HyNet North West Hydrogen Pipeline

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# Appendix 7A

## Scoping Opinion and Statutory Consultation

October 2024

Revision 1
Volume 0001
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# Contents

# 1. Overview

## 1.1 Introduction

1.1.1 The assessment has been informed by consultation responses and statutory and technical engagement. An overview of the approach to consultation is provided in **Section 3.7** of **Chapter 3: Approach to preparing the Draft ES**.

## 1.2 Scoping Opinion

1.2.1 A Scoping Opinion was adopted by the Secretary of State, administered by the Planning Inspectorate (PINS), on 08 March 2022. A summary of the relevant responses received in the Scoping Opinion in relation to the water environment and confirmation of how these have been addressed within the assessment is presented in **Table 7A 1.1.**

**Table 7A 1.1Summary of EIA Scoping Opinion responses for the water environment**

| Consultee | Consideration | How addressed in the Draft ES Water Environment chapter |
|---|---|---|
| **Planning Inspectorate** | | |
| **Paragraph 3.3.1** | Paragraph 7.6.4 of the Scoping Report Construction and operational phases:<br>• Ordinary Watercourses upstream or upslope of the Project; and<br>• Ponds and lakes upstream or upslope of the Project.<br>The Scoping Report does not include WFD surface water bodies (river and transitional), ponds or lakes upstream or upslope of the Project within the proposed scope of the water environment assessment. PINS considers that if the Project would not directly or indirectly affect these water bodies, this matter can be scoped out of the ES. | Surface water features upstream of the Project and not directly and indirectly impacted by the Project have been scoped out in **Chapter 7: Water Environment** – **Section 7.7**. This is reflected within the Study Area boundary definition provided in **Chapter 7: Water Environment** - **Section 7.4.** |
| **Paragraph 3.3.2** | Paragraph 7.6.7 of the Scoping Report The Applicant proposes that biological elements of ecological status for river water bodies (macroinvertebrates and fish) will not be part of future water environment assessments within the ES, however the potential for indirect effects on biology elements which could occur as a direct result of changes to the water quality or the hydromorphology of a water feature, will be part of the future biodiversity assessment, if required. | The potential for indirect effects of changes to water quality or the hydromorphology of a water feature on macroinvertebrates and fish is addressed within **Chapter 5: Biodiversity**. They are listed in **Chapter 7: Water Environment** – **Section 7.7**. Any deterioration of water quality and the ability to achieve 'Good' ecological status in estuaries and rivers are addressed within **Appendix 7E: Water Framework Directive Assessment** of the |

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| | PINS does not consider that the Scoping Report explains why this matter should be scoped out. In the absence of further justification, an assessment of effects on macroinvertebrates and fish should be provided in the ES. | Water Environment chapter. A fully integrated assessment of the impact of the Project on WFD compliance, considering all elements of the WFD classification, is provided in **Appendix 7E: Water Framework Directive Assessment**. |
| **Paragraph 3.3.4** | Paragraph 7.6.21 of the Scoping Report<br>The Applicant proposes that based on knowledge of the baseline environment, the nature of planned works and existing best practice, together with evidence from other large infrastructure projects, the operation and maintenance activities would not involve dewatering works and therefore no impact on groundwater levels is anticipated. PINS considers that insufficient evidence has been provided by the Applicant with regards to permanent impacts to groundwater flows and levels, either within the footprint of the Project or as a result of changes associated with barrier effects caused by buried structures, especially within areas already at risk of flooding. PINS therefore considers that effects on operational groundwater levels cannot be scoped out and this matter should be assessed and included within the ES. PINS is content that effects during maintenance can be scoped out. | Effects on groundwater levels during the operational phase has been assessed within **Chapter 7: Water Environment - Section 7.9** and **Appendix 7D: Assessment of Water Environment Effects.** |

| Consultee | Consideration | How addressed in the Draft ES Water Environment chapter |
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| **Paragraph 3.3.5** | Paragraph 7.6.22 of the Scoping Report<br>The Applicant proposes that, subject to embedded mitigation (Table 7.10 of the Scoping Report) in place and no routine discharges and/or dewatering operations, there is minimal risk of leakage of hazardous substances to impact surface or groundwater quality. PINS is content that this matter can be scoped out of further assessment but considers that the ES should provide details of how any water is to be captured, treated and disposed of, especially in proximity to water crossings and with regards to potential dewatering of excavations and trenches. | It is noted that PINS agrees that operational phase water quality effects can be scoped out of the assessment. **Chapter 7: Water Environment** - **Section 7.6** provides embedded environmental measures covering details of how any water is to be captured, treated and disposed of for the construction phase, especially in proximity to water crossings and with regards to potential dewatering of excavations and trenches. |
| **Paragraph 3.3.6** | Paragraph 7.6.22 of the Scoping Report<br>The Applicant proposes that an assessment of flood risk during the operational phase of the Project can be scoped out, on the basis that the construction of HAGIs within Flood Zones 2 and 3 would be avoided as far as possible, and where this cannot be avoided, suitable flood risk mitigation measures would be specified in the Flood Risk Assessment (FRA) and Drainage Strategy. PINS is content with this approach for buried pipeline infrastructure, however flood risk for above ground development including the HAGIs should be addressed, including demonstration of any flood protection or resilience | The proposal to scope operational phase flood risk out of the EIA was on the basis that national planning policy requires that avoidance or full mitigation be provided for flood risks for all new development. Although the prospect of likely significant effects on flood risk receptors is low, it is recognised that further flood risk and drainage studies need to be carried out to provide the evidence that flood risk impacts associated with the Project can be fully mitigated. An FRA and Drainage Strategy for the Project is provided in **Appendix 7F: Flood Risk Assessment** and appropriate embedded flood mitigation is |

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| | measures. The ES should include details of the sequential and exception tests as they have been applied to the Project. | summarised in **Chapter 7: Water Environment** – **Section. 7.6** |
| **Paragraph 3.3.7** | Paragraph 7.6.22 of the Scoping Report<br>Flood risk methodology – surface development. The Scoping Report proposes that the only surface manifestation of the Project would be the HAGIs. This is considered to be inconsistent with the Description of the Development and future assessment work should also include, for example, Block Valve compounds and other relevant forms of surface development. | Flood risk to all aspects of above ground infrastructure is assessed as part of the FRA (**Appendix 7F: Flood Risk Assessment**). |
| **Paragraph 3.3.8** | Paragraphs 7.4.39 - 7.4.42 of the Scoping Report<br>The Scoping Report identifies Flood Zones across the Study Area but does not include sub-categories, such as an area of high probability (Flood Zone 3a) or functional floodplain (Flood Zone 3b). The ES should provide an accurate and consistent description of the baseline flood risk for each element of the Project and the description should clearly distinguish between Flood Zones, including Flood Zones 3a and 3b where relevant. | **Chapter 7: Water Environment – Section 7.5** and the supporting FRA (**Appendix 7F: Flood Risk Assessment**) provide an accurate and consistent description of the baseline flood risk for each element of the Project. **Appendix 7F** sets out the proposed approach to identifying areas of functional floodplain (Flood Zone 3b). |
| **Paragraph 3.3.9** | Paragraph 7.4.58 of the Scoping Report<br>PINS considers that SuDS requirements should be considered in relation to each element of the Project, including Block Valve compounds where | SuDS would be incorporated into the Project's above ground infrastructure, according to the principles set out in the FRA (**Appendix 7F: Flood Risk Assessment**). Further details are |

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| | proposed and the Cathodic Protection (CP) system, where the drainage environment is likely to be affected. The Applicant should agree the location, design and management of SuDS for the Project with relevant consultation bodies and evidence this within the ES. | provided in the Outline Drainage Strategy (**Annex 7F6** of **Appendix 7F: Flood Risk Assessment**). |
| **Paragraph 3.3.10** | Table 7.11 of the Scoping Report<br>For the avoidance of doubt, the ES should include consideration of the impacts from bentonite breakout during Horizontal Directional Drilling (HDD) works on aquatic environment receptors and water resource receptors. | **Chapter 7: Water Environment - Section 7.9** and **Appendix 7D: Assessment of Water Environment Effects** considers the potential impacts from bentonite breakout during HDD works and mitigation to prevent impacts on aquatic environment receptors and water resource receptors. |
| **Paragraph 3.3.11** | Table 7.12 of the Scoping Report<br>This table of the Scoping Report does not include a 'Very High' category of receptor sensitivity, as might be expected when applying an approach informed by the Design Manual for Roads and Bridges (DMRB). This has the potential to undervalue or underestimate significance of effect. Where the assessment deviates from established guidance, the Applicant should ensure that this is clearly stated and suitably justified in the ES. The Applicant should seek agreement with the relevant consultation bodies regarding the methodology used in the ES assessment. | In terms of the definition of classes of receptor sensitivity/magnitude of change/impact significance this has been addressed in the overall EIA methodology as appropriate. Assessment criteria are defined and applied based on professional judgement, using recognised approaches to classification relevant to the receptor types, including WFD and the National Planning Policy Framework (NPPF), all of which represent good practice for water environment assessments within EIAs. Agreement has been sought with the relevant consultation bodies regarding the |

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| | | methodology used in the assessment and evidence of this is provided in this appendix. |
| **Paragraph 3.3.12** | The ES should outline any impact of the Project on nutrient levels and, where relevant, any strategic solutions for nutrient neutrality or Diffuse Water Pollution Plans (DWPPs) to mitigate and address the impacts of elevated nutrient levels. The Applicant's attention is drawn to the consultation response from Natural England in this regard (see Appendix 2 of the Opinion). | The Project would not introduce any new long-term sources of nutrients into the environment. During construction, potential effects associated with foul water arisings from worker facilities and disturbance of nutrients already present in agricultural soils would be assessed. However, it is expected that these impacts would be fully mitigated through the implementation of standard construction good practice (see **Chapter 7: Water Environment – Section 7.7)**. |
| **Acton Bridge Parish Council** | | |
| **Page 1, paragraph 8** | The pipeline and Central Hub are potentially going to be sited in an area, or extremely close to an area, that is prone to flooding. As recently as January 2021 Storm Christoph meant that around 30 homes, including in cottages on Warrington Road, Acton Bridge and bungalows on Sandy Lane, Weaverham, were extensively damaged. Homes had to be evacuated and a great deal of the surrounding land was also submerged. The Acton Bridge Parish Council (ABPC) would like to understand what mitigations would be in place to | The intersection of baseline flood risk and project infrastructure in and around Acton Bridge is assessed in the **Appendix 7F: Flood Risk Assessment**. This will be subject to further assessment in the final DCO FRA. |

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| | ensure that flooding would not have any impact on the integrity and security of the pipes and the Central Hub. | |
| **Canal and River Trust** | | |
| **Page 3, paragraph 1** | The route corridors could impact a number of watercourses and ditches which pass under waterways via culverts, or in some instance may even discharge into canals. These would need to be located and protected to ensure the potential for silty waters or contaminants entering the canal is mitigated. The Canal and River Trust (CRT) records indicate that there are a lot of culverts in this area, many of which may be sewers or combined sewers and which may cross the proposed line of the pipeline depending on the final route corridor. | A number of canal water bodies have been identified as potential receptors for effects, as noted in **Chapter 7: Water Environment** - **Table 7.17**. Embedded environmental measures to minimise the ingress of suspended sediments and contaminants into surface watercourses (including canals) are identified in **Chapter 7: Water Environment** - **Table 7.16**. Any construction surrounding or below the canals will be completed in relation to protective provisions with the Canal and River Trust or appropriate authority. |
| **Page 3, paragraph 2** | The details of how any water is to be captured, treated and disposed of should be considered especially in proximity to the water crossings and in terms of dewatering excavations and trenches. Regard would also need to be given to run-off and surface water discharge from the construction compounds. | An overview of proposed embedded environmental measures to manage the quality and quantity of runoff and dewatered groundwater from project construction is provided in **Chapter 7: Water Environment** - **Table 7.16.** |

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| **Page 3, paragraph 4** | Any impact on the canal from drainage or flood risk should be included within the ES as this could affect both water quality and quantity and have a wider impact on the canal network. | The approach to managing flood risk and drainage for the Project, including potential impacts on canal receptors, is set out in **Appendix 7F: Flood Risk Assessment**. |
| **CEC** | | |
| **Flood risk, paragraph 1** | With reference to SuDS page 152-153 of the Scoping Report, CEC would note that it has emerging CEC specific SuDS documentation in draft which should be considered for inclusion. | The emerging CEC-specific SuDS guidance documentation has been requested and relevant aspects summarised within **Chapter 7: Water Environment** – **Section 7.2**. |
| **Flood risk, paragraph 2** | Section 7.3 of the Scoping Report also confirms the importance and need to consult with the Lead Local Flood Authority (LLFA) at an appropriate time concerning detail and the need to obtain appropriate consents/approvals for detailed design and construction works. | Briefing notes were sent to all LLFAs. Response received via statutory consultation. Further consultation will be carried out as required in the process of preparation of the final DCO EIA and FRA. |
| **CWAC** | | |
| **Water Environment, paragraph 1** | The LLFA is in general agreement with the Scoping Reports proposed assessment requirements outlined within Section 7 of the Scoping Report, but does raise the following specific comments:<br>• An FRA and drainage strategy should be included for all above ground installations | This is noted and responses to each individual reference are within **Appendix 7F: Flood Risk Assessment**. |

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| | (HAGIs and Block Valves) and in addition mitigation where in Flood Zones 2 and 3.<br>• Mitigation measures should be provided for any trenched crossing of Ordinary Watercourses.<br>• Provision of a groundwater risk assessment of longitudinal below ground structures.<br>• Consideration of above ground layout in respect the retention of overland flow routes, including surface water management plans (including hydraulic calculations) and SuDS. | |
| **Page 1, paragraph 1** | The proposal is to scope in impacts on the surface water and groundwater receptors to include Main Rivers, Ordinary Watercourses and WFD water bodies. CWCC is in agreement with the proposed assessment requirements but has a number of specific comments. | This is noted and responses to each individual reference are given below against each comment. |
| **Page 1, paragraph 2** | Above ground installations, Block Valve stations and compound areas will require a FRA and drainage strategy in accordance with NPPF. Where development is proposed within Flood Zones 2 and 3 mitigation measures should be provided in accordance with NPPF and Environment Agency standing advice. | **Appendix 7F: Flood Risk Assessment** covers flood risk with respect to above ground installations, Block Valve Installations (BVIs) and compound areas. This identifies where above ground infrastructure is proposed within Flood Zones 2 and 3 and sets out the approach to development of mitigation measures for the final DCO FRA. |

| Consultee | Consideration | How addressed in the Draft ES Water Environment chapter |
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| **Page 1, paragraph 4** | The potential for increased groundwater flood risk up gradient of longitudinal below-ground structures should be assessed and mitigation measures provided to manage any temporary and permanent groundwater emergence at the surface. | The potential for increased groundwater flood risk up gradient of longitudinal below-ground structures is assessed. Mitigation measures are identified to manage any temporary and permanent groundwater emergence at the surface, as considered within **Chapter 7: Water Environment** - **Section 7.6** and in the **Appendix 7F: Flood Risk Assessment**. |
| **Page 1, paragraph 5** | The Project is generally within an area at low risk of surface water flooding but there are parts of the development which are at medium to high risk of surface water flooding which need to be considered as part of the above ground layout to ensure any overland flow routes are retained. | An assessment of the intersection of the Project with overland flow pathways is given within **Appendix 7F: Flood Risk Assessment**. Above-ground infrastructure would be avoided in areas of medium to high surface water flood risk wherever possible, and mitigation measures proposed in the final DCO FRA where this cannot be achieved. |
| **Page 1, paragraph 6** | Surface water management for the above ground works needs to follow the drainage hierarchy:<br>• Infiltration into ground;<br>• Connection to the watercourse;<br>Connection to discharge water sewer and as a last resort; and<br>Connection to the combined sewer. | The hierarchy is noted and has been taken into account when developing drainage strategies for above-ground infrastructure, as discussed in **Appendix 7F: Flood Risk Assessment**. |
| **Page 1, paragraph 7** | SuDS should be designed to control surface water as close to its source as possible. Well-designed | The statutory planning policy requirements and best practice guidance recommendation for the use of SuDS in new developments is taken into |

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| | sustainable drainage systems also provide opportunities to achieve the following:<br>• reduce the causes and impacts of flooding;<br>• remove pollutants from urban run-off at source; and<br>• combine water management with green space providing benefits for amenity, recreation and wildlife. | account within the drainage strategies for the Project, as discussed in the **Appendix 7F: Flood Risk Assessment**. |
| **Page 1, paragraph 8** | The use of SuDS should also help achieve the sustainability objectives of the NPPF. | Agreed, see response above. |
| **Page 1, paragraph 9** | The suitability of SuDS should be assessed in accordance with paragraphs 051, 079 and 080 of the revised NPPF Planning Practice Guidance for Flood Risk and Coastal Change (https://www.gov.uk/guidance/flood-risk-and-coastal-change). | Agreed, see response above. |
| **Page 1, paragraph 10** | Sustainable drainage systems should be designed in line with national Non-Statutory Technical Standards for SuDS (https://www.gov.uk/government/publications/sustainable-drainage-systems-non-statutory-technical-standards) and local policies ENV1, DM40, DM41, DM42 and DM43 of the Core Strategy | Agreed, see response above. |

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| **Page 2, paragraph 1** | Surface water attenuation requirements should be assessed that offer a reduction in surface water runoff rate in line with the Policy DM 41 i.e. at least 30% betterment on brownfield flows and greenfield runoff for existing greenfield sites. All new connections to the watercourses should comply with a reduction of flows to greenfield runoff rates. | Surface water attenuation requirements for drainage for construction and operational phase infrastructure are identified in the **Appendix 7F: Flood Risk Assessment**. |
| **Page 2, paragraph 2** | Surface water should be managed to ensure there is no increased surface water from the Project and runoff from extreme events should be managed such that adjacent third party land is not affected. | Agreed, see response above. |
| **Environment Agency** | | |
| **Decommissioning, paragraph 3** | For works impacting non-main watercourses, the Environment Agency recommends contact is made with the relevant LLFAs which in the case of this Project are the LPAs the pipeline will travel through. | Briefing notes were sent to all LLFAs. Response received via statutory consultation. Further consultation will be carried out as required in the process of preparation of the final DCO EIA and FRA. |
| **Chapter 7. Water Environment, paragraph 1** | The overall scope of this chapter is generally acceptable providing the following observations/recommendations are considered and included. | See responses provided below: |
| **Chapter 7. Water Environment, paragraph 2** | Paragraphs 7.4.59 and 7.4.60, page 181, of the Scoping Report describe how WFD change will be considered, with paragraph 7.4.60 stating *"It may* | The consideration of long-term impact(s) on achieving WFD 'Good' ecological status or 'Good' ecological potential due to any new |

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| | *be appropriate to assess construction related effects against the existing baseline surface water environment, however potential operational effects should take account of a future baseline environment that assumes 'Good' ecological status/potential will be attained during the lifetime of the Project"*. The construction of any new modifications to rivers will also need to consider long term impact(s) on achieving WFD 'Good' ecological status or 'Good' ecological potential. | modifications to rivers is provided in **Appendix 7E: Water Framework Directive assessment**. |
| **Chapter 7. Water Environment, paragraph 3** | Table 7.12, page 192, of the Scoping Report provides definitions of receptor sensitivity to be used in the assessment with examples of receptors placed in each class, including for 'very low' Sensitivity receptors, see below. | Response provided below. |
| **Chapter 7. Water Environment, paragraph 4** | While there are a lot of heavily modified water bodies (HMWBs) within this area and the Environment Agency can agree some could be considered as low-quality habitat, the approach should be to ensure they do not deteriorate further as part of the scheme. Indeed, the Environment Agency would recommend opportunities need to be taken to reduce modifications wherever possible. | This comment relates to the example provided of a 'Very low' Sensitivity receptor above. The example is not intended to include all artificial or heavily modified watercourses. It is acknowledged that some water bodies designated as artificial water bodies (AWBs) or heavily modified water bodies (HMWBs) in River Basin Management Plans (RBMPs) could be accorded a higher receptor sensitivity. The wording of the example has been changed accordingly within **Appendix 7D: Assessment** |

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| | | **of water environment effects**. The WFD requirement to ensure no deterioration of ecological potential for HWMBs is noted and recognised in **Appendix 7D**. |
| **Chapter 7. Water Environment, paragraph 5** | An assessment of the risk of WFD water body status deterioration would seem appropriate for inclusion. If deterioration is considered likely, the ES must address how these impacts will be avoided, minimised and/or mitigated. | Response provided above. |
| **Chapter 7. Water Environment, paragraph 6** | It should be noted the Scoping Report does not appear to contain specific reference to WFD mitigation measures associated with HMWBs (these must not to be confused with measures to mitigate environmental effects from the Project). Paragraph 7.6.7, page 187, states the intention to assess the effects on WFD biological elements as a direct result of hydromorphology changes, which the Environment Agency supports. However, the ES must also assess whether any of the development proposals prevent any HMWB mitigation measure being completed, because this would prevent the legal objective of 'Good' ecological potential' for that HMWB. | A full assessment of impacts on AWBs and HMWBs is included in **Chapter 7: Water Environment - Section 7.9** and **Appendix 7D: Assessment of water environment effects**, including effects on RBMP mitigation measures. |

| Consultee | Consideration | How addressed in the Draft ES Water Environment chapter |
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| **Chapter 7. Water Environment, paragraph 7** | The Environment Agency can provide a list of the mitigation measures identified for each HMWB affected by the proposed development | WFD HMWB Mitigation measures in reference to the RBMP to improve the quality of HMWBs have been requested and received from the Environment Agency (09/09/22). Within **Appendix 7E: Water Framework Directive Assessment** the Project activities are assessed against the WFH Mitigation Measures to determine if the Project will affect any of the WFD mitigation measures being in place or impact the ability of them to be put in place in the future. |
| **Chapter 7. Water Environment, paragraph 9** | The 'high' magnitude example must also reference to not achieving 'Good' ecological potential as well as 'Good' ecological status. | Agreed, and methodology changes are presented within **Chapter 7: Water Environment** – **Section. 7.8** |
| **Marine Management Organisation** | | |
| **3.4 Coastal Processes, paragraph 3.4.1** | The Marine Management Organisation (MMO) notes that the Scoping Report identifies all the potential impacts of the Project on coastal processes receptors. | Noted, no further response required. |
| **3.4 Coastal Processes, paragraph 3.4.2** | The MMO is satisfied that the embedded mitigation and management measures outlined in this report are sufficiently identified to tackle potential climate impacts of the Project. | Noted, no further response required. |

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| **3.6 Underwater Noise, paragraph 3.6.1** | The MMO notes that within the Study Area, the Main Rivers can be divided into three WFD Management Catchments, namely the Upper and Lower Mersey and the Weaver Gowy. Within these are eight operational catchments, each containing multiple Main Rivers. The key Main Rivers within the Study Area are the Weaver, Dane, Manchester Ship Canal (classed as a Main River in parts), Bollin and Mersey (Section 7.4.8 of the Scoping Report). | Noted, no further response required. |
| **Natural England** | | |
| **Water Quality** | The planning system plays a key role in determining the location of developments which may give rise to water pollution, and hence planning decisions can have a significant impact on water quality, and land. The assessment should take account of the risks of water pollution and how these can be managed or reduced. A number of water dependent protected nature conservation sites have been identified as failing condition due to elevated nutrient levels and nutrient neutrality is consequently required to enable development to proceed without causing further damage to these sites. The ES needs to take account of any strategic solutions for nutrient neutrality or DWPPs, which may be being developed or | The Project would not introduce any new long-term sources of nutrients into the environment. During construction, potential effects associated with foul water arisings from worker facilities and disturbance of nutrients already present in agricultural soils would be assessed. However, it is anticipated that these impacts would be fully mitigated through the implementation of standard construction good practice (see **Chapter 7: Water Environment -Table 7.16**). |

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| | implemented to mitigate and address the impacts of elevated nutrient levels. Further information can be obtained from the LPA. | |
| **St Helens Borough Council** | | |
| **Water Environment, paragraph 3/4** | The LLFA has commented as below:<br>• The Applicant has identified several watercourses in the scoping area which are named Main Rivers, however there is a chance there will be several unnamed Ordinary Watercourses and historic culverts within the area which need to be assessed as the scheme develops; and<br>• As the scheme progresses the LLFA should be contacted with the details in this review to assist with possible watercourse/culvert assets. | The EIA baseline takes into account unnamed Ordinary Watercourses and historic culverts within the area and these have been assessed as appropriate. The LLFA will be consulted during preparation of the final DCO EIA and FRA to review possible watercourse and/or culvert assets as well as the appropriate application of drainage byelaws and 8m easements to cover works near Ordinary Watercourses. |

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| | As a council they do have land drainage byelaws in place which cover works near Ordinary Watercourses and contains 8m easements. | |
| **Water Environment, paragraph 5** | The Scoping Report refers to St Helens Borough Council (SHBC) FRA (PFRA, 2011) which was accessed on the 21 November 2021. This is now outdated, there is a SHBC FRA 2017-23 version (PFRA, 2017-23) which will need to be referenced instead. SHBC now has adopted a SuDS guidance document and checklist which needs to be followed, further details of the guidance is provided within this review. SHBCs climate value for the area is set at 40%. | Reference to the SHBC FRA 2017-23 version (PFRA, 2017-23) is made within **Appendix 7F: Flood Risk Assessment**. The latest SuDS guidance is available on the SHBC website[1], and has been used in developing HAGI drainage strategies for the DCO FRA. |
| **Water Environment, paragraph 6** | The documents identified above are all available in the web link below or by contacting the LLFA with the details provided in this review. These documents will need to be referenced in any assessment.[2] | These documents are referenced within **Chapter 7: Water Environment** – **Section. 7.2.** |

[1] St Helens Council. Sustainable Drainage Systems (SuDS) 2020 Design and Technical Guidance. Available at: https://www.sthelens.gov.uk/media/5280/SuDS-Guidance-Document/pdf/sth_suds_2020_adoption_version_1.pdf?m=1672324166017 (Accessed August 2024).
[2] This online link provided by the SHBC is not working at the time of writing. https://www.sthelens.gov.uk/traffic-travel-parking/highway-maintenance/flooding-and-drainage/floodand-water-management/

| Consultee | Consideration | How addressed in the Draft ES Water Environment chapter |
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| **Trafford Council** | | |
| **Water Environment, paragraph 1** | The scoping boundary within Trafford predominantly includes land within Environment Agency Flood Zone 1, although the River Bollin and the Red Brook, Sinderland Brook and Caldwell Brook and land adjacent to these watercourses are within Flood Zones 2 and 3. The area is not within the Critical Drainage Area identified in the Manchester, Salford and Trafford Level 2 Hybrid SFRA. | This is noted within **Appendix 7F: Flood Risk Assessment** and shown within **Figure 7.7**. |
| **Water Environment, paragraph 2** | The LLFA is encouraged to see the pipeline where possible would be completely underground and that an FRA and Drainage Strategy will be submitted considering the NPPF, Section 5.7 of the overarching National Policy Statement for Energy and the Trafford Local Plan Core Strategy. | The FRA and drainage strategy is provided in **Appendix 7F: Flood Risk Assessment** and the NPPF, Section 5.7 of the overarching National Policy Statement for Energy and the Trafford Local Plan Core Strategy have been considered in **Chapter 7: Water Environment - Section 7.2.** |
| **Water Environment, paragraph 3** | The LLFA advises that it would prefer directional drilling when the route crosses a watercourse, and any such crossings should be a minimum of 1m below the hard bed level of the watercourse. Open cut crossings on Ordinary Watercourses will require the prior written Land Drainage Consent of the LLFA. With regards to this point the LLFA will need to see details of each crossing. | A watercourse crossing schedule and locations where open cut crossings would be required are identified within **Chapter 2: The Project** and the Crossing Schedule within **Appendix 2A**. The methodology for directional drilling is given within **Chapter 2**. It is anticipated the applications for individual Land Drainage Consents (generally referred to as Ordinary Watercourses (OWCs) in this document) would |

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| | | be made by the contractor post-granting of the DCO. |
| **Water Environment, paragraph 4** | The Environment Agency will also need to be consulted on the Scoping Opinion and on the application for a DCO | See the Environment Agency consultation and response in this appendix. |
| **WBC** | | |
| **Water Environment, paragraph 2/3** | A response has been received from the LLFA and is summarised below:<br><br>In section 1.6 of the Scoping Report it is stated that an FRA will be submitted and that it will assess the flood risk both to and from the Project. It will also demonstrate how flood risk will be managed over the Project's lifetime and give regard to climate change as the route of the pipeline will be in areas at risk of flooding. | The FRA is provided in **Appendix 7F: Flood Risk Assessment**. |
| **Water Environment, paragraph 4** | It is appreciated that a consultation will be undertaken with the LLFA and the Environment Agency to discuss the effects of the proposal on the water environment. For works within the rivers a Marine Licence will also be required. | Consultation with the LLFA, MMO and the Environment Agency for works associated with rivers and other water bodies to date is summarised in this appendix. |

| Consultee | Consideration | How addressed in the Draft ES Water Environment chapter |
|---|---|---|
| **Water Environment, paragraph 5** | Much of the Warrington area is classed as an area of critical drainage so is liable to flooding and is located in Flood Zones 1, 2 and 3. Penketh, Warrington town centre and the surrounding areas have been flooded recently. It is recommended that more work be undertaken in relation to surface water flood risk to Warrington as no mention is made of it within this section. | Surface water flood risk within Warrington is addressed in **Appendix 7F: Flood Risk Assessment**. |
| **Water Environment, paragraph 6** | It is agreed that the CRT and Peel Ports should be consulted as part of the process. | See the CRT and MMO consultation and response within this appendix. |
| **Water Environment, paragraph 7** | There is also currently flood defence work being undertaken in the Scoping Area and this must not be affected by the Project. | Information was shared about the Sankey Brook Flood Risk Management Scheme. The Scheme's boundary's do not intersect with the Project's Draft Order Limits.<br>Further consultation, in particular with regards to any changes in flow that may affect the flood risk to the Hynet Draft Order Limits is ongoing with the Environment Agency and LLFAs. |
| **Water Environment, paragraph 8** | It is welcomed that the application will be submitted with an FRA. | The FRA is provided in **Appendix 7F: Flood Risk Assessment**. |

# 2. Statutory Consultation

2.1.1 Statutory consultation took place between 12 September and 10 November 2022 in accordance with the Planning Act 2008[3]. Prescribed and non-prescribed consultees and members of the public were consulted. Various methods of consultation and engagement were used in accordance with the Statement of Community Consultation (SoCC) including letters, website, public exhibitions, publicity and advertising in newspapers and webinar briefings.

2.1.2 Cadent Gas Ltd (Cadent) ("the Applicant") prepared a Preliminary Environmental Information Report (PEIR) which was publicised at this consultation stage in 2022. The Applicant sought feedback on the environmental information presented in the PEIR. Feedback received during statutory consultation was considered by the Applicant and incorporated, where relevant, into the design of the Project and its assessment and is presented in the ES.

2.1.3 A summary of the relevant responses received in response to statutory consultation and any subsequent discussions held in relation to the water environment and confirmation of how these have been considered within the assessment to date is presented in **Table 7A.2.1**.

2.1.4 Technical engagement with consultees (Post-Section 42 Consultation) in relation to water environment is given within **Table 7A.2.2**.

[3] UK Government (2008). Planning Act 2008. (online) Available at: https://www.legislation.gov.uk/ukpga/2008/29/contents (Accessed August 2024)

**Table 7A.2.1Summary of Section 42 consultation responses for water environment**

| Consultee | Consideration | How addressed in the Draft ES |
|---|---|---|
| **United Utilities** | | |
| **Proposal: HyNet North West Hydrogen Pipeline – Second Statutory Consultation, 2. Geomorphology** | An overall consideration for the upcoming ES is over the broad use of 'medium' when defining the sensitivity of all water bodies/watercourses in the study area, which is based on the WFD regulations overall water body status ranging from 'Poor' to 'Medium'. It would be useful to understand individual watercourse sensitivities including minor watercourses based off field surveys and the criteria described in PEIR Table 7.19. From a geomorphology perspective it is a case of understanding how active and sensitive they would be to change and whether this would pose a risk to United Utilities assets. | This is noted and the approach to hydromorphology is described within Appendix 7C: Hydromorphology desk-based study and site survey. |
| **Proposal: HyNet North West Hydrogen Pipeline – Second Statutory Consultation, 2. Geomorphology** | Further consideration over mitigation would be preferred regarding which watercourses would be sensitive enough for using clear span bridges etc., as the current sensitivity value of Medium comes across as vague. Further surveying to identify and value each individual watercourse based on PEIR Table 7.19 would instil further confidence that mitigation is appropriate and would be unlikely to affect any local United Utilities assets. | This is noted and survey work to date is described within **Chapter 7: Water Environment - Section 7.4** watercourse sensitivity is described within **Chapter 7: Water Environment - Section 7.8.** |
| **Proposal: HyNet North West Hydrogen Pipeline – Second Statutory** | Any effects to watercourses have been concluded in the PEIR as being insignificant following the use of mitigation measures, which is appropriate from a geomorphological perspective. Any potential damage arising from the use of | This is noted and concerns are addressed within embedded environmental measures in **Chapter 7:** |

| Consultee | Consideration | How addressed in the Draft ES |
|---|---|---|
| **Consultation, 2. Geomorphology** | tracking, trenches and temporary road crossings to United Utilities assets associated with the four low Sensitivity (local WWTW treated effluent) discharge licenses assessed in the PEIR along the Preliminary Order Limits (POL), would be prevented for and assessed as being negligible. This again is considered reasonable from a geomorphological point of view, as mitigation would only lead to negligible/short-term risks of scour to bed and bank material during and after construction. However, it would be recommended to check the quantity of United Utilities' assets (including Combined Sewer Overflow (CSO) outfalls, pipe bridges, etc.) which may not have permits assigned to them within the POL for the upcoming ES. There is a risk that such assets may not always be mapped. In addition, protective provisions will be agreed with United Utilities in relation to the protection of its assets during construction and operation. | **Water Environment - Section 7.6.** |
| **Proposal: HyNet North West Hydrogen Pipeline – Second Statutory Consultation, 2. Geomorphology** | A recommendation, given the minor comment on temporary construction outfalls in the PEIR, is consideration of the location of such outfalls and the need to maintain suitable distance from any of the United Utilities assets detailed in the PEIR, if a temporary construction compound is within close proximity of a United Utilities asset. However, with mitigation measures in place (e.g. embedded mitigation measure C-12) the likelihood of any significant concern arising from the temporary construction outfalls is negligible. | All temporary construction compound outfalls would be permitted by the appropriate LLFA (**Chapter 7: Water Environment - Section 7.2**) and would take into account relative proximity to existing riverbank structures (see embedded environmental measure C-12, **Chapter 7: Water environment - Section 7.6**). |

| Consultee | Consideration | How addressed in the Draft ES |
|---|---|---|
| **HyNet – Hydrogen Pipeline Planning Consent Review - 3. Flood Risk** | The PEIR highlights large scale permitted discharges such as from United Utilities WWTWs as highly sensitive receptors. Smaller WWTW discharges are classed as lower sensitivity. However, permitted discharges are generally proportionate to the scale of the receiving watercourse, with bigger watercourses having bigger permitted discharges. The sensitivity of outfalls and downstream receptors to changes in flood risk is dependent on their permitted discharge rates. We recommend that the sensitivity of all outfalls be assessed proportionate to the site-specific and watercourse-specific environmental conditions. Overall, sewer/effluent discharges have rightly been identified by the developer as a receptor for changes in fluvial flood risk as a result of the proposals. Site-specific mitigation measures are not currently available for consultation. | This is noted and sensitivity of United Utilities assets are described within **Chapter 7: Water Environment - Section 7.8**. Site-specific embedded environmental measures have been discussed during consultation and are considered within **Chapter 7: Water Environment - Section 7.6** and Appendix 7F: Flood Risk Assessment. |
| **HyNet – Hydrogen Pipeline Planning Consent Review - 3. Flood Risk** | From a fluvial flood risk perspective, there is limited concern for impacts on the integrity and performance of United Utilities assets. Construction and permanent development in floodplains would be avoided wherever possible. Where this is not possible, permanent mitigation would be developed to ensure the works are NPPF compliant, backed up by appropriate flood modelling.<br><br>Similarly, for any temporary works, all proposals would comply with Environmental Permitting Regulations and would need to demonstrate no negative impacts on flood risk to nearby assets. Again, this would be supported by flood modelling and FRA(s) as appropriate. | This is noted and considered within Appendix 7F: Flood Risk Assessment. Flood modelling is presented within Appendix 7G: Hydraulic modelling for hydrogen above-ground installations. |

| Consultee | Consideration | How addressed in the Draft ES |
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| | Climate change impacts would be accounted for in site-specific flood risk assessments. | |
| **HyNet – Hydrogen Pipeline Planning Consent Review - 3. Flood Risk: Sewer and Reservoir Flood Risk** | Whilst United Utilities does all that it can to reduce the risk of sewer flooding, there remains a residual risk, which is a source of flooding that should be considered in the ES. National policy is clear that flood risk from all sources, including sewers, must be considered in the delivery of new development. As such, it is important to ensure that the assessment of flood risk includes sewer flood risk. It should be ensured that the Project does not result in an increase in flood risk from the public sewer as a result of the following:<br><br>any proposed new drainage connections to the public sewer. This is considered in further detail below;<br>by altering any existing exceedance flood paths of losses from the public sewer;<br>by locating any above ground elements of your proposal in areas where there is an existing risk of sewer flooding. There are a number of locations within the POL boundary where United Utilities modelling data indicates flood water exceedance paths from the public sewer and United Utilities would need to liaise with the Applicant to assess its proposals in relation to this point and point ii);<br>as a result of any diversions/works to watercourses or existing sewers which could materially affect hydraulic performance and therefore change/increase any risk of flooding; | This is noted and considered within the Drainage Strategy in Appendix 7F: Flood Risk Assessment. |

| Consultee | Consideration | How addressed in the Draft ES |
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| | as a result of any changes in ground levels which could materially change existing sewer flood risk; or<br>as a result of any changes to land or property currently affected by existing hydraulic sewer flooding incidents.<br>It is therefore requested that ES considers flood risk from the public sewerage system in liaison with United Utilities so that the above matters are fully considered. | |
| **HyNet – Hydrogen Pipeline Planning Consent Review - 3. Flood Risk: Sewer and Reservoir Flood Risk** | United Utilities wishes to note that there are various locations within the initial corridor options which are affected by the exceedance flood paths of losses from the public sewer. These should not be affected by the proposed development.<br><br>In addition United Utilities wishes to note that there are various locations within the POL crossed by reservoir flood paths. It recommends that reservoir flood paths are avoided where possible, especially in respect of any proposed above ground installations. They should also be considered in the ES. | This is noted and considered within Appendix 7F: Flood Risk Assessment. |
| **HyNet – Hydrogen Pipeline Planning Consent Review - 4. Drainage - Foul and Surface Water** | Existing drainage systems are often dominated by combined sewers. This method of sewer infrastructure is a result of the time it was constructed, with combined sewers taking both foul and surface water. If there is a consistent approach to surface water management, it would help to manage and reduce surface water entering the sewer network, decreasing the likelihood of flooding from sewers, | This is considered within the Drainage Strategy in Appendix 7F: Flood Risk Assessment and details of the approach to the storage and disposal of hazardous fluids is considered within |

| Consultee | Consideration | How addressed in the Draft ES |
|---|---|---|
| | the impact on residents and businesses, and the impact on the environment.<br><br>United Utilities would be grateful if the Applicant can provide details of any drainage proposals in respect of both foul and surface water. This should include rates of discharge, volumes of discharge, points of connection, the nature and extent of any contaminants and details of any necessary pre-treatment prior to connection to the public sewer. United Utilities request that the Applicant provide details of drainage during operation of the proposed pipeline and during the construction period. It requests further details of any approach for the storage and disposal of any hazardous fluids. United Utilities wishes to understand whether there is any intention to connect such flows to its public sewerage network and to ensure any potential impact on water supply and wastewater assets, including the groundwater environment, is fully considered and mitigated. | embedded environmental measures within **Chapter 7: Water Environment - Section 7.6**. |
| **HyNet – Hydrogen Pipeline Planning Consent Review - 4. Drainage - Foul and Surface Water - Surface Water Management Hierarchy** | United Utilities wishes to emphasise that consistent with the principles of the hierarchy for the management of surface water in national planning policy and the obligations of the Environment Act 2021, no surface water would be allowed to discharge to the existing public sewerage system. Surface water should instead discharge to more sustainable alternatives as outlined in the surface water management hierarchy. This would ensure the impact of development on public wastewater infrastructure, both in terms of the wastewater network and wastewater treatment works, is | This is noted and considered within the Drainage Strategy in Appendix 7F: Flood Risk Assessment. |

| Consultee | Consideration | How addressed in the Draft ES |
|---|---|---|
| | minimised. United Utilities adopt this position as surface water flows are very large when compared with foul flows. By ensuring that no surface water enters the public sewerage system, the impact on customers, watercourses and the environment would be minimised. | |
| **HyNet – Hydrogen Pipeline Planning Consent Review - 4. Drainage - Foul and Surface Water - Surface Water Management Hierarchy** | Please note, United Utilities is not responsible for advising on rates of discharge to the local watercourse system. This is a matter for discussion with the LLFA and/or the Environment Agency (if the watercourse is classified as Main River). | This is noted and consultation has been undertaken with the LLFAs (this appendix). |
| **HyNet – Hydrogen Pipeline Planning Consent Review - 4. Drainage - Foul and Surface Water - Surface Water Management Hierarchy** | There should be no land drainage, including dewatering proposals, discharged to the public sewer. | This is noted and considered within the Drainage Strategy in **Appendix 7F: Flood Risk Assessment**. |
| **HyNet – Hydrogen Pipeline Planning Consent Review - 4. Drainage - Foul and Surface Water -** | Given the importance of surface water discharging to an alternative to the public sewer, United Utilities requests that all land that is necessary to facilitate a discharge to a watercourse is fully identified within the Order Limits. This would ensure the Order benefits from the requisite rights of | This is noted and appropriate discharge permitting is considered in **Chapter 7: Water Environment - Section 7.2**. |

| Consultee | Consideration | How addressed in the Draft ES |
|---|---|---|
| **Rights to Discharge to Watercourse or Other Receiving Water Body** | discharge to more sustainable alternatives than the public sewer for the management of surface water e.g., a right to discharge to a watercourse or other water body. For clarity, the extent of land should be sufficient to facilitate a surface water discharge to a watercourse/water body for all elements of the pipeline route. Ensuring that the extent of land within the Order Limits and the supporting ES is sufficient for the purposes of the discharge of surface water is important as a sewerage company has limited powers to acquire the right to discharge surface water to a water body under the Water Industry Act. | |
| | It is equally important to ensure that any existing outfalls that it may be necessary to relocate as a result of any watercourse / culvert diversion are delivered under the powers of the Order. Acquiring the right to discharge / changing permit details can be both a lengthy and costly exercise. | Discharge/changing permit details would be carried out subject to post-DCO requirements. |
| **HyNet – Hydrogen Pipeline Planning Consent Review - 4. Drainage - Foul and Surface Water - Nature of Receiving Catchment** | United Utilities would not wish to see proposals for drainage to connect to wastewater catchments which are disproportionately sized compared with the proposed foul flows as this could have consequences on both the receiving wastewater treatment works and the receiving wastewater network. Careful consideration would therefore need to be given to the point of connection in such circumstances in liaison with United Utilities. This would be a particularly important consideration for those areas of the route that are rural/in open countryside which may be | This is noted and considered within the Drainage Strategy in **Appendix 7F: Flood Risk Assessment**. |

| Consultee | Consideration | How addressed in the Draft ES |
|---|---|---|
| | served by only small wastewater treatment works or where there is no existing wastewater infrastructure. This is important when considering temporary related activities, such as construction compounds and workers accommodation, where it may be necessary to consider on-site treatment. | |
| **HyNet – Hydrogen Pipeline Planning Consent Review - 4. Drainage - Foul and Surface Water - Multi-functional Sustainable Drainage Systems** | United Utilities requests that surface water is only managed via sustainable drainage systems which are multi-functional and at the surface level in preference to conventional underground piped and tanked storage systems.<br><br>Wherever practicable, SuDS should be implemented in accordance with the CIRIA SuDS manual and the Sewerage Sector Design and Construction Guidance for foul and surface water sewers. Managing surface water through the use of SuDS can provide benefits in water quantity, water quality, amenity and biodiversity.<br><br>If the Applicant intends to offer wastewater assets forward for adoption by United Utilities, its proposed detailed design would be subject to a technical appraisal by the Developer Services team and must meet the requirements outlined in the Sewerage Sector Design and Construction Guidance for foul and surface water sewers and United Utilities Asset Standards. This is important as drainage design can be a key determining factor of site levels and layout. | This is noted and considered within the Drainage Strategy in **Appendix 7F: Flood Risk Assessment**. |

| Consultee | Consideration | How addressed in the Draft ES |
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| **HyNet – Hydrogen Pipeline Planning Consent Review - 4. Drainage - Foul and Surface Water - Multi-functional Sustainable Drainage Systems** | Acceptance of a drainage strategy does not infer that a detailed drainage design would meet the requirements for a successful adoption application. United Utilities strongly recommends that no construction commences until the detailed drainage design has been assessed and accepted in writing by United Utilities. Any work carried out prior to the technical assessment being approved is done entirely at the Applicant's own risk and could be subject to change. | Detailed drainage design would be carried out subject to post-DCO requirements. |
| **HyNet – Hydrogen Pipeline Planning Consent Review - 4. Drainage - Foul and Surface Water - Management and Maintenance of Sustainable Drainage Systems** | Without effective management and maintenance, sustainable drainage systems can fail or become ineffective. As a provider of wastewater services, United Utilities believes it has a duty to advise the determining authority of this potential risk to ensure the longevity of the surface water drainage system and the service it provides to people. It also wishes to minimise the risk of a sustainable drainage system having a detrimental impact on the public sewer network should the two systems interact. United Utilities therefore recommends that the Applicant includes details of a management and maintenance regime for any sustainable drainage system that is included as part of the proposed development. | This is noted and considered within the Drainage Strategy in **Appendix 7F: Flood Risk Assessment**. |
| **HyNet – Hydrogen Pipeline Planning Consent Review - 5. Geo Environmental/ Geotechnical Groundwater** | The POL extends to include a number of groundwater source protection zones (SPZs). These are used for the abstraction of water for public water supply purposes. United Utilities requests that the approach to the assessment of the impact on the groundwater environment is considered and agreed with United Utilities. | Consultation has been undertaken with United Utilities regarding the assessment of the impact on the groundwater environment and groundwater SPZs. |

| Consultee | Consideration | How addressed in the Draft ES |
|---|---|---|
| **Environment and Water Resources** | | |
| | At the current time United Utilities does not have sufficient information in order to be able to assess the impact of the proposed development and associated proposals where these lie within a SPZ, or directly overlie an abstracted aquifer, to ensure the proposals *"do not have the potential to cause pollution or harmful disturbance to groundwater flow"* and to ensure "*these risks can be reduced to an acceptable level"*. | The assessment of specific SPZs is provided within **Chapter 7: Water Environment - Section 7.9** and **Appendix 7D: Assessment of water environment effects**. |
| **HyNet – Hydrogen Pipeline Planning Consent Review - 5. Geo Environmental/ Geotechnical Groundwater Environment and Water Resources** | Page 159 of Chapter 7 of the PEIR: Water Environment, indicates that the significance of licensed abstractions – public water supplies as a receptor is negligible (Not Significant). The summary rationale for this decision is given as follows:<br>*"Implementation of a CoCP and associated PPP, DWMP, MMP and WCP. Specific mitigation defined for trenched crossings at watercourse crossing locations. Specific risk assessments and mitigation strategy developed where appropriate, particularly within SPZs."*<br><br>From this statement, it is not clear whether or not site-specific hydrogeological risk assessments would be completed for the 'Screened In' abstractions as part of the | The risk assessment of United Utilities public water supplies receptor is considered within **Chapter 7: Water Environment - Section 7.9** and **Appendix 7D: Assessment of water environment effects** and the approach to this assessment has been agreed in consultation with United Utilities[4]. |

[4] Within e-mail to United Utilities on the 16th December 2022 and subsequent meeting on the 16th January 2023 and 27th February 2023.

| Consultee | Consideration | How addressed in the Draft ES |
|---|---|---|
| | embedded measures. United Utilities does not consider the impact of construction of the HyNet pipeline to be negligible on the groundwater level, flow and quality of the 'Screened In' abstractions, particularly with respect to the Daresbury and Walton abstractions, where the POL indicates a potentially large area of disturbance to the shallow superficial cover within the recharge zones. Additional investigation including Hydrogeological Risk Assessment (HRA) is required to confirm that there is negligible risk to United Utilities abstractions. | |
| **HyNet – Hydrogen Pipeline Planning Consent Review - 5. Geo Environmental/ Geotechnical Groundwater Environment and Water Resources** | The need for a risk assessment reflects the Environment Agency Position Statement N7 of the aforementioned groundwater protection document. This states: *"N7 - Hydrogeological risk assessment: Developers proposing schemes that present a hazard to groundwater resources, quality or abstractions must provide an acceptable hydrogeological risk assessment (HRA) to the Environment Agency and the planning authority. Any activities that can adversely affect groundwater must be considered, including physical disturbance of the aquifer. If the HRA identifies unacceptable risks then the developer must provide appropriate mitigation. If this is not done or is not possible the Environment Agency would recommend that the planning permission is conditioned, or it would object to the proposal."*<br><br>Where the proposed development impacts on a sensitive location within a SPZ relating to a drinking water abstraction | The risk assessment of United Utilities' public water supplies receptor is considered within **Appendix 7D: Assessment of water environment effects** and the approach to this assessment has been agreed in consultation with United Utilities. |

| Consultee | Consideration | How addressed in the Draft ES |
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| | resource (including those not currently in use for public water supply purposes but which may need to be activated in the future), United Utilities requires a site-specific HRA. Along with considering the POL as defined in the PEIR, the HRA must consider the impact on United Utilities owned boreholes which are not currently licenced, but may be critical to future public water supplies. The HRA should be site-specific to the abstractions likely to be affected by the proposals, as indicated in the PEIR's Appendix 7A: Detailed water environment baseline information. This HRA should identify the pollution and ground disturbance impacts on the SPZ and set out pollution prevention mitigation measures that would be needed, both during construction and during the operational life of the proposed development. The HRA should fully consider any related development activities and mitigation.<br><br>The risk assessment should include the following:<br><br>An assessment of the risks to groundwater from the proposed development, including risks to abstraction rates, risks of contamination reaching the aquifers and pollution of the public drinking water supply;<br>A Geological Conceptual Site Model (CSM) for the site, showing the nature and extent of superficial cover and the pathways to the aquifer SPZs across the site; and<br>Desk study and GI reports for the site supporting the CSM, including the monitoring of groundwater depths within the | |

| Consultee | Consideration | How addressed in the Draft ES |
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| | superficial and bedrock aquifers and chemical analysis of ground and groundwater. | |
| **HyNet – Hydrogen Pipeline Planning Consent Review - 5. Geo Environmental/ Geotechnical Groundwater Environment and Water Resources** | *As a nationally and regionally significant scheme, the Applicant should follow 'The Environment Agency's approach to groundwater protection' [1] (hereafter referred to as 'the Environment Agency's approach') in relation to protection of drinking water supply from United Utilities groundwater abstractions. United Utilities wish to draw attention to Position Statements C1, C2 and C5 of 'the Environment Agency's approach' which state the following:*<br><br>*"C1 - Nationally or regionally significant schemes: The Environment Agency requires the promoters of schemes of national or regional significance to protect groundwater when choosing the location for their activity or development. In the cases where this is not possible due to national or regional interests, the Environment Agency expects to be fully involved in the scheme development to mitigate groundwater risks via EPR[5] where applicable. Promoters are expected (via the environmental impact assessment process) to identify all the potential pollution linkages and apply best available techniques to mitigate the risks.*<br><br>*C2 - Non-nationally significant infrastructure schemes in SPZ1 and SPZ2: the Environment Agency would only agree to proposals for infrastructure developments of non-national* | These policies and the Environment Agency's guidance has been considered in **Chapter 7: Water Environment - Section 7.2**. Appropriate screening assessments are provided within **Appendix 7B: Detailed water environment baseline information** (Table 7B-7) and the consideration of infrastructure within SPZs is presented within **Chapter 7: Water Environment - Section 7.9** and **Appendix 7D: Assessment of water environment effects**. |

[5] Environmental Permitting (England and Wales) Regulations 2016 (EPR)

| Consultee | Consideration | How addressed in the Draft ES |
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| | *significance where they do not have the potential to cause pollution or harmful disturbance to groundwater flow or where these risks can be reduced to an acceptable level via EPR if applicable.*<br><br>*C5 - Pipelines and high voltage fluid-filled cables: The Environment Agency would normally object to pipelines or fluid filled cables that transport pollutants, particularly hazardous substances that:*<br><br>*pass through SPZ1 or SPZ2 where this is avoidable;*<br>*are below the water table* in principal or secondary aquifers.*<br>*Where there is an existing or unavoidable need for pipelines or fluid filled cables to pass through SPZ1 or SPZ2, operators are expected to adopt Best Available Techniques (BAT) and operate in accordance with the Energy Networks Association guidance. Where existing pipelines or fluid-filled cables are already below the water table or if the water level subsequently rises, the Environment Agency would work with operators to mitigate the risks. The Environment Agency would only agree to any redevelopment scheme with sub-water table pipelines or fluid-filled cables for the transport of hazardous substances where there are substantial mitigating factors. When the opportunity to replace existing fluid-filled cables in SPZ1 and SPZ2 arises the Environment Agency would work with the operators to agree the best environmental option. The Environment* | |

| Consultee | Consideration | How addressed in the Draft ES |
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| | *Agency expects operators to carry out a site-specific risk assessment prior to the decommissioning of pipelines or fluid-filled cables in SPZ1 and SPZ2. It would then work with operators to agree the best available environmental option. Please note that this position statement applies to underground and on-ground cables but not aerial cables. * For the purposes of this position statement, the term 'water table' is taken to mean any laterally continuous groundwater including perched groundwater. Operators should consider the lifetime of the pipeline or cable in their assessment of the depth to groundwater. Further position statements in section D may also apply."* | |
| **HyNet – Hydrogen Pipeline Planning Consent Review - 5. Geo Environmental/ Geotechnical Groundwater Environment and Water Resources - SPZ1** | Any development taking place within and adjacent to SPZ1 is the most sensitive location from a groundwater protection viewpoint. United Utilities wishes to highlight that development activities (such as construction compounds, storage facilities, temporary workers accommodation, fuel storage facilities, etc.) are more appropriately situated away from sensitive groundwater protection areas, especially land within and adjacent to SPZ1. | The consideration of infrastructure within SPZs is given within **Chapter 7: Water Environment - Section 7.9** and **Appendix 7D: Assessment of water environment effects**. |
| **HyNet – Hydrogen Pipeline Planning Consent Review - 5. Geo Environmental/** | Notwithstanding United Utilities strong preference for development to not take place in locations within SPZ1, if development in this location is necessary, it draws the Applicant's attention to the Environment Agency's position | This is noted and considered within **Chapter 7: Water Environment - Section 7.2** and the drainage strategy |

| Consultee | Consideration | How addressed in the Draft ES |
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| **Geotechnical Groundwater Environment and Water Resources - Sustainable Drainage Systems** | statements as follows.<br><br>*"The risks posed by drainage from the proposed development, should also be assessed within the Environmental Statement for the risk to groundwater abstractions (G11).*<br><br>*G11 - Discharges from areas subject to contamination: Discharges of surface water run-off to ground at sites affected by land contamination, or from sites used for the storage of potential pollutants are likely to require an environmental permit. This applies especially to sites where storage, handling or use of hazardous substances occurs (for example, garage forecourts, coach and lorry parks/turning areas and metal recycling/vehicle dismantling facilities). These sites would need to be subject to risk assessment with acceptable effluent treatment provided.*<br><br>*G13 - Sustainable drainage systems: The Government's expectation is that sustainable drainage systems (SuDS) would be provided in new developments wherever this is appropriate. The Environment Agency supports this expectation. Where infiltration SuDS are to be used for surface run-off from roads, car parking and public or amenity areas, they should:*<br>be suitably designed;<br>meet Government's non-statutory technical standards for sustainable drainage systems; | (**Appendix 7F – Drainage Strategy**). |

| Consultee | Consideration | How addressed in the Draft ES |
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| | these standards should be used in conjunction with the National Planning Policy Framework and Planning Practice Guidance; and<br>use a SuDS management treatment train - that is, use drainage components in series to achieve a robust surface water management system that does not pose an unacceptable risk of pollution to groundwater.<br>*Where infiltration SuDS are proposed for anything other than clean roof drainage (see G12) in a SPZ1, a hydrogeological risk assessment should be undertaken, to ensure that the system does not pose an unacceptable risk to the source of supply. This position statement G13 needs to be read in conjunction with position statement G10. The above Position Statements highlight the importance of including drainage information as part of the Environmental Statement."* | |
| **Geo Environmental/ Geotechnical Groundwater Environment and Water Resources - Storage of Hazardous Substances** | The risks posed by storage and distribution of fuels, chemicals and wastes from the proposed development should also be assessed for the risk to groundwater and other water abstractions (Environment Agency Position Statement Section D). | This is noted and considered within the embedded environmental measures in **Chapter 7: Water Environment - Section 7.6**. |
| **Geo Environmental/ Geotechnical Groundwater** | United Utilities notes that within the PEIR Table 7.17 refers to likely significant effects as including the following: | Details of all these plans would be secured via appropriate post-DCO |

| Consultee | Consideration | How addressed in the Draft ES |
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| **Environment and Water Resources - Environmental Management Plan** | deterioration in the water quality of surface and groundwater bodies affected by disturbance of contaminated land, or accidental spillage of pollutants (e.g. fuel or oil);<br>deterioration in water quality due to permitted discharges from construction (e.g. treated sewage effluent from welfare facilities or pre-commissioning pipeline testing);<br>impacts on groundwater levels from dewatering activities and the effects of groundwater infrastructure;<br>impacts on groundwater levels or surface water flow regime arising from abstraction for construction or pre-commissioning pipeline testing; and<br>changes in shallow groundwater flow and level regime due to presence of underground infrastructure.<br><br>Table 7.24 then classifies both the magnitude and significance of all the above effects as negligible based on the development and implementation of various management plans such as a Code of Construction Practice, Materials Management Plan etc. United Utilities would wish to liaise with the Applicant to agree the content of any Environmental Management Plans including any CoCP, PPP, DWMP and MMP which are referenced in the consultation material. The Applicant should follow best practises in its use and storage of fuels, oils, chemicals and other wastes to remove the risk of causing pollution during construction and operation of the scheme. The approach of any control measures would need to be specific to the | Requirements, subject to approval of the Local Planning Authority (LPA).<br><br>Embedded environmental measures in **Chapter 7: Water Environment - Section 7.6** and control measures would be specific to the environmental setting of the area (such as a location within a SPZ) and to the receptors risk assessment. |

| Consultee | Consideration | How addressed in the Draft ES |
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| | environmental setting of the area (such as a location within a SPZ) and should fully reflect the findings of any hydrogeological risk assessment and the implications for all water resources. | |
| **Geo Environmental/ Geotechnical Groundwater Environment and Water Resources - River Dee Catchment** | The River Dee catchment is of strategic importance to United Utilities and supplies approximately one third of customers in the North West. The way that land is managed and used in this area is critical to ensure that the public water supply resource is not compromised. In this context, the Applicant would need to ensure that there is no unacceptable impact on the River Dee catchment and associated water resources. | This is noted and surface water catchments are considered within the baseline in **Chapter 7: Water Environment - Section 7.5**. The Study Area does not intersect with the River Dee catchment and therefore this water body is not included within the receptor list. |
| **Geo Environmental/ Geotechnical Groundwater Environment and Water Resources - Contaminated Land** | United Utilities requests that the assessment of potential environmental impact from contamination fully considers the impact on its assets, water resources and water quality, as a result of construction and future operation of the proposed development. | This has been considered within the baseline in **Chapter 7: Water Environment - Section 7.5** and assessment in **Chapter 7: Water Environment - Section 7.9** and **Appendix 7D: Assessment of water environment effects**. |

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| **Geo Environmental/ Geotechnical Groundwater Environment and Water Resources -6. Water Supply Requirements** | United Utilities requests that the Applicant provides details of any water supply requirements for both construction and during operation as soon as possible. This should include details on rates of water supply required in litres per second and anticipated points of connection to the public water supply network. The details of water supply required should include details for any fire response purposes that may be necessary. For temporary related activities such as construction compounds and workers accommodation, early consideration of any water supply requirements would also be required. If reinforcement of the water network is required to meet potential demand, this could be a significant project and the design and construction period should be accounted for.<br><br>United Utilities is aware of initial dialogue regarding the operational water requirements for the wider hydrogen project. Initial assessments of water supply requirements have been undertaken and more detailed in-depth assessments are ongoing in relation to the wider hydrogen project. The Applicant should consider how its environmental assessment needs to address any water supply requirements as a result of it proposal and the cumulative impact of the wider hydrogen proposals. This should include consideration of where the water is sourced from, what (if any) new assets are required and whether we need to apply for any abstraction licences. This matter could also be material to the Applicant's Order Limits. | Water supply requirements are considered within **Chapter 7: Water Environment - Section 7.9** assessment summary and the assessment of the environmental impacts of this water supply is provided in **Appendix 7D: Assessment of water environment effects**. Permits and abstraction licences are considered within **Chapter 7: Water Environment - Section 7.2** and would be carried out subject to post-DCO requirements. |

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| | United Utilities also encourages the Applicant to consider water efficiency and water re-use opportunities wherever possible. | |
| **HyNet – Hydrogen Pipeline Planning Consent Review, 2.2 Sewers, 4.0 Summary of Findings and Recommendations** | The pipeline route crosses through a number of areas where United Utilities modelled hydraulic flood risk data predicts the sewers to flood (1 in 5, 1 in 10 and 1 in 30 year storms). Diversion of sewers in areas known to flood may not be feasible.<br>The Applicant must engage with United Utilities to ensure development is not located in an area at risk of flooding from the public sewer. The Applicant should consider site topography and any exceedance flow paths. Resultant layouts and levels should take account of such existing circumstances. The Applicant must demonstrate that the proposed development would be safe and not lead to increased flood risk and should not assume that changes in levels or changes to the public sewer, including diversion, would be acceptable as such proposals could increase/displace flood risk.<br><br>The risk of flooding from inundation of the proposed works from an impounding reservoir breach is considered to be negligible. The Applicant however should consider the positioning of its infrastructure that may need to be available in emergency situations, in particular at key infrastructure locations. | This is noted and responses to each individual reference are provided within **Appendix 7F: Flood Risk Assessment**. |

| Consultee | Consideration | How addressed in the Draft ES |
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| **HyNet – Hydrogen Pipeline Planning Consent Review - Impounding Reservoirs** | No impounding reservoirs have been identified within 500m of the proposed pipeline working area. The risk of flooding from inundation of the proposed works from an impounding reservoir breach is considered to be negligible. Flooding from service reservoirs has not been considered as part of this review. | This is noted and responses to each individual reference are provided in **Appendix 7F: Flood Risk Assessment**. |
| **HyNet – Hydrogen Pipeline Planning Consent Review - Summary of Findings and Recommendations** | There are a number of locations where United Utilities water and wastewater assets are affected by the proposed pipeline and temporary works, and the following are noted.<br><br>The requirements of United Utilities 'Standard Conditions for Works Adjacent to Pipelines shall apply to the works'; and<br>Where a United Utilities asset is affected by the proposed works, the developer shall submit information and calculations to United Utilities for review and acceptance. This may include, but is not limited to information including general arrangements and sections, temporary works calculations including loading, settlement and vibration calculations, pipe crossing details etc.<br><br>Where vehicle movements are not on the public highway (the HGV, LGV and light construction vehicle routes within the Preliminary Order Limits are not shown) and are crossing or in close proximity to United Utilities assets, an assessment of the temporary loading on the pipe would be required. Protection of the pipes may also be required. | This is noted and detailed design calculations would be carried out subject to post-DCO requirements.<br>Protective provisions to be agreed with United Utilities in relation to the protection of its assets during construction and operation. |

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| | United Utilities permitted limits for pipe loading are set out in its 'Standard Conditions for Works Adjacent to Pipelines'. | |
| **HyNet – Hydrogen Pipeline Planning Consent Review - Summary of Findings and Recommendations** | The developer must engage with United Utilities to ensure that the development is not located in an area at risk of flooding from the public sewer. The Applicant should consider site topography and any exceedance flow paths. Resultant layouts and levels should take account of such existing circumstances. The Applicant must demonstrate that the proposed development would be safe and not lead to increased flood risk. The Applicant should not assume that changes in levels or changes to the public sewer, including diversion, would be acceptable as such proposals could increase/displace flood risk. | This is noted and responses to each individual reference are provided within **Appendix 7F: Flood Risk Assessment**. |
| **HyNet – Hydrogen Pipeline Planning Consent Review - Summary of Findings and Recommendations** | Uncharted United Utilities assets may be encountered during the works. These may include, but are not limited to, water mains, sewers, outfalls from treatment works, drain-off pipes from reservoirs etc. If the developer encounters any uncharted United Utilities services during the works, they shall inform United Utilities to establish ownership and any required protection.<br><br>Proposed works in the proximity of the Mersey Valley Sludge Pipeline (MVSP) would require additional precautions in line with the requirements for works adjacent to high pressure sludge pipelines. | This is noted and detailed design calculations would be carried out subject to post-DCO requirements. |

| Consultee | Consideration | How addressed in the Draft ES |
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| **HyNet – Hydrogen Pipeline Planning Consent Review - Summary of Findings and Recommendations** | The risk of flooding from inundation of the proposed works from an impounding reservoir breach is considered to be negligible. The developer however, should consider the positioning of their infrastructure that may need to be available in emergency situations, in particular at key infrastructure locations | This is noted and considered within **Appendix 7F: Flood Risk Assessment**. |
| **HyNet – Hydrogen Pipeline Planning Consent Review - Summary of Findings and Recommendations** | The developer shall give due consideration for any constraints arising as a result of the installation of the permanent works which may prevent United Utilities safely maintaining its assets in the proximity of the new pipeline in future. | This is noted and considered within the design process (**Chapter 2: The Project**). |
| **Cheshire East Council** | | |
| **Flood Risk and Drainage** | The Council is generally satisfied with the PEIR. From a review of the Council's flood risk mapping systems, it is evident that the proposed route of the hydrogen pipeline would interact with numerous Main River and Ordinary Watercourse networks in the areas of interest. An extract of the surface water flood risk maps is shown below for information. The Council would require an appropriate FRA to be submitted for review where water management interests may be affected. Additionally, LLFA specific consent approvals may be required for any development within 8m of an Ordinary Watercourse. Furthermore, if the proposal requires the discharge of surface water flows into an Ordinary Watercourse and/or any dewatering works, this | This is noted and considered within **Appendix 7F: Flood Risk Assessment**. Embedded environmental measures are considered within **Chapter 7: Water Environment - Section 7.6**. |

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| | would require formal Land Drainage Consent under Land Drainage Act 1991 from the LLFA. Please note that if dewatering is proposed then this would also require land drainage consent from the LLFA. Temporary units installed for the construction purposes would require any surface water drainage arrangement agreed with the LLFA. This should include a positive and sustainable outfall following the hierarchy of drainage set out in Part H of the Building Regulations as seen below.<br><br>1. Into the ground (infiltration);<br>2. To a surface water body;<br>3. To a surface water sewer; and<br>4. To a combined sewer.<br><br>The surface water drainage strategy must include attenuation up to 1 in 100 years + % climate change allowance. Please note that Cheshire East Council LLFA supports the use of SuDs.<br><br>Please note that if any alterations to Ordinary Watercourses are proposed, the developer would be required to obtain formal consent under the Land Drainage Act 1991 from Cheshire East Council as LLFA. Further liaison with the flood risk management team is recommended who can be contacted on flood.investigation@cheshireeast.gov.uk to discuss (Classification - “watercourse” includes all rivers and streams and all ditches, drains, cuts, culverts, dikes, | |

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| | sluices, sewers (other than public sewers within the meaning of the M3 Water Industry Act 1991) and passages, through which water flows).<br><br>Please be aware that Cheshire East Council byelaw 10 states *"No obstructions within 8 Metres of the Edge of the Watercourse"*. The byelaw requires that no person, without the previous consent of the Council, shall erect any building or structure, whether temporary or permanent, or plant any tree, shrub, willow or other similar growth within 8m of the landward toe of the bank where there is an embankment or wall or within 8m of the top of the batter where there is no embankment or wall, or where the watercourse is enclosed within 8m of the enclosing structure. Further information on the Council's land drainage consenting requirements can be found here: https://www.cheshireeast.gov.uk/planning/flooding/floods-and-flood-risk/land-drainage-consent.asp | |
| **Environment Agency** | | |
| **Environment Agency Comments, Chapter 2: The Project Paragraph 2.4.4 (page 15)** | PEIR paragraph 2.4.4 states that *"the pipeline will be constructed predominantly using open cut techniques; where open cut is not practicable trenchless crossing techniques will be used at key locations including motorways and major highways, rail, rivers (typically those classed as Main Rivers, but some may be Ordinary Watercourses) and canals"*. Appendix 2A includes a | The preferred method of watercourse crossing installation on Main Rivers is noted and consultation on this matter has been undertaken with the Environment Agency. The |

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| | schedule for crossing types and proposed construction method (open cut or trenchless) which is further illustrated in Figure 2.18. The Environment Agency notes from the Crossing Schedule that an 'open cut' method of construction is currently proposed for some watercourse crossings including designated 'Main Rivers'. The preferred method of installation, which would also be more compliant to the WFD, would be to ensure all watercourse crossings are undertaken by HDD underneath a watercourse channel to minimise potential environmental impact.<br><br>Of particular concern is the current intention to utilise the 'open cut' construction method to cross the River Bollin (RVX-03-00-00-005) which is designated 'Main River'. This is mainly because 'open cut' crossings could adversely affect legally protected species, such as water voles (Arvicola amphibius) and create a temporary barrier to migratory fish species. It would also need to be demonstrated that the construction method would not prevent the water body from attaining 'Good Status' or 'Potential' in future in line with the WFD. Therefore, the Environment Agency would need to see full details of the pipeline construction methods and a full assessment of the environmental impacts on the water environment and biodiversity within the forthcoming ES for the watercourse crossings. This is with particular regards to determining whether the 'open cut' construction method is suitable in place of trenchless techniques and where this approach | River Bollin watercourse crossing design has been reviewed and is now trenchless. Assessment of watercourse crossings is considered within **Chapter 7: Water Environment** - **Section 7.9**, **Appendix 7D: Assessment of water environment effects** and the **Appendix 7E: Water Framework Directive Assessment**. Environmental permitting for watercourse crossings are considered within **Chapter 7: Water Environment - Section 7.2** and consultation with the LLFAs within this appendix. |

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| | may be deemed acceptable, appropriate mitigation measures are in place.<br><br>Further to the above, crossing designated 'Main Rivers' would need to be agreed upfront with the Environment Agency due to the requirement to obtain an Environmental Permit to ensure inappropriate damage is avoided and flood risk is not increased (please see further advice under 'Environmental Regulation and Permitting Requirements' below). The Environment Agency notes this is recognised in Chapter 7 ('Water Environment') of the report and the Environment Agency would encourage early discussions on the Crossing Schedule at the earliest opportunity. | |
| **Environment Agency Comments, Chapter 2: The Project, Paragraph 2.5.24 (page 38)** | PEIR paragraph 2.5.24 recognises the likely activities required during site preparation including temporary site drainage, sediment management and temporary watercourse crossings. The Environment Agency would advise that the volume and rates of discharge for drainage would need to be controlled to remove the risk of harming the ecology, increasing water levels, or impacting water quality.<br><br>Please be mindful of any Environmental Permits that might be required for dewatering, temporary watercourse crossings, and/or discharges (please see comments under 'Environmental Regulation and Permitting Requirements' below). The Environment Agency notes this is considered in | This is noted and considered within the Drainage Strategy in **Appendix 7F: Flood Risk Assessment**. Environmental permits are considered within **Chapter 7: Water Environment - Section 7.2**. |

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| | Table 7.15 (Summary of embedded environmental measures) in Chapter 7 'Water Environment'. | |
| **Environment Agency Comments, Chapter 2: The Project, Paragraph 2.5.29 (page 39)** | PEIR paragraph 2.5.29 states *"dewatering of trenches may be required e.g., in the event that groundwater is present"* and is discussed further in Chapter 7 of the report. Please see further guidance below under 'Environmental Regulation and Permitting Requirements' in relation to dewatering activities. | Environmental permits are considered within **Chapter 7: Water Environment - Section 7.2**. |
| **Environment Agency Comments, Chapter 2: The Project, Paragraph 2.5.44 (page 41)** | PEIR paragraph 2.5.44 states *"open cut installation of watercourses would typically be undertaken by one of two methods, either by fluming or damming and subject to the required consents"*. In addition to the comments under paragraph 2.4.4, please see further guidance below under 'Environmental Regulation and Permitting Requirements' on impoundment licences, dewatering and works to 'Main Rivers'. | Environmental permits are considered within **Chapter 7: Water Environment - Section 7.2**. |
| **Environment Agency Comments, Section 2.7: Decommissioning (pages 53–54)** | The Environment Agency notes the Decommissioning Plan would be developed *"to address the relevant statutory requirements at the time, any extant commitments with landowners / statutory authorities and take account of any developed technology and good practice at the time of decommissioning"* (PEIR paragraph 2.7.3, page 54). | This is noted and the approaches to design and embedded environmental measures are considered within **Chapter 7: Water Environment - Section 7.6**. |

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| | As referred to under the comments to paragraph 2.4.4, the Environment Agency has concerns should a watercourse be subject to 'open cut' method of installation resulting in pipeline sections cutting though a watercourse channel (above the watercourse bed). Of further concern would be where decommissioning then results in the pipeline being left in-situ crossing a watercourse and filled with grout (paragraph 2.7.7, page 54), leaving it there in 'perpetuity', where there is a potential to cause flow blockages (which increases flood risk). | |
| **Environment Agency Comments, Chapter 7: The Water Environment, Table 7.3 (pages 18-27)** | In addition to 'The Environment Agency's Approach to Groundwater Protection', reference should also be made to the Environment Agency's Groundwater Protection Technical Guidance which can be viewed here: https://www.gov.uk/government/collections/groundwaterprotection. | Considered within **Chapter 7: Water Environment - Section 7.2**. |
| **Environment Agency Comments, The Water Environment, Section 7.6 – Baseline (pages 55-93)** | Understanding site-specific hydromorphology is key to both understanding the significance of the impact to the aquatic environment (including indirect impacts to macroinvertebrates and fish) but also informing the design/construction method of each pipeline crossing. Baseline fluvial processes at channel crossings should be understood to inform the depth and location of each pipe crossing and to ensure impacts are minimised whereby further reinforcement works are not required in the future. | Hydromorphology and fluvial processes baseline are considered within **Chapter 7: Water Environment - Section 7.5**. |

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| **Environment Agency Comments, The Water Environment, Paragraph 7.6.125 and 7.6.126 (page 93)** | PEIR paragraph 7.6.126 states *"it may be appropriate to assess construction related effects against the existing baseline surface water environment, however potential effects should take account of a future baseline environment that assumes "Good" status / potential would be attained during the lifetime of the Project"*. In many cases, it would be appropriate to look at construction impacts against the existing WFD water quality baseline as any impacts are expected to be temporary.<br><br>The element level water body objectives should be checked to understand if any water quality improvements are expected by 2027. This information is available on the catchment data explorer (North West River Basin District \| Catchment Data Explorer). Where an objective for an element is 2027 and low confidence, it is unlikely that the objective would be achieved by 2027, however, where an objective for an element is 2027 the Environment Agency has a reasonable level of confidence the objective would be achieved by 2027 or before. | This is considered within **Appendix 7E: Water Framework Directive Assessment**. |
| **Environment Agency, The Water Environment, Paragraph 7.6.72 (page 80)** | PEIR paragraph 7.6.72 states *"the Study Area intersects multiple SPZs which are classified as safeguard zones for public water supply groundwater abstractions"*. SPZs are Source Protection Zones, whereas Safeguard Zones (SGZs) are a separate designation and therefore the paragraph should be amended to avoid any ambiguity. | This is noted and included within the baseline in **Chapter 7: Water Environment - Section 7.5** |

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| | The assessment appears to have screened for published bespoke SPZs within the Study Area. These tend to be associated with large public water supply abstractions or other large abstractions used in food production or for potable use (Groundwater Position Statement B2). It should be acknowledged that all groundwater abstractions intended for human consumption or food production assume a default SPZ1 with a minimum radius of 50m and in some cases a default SPZ2 (Groundwater Position Statement B3). | |
| **Environment Agency, The Water Environment, Paragraph 7.6.73 (page 80-81)** | As highlighted above (paragraph 7.6.73 of Chapter 7 'Water Environment'), there are two SGZs within the study area, where one is located at Winwick and the other at Frodsham. These would need to be considered as part of any further assessment. | This is noted and included within the baseline and assessment in **Chapter 7: Water Environment - Section 7.5**, **Chapter 7: Water Environment - Section 7.5** and **Appendix 7D: Assessment of water environment effects**. |

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| **Environment Agency, The Water Environment, Table 7.15 – Summary of Embedded Environmental Measures (page 94 - 102)** | The 'Overall Design: D5 - Management of Subsurface flow pathways' section should also include an assessment of the impact that introducing barriers to groundwater flow may have on water resources in addition to the flood risk impacts. This may be a particularly important consideration in the superficial deposits close to surface water courses where groundwater may be providing a proportion of baseflow (please refer to Groundwater Position Statements N8, N9 and N11). This aspect should be considered for further assessment in PEIR Table 7.17. | This is noted and is considered with **Chapter 7: Water Environment - Section 7.5** and also addressed further within **Section 7.6**. |
| **Environment Agency, The Water Environment, Table 7.15 – Summary of Embedded Environmental Measures (page 94 - 102)** | With respect to 'Construction – water and silt management: C7 Management of Dewatering Excavations', if it is deemed necessary to abstract 20m$^3$/day or more to facilitate dewatering of excavations, then this would require an abstraction licence to be issued before any dewatering commences. Please see further information below under 'Environmental Regulation and Permitting Requirements'. | Environmental permits are considered within **Chapter 7: Water Environment - Section 7.2**. |
| **Environment Agency, The Water Environment, Table 7.15 – Summary of Embedded Environmental Measures (page 94 - 102)** | 'Construction – watercourse crossings: C-26 Trenchless Pipeline Crossings & C-27 Trenched crossings of minor watercourses<br>C-26' states *"all pipeline crossings of major watercourses are to be trenchless"* where trenched crossings would be for 'minor watercourses' (C-27). However, as noted above under comments for PEIR paragraph 2.4.4 of Chapter 2, the Environment Agency has raised concerns on the 'open cut' construction method currently proposed for watercourse | See comment above, and the assessment of watercourse crossings are considered within **Chapter 7: Water Environment - Section 7.9**, **Appendix 7D: Assessment of water environment effects** and **Appendix 7E:** |

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| | crossings i.e. the River Bollin which the Environment Agency consider to be a 'major watercourse'. | **Water Framework Directive assessment**. |
| **Environment Agency, The Water Environment, Paragraph 7.10.15 (page 128)** | PEIR paragraph 7.10.15 states *"without appropriate mitigation measures in place, construction activities have the potential to cause elevated ingress of suspended sediments (with associated nutrients and other contaminants) into surface water bodies"*. The other mechanism by which the nutrient status of receiving surface water bodies could be impacted by construction is from discharge of foul sewage arising from temporary site offices and worker welfare facilities. | Although the arrangements for foul sewage treatment and disposal for the construction phase of the Project are yet to be confirmed, appropriate treatment and disposal of sewage would be provided where no foul sewer is available to ensure protection of the water environment. Should discharge of treated effluent to watercourses or to land be required, this would be subject to an Environmental Permit. |

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| **Environment Agency, The Water Environment, Paragraph 7.10.15 (page 128)** | Parameters other than nutrients may deteriorate from welfare facilities, including ammonia and dissolved oxygen and would advise these elements are referenced. An Environmental Discharge Permit would control any additional nutrients (phosphate or nitrate) or physio-chemical elements (ammonia and BOD) to the watercourses. Depending on the location and the size of the discharge in order to minimise the impact to the receiving environment, there may be a need for treatment above standard secondary treatment. Although the arrangements for foul sewage treatment and disposal for the construction phase of the Project are yet to be confirmed, appropriate treatment and disposal of sewage should be provided where no foul sewer is available to ensure protection of the water environment. | Environmental permits are considered within **Chapter 7: Water Environment - Section 7.2**. |
| **Environment Agency, The Water Environment, Paragraph 7.10.15 (page 128)** | The Environment Agency welcomes the inclusion of a CoCP (via a Construction Environmental Management Plan) prior to the commencement of construction and a DWMP specific to water and silt management during the construction phase, as highlighted in PEIR Table 7.15. The Environment Agency would advise the above comments are considered within this technical reporting.<br><br>Should discharge of treated effluent to watercourses or to land be required, this would be subject to an Environmental Permit (see further advice below under 'Environmental Regulation and Permitting Requirements'). Permits should be applied for when potential discharge locations are known | Discharge of foul sewage would be secured via appropriate post-DCO and specific requirements subject to approval of the LPA. |

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| | in order to prevent delays to the opening of any facilities, and to identify any locations where a discharge of any sort is unlikely to be acceptable due to lack of capacity or sensitivity in the receiving environment. | |
| **Environment Agency, The Water Environment, Paragraph 7.12.2 (page 168)** | The Environment Agency welcomes the proposal for further work to be undertaken with regard to the assessment of impacts to fish and eel habitat and migration and particularly the proposed acquisition of further information on sensitive watercourses for fish and eel spawning and migration. | This is noted and included within the considered within the **Chapter 5: Biodiversity - Section 5.5** chapter and baseline and assessment in **Chapter 7: Water Environment - Section 7.5**, **Chapter 7: Water Environment - Section 7.9** and **Appendix 7D: Assessment of water environment effects**. |
| **Environment Agency, The Water Environment, Appendix 7A – Detailed Water Environment Baseline Information Table 4.4 – Consented Discharges within** | Under the 'Potential Connection to the PEIR Assessment', it is the Environment Agency's understanding the consented discharges identified are located within the Preliminary Order Limits. | This is agreed and are included within the baseline and assessment in **Chapter 7: Water Environment - Section 7.5**, **Chapter 7: Water Environment - Section 7.9** and **Appendix 7D: Assessment of water environment effects**. |

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| **the Zone of Influence (page A85)** | | |
| **Environment Agency, The Water Environment, Appendix 7B – Preliminary Flood Risk Assessment** | The Environment Agency welcomes and accepts the information as a high level overview for a detailed FRA. The Environment Agency would agree with the principle of the project being considered essential infrastructure and how this assessment would inform the design and construction to minimise flood risks. | This is noted and responses to each individual reference are provided within **Appendix 7F: Flood Risk Assessment**. |
| **Environment Agency, The Water Environment, Appendix 7C - Water Framework Directive Assessment Summary Note Paragraph 3.1.1 (Page C17)** | The Environment Agency notes the following key question the WFD Assessment considers: *"will the project prevent any water bodies from achieving good overall status or, where relevant, an alternative objective?"*. The Environment Agency advises that even if an alternative objective is set, the project must not make the achievement of WFD 'good status' in future more difficult. | This is noted and considered within **Appendix 7E: Water Framework Directive assessment**. |
| **Environment Agency, Table 1.1 WFD classification elements for rivers, transitional, lakes and canal WFD** | The Environment Agency is unaware of canals having different classification parameters to other AWBs and would request clarification on where this information was obtained from. Further to the above, lakes and transitional waters can also be designated as A/HMWBs and therefore Table 1.1 should be updated to reflect this. | This is noted and considered within **Appendix 7E: Water Framework Directive assessment**. |

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| **waterbodies (Page C9 – C10)** | | |
| **Environment Agency, The Water Environment, Appendix 7C - Water Framework Directive Assessment Summary Note, Paragraph 6.1.19 (Page C31)** | PEIR paragraph 6.1.19 states *"it is assumed for the purposes of preliminary assessment that all non-reportable water bodies are currently and will be at Good Ecological Status"*. The assumption that non reportable water bodies are at Good Ecological Status would ensure that these water bodies are protected and is the preferred approach from the Environment Agency. If this assumption is not practicable for a specific activity in a specific water body, this can be reviewed on a case-by-case basis. | This is noted and considered within **Appendix 7E: Water Framework Directive assessment**. |
| **Environment Agency, Chapter 12: Ground Conditions Paragraph 12.6.1 (page 22)** | The Environment Agency is in broad agreement that a majority of the proposed pipeline route (including corridor) would be in ground that has or is currently being used for non-industrial purposes (i.e. agricultural use). These areas are unlikely to be subject to adverse impact from ground contamination. However, it is important to carefully consider the proposed baseline ground conditions desk study (PEIR paragraph 12.12.2) as there is a possibility that areas may have been historically subject to industrial or classified land uses such as military bases and other associated infrastructure that are not necessarily evident from a contemporary perspective.<br><br>The Environment Agency additionally agrees that in more urban and urban-fringe areas the likelihood of encountering | This is noted and included within the baseline and assessment in **Chapter 7: Water Environment - Section 7.5**, **Chapter 7: Water Environment - Section 7.9** and **Appendix 7D: Assessment of water environment effects**. |

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| | adverse ground conditions is higher. In these areas, careful consideration of the pipeline construction and potential for promoting contamination migration following installation should be made to ensure that controlled water receptors are not impacted and their condition does not deteriorate in the future as a result of contaminant mobilisation and migration. | |
| **Environment Agency, Environmental Regulation and Permitting Requirements** | The DCO Proposed Development may need to meet a number of regulatory and/or Environmental Permit requirements. Ultimately the Environmental Permit requirements would vary depending on the final DCO proposed development location and method of construction/decommissioning. At the Applicant's earliest convenience, the Environment Agency strongly encourages entering into its enhanced permit pre-application service: Get advice before you apply for an environmental permit - GOV.UK (www.gov.uk). | Environmental permits are considered within **Chapter 7: Water Environment - Section 7.2**. Permits would be secured via appropriate post-DCO Requirements, subject to approval of regulating bodies. |
| **Environment Agency, Environmental Regulation and Permitting Requirements, Flood Risk Activity Permit** | The Environmental Permitting (England and Wales) Regulations 2016 require a permit or exemption to be obtained for any activities which would take place:<br>on or within 8m of a Main River (16m if tidal)<br>on or within 8m of a flood defence structure or culverted Main River (16m if tidal)<br>on or within 16m of a sea defence<br>involving quarrying or excavation within 16m of any Main River flood defence (including a remote defence) or culvert | Environmental permits are considered within **Chapter 7: Water Environment - Section 7.2**. |

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| | in a floodplain more than 8m from the river bank, culvert or flood defence structure (16m if it's a tidal Main River) and you don't already have planning permission.<br>It should not be assumed that a permit would automatically be forthcoming, and consultation is advised with the Environment Agency at the earliest opportunity. For further guidance visit https://www.gov.uk/guidance/flood-risk-activitiesenvironmental-permits or contact the Environment Agency's National Customer Contact Centre on 03708 506 506 (Monday to Friday, 8am to 6pm) or by emailing enquiries@environmentagency.gov.uk. | |
| **Environment Agency, Environmental Regulation and Permitting Requirements, Culverting Consent** | Erection of flow control structures or any culverting of an Ordinary Watercourse requires consent from the LLFA of the relevant Local Council. The Environment Agency advises discussing your proposals with the LLFA at an early stage. | Environmental permits are considered within **Chapter 7: Water Environment - Section 7.2**. |
| **Environment Agency, Environmental Regulation and Permitting Requirements, Impounding** | To impound a watercourse an impounding licence from the Environment Agency would be required. An impoundment is any dam, weir or other structure that can raise the water level of a water body above its natural level. 'On-line' impoundments hold back water in rivers, stream, wetlands and estuaries, and consequently affect downstream flows, sediment transport and migration of fish. Further information can be found here: https://www.gov.uk/guidance/water- | Environmental permits are considered within **Chapter 7: Water Environment - Section 7.2**. |

| Consultee | Consideration | How addressed in the Draft ES |
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| | management-apply-for-a-water-abstraction-orimpoundment-licence. | |
| **Environment Agency, Environmental Regulation and Permitting Requirements, Dewatering** | Dewatering is the removal/abstraction of water (predominantly, but not confined to, groundwater) in order to locally lower water levels near the excavation. This can allow operations to take place such as mining, quarrying, building, engineering works or other operations, whether underground or on the surface. Any dewatering activities on-site could have an impact upon local wells, water supplies and/or nearby watercourses and environmental interests. More information is available on gov.uk: https://www.gov.uk/guidance/water-management-apply-for-a-water-abstraction-orimpoundment-licence#apply-for-a-licence-for-a-previously-exempt-abstraction. If dewatering and discharging into surface water is required during development, the following Regulatory Position Statement would apply: 'Temporary dewatering from excavations to surface water.' https://www.gov.uk/government/publications/temporary-dewatering-from-excavations-tosurface-water. Further information on how to assess the hydrogeological impacts of dewatering abstractions can be found here: | Environmental permits are considered within **Chapter 7: Water Environment - Section 7.2**. |

| Consultee | Consideration | How addressed in the Draft ES |
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| | https://www.gov.uk/government/publications/hydrogeological-impact-appraisal-fordewatering-abstractions. | |
| **Environment Agency, Environmental Regulation and Permitting Requirements, Discharges to surface and groundwater** | If it is proposed to discharge liquid effluent or wastewater to surface water or the ground, please refer to the following: Discharges to surface water and groundwater: environmental permits - GOV.UK (www.gov.uk). | Environmental permits are considered within **Chapter 7: Water Environment - Section 7.2**. |

| Consultee | Consideration | How addressed in the Draft ES |
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| **Environment Agency, Environmental Regulation and Permitting Requirements, Storage of materials/oil likely to cause pollution** | Materials and chemicals likely to cause pollution should be stored in appropriate containers and adhere to guidance for the storage of drums and intermediate bulk containers. Any facilities, above ground, for the storage of oils, fuels or chemicals shall be sited on impervious bases and surrounded by impervious bund walls. The volume of the bunded compound should be at least equivalent to the capacity of the tank plus 10%. All filling points, vents, gauges and sight glasses must be located within the bund. The drainage system of the bund shall be sealed with no discharge to any watercourse, land or underground strata. Associated pipework should be located above ground and protected from accidental damage. All filling points and tank overflow pipe outlets should be detailed to discharge downwards into the bund. Appropriate procedures, training and equipment should be provided for the site to adequately control and respond to any emergencies including the clean up of spillages, to prevent environmental pollution from the site operations.<br><br>The Environment Agency advises that polluting materials and chemicals are stored in an area with sealed drainage. It recommends that all pesticide sale and supply/distribution stores meet the recommendations of the Code of Practice for suppliers of pesticides to agriculture, horticulture and forestry and where appropriate membership of the BASIS government recognised inspection scheme is required. Additional information and guidance is available at: | This is noted and embedded environmental measures are considered within **Chapter 7: Water Environment - Section 7.6**. |

| Consultee | Consideration | How addressed in the Draft ES |
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| | Oil storage regulations for businesses<br>Ciria: Containment systems for the prevention of pollution. | |
| **Warrington Borough Council** | | |
| **The Asset and Flood Risk Team** | The route of the pipeline would be in areas at risk of flooding and this needs to be addressed in the FRA.<br><br>There is no issue with the detail and information outlined in the reports to date but the Council as LLFA awaits the final FRA and drainage strategy and requests that it is re-consulted as part of the process. The main comments currently are summarised below:<br>Section 1.6 of the PEIR states that a FRA would be submitted and that it would assess the flood risk both to and from the Project and demonstrate how flood risk would be managed over the Project's lifetime and give regard to climate change;<br>the route of the pipeline would be in areas at risk of flooding and this needs to be addressed in the FRA.<br>It is appreciated that a consultation would be undertaken with the LLFA and the Environment Agency to discuss the effects of the proposal on the water environment. For works within the rivers you would also need a Marine Licence. | This is noted and the FRA and drainage strategy are provided in **Appendix 7F: Flood Risk Assessment**. |

| Consultee | Consideration | How addressed in the Draft ES |
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| | Much of the Warrington Area is classed as an area of critical drainage so is liable to flooding and is located in Flood Zones 1, 2 and 3. Penketh, Warrington Town Centre and the surrounding areas have been flooded recently. It is recommended that more work be undertaken in relation to surface water flood risk to Warrington as no mention is made of it within the PEIR. There is also currently flood defence work (planning application 2021/38949) being undertaken in the Scoping Area and this should not be affected. It is welcomed that the application will be submitted with an FRA and with this submission the water environment should be adequately protected. | |
| **Canal and River Trust** | | |
| **Water Environment (Chapter 7)** | The Canal and River Trust note that its waterways would be considered within the FRA and as receptors to pollution and it notes that further engagement with the Trust is planned on this matter. Clearly a lot of the information is still high level and the consultation would continue when further information is available to drill down into the confirmed route specifics, for example the following:<br><br>DWMP;<br>Watercourse Crossing Plan;<br>CCoP;<br>CEMP; | This is noted and responses to each individual reference within **Appendix 7F: Flood Risk Assessment**. |

| Consultee | Consideration | How addressed in the Draft ES |
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| | PPP;<br>Final ES assessment;<br>Geoenvironmental & geotechnical information; and<br>FRA etc.<br>All of these documents the Trust would need to be consulted on in regards to where works are crossing and/or within the vicinity of its waterways infrastructure, including culverts. | |
| **Water Environment (Chapter 7)** | The Canal and River Trust note that the Environment Agency has requested that it wants to be consulted on dewatering operations. However, any proposed discharges associated with the construction (e.g. discharge of water from dewatering operations) proposed to canals or Trust-owned waterways should also be agreed with the Trust. It welcomes that the current documentation already mentions the intention to install interceptor drains and water treatment in association with the construction areas/compounds. | This is noted and environmental permits are considered within **Chapter 7: Water Environment - Section 7.2**. Proposed discharges associated with the construction (e.g. discharge of water from dewatering operations) proposals to canals or Trust-owned waterways are considered within **Chapter 7: Water Environment - Section 7.9** and **Appendix 7D: Assessment of water environment effects**. |
| **Water Environment (Chapter 7)** | The embedded measures detailed in this PEIR chapter (Table 7.15) are useful and mentions a minimum stand-off of 8m from non-tidal waterways. It is noted that crossings | Environmental permits are considered within **Chapter 7: Water Environment -** |

| Consultee | Consideration | How addressed in the Draft ES |
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| | are exempted from this stand-off, in which case stand-offs would need to be agreed on a case-by-case basis. The Canal and River Trust would wish to be consulted on such stand-offs, buffers or containment measures in relation to our waterways. | **Section 7.2**. Stand-offs would be secured via appropriate post-DCO requirements and consultation with the Canal and River Trust. |
| **Water Environment (Chapter 7)** | There is mention of open trench techniques where crossings of 'minor watercourses' are proposed. This could impact culverts which are associated with the Canal and River Trust waterways and might carry watercourses under the canal. Going forward the Trust would welcome clarification in relation to this matter as it would want to ensure that such watercourses are protected from silty run-off etc. If they are not protected properly then this could lead to the silting up of the culverts under the canal and cause subsequent stability issues or even a breach of the canal. | This is noted and considered within embedded environmental measures in **Chapter 7: Water Environment - Section 7.6**. |
| **Water Environment (Chapter 7)** | This chapter sets out the drainage measures during the operational lifetime of the pipeline. The Canal and River Trust would need to see proposals of maintenance. It notes that PEIR Table 7.18 states that there would be no routine discharges from the operational phase. However, the environmental measures on page 169 has listed the proposed development of drainage strategies for permanent above ground infrastructure and an outline DWMP for construction. The Trust would want to see drainage details for permanent above ground works (and any temporary | This is noted and considered within the Drainage Strategy in **Appendix 7F: Flood Risk Assessment** and within embedded environmental measures in **Chapter 7: Water Environment - Section 7.6**. |

| Consultee | Consideration | How addressed in the Draft ES |
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| | construction work drainage) to ensure that these would not impact its waterways. The Trust is not a land drainage authority and any formal discharge connection to our waterways would require the separate consent and agreement of the trust. | |
| **NFU** | | |
| **9. Dewatering** | The PEIR makes reference to the dewatering of trench excavations. The NFU would like further information regarding how this water would be discharged and would not want to see water being discharged onto open land which would lead to further issues including waterlogging and soil erosion. | This is noted and environmental permits are considered within **Chapter 7: Water Environment - Section 7.2** and would be secured via appropriate post-DCO. |
| **Acton Bridge Parish Council** | | |
| **PEIR** | The storage area identified is a field subject to regular standing water flooding on an annual basis, and the local roads are subject to weight restrictions. The storage area is going to be sited in an area that is prone to surface water flooding on an annual basis. As recently as January 2021 Storm Christoph meant that around 30 homes were extensively damaged. Homes had to be evacuated and a great deal of the surrounding land was also submerged. | This is noted and considered in **Appendix 7F: Flood Risk Assessment** and embedded environmental measures is considered within **Chapter 7: Water Environment - Section 7.6**. This storage |

| Consultee | Consideration | How addressed in the Draft ES |
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| | This area is not only subject to flooding following heavy storms, but it also has significant amounts of standing water throughout the winter months.<br><br>The Parish Council would like to understand what mitigations would be in place to ensure that flooding would not have any impact on the integrity and security of the storage area. The issue of localised flooding could also be a concern for the open trenches, depending on what time of year the installation takes place. | area is currently under review. |

**Table 7A.2.2 Summary of Post-Section 42 Consultation**

| Item | Consideration | How addressed in this Draft ES |
|---|---|---|
| **Environment Agency** | | |
| **Environment Agency monthly meeting – 17 January 2023** | There were discussions with the Environment Agency concerning S42 comments relating to surface and groundwater issues. | Methodology for the approach to shallow groundwater screening is considered within **Chapter 7: Water Environment - Section 7.5** and **Appendix 7B: Detailed water environment baseline information**. |
| **ENVPAC/1/GMC/00425: Review of Proposals for the Assessment of Groundwater Flow and Hydromorphology**[6] | A review was undertaken of the intended methodology within the ES for assessing the impacts of the scheme on groundwater flows and hydromorphology.<br><br>Groundwater: it was agreed that embedded environmental mitigation measures for the management of subsurface flow pathways should include an assessment of the impact introducing barriers to groundwater flow may have on water resources, particularly where groundwater may be providing a proportion of baseflow to surface watercourses. In addition, the potential for the pipeline route to act as a | The screening of receptors and understanding of groundwater pathways prior to risk assessment is considered within **Chapter 7: Water Environment - Section 7.5** and **Appendix 7B: Detailed water environment baseline information**. The screening of 'Main Rivers' and baseline |

[6] Environment Agency (13 February 2023), ENVPAC/1/GMC/00425: Review of Proposals for the Assessment of Groundwater Flow & Hydromorphology Ref. SO/2022/122353/06-L01.

| Item | Consideration | How addressed in this Draft ES |
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| | conduit for preferential flow and to act as a rapid pathway should be mitigated. The Environment Agency was in general agreement with the overall tiered approach to assessing the key risks across the development area, although it was stated that the BGS depth-to-groundwater mapping should not be used solely for site specific assessments. Appropriate criteria need to be applied, for example geological mapping, to ensure that all of the assumptions built into the BGS depth-to-groundwater model are accounted for and areas of greater risk are not dismissed (for example, shallow groundwater adjacent to surface waters).<br><br>Hydromorphology: The Environment Agency acknowledged that the proposed scheme crosses a large number of 'Main River' and 'Ordinary Watercourses' and welcomed the suggestion to undertake a desk study to gain a better understanding of the baseline morphology, supported by a site visit to achieve the following:<br><br>a) gain a more accurate understanding of fluvial processes and the value of the watercourses being impacted;<br>b) inform design, including location and depth of the pipeline at the crossings;<br>c) inform the appropriateness of construction methods for watercourse crossings; and<br>d) identify location-specific mitigation within the reaches. | hydromorphology data are presented within **Chapter 7: Water Environment - Section 7.5** and **Appendix 7C: Hydromorphology desk-based study and site survey**. Risk assessment on river morphology is considered within **Chapter 7: Water Environment - Section 7.9** and **Appendix 7D: Assessment of water environment effects**. |

| Item | Consideration | How addressed in this Draft ES |
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| | The Environment Agency stated that the baseline conditions should be understood before the final design is reached to enable impacts of the design to be minimised and mitigation appropriately embedded, and also advised that the Regulation 33 of the WFD Regulations 2017 places a duty on the Secretary of State and public bodies to have regard to RBMPs when exercising their functions. As the assessment would contribute to demonstrating compliance with the WFD, it is critical the hydromorphological baseline conditions are characterised adequately to establish measures where required to mitigate the impacts to the water environment. The Environment Agency also advised approaching the relevant LLFA(s) with regards to consents/requirements for works to Ordinary Watercourses. | |
| **Environment Agency monthly meeting - 14 March 2023** | Discussions were held with the Environment Agency groundwater specialist concerning S42 comments relating to groundwater issues (groundwater/ shallow barrier to flow consultation comments).<br><br>A presentation was made of the conceptual understanding of the United Utilities (Higher Walton borehole) and the proposed embedded mitigation for Primary/Secondary aquifers and SPZs. The screening process areas on shallow groundwater areas was also presented and the embedded mitigation for subsurface flow pathways discussed.<br><br>The Environment Agency highlighted that any groundwater abstractions would require the appropriate licensing and | The methodology for the approach to shallow groundwater screening is considered within **Chapter 7: Water Environment - Section 7.5, Appendix 7B: Detailed water environment baseline information** and **Appendix 7C: Hydromorphology desk-based study and site survey.** |

| Item | Consideration | How addressed in this Draft ES |
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| | was generally in agreement with the presented facts and approach.<br><br>The Environment Agency asked how shallow groundwater flow would be considered within HDD crossings and impacts on hydromorphology. | |
| **SO/2022/122353/07-L01: Response to ENVPAC/1/GMC/00425 – Environment Agency/HyNet Project Team Meeting (14 March 2023)** [7] | A presentation was given of the conceptual understanding of the Higher Walton SPZs and associated embedded mitigation measures and the assessment of infrastructure on subsurface groundwater flows and associated embedded mitigation measures.<br><br>The Environment Agency agreed that "*the conceptual understanding, alongside the proposed embedded mitigation measures for work in Principal and Secondary aquifers and SPZs provides the Environment Agency with a degree of confidence that the proposed pipeline route through groundwater SPZ3 of the Higher Walton borehole presents a limited risk to the water quality and water resources of this water supply abstraction*".<br><br>The Environment Agency discussed the permitting and licence requirements of dewatering activities to be obtained prior to the works/activity occurring and advised that | The methodology for the approach to shallow groundwater screening is considered within **Chapter 7: Water Environment - Section 7.5, Appendix 7B: Detailed water environment baseline information** and **Appendix 7C: Hydromorphology desk-based study and site survey**. |

[7] Environment Agency (30 March 2023), : Response to ENVPAC/1/GMC/00425 – Environment Agency/HyNet Project Team Meeting (14 March 2023) Ref. SO/2022/122353/07-L01.

| Item | Consideration | How addressed in this Draft ES |
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| | potential permitting/consenting requirements for works/activities to facilitate the proposed scheme are considered at the earliest opportunity. | |
| **Environment Agency monthly meeting - 21 April 2023** | Discussions were held with the Environment Agency hydromorphology specialist concerning S42 comments relating to hydromorphology issues.<br><br>A presentation of the hydromorphology screening methodology statement was provided. The scale of the Project was established in terms of the number of watercourse crossings, i.e., 121 of which 31 are Main Rivers, with six council boroughs and four county authorities crossed. The screening methodology was considered to represent a pragmatic approach to site surveys. This process would identify the sensitivity of hydromorphology at crossings and required mitigations and aid future (post-DCO) detailed watercourse crossing designs. The Environment Agency highlighted that it was important to understand the dominant processes of river formation, likely undercutting/incision, lateral migration and sediment transport to assess the hydromorphology, and also the impacts related to the long term operation such as pipeline maintenance and monitoring for exposure. | The methodology for the approach to hydromorphology screening and assessment is considered within **Chapter 7: Water Environment - Section 7.5** and **Appendix 7C: Hydromorphology desk-based study and site survey**. |

| Item | Consideration | How addressed in this Draft ES |
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| **ENVPAC/1/GMC/00425: Technical Review of Phase 1 Geoenvironmental Desk Study[8]** | A review of the 'Environmental Statement Appendix 12A – Phase 1 Geoenvironmental Desk Study[9]' document by the Environment Agency Contaminated Land Specialist and Groundwater Advisor was discussed.<br>The review indicated that some sections of the pipeline corridor is located within current and former industrial land uses, which has a high likelihood to introduce elevated and adverse concentrations of contamination to the ground and local groundwater. The Environment Agency highlighted key locations of interest for further assessment within each pipeline corridor.<br><br>The Environment Agency discussed its review of the approach to groundwater protection and associated position statements, particularly in regard to abstraction and discharge: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/692989/Envirnment-Agency-approach-to-groundwater-protection.pdf.<br><br>Another consideration that the review letter highlighted is the importance to reference the potential for PFAS contamination. The Environment Agency has undertaken a | Considered within the baseline in **Chapter 7: Water Environment - Section 7.5** and assessment in **Chapter 7: Water Environment - Section 7.9** and **Appendix 7D: Assessment of water environment effects**. |

[8] WSP (15 May 2023), ENVPAC/1/GMC/00425: Technical Review of Phase 1 Geoenvironmental Desk Study Ref. SO/2022/122353/10-L01.
[9] Environmental Statement Appendix 12A – Phase 1 Geoenvironmental Desk Study. Prepared by WSP. Rev 01. Date: February 2023.

| Item | Consideration | How addressed in this Draft ES |
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| | project to enhance its understanding of PFAS occurrence in relation to UK sources: https://www.gov.uk/government/publications/poly-and-perfluoroalkyl-substances-pfas-sources-pathways-and-environmental-data. Specific potential sites of contamination have been identified and it is noted that prior to any GIs being undertaken there is careful consideration with regards to this contaminant. | |
| **Environment Agency monthly meeting - 14 May 2023** | Further discussions were undertaken with the Environment Agency regarding the Geoenvironmental Desk Study, watercourse crossing screening, biodiversity net-gain and hydrostatic testing and pipe commissioning. It was agreed that any approach to watercourse crossing screening for future site visits and data collection would be submitted to the Environment Agency to seek an agreed position.<br><br>The Environment Agency was accepting of a position which deferred consideration of hydrostatic testing requirements to subsequent permitting but cautioned that it might be advisable for the Applicant to consider whether there are any sensitive areas along the hydrogen pipeline route where the supply and disposal of water may perhaps be best avoided. It is agreed that a high-level position statement should be formulated outlining what processes are involved | The methodology for the approach to hydromorphology screening and assessment is considered within **Chapter 7: Water Environment - Section 7.5** and **Chapter 7: Water Environment - Section 7.9 and Appendix 7C: Hydromorphology desk-based study and site survey**. The approach to hydrostatic testing is considered and assessed in **Water Environment - Section 7.9** and **Appendix 7D: Assessment of water environment effects**. |

| Item | Consideration | How addressed in this Draft ES |
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| | during testing and what are considered the risks to the environment[10]. | |
| **ENVPAC/1/GMC/00425 – Technical Review of Hydrostatic Testing Technical Note[11]** | A review of the WSP Technical Note: Hydrostatic Testing - Impacts on Water Environment. Ref. 852552-WSPE-IA-CE-RP-STM-992431was undertaken.<br><br>Overall, when taken into account within any future reporting submissions (i.e. CEMP), the Environment Agency was satisfied with the hydrostatic testing proposals as long as the comments within its response, namely regarding the abstraction of surface water and/or discharge to surface water/ground management through the licensing and permitting regimes were observed within any future reporting submissions (i.e. CEMP). | The approach to hydrostatic testing is considered within **Water Environment - Section 7.9** and **Appendix 7D: Assessment of water environment effects**. |
| **ENVPAC/1/GMC/00425: Environment Agency Technical Review of HyNet Hydrogen Pipeline Hydromorphology Desk Study and** | A review was undertaken of the initial WSP Technical Note: HyNet Hydrogen Pipeline Hydromorphology Desk Study and Site Survey Methodology. Rev 3., dated the 11 July 2023, together with spreadsheets intended to screen-out watercourses for further hydromorphological site-survey work. | The methodology for the approach to hydromorphology screening and assessment is considered within **Chapter 7: Water Environment - Section 7.5** and **Appendix 7C: Hydromorphology** |

[10] A note was issued on the 19 September 2023 (WSP (July 2023) Technical Note: Hydrostatic Testing - Impacts on Water Environment. Ref. 852552-WSPE-IA-CE-RP-STM-992431.
[11] Environment Agency (27 September 2023), ENVPAC/1/GMC/00425 – Technical Review of Hydrostatic Testing Technical Note. Ref. SO/2022/122353/14-L01.

| Item | Consideration | How addressed in this Draft ES |
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| **Site Survey Methodology**[12] | The Environment Agency's geomorphologist and the ecologist specialists provided detailed comments. The comments were wide ranging and stressed the need to introduce other environmental disciplines (i.e., ecology/habitats on the riparian corridor), wider than the hydromorphology aspects, to ensure a well-rounded understanding of the environmental impacts of the proposed development. The Environment Agency also requested trenchless crossings for 'Main Rivers' with conservation values above 4 as a minimum from a hydromorphological perspective. A response to the Environment Agency comments was provided to the Environment Agency on the 17 October 2023[13]. | **desk-based study and site survey**. |
| **Environment Agency monthly meeting - 25 October 2023** | This was a meeting with the wider Environment Agency and WSP water and ecology teams to discuss the WSP hydromorphology responses within document Ref. 852552-WSPE-IA-CE-RP-STM-130666.<br><br>It was noted that a site visit was undertaken during summer 2023 visiting all 16 screened-in watercourse crossings (Main Rivers with high conservation values). All points within the WSP response document are agreed with the following caveats: | The methodology for the approach to hydromorphology screening and assessment is considered within **Chapter 7: Water Environment - Section 7.5** and **Appendix 7C: Hydromorphology desk-based study and site survey**. |

[12] Environment Agency (22 August 2023), ENVPAC/1/GMC/00425: Environment Agency Technical Review of HyNet Hydrogen Pipeline Hydromorphology Desk Study and Site Survey Methodology. Ref. SO/2022/122353/11-L01.
[13] WSP (17 October 2023), HyNet Hydrogen Pipeline Scheme: Nationally Significant Infrastructure Project. Ref: 852552-WSPE-IA-CE-RP-STM-130666.

| Item | Consideration | How addressed in this Draft ES |
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| | • Site visits of remaining locations not currently visited due to access issues would be considered (the River Dane in particular);<br>• Consultation with the design team regarding open cut methodologies at watercourse crossings with hydromorphology conservation values higher than 4; and<br>• Assess would be sought of relevant baseline datasets/ surveys from other disciplines, such as ecology, to inform the hydromorphology and wider baseline understanding.<br><br>The WSP ecology specialist gave a brief description of the water-related ecology surveys undertaken to date and suggested mitigation approaches. | |
| **XA/2023/100040/01-L01: Hydromorphology and Ecological Considerations for** | Formal written comments were provided following the meeting of 25 October 2023. The Environment Agency welcomed the project team's proposal to have further communications with ecology colleagues and to confirm hydromorphology conservation values based on wider disciplines and the proposal to undertake additional surveys where there is the opportunity. The Environment Agency acknowledged that the five crossings highlighted with conservation values above 4 that were proposed to be trenched and screened in for a site visit would be reviewed | The methodology for the approach to hydromorphology screening and assessment is considered within **Chapter 7: Water Environment - Section 7.5** and **Appendix 7C: Hydromorphology desk-based study and site survey**. |

| Item | Consideration | How addressed in this Draft ES |
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| **Watercourse Crossings[14],[15]** | and discussions with the design team and wider disciplines would be held to reassess the appropriate crossing methodology for these sites.<br><br>The Environment Agency strongly encouraged that the Biodiversity Net Gain (BNG) commitment of 10% is adhered to in line with other developments. It looked forward to seeing the suite of mitigation for fisheries once finalised and noted that to support the objectives of the Water Framework Directive and achievement of BNG, measures need to be identified that not only mitigate but also enhance the impacted water bodies. | |
| **XA/2024/100076/01-L01: Potential Construction Impacts and Mitigation for Fish Fauna[16]** | Formal written comments were provided following the outline of 'Potential Fisheries Mitigation Measures' set out within the body of the Applicant's email dated 14 December 2023.<br><br>The Environment Agency agreed with the summary of potential impacts identified but noted that the control measures were "*generic and should be used as a guide only* | Water embedded environmental measures are considered within **Chapter 7: Water Environment - Section 7.6**. |

[14] Environment Agency (22 November 2023), Hydromorphology And Ecological Considerations for Watercourse Crossings. HyNet Hydrogen Pipeline, Cheshire, Merseyside and Greater Manchester. Ref. XA/2023/100040/01-L01

[15] It is noted that communications with the Environment Agency is transferred from the local Green Growth team to the National Infrastructure (NI) team at this time.

[16] Environment Agency (1 May 2024), Potential Construction Impacts and Mitigation for Fish Fauna. HyNet Hydrogen Pipeline, Cheshire, Merseyside and Greater Manchester. Ref. XA/2024/100076/01-L01.

| Item | Consideration | How addressed in this Draft ES |
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| | *for more bespoke proposals. As specific site details will vary the current list of impacts and controls may not be comprehensive and additional mitigations may have to be included in the future*".<br><br>In addition, the Environment Agency also recognised that the assessment did not include potential impacts due to underwater noise, for example generated during the installation of coffer dams, especially where any piling is to take place. Mitigation for this with impacts of noise were suggested. Also, any assumption that directional drilling noise and vibration is acceptable and of limited impact would require supporting evidence, at the appropriate Environmental Impact Stage.<br><br>The Environment Agency suggested that considerations should also be given to the following:<br><br>• Use of Silt Busters to protect downstream watercourses from silt inputs during prolonged dewatering;<br>• Every site should have an agreed, bespoke Invasive Non Native Species (INNS) management plan which would include management of equipment (as detailed here) and welcomed review of this document once available;<br>• Working from May to October has been identified as preferable from a construction perspective as this time period also avoids the most sensitive spawning and migration periods for fish; | |

| Item | Consideration | How addressed in this Draft ES |
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| | • All pumps must be screened to avoid the entrainment of fish. Given the general lowland locations of this project, the default screen aperture size should to be 2mm to protect elver;<br>• Measures proposed to manage a site's physical integrity and riparian corridor minimising erosional risks and bank stability appear satisfactory but should be tailored to local conditions during the development of bespoke method statements;<br>• Reinstatement measures should avoid 'hard' structural elements, such as gabion baskets, sheet piling and concrete filled bags, but the Environment Agency supports the proposal to use coir rolls, coir matting, GeoJute (and possibly hazel and/ or willow staves/hurdles); and<br>• With respect to the reinstatement of channel bed forms, it must be ensured that the sediment used is similar in size to the natural bed and of the same geology. Measurements and photos should be taken of the channel bedforms prior to disturbance, so they can be reinstated as close to the pre-disturbance form as possible. | |
| **XA/2024/100091/01-L01: S42 Points of Agreement, Point 4** | A review of the 'Summary of Post Section 42 Consultation- Points of Agreement[17]' was presented. | This is noted and current conceptual understanding are summarised within the |

[17] Technical note: Summary of Post Section 42 Consultation- Points of Agreement. Document ref: 852552-WSP-IA-CE-RP-M5-926050. Prepared by WSP. Dated January 2024.

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| **Groundwater and HIA Understanding** | Overall, the Environment Agency was satisfied with the comments that are made within this technical note, notwithstanding that it was a live document and would be adapted going forward. However, as per the meeting dated 16 May 2024, the following comments were raised:<br>• In relation to progress on the site conceptual understanding at the Higher Walton public water supply and interaction with construction areas within potential recharge SPZ3 area, the Environment Agency viewed the information and conceptual evidence presented to date only provided a high-level overview of hydrogeological conditions. The Environment Agency felt that the information did not provide it with the clarity needed at this time to demonstrate that the risks can be appropriately managed and whether there is sufficient detail to inform suitable mitigation measures as part of the forthcoming DCO approval. The Environment Agency requested a Technical Note, providing the following detail:<br>▸ Current understanding and site conceptualisation of the Higher Walton area;<br>▸ Outline of the further work required, including a scope for the forthcoming HRA (for both water quality and resources) intended to be provided post-DCO approval;<br>▸ How risks to water quality and water resources associated with the Higher Walton abstraction borehole would be managed; and | baseline and assessment in **Chapter 7: Water Environment - Section 7.5**, **Chapter 7: Water Environment - Section 7.9** and **Appendix 7D: Assessment of water environment effects**. In agreement with the EA, additional technical details and conceptual understanding of the Higher Walton public water supply will be submitted prior to DCO application submission. |

| Item | Consideration | How addressed in this Draft ES |
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| | ▸ Anticipated mitigation measures to manage the impacts on water resources and water quality in the Higher Walton area.<br><br>• Flood Modelling and Flood Risk – The Environment Agency stated that due to recent submissions of the appropriate flood models and Environment Agency review being completed, it anticipated an updated Technical Note document that would also include the points of agreement for flood risk and the modelling. | |
| **XA/2024/100092/01-L01: HyNet Hydrogen WFD Waterbodies Specific Mitigation Measures[18]** | Details relating to specific mitigation measures to ensure WFD compliance within the HyNet hydrogen catchment and the current Cycle 3 measures were given. There were no additional or revised mitigation measures required to be taken into consideration for the HyNet hydrogen scheme. The RBMP was updated in 2022 and is revised every six years. Therefore, changes to this RBMP were not anticipated in the near future.<br><br>It was indicated that to support WFD, the scheme should look to provide betterment and enhancement not just mitigation to support any BNG objectives. When considering habitat mitigation or enhancements as part of the project, reference to the most recent Lower Mersey Catchment Plan | Consideration of the mentioned plans are given within **Chapter 7: Water Environment - Section 7.2** and **Appendix 7E: Water Framework Directive assessment**. BNG objectives are considered within the **Chapter 5: Biodiversity** and are in consultation with the Environment Agency. |

[18] Environment Agency (5 June 2024), HyNet Hydrogen WFD Waterbodies Specific Mitigation Measures. HyNet Hydrogen Pipeline, Cheshire, Merseyside and Greater Manchester. Ref. XA/2024/100092/01-L01.

| Item | Consideration | How addressed in this Draft ES |
|---|---|---|
| | (2023) produced by the Mersey Rivers Trust and the action plans for specific operational sub-catchments, such as the Sankey Catchment Action Plan should be made. | |
| **United Utilities** | | |
| **Liaison Meeting - 16 January 2023** | This was a water environment liaison meeting with United Utilities, focused on the EIA approach to groundwater and SPZ protection. It was stated that the proposed approach/methodology was sent to United Utilities and entitled 'Technical note: HyNet North West Hydrogen Pipeline Project - Screening methodology to identifying SPZ vulnerability'. Results of the screening exercise based upon the screening methodology to identifying SPZ vulnerability was set out within the technical note[19].<br><br>It was agreed that all HyNet infrastructure would be located outside of the SPZ1 and SPZ2. Areas within the SPZ3 Higher Walton borehole were highlighted as the only area of concern in terms of quality and quantity (groundwater protection and recharge) and it was confirmed that the SPZ associated with this borehole requires further risk assessment consideration. | This is noted and included within the baseline and assessment in **Chapter 7: Water Environment - Section 7.5**, **Chapter 7: Water Environment - Section 7.9** and **Appendix 7D: Assessment of water environment effects**. |
| **Liaison Meeting - 27 February 2023** | This was a water environment liaison meeting with United Utilities focused on SPZ protection of the Higher Walton | SPZ conceptualisation is included within the baseline |

[19] WSP (September 2022), HyNet North West Hydrogen Pipeline Project - Screening methodology to identifying Source Technical Note Ref. 807733-WOOD-IA-S7-RP-W3-43673.

| Item | Consideration | How addressed in this Draft ES |
|---|---|---|
| | public water supply borehole. The supply borehole conceptual model understanding was provided in terms of source, pathway and receptor.<br><br>Information/ data was presented on geology, regional/local groundwater flow, GIs to date, proposed works and working depths of infrastructure and proposed embedded mitigation. Embedded mitigation would be agreed with the design team but given the pathway low risk understanding developed within the conceptual model, contingency planning/monitoring is unlikely to be required. | and assessment in **Chapter 7: Water Environment - Section 7.5**, **Chapter 7: Water Environment - Section 7.9** and **Appendix 7D: Assessment of water environment effects**. Additional technical details will be undertaken prior to DCO submission. |
| **LLFAs** | | |
| **Briefing Note for Warrington Borough Council LLFA – Date 20/09/2023** | A briefing note giving a background to the Project and proposed approach to assessment was provided. It stated the specific proposals within the Warrington district, the EIA Scoping and Section 42 consultation responses to date and the LLFA land drainage consenting and drainage guidance. Finally, the note requested feedback and other information pertinent to the Project. | LLFA consultation to continue subject to post-DCO requirements. |
| **Briefing Note for Cheshire East Council LLFA – Date 20/09/2023** | As above, but in relation to Cheshire East. | LLFA consultation to continue subject to post-DCO requirements. |

| Item | Consideration | How addressed in this Draft ES |
|---|---|---|
| **Briefing Note for St Helens Council LLFA – Date 19/09/2023** | As above, but in relation to St Helens. | LLFA consultation to continue subject to post-DCO requirements. |
| **Briefing Note for Trafford Council LLFA – Date 20/09/2023** | As above, but in relation to Trafford. | LLFA consultation to continue subject to post-DCO requirements. |
| **Briefing Note for Cheshire West and Chester Council LLFA – Date 19/09/2023** | As above, but in relation to Cheshire West. | LLFA consultation to continue subject to post-DCO requirements. |
| **Briefing Note for Halton Council LLFA – Date 19/09/2023** | As above, but in relation to Halton. | LLFA consultation to continue subject to post-DCO requirements. |

# HyNet North West Hydrogen Pipeline

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