

14. Land Use

14.1 Introduction

14.1.1

This chapter presents the preliminary assessment of the likely significant effects of the Project with respect to Land Use, including natural resources, tourism and recreation uses. The preliminary assessment is based on information obtained to date. It should be read in conjunction with the Project description provided in **Chapter 2: The Project** and with respect to relevant parts of the following chapters:

- **Chapter 6: Historic Environment;**
- **Chapter 8: Landscape and Visual;**
- **Chapter 9: Air Quality;**
- **Chapter 10: Noise and Vibration;**
- **Chapter 11: Traffic and Transport;**
- **Chapter 15: People and Communities;**
- **Chapter 16: Major Accidents and Disasters.**

14.1.2

This chapter describes:

- the legislation, policy and technical guidance that has informed the assessment (**Section 14.2**);
- consultation and engagement that has been undertaken to date and how comments from consultees relating to Land Use have been addressed (**Section 14.3**);
- a description of the Study Area for the assessment (**Section 14.4**);
- the methods used for baseline data gathering (**Section 14.5**);
- overall and future baseline (**Section 14.6**);
- embedded environmental measures relevant to Land Use (**Section 14.7**);
- the scope of the assessment for Land Use (**Section 14.8**);
- the methodology applied for the assessment (**Section 14.9**);
- the preliminary assessment of Land Use effects (**Section 14.10**);
- a summary of the preliminary significance conclusions (**Section 14.11**);
- additional measures proposed (**Section 14.12**); and
- an outline of further work to be undertaken for the Environmental Statement (ES) (**Section 14.13**).

Limitations and assumptions

- 14.1.3 The information provided in this Preliminary Environmental Information Report (PEIR) is preliminary. The final assessment of likely significant effects will be reported in the ES. The PEIR has been produced to fulfil the Applicant's consultation duties and enable consultees to develop an informed view of the likely significant effects of the Project.
- 14.1.4 The Land Use assessment has been limited at this PEIR stage by the maturity of assessment work undertaken in the other chapters identified in Paragraph 14.1.1. In particular, **Chapter 8: Landscape and Visual**, **Chapter 9: Air Quality** and **Chapter 10: Noise and Vibration** are important in determining indirect effects on tourism and recreational receptors.

14.2 Relevant legislation, planning policy and technical guidance

- 14.2.1 This section identifies the legislation, planning policy and technical guidance that has informed the assessment of effects with respect to Land Use. Further information on policies relevant to the Project is provided in **Chapter 4: Legislation and policy overview**.

Legislation

- 14.2.2 There is no dedicated UK legislation that specifies the detailed scope of a land use assessment or that provides appropriate standards and thresholds for determining significance of effects.

Planning policy

- 14.2.3 A summary of the relevant national and local planning policy is given in **Table 14.1**.

Table 14.1 Planning policy relevant to the Land Use assessment

Policy	Policy context
National planning policy	
National Policy Statement for Overarching Energy (EN-1), July 2011 ¹	Existing and proposed land uses near the project should be identified along with any effects of replacing an existing development or use of land with the proposed project or preventing a development or use on neighbouring land from continuing. Any effects on new or proposed development should also be assessed. The local community should be consulted on proposals to build on open space, sports or recreational buildings and land. The impact on the best and most versatile agricultural land should be minimised and minerals resources should be safeguarded as far as possible.

¹ Department of Energy & Climate Change (2011). Overarching National Policy Statement for Energy (EN-1). (online) Available at: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/37046/1938-overarching-nps-for-energy-en1.pdf (Accessed June 2022).

Policy	Policy context
National Policy Statement for Oil and Gas Supply Infrastructure and Gas and Oil Pipelines (EN-4), July 2011 ²	The NPS builds on the policy advice provided in EN-1 and in relation to Land Use provides further details of how minerals resources should be considered. It states that alternative routes should be considered in order to minimise or eliminate the need to sterilise minerals resources and identify reasons why any alternatives have been discounted. It indicates that the integrity of the pipeline would be such a reason.
Draft Overarching National Policy Statement for Energy (EN-1), September 2021 ³	In addition to those matters addressed by the adopted NPS EN-1 (which are repeated in this draft updated version), the draft NPS EN-1 also states that any open space (sports or recreational facilities in this context) that are lost should be replaced by new facilities, unless evidence is available which shows they are surplus to requirements. It also specifically mentions Public Rights of Way, National Trails and other rights of access to land as important recreational facilities, and that appropriate mitigation measures may be required to avoid adverse impacts on them, or to create new access.
Draft National Policy Statement for Gas Supply Infrastructure and Gas and Oil Pipelines (EN-4), September 2021 ⁴	The draft NPS EN-4 repeats the policy advice provided in the adopted EN-4 in relation to mineral resources.

² Department of Energy & Climate Change (2011). National Policy Statement for Gas Supply Infrastructure and Gas and Oil Pipelines (EN-4). (online) Available at: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/37049/1941-nps-gas-supply-oil-en4.pdf (Accessed June 2022).

³ Department for Business, Energy and Industrial Strategy (2021). Draft Overarching National Policy Statement for Energy (EN-1). (online) Available at: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1015233/en-1-draft-for-consultation.pdf (Accessed June 2022).

⁴ Department for Business, Energy and Industrial Strategy (2021). Draft National Policy Statement for Gas Supply Infrastructure and Gas and Oil Pipelines (EN-4). (online) Available at:

Policy	Policy context
National Planning Policy Framework (Ministry of Housing, Communities & Local Government), July 2021 ⁵	Paragraph 84 of the NPPF states that planning decisions should enable the retention of local facilities such as sports venues and open space in rural areas, and paragraph 93 provides a similar protection for facilities in other locations. Paragraph 99 goes on to state that where such facilities would be lost to other development they should be replaced by equivalent or better provisions or evidence is available that shows they are surplus to requirements. Chapter 17 of the NPPF covers the sustainable use of minerals and paragraph 209 identifies that minerals are finite resource which can only be worked where they are found. Paragraph 212 states that other development proposals should not normally be granted in Minerals Safeguarding Areas if it might constrain potential future use for mineral working.
Local planning policy	
Cheshire Replacement Minerals Local Plan ⁶	Policy 6: Prior Extraction; supports the prior extraction of minerals in advance of non-minerals development providing that the extraction can be undertaken in an acceptable timescale and would not compromise the subsequent development.
Cheshire West and Chester Local Plan Part 1 Strategic Policies ⁷	Policy SOC 6: Open space, sport and recreation; states that the Council will protect, manage and enhance open spaces, sports and recreational facilities.

https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1015237/en-4-draft-for-consultation.pdf (Accessed June 2022).

⁵ Ministry of Housing, Communities & Local Government (2021). National Planning Policy Framework. (online) Available at: <https://www.gov.uk/government/publications/national-planning-policy-framework--2> (Accessed June 2022).

⁶ Cheshire County Council (1999) The Cheshire Replacement Minerals Local Plan. (online) Available at: <https://www.cheshireeast.gov.uk/pdf/planning/spatial-planning/strategic-planning/en-ldf-crepmlp-99.pdf> (Accessed June 2022)

⁷ Chester West and Chester Council (2015). Local Plan (Part One) Strategic Policies. (online) Available at: https://consult.cheshirewestandchester.gov.uk/portal/cwc_ldf/adopted_cwac_lp/lp_1_adopted?tab=files (Accessed June 2022)

Policy	Policy context
	Policy ENV9: Minerals supply and safeguarding; supports the safeguarding of minerals to ensure the prudent use of natural finite resources.
Cheshire West and Chester Local Plan Part 2 Land allocations and detailed policies ⁸	Policy M1: Future sand and gravel working; identifies allocations, preferred areas and an area of search for new minerals extraction. Policy M2: Minerals safeguarding areas; identifies minerals safeguarding areas and states that non-minerals development in these areas will only be supported where one of the following is relevant: mineral sterilisation will not occur, the mineral is not viable for commercial extraction, prior extraction can take place, there is an overriding need for the non-mineral development which outweigh the value of the mineral resource or the non-minerals development is considered exempt from sterilisation (pipeline development is not included as an exempted development).
Halton Delivery and Allocations Local Plan ⁹	Policy CS(R)25: Minerals; identifies minerals safeguarding areas and areas of search for new minerals extraction. Policy HE10: identifies minerals safeguarding areas.
St Helens Core Strategy ¹⁰	Policy CR1: Minerals; minerals safeguarding areas will be identified around deposits of coal, brick clay and sandstone.

⁸ Chester West and Chester Council (2019). Local Plan (Part Two) Land Allocations and Detailed Policies. (online) Available at: https://consult.cheshirewestandchester.gov.uk/portal/cwc_idf/adopted_cwac_lp/parttwo_adopted?tab=files (Accessed June 2022)

⁹ Halton Borough Council (2022). Halton Delivery and Allocations Local Plan. (online) Available at: <https://www3.halton.gov.uk/Documents/planning/planning%20policy/newdalp/DALP%20Adopted.pdf> (Accessed June 2022)

¹⁰ St Helens Borough Council (2012). St Helens Local Plan Core Strategy. (online) Available at: https://www.sthelens.gov.uk/media/2394/Core-Strategy-2012/pdf/St_Helens_Local_Plan_Core_Strategy_2012.pdf?m=637800921001770000 (Accessed June 2022)

Policy	Policy context
St Helens Borough Local Plan ¹¹	Policy LPC14: Minerals; minerals safeguarding areas will be identified around deposits of coal, clay and sandstone. Proposal for non-minerals development in these areas will be permitted where one of the following is relevant: prior extraction can take place, mineral sterilisation will not occur, prior extraction is not feasible, there is an overriding need for the non-mineral development which outweigh the value of the mineral resource or the non-minerals development is considered exempt from sterilisation (pipeline development is not included as an exempted development).
Greater Manchester Joint Minerals Development Plan ¹²	Policy 8: identifies minerals safeguarding areas and states that non-minerals development within these areas should extract any viable minerals prior to construction, unless the development is considered exempt (pipeline development is not included as an exempted development).
Warrington Updated Proposed Submission Version Local Plan ¹³	Policy ENV3: Identifies minerals safeguarding areas and states that proposal for non-minerals development in these areas will be permitted where one of the following is relevant: prior extraction can take place, mineral sterilisation will not occur, prior extraction is not feasible, there is an overriding need for the non-mineral development which outweigh the value of the mineral resource or the non-minerals development is considered exempt from sterilisation (pipeline development is not included as an exempted development).

¹¹ St Helens Borough Council (2022). St Helens Borough Local Plan up to 2037. (online) Available at: https://www.sthelens.gov.uk/media/4410/St-Helens-Borough-Local-Plan-up-to-2037/pdf/Local_Plan_Written_Statement_-_FINAL_adoption_version_16.06.2022_with_appendices.pdf?m=637934026451200000 (Accessed July 2022)

¹² Greater Manchester Authorities 2013. Greater Manchester Joint Minerals Development Plan. (online) Available at: <https://www.trafford.gov.uk/planning/strategic-planning/docs/Greater-Manchester-Joint-Minerals-Plan-2013.pdf> (Accessed June 2022)

¹³ Warrington Borough Council 2021. Warrington Updated Proposed Submission Version Local Plan. (online) Available at: https://www.warrington.gov.uk/sites/default/files/2021-09/warrington_updated_proposed_submission_version_local_plan_upsvlp_2021-2038_-_september_2021.pdf (Accessed June 2022)

Technical guidance

- 14.2.4 There is no dedicated UK guidance that specifies the detailed scope of a land use assessment or that provides appropriate standards and thresholds for determining significance of effects. In Scotland, Historic Environment Scotland and Scottish Natural Heritage published the Environmental Impact Assessment Handbook in 2018 which contains a section on how to assess effects on tourism and recreation receptors. The methodology utilised in this assessment is consistent with that guidance.

14.3 Consultation and engagement

Overview

- 14.3.1 The assessment has been informed by consultation responses and ongoing statutory and technical engagement. An overview of the approach to consultation is provided in **Section 3.4 of Chapter 3: Approach to preparing the PEIR**.

Scoping Opinion

- 14.3.2 A Scoping Opinion was adopted by the Secretary of State, administered by the Planning Inspectorate, on 08 March 2022. A summary of the relevant responses received in the Scoping Opinion in relation to Land Use and confirmation of how these have been addressed within the assessment to date is presented in **Table 14.2**.
- 14.3.3 The information provided in the PEIR is preliminary and not all of the Scoping Opinion comments have been addressed at this stage, however all comments will be addressed and evidenced within the ES.

Table 14.2 Summary of EIA Scoping Opinion responses for Land Use

Consultee	Consideration	How addressed in this PEIR
Planning Inspectorate (PINS)	The Applicant proposes that direct effects on linear features such as national trails, cycle routes and Public Rights of Way during the operational phase can be scoped out on the basis that all land from the pipeline route would be reinstated to its original condition on completion of the construction works. In addition, any permanent land take required for Hydrogen Above Ground Infrastructure (HAGI) which would impact on a linear route would see a diversion of that route around the HAGI. In the absence of detailed information regarding the sensitivity of the routes proposed for diversion, the Inspectorate does not consider that it is appropriate to scope out an assessment of effects. The ES should provide an assessment, or evidence to demonstrate that such diversions would not give rise to a likely significant effect.	Addressed in Chapter 11: Traffic and Transport .
	Impacts from decommissioning Please refer to the Inspectorate's comments in Table 2.2 of this Scoping Opinion.	Addressed at paragraphs 14.10.63 - 14.10.64 where it is identified that decommissioning effects are expected to be similar to the construction stage effects, in a worst case scenario, and therefore a separate decommissioning assessment has not been undertaken for amenity issues on receptors. 14.10.57 describes how decommissioning could affect minerals safeguarding areas.

Consultee	Consideration	How addressed in this PEIR
PINS, Cheshire East and Cheshire West and Chester Council	The Applicant proposes to scope out effects on salt minerals on the basis that the pipeline would not be laid at a depth and would therefore not impact on these resources (salt is extracted at 120-250m depth). The Scoping Report does not state whether there would be a requirement for restrictions of development over the route of the pipeline corridor. The Proposed Development therefore has potential to sterilise the mineral resource and impact on any above ground infrastructure required in connection with any salt extraction. The Inspectorate therefore considers that this matter cannot be scoped out. Potential impacts on existing salt and brine extraction and the use of the existing salt caverns (including sterilisation of resource) should be assessed within the ES and any necessary mitigation measures described.	Addressed at paragraph 14.10.42, where further detail is provided on how the project would interact with ground infrastructure and below ground works.
PINS, Cheshire East and Cheshire West and Chester Council	Existing mineral sites and resources (including Holford Brinefield) should be included within the ES baseline, scope and evaluation to assess the impact of the Proposed Development on minerals provision and the potential for effective mineral sterilisation. The Applicant's attention is drawn to the consultation responses from Cheshire West and Chester Council and St Helens Borough Council in this regard (see Appendix 2 of this Opinion).	Addressed at paragraph 14.10.42, where further detail is provided on how the project would interact with ground infrastructure and below ground works.

Consultee	Consideration	How addressed in this PEIR
Cheshire East	The proposed application area is likely to be within or close to an allocated 'Area of Search' in the Cheshire Replacement Mineral Local Plan 1999 (CRMLP) on land north of M56/Agden Hall. The CRMLP forms part of the Development Plan and the impact on this allocation in terms of potential for sterilisation of mineral resources and associated impact on the overall sand and gravel landbank for the authority should be assessed and this should also be identified on Figure 14.2.	Areas of Search have been identified within the baseline (Section 14.6) and assessed where relevant (Section 14.10).
	Environmental measures should be included in table 14.1 to avoid or minimise conflict with areas of known mineral resource and prevent potential sterilisation of minerals. It should also refer to prior extraction of minerals and use of extracted minerals during construction where possible.	The possibility of prior extraction or use of minerals from within the preliminary Order Limits during construction is still being examined. If these mitigation options are viable they will be confirmed in the ES.
Cheshire East and Cheshire West and Chester	When assessing the magnitude of effects, as set out in table 14.3, the impact on sand and gravel should take account of the fact that reserves in the North West have reduced significantly over the last few years and very few of the minerals planning authorities within the North West have the required 7-year supply. Cheshire East currently has less than the required 7-year supply set out in planning policy and is likely to experience additional pressure on reserves in the future. There could also be significant sterilisation resulting from HS2. As such, it is particularly important	Sand and gravel landbanks for the North West and for local areas have been identified within the baseline (Section 14.6) and taken into account when addressing minerals resource sensitivity in the relevant assessments (Section 14.10)

Consultee	Consideration	How addressed in this PEIR
	to prevent sterilisation of sand and gravel resources in this area.	
Cheshire West and Cheshire	Mineral resources are covered within the land use chapter (chapter 14). Paragraph 14.5.5 identifies that mineral safeguarding areas for sand and gravel exist within the West Corridor (and also in the East Corridor and both options in the South Corridor). What about salt and brine? Allocations, existing sites and minerals infrastructure should all also be included as potential receptors. Environmental measures should be included in Table 14.1 to avoid or minimise conflict with MSAs and prevent sterilisation of large areas of land. It should also refer to prior extraction of minerals and use of extracted minerals during construction where possible.	Sand/gravel and salt/brine resources have been identified within the baseline (Section 14.6) and assessed where relevant (Section 14.10)
	This identifies that mineral safeguarding areas for salt and sand and gravel resources exist within both options in the south corridor. The south corridor option A covers the safeguarded existing Forest Hill sand and gravel quarry (Local Plan Part Two policy M1 A), the allocated site for sand and gravel north of the railway to extend Forest Hill, Sandiway (policy M 1.B, which now has planning permission), the preferred area at Moss Farm and north of the railway forming an extension to Forest Hill, Sandiway (policy M 1.C) and part of the area of search (policy M 1.D). It also	Minerals safeguarding areas, preferred areas and areas of search have been identified within the baseline (Section 14.6) and assessed where relevant (Section 14.10).

Consultee	Consideration	How addressed in this PEIR
	includes part of the preferred area for rock salt (policy M 6). The south corridor option B covers part of the sand and gravel mineral safeguarding area and the salt mineral safeguarding area. It also includes the preferred area for controlled brine extraction and the safeguarded site at Holford brinefields. The west corridor, north corridor, east corridor, central hub, and some AGIs include part of the sand and gravel mineral safeguarding area. As such, the pipeline route could impact on existing and potential future sand and gravel quarries and this could have very significant impacts on the ability of CWaC to meet its sand and gravel requirements and provide sufficient reserves. It may also impact on salt and brine extraction. The impact on the operation of existing quarries and their ability to expand in the future should be included within the baseline, scope and evaluation to ensure that there is no negative impact on minerals provision.	
	This refers to receptor sensitivity and identifies that existing or allocated mineral sites are high sensitivity. We agree that these are high sensitivity, but this should also include Preferred Areas for sand and gravel (as identified in policy M 1 of the Cheshire West and Chester Local Plan (Part Two)). The Preferred Area is not an allocation but identifies an area that is likely to be more suitable for sand and gravel extraction and this is required to ensure that the Council maintains a steady and adequate supply of aggregate land-won sand and gravel throughout the	Preferred Areas have been included within the baseline (Section 14.6) and assessed where relevant (Section 14.10).

Consultee	Consideration	How addressed in this PEIR
	plan period and a minimum seven-year landbank. This is particularly important given the current and anticipated future pressures on sand and gravel extraction described above. The potential pipeline routes cover quite large sections of the sand and gravel mineral safeguarding areas, but for most of the route there would be the ability for the pipeline to avoid the mineral safeguarding areas. It is key to ensure that the pipeline does not cut across large sections of safeguarded mineral reserves causing sterilisation.	
	A number of Mineral Safeguarding Areas (MSAs) Preferred areas for future mineral extraction as well as minerals infrastructure for both sand and gravel and salt, both brine and rock salt, lie within the Scoping Boundary.	Minerals safeguarding areas have been identified in the baseline (Section 14.6) and assessed where relevant (Section 14.10).
St Helens	Chapter 14 relates to Land Use and includes mineral resources. The receptor sensitivity for minerals is identified as high with which I agree. When assessing the magnitude of effects, as set out in table 14.3, it should be noted that there is a scarcity of sand and gravel supply within the LCR and wider NW region with many MPAs falling below the 7-year land bank. Therefore, the mineral resource should not be sterilised or lost.	Sand and gravel landbanks for the North West and for local areas have been identified within the baseline (Section 14.6) and taken into account when addressing minerals resource sensitivity in the relevant assessments in (Section 14.10).

Consultee	Consideration	How addressed in this PEIR
	The scope of this chapter is acceptable	Noted. This chapter follows the proposed scope, with the addition of additional requests made in the Scoping Opinion.
Warrington	Comments from Sport England have been received and the full response will be attached to this response but they also are summarised below: "Sport England considers that the impact of a development on sports facilities or activities fall within the scope of the Land Use (Chapter 14) and People and Communities (Chapter 15) assessments of the Scoping Report. As Sport England have a statutory consultee status, through the planning process, to protect playing fields and outdoor sport associated with playing fields, then we consider we would be a non-prescribed consultation body."	Sports facilities and activities are considered within this Land Use chapter where relevant.
	Chapter 14.5 Baseline Conditions - In addition to the sources specified other sources which should be used to help identify playing fields that could be affected by the pipeline are: Sport England's Active Places Power website provides maps and details of sports facilities located within Local Authority areas. Playing Pitch Strategies for Halton, Cheshire East, Cheshire West and Chester, Warrington, St Helens and Trafford. Playing Pitch Strategies identify future development proposals for each of the sites in the short, medium and long term"	Sport England's Active Places Power website has been used to inform the baseline receptors (Section 14.6).

Consultee	Consideration	How addressed in this PEIR
	The Scoping Report does identify sports facilities as a receptor and that is welcomed. However, the relationship between outdoor sport as a Land Use and the outdoor sport facilities users should be well integrated i.e. the impact of loss of use, whether through physical loss or prejudicial impact, of an outdoor sports facility on the people using that facility. Having reviewed the EIA Scoping Report prepared by Wood Group UK Limited (Ref: 807733-WOOD-IA-SC-RP-M5-20942) it appears that the following sports and recreational facilities listed in Chapter 14 p.340- 342 may be affected by the proposal: West Corridor: Runcorn Golf Club Sutton Hall Golf Club North Corridor: The Big Hand Riding School Moore Rugby Union Club Golf courses at Sherdley Park and Fiddlers Ferry (True Fit) The Fiddler's Ferry Sailing Club Sutton Leisure Centre sports ground Rainhill Cricket Club KSTA Rainhill football Mersey Valley Golf Club Whalton Hall Golf Club East Corridor:	

Consultee	Consideration	How addressed in this PEIR
	Antrobus and High Legh golf courses	
	South Corridor: Vale Royal Golf Club	

Technical engagement

- 14.3.4 Technical engagement with consultees in relation to Land Use is ongoing. These meetings are taking place through the consultation exercises relating to the other chapters identified at paragraph 14.1.1. Further details can be found within those chapters.

Planned future engagement

- 14.3.5 Future engagement will be ongoing through the consultation exercises for the other relevant chapters. Any specific engagements required for the Land Use assessment will be identified through the responses to the statutory consultation exercise.

14.4 Study Area

Spatial scope

- 14.4.1 The Study Area for the Land Use chapter will differ for the natural resources sub-topic and the tourism and recreation sub-topics. For natural resources, the focus of the assessment will be on whether the proposed development would sterilise any minerals resources. As agreed through the Scoping Opinion, this is focussed on direct effects where the land take from the proposed development overlaps with areas of minerals resource. The Natural Resources Study Area, for both data gathering and assessment, is therefore the Preliminary Order Limits (**Figure 14.1**).
- 14.4.2 For tourism and recreation, there could potentially be both direct effects (from land take) and indirect effects (from visual impact or by emissions from the proposed development). The Tourism and Recreation Study Area, for both data gathering and assessment, therefore utilises the extents of the scope and assessment Study Areas identified in **Chapter 8: Landscape and Visual**, **Chapter 9: Air Quality** and **Chapter 10: Noise and Vibration** because significant effects on tourism and recreation receptors could only occur within these extents (**Figure 14.1**). Justifications for each of these extents can be found in the relevant chapters. These extents, measured from the Preliminary Order Limits, are:
- 1km for Landscape and Visual, with all low or medium sensitivity receptors scoped out;
 - 500m from construction traffic access points, or 350m elsewhere, for dust impacts; and
 - 300m from construction operations, with all pipe-laying works scoped out, and 500m from operational HAGIs.

Temporal scope

- 14.4.3 The temporal scope of the assessment of Land Use is consistent with the period over which the Project would be carried out and therefore covers the construction, operational (including maintenance) and decommissioning periods.

14.5 Data gathering methodology

Desk study

14.5.1 Baseline data has been collected from a desk-based review of available data. The key data sources that have been used to date are outlined in **Table 14.3**.

Table 14.3 Data sources used to inform the Land Use assessment

Source	Date	Summary
Cheshire Replacement Minerals Local Plan	June 2022	Protected and allocated minerals sites, minerals safeguarding areas.
Cheshire West and Chester Local Plan Part 1 Strategic Policies		
Cheshire West and Chester Local Plan Part 2 Land allocations and detailed policies		
Halton Delivery and Allocations Local Plan		
Greater Manchester Joint Minerals Development Plan		
St Helens Core Strategy		
St Helens Borough Local Plan Submission Draft		
Warrington Updated Proposed Submission Version Local Plan		
MAGIC website (magic.defra.gov.uk)	June 2022	Countryside and Rights of Way Act land (registered common land and open access land).
Google Earth Pro	June 2022	Quarries. Tourism/recreation facilities.
Sports England Active places website	June 2022	Sports facilities.

Survey work

- 14.5.2 As reflected by common practice and due to publicly accessible information being available on all identified receptors from online sources, all survey work to date has been desk research based and no on-site survey work has been undertaken.

14.6 Overall baseline

Current baseline

- 14.6.1 The current baseline looks at the land uses which may be affected - within the Natural Resources and Tourism and Recreation Study Areas. (See **Figure 14.1** and **Section 14.8** for further details of the Study Areas).
- 14.6.2 Baseline receptors are shown on **Figures 14.2 - 14.6**.

Aggregate Sand and Gravel

- 14.6.3 A number of comments received from the host authorities as part of the Scoping Opinion mentioned the low level of aggregate sand and gravel resources in the North West and therefore the importance of avoiding minerals sterilisation along the route of the Project. The North West Aggregates Working Party report from 2018 shows that aggregate sand and gravel reserves in the North West region have decreased substantially in the period from 2008 to 2018. In 2008, aggregates sand and gravel reserves stood at nearly 42 million tonnes (mt), but they had reduced to under 23mt in 2018. Aggregate sand and gravel sales in that period had remained relatively steady, fluctuating between 1.87 and 3.39 million tonnes per annum (mtpa), indicating that reserves were not being replaced by new permissions as they are used.
- 14.6.4 Across the six host authorities there is a similar baseline position in respect of aggregate sand and gravel. Cheshire East (Local Aggregate Assessment (LAA), 2021) shows that there is an estimated 2.6mt of aggregate sand and gravel reserves. Forecasts for aggregate sand and gravel sales in Cheshire East are around 0.48mtpa for the next 15 years. Given the reserve position, there is only 5.45 years supply available at these rates.
- 14.6.5 Chester West and Chester (LAA 2021) shows that aggregates sand and gravel reserves dropped from around 4mt in 2010 until 2015 when a new site permission was granted which increased reserves to 8mt. They have since dropped down to 6mt which would provide slightly over 7 years of supply at current sales rates.
- 14.6.6 Information for Halton, St Helens, Trafford and Warrington is all contained within a Joint LAA with the Greater Manchester and Merseyside areas (2019). This shows that aggregates sand and gravel reserves fell from 6.1mt in 2009 to 1.2mt in 2019. Given recent sales rates, this would provide 4.4 years of supply. However, the LAA also identifies that the planning permission for the one remaining sand and quarry in the area is due to expire in 2022 which would restrict supply after this date.

Silica sand

- 14.6.7 Silica sand is not subject to the same detailed monitoring as found within the regional Aggregates Working parties or local aggregates assessments and information on the baseline position is therefore found within the relevant policy documents of the host authorities.
- 14.6.8 Cheshire East is still in the early stages of producing a Minerals Local Plan but has identified silica sand as a mineral that requires consideration in the Local Plan within the consultation papers issued to date. The Council is therefore still reliant on the former Cheshire County Council Replacement Minerals Local Plan from 1999. This identified four sites for continued and potential future extraction, none of which are within the Study Area for the proposed development.
- 14.6.9 Until recent years, there was no indication that Cheshire West and Chester area had any silica sand resources, but representations to the Local Plan Part 2, and a subsequent planning application, for a site at Rudheath Lodge, Cranage identified a reserve of silica sand. National policy advises that a 10-15 year landbank of silica sand should be maintained and the Rudheath Lodge site is expected to supply silica sand for 12 years.
- 14.6.10 Policy documents from Halton, St Helens, Trafford and Warrington indicate that there is no silica sand extraction or expected future interest within their areas.

Salt

- 14.6.11 The Cheshire Replacement Minerals Local Plan contained policies, which identify preferred areas for future rock salt and brine extraction. None of these areas are within the Study Area for the proposed development.
- 14.6.12 Cheshire West and Cheshire has policy commitments to maintaining a steady and sustainable supply of salt and brine and aims to achieve this by safeguarding extraction from the existing Winsford Rock Salt Mine and Holford Brinefield and by the identification of Preferred Areas of salt and brine extraction identified at Winsford and Holford. The existing Winsford Rock Salt Mine extracts around 1mtpa and has a permitted reserve of around 30mt.
- 14.6.13 Policy documents from Halton, St Helens, Trafford and Warrington indicate that there is no salt extraction or expected future interest within their areas.

Minerals extraction allocations

- 14.6.14 Further information on areas allocated for minerals extraction or the safeguarding of minerals resources is contained within the following sections of the Project.

West Corridor

- 14.6.15 Minerals safeguarding areas for sand and gravel resources overlap with the Natural Resources Study Area for a small area of land at Frodsham Marsh, for a stretch of around 3.5km between Sutton Weaver and Aston Grange and from Dutton Park Farm to the Central Hub area.
- 14.6.16 The following recreational receptors are within the Tourism and Recreation Study Area on the West Corridor (including the Runcorn Spur): National Cycling Route 5

in Frodsham Marsh and near Sutton Weaver, Aston Grange and Dutton Park Farm and regional cycle route 562 near Aston. The route also crosses the River Weaver/Weaver Navigation, the Cheshire Ring regional walking trail, the Trent and Mersey Canal and Runcorn Golf Club.

14.6.17 Hover Force (outdoor activity centre), Frodsham Cricket Club, Salt Works Playing Fields and Heath Park Playing Fields are all within the Study Area, along with sports pitches at Beechwood, Weston County and Aston-by-Sutton primary schools. Sutton Hall Golf Club was identified in the Scoping Report as a receptor but is now closed and in the process of being converted to agricultural use and therefore does not form a part of the baseline.

14.6.18 These receptors relating to the West Corridor are shown in **Figure 14.2**.

North Corridor

14.6.19 The Natural Resources Study Area for the North Corridor crosses areas of proposed sand and gravel mineral safeguarding land near Lower Walton, Fiddlers Ferry and the A5080.

14.6.20 The following recreational receptors are within the Preliminary Order Limits on the North Corridor (including the Warrington Spurs): Lapwing Lake/Moore Nature Reserve and the Fiddlers Ferry (True Fit) golf course. The route also crosses the River Mersey, Manchester Ship Canal, National Cycle Route 62 and the Trans-Pennine walking trail along the north bank of the River Mersey, the Bridgewater Canal and Cheshire Ring walking trail near Moore.

14.6.21 The Tourism and Recreation Study Area also includes the Big Hand Riding School, Moore Rugby Union Club, Sherdley Park golf course, Fiddler's Ferry Sailing Club, Ravenhead Nature Park/Thatto Heath Meadows Nature Reserve, Albert Fellows playing fields/KSTA Rainhill football, Fiddlers Ferry Sports Club, Morley playing fields, Daresbury Firs Nature Reserve, St Helens Rugby League ground (Totally Wicked Stadium) and Whalton Hall Golf Club.

14.6.22 These receptors relating to the North Corridor are shown in **Figure 14.3**.

East Corridor

14.6.23 The Natural Resources Study Area for the East Corridor cross minerals safeguarding areas for sand and gravel resources to the west of Dunham Woodhouses and through land to the south-east of Partington.

14.6.24 The following recreational receptors are within the Preliminary Order Limits on the East Corridor: Trans Pennine Trail and National Cycle Route 62 at Dunham Road, the Bridgewater Canal and Cheshire Ring walking trail, National Cycle Route 62 and the Bridgewater Canal at Agden Bridge, and Regional Cycle Route 70 near to High Legh.

14.6.25 The Tourism and Recreation Study Area also includes Antrobus and High Legh Golf Courses and High Legh Tennis Club.

14.6.26 These receptors relating to the East Corridor are shown in **Figure 14.4**.

South Corridor

- 14.6.27 Preferred Areas and Areas of Search for potential new minerals development near Gorstage, Forest Hill and from Sandiway through to Vale Royal exist within the Natural Resources Study Area for the South Corridor. Minerals safeguarding areas for sand and gravel resources also exist within the Natural Resources Study Area, although within the South Corridor they are largely consistent with the Preferred Areas and Areas of Search above. Preferred Areas for future extraction of salt are identified within the area between Moulton and Wharton and across to the HSF, and they relate to potential expansion of the Winsford Rock Salt Mine. Minerals safeguarding areas in relation to salt exist in these areas as well but again are largely consistent with the Preferred Areas for salt extraction within the Natural Resources Study Area.
- 14.6.28 The following recreational receptors are within the Preliminary Order Limits on the South Corridor: National Cycle Route 5 near Acton Bridge and Vale Royal, the Trent and Mersey Canal and Cheshire Ring walk at Bartington and Whatcroft, the River Weaver/Weaver Navigation at Bartington and the Vale Royal area, the River Dane and the Dane Valley Way at Whatcroft and the North Cheshire Way and regional cycle route 70 at Acton Bridge.
- 14.6.29 The Tourism and Recreation Study Area also includes caravan parks at Woodbine Cottage and Vale Royal River Park, plus Sandiway and Vale Royal Golf Clubs.
- 14.6.30 These receptors relating to the South Corridor are shown in **Figure 14.5**.

Northwich Spur

- 14.6.31 Minerals safeguarding areas for both sand and gravel and salt exist within the Natural Resources Study Area for the Northwich Spur. The site boundary along the spur may touch upon sand and gravel safeguarding areas in a number of locations, with salt safeguarding areas being located in the area between Anderton and the Spur destination.
- 14.6.32 The following recreational receptors are within Preliminary Order Limits of the Northwich Spur: the Trent and Mersey Canal and Cheshire Ring walk, the River Weaver/Weaver Navigation, North Cheshire Way, and land associated with Marbury Country Park/Anderton Nature Park and the Countryside and Rights of Way Act (open access land). All of these are in the Anderton area. In addition, regional cycle route 70 is in the site boundary near Little Leigh.
- 14.6.33 The Tourism and Recreation Study Area also includes Winnington Park Recreation Club, Anderton Boat Lift Visitor Centre, Barnton Cricket Club and playing fields at Barnton Primary School.
- 14.6.34 These receptors relating to the Northwich Spur are shown in **Figure 14.6**.

Future baseline

- 14.6.35 The baseline with regard to minerals availability will change in the future, with existing permitted reserves being depleted as they are extracted and sold. It would be expected that new reserves are permitted through planning permissions being granted. The various Local Plans provide allocations and policy support to

additional reserves which would be able to replenish these depleted reserves, however it is not possible to know how much reserves will be depleted or replenished by, which reserves will be affected or when this will happen.

14.6.36 Planning policy may change prior to the Project becoming operational which could have an effect on allocations or safeguarding areas for minerals through the designation of new areas for development. Emerging policy has already been identified, where this is advanced enough to provide a steer on possible future policy. However, nothing has been identified which would have a substantial effect on the existing minerals safeguarding areas.

14.6.37 No information has been found which indicates there would be any matters which would change or affect the future sensitivity of the other land use baseline receptors identified or add new receptors to the baseline.

14.7 Embedded environmental measures

14.7.1 As part of the project design process, a number of embedded environmental measures are proposed to reduce the potential for impacts on Land Use **Table 14.4** outlines how these embedded measures will influence the Land use assessment.

Table 14.4 Summary of embedded environmental measures

Embedded measures	Compliance mechanism
Construction	
Fencing to provide screening along shared boundary of Sandiway golf course and the project.	DCO requirements
All phases	
Crossing of main rivers and canals will be constructed using trenchless techniques. Will avoid impacts on recreational use of the watercourses.	DCO works plans and DCO requirements
The Preliminary Order Limits have been designed to avoid all World Heritage Sites, National Nature Reserves and Registered Parks and Gardens.	DCO requirements
The Preliminary Order Limits have been designed to either avoid, or minimise conflict with local nature reserves and National Trust land, where possible.	DCO works plans, description of development and requirements

Embedded measures	Compliance mechanism
Project infrastructure will avoid tourist attractions and recreational facilities as far as is practicable.	DCO requirements

14.8 Scope of the assessment

Potential receptors

- 14.8.1 The principal Land Use receptors that have been identified as being potentially subject to effects are summarised in **Table 14.5**.

Table 14.5 Land use receptors subject to potential effects

Receptor	Reason for consideration
<i>Construction and decommissioning</i>	
Minerals resources	Sterilisation of minerals resources where the pipeline runs through, or HAGIs are located in, minerals safeguarding areas.
Tourist attractions, outdoor sports, country parks, nature reserves.	Receptors may lose land to the construction activities leading to a reduced tourism/recreational or commercial offer during this phase.
Cycling and walking routes, public rights of way, navigational waterways.	Linear recreational routes (cycling/walking/waterways) could be severed or diverted leading to users not being able to follow the route. These are being considered within Chapter 11: Traffic and Transport .
Tourism and recreational receptors.	The effects from noise emissions, or on-air quality or views, may impact on receptors away from the construction work area itself.
Agriculture	This is being considered within Chapter 13: Agriculture and Soil Resources for both construction and operational phases.
Businesses	This is being considered within Chapter 15: People and Communities for both construction and operational phases.
Amenity of residential properties/settlements	These will be considered within Chapter 19: Intra-project Effects for both construction and operational phases.

Receptor	Reason for consideration
<i>Operation and Maintenance</i>	
Minerals resources	Sterilisation of minerals resources where the pipeline runs through, or HAGIs are located in, minerals safeguarding areas.
Tourist attractions, outdoor sports, country parks, nature reserves.	Land take to accommodate HAGIs leading to a reduced tourism/recreational or commercial offer
Tourism and recreational receptors.	The effects arising from noise emissions, or on-air quality or views to HAGIs, may impact on receptors away from the operational area itself.

Maximum design scenario

- 14.8.2 Assessing the use of a parameter-based design envelope approach means that the assessment considers a maximum design scenario whilst allowing the flexibility to make improvements in the future in ways that cannot be predicted at the time of submission of the DCO Application. The assessment of the maximum adverse scenario for each receptor establishes the maximum potential adverse impact (the worst-case scenario) and as a result impacts of greater adverse significance would not arise should any other development scenario (see the options described in **Chapter 2: The Project**) to that assessed within this chapter be taken forward in the final design of the Project. Within the current design presented for the PEIR, maximum sizes are identified for the HAGIs and block valves and the Preliminary Order Limits have been drawn to provide flexibility in places for the pipeline route as design work continues. Where possible, these extents will be refined down as the design work continues to evolve up to the DCO submission through a combination of engineering and environmental work and the consideration of comments received during the statutory consultation exercise. However, the design presented in the DCO submission will still retain a maximum extent scenario. The present design assessed in this PEIR therefore considers a maximum extent of land take, which gives a worst-case scenario for potential direct effects on land uses. The use of the buffer zones in determining the Tourism and Recreation Study Area, measured from the extents of the Preliminary Order Limits, also provides a worst-case extent for potential indirect effects.

Likely significant effects

- 14.8.3 The effects on Land Use receptors which have the potential to be significant and have been taken forward for detailed assessment include all of the baseline receptors identified in **Section 14.8**.

Elements scoped out of further assessment

- 14.8.4 There are no effects that are to be scoped out of the assessment at this stage.

14.9 Methodology for PEIR assessment

Introduction

- 14.9.1 The proposed generic project-wide approach to the assessment methodology is set out in **Chapter 3: Approach to Preparing the PEIR**. However, whilst this has informed the approach that has been used in this land use chapter, it is necessary to set out how this methodology will be applied, and adapted as appropriate, to address the specific needs of the land use assessment in the ES.
- 14.9.2 The assessment will focus on the land use effects of the Project and will build on the information collected to date through further desk survey as necessary. This is to provide a full appreciation of any likely significant land use impacts of the Project.
- 14.9.3 The methodology adopted for the land use assessment will take into account feedback following scoping, and where relevant, ongoing consultation and stakeholder engagement.
- 14.9.4 No quantitative impact assessment on tourism will be undertaken, with the assessment utilising available tourism data and published studies and applying professional judgement to reach conclusions. The assessment will provide a qualitative assessment of the effects on tourism, focussing on tourism related businesses that could be affected by the Project along with amenity impacts to tourism and recreation resources.

Assessment of effects and determining significance

- 14.9.5 This methodology is relevant for direct effects (where the Project would directly encroach on a resource) and isolation effects (where the Project would prevent access to a resource such that its activity level is impacted). There is no definitive guidance on significance criteria for land use effects; as such the significance criteria identified has been proposed based on experience gained from other projects.
- 14.9.6 The significance of a land use effect will be determined by assessing the magnitude of the impact and the sensitivity of the receptor.
- 14.9.7 The magnitude of an impact represents its severity. Key factors when assessing magnitude include the extent (number of groups and/or people affected) and how the impact affects the receptor's ability to fulfil its original function. **Table 14.6** details the proposed criteria for assessing the impact magnitude.

Table 14.6 Magnitude of effects

Magnitude of Effects	Criteria
High	An impact that will be very adverse/beneficial and very likely to affect a large number of people or prevent the receptor from fulfilling its function.
Medium	An impact that will be adverse/beneficial and that is likely to affect a moderate number of people or partially prevent the receptor from fulfilling its function.
Low	An impact that will be adverse/beneficial and that it is likely to affect a small number of people or which have a limited effect on how the receptor fulfils its function.
Negligible	An impact that is anticipated to have a slight effect on the receptor.
No impact	No impact would occur on the receptor.

14.9.8

The sensitivity of a receptor relates to its importance to tourists, recreational users or minerals supply, or to how much they will be affected by the land take or amenity effects to be generated by the Project. For example, a local business that has a reliance on its outdoor setting (a petting zoo or a wedding venue) would be more sensitive than a local business that largely runs in an indoor venue (bowling alley). **Table 14.7** details the proposed criteria for assessing receptor sensitivity.

Table 14.7 Receptor sensitivity

Receptor Sensitivity	Criteria
High	Businesses, individuals or groups who have little or no capacity to experience the impact without incurring a material loss (or gain). A recreational receptor which is considered nationally significant. Existing or allocated minerals sites.
Medium	Businesses, individuals or groups who have some capacity to experience the impact without incurring a material loss (or gain). A recreational receptor which is considered regionally significant.

Receptor Sensitivity	Criteria
	Minerals safeguarding or consultation areas.
Low	Businesses, individuals or groups that generally have capacity to experience the impact without incurring a material loss (or gain). No minerals resources identified. A recreational receptor which is considered to be locally significant.

14.9.9 The significance of a Land Use effect is determined by combining both the magnitude of the effect and the sensitivity of the receptor. The proposed approach to determining significance is summarised in **Table 14.8**.

Table 14.8 Determining significance

Receptor Sensitivity	Impact Magnitude				
	High Impact	Medium Impact	Low Impact	Negligible Impact	No Impact
High	Major – significant	Major – significant	Moderate – potentially significant	Minor – not significant	No Impact
Medium	Major – significant	Moderate – potentially significant	Minor – not significant	Negligible – not significant	No Impact
Low	Moderate – potentially significant	Minor – not significant	Negligible – not significant	Negligible – not significant	No Impact

14.10 Preliminary assessment of Land Use effects

14.10.1 All effects on recreational routes such as public rights of way, regional or national trails, regional or national cycle routes and canals or rivers are considered within **Chapter 11: Traffic and Transport**.

Construction phase

- 14.10.2 Direct effects from construction phase activities could occur on any minerals receptor or on tourism or recreational receptors that are within the site boundary and may be disrupted by construction activities. In addition, tourism and recreational receptors, which are outside of the site boundary but within the Study Area, could be affected by the indirect effects of construction. The assessment work considering indirect effects (**Chapters 8: Landscape and Visual, 9: Noise and Vibration, and 10: Air Quality**) is still at an early stage and full results will not be available until the ES is prepared. However, from the information which is available in the PEIR and the nature of the receptors identified, the following sections provide a qualitative assessment of the indirect effects. A full, detailed assessment will be provided in the ES when complete assessments of noise and vibration, air quality and landscape/visual impacts are complete.

West Corridor: Minerals

- 14.10.3 Minerals safeguarding areas exist within the Preliminary Order Limits in three main locations along the West Corridor. Between the Hover Force site and the M56 between Helsby and Frodsham, between Sutton Weaver and Aston Grange and from Dutton Lodge Farm to the Central Hub (**Figure 14.2**). All of these safeguarding areas are related to aggregate sand and gravel resources.
- 14.10.4 Near to the Hover Force site in the Helsby Marshes, the minerals safeguarding area overlaps with the Preliminary Order Limits for around 500m within option WP2. However, it is considered unlikely that this area would prove to be of interest to minerals developers. The land is constrained by the M56 to the south and the Hover Force site to the north, giving a limited area in which sand and gravel could actually be worked. The land also includes existing overhead electricity lines which would need to be moved to facilitate minerals extraction. It is therefore considered that the minerals safeguarding area would not contain a viable minerals resource suitable for extraction and therefore the proposed development would have **No Impact** on minerals resources in this area. If option WP1 was utilised then the pipeline route would be outside of the safeguarding area and there would be **No Impact** on the safeguarding area.
- 14.10.5 Between Sutton Weaver and Aston Grange the Preliminary Order Limits pass through a minerals safeguarding area for approximately 3.7km if option WP3 was followed, or approximately 2.6km if Option WP4 was followed. Ground investigations proposed by the Applicant along this section may provide further information on the extent and quality of the sand and gravel resources, and if they do indicate they could be viable resources then mitigation such as prior extraction or re-use within the Project. However, until such mitigation is confirmed then there remains potential for the pipeline to sterilise these minerals resources. Minerals safeguarding areas are a **medium** sensitivity receptor, and without mitigation the pipeline could lead to **high** magnitude of adverse change. This would lead to a **major adverse** impact, which would be **significant**.
- 14.10.6 From Dutton Lodge Farm to the Central Hub the Preliminary Order Limits pass through a minerals safeguarding area for approximately 1.6km. Ground investigations proposed by the Applicant along this section may provide further information on the extent and quality of the sand and gravel resources, and if they

do indicate they could be viable resources then mitigation such as prior extraction or re-use within the Project. The Trent and Mersey Canal plus residential properties at Dutton Hall may restrict minerals extraction opportunities to some degree. However, until such mitigation is confirmed then there remains potential for the pipeline to sterilise these minerals resources. Minerals safeguarding areas are a **medium** sensitivity receptor, and without mitigation the pipeline could lead to **high** magnitude of adverse change. This would lead to a **major adverse** impact, which would be **significant**.

West Corridor: Tourism and Recreation receptors

14.10.7 All receptors are shown on **Figure 14.2**.

14.10.8 Runcorn Golf Club is located within the Runcorn Spur on the West Corridor. The proposed spur would pass through the golf course between Rocksavage Way and the access road into the Heath Business Park, using open cut construction. Potentially seven of the golf course's holes could be directly affected by the works, which would be expected to last for up to six months, which would be over the spring/summer period to avoid bad weather disrupting construction. These holes would then be restored and re-seeded and it is likely to be the following year when growth is sufficient to allow play to proceed again. A further four holes could also lose their access during the six months, while construction works are ongoing. While it may be possible for some holes to be configured to provide additional holes during the disruption, it is expected that there would be a **high** magnitude of effect on the golf course. The golf course is considered to be a **medium/high** sensitivity receptor and therefore a **major adverse** and **significant** effect would occur for a temporary period of up to 12 months.

14.10.9 The Heath Health Plaza is located within the Runcorn Spur on the West Corridor and is an indoor leisure centre/gym on the Heath Business Park, which includes an outdoor 5 a side football pitch. The Preliminary Order Limits in this location will be within the road network. The route will stretch between the road and a location to be determined by the Heath Business Park for connection into the various buildings on the site. The indoor facilities will therefore not be affected by the proposals. Although the connection point within the Heath Business Park has yet to be determined, it is considered most likely that the Runcorn Spur will continue to run through the road network at the Heath and that the connection point would be located on an area of existing, undeveloped hardstanding or adjacent to one of the main buildings. The 5 a side football pitch is located on the boundary of the site and is considered an unlikely location to be directly disturbed by the Spur. **No impact** is therefore predicted but the connection point will remain under review and the assessment will be re-visited in the ES if it was to directly impact on the 5 a side pitch.

14.10.10 Hover Force is an outdoor activity centre which includes off-road hovercraft, karting and buggy racing, plus activities such as shooting, archery and axe-throwing. It is located outside of the Preliminary Order Limits, but is immediately adjacent, either to the north or south (options WP1 and WP2). Given the nature of the off-road racing it is considered that the centre is of a **low** sensitivity and it is considered that any noise, vibration, air quality or visual impacts arising from the

construction of the pipeline in this location would have a **low** magnitude of effect, which would result in a **negligible, adverse** effect which is **not significant**.

- 14.10.11 Frodsham Cricket Club is located between Frodsham village and the M56, with the Motorway providing a barrier between the Club and the Preliminary Order Limits. Given that it is located outside of the Preliminary Order Limits and given the location of the M56 in relation to the Cricket Club it is considered that **no impact** would result.
- 14.10.12 Salt Works Playing Field is located on land between Frodsham village and the M56 to the north-west and the River Weaver to the north-east, with the Motorway and the trees around the river providing a barrier between the Club and the Preliminary Order Limits. Given that it is located outside of the Preliminary Order Limits and given the location of the M56 and River Weaver in relation to the playing fields, it is considered that **no impact** would result.
- 14.10.13 The Heath playing field (also known as Heath Park) is located outside of the Preliminary Order Limits, immediately adjacent to the Heath Business Park on the Runcorn Spur. Tree planting around Heath Road South and within the business park is likely to provide screening between the playing fields and the construction of the spur to the business park. The works required for the spur connection are unlikely to be substantially different to construction or maintenance works that could occur within the business park at any time. Given this, and the screening in place, it is considered unlikely that any noise, vibration, air quality or visual impacts arising from the construction of the pipeline in this location would significantly affect users of the fields that **no impact** would result.
- 14.10.14 Beechwood Primary School's playing field is located within 1km of the proposed Runcorn HAGI and in theory could be subject to visual impacts from that part of the development. However, the school is surrounded by existing residential properties and as such there will be no visibility of the proposed development. It is outside of the Study Areas for noise or air quality effects and therefore **no impact** would result.
- 14.10.15 Weston County Primary School's playing fields are located within 100m of the proposed Runcorn Spur, where the spur route passes through Runcorn Golf Club and then turns north into the Heath Business Park. The School is screened from the proposed spur route by the Business Park's access road and a belt of existing woodland up to 50m wide. Some noise may be audible to users of the School's playing field, however this would only be from pipeline trenching works. The receptor is considered to be of **high** sensitivity and a **negligible** magnitude of impact is expected. This would give rise to a **minor adverse** effect, for a temporary period of time during construction works, which is **not significant**.
- 14.10.16 Aston by Sutton Primary School is located within the small settlement of Aston, adjacent to Aston Lane. The school playing field would be located less than 100m from the Preliminary Order Limits. Some screening would be offered by existing woodland to the west, scattered mature trees along Aston Lane and the school buildings. Some noise may be audible to users of the School's playing field but this would only be from pipeline trenching works. The receptor is considered to be of **high** sensitivity and a **negligible** magnitude of impact is expected. This would give

rise to a **minor adverse** effect, for a temporary period of time during construction works, which is **not significant**.

North Corridor: Minerals

- 14.10.17 The North Corridor crosses areas of proposed sand and gravel mineral safeguarding land in three locations: near to Lower Walton, at Fiddlers Ferry and adjacent to the A5080 (**Figure 14.3**).
- 14.10.18 At Lower Walton, the proposed spur link to Solvay overlaps with minerals safeguarding area on a small extent of land adjacent to the Manchester Ship Canal and West Coast Main Line. The existing built development at Solvay, the proximity of the canal and rail line and also a sewage pipe, which runs through the area, means that this location is unsuitable for minerals extraction and **no impact** would occur.
- 14.10.19 At Fiddlers Ferry the Preliminary Order Limits pass across a mineral safeguarding area on a small piece of land between Fiddlers Ferry power station to the west, True Fit golf course to the east and the rail line to the south. This part of the safeguarding area is the eastern extent of a wider area that is mainly located under existing built development (Fiddlers Ferry power station and Emerald Kalama chemical works). It is therefore considered unlikely that the area would be of interest for minerals extraction due to the small area of land available and the proximity of the rail line to the south and therefore **no impact** would occur.
- 14.10.20 At the A5080, BGS records indicate that land here has previously been subject to sand and gravel extraction, which would indicate that minerals resources have been utilised in this area. In addition, there is an existing gas pipeline running through this land which would have previously sterilised any minerals resources that remained. **No impact** would occur.

North Corridor: Tourism and recreation receptors

- 14.10.21 All receptors are shown on **Figure 14.3**.
- 14.10.22 The Preliminary Order Limits contain two options that have a direct impact on the Moore Nature Reserve. Option NP4 would cross the nature reserve to the west of Lapwing Lake and would include HAGI option HWH1, plus a construction compound for a trenchless crossing within the reserve. Option NP5 would cross the nature reserve between Birchwood Pool and Pump House Pool, before running along the northern boundary of the reserve, adjacent to the partially restored Arpley landfill site. NP5 would include HAGI option HWH2 although this is outside of the nature reserve. Option NP4 would consist of around 350m of pipeline through the nature reserve and approximately 2.5ha of land for the construction compound and HAGI. Option NP5 would consist of at least 1.1km of pipeline through the nature reserve. Both options would require existing vegetation to be cleared, which will provide an adverse experience for recreational users of the Moore Nature Reserve. However, whichever option is chosen, large extents of the nature reserve will remain open with public access retained. Distance and screening provided by retained vegetation will reduce the indirect effects created by the construction works. The Nature Reserve is considered to be of **low** sensitivity for recreational users and either option would have a **medium**

magnitude of change, which would be adverse. The effects would therefore be **minor, adverse and not significant**.

- 14.10.23 The Preliminary Order Limits passes over part of the True Fit Golf Club at Fiddlers Ferry. Due to the golf course's location adjacent to a rail line and the River Mersey, a trenchless crossing of these two features is required and therefore it will not be necessary to directly affect the golf course with any construction activities. The trenchless crossing will require a working area adjacent to the golf course. Existing tree belts along Marsh Lane will provide some screening from these works and whilst some noise may be audible to golfers, it would not affect the whole course. The golf course is considered to be of **medium-high** sensitivity and a **negligible** magnitude of change is estimated. This would give rise to a **minor adverse** effect, for a temporary period of time during construction works, which would be **not significant**.
- 14.10.24 Along the northern corridor a number of other recreational receptors lie within the Tourism and Recreation Study Area, but outside of the Preliminary Order Limits:
- Moore RUFC (near option NP4);
 - Fiddlers Ferry Sailing Club (on River Mersey);
 - Fiddler Ferry Sports Club (within Fiddlers Ferry power station);
 - Rainhill High School playing field (Rainhill Stoops);
 - Albert Fellows playing field (Rainhill);
 - Ravenhead/Thatto Heath Meadows Nature Reserves (next to Pilkingtons, St Helens); and
 - Morley playing field (on the Warrington Spur).
- 14.10.25 All of the receptors are considered **low** sensitivity and all have some kind of mitigating features between the receptors and the proposed pipeline (distance or existing screening from natural or built features). The magnitude of change is therefore considered to be **low – medium** adverse, which would produce a **minor adverse** impact, for a temporary period of time during construction works, which would be **not significant**.
- 14.10.26 Big Hands Riding School is located adjacent to route option NP4 and a construction compound for the trenchless crossing of the Manchester Ship Canal, and around 200m from HAGI option HWH1. If this option is chosen then the facility will be subject to effects from visual, noise and air quality impacts. Although the construction works for the trenchless crossing and HAGI will be temporary, they could be undertaken for at least six months. Due to the nature of the horse-riding activities it is considered that the riding school has a **medium-high** sensitivity. A **medium** magnitude of effect would see a **major adverse** effect occurring, for a temporary period of time during construction works, which would be **significant**.
- 14.10.27 Walton Hall Golf Club (Higher Walton) is located adjacent to a short stretch (approximately 150m) of route option NP3. There would only be a small corner of the golf course, including parts of two or three holes within 500m of the pipeline construction works. Screening between these holes and the pipelines works would exist from mature tree belts on the boundary of the golf course. The golf course is

considered to be of **medium-high** sensitivity and a **negligible** magnitude of change is estimated. This would give rise to a **minor adverse** effect, for a temporary period of time during construction works, which would be **not significant**.

- 14.10.28 Sherdley Park Golf Club is located within 150m of the Preliminary Order Limits, however all works would be within the public highway at this point and the St Helens Linkway dual carriageway and mature tree belts on the boundary of the golf course would lie between the Project and the course. It is therefore considered that **no impact** would occur.
- 14.10.29 The Totally Wicked Stadium is home to St Helens RFC, a professional rugby league club who play in the Super League, the top tier of rugby league in Great Britain. The stadium is located within 50m of the Preliminary Order Limits of the St Helens Spur where a connection will be made to the proposed Glass Futures site. The spur construction here would not give rise to any impacts that are of a greater magnitude than the construction works for the Glass Futures development itself, and therefore **no impact** will occur on either rugby league games at the stadium or on spectators watching the games.

East Corridor: Minerals

- 14.10.30 The Eastern Corridor crosses minerals safeguarding areas for aggregates sand and gravel resources to the west of Dunham Woodhouses and through land to the south east of Partington (**Figure 14.4**).
- 14.10.31 To the west of Dunham Woodhouses, between Agden Bridge and the River Bollin the Preliminary Order Limits pass through a minerals safeguarding area for around 1.3km. Ground investigations proposed by the Applicant along this section may provide further information on the extent and quality of the sand and gravel resources, and if they do indicate they could be viable resources then mitigation such as prior extraction or re-use within the Project will be considered. However, until such mitigation is confirmed then there remains potential for the pipeline to sterilise these minerals resources. Minerals safeguarding areas are a **medium** sensitivity receptor, and without mitigation the pipeline could lead to **high** magnitude of adverse change. This would lead to a **major adverse** impact, which would be **significant**.
- 14.10.32 North of the River Bollin, the Preliminary Order Limits then overlap with the minerals safeguarding area for approximately 0.5km before the Warburton HAGI site. Two gas pipelines already run through this area which will have already sterilised any minerals resources within this area. Therefore **no impact** would occur.
- 14.10.33 From Peterhouse Farm the Preliminary Order Limits then pass through around 1.5km of a minerals safeguarding area up to Heath Farm Lane at Partington. From Sinderland Green north to Heath Lane, the proposed route runs close to an existing gas pipeline which will having previously sterilised minerals resource in this area. However, the area from Peterhouse to Sinderland is free from constraints. Within this area ground investigations may provide further information on the extent and quality of the sand and gravel resources, and if they do indicate they could be viable resources then mitigation such as prior extraction or re-use

within the Project will be considered. However, until such mitigation is confirmed then there remains potential for the pipeline to sterilise these minerals resources. Minerals safeguarding areas are a **medium** sensitivity receptor, and without mitigation the pipeline could lead to **high** magnitude of adverse change. This would lead to a **major** adverse impact, which would be **significant**.

East Corridor: Tourism and recreational receptors

14.10.34 All receptors are shown on **Figure 14.4**.

14.10.35 Antrobus Golf Club is located approximately 280m from the Preliminary Order Limits at its closest point, although the majority of the golf course is over 500m away. The distances between the working areas and the majority of the golf course mean that any affects from air quality, noise or vibration matters are unlikely to be an issue for golfers. A construction compound for the trenchless crossing of the A559 will be located around 500m away from the south-west corner of the golf course which has potential for some visual impact. However, any visibility would be screened by existing buildings of Pear Tree farm, Antrobus farm and the golf club itself, plus mature tree cover in this area. Due to the distances and screening, **no impact** on the golf course would occur

14.10.36 High Legh Tennis Club is located within 150m of the Preliminary Order Limits and within 300m of a construction compound for the trenchless crossing of the A50. Online photographs from the Club's social media accounts show that the three tennis courts at the Club are largely surrounded by existing hedge and tree cover, and that there is further screening available along field boundaries between the Club and Preliminary Order Limits. Due to this being a local club and players' focus being on the game, it is considered that tennis players at the Club would be of **low** sensitivity. Due to the distance to the working areas a magnitude of change of **low – medium** is anticipated which would result in a **negligible to minor** adverse effect, for a temporary period of time during construction works, which would be **not significant**.

14.10.37 High Legh Golf Club is located within 100m of the Preliminary Order Limits, although this closest point relates to the B5159 and potential highways improvements needed for access. The closest extent of the golf course to the pipeline construction area is approximately 200m, although the majority of the golf course is over 500m away. The distances between the working areas and the majority of the golf course mean that any affects from air quality, noise or vibration matters are unlikely to be an issue for golfers. A construction compound for the trenchless crossing of the M56 will be located around 200m away from the northern boundary of the Golf Course, which has potential for some visual impact. However, any visibility would be restricted by screening offered by scattered properties and mature tree cover related to properties around Peacock Lane and Limetree Lane. A golf course is considered to be a **medium-high** sensitivity receptor and it is considered that a **negligible** magnitude of change would occur. This would result in a **minor, adverse** effect, for a temporary period of time during construction works, which is **not significant**.

South Corridor: Minerals

- 14.10.38 All minerals safeguarding areas around the Preliminary Order Limits of the South Corridor are shown on **Figure 14.5**.
- 14.10.39 The Preliminary Order Limits pass through minerals safeguarding area for aggregate sand and gravel in the Bartington and Acton Bridge area, for around 2km between the Trent and Mersey Canal and the junction of the A49 and B5142. This area of land would not be ideal for minerals extraction with a number of constraints affecting the extent of land available and potential for extraction (Trent and Mersey Canal, River Weaver, A49 and the proximity of residential properties). However, it may still be possible to quarry in some or all of this land. Within this area ground investigations may provide further information on the extent and quality of the sand and gravel resources, and if they do indicate they could be viable resources then mitigation such as prior extraction or re-use within the Project will be considered. However, until such mitigation is confirmed then there remains potential for the Pipeline to sterilise these minerals resources. Mineral safeguarding areas are a **medium** sensitivity receptor, and without mitigation the pipeline could lead to **high** magnitude of adverse change. This would lead to a **major adverse** impact, which would be **significant**.
- 14.10.40 To the east of Sandiway, the Preliminary Order Limits pass to the east of Forest Hill Quarry and the Quarry's recently permitted extension to the north of the Northwich to Chester Rail line. Land adjacent to these sites, which overlaps with the Preliminary Order Limits, is designated as either a preferred area for future sand and gravel extraction, an area of search for potential sand and gravel extraction or a minerals safeguarding area.
- 14.10.41 To the east of the original quarry, there is opportunity for future sand and gravel expansion but some limitations from the TPO on the woodland at Littledales Gorse and residential properties at Moss Farm exist. Land is also available to the east of the northern extension between Weaverham Road, Hodge Lane and the Northwich to Chester rail line. The Preliminary Order Limits would sterilise an area of land approximately 150m wide and around 500m in length. This is similar to in size (approximately 7ha) to the northern extension area (approximately 8ha). The pipeline would not however impede the possibility of extraction further to the east of the Preliminary Order Limits (within the preferred area and area of search) or within the area of search to the north of the existing extraction area. As an allocated for a preferred area for minerals extraction, which is connected to an existing minerals operation, the minerals resource in this area is considered to be of **high** sensitivity. The Project would have an impact on potential minerals extraction in this area but it would not preclude extraction completely and therefore would bring about in a **medium** magnitude of change. This would result in a **major adverse** effect which would be **significant**.
- 14.10.42 Between Meadowbank and the Hydrogen Storage Facility, the Preliminary Order Limits run through a minerals safeguarding area and preferred area for future extraction of salt and brine. The sand and brine extraction occurs at depths of between 120m and 250m so there would be **no direct impact** on the proposed pipeline with the salt resources in this area. Potential sterilisation could occur if the pipeline utilised land which was needed for above ground infrastructure needed for salt extraction, or if the pipeline created land stability issues which affected the

stability of the underground workings. Given the depth and extent of the salt resources identified in policy, it is expected that the pipeline would have **no impact** on future above ground infrastructure needed for salt or brine extraction. This is because the depth allows flexibility for where above ground facilities can be located. Once any above ground facility is connected to the underground resources, working can then occur laterally to exploit the salt or brine. The above ground infrastructure therefore does not have to be located directly above any single point. The basis of the structural design for the Project will be completed in general accordance with design standards to minimise the risk of structural or geotechnical instability. Further work on this matter will continue through the detailed design phase but current information suggests that **no impact** would occur on the existing or potential future salt or brine extraction works in this area through land stability issues.

South Corridor: Tourism and recreational receptors

14.10.43 All receptors are shown on **Figure 14.5**

14.10.44 Within the Vale Royal area in the South Corridor, route options SP3 and SP4 would pass through Vale Royal Golf Club and would directly affect up to two holes on the golf course through open cut construction. The construction works would be expected to last for up to six months which would be over the spring/summer period to avoid bad weather disrupting construction. These holes would then be restored and re-seeded and it is likely to be the following year when growth is sufficient to allow play to proceed again. With two holes affected, it is possible that the golf course may be able to re-configure the course to provide additional holes within their land and continue with an 18-hole course during the construction period. However, a worst-case scenario would see only 16 holes available for around 12 months, which would present a **medium** magnitude of change on the golf course, which will be an adverse effect. The golf course is considered to be a **medium/high** sensitivity receptor and therefore a **major adverse** effect would occur, for a temporary period of time during construction works, which would be **significant**.

14.10.45 Woodbine Cottage Caravan Site is located approximately 100m from a proposed material laydown area and within 200m of the proposed pipeline route/construction area. The Caravan Site is located on the banks of the River Weaver, to the north, with the Preliminary Order Limits all located to the south. Between the Caravan Site and the Project would be the A49, mature tree cover along the sides of this road and the properties at Dingley Dell. It is considered that the Caravan Site is of local importance and therefore of **low** sensitivity. Due to distance between the working construction areas and the Caravan Site plus the existing screening in place and the focus of the Site towards the River it is expected that a **medium** magnitude of effect would be experienced. This would result in a **minor adverse** effect, for a temporary period of time during construction works, which is **not significant**.

14.10.46 Sandiway Golf Club lies immediately adjacent to the Preliminary Order Limits around route option SP2, with a shared boundary between the two running for approximately 1.2km. Alongside the A556 a construction compound for a trenchless crossing of the road would be located adjacent to the golf course, although the nearest holes would have some screening from this by mature tree

cover and the buildings of the club house. The mature tree cover continues to provide screening along approximately 300m of the shared boundary. The screening then thins out to isolated trees and hedges as the section progresses south towards Whitegate Lane. A golf course is considered to be a **medium-high** sensitivity receptor and it is considered that for those holes along the shared boundary, there is potential for low magnitude of effects to occur from noise and visual impacts in particular without mitigation. This would result in a moderate adverse effect, for a temporary period of time during construction works, which is potentially significant. Embedded mitigation is however included along the shared boundary, where mature tree cover does not exist) to provide screening from noise and visual effects. With this embedded mitigation, **negligible adverse** effects would be expected, which would result in a **minor** and **not significant** effect.

- 14.10.47 Vale Royal River Park Caravan site is located on land between the River Weaver and the West Coast Main Line, to the west of Moulton. It lies between route options SP4 (approximately 250m to the west) and the combined section of SP1, SP2 and SP3 (within 100m to the east). Between the Caravan Site and SP4 to the west lies a woodland, the River Weaver, Bradford Road and a residential Caravan Site. Between the Caravan Site and SP1-3 to the east lies the West Coast main Line and tree cover either side of that. It is considered that the Caravan Site is of local importance and therefore of **low** sensitivity. Due to the existing screening in place and the background impacts that will occur from the West Coast Main Line, it is considered that, at worst, a **medium** magnitude of effect would be experienced. This would result in a **minor adverse** effect, for a temporary period of time during construction works, which is **not significant**.
- 14.10.48 Bostock Green Playing Field is located within the settlement of Bostock Green, over 200m from the Preliminary Order Limits. The playing field is screened from the Project by existing built development in Bostock Green and mature tree cover around the field. Given the distance and screening in place it is considered that **no impact** would occur.

Northwich Spur

- 14.10.49 All receptors are shown on **Figure 14.6**.
- 14.10.50 Barnton Cricket Club is located adjacent to the Preliminary Order Limits on the northern edge of Barnton. Hedges along the boundary of the Cricket Club/surrounding fields provide the only screening. Effects on cricketers are only likely to occur if construction activities were ongoing at the same time as a cricket match was occurring, with potential distraction from noise, dust arisings or visual impact from moving plant. The Cricket Club is considered to be a **medium-high** sensitivity receptor. Potential mitigation may be available from the timings of works in this area or through the Cricket Club re-arranging fixtures (i.e. to swap home and away fixtures). Without this mitigation, there is potential for a **high** magnitude of effect to take place, which would give rise to a **major** adverse impact considered to be **significant**. If the mitigation is secured then it is considered that the magnitude of change would drop to **negligible**, which would give a **minor** adverse impact which is **not significant**. Any effects would only be for a temporary period of time during construction works,

- 14.10.51 Barnton Primary School playing fields are located adjacent to Barnton Cricket Club and within 150m of the Preliminary Order Limits. The Cricket Club and Pumphouse Wood Nature reserve lie between the playing fields and the Project. Some noise may be audible to users of the playing field but it is not expected that this would create a significant impact on the users. Visual impact is expected to be minimal due to the screening offered by the Nature Reserve and tree cover between the School and the Cricket Club. The school is a **high** sensitivity receptor and a **negligible** magnitude of effect would take place. This would give a **minor, adverse** effect, for a temporary period of time during construction works, which is **not significant**.
- 14.10.52 Anderton Boat Lift is located within 300m of the Preliminary Order Limits and is a scheduled ancient monument as well as a tourist attraction. **Chapter 6: Historic Environment**, finds that there would be no impact on the Boat Lift due to its focus on the Canal (rather than the surrounding area where the Project lies). In addition, there is mature woodland screening the Boat Lift from the Project. As such there would be **no impact** from the Project on this receptor.
- 14.10.53 The Preliminary Orders Limits, route options NSp1 and NSp2, run through land associated with Marbury Country Park and Anderton Nature Park, including open access land designated by the Countryside Rights of Way Act. NSp2 would see a maximum of 1km of pipeline through this area; NSp1 slightly less at approximately 700m. The recreational offer in this area comes from the formal Country Park itself, and a series of interconnected park, nature reserves and woodland areas, which cover land of around 300ha in total. A 1km length of pipeline and associated construction working area would see around 5ha of land used. The recreational offer is considered to be of **low-medium** sensitivity. Given the extent of the wider recreational resource it is considered a **low** magnitude of effect will occur, which would give rise to a **minor adverse** effect, for a temporary period of time during construction works, which would be **not significant**.
- 14.10.54 Winnington Park Recreational Club is located adjacent to the Tata works at the southern end of the Northwich Spur. The Club could be within 100m of working areas. However, the industrial nature of the surrounding land means that there would be **no impact** from the Project on users of the Club's facilities.

Operational phase

Minerals

- 14.10.55 Any minerals sterilisation effects identified within the construction phase will also be relevant for the operational phase.

Tourism and recreation receptors

- 14.10.56 Once the Project is operational and land has been restored, there would be no impacts on any receptors that were directly affected by the construction of the Project. The only possible impacts could be from the direct impact on Moore Nature Reserve (**Figure 14.3**), if HAGI option HWH1 was chosen or from any indirect effects arising from the operational HAGIs.

West Corridor

- 14.10.57 In the West Corridor, only Frodsham Cricket Club, Salt Works Playing Field and Beechwood Primary School (**Figure 14.2**) would be within 1km of any of the Rocksavage or Runcorn HAGI options. Due to the M56 running through the area near to the Cricket Club and the Salt Works playing fields, there is not expected to be any additional noise or air quality effects which would impact on these two receptors. Beechwood Primary School is around 800m away from the proposed Runcorn HAGI and is surrounded by existing built development. **No impact** is therefore expected on this receptor from the operational HAGI.

North Corridor

- 14.10.58 All receptors are shown on **Figure 14.3**.
- 14.10.59 If HAGI option HWH1 is selected, then this will lead to permanent loss of approximately 1.5ha of land from with Moore Nature Reserve. Whilst this will create an adverse effect for users of the Reserve, large extents of the Reserve will remain open with public access retained. Distance and screening provided by retained vegetation will also reduce the indirect effects created by the operational HAGI. The Reserve is considered to be of **low** sensitivity for recreational users and the HAGI would have a **medium** magnitude of change, which would be adverse. The effects would therefore be **minor, adverse and not significant**.
- 14.10.60 Big Hands Riding School and Moore RUFC are both within 600m of HAGI option HWH1, although separated from the HAGI location by the Manchester Ship Canal. The West Coast Rail line also runs within 200m of the two receptors in the opposite direction. Given the likely impacts of the West Coast Rail Line it is considered that the HAGI would have **no impact** on these receptors.
- 14.10.61 Ravenhead/Thatto Heath Meadows Nature Reserves would lie within 150m of the St Helens HAGI although there would be screening from existing built development and woodland contained on the edge of the reserve in this location. Any impacts from the HAGI would also be experienced in relation to major industrial (Pilkington) and commercial facilities in the nearby area. The proposed HAGI would therefore have **no impact** on recreational users of the nature reserves.
- 14.10.62 Sherdley Park Golf Club would be within 500m of the St Helens HAGI although there would be screening from existing built development and woodland contained within the Ravenhead Nature Reserve which lies between them. St Helens Linkway also separates the golf course from the HAGI location. Any impacts from the HAGI would also be experienced in relation to major industrial (Pilkingtons) and commercial facilities in the nearby area as well as to traffic on the Linkway. The proposed HAGI would therefore have **no impact** on the golf course.

Decommissioning phase

- 14.10.63 The decommissioning phase is expected to involve all of the HAGIs being removed, the pipeline being left in situ and any trenchless crossings would be backfilled with grout. Any land disturbance required would be restored back to pre-construction conditions. Any impacts arising from decommissioning works are

expected to be similar to the construction phase effects in a worst-case scenario, so the conclusions of the construction assessment are considered relevant to the decommissioning phase.

- 14.10.64 As it is not possible to identify where minerals developers may be interested in future minerals extraction, where the pipeline runs through sand and gravel minerals safeguarding areas the pipeline would be left in situ. However, it would be possible to excavate the pipeline in the future which would remove any minerals sterilisation issues. This would add some costs to any future extraction activities, but it would not be of a scale that is likely to make an extraction scheme unviable. Minerals safeguarding areas are a **medium** sensitivity receptor and leaving the pipeline in situ is considered to present a **low** impact. This would give a **minor, adverse** effect which is **not significant**.

14.11 Preliminary significance conclusions

- 14.11.1 A summary of the results of the preliminary Land Use assessment is provided in **Table 14.9**.

Table 14.9 Preliminary summary of significance of effects

Receptor and summary of predicted effects	Sensitivity/ importance/ value of receptor ¹	Magnitude of change ²	Significance ³	Summary rationale
Construction				
West Corridor				
Minerals resources (sand and gravel):				
Helsby Marshes	Medium	No impact	No impact	No viable minerals extraction areas.
Sutton Weaver	Medium	High	Significant	Without mitigation minerals resources would be sterilised.
Dutton Lodge	Medium	High	Significant	Without mitigation minerals resources would be sterilised.
Tourism and recreational receptors: Direct effects				
Runcorn Golf Club	Medium/ High	High	Significant	Use of at least 7 holes would be lost for around 12 months.
Heath Health Plaza	Low	No impact	No impact	Pipeline would not lead to loss of facilities.
Tourism and recreational receptors: Indirect effects				
Hover Force Outdoor Activity Centre	Low	Low	Negligible, adverse. Not significant	Facility is generally compatible with potential impacts of pipeline construction.

Receptor and summary of predicted effects	Sensitivity/ importance/ value of receptor ¹	Magnitude of change ²	Significance ³	Summary rationale
Frodsham Cricket Club	High	No impact	No impact	Distance from the Project and M56 and woodland screening would remove impacts from pipeline or HAGI construction.
Salt Works Playing Fields	Low	No impact	No impact	Distance from the Project and M56 and woodland screening would remove impacts from pipeline or HAGI construction.
Heath Park / Playing Fields	Low	No impact	No impact	Distance and Heath Road South and existing tree cover would remove impacts from pipeline or HAGI construction.
Beechwood Primary School playing field	High	No impact	No impact	Surrounding residential development and distance would remove impacts from pipeline or HAGI construction.
Weston County Primary School	High	Negligible	Minor, adverse. Not Significant	Nature of nearby works and screening from woodland cover will mean negligible effects from pipeline or HAGI construction.
Aston by Sutton Primary School	High	Negligible	Minor, adverse. Not Significant	Nature of nearby works and screening from woodland cover will mean negligible effects from pipeline or HAGI construction.
North Corridor				
Minerals resources (sand and gravel):				

Receptor and summary of predicted effects	Sensitivity/ importance/ value of receptor ¹	Magnitude of change ²	Significance ³	Summary rationale
Lower Walton	Medium	No impact	No impact	No viable minerals extraction areas.
Fiddlers Ferry	Medium	No impact	No impact	No viable minerals extraction areas.
By A5080	Medium	No impact	No impact	No viable minerals extraction areas.
Tourism and recreational receptors: Direct effects				
Moore Nature Reserve	Low	Medium	Minor, adverse. Not Significant	Route options NP4 and NP5, and HAGI option HWH1, would lead to the temporary loss of limited amount of land within the nature reserve.
Tourism and recreational receptors: Indirect effects				
True Fit Golf Club	Medium/High	Negligible	Minor, adverse. Not significant.	Screening and proximity to limited extent of golf course will minimise effects.
Moore Rugby Club	All low	Low-medium	Minor, adverse. Not significant.	Distance from Project and/or screening from existing trees or built development will minimise effects.
Fiddlers Ferry Sailing Club				
Fiddlers Ferry Sports Club				
Rainhill High School playing field				
Albert Fellows Playing Fields				

Receptor and summary of predicted effects	Sensitivity/ importance/ value of receptor ¹	Magnitude of change ²	Significance ³	Summary rationale
Ravenhead / Thatto Heath Meadows Nature Reserves Morley Playing Fields				
Big Hands Riding School	Medium-High	Medium	Major, adverse. Significant.	Nature of activities at the riding schools means the proximity to trenchless crossing and HAGI construction activities would have a significant effect.
Walton Hall Golf Club	Medium-High	Negligible	Minor, adverse. Not significant	Screening and proximity to limited extent of golf course will minimise effects.
Sherdley Park Golf Club	Medium-High	No impacts	No impacts	Nature of construction activities and screening from existing trees or built development will remove any effects from pipeline or HAGI construction.
East Corridor				
Minerals resources (sand and gravel): Agden Bridge	Medium	High	Major adverse. Significant	Without mitigation minerals resources would be sterilised.
North of River Bollin Peterhouse Farm	Medium Medium	No impact High	No impact	No viable minerals extraction areas

Receptor and summary of predicted effects	Sensitivity/ importance/ value of receptor ¹	Magnitude of change ²	Significance ³	Summary rationale
			Major adverse. Significant	Without mitigation minerals resources would be sterilised.
Tourism and recreational receptors: Direct effects				
None identified				
Tourism and recreational receptors: Indirect effects				
Antrobus Golf Club	Medium-High	No impact	No impact	Distance and screening from existing trees or built development will remove any effects.
High Legh Tennis Club	Low	Low-Medium	Minor, adverse. Not significant	Distance and screening from existing trees will minimise any effects.
High Legh Golf Club	Medium-High	Negligible	Minor, adverse. Not significant.	Distance and screening from existing built development and trees will minimise any effects.
South Corridor				
Minerals resources (sand and gravel): Bartington	Medium	High	Major adverse. Significant	Without mitigation minerals resources would be sterilised.

Receptor and summary of predicted effects	Sensitivity/ importance/ value of receptor ¹	Magnitude of change ²	Significance ³	Summary rationale
Sandiway	High	Medium	Major adverse. Significant	The pipeline would not sterilise all minerals extraction in this area but would sterilise an area of approximately 8ha.
Minerals resources (salt and brine)	High	No impact	No impact	The Project would not have any effect on the salt and brine resources located at depth.
Tourism and recreational receptors: Direct effects				
Vale Royal Golf Club	Medium-High	Medium	Major, adverse. Significant.	If either of two of the four options in this location are used (options SP3 and SP4), then two holes would be lost for around 12 months. If SP1 or SP2 are used then no impact would occur on the golf course.
Tourism and recreational receptors: Indirect effects				
Woodbine Caravan Park	Low	Medium	Minor, adverse. Not significant.	Screening from existing trees and background effects from A49 will mean any effects are not significant.
Sandiway Golf Club	Medium-High	Negligible	Minor, adverse. Not significant.	Screening mitigation will minimise noise and visual impacts and mean any effects remaining are not significant.
Vale Royal Caravan Park	Low	Medium	Minor, adverse. Not significant.	Screening from existing woodland and tree cover, and background effects from West Coast Main Line will mean any effects are not significant.

Receptor and summary of predicted effects	Sensitivity/ importance/ value of receptor ¹	Magnitude of change ²	Significance ³	Summary rationale
Bostock Green Playing Field	Low	No impact	No impact	Distance and screening from existing trees or built development will remove any effects.
Northwich Spur				
Minerals resources				
None identified				
Tourism and recreational receptors: Direct effects				
None identified				
Tourism and recreational receptors: Indirect effects				
Barnton Cricket Club	Medium-High	High	Major, adverse. Significant.	Without mitigation, the proximity to pipeline construction and sparsity of screening would give rise to significant effects. Mitigation could drop the magnitude of change to negligible, which would give a minor, adverse and not significant effect.
Barton Primary School playing fields	High	Negligible	Minor adverse. Not significant	Screening from existing woodland and tree cover would remove effects.
Anderton Boat Lift	Medium	No impact	No impact	Distance and woodland screening would remove effects.

Receptor and summary of predicted effects	Sensitivity/ importance/ value of receptor ¹	Magnitude of change ²	Significance ³	Summary rationale
Marbury Country Park	Low-Medium	Low	Minor, adverse. Not significant.	Less than 2% of county park area would be temporarily affected.
Winnington Park Recreational Club	Low	No impact	No impact	Background effects from surrounding area would mean that any effects are not noticeable.
Operations				
Minerals resources	All effects identified at the construction phase would be permanent effects and continue through the operational phase.			
Tourism and recreational receptors: Direct effects				
Moore Nature Reserve	Low	Medium	Minor, adverse. Not Significant	If HAGI option HWH1 is selected, this would lead to permanent loss of a limited amount of land within the recreational receptor.
Tourism and recreational receptors: Indirect effects				
West Corridor				
Frodsham Cricket Club	High	No impact	No impact	Screening from M56 will remove any effects from HAGI operations. Screening from M56 and/ or existing woodland will remove any effects from HAGI operations.
Salt Works Playing Fields	Low	No impact	No impact	
	High	No impact	No impact	

Receptor and summary of predicted effects	Sensitivity/ importance/ value of receptor ¹	Magnitude of change ²	Significance ³	Summary rationale
Beechwood Primary School playing fields				Distance and screening from existing built development will remove any effects from HAGI operations.
North Corridor				
Moore Nature Reserve	Low	Medium	Minor, adverse. Not Significant	If HAGI option HWH1 is selected, some operational effects would result on users of the remainder of the nature reserve. These would not be significant due to distance and screening from existing woodland.
Big Hands Riding School	High	No impact	No impact	If HAGI option HWH1 is selected, some operational effects may result. Distance and background effects from West Coast Main Line mean these would not impact on the riding school.
Moore Rugby Club	Low	No impact	No impact	If HAGI option HWH1 is selected, some operational effects may result. Distance and background effects from West Coast Main Line mean these would not impact on the rugby club.
Ravenhead/Thatto Heath Meadows Nature reserves	Low	No impact	No impact	Distance and background effects from existing industrial and commercial developments mean no impacts are expected on the receptors from HAGI operations.

Receptor and summary of predicted effects	Sensitivity/ importance/ value of receptor ¹	Magnitude of change ²	Significance ³	Summary rationale
Sherdley Park Golf Club	Medium-High	No impact	No impact	Distance and background effects from existing industrial and commercial developments and St Helens Linkway mean no impacts are expected on the course from HAGI operations.
Decommissioning				
Minerals resources	Medium	Low	Minor, adverse. Not significant.	Whilst the pipeline will be left in situ through minerals safeguarding areas it can be removed should interest in minerals extraction arise.
Tourism and recreational receptors	Where decommissioning works relate to the removal of HAGIs or backfilling of trenchless crossings, effects similar to the construction phase are anticipated.			

1. The sensitivity/importance/value of a receptor is defined using the criteria set out in **Section 14.9** and is defined as low, medium or high.
2. The magnitude of change on a receptor resulting from activities relating to the development is defined using the criteria set out in **Section 14.9** and is defined as no impact, negligible, low, medium or high.
3. The significance of the environmental effects is based on the combination of the sensitivity/importance/value of a receptor and the magnitude of change and is expressed as major (significant), moderate (potentially significant) or minor/negligible (not significant), subject to the evaluation methodology outlined in **Section 14.9**.

14.12 Additional measures

- 14.12.1 The assessment set out above identifies some additional measures that may be required. Work is ongoing to establish the viability of these measures and if they can be incorporated into the Project. The ES will report fully on all measures incorporated into the Project design, and whether any additional measures are still considered necessary at that stage.

14.13 Further work to be undertaken

- 14.13.1 The information provided in this PEIR is preliminary, the final assessment of likely significant effects will be reported in the ES. This section describes the further work to be undertaken to support the Land Use assessment presented in the ES.

Baseline

- 14.13.2 The baseline will be kept under review to identify any changes that will need to be considered within the ES.

Assessment

- 14.13.3 At ES stage, further details of the assessment from related subjects such as **Chapter 8: Landscape and Visual, Chapter 9: Air Quality and Chapter 10: Noise and Vibration** will be available. All assessments will be reviewed in light of this more detailed information, and any relevant consultation comments, and updated accordingly.
- 14.13.4 A cumulative effects assessment (CEA) will be undertaken for the Project which considers the combined impacts with other developments on the same single receptor or resource (inter-project effects). The detailed method to be followed in identifying and assessing potential cumulative effects is set out in **Section 3.9 of Chapter 3: Approach to Preparing the PEIR**.

Environmental measures

- 14.13.5 Work is ongoing regarding potential environmental measures and the ES will consider this evolving technical work, alongside any relevant consultation comments, to confirm the measures required.

HyNet North West Hydrogen Pipeline

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