Padeswood AGI. Those with S refer to and refer to receptors surrounding the Spurline (pipeline). Those with NAGI are those towards the Northrop Hall AGI end of the pipeline. This referencing is purely to assist the reader know where they are located.

- 12.5.21. Viewpoints struck through have since been scoped out of the assessment, as identified in the above **Table 12-2 - Elements Scoped Out of the Assessment**.
- 12.5.22. Each viewpoint or receptor/ group has a reference number so that it can be easily located on the corresponding figures **Figure 12-3 Viewpoint Photography** and **12.4 Viewpoint Plan** and **Appendix 12.3 – Visual Analysis (Document Reference: PW.3.3.12.3)**.

Table 12.7 - List of Viewpoint Locations and Identified Receptors

Viewpoint Ref/Receptor Ref	Viewpoint Location	Identified Receptors
PAGI1	Junction of PRow Buckley 56 and Buckley 55, south of Padeswood Cement Works	Recreational users of PRow Buckley 56 and Buckley 55
PAGI2	PRow Buckley 54 west of Padeswood Cement Works	Recreational users of PRow Buckley 54
S1	PRow Buckley 56, south of the water treatment works	Recreational users of PRow Buckley 54 Residents of dwellings off the A5118
S2	Junction of Padeswood Road South and Ffordd Dol Gwyn	Residents off Ffordd Dol Gwyn within Buckley
S3	Wat's Dyke Way Heritage Trail	Residents at Garreg- Lwyd Farm

Viewpoint Ref/Receptor Ref	Viewpoint Location	Identified Receptors
	adjacent to Garreg-Lwyd Farm	
Wat's Dyke Way	Refer to S3 and S9 locations.	Recreational users of Wat's Dyke Way
S4	Rose Lane, north of Plas Major Farm	Residents at Plas Major Farm and Glen Brook Farmhouse Users of Rose Lane
S5	Well Street on the southern edge of Buckley	Residents off Well Street and southern edge of Buckley
S6	Rose Lane, on the southern edge Mynydd Isa	Residents off Rose Lane and to southern edge of Mynydd Isa Recreational users of Wat's Dyke Way (Rose Lane)
S7	PRoW Mold Rural 46A adjacent to Wylfa Roundabout	Recreational users of Mold Rural 46A Users of Mold Bypass A494 Residents of Pentre
S8	PRoW Mold 46 off Ffordd Argoed	Recreational users of PRoW Mold 46 Residents off Ffordd Argoed, Mold
S9	PRoW Mold 45 to the north of Mynydd Isa	Residents at Bryn-y-Baal
S10	Viewpoint Previously Removed	
S11	A5119 on the northern edge of New Brighton	Residents at New Brighton Road users of A5119
S12	A494 on the western edge of Alltami	Residents at Alltami Recreational users of PRoW Flintshire 28

Viewpoint Ref/Receptor Ref	Viewpoint Location	Identified Receptors
S13	Junction of PRow Northop 74 and Alltami Road	Recreational users of Northop 74 Residents at Llwyn Offa Users of Alltami Road
S14	PRow Northop 24 to the south west of Schydn	Recreational users of PRow Flintshire 24 Residents at Sychdyn
S15	Northop Country Park Golf Club	Recreational users of PRow Flintshire 19 Residents at Northop Country Park Recreational users of Northop Country Park Golf Club
NAG11	B5125 (Village Road) on the western edge of Northop Hall	Residents at Northop Hall
NAG12	PRow Northop 4 to the west of Northop Hall Village	Recreational users of PRow Northop 4
NAG13	Field access off B5125 (Village Road)	Vehicular users of B5125

FUTURE BASELINE

- 12.5.23. The future baseline scenario has considered the Padeswood Carbon Capture and Storage (CCS) Project and Northop Hall AGI as developed prior to the Padeswood Spur Pipeline Proposed Development commencing. As part of the CCS development, a feature of pertinence includes the route of PRow Buckley 56 that will be diverted to continue along the western boundary of the Padeswood Cement Works on the outside of the existing screen planting associated with the western edge of the Padeswood Cement Works. The assessment is based upon this updated location.
- 12.5.24. A review of information from **Chapter 7 (Climate Resilience)** (Document Reference: PW.3.2.7) has also been undertaken to confirm a Future Baseline and assess any impacts within the context of climate change.

- 12.5.25. It is not anticipated that any significant changes to future landscape and visual baseline will be experienced as a result of climate change. It is noted however that changes to global temperatures and precipitation rates may alter the viability of some species within proposed mitigation planting.
- 12.5.26. Mitigation planting and proposed species selection should ensure an appropriate mix of species, alongside drought tolerant species to support resilience of planting to maintain future baseline conditions.

12.6. SENSITIVE RECEPTORS

- 12.6.1. The following sensitive Receptors have been assessed and are displayed in **Table 12-8** and **Table 12-9** below.

Table 12.8 - Sensitive Landscape Receptors

Susceptibility/Value	Receptor
Susceptibility: Low Value: Low	Valley Floor (FLNTVS013)
Susceptibility: Medium Value: Medium	Farmland Fringe (FLNTVS009)
Susceptibility: Medium Value: Medium	Wooded Valley and Parkland (FLNTVS011)
Susceptibility: Low Value: Low	A55 and A494 Road Corridors (FLNTVS084)
Susceptibility: Medium Value: Medium	Estuary Edge and Valleys (FLNTVS014)

Table 12.9 - Sensitive Visual Receptors

Susceptibility/Value	Receptor
Susceptibility: High Value: Low	Recreational Users of PRow Buckley 56
Susceptibility: High Value: Low	Recreational Users of PRow Buckley 55
Susceptibility: High Value: Low	Recreational Users of PRow Buckley 54
Susceptibility: High Value: Low	Residents of dwellings off A5118
Susceptibility: High Value: Low	Residents at Ffordd Dol Gwyn/southern edge of Buckley

Susceptibility/Value	Receptor
Susceptibility: High Value: High	Recreational users of Wat's Dyke Way
Susceptibility: High Value: Medium	Residents at Garreg-Lwyd Farm
Susceptibility: High Value: Medium	Residents at Plas Major Farm
Susceptibility: High Value: Medium	Residents at Glen Brook Farmhouse
Susceptibility: High Value: Low	Residents off Well Street
Susceptibility: High Value: Low	Residents on the southern edge of Buckley
Susceptibility: High Value: Medium	Residents off Rose Lane
Susceptibility: Medium Value: Low	Recreational users of PRow 46A
Susceptibility: High Value: Low	Residents at Pentre
Susceptibility: High Value: Medium	Recreational users PRow Mold 46
Susceptibility: High Value: Medium	Residents off Ffordd Argoed
Susceptibility: High Value: Medium	Residents at Bryn-y-Baal
Susceptibility: High Value: Low	Residents at New Brighton
Susceptibility: High Value: Medium	Residents at Alltami
Susceptibility: High Value: Medium	Recreational users of PRow Flintshire 28
Susceptibility: High Value: Medium	Residents at Llwyn Offa
Susceptibility: High Value: Medium	Recreational users of PRow Flintshire 24
Susceptibility: High Value: Medium	Residents at Sychdyn
Susceptibility: High Value: Medium	Recreational users of PRow Flintshire 19
Susceptibility: High Value: Medium	Residents at Northop Country Park
Susceptibility: High Value: Low	Recreational users of Northop Country Park Golf Club

Susceptibility/Value	Receptor
Susceptibility: High Value: Low	Residents at Northop Hall
Susceptibility: High Value: Low	Recreational users of PRow Northop 4

12.7. DESIGN DEVELOPMENT, IMPACT AVOIDANCE AND EMBEDDED MITIGATION

12.7.1. The following measures are committed and part of the design through embedded mitigation.

Construction

- Where areas of the Padeswood Spur Pipeline Proposed Development are to be constructed via open-cut trench method cross hedgerows, the extent of hedgerow to be removed will be an absolute maximum of 17 m but minimised where possible. This includes both hedgerows and the trees that sit within the hedgerows. As far as reasonably practicable, vegetation loss will be minimised. Particularly where the pipeline crosses vegetation at a 90 degree angle where losses will be a maximum of 12 m.
- Where trees (stems) sit outside of the Red Line Boundary, but there is potential to impact, the Root Protection Areas (RPAs) of these trees will be retained and protected.
- All ancient woodland areas will be protected. A 15 m works exclusion zone or similar approved by an Arboriculturist is assumed, except for environmental mitigation works, such as drainage works. It is noted that at Wared Wood an exclusion has been made to allow for access to construct the trenchless crossing. However, construction access will utilise an existing access through the woodland, to avoid vegetation clearance.
- Fences, kiosks and lighting columns associated with the AGI will be painted to a colour that fits the context in which they are located. This external finish paint colour will be subject to approval at Detailed Design stage with the precise shade specified at that time.
- Along the Padeswood Carbon Dioxide Spur Pipeline, where loss of hedgerow, tree or woodland is unavoidable and takes place as a result of construction works, the loss will be replaced on a like-for like basis, as close as practical to their original locations,

which may be limited by pipeline easement requirements or offset requirements from services. This will be in accordance with United Kingdom Onshore Pipeline Operators' Association (UKOPA) Tree Planting Near High Pressure Pipelines guidance, as well as similar or any updated guidance notes for the relevant service provider as appropriate. Replacement planting will be undertaken in agreement with the Local Planning Authority.

- To maximise the chances of suitable growth of replaced vegetation, topsoil or organic surface material will be stripped to one edge of the working width and stockpiled appropriately to avoid compaction. As far as practical, topsoil will be stored adjacent to the works and reused locally during post-construction reinstatement;
- Hedgerows, trees and woodland which are located between trenchless crossing entry/exit pits will be protected and retained.
- Where new temporary construction accesses are required through existing hedgerows, the width to be lost will be kept to the minimum practicable and will not exceed 6 m. Hedgerows, trees and woodland outside of this 6 m will be protected and retained. Protective measures will be detailed within a site specific Arboricultural Method Statement (AMS) and shown on a Tree Protection Plan (TPP) and where necessary, working methods will be monitored by a suitable Arboricultural Clerk of Works (ACoW).
- Where hedgerow, trees and woodland loss is unavoidable and takes place to make way for temporary access, these will be replaced on a like-for-like basis and as close to the original location as practicable.

Operation

- Lighting columns 5 m in height will be installed at the perimeter of the Padeswood AGI. The AGI will not be permanently lit; lighting will only operate should there be a security or safety reason (for example, an unexpected need for a maintenance visit during low light conditions). The perimeter lighting columns will be directed only into the facility area and will incorporate measures such as louvres and/or barn-doors, to minimise light-spill on the occasions that the lighting is required.

- No permanent lighting will be installed along the pipeline length and no additional lighting will be installed at the Northop Hall AGI.
- Land disturbed to make way for construction that is not then used as part of the Padeswood Spur Pipeline Proposed Development during operation will be reinstated and returned to existing land uses following completion of the Construction Stage.
- The Padeswood AGI has a specific **Landscape Layout (Document Reference PW.4.6)** that demonstrates the embedded design and associated mitigation.
- During the Operational Stage, management will take place to ensure all mitigation planting thrives and survives as set out within the **Outline Environmental Management Plan (Document Reference: PW.4.1)**.

Decommissioning

- During decommissioning, appropriate protections to the established vegetation will be provided to ensure damage is avoided during the removal of apparatus. Where damage is unavoidable, replacement of any lost or damaged planting that was provided during the Operational Stage or any pre-existing, or newly planted by others, will be provided in agreement with the relevant LPA;
- Decommissioning design and works will be undertaken in compliance with all necessary legislation, permits and best practice at that time.

12.8. PRELIMINARY ASSESSMENT OF LIKELY IMPACTS AND EFFECTS

12.8.1. This Section details the preliminary assessment of predicted impacts and effects for the Padeswood Spur Pipeline Proposed Development during the Construction, Operational and Decommissioning Stages.

SIGNIFICANT EFFECTS

CONSTRUCTION STAGE

12.8.2. The likely significant effects for Landscape and Visual associated with the Construction Stage are set out below.

- 12.8.3. Changes to the landscape character within the Red Line Boundary and Study Area are considered likely to occur during Construction Stage, alongside changes to the visual amenity of those surrounding sensitive visual receptors.
- 12.8.4. Construction activities associated with the Padeswood Spur Pipeline Proposed Development have the potential to result in both temporary and permanent landscape and visual effects with the removal of vegetation and built features to enable pipeline routing.
- 12.8.5. Temporary, short-term effects on landscape character potentially would occur from the presence of increased movement within the landscape associated with construction vehicles and plant, alongside temporary construction infrastructure.
- 12.8.6. A detailed assessment of effects on landscape character is set out within **Appendix 12.2 Landscape Analysis (Document Reference: PW.3.3.12.2)**, with a summary of those which are likely to be significant shown in **Table 12-10** below.

Table 12.10 - Construction Landscape Effects

Landscape Character Area/Aspect Area	Susceptibility, value, and overall sensitivity	Construction magnitude and effect
LOCAL LEVEL (WALES) – LANDMAP		
Farmland Fringe (FLNTVS009)	<p>The landscape is predominantly characterised by agricultural farmland within this aspect area reinforcing the more rural quality of the landscape. Detracting features associated with the industrial development to the south are evident within the landscape however, diminishing this more rural quality to some degree. The overall susceptibility of this LCA is assessed Medium.</p> <p>The LCA is an undesignated landscape. The majority of the aspect area is in good condition with the predominantly agricultural landscape presenting a managed but predominantly rural landscape. The industrial elements to the south do detract from this scenic quality with prominent urbanising features detracting from the quality of the landscape. The overall value of the landscape is assessed as Medium.</p> <p>Overall Sensitivity: Medium</p>	<p>The Padeswood Spur Pipeline Proposed Development will extend across a long stretch of the LCA within its western and southern sections. Construction activity including the movement of plant, introduction of temporary construction compounds and removal of vegetation in places will result in changes to the landscape. The more rural northern and eastern section of the LCA however will remain unchanged with the landscape to east of Alltami to remain unaffected with development principally focussed on land to the west towards the A494 and to the south of Buckley where the landscape is more characterised by settlements and key infrastructure routes. The scale of change is therefore recorded as Medium. The Padeswood Spur Pipeline Proposed Development will extend across a large stretch of the LCA to the south and west with construction activity likely to introduce increased movement and industrial features into the landscape. The geographical extent of change is therefore recorded as High. The Construction Stage is considered to be short term and the duration of change is therefore recorded as Low.</p> <p>Overall Magnitude: Medium</p> <p>Overall Effect: Moderate adverse (significant)</p>

12.8.7. A detailed assessment of effects on visual amenity for receptors during construction is set out in **Appendix 12.3 – Visual Analysis (Document Reference: PW.3.3.12.3)** with a summary of those which are likely to be significant shown in **Table 12-11** below.

Table 12.11 - Construction Visual Effects

Viewpoint Reference and Identified Receptors	Susceptibility, value, and overall sensitivity	Construction magnitude and effect
Viewpoints associated with Padeswood Above Ground Installation (PAGI)		
<p>PAGI 1</p> <p><u>Receptors:</u></p> <p>Recreational Users of PRow Buckley 56 and Buckley 55</p>	<p>Receptors are recreational users of PRow and are considered likely to be seeking enjoyment of the countryside and to have an appreciation of the wider landscape. The susceptibility of the receptor is recorded as High.</p> <p>Views along the route are not identified as being locally or nationally recognised and are located within close proximity to the industrial features associated with the Padeswood Cement Works, with the future baseline set to extend this industrial influence to lie within the immediate context of the Site. The value of the view is recorded as Low.</p> <p>Overall Sensitivity: Medium</p>	<p>Construction activity associated with the Padeswood Spur Pipeline Proposed Development will be visible within the foreground with the Heidelberg Pipeline Connection Point Compound to the north, the associated plant. The required vegetation removal will appear clearly visible allowing views towards both the construction activity of the Padeswood Spur Pipeline Proposed Development, the existing and Padeswood Cement Works and the Padeswood CCS Project. The scale of change is recorded as High. Due to the dense vegetation that bounds the field within which the Padeswood Spur Pipeline Proposed Development is located, views towards of construction activity will be localised to those within the immediate proximity. With the existing vegetation serving to filter and contain views from the wider landscape to south. Views to the north however will likely also glimpse construction activity associated with the wider pipeline route. The geographical extent of change is recorded as Medium. The Construction Stage is noted to be temporary. The duration of change is therefore recorded as Low.</p> <p>Overall Magnitude: High Overall Effect: Major adverse (significant)</p>
Viewpoints associated with Padeswood CO2 Spur Pipeline		
<p>S1</p> <p><u>Receptors:</u></p> <p>Recreational Users of PRow Buckley 54</p> <p>Residents of dwellings off A5118</p>	<p>Receptors are identified as recreational users of PRow and residents of dwellings off the A5118. Both recreational users of PRow and residents at home are considered to have an appreciation of the wider landscape. The susceptibility of both these receptors is recorded as High.</p> <p>The view is not identified as being locally or nationally recognised and is located within close proximity to the industrial features associated with the Padeswood Cement Works. The value of the view is recorded as Low.</p> <p>Overall Sensitivity: Medium</p>	<p>Construction activity associated with the Padeswood Spur Pipeline Proposed Development will be clearly visible within the fore and middle ground of views, with the open fieldscape affording clear views towards the Padeswood Spur Pipeline Proposed Development. Glimpsed views of the Heidelberg Pipeline Connection Point Compound which will be utilised for the Padeswood AGI construction, are also likely to appear visible albeit filtered by the dense vegetation structure that bounds the existing field with the exception of where a section of vegetation has been removed to enable the construction of the pipeline. Further north beyond the road corridor views are likely to be partially obscured by the existing field/road boundary vegetation that lines the A5118 road corridor to the north and south. The scale of change is recorded as High. Construction activity associated with the Padeswood Spur Pipeline Proposed Development will appear visible throughout the length of the PRow due to the open nature of the landscape at this point. Within wider views from residents off the A5118 to the north it is noted that views are likely to</p>

Viewpoint Reference and Identified Receptors	Susceptibility, value, and overall sensitivity	Construction magnitude and effect
		<p>appear filtered to some degree by existing vegetation however construction activity is likely to still remain visible across the view. The geographical extent of change is therefore recorded as High. Construction Stage is noted to be temporary. The duration of change is therefore recorded as Low.</p> <p>Overall Magnitude: High Overall Effect: Major adverse (significant)</p>
<p>Wat's Dyke Way</p> <p><u>Illustrative Viewpoints:</u></p> <p>S3 & S9</p> <p><u>Receptors:</u></p> <p>Recreational users of Wat's Dyke Way</p>	<p>Receptors are identified as users of Wat's Dyke Way. Recreational users are anticipated to have an appreciation of the wider landscape. The susceptibility of the receptor is recorded as High.</p> <p>Wat's Dyke Way is a national heritage trail and as such is of value within the landscape. The value of the view is recorded as High.</p> <p>Overall Sensitivity: High</p>	<p>Construction activity associated with the Padeswood Spur Pipeline Proposed Development will appear visible within the landscape. Notably where construction compounds associated with the crossing of Foundry Drain, to the west of Padeswood Road South and Bryn-y-Baal road will lie within close proximity to or across the route and as such will appear as prominent features within the landscape. The scale of change is therefore recorded as High. With regards to the geographical extent of change it is noted that construction activity associated with the Padeswood Proposed Spur Pipeline Development is likely to appear visible within glimpsed views from a number of sections of Wat's Dyke Way between the existing Padeswood Cement Works and Bryn-y-Baal Road. The geographical extent of change is therefore recorded as High. Construction Stage is noted to be temporary. The duration of change is therefore recorded as Low.</p> <p>Overall Magnitude: High Overall Effect: Major adverse (significant)</p>
<p>S3</p> <p><u>Receptors:</u></p> <p>Residents at Garreg-Lwyd Farm</p>	<p>Receptors are identified as residents at Garreg-Lwyd Farm. Residents at home are considered likely to have an appreciation for the wider landscape. The susceptibility of the receptor is recorded as High.</p> <p>The view is not identified as being nationally or regionally recognised. It is however noted that Wat's Dyke Way is a national heritage trail and as such is of value within the landscape. The value of the view is recorded as Medium.</p> <p>Overall Sensitivity: High</p>	<p>Construction activity associated with the Padeswood Spur Pipeline Proposed Development will appear visible within the middle ground of the view, with associated plant required for the HDD trenchless crossing of Foundry Drain to appear clearly visible within the relatively open rolling landscape. Whilst it is noted that some filtering of views will be afforded by intervening vegetation, for the most part views towards the Padeswood Spur Pipeline Proposed Development and associated plant will be readily available across the landscape at this point. The scale of change is therefore noted to be High. Views of construction activity and the compound associated with the Padeswood Spur Pipeline Proposed Development and trenchless crossing at Foundry Drain will be visible within the view. Views associated with the wider Padeswood Spur Pipeline Proposed Development will also appear across the majority of the landscape at this point with the route of Wat's Dyke Way extending north westwards and crossing the route of the proposed Padeswood Carbon Dioxide Spur Pipeline. The geographical extent of change is therefore</p>

Viewpoint Reference and Identified Receptors	Susceptibility, value, and overall sensitivity	Construction magnitude and effect
		<p>recorded as High. Construction Stage is noted to be temporary. The duration of change is therefore recorded as Low.</p> <p>Overall Magnitude: High Overall Effect: Major adverse (significant)</p>
<p>S4</p> <p><u>Receptors:</u></p> <p>Residents at Plas Major Farm and Glen Brook Farmhouse</p>	<p>Receptors are residential receptors at Plas Major Farm and Glen Brook Farm and users of Rose Lane. Residents at home are likely to have an appreciation of the landscape The susceptibility of this receptor is recorded as High. Rose Lane is a narrow rural road corridor, and as such users are likely to be travelling at lower speeds, with some appreciation for the wider landscape. The susceptibility of this receptor is therefore recorded as Medium.</p> <p>The viewpoint location is not identified as being nationally or locally recognised. It is however noted that the view represents a predominantly rural character with few detracting features, and the mature hedgerow and field trees presenting an attractive character. The value of the view is recorded as Medium.</p> <p>Overall Sensitivity: High</p>	<p>Construction activity associated with the Padeswood Spur Pipeline Proposed Development will be visible within the middle ground of views, however, contained to a degree by the existing boundary vegetation and with the trenchless construction compound to be set back from the residents at Glen Brook Farmhouse. Entry and exit pits for the crossing will likely appear more visible to residents at Glen Brook Farmhouse albeit set beyond the existing vegetation that defines the eastern boundary of the dwelling. Construction activity will however appear more clearly visible along Rose Lane as the Padeswood Spur Pipeline Proposed Development route extends along the southern edge of this road corridor for a short stretch before extending north west to the west of Greenhill Farm. The scale of change is therefore recorded as Medium. The Padeswood Spur Pipeline Proposed Development will appear clearly visible along a short stretch of Rose Lane and within localised views from the residential dwellings at Plas Major Farm and Glen Brook farmhouse. Trenchless crossings to the north and east will serve to limit views with intervening filed boundary vegetation serving to further limit views as the route extends westwards. The geographical extent of change is recorded as Medium. Construction Stage is noted to be temporary. The duration of change is therefore recorded as Low.</p> <p>Overall Magnitude: Medium Overall Effect: Moderate adverse (significant)</p>
<p>S6</p> <p><u>Receptors:</u></p> <p>Residents off Rose Lane</p>	<p>Receptors are residential receptors off Rose Lane. Residents at home are likely to have an appreciation of the landscape The susceptibility of this receptor is recorded as High. Rose Lane is a narrow rural road corridor, and as such users are likely to be travelling at lower speeds, with some appreciation for the wider landscape. The susceptibility of this receptor is therefore recorded as Medium.</p> <p>The viewpoint location is not identified as being nationally or locally recognised. It is however noted that the view represents a predominantly rural character with few detracting features. The value of the view is recorded as Medium.</p> <p>Overall Sensitivity: High</p>	<p>Construction activity associated with the Padeswood Spur Pipeline Proposed Development is likely to appear visible within the middle ground of views towards the landscape to the south of Greenhill Farm and west as the route extends towards the A541. Views are however, likely to be filtered to a degree by the existing vegetation within the wider landscape and that lines Rose Lane. It is noted however that clearer views towards the Padeswood Spur Pipeline Proposed Development and associated construction activity are likely to be available within views from residents at Greenhill Farm. The scale of change is recorded as Medium. With regard to the geographical extent of change it is considered that for the most part, whilst views will be available these will be largely localised. Whilst it is considered that western views from residents are likely to experience some views towards construction activity these will be filtered by boundary vegetation and woodland parcels within the wider</p>

Viewpoint Reference and Identified Receptors	Susceptibility, value, and overall sensitivity	Construction magnitude and effect
		<p>landscape. The geographical extent of change is considered to be Medium. Construction Stage is noted to be temporary. The duration of change is therefore recorded as Low.</p> <p>Overall Magnitude: Medium Overall Effect: Moderate adverse (significant)</p>
<p>S8</p> <p><u>Receptors:</u></p> <p>Recreational users PRow Mold 46</p> <p>Residents off Ffordd Argoed</p>	<p>Receptors are identified as recreational users of PRow Mold 46 and residents on the western edge of Ffordd Argoed. Recreational users are considered to be seeking enjoyment of the countryside and as such are considered to have an appreciation for the wider landscape. The susceptibility of the receptor is recorded as High. Residents at home are considered to have an appreciation of the wider landscape. The susceptibility of the receptor is recorded as High.</p> <p>The viewpoint is not identified as being locally or nationally recognised. The view is however of predominantly rural character with few detracting features. The value of the view is recorded as Medium.</p> <p>Overall Sensitivity: High</p>	<p>Construction activity associated with the Padeswood Spur Pipeline Proposed Development will be for the most part imperceptible from this location with the construction compound for the trenchless crossing located on the lower ground towards the Mold Bypass with views screened by the sloping topography and vegetation that lines the existing field boundary. It is considered that some glimpsed views of taller machinery may appear visible above or through gaps in the existing vegetation, albeit with the majority screened by the sloping topography and vegetation. The scale of change is recorded as Low. Views towards the Padeswood Spur Pipeline Proposed Development will be well contained with only glimpsed views available of taller structures of the construction process likely to appear within heavily filtered views to the south and glimpsed views of the wider route to the west. Views however will be for the most part imperceptible beyond the dense vegetation that lines the Mold Bypass and forms the field boundaries alongside the sloping topography. The geographical extent of change is recorded as Low. Construction Stage is noted to be temporary. The duration of change is therefore recorded as Low.</p> <p>Overall Magnitude: Low Overall Effect: Moderate adverse (significant)</p>
<p>S9</p> <p><u>Receptors:</u></p> <p>Residents at Bryn-y-Baal</p>	<p>Receptors are identified as Residents at Mynydd Isa. Residents with views are considered to have an appreciation for the wider landscape. The susceptibility of both receptors is recorded as High.</p> <p>Wat's Dyke Way is a National Trail however at this point the route lies along Bryn-Y-Baal Road as it crosses the Mold Bypass/A494 as such is diminished to a degree. The value of the view is recorded as Medium.</p> <p>Overall Sensitivity: Medium</p>	<p>Construction activity associated with the Padeswood Spur Pipeline Proposed Development will be visible within middle ground views, with entry and exit points for the Proposed Trenchless crossing situated to the north and south of Bryn-y-Baal road and the route extending north and south along the eastern edge of the A494. Views of construction activity are likely to appear visible above the low level vegetation bounding the surrounding fieldscape albeit filtered to some extent. The scale of change is considered to be Medium. Views towards the Padeswood Spur Pipeline Proposed Development will be visible across the view, filtered in part by the existing field boundary vegetation. Views will however appear localised to a degree, visible a long a short stretch of Wat's Dyke Way and within northern and eastern facing views from residents at Bryn-y-Baal. The geographical extent of change is recorded as Medium. Construction Stage is noted to be temporary. The duration of change is therefore recorded as Low.</p>

Viewpoint Reference and Identified Receptors	Susceptibility, value, and overall sensitivity	Construction magnitude and effect
<p>S11</p> <p><u>Receptors:</u></p> <p>Residents at New Brighton</p>	<p>Receptors are identified as residents at New Brighton. Residents at home are considered to have an appreciation for the wider landscape. The susceptibility of this receptor is therefore recorded as High.</p> <p>The landscape at this point is not identified as being locally or nationally designated. The view lies adjacent to a key infrastructure route which forms a detracting feature within the landscape. The value of the view is recorded as Medium.</p> <p>Overall Sensitivity: High</p>	<p>Overall Magnitude: Medium Overall Effect: Moderate adverse (significant)</p> <p>At Construction Stage the Padeswood Spur Pipeline Proposed Development will be clearly visible within the landscape with the Centralised Compound situated within the foreground of northern facing views from the A5119 with the main route lying further west. Construction activity associated with the Padeswood Spur Pipeline Proposed Development will therefore be prominent with movement of plant, and the creation of temporary construction buildings situated adjacent to the road corridor. The scale of change is therefore recorded as High. Whilst it is noted that temporary features associated with the Construction Stage will be visible, these are only likely to be viewed by users of the A5119, for short section of the route and a select number of residents at New Brighton who will view the activity beyond the existing road corridor. Views towards the wider route are considered likely to be for the most part screened by existing vegetation within the wider landscape. The geographical extent of change is therefore considered to be Medium. Construction Stage is noted to be temporary. The duration of change is therefore recorded as Low.</p> <p>Overall Magnitude: Medium Overall Effect: Moderate adverse (significant)</p>
<p>S13</p> <p><u>Receptors:</u></p> <p>Recreational users of Bridleway Flintshire 74</p> <p>Residents at Llwyn Offa</p>	<p>Receptors are identified as recreational users of Bridleway Flintshire 74 and residents at Llwyn Offa. Both residents at home and recreational users of PRow are considered to have an appreciation for the wider landscape. The susceptibility of both these receptors is recorded as High.</p> <p>This landscape is not identified as being locally or regionally designated and contains few detracting features with the exception of a few electricity pylons. Mature trees and hedgerows line the road corridor at this point adding to the rural quality of the view. The value of the view is recorded as Medium.</p> <p>Overall Sensitivity: High</p>	<p>Construction activity associated with the Padeswood Spur Pipeline Proposed Development will be clearly visible within the middle and foreground of views with the route crossing Alltami Road and extending either side of the road to the north and south past Llwyn Offa. Vegetation removal required for the crossing and the movement of associated plant will be clearly visible within views from receptors within the landscape at this point. The scale of change is recorded as High. Views of construction activity associated with the Padeswood Spur Pipeline Proposed Development will be perceptible within northern, eastern and southern facing views from residents at Llwyn Offa with the route lying within close proximity to the proposed route with views likely visible above the existing field boundary vegetation. To the north. Views from Alltami Road and recreational users of the Bridleway, views are likely to be relatively contained and localised, with views likely to only appear visible through gaps in, or above the existing vegetation that lies within the landscape. The geographical extent of change is therefore recorded as Medium.</p>

Viewpoint Reference and Identified Receptors	Susceptibility, value, and overall sensitivity	Construction magnitude and effect
Viewpoints associated with Spur Pipeline Connection at Northop Hall Above Ground Installation (NAGI)	<p>Receptors are identified as PRow users. PRow receptors are likely to be traversing this route seeking enjoyment of the countryside, with an appreciation for the landscape. The susceptibility of the receptor is recorded as High.</p> <p>The view is not taken from within a recognised or regionally significant landscape and contains few detracting features including electricity pylons and road noise associated with the B5125. The view is typical of the landscape at this point. The value of the view is recorded as Low.</p> <p>Overall Sensitivity: Medium.</p>	<p>Construction Stage is noted to be temporary. The duration of change is therefore recorded as Low.</p> <p>Overall Magnitude: Medium Overall Effect: Major adverse (significant)</p> <p>Construction activity associated with the Padeswood Spur Pipeline Proposed Development will be clearly visible within the landscape, with the route of the PRow lying within the Red Line Boundary and extending across the existing and adjacent fields to the south and west. The scale of change is therefore recorded as High. Construction activity associated with the Padeswood Spur Pipeline Proposed Development will be visible within the immediate landscape associated with the southern section of PRow Northop Hall 4. As the route extends further north however beyond the B5125 road corridor, views towards the Padeswood Spur Pipeline Proposed Development will be screened by the dense vegetation that lies along the eastern boundary of Highfield Hall. The route then extends northwards to the rear of the hall, further screening the development. Views are therefore considered to be localised. The geographical extent of change is therefore recorded as Low. Construction Stage is noted to be temporary. The duration of change is therefore recorded as Low.</p> <p>Overall Magnitude: Medium Overall Effect: Moderate adverse (significant)</p>
<p>NAGI2</p> <p><u>Receptors:</u></p> <p>Recreational users of PRow Northop 4</p>	<p>Receptors are identified as PRow users. PRow receptors are likely to be traversing this route seeking enjoyment of the countryside, with an appreciation for the landscape. The susceptibility of the receptor is recorded as High.</p> <p>The view is not taken from within a recognised or regionally significant landscape and contains few detracting features including electricity pylons and road noise associated with the B5125. The view is typical of the landscape at this point. The value of the view is recorded as Low.</p> <p>Overall Sensitivity: Medium.</p>	<p>Construction activity associated with the Padeswood Spur Pipeline Proposed Development will be clearly visible within the landscape, with the route of the PRow lying within the Red Line Boundary and extending across the existing and adjacent fields to the south and west. The scale of change is therefore recorded as High. Construction activity associated with the Padeswood Spur Pipeline Proposed Development will be visible within the immediate landscape associated with the southern section of PRow Northop Hall 4. As the route extends further north however beyond the B5125 road corridor, views towards the Padeswood Spur Pipeline Proposed Development will be screened by the dense vegetation that lies along the eastern boundary of Highfield Hall. The route then extends northwards to the rear of the hall, further screening the development. Views are therefore considered to be localised. The geographical extent of change is therefore recorded as Low. Construction Stage is noted to be temporary. The duration of change is therefore recorded as Low.</p> <p>Overall Magnitude: Medium Overall Effect: Moderate adverse (significant)</p>

OPERATIONAL STAGE

- 12.8.8. The Padeswood Spur Pipeline Proposed Development will introduce a new Above Ground Installation structure within the immediate context of the new Padeswood CCS Project that will affect the existing (and future) baseline landscape character and Study Area.
- 12.8.9. A detailed assessment of the effects on landscape character is provided with **Appendix 12.2-Landscape Analysis (Document Reference: PW.3.3.12.2)**. The assessment of effects on identified landscape receptors concluded that at Operation Year 1, no significant adverse effects of Moderate or above, with the greatest effect noted to be Minor adverse. Therefore, no significant effects on landscape character receptors are anticipated.
- 12.8.10. A detailed assessment of effects on identified visual receptors is set out within **Appendix 12.3 – Visual Analysis (PW.3.3.12.3)**. A detailed summary of the likely significant visual effects at Operation Stage is set out with **Table 12-12** below.

Table 12.12 - Operation Visual Effects

Viewpoint Reference and Identified Receptors	Susceptibility, value, and overall sensitivity	Operation magnitude and effect
Viewpoints associated with Padeswood Carbon Dioxide Spur Pipeline		
<p>PAGI 1</p> <p><u>Receptors:</u></p> <p>Recreational Users of PRow Buckley 56 and Buckley 55</p>	<p>Receptors are recreational users of PRow and are considered likely to be seeking enjoyment of the countryside and to have an appreciation of the wider landscape. The susceptibility of the receptor is recorded as High.</p> <p>Views along the route are not identified as being locally or nationally recognised and are located within close proximity to the industrial features associated with the Padeswood Cement Works, with the future baseline set to extend this industrial influence to lie within the immediate context of the Site. The value of the view is recorded as Low.</p> <p>Overall Sensitivity: Medium</p>	<p>At Operation Year 1 the Padeswood Spur Pipeline Proposed Development will appear visible, set within the boundary of the industrial area associated with the Padeswood CCS Plant. Mitigation planting associated with the hedgerow that bounds the Padeswood AGI to the west will also appear visible albeit not at sufficient maturity to screen views into the site at year 1. The existing boundary vegetation that lines the western edge of the Padeswood Cement Works serves to limit views of the Padeswood Spur Pipeline Proposed Development to a degree, albeit with clear views will be available through gap in the existing hedgerow. Views of taller features will also appear visible above the existing vegetation and through the gap created at Construction Stage. The Padeswood AGI will however be viewed within the immediate context of the industrial features associated with the Padeswood CCS Plant. The scale of change is recorded as Medium. At Operation Stage, only the only above ground features that appear visible will be located within the immediate context of the Padeswood Cement Works and the Padeswood CCS Plant, alongside the replacement mitigation vegetation. The Padeswood AGI will be set beyond the existing vegetation with only glimpsed views available. The geographical extent of change is recorded as Low. Operation Stage is considered to be Long Term. The duration of change is recorded as High.</p> <p>Overall Magnitude: Medium</p> <p>Overall Effect: Moderate adverse (significant)</p> <p>At Operation Year 15 mitigation planting will have sufficiently matured and regraded land will have sufficiently settled and re-established to ensure that visible changes associated with the Padeswood Spur Pipeline Proposed Development are for the most part imperceptible, with the exception of taller elements of the proposed Padeswood AGI which are likely to appear visible above the existing and proposed boundary vegetation. At Operation Year 15 therefore overall effects will reduce to:</p> <p>Overall Magnitude: Low</p> <p>Overall Effect: Minor adverse (not significant)</p>
<p>S1</p> <p><u>Receptors:</u></p> <p>Recreational Users of PRow Buckley 54</p>	<p>Receptors are identified as recreational users of PRow and residents of dwellings off the A5118. Both recreational users of PRow and residents at home are considered to have an appreciation of the wider landscape. The susceptibility of both these receptors is recorded as High.</p>	<p>At Operation Year 1 the Padeswood Spur Pipeline Proposed Development will be largely imperceptible with the pipeline located underground. Views towards the Padeswood AGI are however likely to appear visible within views from receptors through the gap in the existing hedgerow that bounds the Padeswood Cement Works, created at Construction Stage, alongside regraded land and replacement</p>

Viewpoint Reference and Identified Receptors	Susceptibility, value, and overall sensitivity	Operation magnitude and effect
Residents of dwellings off A5118	<p>The view is not identified as being locally or nationally recognised and is located within close proximity to the industrial features associated with the Padeswood Cement Works. The value of the view is recorded as Low.</p> <p>Overall Sensitivity: Medium</p>	<p>mitigation planting albeit not at sufficient maturity to provide screening at year 1. To the south, the Padeswood AGI will however be viewed within the immediate context of the Padeswood CCS Plant. Existing vegetation bounding the A5118 however will be retained through trenchless crossing within this area, serving to filter views to the north and south. The scale of change is therefore recorded as Medium. Regraded land associated with the Padeswood Spur Pipeline Proposed Development will likely appear across the view however this will be seen as a minor feature, obscured in places by the undulating landform and existing vegetation. Views of mitigation planting will also appear visible albeit only within localised views from residents to the north and PRow users. The geographical extent of change is recorded as Low. Operation Stage is considered to be Long Term. The duration of change is recorded as High.</p> <p>Overall Magnitude: Medium</p> <p>Overall Effect: Moderate adverse (significant)</p> <p>At Operation Year 15 mitigation planting will have sufficiently matured and regraded land will have sufficiently settled and re-established to ensure that visible changes associated with the Padeswood Spur Pipeline Proposed Development are for the most part imperceptible, with the exception of taller elements of the proposed Padeswood AGI which are likely to appear visible above the existing and proposed boundary vegetation. At Operation Year 15 therefore overall effects will reduce to:</p> <p>Overall Magnitude: Low</p> <p>Overall Effect: Minor adverse (not significant)</p>
<p>S3</p> <p><u>Receptors:</u></p> <p>Residents at Garreg-Lwyd Farm</p>	<p>Receptors are identified as Residents at Garreg-Lwyd Farm. Residents at home are considered likely to have an appreciation for the wider landscape. The susceptibility of the receptor is recorded as High.</p> <p>The landscape is not identified as being nationally or regionally recognised. It is however noted that Wat's Dyke Way is a national heritage trail and as such is of value within the landscape. The value of the view is recorded as Medium.</p> <p>Overall Sensitivity: High</p>	<p>At Operation Year 1 the Padeswood Spur Pipeline Proposed Development will be barely perceptible, located underground. Changes to the landscape associated with regraded land and newly planted mitigation are likely to appear visible across the landscape, however likely to appear as small-scale changes within the view with the majority likely to appear as per baseline condition. The scale of change is recorded as Low. Changes associated with the Padeswood Spur Pipeline Proposed Development are likely to appear across the view, although seen as minor alterations to the landscape with views partially obscured by intervening vegetation and sloping landform. The geographical extent of change is therefore recorded as Low. Operation Stage is considered to be Long Term. The duration of change is recorded as High.</p> <p>Overall Magnitude: Low</p> <p>Overall Effect: Moderate adverse (significant)</p>

Viewpoint Reference and Identified Receptors	Susceptibility, value, and overall sensitivity	Operation magnitude and effect
		<p>At Operation Year 15 it is anticipated that mitigation planting will have matured, and reseeded of regraded land will have established reducing the likely effects to:</p> <p>Overall Magnitude: Negligible Overall Effect: Negligible (not significant)</p>
<p>S13</p> <p><u>Receptors:</u></p> <p>Recreational users of Bridleway Flintshire 74</p> <p>Residents at Llwyn Offa</p>	<p>Receptors are identified as recreational users of Bridleway Flintshire 74 and residents at Llwyn Offa. Both residents at home and recreational users of PRow are considered to have an appreciation for the wider landscape. The susceptibility of both these receptors is recorded as High.</p> <p>This landscape is not identified as being locally or regionally designated and contains few detracting features with the exception of a few electricity pylons. Mature trees and hedgerows line the road corridor at this point adding to the rural quality of the view. The value of the view is recorded as Medium.</p>	<p>At Operation Year 1 changes resulting from the Padeswood Spur Pipeline Proposed Development will be perceptible within the landscape, with above ground features such as land regrading and mitigation planting to replace removed vegetation likely to appear as noticeable changes. The Padeswood Carbon Dioxide Spur Pipeline however will be situated underground and as such will not be perceptible. The scale of change is therefore considered to be Low. At Operation Stage, construction activity will have ceased with only small-scale changes associated with mitigation planting and regraded land likely to remain visible within the landscape. Views of these features are therefore considered likely to be highly localised, contained to a degree by the existing topography and remaining vegetation structure. The geographical extent of change is recorded as Low. The Operation Stage is considered to be Long Term. The duration of change is recorded as High.</p> <p>Overall Magnitude: Low</p> <p>Overall Effect: Moderate adverse (significant)</p> <p>At Operation Year 15 mitigation planting will have sufficiently matured and regraded land will have sufficiently settled and re-established to ensure that visible changes associated with the Padeswood Spur Pipeline Proposed Development are imperceptible. At Operation Year 15 therefore overall effects will reduce to:</p> <p>Overall Magnitude: Negligible Overall Effect: Negligible (not significant)</p>

DECOMMISSIONING STAGE

- 12.8.11. The Decommissioning Stage will see the removal of apparatus associated with the Padeswood AGI, with the Pipework to remain in place. During the process of the decommissioning works it is anticipated that effects will be similar to those experienced during Construction Stage of the Padeswood Spur Pipeline Proposed Development as set out in Appendices **12-2 Landscape Analysis (Document Reference: PW.3.3.12.2)** and **12-3 Visual Analysis (Document Reference: PW.3.3.12.3)**. Upon completion of the decommissioning work effects will reduce to non-significant as the landscape returns to baseline condition or similar.

12.9. MITIGATION AND ENHANCEMENT MEASURES

- 12.9.1. This Section sets out the preliminary avoidance, mitigation and compensation measures which are likely to be required to address the significant effects as assessed in **Section 12-9**.

Construction Stage

- 12.9.2. The detailed design alignment of the pipeline will:
- where reasonably practicable, be micro-sited to avoid areas of woodland (including but not limited to those included within the National Forest Inventory and Ancient Woodland Inventory);
 - wherever practicable, be micro-sited to avoid removal of trees covered by Tree Preservation Orders; where these lie within or within close proximity to the Proposed Development Boundary;
 - wherever practicable, be micro-sited to avoid locally valued landscape features and existing visual screening including, but not limited to mature trees, woodland, hedgerows, and field drains, including root protection zones of existing mature trees; and
 - wherever practicable, be micro-sited to utilise existing visual screening, through location in proximity (but to avoid damage) to existing vegetation and/or locally enclosed topography, such as valley bottoms or dips in localised undulations.
- 12.9.3. Additional mitigation to reduce landscape and visual effects will include:
- Micrositing of temporary compounds required during Construction Stage, where reasonably practicable, to reduce proximity to residential properties, to minimise likely visibility and to avoid key landscape features;

- Prior to the commencement of construction, during detailed design, the reinstatement of arable land, fenced boundaries, hedgerows and grassland upon completion of construction will be set out. This will include any protective fencing to areas of reinstatement that would typically remain in place to exclude livestock and allow establishment to take place ;
- Pipeline marker posts and aerial marker posts will be located to minimise intrusion on the landscape, as far as practicable;
- The preparation of Landscape Layouts for the pipeline route. As part of this EIA a list of indicative planting species and specification has been provided at the AGI, however, a full planting schedule with plant numbers, spacing etc will be provided for the whole Padeswood Spur Pipeline Proposed Development at detailed design stage, to detail proposed mitigation planting for the development; and

Where the proposed route will extend through areas of tree/vegetation significant for screening (notably adjacent to the Padeswood Cement Works and proposed Padeswood AGI), appropriate root protection measures will be utilised to enable reinstatement of screen planting.

- The detailed design alignment of the pipeline will, where reasonably practicable, will be micro-sited to avoid and minimise losses to areas of woodland (including but not limited to those included within the National Forest Inventory and Ancient Woodland Inventory);
- The detailed design alignment of the pipeline will, wherever practicable, be micro-sited to avoid removal of trees covered by Tree Preservation Orders.
- The detailed design alignment of the pipeline will, wherever practicable, be micro-sited to avoid locally valued landscape features including woodland, hedgerows, and field drains, including root protection zones of existing mature trees;
- The detailed design alignment of the pipeline will, wherever practicable, be micro-sited to utilise existing visual screening, through location in proximity (but to avoid damage) to areas of woodland, woodland belts and/or locally enclosed topography, such as valley bottoms or dips in localised undulations;
- The detailed design stage could consider further utilisation of trenchless crossing methods to maintain views from recreational routes, such as Wat's Dyke Way National Trail, as well as vegetation associated with these features and/or roadside hedgerow.
- The detailed design will seek to, as far as practicable, minimise the removal of mature individual trees;

- Prior to the commencement of construction, during detailed design, the reinstatement of arable land, fenced boundaries, hedgerows and grassland upon completion of construction will be set out. This will include any protective fencing to areas of reinstatement that would typically remain in place to exclude livestock and allow establishment to take place;
- Pipeline marker posts and aerial marker posts will be located to minimise intrusion on the landscape, as far as practicable;
- Where construction will impact road verges, these will be reinstated and, where appropriate and practicable, enhanced through the addition of species rich grass mixes or similar as appropriate for the benefit of biodiversity;
- During detailed design, Landscape Layouts for the pipeline route will be prepared where required. Indicative planting species and specification has been provided at the AGI as part of this EIA, but a planting schedule with plant numbers, spacing etc will be provided for the whole Padeswood Spur Pipeline Proposed Development at detailed design stage;
- During micro-siting of the pipeline route, further investigations will take place to ensure minimal tree loss takes place in areas where natural screening from hedgerow and linear belts of trees or woodland exist. This will be considered as part of decision making around the final alignment to avoid such loss.
- Where the proposed route will extend through areas of tree/vegetation significant for screening (notably adjacent to the Padeswood Cement Works and proposed Padeswood AGI), appropriate root protection measures will be utilised to enable reinstatement of screen planting.

Operational Stage

- 12.9.4. An **Outline Environmental Management Plan (OEMP) (Document Reference: PW.4.1)** has been prepared to ensure suitable management of the proposed landscape mitigation in conjunction with wider environmental mitigation proposed throughout the Padeswood Spur Pipeline Proposed Development.

Decommissioning Stage

- 12.9.5. No further specific landscape and visual mitigation measures are proposed during decommissioning at this stage.

12.10. ASSESSMENT OF LIKELY SIGNIFICANT EFFECTS

- 12.10.1. This section details the assessment of significant effects taking account of the secondary and tertiary mitigation detailed in **Section 12-9** above.

CONSTRUCTION STAGE

Effects on Landscape Character

- 12.10.2. During Construction Stage it is considered that the movement of plant, construction of temporary Construction Compounds, laydown areas and access roads, alongside required vegetation removals will result in both temporary and permanent landscape effects.
- 12.10.3. The route alignment for the proposed Padeswood Carbon Dioxide Spur Pipeline will span across five landscape LANDMAP Visual and Sensory areas. Temporary significant effects are anticipated only within the Farmland Fringe (FLNTVS009), within which the majority of the alignment lies. The Padeswood Spur Pipeline Proposed Development however has been aligned within the western and southern sections of this LCA with the more rural and open sections to the north and east to remain broadly unchanged. The proposed route will therefore be situated within closer proximity to the southern edge of Buckley and key infrastructure routes such as the A494.
- 12.10.4. The proposed mitigation measures at Construction Stage to minimise vegetation loss where possible and through the utilisation of trenchless crossings and micro-siting will serve to limit landscape impacts. The Padeswood Spur Pipeline Proposed Development is therefore identified as having a change of **medium** magnitude, giving rise to a **moderate adverse effect (significant)** on the character of the landscape. This will however be of a short term and temporary nature, resulting from the increased movement within the landscape resulting from the movement of plant.
- 12.10.5. A full assessment of the Construction Stage effects upon identified landscape character receptors is provided within **Appendix 12.2 Landscape Analysis (Document Reference: PW.3.3.12.2)**.

Effects on Visual Amenity

- 12.10.6. Similar to Construction Stage effects experienced by landscape receptors, movement of plant, the construction of access routes, Construction Compounds and laydown areas, in addition to required vegetation loss will result in both temporary and permanent effects on the visual amenity of identified receptors.
- 12.10.7. The route of the Padeswood Spur Pipeline Proposed Development extends between the Northop Hall AGI (proposed as part of the HyNet DCO) and the proposed Padeswood AGI situated adjacent to the Padeswood Cement Works. The proposed route alignment therefore lies within proximity of a number of residential settlements and isolated dwellings as it extends across the landscape to the south of

Buckley before travelling northward to the east of the settlement at Mold, toward Northop.

- 12.10.8. Visual receptors are therefore predominantly comprised of residents of dwellings and PRow users of routes, notably Wat's Dyke Way National Trail that crosses the proposed route in two sections. Both residents at home and public right of way users are considered to have an appreciation for the wider landscape. It is noted however that urban settlement and primary infrastructures routes including the Mold Bypass A494, A549, A541 and A55 North Wales Expressway, do detract from the more rural quality of the wider landscape at points.
- 12.10.9. At Construction Stage, due to the increased movement, presence of plant and temporary infrastructure and built features within the wider landscape it is therefore anticipated that where visible receptors are likely to experience a significant degree of change, with adverse effects ranging from moderate to major where receptors lie within close proximity to the route.
- 12.10.10. Construction Stage mitigation, including the proposed routing of the alignment within the lower ground to the south of Buckley, the setting back of the route from settlements where practicable, and the use of trenchless crossings to maintain areas of existing dense vegetation, would however serve to reduce the likely impacts upon visual amenity. As such visual receptors associated with the southern edge of Buckley, the north-eastern edge of Mold, Sychdyn, Alltami, Northop Hall are predicted to experience anticipated impacts of **Negligible to Low** magnitude of change resulting in effects of **Negligible to Minor adverse effects, which is not considered significant**.
- 12.10.11. A full assessment of the Construction Stage effects upon identified visual receptors is provided within **Appendix 12.3 Visual Analysis (PW.3.3.12.3)**.

OPERATIONAL STAGE

Effects on Landscape Character

- 12.10.12. At Operational Stage construction activity associated with the Padeswood Spur Pipeline Proposed Development will have ceased, with the majority of the landscape returning to baseline with the Padeswood Carbon Dioxide Spur Pipeline located underground.
- 12.10.13. No significant landscape impacts are anticipated at Operational Stage.
- 12.10.14. A full assessment of the Operational Stage effects upon identified landscape receptors is provided within **Appendix 12.2 Landscape Analysis (Document Reference: PW.3.3.12.2)**.

Effects on Visual Amenity

- 12.10.15. At the Operational Stage, construction activity associated with the Padeswood Spur Pipeline Proposed Development will have ceased and temporary structures and infrastructure will have been removed, with the majority of the landscape returning to baseline condition. It is noted that at Operation Year 1, above ground features associated with mitigation planting, regraded land, and the proposed new Padeswood AGI are likely to appear visible within the landscape whilst proposed replacement planting and reseedling has yet to mature. At Operation Year 1, visual effects of moderate adverse significance are therefore considered likely upon close proximity receptors including recreational users of Wat's Dyke Way, Bridleway Flintshire 74 and Public Footpath 55 and 56, Residents at Ty Gwyn, Garreg-Lwyd Farm and Llwyn Offa and rural road users of Alltami Road.
- 12.10.16. At Operation Year 15 however it is anticipated that vegetation structure will have matured and land, where regraded following construction, will have re-established to return the landscape to baseline condition. Whilst it is noted that glimpsed views within close proximity to the Padeswood AGI are likely to remain available, these will be within the context of the proposed Padeswood CCS Plant and as such are not anticipated to result in significant effects upon visual receptors, viewed within the immediate proximity of the industrial infrastructure at this point. No significant landscape effects are therefore anticipated to visual receptors at Operation Year 15.
- 12.10.17. A full assessment of the Operational Stage effects upon identified visual receptors is provided within **Appendix 12.3 Visual Analysis (Document Reference: PW.3.3.12.3)**.

DECOMMISSIONING STAGE

- 12.10.18. Effects upon landscape and visual receptors at Decommissioning Stage are considered to be reflective of effects experienced during Construction Stage for the removal above ground features/structures, reducing to negligible effect following removal with the landscape returning to baseline condition. The majority of identified landscape and visual receptors are however considered likely to experience a negligible magnitude of change at Decommissioning Stage however with the pipeline to remain in place following decommissioning.

ASSESSMENT AGAINST FUTURE BASELINE

- 12.10.19. It is noted that impacts upon existing vegetation structure resulting from changing climate conditions, may result in a degree of vegetation loss or growth throughout the Padeswood Spur Pipeline Proposed Development area, however these changes will be considered

negligible and are considered unlikely to result in significant visual impacts where associated with the Padeswood Spur Pipeline Proposed Development.

12.11. MONITORING

12.11.1. To ensure mitigation planting proposed can establish and reach sufficient maturity by Operation Year 15 an Outline Environmental Management Plan (OEMP) will be prepared. The OEMP will outline measures for the key management practices required to enable the successful establishment of mitigation proposed to enable them to reach maturity and will be reviewed as key stages throughout the establishment period.

12.12. RESIDUAL EFFECTS

12.12.1. Table 12-14 below summarises the residual effects associated with the Padeswood Spur Pipeline Proposed Development during construction, operation and decommissioning.

Table 12.13 - Summary of Residual Effects

Receptor	Pre-mitigation significance of effects	Mitigation measure	Residual effect
Construction			
Landscape Character Receptors			
Farmland Fringe (FLNTVS009)	Proposed route extends across a long stretch of this LCA, with temporary Construction Compounds, access routes and vegetation removal to appear visible. Overall effect: Moderate adverse (significant)	Construction Stage mitigation measures	Moderate Adverse (significant) T / D / ST
Visual Receptors			
PAGI 1 <u>Receptors:</u> Recreational Users of PRow Buckley 56	Construction activity will be visible, with the enclosed landscape directing views inwards. Overall effect: Major Adverse (significant)	Construction Stage mitigation measures	Major Adverse (significant) T / D / ST

Receptor	Pre-mitigation significance of effects	Mitigation measure	Residual effect
S1 <u>Receptors:</u> Recreational Users of PRow Buckley 54 Residents of dwellings off A5118	Views of construction activity will be readily available within the open landscape. Overall effect: Major Adverse (significant)	Construction Stage mitigation measures	Major Adverse (significant) T / D / ST
S3 <u>Receptors:</u> Residents at Garreg-Lwyd Farm	Views of construction activity will be readily available within the open landscape. Overall effect: Major Adverse (significant)	Construction Stage mitigation measures	Major Adverse (significant) T / D / ST
Wat's Dyke Way <u>Receptors:</u> Recreational users of Wat's Dyke Way	Views of construction activity will be readily available within the open landscape. Overall effect: Major Adverse (significant)	Construction Stage mitigation measures	Major Adverse (significant) T / D / ST
S4 <u>Receptors:</u> Residents at Plas Major Farm and	Filtered views of construction activity will be visible within the landscape.	Construction Stage mitigation measures	Moderate Adverse (significant) T / D / ST

Receptor	Pre-mitigation significance of effects	Mitigation measure	Residual effect
Glen Brook Farmhouse	Overall effect: Moderate-Major Adverse (significant)		
S6 <u>Receptors:</u> Residents off Rose Lane Users of Rose Lane	Filtered views of construction activity will be visible within the landscape. Overall Effect: Moderate adverse (significant)	Construction Stage mitigation measures	Moderate adverse (significant) T / D / ST
S8 <u>Receptors:</u> Recreational users PRow Mold 46 Residents off Ffordd Argoed	View of taller construction features to appear visible within glimpsed views above existing vegetation. Overall Effect: Moderate adverse (significant)	Construction Stage mitigation measures	Moderate adverse (significant) T / D / ST
S9 <u>Receptors:</u> Residents at Bryn-y-Baal	Trenchless crossing points to appear visible within views from Wat's Dyke Way. Overall Effect: Moderate adverse (significant)	Construction Stage mitigation measures	Moderate adverse (significant) T / D / ST
S11 <u>Receptors:</u>	Construction compound area to appear visible within views from	Construction Stage mitigation measures	Moderate adverse (significant) T / D / ST

Receptor	Pre-mitigation significance of effects	Mitigation measure	Residual effect
Residents at New Brighton Road users of A5119	residents at New Brighton. Overall Effect: Moderate adverse (significant)		
S13 <u>Receptors:</u> Recreational users of Bridleway Flintshire 74 Residents at Llwyn Offa Users of Alltami Road	Open views towards the Padeswood Spur Pipeline Proposed Development from residents at Llwyn Offa and bridleway users. Overall Effect: Major adverse (significant)	Construction Stage mitigation measures	Major adverse (significant) T / D / ST
NAG12 <u>Receptors:</u> Recreational users of PRoW Northop 4	Clear views of construction activity within existing fields. Overall Effect: Moderate adverse (significant)	Construction Stage mitigation measures	Moderate adverse (significant) T / D / ST
Operation			
Landscape Character Receptors			
There are no significant residual effects for any LCAs.			
Visual Receptors			

Receptor	Pre-mitigation significance of effects	Mitigation measure	Residual effect
PAGI 1 <u>Receptors:</u> Recreational Users of PRow Buckley 56 and PRow Buckley 55	Regraded land and new mitigation planting visible within views from identified receptors, alongside glimpsed views of AGI structure. Op Year 1: Moderate adverse (significant) reducing to Minor adverse (not significant) at Op Year 15.	Replacement mitigation planting and land regrading.	Op Year 1: Moderate adverse (significant) reducing to Minor adverse (not significant) at Op Year 15. P / D / LT
S1 <u>Receptors:</u> Recreational Users of PRow Buckley 54 Residents of dwellings off A5118	Regraded land and new mitigation planting visible within views from identified receptors, alongside glimpsed views of AGI structure. Op Year 1: Moderate adverse (significant) reducing to Negligible (not significant) at Op Year 15.	Replacement mitigation planting and land regrading.	Op Year 1: Moderate adverse (significant) reducing to Minor adverse (not significant) at Op Year 15. P / D / LT
S3 <u>Receptors:</u> Recreational users of Wat's Dyke Way	Regraded land and new mitigation planting visible within views from identified receptors. Op Year 1: Moderate adverse (significant)	Replacement mitigation planting and land regrading.	Op Year 1: Moderate adverse (significant) reducing to Negligible (not significant) at Op Year 15. P / D / LT

Receptor	Pre-mitigation significance of effects	Mitigation measure	Residual effect
Residents at Garreg-Lwyd Farm	reducing to Negligible (not significant) at Op Year 15.		
S13 <u>Receptors:</u> Recreational users of Bridleway Flintshire 74 Residents at Llwyn Offa Users of Alltami Road	Regraded land and new mitigation planting visible within views from identified receptors. Op Year 1: Moderate adverse (significant) reducing to Negligible (not significant) at Op Year 15.	Replacement mitigation planting and land regrading.	Op Year 1: Moderate adverse (significant) reducing to Negligible (not significant) at Op Year 15. P / D / LT
Decommissioning			
Landscape Character Receptors			
There are no significant residual effects for any LCAs.			
Visual Receptors			
PAG11 <u>Receptors:</u> Recreational Users of PRoW Buckley 56	Decommissioning effects to be reflective of Construction Stage effects. Overall Effect: Moderate adverse (significant) reducing to Negligible	Mitigation planting and land regrading.	Overall Effect: Moderate adverse (significant) reducing to Negligible (not significant) following completion. T / D / ST

Receptor	Pre-mitigation significance of effects	Mitigation measure	Residual effect
	(not significant) following completion.		
NAG12 <u>Receptors:</u> Recreational users of PRow Northop 4	Decommissioning effects to be reflective of Construction Stage effects. Overall Effect: Moderate adverse (significant) reducing to Negligible (not significant) following completion.	Mitigation planting and land regrading.	Overall Effect: Moderate adverse (significant) reducing to Negligible (not significant) following completion. T / D / ST

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