

**HyNet North West
Hydrogen Pipeline**

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HyNet North West Hydrogen Pipeline Project

Cadent Ltd

Draft Environmental Statement - Addendum

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1. Introduction

1.1 The Project

- 1.1.1 The HyNet North West Hydrogen Pipeline Project (hereafter referred to as ‘the Project’) is a proposal to construct and operate the UK’s first 100 percent hydrogen pipeline network at scale. It will deliver hydrogen, meeting the Government’s low carbon hydrogen standard to multiple industrial users and power generators, plus potential blending points to accommodate the addition of hydrogen into the existing natural gas network.
- 1.1.2 The Project is part of the wider ‘HyNet North West’ programme that will produce, store and distribute hydrogen as well as capture and store carbon from industry in the North West of England and North Wales. This concept has the potential to reduce carbon dioxide emissions by millions of tonnes every year by 2030 – the equivalent of taking millions of cars off the road. By enabling a fuel transition to hydrogen, HyNet North West will create and maintain thousands of local jobs, enabling long-term sustainability for businesses and supporting financial security for communities across the region.
- 1.1.3 The Project includes the construction, operation and maintenance of approximately 100km of new pipeline to distribute hydrogen to industry and for blending with the gas network in the North West, and a number of Hydrogen Above Ground Installations (HAGIs), including Block Valve Installations (BVIs) are required to control the flow and pressure of hydrogen at key points along the proposed pipeline.
- 1.1.4 It is proposed that the Project will connect to the Hydrogen Production Plant at the Stanlow site as the source of hydrogen for onward distribution to the network. The pipeline will continue to the Central Hub at the centre of the network, which serves as the connection and onward distribution point to the North, East and South corridors, which would extend to locations near St. Helens, Partington and southeast of Northwich respectively and provide low carbon hydrogen to multiple offtakers and power generators along these corridors. The Project would also link to underground hydrogen storage facilities in Cheshire used to balance supply and demand through the network.
- 1.1.5 The Project is being designed with foreseeable future phases and usage in mind and the potential to accommodate hydrogen from other sources in the area including sources of blue and green hydrogen. Active discussions are taking place with green hydrogen producers looking to connect to the Project at HAGI sites.

1.2 Purpose of this Draft Environmental Statement Addendum

- 1.2.1 A Preliminary Environmental Information Report (PEIR) (Wood¹ 2022) relating to the Project was published in September 2022 for the purposes of Statutory Consultation under Section 42, 47 and 48 of the Planning Act 2008 in line with the requirements of Regulation 12 of the Infrastructure Planning (Environmental Impact Assessment) Regulations 2017 (hereafter referred to as the 'EIA Regulations 2017').
- 1.2.2 The EIA Regulations 2017 require the Applicant to consult on 'preliminary environmental information' (where the proposed development is 'EIA development'), which is information that is reasonably required for consultation bodies to develop an informed view of the likely significant environmental effects of the development (and of any associated development). The PEIR therefore set out the preliminary environmental information and assessment findings of the EIA based on the available information at the time of publication.
- 1.2.3 Feedback received from what became known as Stage Two Statutory Consultation (undertaken in Autumn 2022), as well as information gathered from further engineering and environmental studies undertaken, resulted in changes to the design of the Project since publication of the PEIR. A Draft Environmental Statement (ES) (WSP UK Ltd, 2024²) was published in October 2024, to present the potential environmental effects arising from the Project, incorporating the design changes. Further Statutory Consultation ('Stage Three Statutory Consultation') took place between 14 October and 19 November 2024.
- 1.2.4 As a result of feedback prior to and during the Stage Three Statutory Consultation, a number of changes are proposed to the project design presented in the Draft ES and supporting Figure 2.2: Draft Plans for Consultation. The purpose of this report is to describe these changes and provide information on the potential environmental effects arising from them. This information has been prepared in relation specifically, to proposed additional land required outside the Draft Order Limits (DOL) included at Stage 3 Statutory Consultation, to inform targeted consultation on these changes. This Draft ES Addendum provides a preliminary assessment of the changes only. Should these changes be included in the DCO application, the results of the detailed Environmental Impact Assessment (EIA) will be presented in the Final Environmental Statement (ES). Any other design changes since the Draft ES which have not necessitated changes to the DOL (such as reductions in the land required) will also be considered in the Final ES.

¹ Wood, 2022. HyNet North West Hydrogen Pipeline – Preliminary Environmental Information Report.

Wood Environment and Infrastructure Solutions UK Ltd (Wood E&IS UK Ltd) was acquired by WSP UK Limited in April 2023.

² WSP UK Ltd, 2024. HyNet North West Hydrogen Pipeline – Draft Environmental Statement.

2. Approach to the Draft ES Addendum

2.1 Overview

- 2.1.1 The Draft ES Addendum seeks to be a concise document which cross-references the Draft ES, where relevant, to provide additional context. For in-depth information on Draft ES stage assessments and to understand the full set of likely significant effects, the Draft ES documents are accessible on the project website and these Draft ES documents should be read together with this Draft ES Addendum³.
- 2.1.2 The Draft ES Addendum presents an environmental review of the proposed changes to the design of the Project, where these relate to increases to the DOL. The review has been informed by a desk-based review of publicly available information, mapping and documents, alongside environmental information previously collated for the Draft ES. Details regarding the existing evidence base are provided in Chapters 5 to 19 (and associated appendices) of the Draft ES, for each of the relevant individual environmental topics. The evidence base has, and will continue to be, regularly discussed with relevant stakeholders to ensure that it is appropriate.
- 2.1.3 Where available and applicable, existing results from ongoing surveys have been utilised to inform this Draft ES Addendum. This is considered to be sufficient to inform a sufficiently robust and reliable environmental review to inform the outcomes and conclusions presented in this Draft ES Addendum - either because the survey has included data capture from the wider area, or the survey area is highly representative of the wider area.
- 2.1.4 The environmental review presented in this Draft ES Addendum does not constitute a full assessment of effects. It determines whether the environmental receptors, the magnitude of change, and/or resulting assessment outcomes presented in the Draft ES have changed as a result of the proposed changes to the DOL considered in the Draft ES. It also considers whether these changes are likely to give rise to new or different significant effects. The outcomes of the Stage 3 Statutory Consultation and this further Targeted Consultation will help inform the DOL and project design to be considered in the ES. A full assessment of the Project will be presented at the ES stage, which will include a cumulative assessment.
- 2.1.5 The environmental review presented in this Draft ES Addendum has been undertaken in accordance with the assessment methodology set out in Chapter 3: 'Approach to preparing the Draft ES' of the Draft ES. Further detailed assessment criteria applicable to specific environmental topics are detailed within chapters (Chapters 5-19) of the Draft ES. The environmental review has also considered the implementation of embedded environmental measures identified within Chapters 5-19 in the Draft ES, and new/updated embedded environmental

³ <https://www.hynethydrogenpipeline.co.uk/the-project/knowledge-hub/>

measures, which are specified within **Section 4: Preliminary Environmental Assessment** of this document.

- 2.1.6 The environmental information presented in this document is supplemental to the information presented in the Draft ES. As stated previously, this Draft ES Addendum must therefore be read alongside the Draft ES to fully understand the assessment methodology and the likely significant environmental effects of the Project as they are currently understood, based on available information.

2.2 Embedded environmental measures

- 2.2.1 In accordance with Regulation 14(2)(c) of the EIA Regulations, the environmental topic chapters (Chapters 5 to 19) within the Draft ES included a description of the “*measures envisaged in order to avoid, prevent or reduce and, if possible, offset likely significant adverse effects on the environment*”. These measures have also been considered in the environmental review undertaken for this Draft ES Addendum.
- 2.2.2 The approach to implementing environmental mitigation, as described in Chapter 3: ‘Approach to preparing the Draft ES’ of the Draft ES, is in accordance with the Institute of Environmental Management and Assessment’s (IEMA) Implementing the Mitigation Hierarchy from Concept to Construction⁴, and is not repeated here.
- 2.2.3 Opportunities for embedded design measures will continue to be identified throughout the evolution of the design of the Project and the EIA process. Potential significant adverse environmental effects will be fed back into the design process to verify whether they can be avoided or otherwise mitigated in accordance with the hierarchy. Alongside this, good practice measures will be identified with reference to legislative requirements and measures of standard practice to manage commonly occurring effects. These design measures and good practice measures will be included within the project plans/drawings and thus are integrated into the overall design strategy as embedded measures.

2.3 Limitations and assumptions

- 2.3.1 The limitations and assumptions identified in the technical chapters of the Draft ES (Chapters 5-19) also apply to this document.

⁴ IEMA (2024). Institute of Environmental Management and Assessment (IEMA) Impact Assessment Guidelines: Implementing the Mitigation Hierarchy from Concept to Construction. Available at: <https://www.iema.net/engage/policy-resource-hub/policy/impact-assessment/practical-guidance/> (Accessed November 2024).

3. Overview of the Proposed Changes to the Project Design

3.1 Introduction

3.1.1 This section provides an overview of the proposed changes to the project design, and specifically to the DOL, presented in the Draft ES which are considered in this Draft ES addendum. Further details of the proposed changes are described in the Design Evolution Report 2024: Addendum (WSP, 2025).

3.2 West Corridor: Sutton Weaver

3.2.1 At Stage 3 Statutory Consultation the Draft ES presented the West Corridor pipeline route. This demonstrated that the pipeline, after crossing Chester Road to the east of the Rocksavage HAGI, would run in a generally easterly direction broadly parallel with Aston Lane, to the north of the Sutton Hall, and continue east towards the Central Hub.

3.2.2 Comments received at Stage 3 Statutory Consultation identified the sensitivity of properties at Sutton Hall with concerns expressed over disturbance to the occupiers of the properties caused by construction and identified that some of the land has been planted and established as a biodiversity area. The pipeline alignment, as previously presented, would also cut through an avenue of trees leading to the Grade 1 listed Sutton Hall (plus associated, listed barn and feeding trough). There are also properties along Aston Lane facing the entrance to Sutton Hall.

3.2.3 The representations made requested that a route is considered which passes to the south of Sutton Hall, across land which was previously Sutton Hall Golf Course. This golf course is now closed, and the land has been reinstated to agricultural use. Many of the trees associated with the golf course have been removed meaning there is sufficient land available to provide a pipeline route, which sits alongside an existing utilities corridor and further away from the properties.

3.2.4 The proposed change in this location would therefore see the current pipeline route crossing the A56/Chester Road in the same location, before continuing east to pass between Lowes Wood to the south and the properties at Sutton Hall to the north. The route would therefore avoid Lowes Wood which is designated Ancient Woodland and a Local Wildlife Site (LWS) and provide a greater set back distance from the Sutton Hall. The route would run alongside existing pipelines in this area, thereby minimising land that needs to be added to existing easements. The proposed route would then run in a north eastern direction, to the eastern side of Sutton Hall, rejoining the current route to the south of Aston Lane.

3.2.5 This proposed change is illustrated in **Figure 3.1**.

3.3 Central Hub

- 3.3.1 The Central Hub HAGI is the common connection point on each corridor and would be located approximately 380m from the A533, in an agricultural field that is bound with hedgerows and occasional mature trees.
- 3.3.2 Following landowner discussions, the proposed access from the A533 Northwich Road has been amended to follow an existing access track east of an existing plant yard, which has resulted in a change to the DOL in this location. This change would enable a reduction in the numbers of construction vehicles required to use the previously proposed and retained access further east on Northwich Road. The increased DOL here also includes an additional field to be used for environmental mitigation – see **Section 3.9** for further details.
- 3.3.3 A second access track has also been added from Marsh Lane although this is within the existing DOL boundaries previously consulted on. Traffic numbers which would have used the original access track have been split between the two new accesses.
- 3.3.4 This proposed change is illustrated in **Figure 3.2**.

3.4 North Corridor: Higher Walton HAGI

- 3.4.1 The DOL considered in the Draft ES included two options for the HAGI at Higher Walton: HWH2 located on the north bank of the Manchester Ship Canal at Port Warrington and HWH8 on the south bank, north of Mill Lane. Following the receipt of responses to Stage 3 Statutory Consultation on these two options, an additional option (HWH9), to the east of option HWH2 on the eastern side of the West Coast Mainline railway, has been identified.
- 3.4.2 HWH9 is proposed to be positioned within a brownfield location set within the Solvay Interlox Ltd (Solvay) industrial complex (sometimes referred to as the 'Baronet Works').
- 3.4.3 The land required within the Solvay industrial complex for the HAGI itself is already part of the DOL presented at Stage 3 Statutory Consultation. For this option, the pipeline would cross below the Manchester Ship Canal via a trenchless technique from one of two alternative locations. The first being a location similar to that identified as option HWH8 in the Draft ES, the second being a location in the adjoining field to the west. The pipeline Limits of Deviation (LoD)⁵ has been drawn sufficiently wide to allow either crossing to be made with the final selection to be informed by detailed ground investigation post consent and choice of HAGI location.
- 3.4.4 Having crossed the Ship Canal, the pipeline would then route either northwest under the railway via a trenchless crossing and west along Birchwood Lane, or alternatively through an existing tunnel under the railway and along the northern

⁵ The Limits of Deviation indicate the maximum area of land within which the permanent infrastructure may be located

bank of the Canal, before turning to the northeast along the railway embankment, and then west along Birchwood Lane.

- 3.4.5 To the east of HWH9, the pipeline would run eastwards within or alongside the internal service road of the Solvay industrial complex, off Baronet Road/Loverose Way (within the DOL considered at Stage 3 Statutory Consultation) before turning north and exiting the Solvay industrial complex site in the southwest corner of Morley Common and heading northeast along the side of the Common to the crossing location at Eastford Road. This latter route would necessitate an extension to the DOL.
- 3.4.6 The introduction of this route through the Solvay industrial complex means routes previously identified along Birchwood Lane (within Moore Nature Reserve and LWS) and to the immediate north of the Solvay industrial complex would no longer be required and would therefore be removed from the DOL, should the HWH9 option be taken forward in the final design.
- 3.4.7 This proposed change is illustrated in **Figure 3.3**.
- 3.4.8 Engineering studies and landowner discussions are still ongoing to confirm that HWH9 would be feasible; HWH9 has therefore been introduced as an option (alongside HWH2 and HWH8) at this point in time.

3.5 North Corridor: Moore Nature Reserve

- 3.5.1 Beyond the alternative locations for the Higher Walton HAGI, discussed above, the pipeline is required to route north to industrial off-takers in St Helens. The pipeline therefore routes in a northwest direction to a location at which it can cross the River Mersey. All land immediately north of Birchwood Lane (and Port Warrington) is designated as the Moore Nature Reserve and LWS and the route chosen has been selected because it runs, wherever possible, outside or along the boundary of the Nature Reserve and between it and the existing Arpley landfill site immediately to the north. Environmental surveys undertaken identified rare black poplar trees, as well as ponds, within the DOL consulted upon at Stage 3 Statutory Consultation. The DOL in this location has therefore been widened to enable the pipeline to pass south of the trees. This additional land also supports the avoidance of a waterbody which, classified as a pond, forms one of the designated features of the LWS.
- 3.5.2 This proposed change is illustrated in **Figure 3.4**.

3.6 East Corridor: West of High Legh

- 3.6.1 To the west of High Legh, where the East Corridor approaches the A50 from the south, the DOL considered in the Draft ES passed to the south of a building which was understood to be a barn. Responses to Stage 3 Statutory Consultation provided additional information on the use of this building, which now has consent to be used as a holiday let, as well as information on the characteristics of the land in question. The holiday let has a south-facing aspect. The Applicant therefore proposes to amend the alignment of the pipeline such that it would pass to the north of the building thereby removing the potential for temporary visual

effects during the construction phase when viewed from the principal rooms of the holiday let.

3.6.2 This proposed change is illustrated in **Figure 3.5**.

3.7 East Corridor: Partington HAGI

3.7.1 The design considered in the Draft ES at Partington saw the East Corridor pipeline enter the Partington area via Sinderland Road, with two HAGI options presented: PH1 located on the site of a former gas holder and PH2 located to the east of Sinderland Lane on open land. Two permanent access options were also included; both would access via the A6144 Manchester Road, one to the north via the Carrington Gateway and one via a currently un-constructed road which is proposed as part of the Voltage Park development. A temporary access for construction purposes (also accessing the A6144 Manchester Road, but to the south of the two permanent access options) was also included. In addition, a pigging facility was included adjacent to the access running via Common Lane and the former internal roads of the now disused Shell facility.

3.7.2 Responses received at Stage 3 Statutory Consultation referred to the use of the proposed access routes through the existing industrial site at Partington with a general preference for the use of Common Lane. The Applicant therefore proposes to replace the previous access route to the proposed HAGI (PH2) and replace it with access from Common Lane.

3.7.3 Another change is a minor extension of the DOL to include an existing Electricity North West wooden pole line which runs across the northern boundary of the field within which PH2 would be located. This change would support a potential future grid connection to the HAGI and improve safety during construction. A very minor increase is also proposed south of PH2 to give more flexibility for access to the associated construction compound.

3.7.4 This proposed change is illustrated in **Figure 3.6**.

3.8 South Corridor: Vale Royal

3.8.1 The pipeline is proposed to cross the River Weaver at Vale Royal. In the Draft ES a single crossing location was proposed from fields northwest of Eaton Lane to fields west of Vale Royal Drive. The crossing proposed passed under both the River Weaver and West Coast Mainline (WCML) railway, with two alternative crossing techniques proposed, HDD and microtunnel.

3.8.2 Given the requirement to cross both the WCML and River Weaver and in view of the challenging topography the Applicant has sought additional technical advice. The preferred crossing location remains that which was consulted upon at Stage 3 Statutory Consultation, however the Applicant has decided to include a second crossing method, which would see the pipeline routed northwest (under the River Weaver and Hey's Wood), and then southeast parallel to the WCML crossing underneath Vale Royal Woods and the River Weaver/Weaver Navigation, finishing in land to the west of Eaton Hall Farm. Each crossing would be a microtunnel trenchless crossing.

- 3.8.3 To allow for construction access two alternative routes have been identified from the A556. The eastern access is an existing access through Model Farm whilst the second would be a new access avoiding the Farm and skirting the field boundaries to the west, parallel to the WCML.
- 3.8.4 This proposed change is illustrated in **Figure 3.7**.

3.9 Environmental mitigation areas

- 3.9.1 Analysis of the results of environmental surveys undertaken in 2024 have identified requirements for mitigation in the form of newly created habitat. In most instances this new habitat is proposed on land within the DOL, as consulted on at Stage 3 Statutory Consultation. However, there are a limited number of locations where habitat would be required outside those DOL and which therefore require additional land, which was not previously the subject of consultation.
- 3.9.2 The areas described below are illustrated in **Figures 3.8 to 3.12**.

A) West Corridor: Frodsham Marshes

- 3.9.3 Water voles could be potentially affected by the Project. In order to mitigate effects upon the water voles during construction it is necessary to provide suitable habitat in close proximity to their present, recorded location so that they can naturally disperse and thereby avoid disturbance when construction is underway. The Applicant is therefore proposing to increase the DOL to include corridors of land either side of existing watercourses, where existing habitat can be managed for water vole during the construction phase only.
- 3.9.4 There are two locations proposed at Frodsham Marshes, along ditches between Moorditch Lane and the M56, and a third location proposed southeast of Hapsford Lane (where the West Corridor pipeline crosses the Helsby to Hooton rail line).

B) Central Hub

- 3.9.5 An extension to the DOL to allow for the creation of woodland, grassland, hedgerows and ponds, which would be affected by the construction of the Project has been identified at the Central Hub. The land subject to habitat creation would consist of a triangular-shaped field, which is located to the east of the existing access to the Central Hub off the A533 Northwich Road.
- 3.9.6 This land would form part of wider proposals for habitat creation and management at the Central Hub. These wider proposals are located within the proposed DOL, consulted upon at Stage 3 Statutory Consultation, and are therefore not considered in this Draft ES addendum.

C) North Corridor: Clock Face HAGI

- 3.9.7 Following further environmental analysis an increase to the DOL for environmental mitigation is proposed at the Clock Face HAGI. To the south of the HAGI, additional land has been added to the DOL to provide replacement land for an arable field margin, which is currently in place for nature conservation purposes and would be lost due to the construction works. It is proposed that the arable field margin would be managed in the same way as the existing one and would measure less than 1 hectare in size.

D) North Corridor: Pendlebury Brook

Pendlebury Brook is a LWS. Whilst the Applicant's surveys did not find water vole presence on or adjoining land to be affected by the Project, the citation for the LWS designation refers to habitat which supports a population of water voles. As a precautionary measure therefore, it is proposed to increase the DOL in this location to allow for habitat management for water vole.

E) South Corridor: Acton Bridge

Land on the north side of the proposed Trent and Mersey Canal trenchless crossing is broadleaved woodland. This has been recently managed by the landowner to control Ash Die Back disease. The Applicant has identified an opportunity to work with the landowner to improve the quality of the habitat in this location. It is therefore proposed to increase the DOL in this location to incorporate this broadleaved woodland for environmental mitigation purposes.

3.10 Other minor increases to the Draft Order Limits

3.10.1 Very minor increases to the DOL are proposed at two locations as below:

- **Marsh Lane/Brook Furlong, West Corridor.** To allow more room to avoid the existing telecommunications tower in this location, a very minor increase (approx. 180m²) of the DOL is proposed southward to the top of the northern bank of the stream.
- **Moss Lane, East Corridor.** To facilitate access into a proposed trenchless crossing compound to the east of the M6 and avoid impacting a drainage ditch and embankment, which performs a flood defence role, a very minor increase (approx. 146m²) to the DOL is proposed off Moss Lane over an existing culvert into the field where the compound would be located.

3.10.2 The proposed, very minor increases in the DOL at these locations would not result in any additional environmental impacts to those identified in the Draft ES or change the conclusions of any of the assessments therein. They are therefore not considered further in this document.

4. Preliminary Environmental Assessment

4.1 West Corridor: Sutton Weaver

Table 4.1 Preliminary Environmental Assessment of DOL change at Sutton Weaver

Environmental Topic	Baseline	Potential effects	Conclusion
Biodiversity	<p>The amount of land affected, and the range of ecological features⁶ present, is similar for both the previous DOL and the proposed change at Sutton Weaver.</p> <p>No statutory or non-statutory designated sites for nature conservation interest are present within the area of the DOL change, however Lowes Wood LWS is present ~25m south of the DOL change. This LWS is also listed on the Ancient Woodland Inventory and supports w1f lowland mixed deciduous woodland, a Habitat of Principal Importance (HPI). Full details of the designated features of Lowes Wood LWS are presented in Table 5.9 of the Draft ES.</p> <p>Habitats identified within the area of the DOL change comprise c1c cereal crop⁷, c1d non-cereal crop, g4 modified grassland, r1 standing open water, none of which qualify as HPI. Approximately 210m of h2a native hedgerow is also present within the Area of the proposed DOL change at Sutton Weaver which qualifies as an HPI.</p> <p>The habitats present are suitable to support notable plant species, amphibians, reptiles, roosting and commuting/foraging bats, otter, water vole, badger, and other notable mammal species such as brown hare and hedgehog.</p> <p>The proposed DOL change would result in two additional trees with “High” suitability for roosting bats and one with “Moderate” suitability being included within the area of the proposed amended DOL, and one tree with “Low” suitability being</p>	<p>Embedded environmental measures included in the Draft ES such as 3. Minimise land take and micro-site, 4. Construction Environmental Management Plan (CEMP), 5. Sensitive vegetation removal, 8. Protection of retained habitats, 12. Protection of watercourses, 13. Sensitive lighting design, 15. Pre-construction update surveys will minimise impacts on the relevant ecological features identified within the baseline.</p> <p>No significant effects were identified in Section 5.10 of the Draft ES, or the Habitat Regulations Assessment (HRA) where relevant, for the relevant ecological features identified within the baseline.</p> <p>Open cut methods for crossing watercourses were assessed in the Draft ES. The addition of the new ditch is unlikely to alter the assessment, and no additional effects on aquatic features beyond those identified in the Draft ES are anticipated. The mitigation measures outlined in the Draft ES are considered applicable.</p> <p>Considering the limited changes to the biodiversity baseline resulting from this DOL change, the potential effects and the magnitude of change on the respective ecological features remains unchanged.</p>	<p>This DOL amendment would result in no changes to the assessment conclusions in Chapter 5 of the Draft ES, or the HRA where relevant, and there would be no new or different significant effects.</p>

⁶ Ecological ‘feature’ is the term used to describe terrestrial ecology and nature conservation receptors. This is to maintain consistency of terms between the biodiversity assessment in the and the Ecological Impact Assessment (EclA) guidance by the Chartered Institute of Ecology and Environmental Management (CIEEM) upon which the assessment in the Draft ES and this Addendum is based.

⁷ Alpha-numeric coding of habitat types used within this chapter shows the UK Habitat Classification (UKHab) habitat code.

Environmental Topic	Baseline	Potential effects	Conclusion
	<p>removed from the DOL. Evidence of recent badger activity was identified within the DOL change area, comprising fresh footprints.</p> <p>The proposed DOL change would result in an additional ditch (r1 standing open water) being included within the LoD for the pipeline and may be crossed using open cut methods. The ditch is a deep agricultural feature with vegetated banks and was recorded with low water levels during a walkover survey completed in December 2024. While the ditch is likely of low ecological value overall, given its limited extent (approximately 60m in length) and agricultural context, it may still provide suitable habitat for some aquatic invertebrates and macrophytes.</p>		
Historic Environment	<p>There are no designated heritage assets within the proposed amended DOL at Sutton Weaver, the closest being the Grade I listed Sutton Hall (NHLE 1253572) situated approximately 190m to the north, and two Grade II listed former farm buildings (NHLE 1261738; NHLE 1253612) which are located approximately 250m to the north.</p> <p>There is one HER entry recorded, representing an area of former millponds and associated water channels (MCH23695). No upstanding remains associated with this HER entry are present within the area of the proposed DOL change, which traverses a former golf course that has recently been converted to agricultural land. The potential landscaping associated with these land changes may have impacted any buried archaeological deposits relating to the HER entry. The eastern portion of the area of the proposed DOL change traverses an agricultural field, adjacent to which are a series of possible ring ditches identified as cropmarks on aerial photographs (MCH8218; MCH8219), with a possible barrow also identified on LiDAR data (LDr_005). Geophysical survey undertaken as part of the Draft ES included the area directly north of the amended DOL. No features consistent with ring ditches were identified within this area, although high levels of magnetic disturbance were noted, which may be masking potential underlying archaeological deposits.</p>	<p>The Draft ES stated the likelihood of a moderate effect through change to the setting of Sutton Hall would be significant. This was largely due to the DOL and pipeline route considered in the Draft ES, leading to the removal of trees which line the avenue to the hall, considered part of its curtilage. The proposed DOL change would not result in this impact due to its location to the south of the asset and the approach to Sutton Hall listed building would be unaffected. The proposed change to the DOL would still present a temporary effect through change to the setting of Sutton Hall, in that views south from the asset would be affected during the construction phase. The magnitude of this effect is deemed to be negligible due to its temporary nature, which would lead to a minor effect that would not be significant.</p> <p>There is high potential for the remains of archaeological remains within the eastern portion of the proposed amended DOL. These may include further possible ring ditches, similar to those recorded on the HER. Due to the landscaping associated with the former golf course that has occurred in the western portion of the proposed amended DOL there is low potential for the presence of archaeological remains in this area. The Draft ES assessed that construction works would be unlikely to affect the remains associated with possible ring ditches, and this remains the case with the DOL change.</p>	<p>There would be a change to the significance conclusions from that reported in the Draft ES as a result of the proposed change. Effects relating to a change to the setting of Sutton Hall would reduce from moderate (significant) to minor (not significant). There would be no change to the Draft ES assessment of physical impacts on the possible barrows.</p>

Environmental Topic	Baseline	Potential effects	Conclusion
Water Environment	<p>The proposed DOL change does not alter the baseline conditions outlined within the Draft ES and no additional interactions with water receptors have been identified.</p> <p>No statutory or non-statutory designated sites for nature conservation interest are present within the area of the DOL change. However, Lowes Wood LWS is present ~25m south of the DOL change. This LWS is also listed on the ancient woodland inventory and supports lowland mixed deciduous woodland, whilst an Ordinary Watercourse also flows through the site. In addition, the proposed DOL change brings it to approximately 100m up hydraulic gradient of a small pond located at National Grid Reference (NGR) SJ 53898 78925.</p> <p>Appendix 7B of the Draft ES contains details of the water dependent nature conservation sites within the Zone of Influence (ZoI). Table 7B.6 includes all of the nature conservation sites with a hydrological or hydrogeological component to their designation within the ZoI. The Site is located downstream of the proposed amended DOL and there is likely to be a hydrological connection.</p> <p>The proposed amended DOL remains in fluvial Flood Zone 1 (lowest risk) with very small areas at risk of surface water flooding and a reduced portion at potential risk of groundwater flooding. The proposed amended DOL remains within the River Weaver Water Framework Directive (WFD) surface water river catchment.</p>	<p>Construction activities associated with works in the proposed amended DOL may affect buried archaeological deposits associated with the former millponds and watercourses. Any effects of this nature could be mitigated through a programme of archaeological excavation defined in a WSI and agreed with relevant stakeholders.</p> <p>Embedded environmental measures would minimise impacts on the relevant water features identified within the baseline. Embedded environmental measures such as C-1. Construction Environmental Management Plan (CEMP), C-2. Drainage Water Management Plan (DWMP), C-3. Timing of works and C-4 Diversion and reinstatement of existing drainage networks would manage water and silt runoff.</p> <p>Stand-off distances from watercourses would apply and subsurface infrastructure would be designed to minimise disruption to existing subsurface flow pathways in accordance with embedded mitigation D-5: Management of subsurface flow pathways.</p> <p>No significant effects were identified in Section 7.9 of the Draft ES for the relevant water features identified within the baseline. The DOL change is unlikely to alter the assessment given the distance between the proposed amended DOL and the water features, and no additional effects on water features beyond those identified in the Draft ES are anticipated. The mitigation measures outlined in the Draft ES are considered applicable.</p> <p>Considering the limited changes to the baseline resulting from this DOL change, the potential effects and the magnitude of change on the respective water features remains unchanged.</p> <p>The WFD impact assessment for pipeline corridor laying remains negligible following the implementation of the embedded environmental measures.</p>	<p>This DOL change would result in no changes to the assessment conclusions in Chapter 7 of the Draft ES and there would be no new or different significant effects.</p>

Environmental Topic	Baseline	Potential effects	Conclusion
Landscape and Visual Amenity	<p>Landscape: both the DOL considered within the Draft ES and the proposed area of the DOL change at Sutton Weaver, are sited within Landscape Character Area (LCA) 8a: Aston and also within the Weaver Valley ASCV – Lower Weaver. The proposed amended DOL would cross up to five hedgerows and one low quality (Category C) tree group.</p> <p>Visual: The closest visual receptors to the proposed amended DOL are residents at properties in Sutton Weaver and recreational receptors using National Cycle Route (NCR) 5.</p>	<p>Landscape: The Draft ES concluded a significant effect within and adjacent to the pipeline corridor and a not significant to no effect elsewhere within the LCA and ASCV during the construction phase. Effects on the landscape would be similar to those concluded in the Draft ES although extending across a different geographical area of the LCA/ASCV. The proposed DOL change would lead to the retention of two Category B trees from within an avenue of Category A and B trees lining the access drive to Sutton Hall, and six small Category B trees from the avenue leading to the former Club House, and the loss of two Category B trees to the southeast of the A56 Chester Road resulting in a reduced impact on trees.</p> <p>Visual: The Draft ES concluded a significant effect from 11 dwellings on the southern edge of Sutton Weaver with No Effect from the majority of the settlement during the construction phase. The previously assessed medium magnitude of change would reduce to medium-low magnitude from the five elevated properties along the northern side of the A56 and a Low magnitude of change for residents at the six properties on the northern side of Aston Lane due to increased separation distance between the receptor group and construction activities (from a minimum of 50m to a minimum of 220m).</p> <p>The Draft ES also concluded a significant visual effect from a 4km section of NCR 5 from the junction of Halton Station Road on the A56 and along Aston Lane during the construction phase. The medium magnitude of change would reduce to a low magnitude of visual change from an approximately 0.9km section of the route due to an increased separation distance to construction activities occurring within the proposed amended DOL.</p>	<p>Landscape: There would be no change to the conclusions of the Draft ES, with a high magnitude of adverse change occurring locally to the construction works within the DOL change and within the high-medium sensitivity receptors of LCA 8a: Aston and Weaver Valley ASCV – Lower Weaver. This would result in a localised (and temporary) major to major/moderate and effect which would be significant during the construction phase.</p> <p>Visual: The significant effects concluded in the Draft ES for the high sensitivity residents at 11 properties on the southern edge of Sutton Weaver would reduce in number to significant effects at five properties where a major/moderate to moderate effect could occur during the construction phase and under winter conditions, should the proposed DOL change be taken forward to final design. For residents at the remaining six properties on the northern side of Aston Lane, effects would be moderate and not significant.</p> <p>The significant effects concluded from a 4km section of NCR 5 would reduce in extent to Significant effects from an approximately 3.1km section of route as a consequence of the proposed area of the DOL change at Sutton Weaver.</p> <p>There would be a reduction in the number of replacement trees required to mitigate potential losses.</p>

Environmental Topic	Baseline	Potential effects	Conclusion
Air Quality	The proposed DOL change moves the construction effects further away from sensitive receptors in Sutton Weaver and Sutton Hall than the previous design, although these remain the closest receptors.	The Draft ES concluded that there were no significant air quality impacts at the sensitive human receptors. The risk of significant air quality impacts from the construction works due to the proposed change in DOL is further reduced.	There would be no change to the conclusions of the Draft ES.
Noise and Vibration	The proposed DOL change would move construction effects further away from sensitive receptors in Sutton Weaver and Sutton Hall than the DOL considered in the Draft ES, although these remain the closest receptors.	No significant effects were concluded at receptors in the Draft ES. The risk of significant noise or vibration effects from construction works due to the change in DOL is further reduced.	Although the proposed change is less likely to give rise to adverse effects on receptors from noise or vibration than the DOL considered in the Draft ES there would be no change to the conclusions of the Draft ES.
Traffic and Transport	Both the DOL considered within the Draft ES, and the proposed amended DOL and have the same access points from the local road network (A56 and Aston Lane).	Construction access points from the local highway network would remain unchanged and would generate a similar level of construction vehicle movements. No change would therefore result to the conclusions of the Draft ES, with a minor impact on the nearest receptor, RW2, on the A557 between the A56 and Halton Station Road.	There would be no change to the conclusions of the Draft ES.
Ground Conditions	The proposed DOL change does not alter the baseline conditions outlined within the Draft ES as the land use within the proposed amended DOL remains in agricultural use or on land which potentially contaminative uses have not been identified.	No additional or different effects would result from the proposed change.	There would be no change to the conclusions of the Draft ES.
Agriculture and Soils	Agricultural Land Classification (ALC) survey has been completed for the DOL considered in the Draft ES however the reporting of the survey is ongoing at the time of writing. Based on provisional ALC mapping, the DOL considered in the Draft ES runs through land classed as ALC Grade 2 whereas the route within the proposed amended DOL runs through Grade 2 and some Grade 3 land, so may be preferable to the original route in relation to avoidance of more Grade 2 land. The National Soil Map shows the same soils are likely to be present in both routes. Peat is not expected in either of the routes.	The change in the area of soil and agricultural land affected, specifically the amount of best and most versatile (BMV) agricultural land (Grade 1, Grade 2, or Subgrade 3a) is unlikely to be sufficient to change the conclusions of the Draft ES.	There would be no change to the conclusions of the Draft ES.
Land Use	Both the DOL considered within the Draft ES, and the proposed change to the DOL run through the Aston Grange Minerals Safeguarding Area (MSA) for sand and gravel in this location. There are no identified receptors for tourism or recreation in this area.	The amount of land affecting the MSA would be similar for both the DOL considered in the Draft ES and the proposed amended DOL. No change would therefore result to the conclusions of the Draft ES, with a high magnitude of adverse change occurring on the Aston Grange MSA which is a medium sensitivity receptor. This would result in a	There would be no change to the conclusions of the Draft ES.

Environmental Topic	Baseline	Potential effects	Conclusion
		major adverse impact, which would be significant, during the construction and operational phases.	
People and Communities	The golf course at Sutton Hall is now closed and land has been reinstated to agricultural use. The proposed amended DOL now crosses agricultural land to the south of Sutton Hall rather than to the north.	The effects on the agricultural enterprise may be slightly increased because the proposed amended DOL cross more agricultural land than before. There is a minor benefit in that the proposed amended DOL is now further from existing built infrastructure, in particular from residential properties on Aston Lane and from Sutton Hall.	There is likely a minor beneficial effect from the proposed amended DOL but there would be no change to the conclusions of the Draft ES.
Major Accidents and Disasters	The changes described in Section 3.2 for the Sutton Weaver area do not alter the baseline, embedded measures or assessment of effects presented in the Draft ES for the Assessment of Major Accidents and Disasters. It is noted that the new route passes in proximity to and may cross third-party Major Accident Hazard Pipelines but this is already included within the assessment of effects in the Draft ES. No significant Major Accidents and Disasters effects would arise.		
Climate Change – Greenhouse Gas Emissions	The baseline for the Greenhouse Gas Emissions (GHG) assessment is the national and sector carbon budgets therefore any minor changes to the DOL would not impact the baseline of the assessment. Changes to the DOL at Sutton Weaver could affect quantification of construction emissions associated with the embodied carbon of materials. However, these changes are re-routing rather than additional pipeline lengths and are minor in the context of the overall Project. There are no changes to the conclusions of significance within the Draft ES.		
Climate Change Resilience	The baseline for the Climate Change Resilience assessment is taken at a regional to local level and therefore the minor changes to the DOL do not impact the assessment. The changes at Sutton Weaver do not affect the asset types (receptors) considered in the assessment and the embedded measures would be implemented as described in the Draft ES. There would be no changes to the conclusions of significance within the Draft ES.		
Intra-Project Effects	The proposed amended DOL would not bring construction activity closer to sensitive residential receptors. As described in the technical appraisals for LVIA and Noise and Vibration, there would be no change to the conclusions of the Draft ES as a result of the proposed DOL change and therefore no change in the context of the intra-project effects assessment. Due to the embedded measures described in the Draft ES, there are also no changes anticipated to the conclusions of the In-Combination Climate Impacts (ICCI) assessment.		

4.2 Central Hub

Table 4.2 Preliminary Environmental Assessment of DOL change at Central Hub

Environmental Topic	Baseline	Potential effects	Conclusion
Biodiversity	<p>No statutory or non-statutory designated sites for nature conservation interest are present within the area of the proposed DOL change at the Central Hub. Dutton Dean LWS is present adjacent to the southern boundary of the Central Hub area. Full details of the designated features of Dutton Dean LWS are presented in Table 5.9 of the Draft ES. Dutton Dean is also recorded on the Ancient Woodland Inventory and is identified as supporting w1f lowland mixed deciduous woodland HPI. Due to the proposed DOL change, an additional 40m (approximately) of the boundary of this LWS/Ancient Woodland is present adjacent to the DOL, but it is separated from the DOL by Northwich Road.</p> <p>Targeted surveys have not been undertaken at this location; however, a review of aerial imagery indicates that the following habitats are present within the area: g4 modified grassland, h2a native hedgerow, and w1g other woodland; broadleaved. Approximately 380m of additional hedgerow is present within the proposed amended DOL, which is likely to qualify as an HPI. A ditch (r1 standing open water) is present along the northeastern boundary of the proposed amended DOL. A review of Ordnance Survey (OS) mapping indicates potential hydrological connectivity between this ditch and Dean Brook, which is situated south of Northwich Road and flows through the Dutton Dean LWS.</p> <p>These habitats are potentially suitable to support notable plant species, amphibians, reptiles, commuting/foraging and roosting bats, otter, water vole, badger, and other notable mammal species such as brown hare and hedgehog.</p>	<p>Embedded environmental measures included in the Draft ES such as 3. Minimise land take and micro-site, 4. Construction Environmental Management Plan (CEMP), 5. Sensitive vegetation removal, 8. Protection of retained habitats, 12. Protection of watercourses, 13. Sensitive lighting design, 15. Pre-construction update surveys would minimise impacts on the relevant ecological features identified within the baseline.</p> <p>The mitigation area has been identified as a location for specific habitat creation and/or enhancement measures, intended to mitigate negative effects in other areas of the Project on important ecological features (species, habitats, and/or sites) as identified in the Draft ES. The area mainly comprises g4 modified grassland which is scoped out of the assessment (see Section 5.7 of the Draft ES) due to being of insufficient importance. Most of the additional hedgerow within the proposed amended DOL falls within the mitigation area. While proposals for the mitigation area are currently being developed and will be presented within the Final ES, the majority of hedgerow would likely be retained and/or enhanced. It is expected that the mitigation habitat provided within this area would enhance habitat connectivity with Dutton Dean LWS and Ancient Woodland.</p> <p>In the absence of detailed baseline surveys of the mitigation area at this stage, embedded environmental measures, including 15 – Pre-construction update surveys and 4 – Construction Environmental Management Plan, would ensure that any existing sensitive ecological features would be identified and appropriately protected. Further consideration of mitigation areas is presented in Section 4.8</p>	<p>This DOL change would result in no changes to the assessment conclusions in Chapter 5 of the Draft ES, or the HRA where relevant, and there would be no new or different significant effects.</p>

Environmental Topic	Baseline	Potential effects	Conclusion
		<p>No significant effects were identified in Section 5.10 of the Draft ES, or the HRA where relevant, for the relevant ecological features identified within the baseline. Considering the limited changes to the biodiversity baseline resulting from this DOL change, and the measures noted above, the potential effects and the magnitude of change on the respective ecological features remains unchanged.</p>	
Historic Environment	<p>No designated heritage assets are located with the proposed amended DOL, the closest being a Grade II listed canal bridge (NHLE 1139147) over the Trent and Mersey Canal situated approximately 800m to the southwest.</p> <p>There are no HER entries recorded within the proposed amended DOL. The DBA appended to the Draft ES (Appendix 6A) deemed the proposed amended DOL to contain high potential for archaeological remains which would likely be of low heritage importance.</p>	<p>There are no anticipated additional effects to those defined in the Draft ES.</p>	<p>The proposed DOL change presents no change to the conclusions in the Draft ES, and mitigation measures remain valid.</p>
Water Environment	<p>The proposed amended DOL include a short, approximately 200m, length of a tributary and headwaters of the Dean Brook which flows to the south into the River Weaver with its confluence over 1km to the southwest.</p> <p>The Dutton Dean LWS is aligned to the Dean Brook and present adjacent to the southern boundary of the Central Hub area.</p> <p>The proposed amended DOL at the Central Hub includes additional areas to be used for environmental mitigation on either side of the Dean Brook.</p> <p>A new access route crosses a minor watercourse with risk of surface water flooding. An Ordinary Watercourse Consent from LLFA would be sought for the crossing.</p>	<p>Embedded environmental measures would minimise impacts on the relevant water features identified within the baseline. Embedded environmental measures such as C-1. Construction Environmental Management Plan (CEMP), C-2. Drainage Water Management Plan (DWMP), C-3. Timing of works and C-4 Diversion and reinstatement of existing drainage networks would manage water and silt runoff.</p> <p>Stand-off distances from watercourses would apply and subsurface infrastructure would be designed to minimise disruption to existing subsurface flow pathways in accordance with embedded mitigation D-5: Management of subsurface flow pathways.</p> <p>No significant effects were identified in Section 7.9 of the Draft ES for the relevant water features identified within the baseline. The DOL change is unlikely to alter the assessment given the distance between the proposed amended DOL and the water features and no additional effects on water features beyond those identified in the Draft ES are anticipated. The mitigation measures outlined in the Draft ES are considered applicable.</p>	<p>This DOL change would result in no changes to the assessment conclusions in Chapter 7 of the Draft ES, and there would be no new or different significant effects.</p> <p>A not significant flood risk effect is anticipated.</p>

Environmental Topic	Baseline	Potential effects	Conclusion
		<p>Considering the limited changes to the baseline resulting from this DOL change, the potential effects and the magnitude of change on the respective water features remains unchanged.</p> <p>The WFD impact assessment for temporary construction compounds and associated storage areas remains negligible following the implementation of the embedded environmental measures.</p> <p>A negligible flood risk effect is anticipated.</p>	
Landscape and Visual Amenity	<p>Landscape: The proposed amended DOL at Central Hub is sited within LCA 5d: Whitley and Comberbach.</p> <p>Visual: The closest visual receptors, as considered in the Draft ES, are residents in the settlement of Dones Green, to the east of the Central Hub HAGI.</p>	<p>Landscape: The rerouting of a proportion of the construction traffic to access point WH-23A from Northwich Road and subsequent use of the existing track during the construction phase, would be incremental to its existing use for vehicles accessing the plant yard and therefore not uncharacteristic within the landscape. The use of the area within the proposed amended DOL for environmental mitigation is considered separately in Section 4.8. No additional or different effects would result from the proposed change with regards to trees.</p> <p>Visual: The rerouting of a proportion of the construction traffic to an existing access point to the west would increase the separation distance between this activity and residents in properties at Dones Green, but this slight reduction in visible traffic movements across the landscape would not be of a scale which is sufficient to alter the conclusions of the Draft ES with regard to this receptor group.</p>	<p>Landscape: No change to the conclusions of the Draft ES, and the overall assessment of localised significant effects close to the Central Hub HAGI during the construction phase for LCA 5d: Whitley and Comberbach remains valid. This would also be applicable for trees.</p> <p>Visual: The proposed DOL change would not alter the conclusions of the Draft ES for residents at Dones Green.</p> <p>The implications of the area identified for environmental mitigation within the proposed amended DOL are discussed in Section 4.8</p>
Air Quality	<p>The proposed change to the DOL at Central Hub would increase the length of DOL boundary adjacent to a sensitive ecological receptor (Dutton Dean LWS) by approximately 40m. The closest residential receptors are at Dane Manor Barns, approximately 250m east of the proposed new construction access off Northwich Road, beyond Dutton Dean LWS.</p>	<p>Rerouting of construction traffic as a result of the proposed change to the DOL is anticipated to result in a minimal change to the modelled air quality pollutant concentrations at Dutton Dean LWS.</p>	<p>The proposed change to the DOL would not have a significant negative impact in terms of air quality considerations and therefore does not change the conclusions of the Draft ES.</p>

Environmental Topic	Baseline	Potential effects	Conclusion
Noise and Vibration	No additional noise and vibration receptors have been identified in relation to this change. The closest residential receptors are at Dane Manor Barns, approximately 250m east of the proposed new construction access off Northwich Road, beyond Dutton Dean LWS.	The proposed change to the DOL at Central Hub is minor with respect to noise and vibration. Rerouting of some construction traffic to the western access on Northwich Road would result in a minor reduction in noise from construction activity at receptors on Northwich Road when compared to the Draft ES.	The proposed change is unlikely to give rise to appreciably different effects on receptors with respect to noise or vibration compared to the Draft ES. There would be no change to the conclusions of the Draft ES with respect to significant effects.
Traffic and Transport	The proposed DOL change would accommodate a new access point from Northwich Road for construction vehicles, east of the existing Plant Yard.	The additional access point from Northwich Road (WH-23A) would accommodate some of the construction trips that would otherwise have passed through WH-23. There would however be minimal change to the number of construction vehicle movements on the local highway network. No change would therefore result to the conclusions of the Draft ES, with a negligible on the nearest receptor, RW4, on Northwich Road between the A49 and Higher Lane.	There would be no change to the conclusions of the Draft ES.
Ground Conditions	The proposed DOL change does not alter the baseline conditions outlined within the Draft ES as the land use remains in agricultural use or on land which potentially contaminative uses have not been identified.	No additional or different effects would result from the proposed change.	There would be no change to the conclusions of the Draft ES.
Agriculture and Soils	ALC survey has been completed for the DOL considered in the Draft ES and the proposed amended DOL, however the reporting of the survey is ongoing at the time of writing. Based on provisional ALC mapping, the original DOL and the proposed amended DOL run through Grade 3 land i.e., land which has the potential to be BMV land (Grade 3 is an old classification which includes Subgrades 3a and 3b, of which 3a is defined as BMV land). The National Soil Map shows mainly Newport 1 soils on the route within the proposed amended DOL, whilst the original DOL encounters Newport 1 and Salop soils. These soil associations have different properties (e.g., drainage and fertility), however ALC survey results are needed to confirm whether the land is of different ALC grade. Peat is not expected in either of the routes.	The change to the area of soil and BMV agricultural land (Grade 1, Grade 2, or Subgrade 3a) affected is unlikely to be sufficient to change the conclusions of the Draft ES.	There would be no change to the conclusions of the Draft ES.

Environmental Topic	Baseline	Potential effects	Conclusion
Land Use	No Land Use receptors have been identified in this location.	No Land use effects have been identified as a result of the proposed DOL change.	There would be no change to the conclusions of the Draft ES.
People and Communities	There are farming and commercial enterprises in the area of the proposed change to DOL.	The change in DOL retains landscape and natural features (pond) and preserves development values. The increase in DOL area reduces agricultural production correspondingly but financial effects are limited to the individual enterprise. The inconvenience to the community is reduced as result of the indirect benefit of the construction traffic access being further from existing residences.	There would be a minor adverse effect on the agricultural enterprise and a likely minor beneficial effect from the reduced level of inconvenience from traffic as a result of the proposed DOL change. There would be no change to the conclusions of the Draft ES with respect significant effects.
Major Accidents and Disasters	The changes described in Section 3.3 for the Central Hub do not alter the baseline, embedded measures or assessment of effects presented in the Draft ES for the Assessment of Major Accidents and Disasters. No significant Major Accidents and Disasters effects would arise.		
Climate Change – Greenhouse Gas Emissions	The baseline for the Greenhouse Gas Emissions (GHG) assessment is the national and sector carbon budgets therefore any minor changes to the DOL would not impact the baseline of the assessment. Changes to the DOL at Central Hub could affect quantification of construction emissions associated with the embodied carbon of materials. However, these changes are minor in the context of the overall Project. There would be no changes to the conclusions of significance within the Draft ES.		
Climate Change Resilience	The baseline for the Climate Change Resilience assessment is taken at a regional to local level and therefore the minor changes to the DOL do not impact the assessment. The changes at Central Hub do not affect the asset types (receptors) considered in the assessment and the embedded measures would be implemented as described in the Draft ES. There would be no changes to the conclusions of significance within the Draft ES.		
Intra-Project Effects	The proposed amended DOL would not bring construction activity closer to sensitive residential receptors. As described in the technical appraisals for LVIA and Noise and Vibration, there would be no change to the conclusions of the Draft ES as a result of the proposed DOL change and therefore no change in the context of the intra-project effects assessment. Due to the embedded measures described in the Draft ES, there are also no changes anticipated to the conclusions of the ICCI assessment.		

4.3 North Corridor: Higher Walton HAGI

Table 4.3 Preliminary Environmental Assessment of DOL change at Higher Walton HAGI

Environmental Topic	Baseline	Potential effects	Conclusion
Biodiversity	<p>No statutory or non-statutory designated sites for nature conservation interest are present within the area of the proposed amended DOL at Higher Walton HAGI. Moore Nature Reserve LWS is located approximately 100m north of the proposed amended DOL, on the opposite side of the West Coast Mainline. Should the proposed HWH9 HAGI option be taken forward in the final design, it would result in the removal of a pipeline route from within Moore Nature Reserve LWS, along Birchwood Lane on the Warrington Spur; reducing the construction footprint within the LWS.</p> <p>Approximately 0.06ha of w1g other broadleaved woodland is present in the northern extent of this DOL change. While this woodland type is not an HPI, the area of habitat is identified as ‘deciduous woodland’ on the Priority Habitats Inventory. The new HWH9 HAGI option is within g4 modified grassland and h3d bramble scrub. Other habitats identified within the DOL change comprise c1d non-cereal crops, w1g other woodland; broadleaved, g1c bracken, g3c other neutral grassland, u1b developed land; sealed surface, and r1e canal, but none of these are considered to qualify as HPI.</p> <p>These habitats are potentially suitable to support notable plant species, amphibians, reptiles, commuting/foraging and roosting bats, otter, water vole, badger, and other notable mammal species such as brown hare and hedgehog.</p>	<p>Embedded environmental measures included in the Draft ES such as 3. Minimise land take and micro-site, 4. Construction Environmental Management Plan (CEMP), 5. Sensitive vegetation removal, 8. Protection of retained habitats, 12. Protection of watercourses, 13. Sensitive lighting design, 15. Pre-construction update surveys would minimise impacts on the relevant ecological features identified within the baseline.</p> <p>No significant effects were identified in Section 5.10 of the Draft ES, or the HRA where relevant, for the relevant ecological features identified within the baseline. The potential removal of the pipeline route along Birchwood Lane would result in a reduction in the magnitude of potential effects on Moore Nature Reserve LWS including temporary or permanent land take/land use change, fragmentation of habitat, and disturbance due to increased noise, vibration, light and movement levels.</p> <p>Embedded environmental measures, including 15 – Pre-construction update surveys and 4 – Construction Environmental Management Plan, would ensure that any existing sensitive ecological features would be identified and appropriately protected. Considering these measures, option HWH9 would not lead to additional effects upon the badger population above those which were assessed within the Draft ES.</p> <p>A new option for the location of the trenchless crossing of the Manchester Ship Canal has been identified, providing two potential crossing points. Both locations are situated close to each other, and only one of these options would ultimately be implemented. Potential effects on aquatic features from the trenchless crossing of the Manchester Ship Canal were assessed within the Draft ES. There would be no additional effects on aquatic features arising from this proposed DOL change, and the mitigation measures outlined in the Draft ES remain applicable and sufficient.</p>	<p>This DOL change would result in no changes to the assessment conclusions in Chapter 5 of the Draft ES, or the HRA where relevant, and there would be no new or different significant effects.</p>

Environmental Topic	Baseline	Potential effects	Conclusion
		Considering the limited changes to the biodiversity baseline resulting from this DOL change, the potential effects and the magnitude of change on other ecological features remains unchanged.	
Historic Environment	There are no designated or non-designated heritage assets located within this proposed amended DOL, which is located immediately north of the Manchester Ship Canal, which is included in the Cheshire HER (MCH24520). The proposed amended DOL is situated on previously developed land, and the DBA produced for the Draft ES (Appendix 6A) assessed this area as containing negligible potential for the survival of archaeological remains.	Due to the negligible archaeological potential no effects are anticipated as a result of this DOL change.	There are no changes anticipated to the assessment conclusions presented in the Draft ES. The potential removal of route along Birchwood Lane would also present no change from the Draft ES.
Water Environment	<p>The proposed DOL changes do not alter the water environment baseline conditions outlined within the Draft ES. No surface water bodies or other water features are within the proposed amended DOL. Solvay Interlox Ltd groundwater abstraction boreholes are within the vicinity of the proposed DOL changes but all outside of its footprint and any impacts are not anticipated.</p> <p>The HWH9 site coincides with the EA Flood Zones 2 and 3, indicating a risk of fluvial and/or tidal flooding. However, modelling undertaken for the HWH2 site, which was reported in the Draft ES, Chapter 7: Water Environment, Appendix 7F: Flood Risk Assessment, includes the land identified for HWH9. The modelling shows that the site remains free from flooding from fluvial and tidal sources for the design events.</p>	<p>No significant effects were identified in Section 7.9 of the Draft ES for the relevant water features identified within the baseline. The DOL change is unlikely to alter the assessment given no additional effects on water features beyond those identified in the Draft ES are anticipated. The mitigation measures outlined in the Draft ES are considered applicable.</p> <p>Considering the limited changes to the baseline resulting from this DOL change, the potential effects and the magnitude of change on the respective water features remains unchanged.</p> <p>A negligible flood risk effect is anticipated.</p>	<p>This DOL change would result in no changes to the assessment conclusions in Chapter 7 of the Draft ES, and there would be no new or different significant effects.</p> <p>No change to the conclusions of the Draft ES is anticipated with respect to flood risk.</p>
Landscape and Visual Amenity	Landscape: The proposed HWH9 site is a brownfield site and lies outside of any defined LCA as shown in Figure 8.5 of the Draft ES. The land which may potentially be removed (should HAGI option HWH9 be taken forward to final design) relating to the Warrington Spur option along Birchwood Lane (within Moore Nature Reserve) is sited within LCA 5a: River Mersey/Bollin (West) whilst the alternative trenchless crossing compound to the west of the HWH8 HAGI lies within LCA 3a: Appleton Park and Grappenhall (and within the DOL considered within the Draft ES).	Landscape: The construction and operation of the HWH9 HAGI would occur on brownfield land and in close proximity to existing industrial infrastructure within the Solvay Interlox Ltd industrial complex. As such, its presence would not be incongruous and could be accommodated within the existing landscape context. Similarly, the construction of the pipeline route eastward within or alongside the internal service road of the Solvay industrial complex would not represent an uncharacteristic change within the baseline context.	Landscape: A localised significant effect was concluded in the Draft ES in respect of LCA 5a: River Mersey/Bollin (West), concentrated across areas of landscape within and adjacent to the pipeline corridors. Whilst the change associated with the potential removal of the Warrington Spur option along Birchwood Lane would reduce the geographical extent of significant effects, the overall assessment conclusion of the ES for the LCA 5a: River Mersey/Bollin (West) receptor unit would remain the same. There would also be a reduction in the number of trees required to mitigate potential losses.

Environmental Topic	Baseline	Potential effects	Conclusion
	<p>Visual: The closest visual receptors to the proposed HWH9 site and the alternative trenchless crossing compound are users of the Manchester Ship Canal and residential receptors at Higher Walton (along Mill Lane).</p>	<p>The potential removal of the Warrington Spur option along Birchwood Lane and to the immediate north of the Solvay industrial complex would lead to the retention of almost 2ha of Category B groups of trees within these locations which would be beneficial.</p> <p>The Draft ES concluded a locally significant landscape effect within and adjacent to trenchless crossing compounds sited within LCA 3a: Appleton Park and Grappenhall, as a consequence of high levels of disturbance, noise and movement within a rural landscape.</p> <p>Visual: HWH9 would potentially be visible in filtered and transient views from the Manchester Ship Canal, although its smaller scale and location adjacent to existing industrial infrastructure within the Solvay industrial complex means that the magnitude of change would be low from a short section of the Canal to the east of the Acton Grange Viaduct. The alternative trenchless crossing compound to the west of the HWH8 HAGI may also be visible in filtered and transient views from the Canal during the construction phase.</p> <p>For residents in a small number of properties along Mill Lane, Higher Walton, the alternative trenchless crossing compound to the west of the HWH8 HAGI would be visible in partially filtered views and at a minimum separation distance of approximately 150m, sited within an agricultural field and against a treed backdrop. This would give rise to a medium magnitude of visual change for a small number of high sensitivity receptors.</p>	<p>There would be no change to the conclusion of the Draft ES for LCA 3a: Appleton Park and Grappenhall as a consequence of the alternative location of the trenchless crossing compound to the west of the HWH8 HAGI, with significant effects occurring within a similarly sized but different geographic location.</p> <p>Visual: A localised significant overall effect was concluded in the Draft ES from a short section of the Manchester Ship Canal to the east of the Acton Grange Viaduct. There would be no change to this conclusion as a consequence of the alternative trenchless crossing compound to the west of the HWH8 HAGI, with the HWH9 HAGI (when assessed on its own) giving rise to a moderate and not significant visual effect.</p> <p>There would be no change to the conclusions of the Draft ES in respect of residents on the northern edge of Higher Walton at Mill Lane during the construction phase, with the overall assessment of effects concluding a significant visual effect.</p>
Air Quality	<p>The proposed amended DOL through the Solvay industrial complex, and HWH9 HAGI location, are not located near to any sensitive air quality receptors. The proposed western trenchless crossing compound for HWH9 south of the Manchester Ship Canal is located the same distance from sensitive receptors on Mill Lane as that considered for HWH2 in the Draft ES.</p>	<p>The Draft ES concluded that there were no significant air quality impacts at the sensitive human receptors. This remains the case with respect to the proposed DOL changes and HWH9 location.</p>	<p>There would be no change to the conclusions of the Draft ES.</p>

Environmental Topic	Baseline	Potential effects	Conclusion
Noise and Vibration	<p>The proposed location for HAGI option HWH9 is an equivalent distance from sensitive receptors to the previously proposed site on Birchwood Lane (HWH2) and is further away from sensitive receptors than the previously proposed site north of Mill Lane (HWH8). The proposed western trenchless crossing compound for HWH9 south of the Manchester Ship Canal is located the same distance from sensitive receptors on Mill Lane as that considered for HWH2 in the Draft ES.</p> <p>The proposed amended DOL through the Solvay industrial complex is not located near any sensitive noise and vibration receptors.</p>	<p>The HWH9 HAGI location is less likely to give rise to adverse noise effects than the previously proposed HWH8 option and is equivalent to the previously proposed HWH2 option. No other additional noise and vibration effects are likely to arise as a result of the proposed DOL change.</p>	<p>The proposed change in DOL is equivalent or less adverse with respect to noise and vibration at sensitive receptors from construction and operation with respect to the HAGI and trenchless crossing compound options presented in the Draft ES (HWH2 and HWH8). There would be no change to the conclusions of the Draft ES.</p>
Traffic and Transport	<p>Access for construction traffic to the new HAGI option (HWH9) would be via Chester Road north of Mill Lane (receptor RN2).</p>	<p>The different construction access point from the local highway network to the new proposed HAGI location (HWH9) would reduce construction traffic on Runcorn Road (receptor RN15) and increase construction traffic at RN2 however, the increase would not lead to a step change in impacts.</p>	<p>There would be no change to the conclusions of the Draft ES.</p>
Ground Conditions	<p>The proposed DOL change does not alter the baseline conditions outlined within the Draft ES for HWH2, as HWH9 is a brownfield location set within an existing industrial complex. HAGI option HWH8 however is located in a greenfield location south of the Manchester Ship Canal.</p>	<p>The proposed western trenchless crossing compound for HWH9 south of the Manchester Ship Canal is located on greenfield land, however if the HWH8 option is not progressed (within greenfield land) and the proposed location of HWH9 (within brownfield land) is progressed this would present a change from the Draft ES assessment. However, this is unlikely to result in additional significant effects and no additional mitigation would be required as HWH2 was also located on brownfield land.</p>	<p>There would be no change to the conclusions of the Draft ES.</p>
Agriculture and Soils	<p>ALC survey has been completed for the DOL considered in the Draft ES and the proposed amended DOL (for agricultural land south of the Manchester Ship Canal), however the reporting of the survey is ongoing at the time of writing. The provisional ALC mapping shows Grade 3 land i.e., land which has the potential to be BMV land (Grade 3 is an old classification which includes Subgrades 3a and 3b, of which 3a is defined as BMV land), however the ALC survey results would be needed to confirm the ALC grade(s). The National Soil Map shows mainly Conway soils close to the canal and Blackwood soils south of these, all crossing options are likely to encounter similar soil conditions. Thin peat layers may be encountered in alluvium close to</p>	<p>The change to the area of soil and BMV agricultural land (Grade 1, Grade 2, or Subgrade 3a) affected should HAGI Option HWH9 be taken forward to final design and the proposed change in DOL be adopted is unlikely to be sufficient to change the conclusions of the Draft ES.</p>	<p>There would be no change to the conclusions of the Draft ES.</p>

Environmental Topic	Baseline	Potential effects	Conclusion
	the canal however deep peat is unlikely. Land north of the Manchester Ship Canal is brownfield.		
Land Use	No Land Use receptors have been identified in the location of HWH9 and proposed amended DOL. The potential removal of the Warrington Spur option along Birchwood Lane would remove land from within Moore Nature Reserve.	<p>There would be no additional Land Use effects from the proposed changes to the DOL over those identified in the Draft ES.</p> <p>The potential removal of the Warrington Spur option along Birchwood Lane would reduce the amount of land required by the Project within Moore Nature Reserve from around 8ha to around 5ha and reduce the level of effect on recreational users of the Reserve. This would reduce the magnitude of effect from low – medium adverse to low adverse. The Reserve is a medium sensitivity receptor and therefore a minor adverse effect would result (down from minor-moderate). This effect would remain as concluded in the Draft ES: not significant.</p>	There would be no additional Land Use effects from the proposed changes to the DOL over those identified in the Draft ES.
People and Communities	The proposed amended DOL and HWH9 HAGI option is proposed within an area of existing industrial use. The proposed western trenchless crossing compound for HWH9 south of the Manchester Ship Canal is located on greenfield land, however this land is within the DOL considered in the Draft ES.	The HWH9 location is within the Solvay industrial complex. From a socio-economic perspective this is likely to be most efficient in terms of land use and industrial reuse. Community well-being from nature would also benefit as the proposed location for HWH9 is brownfield rather than greenfield development. There are potential limits of expansion of the HWH9 HAGI on the smaller brownfield site (than those considered for HWH2 and HWH8) but this is considered an effect the Applicant would be able to manage.	There would be a minor benefit from use of brownfield land for the HWH9 HAGI offset by a minor adverse effect from the smaller site. There would be no change to the conclusions of the Draft ES.
Major Accidents and Disasters	The changes described in Section 3.4 for the Higher Walton HAGI do not alter the baseline, embedded measures or assessment of effects presented in the Draft ES for the Assessment of Major Accidents and Disasters. No significant Major Accidents and Disasters effects would arise.		
Climate Change – Greenhouse Gas Emissions	The baseline for the Greenhouse Gas Emissions (GHG) assessment is the national and sector carbon budgets therefore any minor changes to the DOL would not impact the baseline of the assessment. Changes to the DOL at Higher Walton could affect quantification of construction emissions associated with the embodied carbon of materials. However, these changes relate to relocation of the proposed HAGI and subsequent re-routing rather than additional assets and are minor in the context of the overall Project. There would be no changes to the conclusions of significance within the Draft ES.		
Climate Change Resilience	The baseline for the Climate Change Resilience assessment is taken at a regional to local level and therefore the minor changes to the DOL do not impact the assessment. The changes at the Higher Walton HAGI do not affect the asset types (receptors) considered in the assessment and the embedded measures would be implemented as described in the Draft ES. There would be no changes to the conclusions of significance within the Draft ES.		
Intra-Project Cumulative Effects	The proposed amended DOL would not bring construction activity closer to sensitive residential receptors. As described in the technical appraisals for LVIA and Noise and Vibration, there would be no change to the conclusions of the Draft ES as a result of the proposed DOL change and therefore no change in the context of the intra-project effects assessment. Due to the embedded measures described in the Draft ES, there are also no changes anticipated to the conclusions of the ICCI assessment.		

4.4 North Corridor: Moore Nature Reserve

Table 4.4 Preliminary Environmental Assessment of DOL change at Moore Nature Reserve

Environmental Topic	Baseline	Potential effects	Conclusion
Biodiversity	<p>No statutory designated sites for nature conservation interest are present within the area of the proposed amended DOL at Moore Nature Reserve. The DOL change would result in an increase of approximately 0.5ha of land within Moore Nature Reserve LWS falling within the DOL, which could be subject to temporary land-take/land use change. Full details of the designated features of Moore Nature Reserve LWS are presented in Table 5.9 of the Draft ES. The DOL change includes an additional 0.24ha (approximate) of w1f lowland mixed deciduous woodland which is considered to qualify as HPI habitat, and an area of f2f other swamp.</p> <p>These habitats are potentially suitable to support notable plant species, amphibians, reptiles, commuting/foraging and roosting bats, otter, water vole, badger, and other notable mammal species such as brown hare and hedgehog.</p>	<p>Embedded environmental measures included in the Draft ES such as 3. Minimise land take and micro-site, 4. Construction Environmental Management Plan (CEMP), 5. Sensitive vegetation removal, 8. Protection of retained habitats, 13. Sensitive lighting design, 15. Pre-construction update surveys would minimise impacts on the relevant ecological features identified within the baseline.</p> <p>No significant effects were identified in Section 5.10 of the Draft ES, or the HRA where relevant, for the relevant ecological features identified within the baseline. While the proposed amended DOL incorporates a larger area of w1f lowland mixed deciduous woodland HPI, the purpose of the DOL change and associated increase in the LoD is to enable avoidance and/or reduction in land take affecting an area of important specimen trees (black poplar) and pond habitat (r1 standing open water, assumed by be HPI) which is an interest feature of Moore Nature Reserve LWS. Therefore, while there may be a small increase in the extent of temporary or permanent land take/land use change affecting w1f lowland mixed deciduous woodland HPI (due to the pipeline route taking a slightly less direct route to avoid sensitive features), there would be an overall reduction in the magnitude of the effect on the integrity of Moore Nature Reserve LWS. Considering the limited changes to the biodiversity baseline resulting from this DOL change, the potential effects and the magnitude of change on other ecological features remains unchanged.</p>	<p>This DOL change would result in no changes to the assessment conclusions in Chapter 5 of the Draft ES, or the HRA where relevant, and there would be no new or different significant effects.</p>
Historic Environment	<p>There are no designated or non-designated heritage assets recorded within the proposed amended DOL. The area is located within a former sand quarry which has since been converted to Moore Nature Reserve. As a result of the presence of the former quarry, the DBA produced for the Draft ES (Appendix 6A) concluded the area in which this DOL change is proposed to have negligible archaeological potential.</p>	<p>Due to the negligible archaeological potential no effects are anticipated as a result of this DOL change.</p>	<p>There are no changes anticipated to the assessment presented in the Draft ES.</p>

Environmental Topic	Baseline	Potential effects	Conclusion
Water Environment	<p>The proposed DOL change does not alter the water environment baseline conditions outlined within the Draft ES. The DOL change would result in an increase of approximately 0.5ha of land within Moore Nature Reserve LWS falling within the DOL, which could be subject to temporary land-take / land use change. This reserve is an extensive nature reserve containing woodland, multiple lakes and ponds. Interaction with additional drainage ditches in the area of the DOL change but these appear minor and discontinuous on OS mapping. The additional area covered by the DOL change is minimal given the overall size of the reserve and does not include any lakes or ponds.</p> <p>Appendix 7B of the Draft ES contains details of the water dependent nature conservation sites within the Zone of Influence (Zol). Table 7B.6 includes all of the nature conservation sites with a hydrological or hydrogeological component to their designation within the Zol.</p> <p>Solvay Interlox Ltd groundwater abstraction boreholes are within the vicinity of the proposed DOL change but all are outside of its footprint and any impacts are not anticipated. No statutory or non-statutory designated sites for nature conservation interest are present within the area of the DOL change.</p> <p>The proposed amended DOL remains within the flood risk area (with no change) and within the River Mersey WFD surface water river catchment.</p>	<p>Embedded environmental measures would minimise impacts on the relevant water features identified within the baseline. Embedded environmental measures such as C-1. Construction Environmental Management Plan (CEMP), C-2. Drainage Water Management Plan (DWMP), C-3. Timing of works and C-4 Diversion and reinstatement of existing drainage networks would manage water and silt runoff.</p> <p>Stand-off distances from watercourses would apply and subsurface infrastructure would be designed to minimise disruption to existing subsurface flow pathways: embedded mitigation D-5: Management of subsurface flow pathways.</p> <p>No significant effects were identified in Section 7.9 of the Draft ES for the relevant water features identified within the baseline. The DOL change is unlikely to alter the assessment given the minimal size of the DOL change and no additional effects on water features beyond those identified in the Draft ES are anticipated. The mitigation measures outlined in the Draft ES are considered applicable.</p> <p>Considering the limited changes to the baseline resulting from this DOL change, the potential effects and the magnitude of change on the respective water features and flood risk remains unchanged.</p> <p>The WFD impact assessment for pipeline corridor laying remains Negligible following the implementation of the embedded environmental measures.</p>	<p>This DOL change would result in no changes to the assessment conclusions in Chapter 7 of the Draft ES, and there would be no new or different significant effects.</p>
Landscape and Visual Amenity	<p>Landscape: Both the DOL considered within the Draft ES and the proposed area of the DOL change at Moore Nature Reserve are sited within LCA 5a: River Mersey/Bollin (West).</p> <p>Visual: There are no visual receptor groups identified and assessed in the Draft ES for which the minor change to the DOL at Moore Nature Reserve would be visible.</p>	<p>Landscape: The Draft ES concluded a significant effect within and adjacent to the pipeline corridor and a Not Significant effect elsewhere within LCA 5a: River Mersey/Bollin (West) during the construction phase. Whilst the proposed DOL change would avoid impact on Category A rare black poplar trees as well as a pond, effects on the landscape would be similar to those concluded in the Draft ES although extending across a marginally different geographical area of the LCA.</p>	<p>Landscape: No change would result to the conclusions of the Draft ES. The construction activities associated with the North Corridor would continue to give rise to a major/moderate and locally significant temporary effect upon this medium sensitivity receptor unit. However, rare native black poplars would be retained and protected.</p> <p>Visual: No changes to the conclusions of the Draft ES.</p>

Environmental Topic	Baseline	Potential effects	Conclusion
		Visual: No changes to the Draft ES.	
Air Quality	The proposed change to the DOL is not located near to any sensitive receptors that require air quality consideration.	The nature of the proposed change to the DOL means there are no air quality considerations.	There would be no change to the conclusions of the Draft ES.
Noise and Vibration	The proposed change to the DOL is not located near to any sensitive receptors that require noise and vibration consideration.	The nature of the proposed change to the DOL means there are no noise or vibration considerations.	There would be no change to the conclusions of the Draft ES
Traffic and Transport	There would be no change to the access points from the local road network as a result of this DOL change.	Construction access points from the local highway network would remain unchanged, and construction vehicle numbers would not change significantly. No change would therefore result to the conclusions of the Draft ES, with a negligible impact on the nearest receptor, RN16, on Liverpool Road at Sankey Bridge.	There would be no change to the conclusions of the Draft ES.
Ground Conditions	The proposed DOL change does not alter the baseline conditions outlined within the Draft ES as the land remains as part of the Nature Reserve.	No additional or different effects would result from the proposed change.	There would be no change to the conclusions of the Draft ES.
Agriculture and Soils	There are no agricultural land considerations associated with this DOL change. The change does not change the soil receptors considered in the assessment.	No additional effects on soils in the Moore Nature Reserve over those identified in the Draft ES.	There would be no change to the conclusions of the Draft ES.
Land Use	The proposed DOL change within Moore Nature Reserve would not introduce any additional Land Use receptors from that identified in the Draft ES, i.e. only the nature reserve as a recreational receptor is affected.	No additional effects on Moore Nature Reserve over those identified in the Draft ES, with it considered to be of low-medium sensitivity for recreational users and the proposals having a medium magnitude of change, which would be adverse during construction only. The effects would therefore result in a minor to moderate, adverse effect and be potentially significant. Given the works have been designed to reduce impacts where possible, and a large amount of the Nature Reserve would remain open for public recreation away from the pipeline works, it is considered the minor to moderate adverse effect during construction would be not significant.	There would be no change to the conclusions of the Draft ES.
People and Communities	The DOL in this area follows the border between Moore Nature Reserve and a landfill site.	The change in DOL preserves important arboricultural features such as black poplar trees which contribute to local biodiversity and provide a benefit to society overall.	There is likely a minor beneficial effect from the proposed amendment to the DOL but there would be no change to the conclusions of the Draft ES.

Environmental Topic	Baseline	Potential effects	Conclusion
Major Accidents and Disasters	The changes described in Section 3.5 for the Moore Nature Reserve area do not alter the baseline, embedded measures or assessment of effects presented in the Draft ES for the Assessment of Major Accidents and Disasters. No significant Major Accidents and Disasters effects would arise.		
Climate Change – Greenhouse Gas Emissions	The baseline for the Greenhouse Gas Emissions (GHG) assessment is the national and sector carbon budgets therefore any minor changes to the DOL would not impact the baseline of the assessment. The proposed change to the DOL at Moore Nature Reserve is minor in the context of the overall Project. There would be no changes to the conclusions of significance within the Draft ES.		
Climate Change Resilience	The baseline for the Climate Change Resilience assessment is taken at a regional to local level and therefore the minor changes to the DOL do not impact the assessment. The proposed change at the Moore Nature Reserve does not affect the asset types (receptors) considered in the assessment and the embedded measures will be implemented as described in the Draft ES. There would be no changes to the conclusions of significance within the Draft ES.		
Intra-Project Effects	The proposed amended DOL would not bring construction activity closer to sensitive residential receptors. As described in the technical appraisals for LVIA and Noise and Vibration, there would be no change to the conclusions of the Draft ES as a result of the proposed DOL change and therefore no change in the context of the intra-project effects assessment. Due to the embedded measures described in the Draft ES, there are also no changes anticipated to the conclusions of the ICCI assessment.		

4.5 East Corridor: West of High Legh

Table 4.5 Preliminary Environmental Assessment of DOL change West of High Legh

Environmental Topic	Baseline	Potential effects	Conclusion
Biodiversity	<p>The amount of land affected, and the range of ecological features present, is similar for both the DOL considered in the Draft and the proposed change West of High Legh.</p> <p>No statutory or non-statutory designated sites for nature conservation interest are present within the area of the DOL change West of High Legh.</p> <p>Targeted surveys have not been undertaken at this location however a review of aerial imagery indicates that the following habitats are present within the area: c1d non-cereal crop, g4 modified grassland, ditch (r1 standing open water), and individual trees, none of which are considered to qualify as HPI. Approximately 160m of h2a native hedgerow is present within the proposed amended DOL. This is a continuation of a hedgerow previously assessed to be HPI, so it is likely that the additional section also qualifies as HPI.</p> <p>The habitats present are suitable to support notable plant species, amphibians, reptiles, roosting and commuting/foraging bats, otter, water vole, badger, and other notable mammal species such as brown hare and hedgehog.</p> <p>The proposed DOL change would result in one ditch (r1 standing open water), previously being crossed via open cut methods, to be removed from the pipeline LoD, however new ditches (not surveyed) located along the margins of the field are now included within the LoD of the pipeline.</p> <p>The DOL change would result in one tree with “Moderate” suitability for roosting bats being removed from the pipeline LoD, but the addition of two additional trees which are potentially suitable for roosting bats (not surveyed) within the LoD of the proposed amended DOL.</p>	<p>Embedded environmental measures included in the Draft ES such as 3. Minimise land take and micro-site, 4. Construction Environmental Management Plan (CEMP), 5. Sensitive vegetation removal, 8. Protection of retained habitats, 12. Protection of watercourses, 13. Sensitive lighting design, 15. Pre-construction update surveys would minimise impacts on the relevant ecological features identified within the baseline.</p> <p>No significant effects were identified in Section 5.10 of the Draft ES, or the HRA where relevant, for the relevant ecological features identified within the baseline.</p> <p>Open cut methods for crossing watercourses were assessed in the Draft ES. The addition of a new ditch along the field margin, adjacent to the previously identified crossing point, is unlikely to change the assessment. Located along an agricultural field margin and near the previously assessed crossing, the new ditch is expected to have similar ecological value due to its geographic location and role as an agricultural drainage feature. Consequently, no additional effects on aquatic features are anticipated, and the mitigation measures outlined in the Draft ES remain applicable.</p> <p>Considering the limited changes to the biodiversity baseline resulting from this DOL change, the potential effects and the magnitude of change on the respective ecological features remains unchanged.</p>	<p>This DOL change would result in no changes to the assessment conclusions in Chapter 5 of the Draft ES, or the HRA where relevant, and there would be no new or different significant effects.</p>

Environmental Topic	Baseline	Potential effects	Conclusion
Historic Environment	<p>There are no designated heritage assets recorded within the proposed amended DOL. The closest designated heritage asset is the Grade II listed Cooper’s Square (NHLE 1139517).</p> <p>There are no non-designated heritage assets recorded on the HER within the proposed amended DOL. A small number of linear and other features were identified on aerial photographs and LiDAR data, which may represent former field boundaries. The DBA produced for the Draft ES (Appendix 6A) concluded there was high potential for the remains of post medieval boundaries and ridge and furrow ploughing. These would be of low sensitivity with local importance.</p>	<p>The Grade II listed Cooper’s Square was scoped out of the Draft ES as it was considered that it would not be affected due to distance from the DOL and temporary nature of the construction works in this area. Although the proposed amended DOL is slightly closer to the asset, it is not considered to warrant an assessment of effects on this asset. The proposed amended DOL remains within an area deemed to hold high archaeological potential for remains of low sensitivity.</p>	<p>No changes are anticipated to the conclusions of the Draft ES.</p>
Water Environment	<p>The proposed DOL change would not alter the baseline conditions outlined within the Draft ES and no additional interactions with water receptors have been identified. The DOL change moves the DOL away from the intersection of a tributary flowing south into the Gale Brook with an associated likely reduction in impacts.</p> <p>No statutory or non-statutory designated sites for nature conservation interest are present within the proposed amended DOL which remains inside an area of surface water flood risk and within the Gale Brook WFD surface water river catchment.</p>	<p>Embedded environmental measures would minimise impacts on the relevant water features identified within the baseline. Embedded environmental measures such as C-1. Construction Environmental Management Plan (CEMP), C-2. Drainage Water Management Plan (DWMP), C-3. Timing of works and C-4 Diversion and reinstatement of existing drainage networks would manage water and silt runoff.</p> <p>Stand-off distances from watercourses would apply and subsurface infrastructure would be designed to minimise disruption to existing subsurface flow pathways, in accordance with mitigation D-5: Management of subsurface flow pathways.</p> <p>No significant effects were identified in Section 7.9 of the Draft ES for the relevant water features identified within the baseline. The DOL change is unlikely to alter the assessment given the distance between the proposed amended DOL and the water features, and no additional effects on water features beyond those identified in the Draft ES are anticipated. The mitigation measures outlined in the Draft ES are considered applicable.</p> <p>Considering the limited changes to the baseline resulting from this DOL change, the potential effects and the magnitude of change on the respective water features and flood risk remains unchanged. The WFD impact assessment for pipeline corridor</p>	<p>This DOL change would result in no changes to the assessment conclusions in Chapter 7 of the Draft ES, and there would be no new or different significant effects.</p>

Environmental Topic	Baseline	Potential effects	Conclusion
		laying remains Negligible following the implementation of the embedded environmental measures.	
Landscape and Visual Amenity	<p>Landscape: Both the DOL considered within the Draft ES and the proposed amended DOL are sited within LCA 7a: Arley.</p> <p>The proposed amended DOL includes six trees (two Category B, two Category C and two Category U), plus two hedgerows with a further nine trees (mainly Category B) and two hedgerows without trees along the DOL boundary. A row of Category A oak trees are located on the southern boundary of the proposed amended DOL.</p> <p>Visual: There are no new visual receptor groups identified and assessed in the Draft ES for which the change to the DOL at West of High Legh would be visible.</p>	<p>Landscape: The Draft ES concluded a significant effect within and adjacent to the pipeline corridor and a Not Significant effect elsewhere within LCA 7a: Arley during the construction phase.</p> <p>The proposed DOL change would lead to the retention of three sections of hedgerow and two trees, whilst parts of two hedgerow and one Category B tree would be removed in their place. Effects on the landscape would be similar to those concluded in the Draft ES although extending across a slightly different geographical area of the LCA.</p> <p>Visual: No changes to the Draft ES, although it is noted that the DOL change would result in the barn described in Section 3.6 no longer being subject to temporary visual effects during the construction phase.</p>	<p>Landscape: No change would result to the conclusions of the Draft ES. The construction activities associated with the East Corridor would continue to give rise to a major/moderate and locally significant temporary effect upon this medium sensitivity receptor unit. There would also be a reduction in the number of trees required to mitigate potential losses.</p> <p>Visual: No changes to the conclusions of the Draft ES.</p>
Air Quality	The proposed change to the DOL does not introduce any new receptors to those already considered in the Draft ES.	The Draft ES concluded that there were no significant air quality impacts at the sensitive human receptors.	There would be no change to the conclusions of the Draft ES.
Noise and Vibration	The noise and vibration considerations relating to the proposed DOL change are equivalent to the previous alignment considered in the Draft ES. The movement to a less visually intrusive location may reduce construction noise albeit over a very short duration.	No new effects would arise from the proposed change to the DOL.	Minimal change in noise or vibration effects compared to previous arrangement. There would be no change to the conclusions of the Draft ES.
Traffic and Transport	There would be no change to the access points from the local road network as a result of the proposed change to the DOL.	Construction access points from the local highway network would remain unchanged, and there would be little to no change in construction vehicle numbers. No change would therefore result to the conclusions of the Draft ES with a negligible impact on the nearest receptor, RE5, on the A50 between West Lane and Crabtree Lane.	There would be no change to the conclusions of the Draft ES.
Ground Conditions	The proposed DOL change does not alter the baseline conditions outlined within the Draft ES as the land use remains in agricultural use or on land which potentially contaminative uses have not been identified.	No additional or different effects would result from the proposed change.	There would be no change to the conclusions of the Draft ES.

Environmental Topic	Baseline	Potential effects	Conclusion
Agriculture and Soils	ALC survey has been completed for the DOL considered in the Draft ES, however the reporting of the survey is ongoing at the time of writing. Based on provisional ALC mapping, the route considered in the Draft ES and the proposed DOL change run through Grade 3 land i.e., land which has the potential to be BMV land (Grade 3 is an old classification which includes Subgrades 3a and 3b, of which 3a is defined as BMV land). The National Soil Map shows the route within the proposed amended DOL and the DOL considered in the Draft ES both encounter Salop soils. Peat is not expected in either of the routes.	The change to the area of soil and BMV agricultural land (Grade 1, Grade 2, or Subgrade 3a) affected is unlikely to be sufficient to change the conclusions of the Draft ES.	There would be no change to the conclusions of the Draft ES.
Land Use	No Land Use receptors have been identified in the location of the proposed amended DOL.	No Land use effects have been identified from proposed change to the DOL.	There would be no change to the conclusions of the Draft ES.
People and Communities	The area surrounding the proposed amended DOL includes fields with occasional buildings.	The change to the DOL preserves features with socio-economic value, in particular views from the south of the barn (holiday let).	There is likely a minor beneficial effect from the proposed change to the DOL but this would not result in a change to the conclusions of the Draft ES.
Major Accidents and Disasters	The changes described in Section 3.6 do not alter the baseline, embedded measures or assessment of effects presented in the Draft ES for the Assessment of Major Accidents and Disasters. No significant Major Accidents and Disasters effects would arise.		
Climate Change – Greenhouse Gas Emissions	The baseline for the Greenhouse Gas Emissions (GHG) assessment is the national and sector carbon budgets therefore any minor changes to the DOL would not impact the baseline of the assessment. Changes to the DOL West of High Legh could affect quantification of construction emissions associated with the embodied carbon of materials. However, these changes are minor alignment changes rather than additional pipeline lengths and are minor in the context of the overall Project. There would be no changes to the conclusions of significance within the Draft ES.		
Climate Change Resilience	The baseline for the Climate Change Resilience assessment is taken at a regional to local level and therefore the minor changes to the DOL do not impact the assessment. The changes West of High Legh do not affect the asset types (receptors) considered in the assessment and the embedded measures would be implemented as described in the Draft ES. There would be no changes to the conclusions of significance within the Draft ES.		
Intra-Project Effects	The proposed amended DOL would not bring construction activity closer to sensitive residential receptors. As described in the technical appraisals for LVIA and Noise and Vibration, there would be no change to the conclusions of the Draft ES as a result of the proposed DOL change and therefore no change in the context of the intra-project effects assessment. Due to the embedded measures described in the Draft ES, there are also no changes anticipated to the conclusions of the ICCI assessment.		

4.6 East Corridor: Partington HAGI

Table 4.6 Preliminary Environmental Assessment of DOL change at Partington HAGI

Environmental Topic	Baseline	Potential effects	Conclusion
Biodiversity	<p>No statutory or non-statutory designated sites for nature conservation interest are present within the proposed amended DOL at Partington HAGI, however Partington Nature Reserve LWS is present adjacent to the western boundary of this area, which remains unchanged from the Draft ES. Full details of the designated features of Partington Nature Reserve LWS are presented in Table 5.9 of the Draft ES.</p> <p>An additional area of approximately 0.5ha of cropland is included in the proposed amended DOL (north of HAGI option PH2), which has limited suitability for protected or notable species.</p>	<p>Embedded environmental measures included in the Draft ES such as 3. Minimise land take and micro-site, 4. Construction Environmental Management Plan (CEMP), 5. Sensitive vegetation removal, 8. Protection of retained habitats, 13. Sensitive lighting design, 15. Pre-construction update surveys would minimise impacts on the relevant ecological features identified within the baseline.</p> <p>No significant effects were identified in Section 5.10 of the Draft ES, or the HRA where relevant, for the relevant ecological features identified within the baseline. Considering the limited changes to the biodiversity baseline resulting from the proposed DOL change, the potential effects and the magnitude of change on the respective ecological features remains unchanged.</p>	<p>This DOL change would result in no changes to the assessment conclusions in Chapter 5 of the Draft ES, or the HRA where relevant, and there would be no new or different significant effects.</p>
Historic Environment	<p>There are no designated heritage assets recorded within the proposed amended DOL. The closest is the Grade II* Church of St George situated 500m to the north.</p> <p>There are no non-designated heritage assets within the proposed amended DOL, which comprises an existing road within an industrial area. Appendix 6A of the Draft ES concluded this area as having negligible archaeological potential due to extensive ground disturbance through modern industrial development.</p>	<p>The Grade II* listed Church of St George was not included in the scope of assessment in the Draft ES as it was considered that it would not be affected due to distance from the DOL and the presence of intervening development. The proposed amended DOL is situated further south than the original access route considered in the Draft ES, and therefore there would be no change with respect to this asset.</p> <p>The assessment of negligible archaeological potential presented in Appendix 6A of the Draft ES remains valid for this DOL change.</p>	<p>This DOL change would not result in a change to the Draft ES conclusions.</p>
Water Environment	<p>The proposed amended DOL would not alter the baseline conditions outlined within the Draft ES and with the minimal DOL changes proposed no additional interactions with water receptors have been identified.</p> <p>No statutory or non-statutory designated sites for nature conservation interest are present within the area of the proposed amended DOL which remains at very limited risk of surface water flooding and</p>	<p>No significant effects were identified in Section 7.9 of the Draft ES for the relevant water features identified within the baseline. The proposed DOL change is unlikely to alter the assessment given no additional effects on water features beyond those identified in the Draft ES are anticipated. The mitigation measures outlined in the Draft ES are considered applicable.</p> <p>Considering the limited changes to the baseline resulting from this DOL change, the potential effects</p>	<p>This DOL change would result in no changes to the assessment conclusions in Chapter 7 of the Draft ES, and there would be no new or different significant effects.</p>

Environmental Topic	Baseline	Potential effects	Conclusion
	within the River Mersey WFD surface water river catchment.	and the magnitude of change on the respective water features and flood risk remains unchanged. The WFD impact assessment for pipeline corridor laying remains Negligible following the implementation of the embedded environmental measures.	
Landscape and Visual Amenity	<p>Landscape: Common Lane lies outside of any defined LCA as shown in Figure 8.11 of the Draft ES. Scattered trees and shrub line either side of Common Lane.</p> <p>The changes to the DOL within the field within which PH2 would be located coincides with Mossland LCT.</p> <p>Visual: The closest visual receptors to the proposed DOL change along Common Lane are residential receptors at Carrington.</p>	<p>Landscape: Common Lane is an existing access and the proposed use of this as a construction route would give rise to incremental landscape effects which would not be uncharacteristic in the baseline landscape context. The Draft ES concluded a localised significant effect close to the construction activities associated with the PH2 HAGI, and the changes to the DOL in this location would not alter this assessment. There may be some minor pruning to trees either side of the track to create sufficient access room.</p> <p>Visual: The movement of construction vehicles travelling along Common Lane during the construction phase is likely to be screened by intervening built form and vegetation in views from the southern edge of Carrington.</p>	Landscape and Visual: There would be no change to the conclusions of the Draft ES.
Air Quality	The proposed access route on Common Lane and the new access onto the A6144 Manchester Road is not within 250m of sensitive human receptors. The construction dust assessment included in the air quality Draft ES chapter includes HAGI option PH2 which states that the sensitivity of the area (in relation to human receptors) is 'low' and therefore the proposed change to the DOL does not impact the air quality considerations.	The Draft ES concluded that there were no significant air quality impacts at the sensitive human receptors.	There would be no change to the conclusions of the Draft ES.
Noise and Vibration	The proposed access route along Common Lane is not within 250m of sensitive receptors.	Common Lane is an existing road; therefore no new construction noise or vibration effects are likely. No new effects when compared with the Draft ES.	There would be no change to the conclusions of the Draft ES.
Traffic and Transport	As part of this change it is proposed that the Common Lane access point would be used instead of the access via the A1 Road considered in the Draft ES. This avoids any interference with the construction of the Carrington Relief Road along the line of the A1 road.	There would be minimal change to the number of construction vehicle movements on the local highway network. No change would therefore result to the conclusions of the Draft ES, with a residual Minor Impact on the nearest receptor, RE8, the A6144 between Isherwood Road and Banky Lane.	There would be no change to the conclusions of the Draft ES.

Environmental Topic	Baseline	Potential effects	Conclusion
Ground Conditions	The proposed DOL change does not alter the baseline conditions outlined within the Draft ES, as it is within an area of existing industrial operation, although it is noted that.	No additional or different effects would result from the proposed change as this location is already considered to be on land which has a range of potentially contaminative land uses.	There would be no change to the conclusions of the Draft ES.
Agriculture and Soils	The land in the DOL considered in the Draft ES and within proposed amended DOL is brownfield, with the exception of the minimal increase to the area of soil and agricultural land required for the minor extension of the DOL to include an existing Electricity North West wooden pole line north of HAGI option PH2. This agricultural land is shown on provisional ALC mapping as urban, however adjacent land to the east is shown provisionally as Grade 2. No ALC survey has been completed in the affected field to date. The National Soil Map shows the soils are Turbary Moor (raised bog peat) and the proposed PH2 HAGI and land in the minor extension to the DOL discussed above are part of a larger peatland area known as Carrington Moss. Historical records indicate that agricultural land within the DOL considered in the Draft ES and land affected by the proposed amended DOL is potentially affected by contamination.	<p>The assessment in the Draft ES is a worst-case assessment for soils and agriculture, it assumes that the HAGI option in agricultural land (PH2) is permanently developed rather than the brownfield option (PH1). The assessment also assumes that deep peat is present.</p> <p>The area of soil, including peat, and BMV agricultural land (Grade 1, Grade 2, or Subgrade 3a) permanently affected is therefore unlikely to change. There is only minimal change to land and soils (including peat) temporarily affected due to the DOL change, and therefore there would be no change to the conclusions of the Draft ES.</p>	There would be no change to the conclusions of the Draft ES.
Land Use	The Partington Nature Reserve Trail is located adjacent to the Partington HAGI PH2 location.	No additional effects on the Partington Nature Reserve Trail over those identified in the Draft ES would arise as a result of the proposed change to the DOL. The nature reserve trail is a low sensitivity receptor and there would be a low magnitude of impact, leading to a negligible effect which is not significant.	There would be no change to the conclusions of the Draft ES.
People and Communities	The proposed change to the DOL is located within an area with previous industrial uses and plans for mixed development.	The change in access along Common Lane is a response to requests from the affected business community indicating a socio-economic preference and corresponding benefit which is assessed as minor. Although the small northerly extension to the proposed HAGI site (PH2) is on greenfield rather than brownfield land, it lies within a planning proposal for mixed development and within a planning policy allocation (New Carrington) for more than 5,000 housing units.	There is a minor benefit from use of Common Lane for site access as an alternative to proposals considered in the Draft ES. The minor greenfield extension to the north and south of the PH2 HAGI site is unlikely to make a practical difference as the land is already proposed for development. There would be no change to the conclusions of the Draft ES.

Environmental Topic	Baseline	Potential effects	Conclusion
Major Accidents and Disasters	The changes described in Section 3.7 for the Partington area do not alter the baseline, embedded measures or assessment of effects presented in the Draft ES for the Assessment of Major Accidents and Disasters. No significant Major Accidents and Disasters effects would arise.		
Climate Change – Greenhouse Gas Emissions	The baseline for the Greenhouse Gas Emissions (GHG) assessment is the national and sector carbon budgets therefore any minor changes to the DOL would not impact the baseline of the assessment. Changes to the DOL at Partington are minor and would result in no changes to the conclusions of significance within the Draft ES.		
Climate Change Resilience	The baseline for the Climate Change Resilience assessment is taken at a regional to local level and therefore the minor changes to the DOL do not impact the assessment. The changes at Partington would not affect the asset types (receptors) considered in the assessment and the embedded measures would be implemented as described in the Draft ES. There are no changes to the conclusions of significance within the Draft ES.		
Intra-Project Effects	The proposed amended DOL would not bring construction activity closer to sensitive residential receptors. As described in the technical appraisals for LVIA, Traffic and Transport and Noise and Vibration, there would be no change to the conclusions of the Draft ES as a result of the proposed DOL change and therefore no change in the context of the intra-project effects assessment. Due to the embedded measures described in the Draft ES, there are also no changes anticipated to the conclusions of the ICCI assessment.		

4.7 South Corridor: Vale Royal

Table 4.7 Preliminary Environmental Assessment of DOL change at Vale Royal

Environmental Topic	Baseline	Potential effects	Conclusion
Biodiversity	<p>No statutory designated sites for nature conservation interest are present within the area of the proposed amended DOL at Vale Royal. Weaver Valley/Newbridge Pool LWS and Heys Wood & the Riddings LWS non-statutory sites are present within the proposed amended DOL and both LWSs support w1f lowland mixed deciduous woodland HPI. These two LWSs form a contiguous area of woodland with Vale Royal Wood LWS and Model Farm Wood LWS which are located adjacent to the proposed amended DOL boundary. Woodland habitat within all four of these LWSs, which is either within or adjacent to the DOL change, is recorded on the Ancient Woodland Inventory (comprising all or part of the LWS). Full details of the designated features of these LWSs are presented in Table 5.9 of the Draft ES.</p> <p>Habitats identified within the DOL change comprise w1f lowland mixed deciduous woodland, w1h other woodland; mixed, g4 modified grassland, u1c developed land; sealed surface, r2b other rivers and streams. W1f lowland mixed deciduous woodland is considered likely to qualify as an HPI. The access route to the proposed trenchless crossing compound north of Vale Royal Drive would cross three sections of h2a native hedgerow, encompassing approximately 30m of hedgerow in total. These hedgerows are dominated by hawthorn and are therefore not considered to be “Important”⁸.</p> <p>The habitats present are suitable to support notable plant species, amphibians, reptiles, roosting and commuting/foraging bats, otter, water vole, badger, and other notable mammal species such as brown hare and hedgehog.</p> <p>The inclusion of a larger area of w1f lowland mixed deciduous woodland/Ancient Woodland within the proposed amended DOL is likely to include multiple trees that are suitable for roosting bats. However, as</p>	<p>Embedded environmental measures included in the Draft ES such as 3. Minimise land take and micro-site, 4. Construction Environmental Management Plan (CEMP), 5. Sensitive vegetation removal, 8. Protection of retained habitats, 12. Protection of watercourses, 13. Sensitive lighting design, 15. Pre-construction update surveys would minimise impacts on the relevant ecological features identified within the baseline.</p> <p>No significant effects were identified in Section 5.10 of the Draft ES, or the HRA where relevant, for the relevant ecological features identified within the baseline.</p> <p>Weaver Valley/Newbridge Pool LWS and Heys Wood & the Riddings LWS would be crossed using trenchless crossing methods, so there would be no temporary or permanent land take/land use change to these LWSs.</p> <p>Vale Royal Wood LWS and Model Farm Wood LWS were scoped out of assessed within the Draft ES due to being outside of the Zol for potential effects. Model Farm Wood LWS consist of habitat interest features only and remains located outside of the Zol for land take/land use change effects and is scoped out of further assessment.</p> <p>Vale Royal Wood LWS is cited as being a wildlife corridor, therefore potentially supports sensitive faunal and ornithological interest features, and is within the Zol for indirect disturbance effects due to increased noise, vibration, light and movement levels associated with the proposed additional trenchless crossing compound.</p> <p>The DOL change results in the proposed amended DOL lying adjacent to habitat within an LWS for an additional 1km of LWS boundaries, where habitat</p>	<p>This DOL change would result in no changes to the assessment conclusions in Chapter 5 of the Draft ES, or the HRA where relevant.</p> <p>The effect on Vale Royal Wood LWS was not assessed in the Draft ES due to being outside of the Zol. The magnitude of change due to increased noise, vibration, light and movement levels on this site would be very low, resulting in a negative effect that would be not significant on an ecological feature of County importance.</p> <p>There would be no other new or different significant effects.</p>

⁸ The Hedgerows Regulations 1997 set out criteria for determining whether a hedgerow qualifies as ‘important’ in terms of the legislation.

Environmental Topic	Baseline	Potential effects	Conclusion
	<p>noted above, these areas of woodland would be crossed using trenchless crossing methods, so there would be no direct impacts (i.e. tree removal) affecting this habitat or any roosting bats which may be present.</p>	<p>within these sites consists of w1f lowland mixed deciduous woodland HPI, of which approximate 500m of this adjacent habitat is recorded as Ancient Woodland.</p> <p>The Ancient Woodland and the LWSs would be protected by an appropriate stand-off distance (see embedded environmental measure 7. Protection of ancient/veteran trees and 8. Protection of retained habitats) such that they would not be affected by land take/land use change. Weaver Valley/Newbridge Pool LWS, Heys Wood & the Riddings LWS and Vale Royal Wood LWS are cited as being wildlife corridors. Embedded environmental measures such as 6. Maintaining habitat connectivity, 8. Protection of retained habitats, and 13. Sensitive lighting design would negate or minimise indirect disturbance effects on any sensitive faunal or ornithological features which potentially utilise the wildlife corridors close to construction areas.</p> <p>Trenchless crossing methods for the River Weaver and its tributary were assessed within the Draft ES. The only change to the proposed approach is that the crossing may now be separated into two distinct crossings rather than one single crossing of the River Weaver and its tributary as assessed in the Draft ES. Despite this change, there would be no change in impacts, as the crossing locations for both watercourse features remain in a very similar geographical area. It is acknowledged that the proposed amended approach may increase the duration of construction activities in proximity to the River Weaver compared to what was assessed in the Draft ES. A longer construction period may lead to an extended period of noise and vibration effects on fish. Nonetheless, the embedded environmental measures (2. Standard good practice, 4. CEMP, 12. Protection of watercourses, 13. Sensitive lighting design, and 15. Pre-construction update surveys) are considered sufficient to negate or minimise indirect disturbance from noise and vibration on fish.</p>	

Environmental Topic	Baseline	Potential effects	Conclusion
		<p>Considering the measures set out above, and the assessment within the Section 5.10 of the Draft ES, the potential effects and the magnitude of change on the respective ecological features due to this DOL change remains unchanged. The effect on Vale Royal Wood LWS is considered to be consistent with that assessed for Weaver Valley/Newbridge Pool LWS and Heys Wood & the Riddings LWS, such that the magnitude of change due to increased noise, vibration, light and movement levels would be very low, resulting in a negative effect that would be not significant on an ecological feature of County importance for this LWS.</p>	
<p>Historic Environment</p>	<p>There are two designated heritage assets located within the area of the WCML and River Weaver crossing. Of these, the Grade II listed Cattle Tunnel (NHLE 1228362) passing through a railway embankment is located within the DOL and the Grade II listed Railway Viaduct (NHLE 1160610) is immediately to the south. A site inspection of the Cattle tunnel was undertaken on 21 January 2025 to inform this assessment. It was noted that the asset was located in dense woodland, with very restricted views available. It was not accessible through public right of way and could not be directly accessed due to unsuitable ground conditions.</p> <p>A HER entry (MCH8317) relating to existing railway cutting also extends to within the DOL and is located immediately adjacent to the western proposed access skirting the field boundary. Appendix 6A of the Draft ES assessed the area containing the proposed amended DOL to have medium to high archaeological potential for the remains of post medieval boundaries and ridge and furrow. The Geoarchaeological DBA assessed this area as having high potential due to its proximity to the River Weaver.</p> <p>The LiDAR survey undertaken as part of the DBA (Appendix 6A) did not include the proposed amended DOL area.</p>	<p>The Draft ES concluded there to be a minor adverse effect on the Cattle Tunnel which would not be significant. The proposed amended DOL are further north than those considered in the Draft ES and would involve an additional microtunnel exit compound approximately 80m to the north of the Cattle Tunnel. As there is woodland within the intervening area, this would not lead to a reassessment of effects for this asset. This was confirmed through the site inspection walkover on 21 January 2025.</p> <p>Additional LiDAR and aerial photography surveys would be required to understand the baseline in the proposed amended DOL. Any potential effects to as-yet unknown archaeological remains can however be mitigated through a programme of archaeological excavation agreed with relevant stakeholders as is defined in the WSI produced for the Draft ES (Appendix 6G).</p>	<p>It is not deemed likely that the proposed DOL change would result in significant effects to known heritage assets but may require additional assessment to the Draft ES. Additional LiDAR and aerial photography analysis would be required, the results of which may lead to subsequent additional mitigation measures which would be defined in the Final ES.</p>

Environmental Topic	Baseline	Potential effects	Conclusion
<p>Water Environment</p>	<p>The proposed DOL change would not alter the baseline conditions outlined within the Draft ES and no additional interactions with water receptors have been identified.</p> <p>No statutory designated sites for nature conservation interest are present within the area of the proposed amended DOL at Vale Royal. However, the Weaver Valley / Newbridge Pool LWS and Heys Wood and The Riddings LWS non-statutory sites are present within and adjacent to the DOL change boundary. Woodland habitat within these LWSs is also recorded as ancient woodland. The LWS sites consists of the River Weaver and / or several of its tributaries and contains lowland mixed deciduous woodland, wet woodland, veteran and ancient trees, neutral grassland, marshy grassland, coastal and floodplain grazing marsh UK BAP priority habitat, fens, swamps, bogs and reedbeds.</p> <p>Appendix 7B of the Draft ES contains details of the water dependent nature conservation sites within the Zol. Table 7B.6 includes all of the nature conservation sites with a hydrological or hydrogeological component to their designation within the Zol. The sites are located downstream of the proposed amended DOL and there is likely to be a hydrological connection. However, proposed access tracks from the A556 largely follow pre-existing tracks, field boundaries and are outside the boundaries of LWSs. In addition, the River Weaver crossing is proposed as a trenchless crossing and the DOL change at Vale Royal and construction compounds do not intersect with the Weaver Valley / Newbridge Pool LWS.</p> <p>The proposed amended DOL remains outside of the area at risk of fluvial flooding and the potential for groundwater flooding remains mixed. It includes surface water flow paths but crossing compounds avoid these. The proposed amended DOL remains within the River Weaver WFD surface water river catchment.</p>	<p>Embedded environmental measures included in the Draft ES would minimise impacts on the relevant water features identified within the baseline. Embedded environmental measures such as C-1. Construction Environmental Management Plan (CEMP), C-2. Drainage Water Management Plan (DWMP), C-3. Timing of works and C-4 Diversion and reinstatement of existing drainage networks would manage water and silt runoff.</p> <p>Stand-off distances from watercourses would apply and subsurface infrastructure would be designed to minimise disruption to existing subsurface flow pathways, in accordance with embedded mitigation D-5: Management of subsurface flow pathways.</p> <p>No significant effects were identified in Section 7.9 of the Draft ES for the relevant water features identified within the baseline. The DOL change is unlikely to alter the assessment given the distance between the proposed amended DOL and the water features, and no additional effects on water features beyond those identified in the Draft ES are anticipated. The mitigation measures outlined in the Draft ES are considered applicable.</p> <p>Considering the limited changes to the baseline resulting from this DOL change and the minor works associated with temporary access tracks, the potential effects and the magnitude of change on the respective water features and flood risk remains unchanged.</p> <p>The WFD impact assessment for temporary trackways and construction compounds remains Negligible following the implementation of the embedded environmental measures.</p>	<p>This DOL change would result in no changes to the assessment conclusions in Chapter 7 of the Draft ES and there would be no new or different significant effects.</p>

Environmental Topic	Baseline	Potential effects	Conclusion
Landscape and Visual Amenity	<p>Landscape: The proposed amended DOL considered as part of the change at Vale Royal coincides with LCA 5b: Frodsham to Northwich (access routes) and LCA 15b Mid Weaver Valley (access routes and trenchless crossing compound). The junctions onto the A556 for the proposed access tracks would utilise existing access points. The eastern proposed access through Model Farm would cross a single hedgerow, whilst the western access route would cross two hedgerows. There is one Category A tree within the proposed amended DOL, together with Category B woodland and groups of trees and Category C groups of trees to the east and west of Vale Royal Drive. Hey's Wood to the southwest of the railway and Vale Royal Wood to the north east of the amended DOL are both designated Ancient Woodland.</p> <p>Visual: The closest visual receptors to the proposed DOL change at Vale Royal are residential receptors on the southern edge of Hartford and recreational receptors using the Weaver Way.</p>	<p>Landscape: The Draft ES concluded a localised Significant effect during the construction phase within LCA 5b: Frodsham to Northwich and along access routes due to the localised removal of hedgerow and movement of traffic. The alternative access routes within the proposed amended DOL at Vale Royal would give rise to a comparable assessment, extending across a slightly increased geographical area of the LCA.</p> <p>In respect of LCA 15b: Mid Weaver Valley, the presence of the alternative trenchless crossing compound north of Vale Royal Drive would give rise to a localised medium-high level of landscape change within the fields within which it is sited during the construction phase. The visual influence would be reduced by the presence of clough woodland which would remain undisturbed, and effects tempered by the aural influence of trains along the adjacent railway. In respect of landscape elements and LCA within and adjacent to the trenchless crossing construction compound, the magnitude of change would be high, occurring within a high-medium sensitivity receptor and giving rise to locally major to major/moderate and significant effects. Elsewhere within the majority of the wider LCA, effects would be moderate and not significant to no effect. The amended DOL would need to account for an adequate buffer in accordance with NPPF to ensure no damage to Ancient Woodland occurred.</p> <p>Visual: Construction traffic using the proposed access routes along and from the A556 may be discernible in glimpsed winter views from properties on the southern edge of Hartford (along Landswood Park, Eaglesfield, The Paddock and School Lane) during the construction phase. Views would be filtered by layers of tree cover along the A556 and would be observed in context with existing vehicular movements along the A556. The magnitude of change is likely to be very low, which when combined with the high sensitivity receptor group, would give rise to a minor and not significant temporary effect during the construction phase.</p>	<p>Landscape: There would be no change to the assessment as concluded in the Draft ES for LCA 5b: Frodsham to Northwich. In respect of LCA 15b: Mid Weaver Valley, the proposed amended DOL considered as part of this change would give rise to a localised and short-term (temporary) major to major/moderate and significant effect during the construction phase, which would represent a change from the overall moderate and not significant effect concluded in the Draft ES. All land would be reinstated post construction and long-term effects would be not significant. There would be no new or different significant effects with regards to trees.</p> <p>Visual: There would be no change to the overall assessment of visual effects concluded in the Draft ES for residents at Hartford and users of the Weaver Way.</p>

Environmental Topic	Baseline	Potential effects	Conclusion
		There would be no views of the proposed trenchless crossing compound for users of the Weaver Way with dense, intervening tree cover on the western bank of the River Weaver limiting views.	
Air Quality	The proposed amended DOL considered as part of this change includes a new access route which runs through a farmyard off the A556 introducing a new sensitive human receptor at Model Farm.	The Draft ES concluded that there were no significant air quality impacts at any sensitive human receptors in this location. Construction vehicle movements associated with the access route through Model Farm would be minimal and would not trigger the requirement for detailed air quality modelling. Therefore, potential effects would not be substantially different to those considered in the Draft ES.	There would be no change to the conclusions of the Draft ES.
Noise and Vibration	The proposed change to the DOL at Vale Royal is not substantially different to the previously assessed situation with respect Noise & Vibration. The farm to the north is over 300m from the proposed trenchless crossing compound north of Vale Royal Drive. One of the proposed access routes from the A556 runs through the farmyard at Model Farm.	Potential effects would not be substantially different to those considered in the Draft ES. The potential for any adverse impacts due to the proposed access routes from the A556 is considered unlikely considering proximity to the background noise from the A556 but will be assessed and mitigated where necessary should this option be taken forward for consideration in the Final ES.	Changes to the conclusions of the Draft ES are considered unlikely.
Traffic and Transport	The DOL change includes two alternative construction access points from the A556.	The proposed DOL change would lead to additional trips for construction traffic on the A556. The level of additional trips would not lead to any step change in impacts on the nearest receptors.	There would be no change to the conclusions of the Draft ES.
Ground Conditions	The proposed amended DOL considered as part of this change does not alter the baseline conditions outlined within the Draft ES as the land use remains in agricultural use or on land which potentially contaminative uses have not been identified.	No additional or different effects would result from the proposed change.	There would be no change to the conclusions of the Draft ES.
Agriculture and Soils	ALC survey has been completed for the DOL considered in the Draft ES, however the reporting of the survey is ongoing at the time of writing. Based on provisional ALC mapping, the DOL considered in the Draft ES and the amended DOL considered as part of this change run through Grade 3 land i.e., land which has the potential to be BMV land (Grade 3 is an old classification which includes Subgrades 3a and 3b, of which 3a is defined as BMV land). The National Soil Map shows the land within the amended DOL considered as part of this change encounters Salop soils; the DOL considered in the Draft ES would also encounter Newport 1 soils to	The change to the area of soil and BMV agricultural land (Grade 1, Grade 2, or Subgrade 3a) affected is unlikely to be sufficient to change the conclusions of the Draft ES.	There would be no change to the conclusions of the Draft ES.

Environmental Topic	Baseline	Potential effects	Conclusion
	the east of the railway. Peat is not expected in the DOL considered in the Draft ES or the amended DOL considered as part of this change. The DOL in the Draft ES and the amended DOL considered as part of this change both avoid temporary disturbance to soils in areas designated as LWS and Ancient Woodland through the use of trenchless crossings.		
Land Use	<p>Both the DOL considered within the Draft ES, and the amended DOL considered as part of this change run through the Vale Royal Minerals Safeguarding Area (MSA) for sand and gravel in this location.</p> <p>There are no identified receptors for tourism or recreation in this area.</p>	The amount of land affecting the MSA would be similar for both the DOL considered in the Draft ES and the amended DOL considered as part of this change. No change would therefore result to the conclusions of Appendix 14A of the Draft ES, where the Vale Royal MSA is scoped out of the assessment.	There would be no change to the conclusions of Appendix 14A of the Draft ES, where the Vale Royal MSA is scoped out of the assessment.
People and Communities	The proposed DOL change includes a second crossing methods of crossing of the WCML and the River Weaver and additional land to the north including through agricultural land and the farmyard at Model Farm.	The proposed access to the trenchless crossing compound north of Vale Royal Drive includes an option avoiding Model Farm and reducing impacts such as inconvenience and disruption.	There is potential for an adverse effect for one access option from the A556 towards the proposed additional trenchless crossing compound but effects can be mitigated and there is no change to the conclusions of the Draft ES.
Major Accidents and Disasters	The changes described in Section 3.8 for the Vale Royal area do not alter the baseline, embedded measures or assessment of effects presented in the Draft ES for the Assessment of Major Accidents and Disasters. No significant Major Accidents and Disasters effects would arise.		
Climate Change – Greenhouse Gas Emissions	The baseline for the Greenhouse Gas Emissions (GHG) assessment is the national and sector carbon budgets therefore any minor changes to the DOL would not impact the baseline of the assessment. The proposed changes at Vale Royal relate to the construction technique for the trenchless crossings. All types of trenchless crossings result in lower GHG emissions compared to trenched. There are no changes to the conclusions of significance within the Draft ES.		
Climate Change Resilience	The baseline for the Climate Change Resilience assessment is taken at a regional to local level and therefore the minor changes to the Limits of Deviation do not impact the assessment. The changes at Vale Royal would not affect the asset types (receptors) considered in the assessment and all types of trenchless crossings are currently considered. The embedded measures would be implemented as described in the Draft ES. There are no changes to the conclusions of significance within the Draft ES.		
Intra-Project Effects	Although the proposed amended DOL would bring construction activity closer to a sensitive residential receptor, the farm to the north remains over 300m from the proposed trenchless crossing compound location and therefore changes to the conclusions of the Draft ES are considered unlikely. As per the LVIA technical appraisal in this table, there would be no change to the conclusions of the Draft ES as a result of the proposed DOL change. Therefore, no change in the context of the intra-project effects assessment is anticipated. Due to the embedded measures described in the Draft ES, there are also no changes anticipated to the conclusions of the ICCI assessment.		

4.8 Environmental mitigation areas

Table 4.8 Preliminary Environmental Assessment of DOL change at environmental mitigation areas

Environmental Topic	Baseline	Potential effects	Conclusion
Biodiversity	These areas of land have been identified as locations for specific habitat creation and/or enhancement measures, intended to mitigate potential negative effects of the Project on important ecological features (species, habitats, and/or sites) as identified in the Draft ES. These areas typically consist of existing habitats of negligible to local ecological importance (e.g. cropland or modified grassland) or features with higher importance that would be subject to enhancement of the existing habitat (e.g. enhancing the quality of a watercourse to increase carrying capacity for water voles). Embedded environmental measures included in the Draft ES, including 15 – Pre-construction update surveys and 4 – Construction Environmental Management Plan , would ensure that any existing sensitive ecological features would be identified and appropriately protected. Mitigation measures to be implemented in these areas would be detailed within the Final ES, and requirements for habitat creation/enhancement and monitoring would be detailed within the Outline LEMP at the Final ES stage. As such no additional negative effects are anticipated to occur due to the extension of the DOL at these locations.		
Historic Environment	The proposed DOL change to accommodate additional mitigation areas are all located within areas covered by the assessments in the Draft ES and the baseline presented in Appendix 6A.	No potential effects are anticipated resulting from the environmental mitigation areas.	The proposed additional environmental mitigation areas would not lead to any changes to the Draft ES assessment or the baseline set out in Appendix 6A of the Draft ES. No further baseline surveys are required as a result of the environmental mitigation areas.
Water Environment	The proposed DOL changes to accommodate the additional mitigation areas are minor in all cases and do not alter the baseline conditions outlined within the Draft ES and no additional interactions with water receptors have been identified.	The potential effects and the magnitude of change on the respective water features and flood risk remains unchanged. In addition, the additional mitigation areas would not change the WFD impact assessment since they are not specifically associated with the water environment.	This DOL change would not result in any changes to the assessment conclusions in Chapter 7 of the Draft ES and there would be no new or different significant effects.
Landscape and Visual Amenity	<p>A) Frodsham Marshes: LCA 4a Frodsham, Helsby and Lordship Marshes and recreational visual receptors using NCR 5.</p> <p>B) Central Hub: LCA 5d Whitley and Comberbach.</p> <p>C) Clockface HAGI: LCA FF4 Bold Heath.</p> <p>D) Pendlebury Brook: LCA EF1 Elton Head Hall Farm and residential visual receptors in Rainhill.</p> <p>E) Acton Bridge: LCA 15c Lower Weaver Valley and recreational visual receptors using the Cheshire Ring Canal Walk/Trent and Mersey Canal Walk.</p> <p>There are no visual receptors identified and assessed in the Draft ES for which the changes to the DOL at locations B and C would give rise to visual effects.</p>	<p>A) Frodsham Marshes: The potential landscape and visual effects are anticipated to be very small in scale and would not alter the assessment of effects as concluded in the Draft ES for these receptor groups.</p> <p>B) Central Hub: The likely environmental mitigation measures which would be implemented within the area of DOL change (creation of woodland, grassland and ponds) would contribute to three of the published Landscape Management Guidelines⁹ for LCA 5d which relate to these habitats. Whilst these may give rise to localised beneficial landscape effects within LCA 5d, they are not of a scale that would alter the overall assessment of landscape effects for this receptor unit.</p>	The proposed DOL changes and associated additional environmental mitigation within these areas would not lead to any changes to the overall landscape and visual assessments concluded in the Draft ES for the identified receptors.

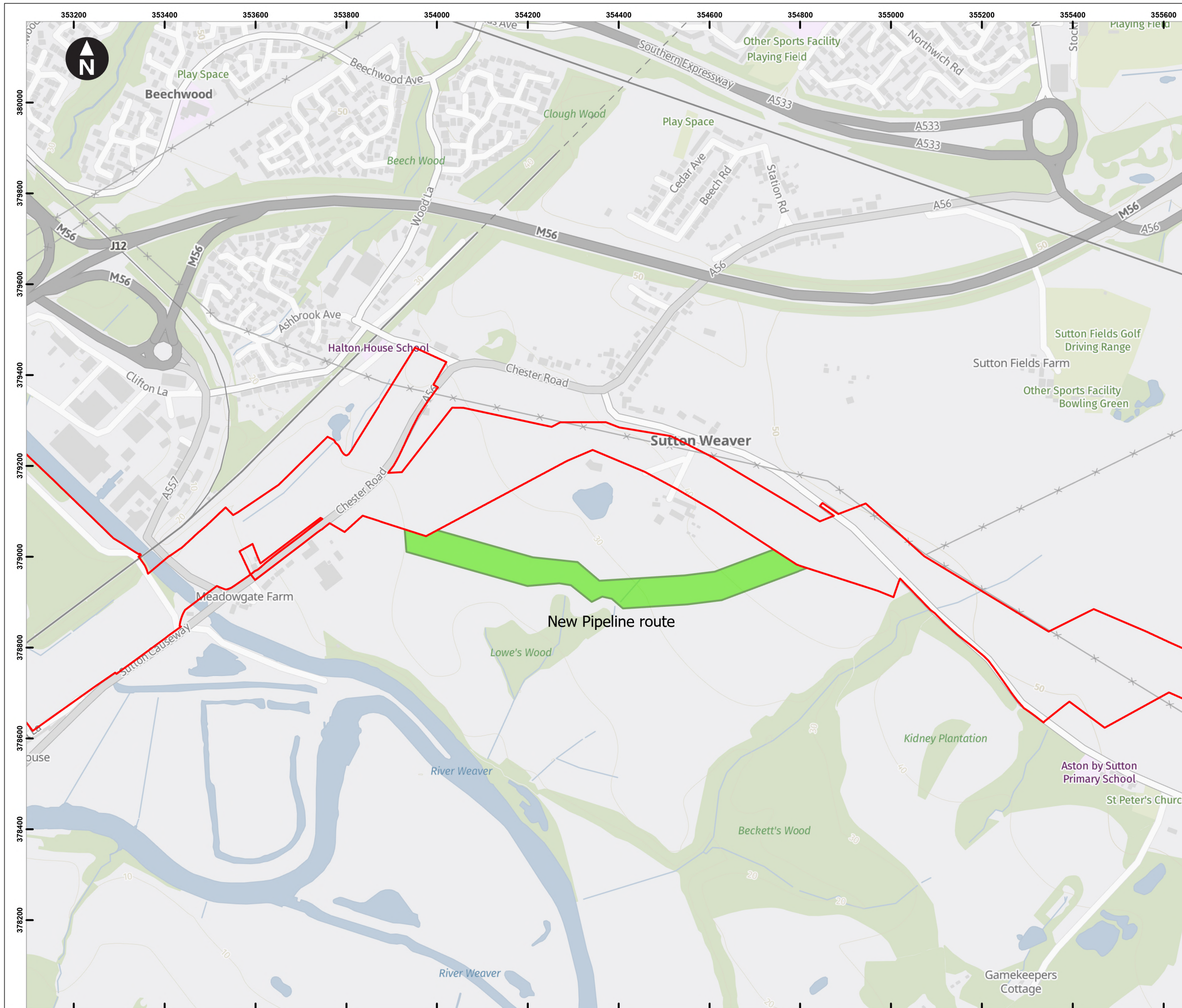
⁹ Cheshire West and Chester Council (2016). A Landscape Strategy for Cheshire West and Chester Borough. (online) Available at: <https://www.cheshirewestandchester.gov.uk/residents/planning-and-building-control/total-environment/local-landscape-character-assessment-landscape-strategy-2016>

Environmental Topic	Baseline	Potential effects	Conclusion
		<p>C) Clockface HAGI: LCA FF4 Bold Heath. The provision of arable field margin habitat within the area of DOL change would compensate for that lost within the receptor unit and would not alter the overall assessment of landscape effects for LCA FF4.</p> <p>D) Pendlebury Brook: The potential landscape and visual effects are anticipated to be very small in scale and would not alter the assessment of effects as concluded in the Draft ES for these receptor groups.</p> <p>E) Acton Bridge: The environmental measures proposed within the DOL change focus on habitat management which would be very small in scale and therefore would not alter the overall assessment of landscape and visual effects for the identified receptors.</p>	
Air Quality	The baseline for the air quality assessment is taken at a regional to local level, and therefore the minor changes to the DOL would not impact the assessment. Provided the mitigation measures included in Table 9.7 of the Draft ES are incorporated, no significant air quality effects are anticipated.		
Noise and Vibration	<p>A) Frodsham Marshes Receptor (Travellers' camp) approximately 250m away from northern area on Hare's Lane.</p> <p>B) Central Hub - no new receptors have been identified</p> <p>C) Clock Face – this change would bring the DOL slightly closer to receptors</p> <p>D) Pendlebury Brook – no new receptors have been identified</p> <p>E) Acton Bridge – no new receptors have been identified</p>	<p>A) Unlikely to give rise to significant effects. Potential for short term noise effects while mitigation is constructed.</p> <p>B) Central Hub –no new effects</p> <p>C) Clock Face – nature of activity unlikely to give rise to adverse noise effects</p> <p>D) Pendlebury Brook – no new effects</p> <p>E) Acton Bridge – no new effects</p>	<p>A) Minor potential adverse impacts on receptors during construction works, should be controlled through application of noise management plan.</p> <p>No other changes to the conclusions of the Draft ES.</p>
Traffic and Transport	Due to the nature of the proposed changes, there would be no change to the conclusions presented in the Draft ES.		
Ground Conditions	Due to the nature of the proposed changes, there would be no change to the conclusions presented in the Draft ES.		
Agriculture and Soils	The proposed changes to the DOL would result in the permanent loss of small areas of agricultural land when compared to that considered in the Draft ES. Agricultural Land Classification (ALC) survey has been completed for the DOL considered in the Draft ES at Frodsham Marshes, the Central Hub, Clockface HAGI, and in the vicinity of Pendlebury Brook, however at the time of writing ALC reporting is ongoing and only provisional ALC grades are	There would be a change to the area of soil and agricultural land permanently affected. The changes would potentially increase the area of best and most versatile (BMV) agricultural land (Grade 1, Grade 2, or Subgrade 3a) affected, however given the small areas involved, this is unlikely to be sufficient to change the conclusions of the Draft ES. In relation to soils, the change of land use from agricultural to wildlife habitat would be expected to result in neutral or positive effects on soils (e.g., in relation to	There would be no change to the conclusions of the Draft ES.

Environmental Topic	Baseline	Potential effects	Conclusion
	<p>available. The land affected has the potential to include BMV land.</p> <p>The proposed change to the DOL at Acton Bridge does not affect agricultural land.</p>	<p>improvements to soil health by the reduction in soil disturbance or soil damage caused by farm vehicles, tilling etc., which may in turn improve soil functions). However, given the small areas involved, the conclusions of the Draft ES are not expected to change significantly.</p>	
Land Use	<p>The only environmental mitigation area which would affect a Land Use receptor would be at Acton Bridge, where the land introduced would be within the Acton Bridge MSA for Sand and Gravel.</p>	<p>The amount of land affecting the MSA would be similar for both the previous DOL and the proposed change with a high magnitude of adverse change occurring on the Acton Bridge MSA which is a medium sensitivity receptor. This would result in a major adverse impact, which would be significant, during the construction and operational phases.</p>	<p>There would be no change to the conclusions of the Draft ES.</p>
People and Communities	<p>The proposed changes to the DOL reflect specific features of local habitats, land use and management</p>	<p>Changes in areas within the DOL and to land use and management practices are beneficial to nature (e.g. field margins, water voles) and/or infrastructure (telecoms and flood defence) and lead to corresponding socio-economic benefits for communities.</p>	<p>There is likely a minor beneficial effect from the proposed changes to the DOL and associated land management, but no change would result to the conclusions of the Draft ES.</p>
Major Accidents and Disasters	<p>The changes described in Section 3.9 for the Environmental Mitigation areas across the scheme do not alter the baseline, embedded measures or assessment of effects presented in the Draft ES for the Assessment of Major Accidents and Disasters. No significant Major Accidents and Disasters effects would arise.</p>		
Climate Change – Greenhouse Gas Emissions	<p>The baseline for the Greenhouse Gas Emissions (GHG) assessment is the national and sector carbon budgets therefore any minor changes to the DOL would not impact the baseline of the assessment. Changes in the LOD to accommodate environmental mitigation areas would not result in any additional GHG emissions and therefore there are no changes to the conclusions of significance within the Draft ES.</p>		
Climate Change Resilience	<p>The baseline for the Climate Change Resilience (CCR) assessment is taken at a regional to local level and therefore the minor changes to the DOL would not impact the assessment. The CCR assessments considers the resilience of the Project assets, whereas the changes to the environmental mitigation areas are alterations to the environment. The resilience of the environmental mitigation areas are considered within the In-Combination Climate Impacts (ICCI) assessment contained in the environmental topic chapters and the alterations to the mitigation areas would not change the conclusions of the ICCI assessment as the embedded measures would be implemented as described in the Draft ES.</p>		
Intra-Project Effects	<p>No change to the conclusions presented in the Draft ES.</p>		

5. Summary

- 5.1.1 This Draft ES addendum has presented a high-level environmental review of the proposed changes to the design of the Project where these relate to increases to the DOL, as described in **Section 3**.
- 5.1.2 As described in **Section 4**, whilst some of the proposed changes to the DOL may result to minor changes to the magnitude of certain effects, in the majority of cases the proposed changes would not lead to any new or different significant effects to those identified in the Draft ES for any of the technical topics; the exceptions to this where new or different significant effects arise are noted below:
- **Historic Environment:**
 - ▶ The proposed DOL change at Sutton Weaver would reduce potential setting impacts on Grade I listed Sutton Hall from moderate to minor, and therefore from significant to not significant.
 - ▶ The proposed DOL change at Vale Royal is considered unlikely to result in significant effects to known heritage assets but may require additional assessment to that presented in the Draft ES to confirm this. Additional LiDAR and aerial photography analysis would be required, the results of which may lead to subsequent additional mitigation measures which would be defined in the Final ES.
 - **Landscape and Visual Amenity:**
 - ▶ The proposed DOL change at Sutton Weaver would result in a reduction in the number of high sensitivity residential properties subject to a significant visual effect from the Project, from 11 to 5. The length of section of the National Cycle Route (NCR)R 5 along which users would experience significant visual effects would also reduce from a 4km section to a 3.1km section.
- 5.1.3 As the design becomes finalised, prior to the DCO Application, further update and refinement of the embedded environmental measures, where required, will inform the environmental assessments presented in the Final ES.



Key

- Draft Order Limits at Stage 3 Statutory Consultation
- Additional land added since Stage 3 Statutory Consultation

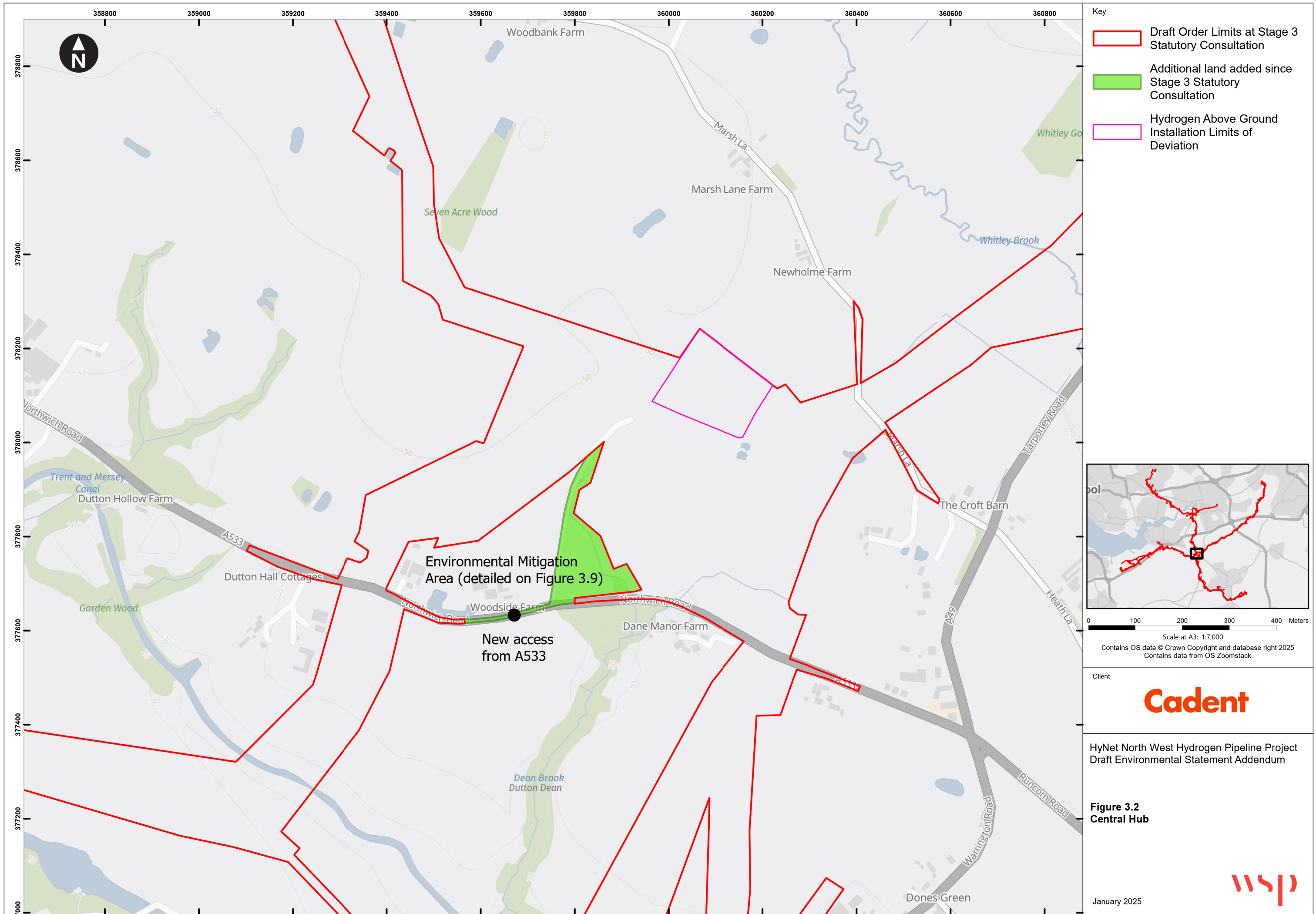


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Figure 3.1
West Corridor: Sutton Weaver



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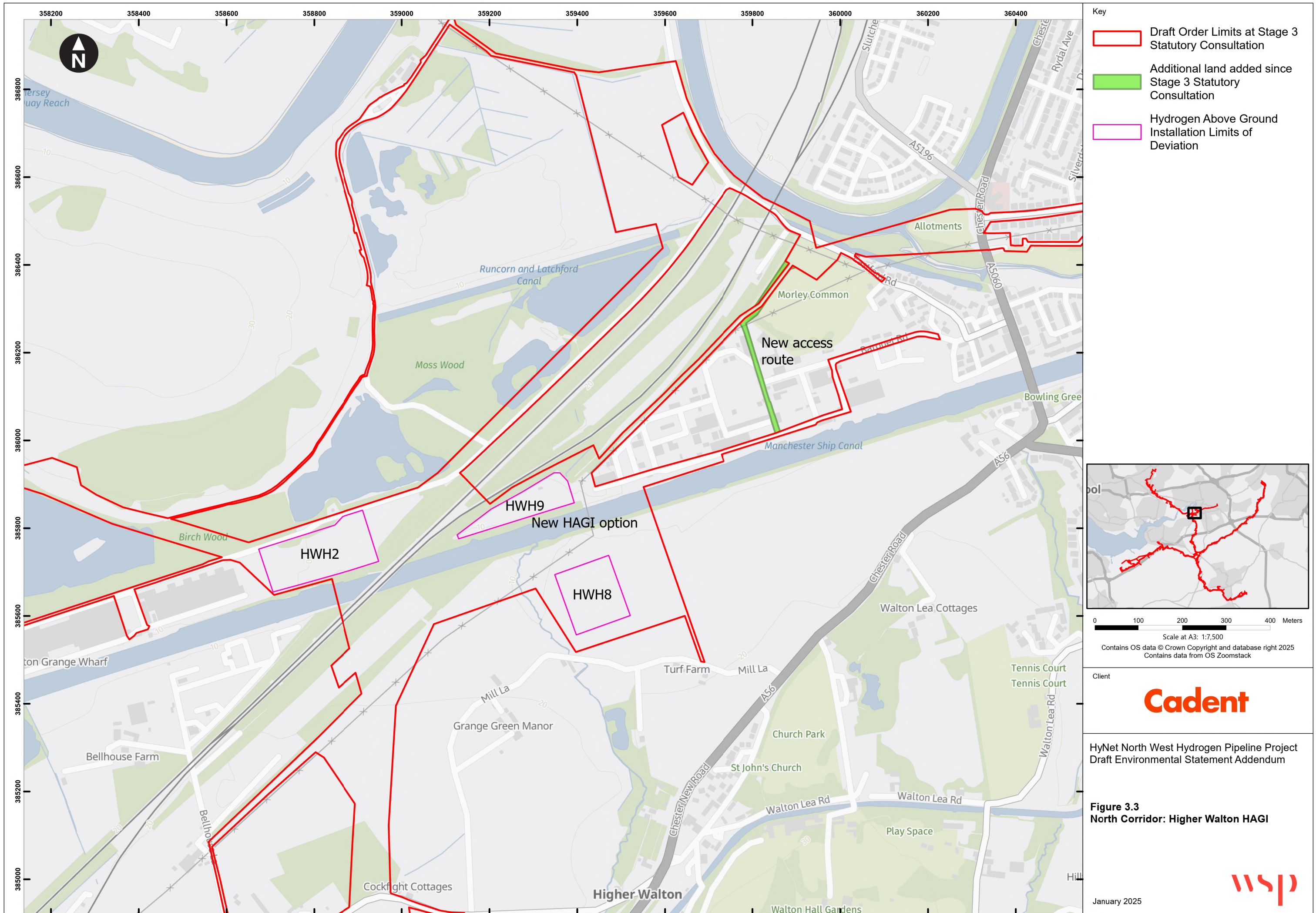
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**Figure 3.2
Central Hub**

January 2025





- Key
- Draft Order Limits at Stage 3 Statutory Consultation
 - Additional land added since Stage 3 Statutory Consultation
 - Hydrogen Above Ground Installation Limits of Deviation

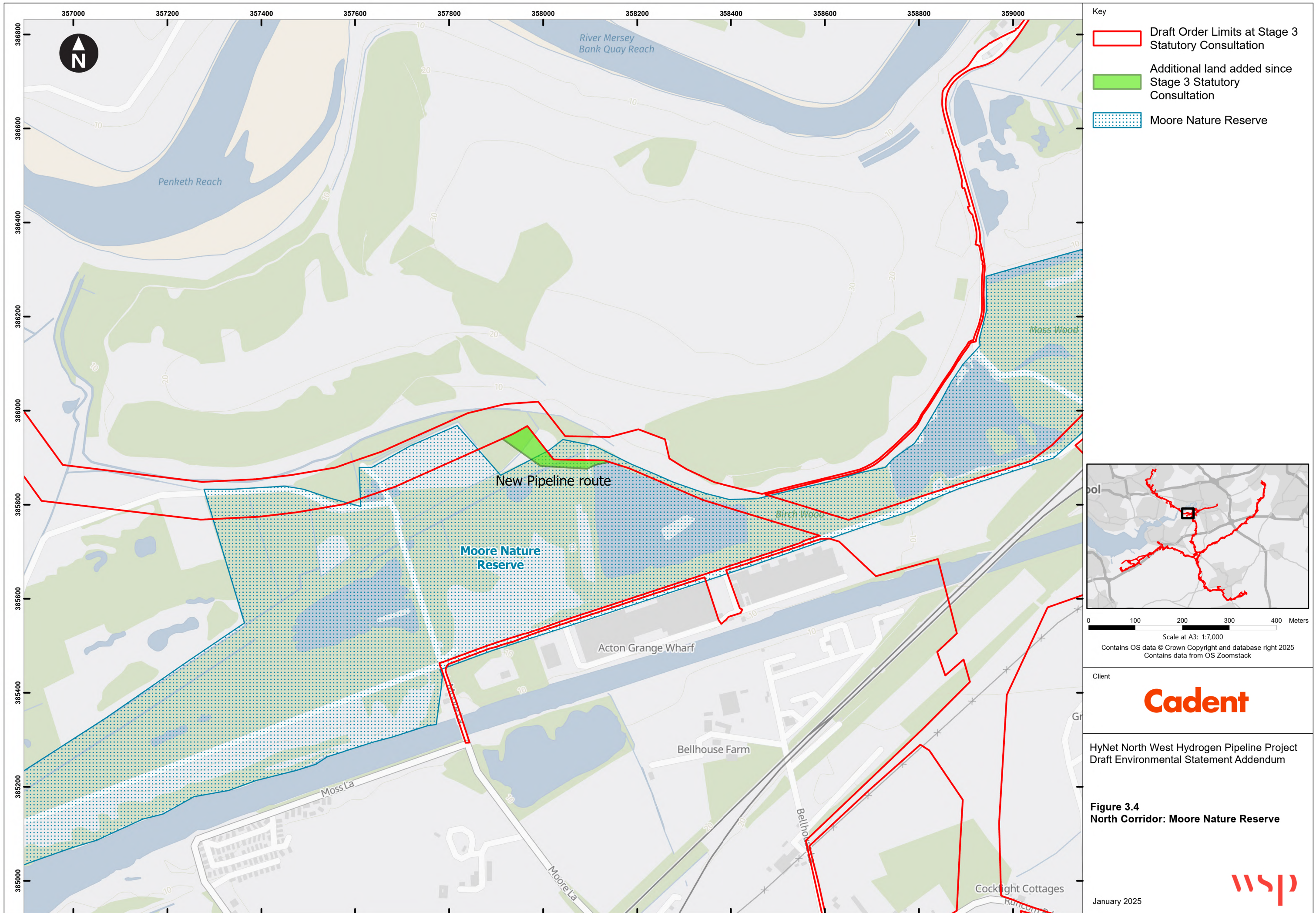


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Figure 3.3
North Corridor: Higher Walton HAGI

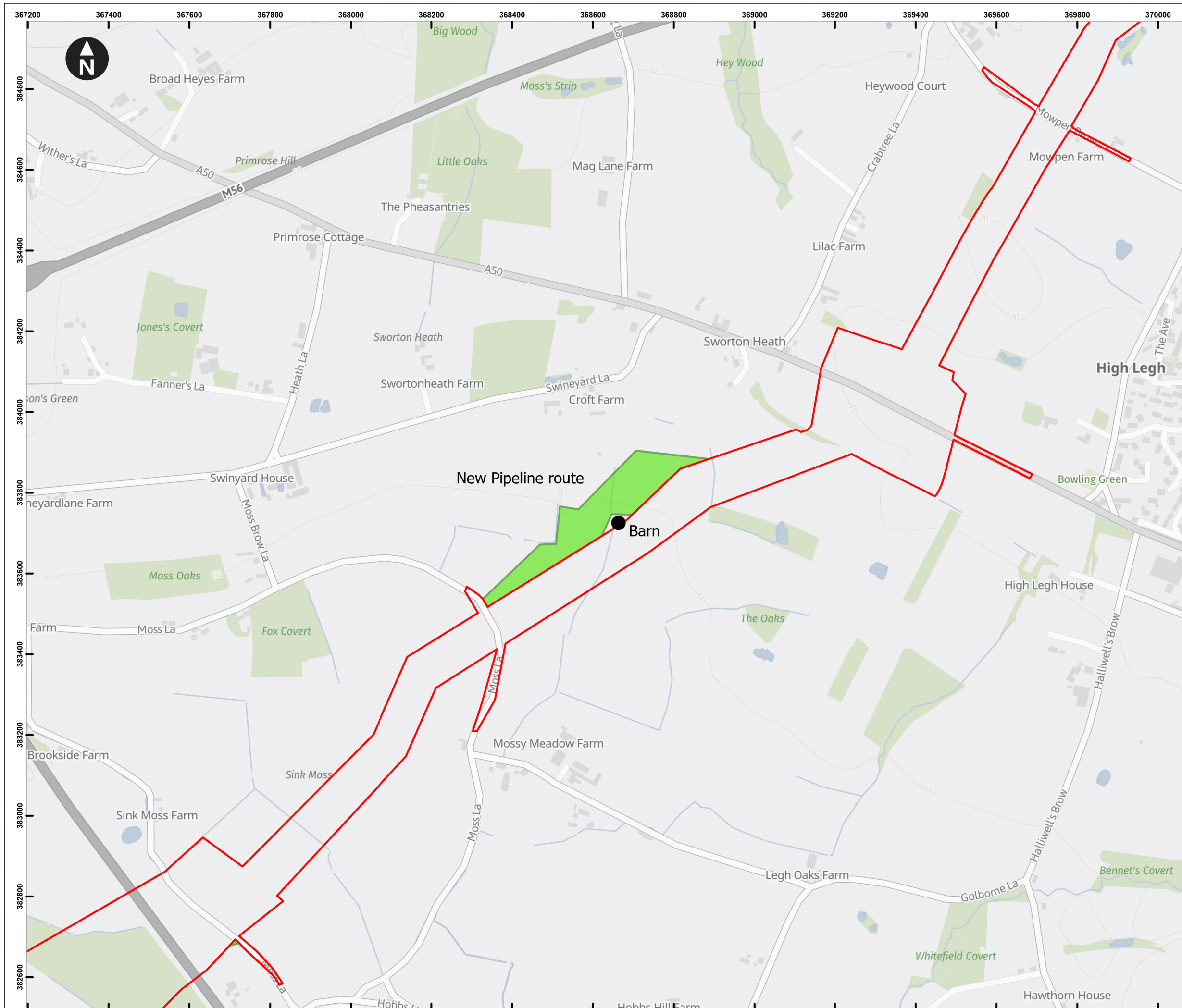


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Figure 3.4
North Corridor: Moore Nature Reserve



Key

-  Draft Order Limits at Stage 3 Statutory Consultation
-  Additional land added since Stage 3 Statutory Consultation



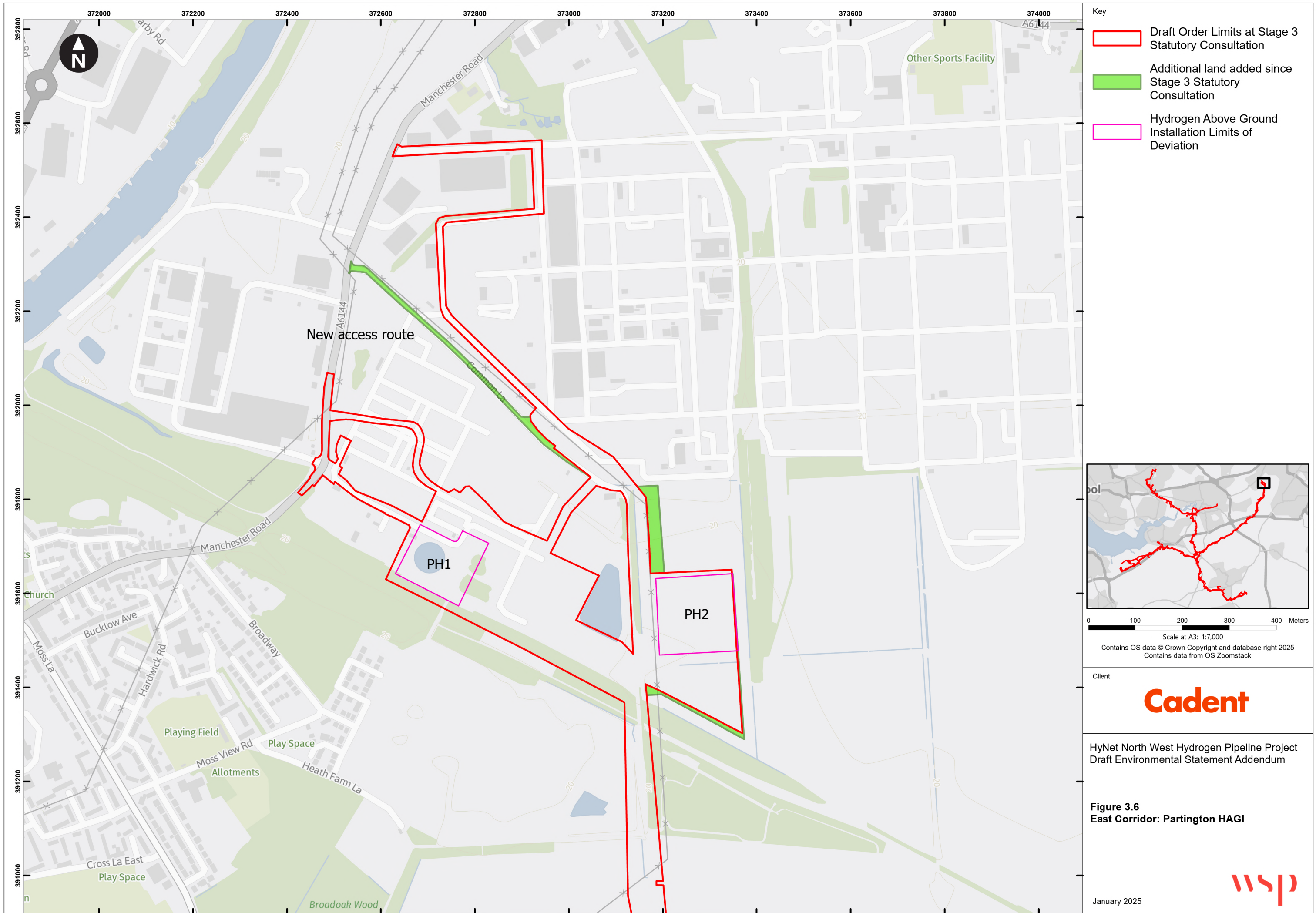
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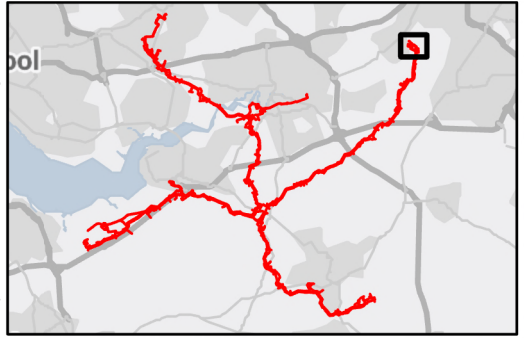

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Figure 3.5
 East Corridor: West of High Legh

January 2025

- Key
- Draft Order Limits at Stage 3 Statutory Consultation
 - Additional land added since Stage 3 Statutory Consultation
 - Hydrogen Above Ground Installation Limits of Deviation

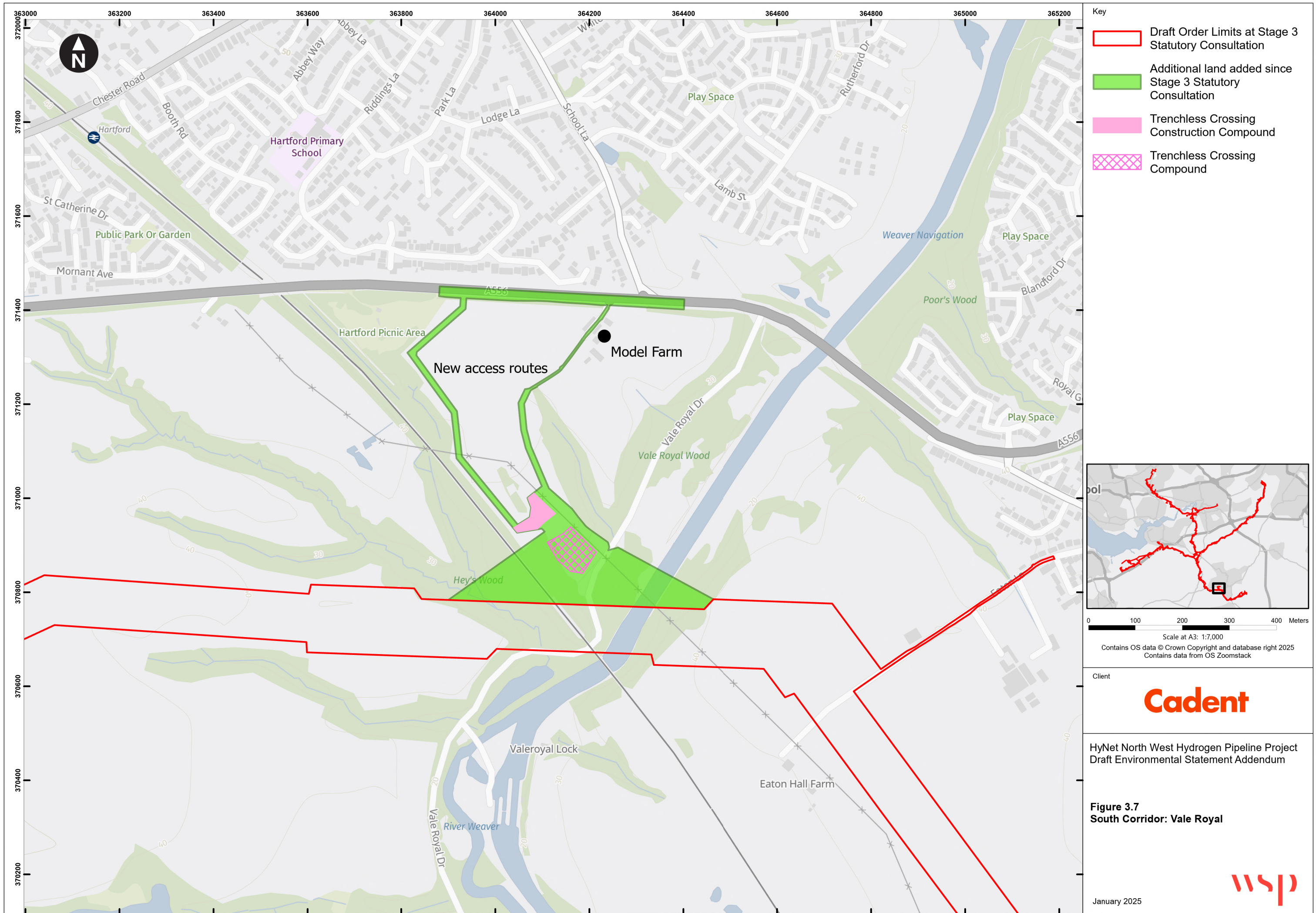


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Figure 3.6
 East Corridor: Partington HAGI



- Key
- Draft Order Limits at Stage 3 Statutory Consultation
 - Additional land added since Stage 3 Statutory Consultation
 - Trenchless Crossing Construction Compound
 - Trenchless Crossing Compound

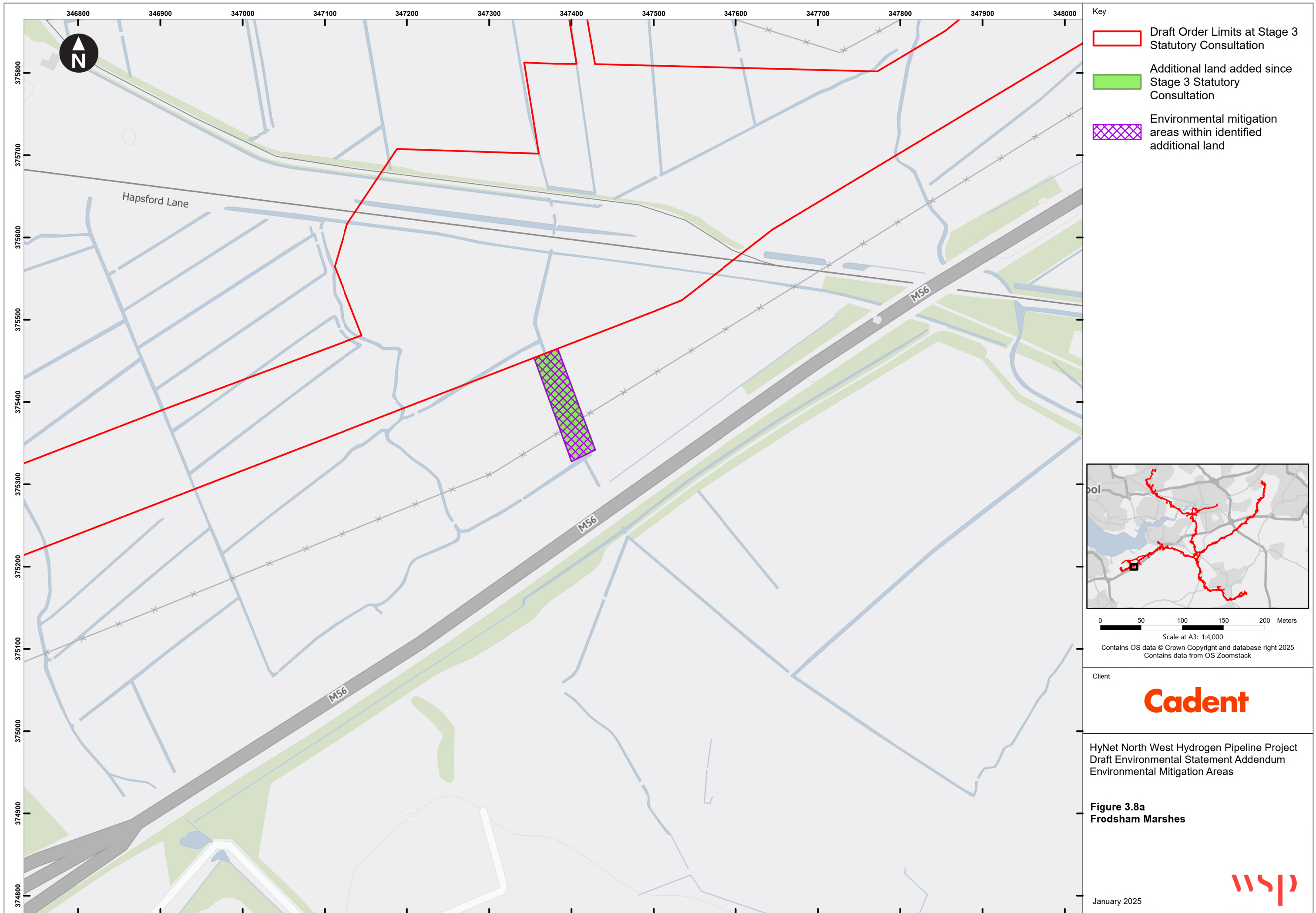


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Figure 3.7
South Corridor: Vale Royal



- Key
- Draft Order Limits at Stage 3 Statutory Consultation
 - Additional land added since Stage 3 Statutory Consultation
 - Environmental mitigation areas within identified additional land

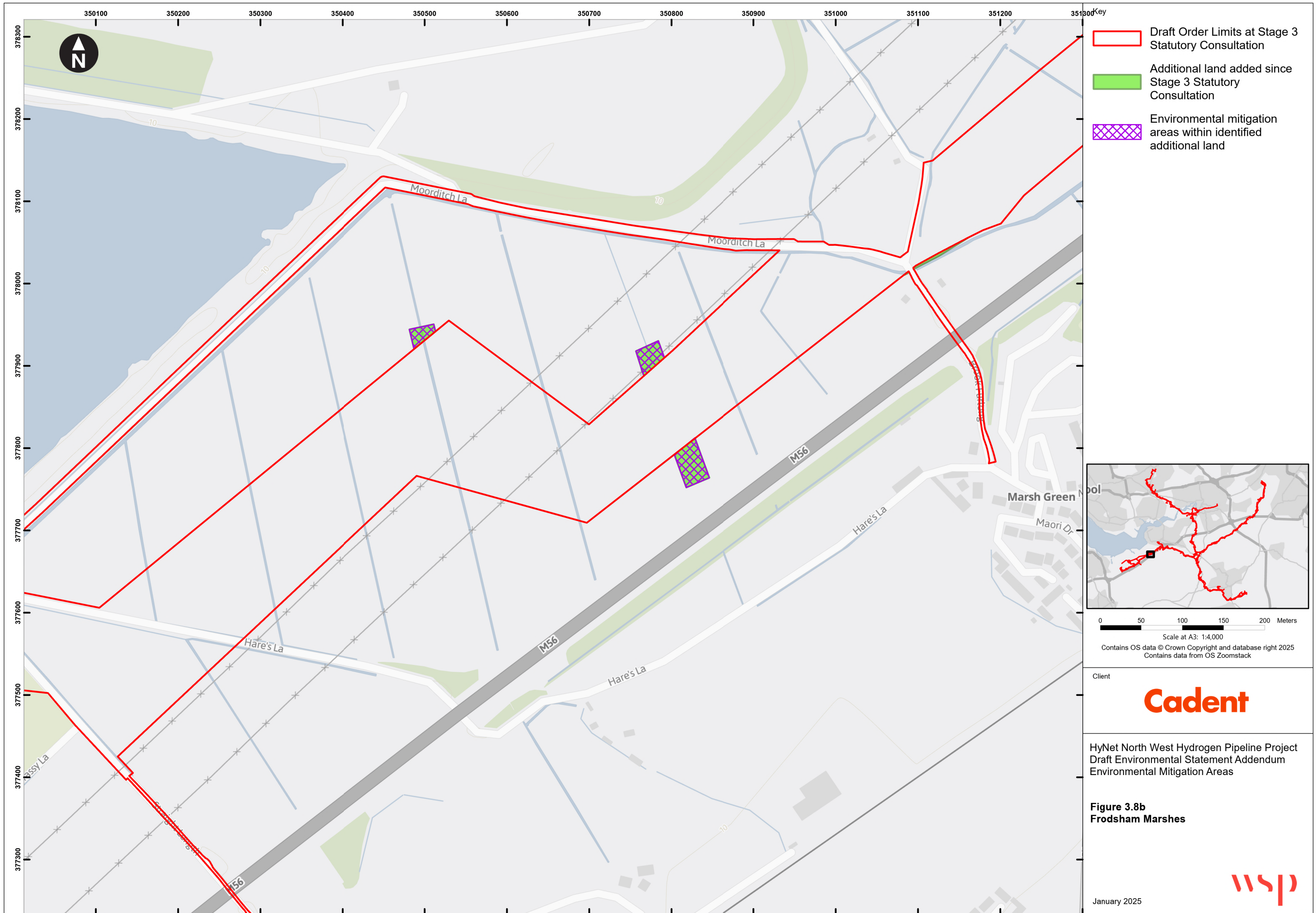


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Figure 3.8a
Frodsham Marshes

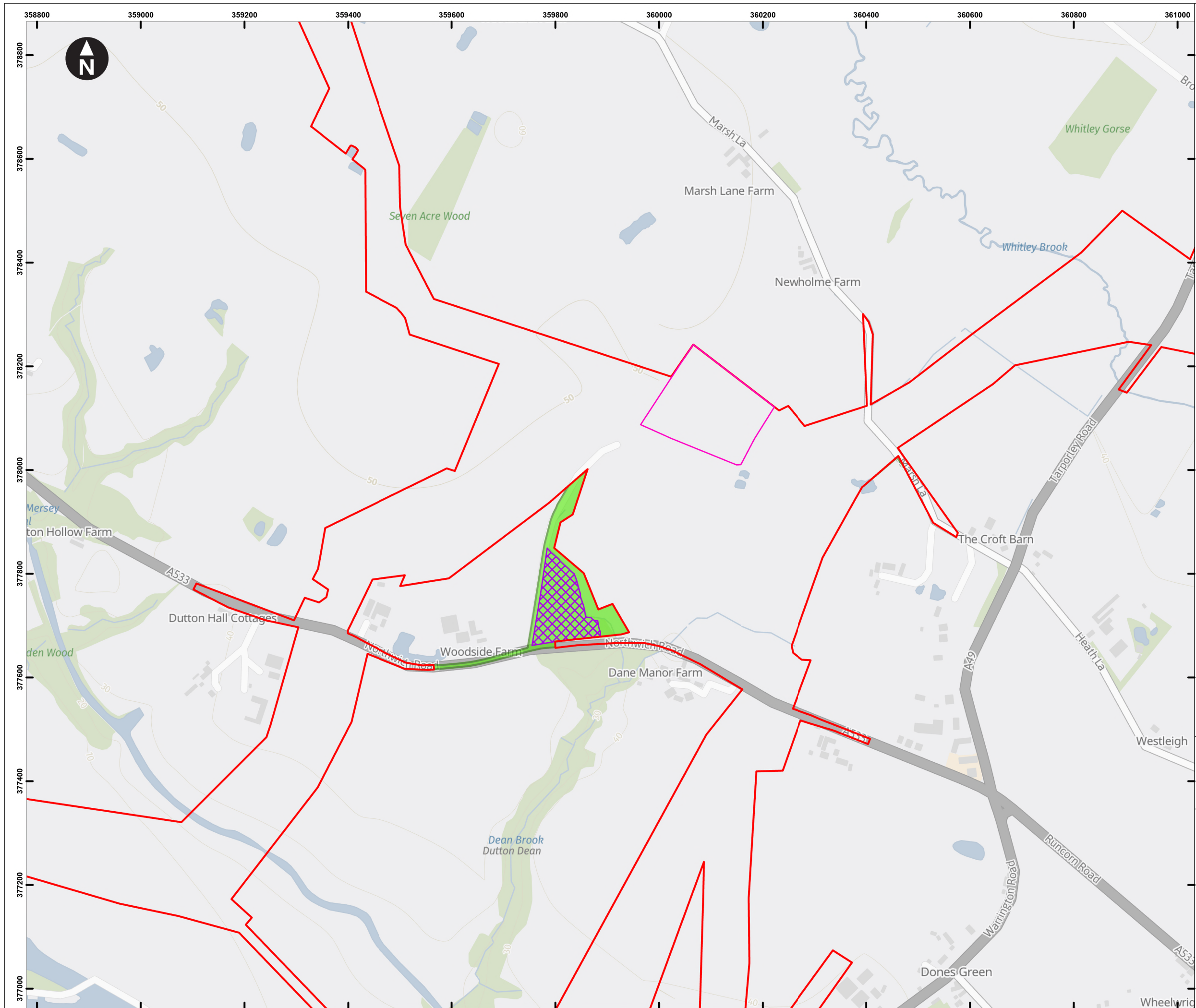


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Figure 3.8b
Frodsham Marshes



- Key
- Draft Order Limits at Stage 3 Statutory Consultation
 - Additional land added since Stage 3 Statutory Consultation (as per Figure 3.2)
 - Hydrogen Above Ground Installation Limits of Deviation
 - Environmental mitigation areas within identified additional land

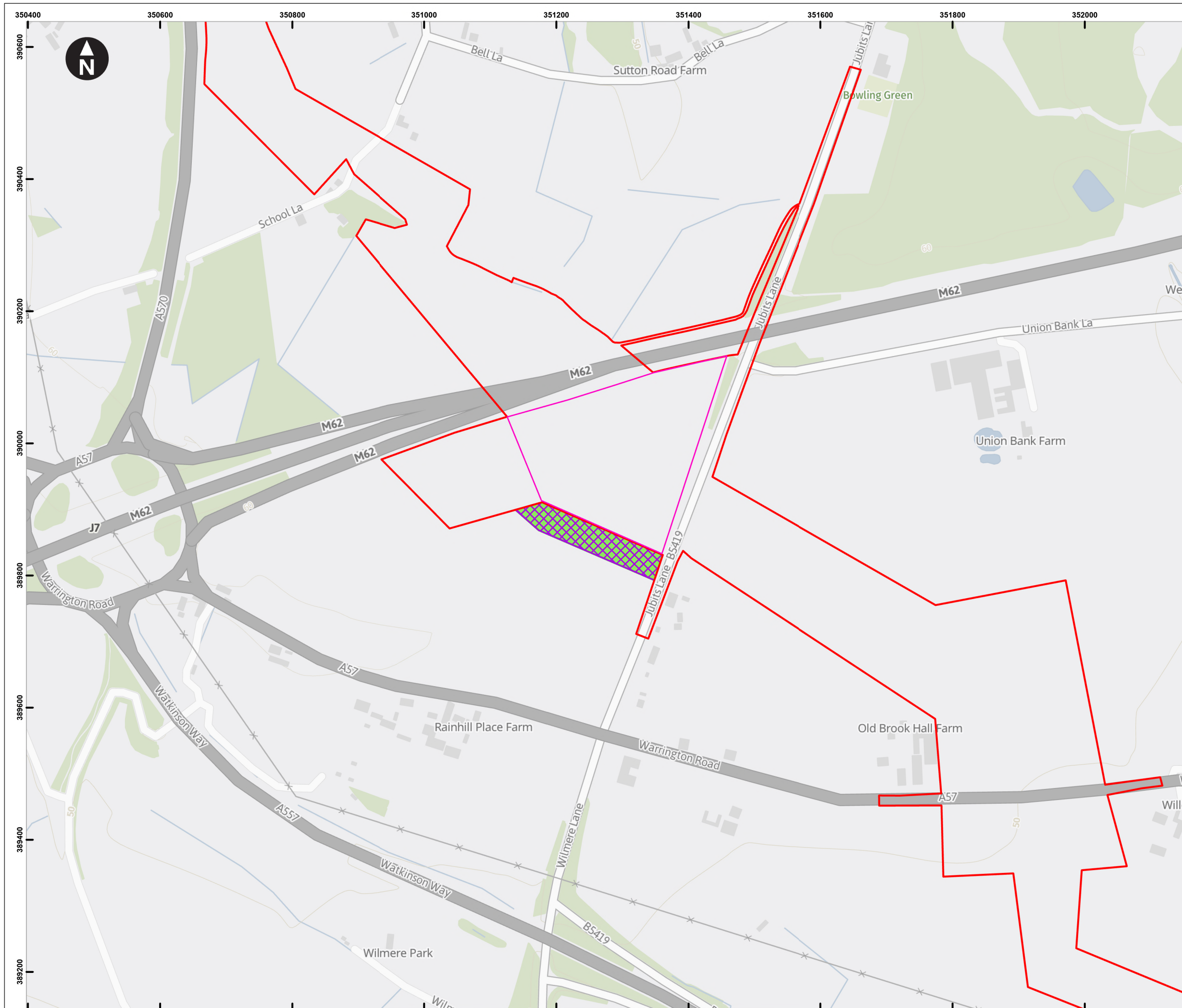


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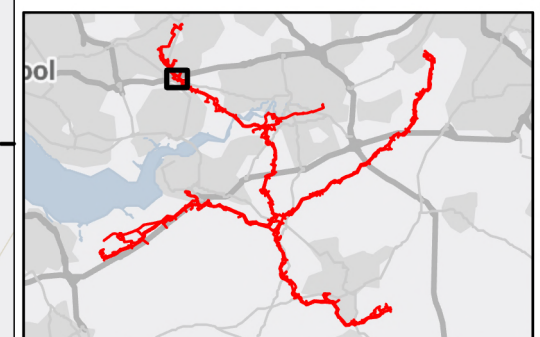
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Figure 3.9
Central Hub



- Key
- Draft Order Limits at Stage 3 Statutory Consultation
 - Additional land added since Stage 3 Statutory Consultation
 - Hydrogen Above Ground Installation Limits of Deviation
 - Environmental mitigation areas within identified additional land

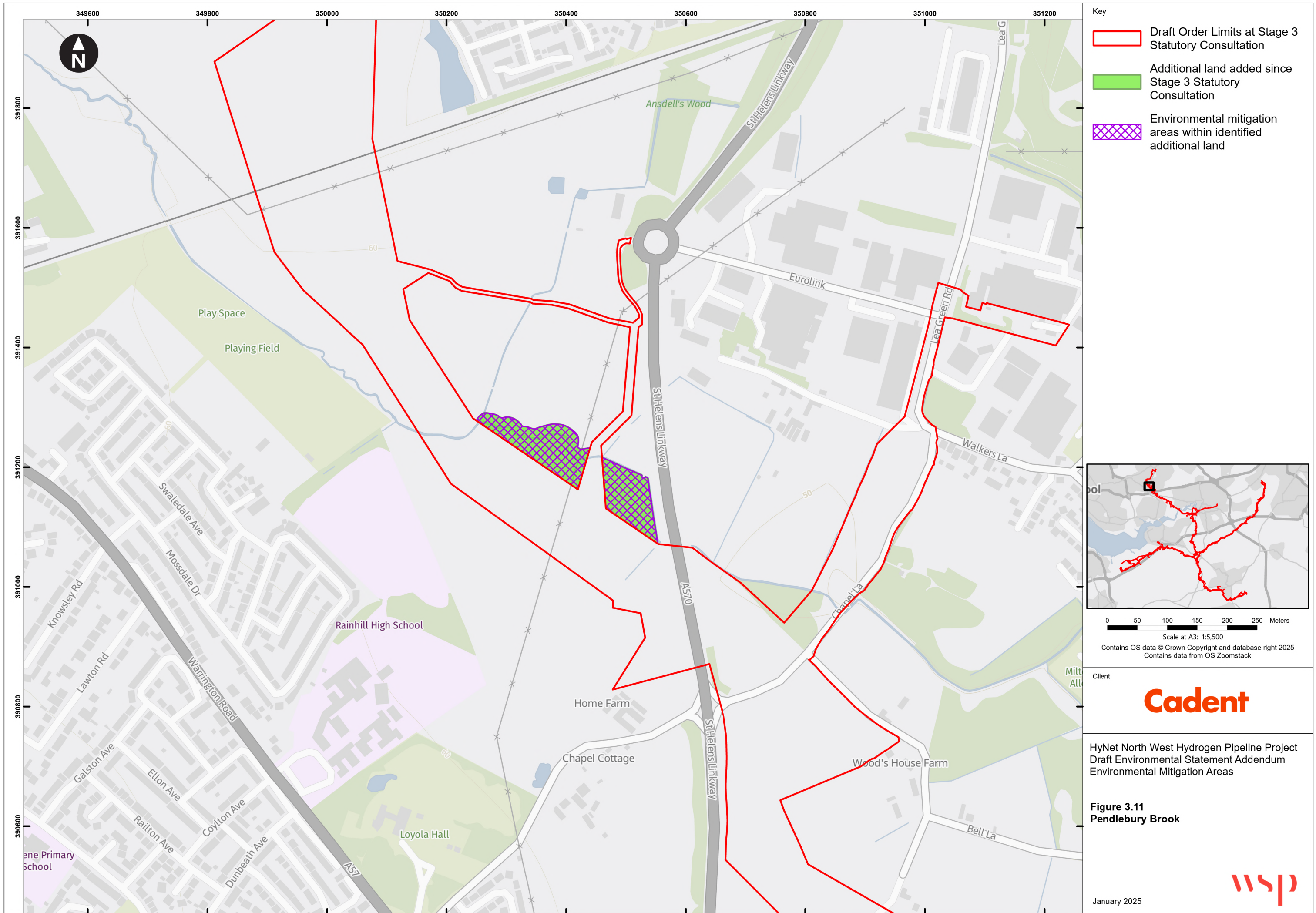


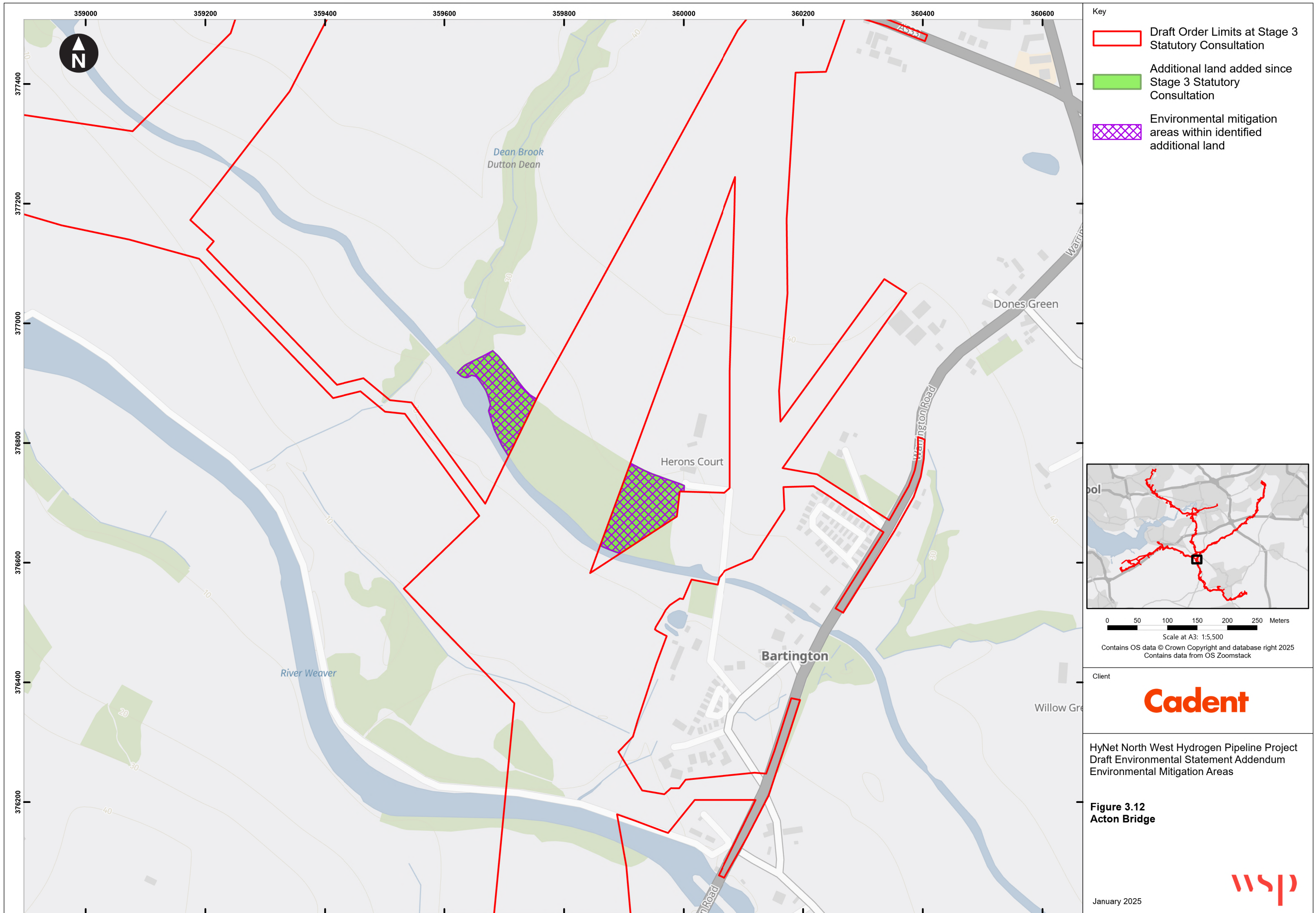
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Figure 3.10
Clock Face HAGI





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