

Viking CCS Pipeline

**Environmental
Statement Volume II –
Chapter 21: Summary
of Likely Significant
Effects**

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21 Summary of Likely Significant Effects

21.1 Overview

- 21.1.1 Chapters 6 to 20 (*Application Document 6.2*) of this Environmental Statement (ES) Volume II have considered the potential environmental effects of the Viking CCS Pipeline (hereafter 'the Proposed Development'). This chapter provides a summary of those potential residual environmental effects that are currently considered to be significant, based on the assessments which have been undertaken.
- 21.1.2 The assessment of the potential residual effects has been predicted after due consideration of those embedded and additional mitigation that have been developed and committed to at this stage, as identified in each technical chapter. Further information on the agreed mitigation measures are included within *ES Volume IV Appendix 3.1 (Application document 6.4.3.1)* and *ES Volume IV Appendix 3.6 (Application Document 6.4.3.6)*.
- 21.1.3 **Table 21-1** summarises these significant residual environmental effects, split by each technical topic, and covering each of the three key phases of the Proposed Development (Construction, Operation and Decommissioning). **Table 21-1** also provides a written description of the potential effect, the significance of the effect prior to additional mitigation (but post embedded mitigation), summarises the additional mitigation and confirms the significance of the remaining residual effects.

Table 21-1: Summary of the Likely Significant Environmental Effects

Phase	Description of Effect	Significance of Effect (prior to Additional Mitigation)	Summary of Additional Mitigation	Residual Significant Effects
Chapter 6: Ecology and Biodiversity				
Construction	No significant adverse effects are predicted to occur.			
Operation				
Decommissioning				
Chapter 7: Landscape and Visual				
Construction	<p>Visual Receptors Viewpoint 6: PRow NELC 16 Walk Lane, Irby Upon Humber (Lincolnshire Wolds AONB)</p> <p>Visual impact resulting from the Pipeline excavation/ works during construction.</p>	Moderate adverse (Significant)	Opportunities to reduce impacts of nearby highly sensitive visual receptors should be sought through sensitive design of construction compounds e.g., organising compound features and using earthworks / fencing to screen internal activities during the construction phase.	Moderate adverse (Significant)
Construction	<p>Visual Receptors Viewpoint 7: PRow NELC 17 Welbeck Hill, Irby Upon Humber (Lincolnshire Wolds AONB)</p> <p>Visual impact resulting from the Pipeline excavation/ works during construction.</p>	Moderate adverse (Significant)	Opportunities to reduce impacts of nearby highly sensitive visual receptors should be sought through sensitive design of construction compounds e.g., organising compound features and using earthworks / fencing to screen internal activities during the construction phase.	Moderate adverse (Significant)

Phase	Description of Effect	Significance of Effect (prior to Additional Mitigation)	Summary of Additional Mitigation	Residual Significant Effects
Construction	<p>Visual Receptors Viewpoint 8: PRow NELC 122 Welbeck Hill, Irby Upon Humber (Lincolnshire Wolds AONB)</p> <p>Visual impact resulting from the Pipeline excavation/ works during construction.</p>	Moderate adverse (Significant)	Opportunities to reduce impacts of nearby highly sensitive visual receptors should be sought through sensitive design of construction compounds e.g., organising compound features and using earthworks / fencing to screen internal activities during the construction phase.	Moderate adverse (Significant)
Construction	<p>Visual Receptors Viewpoint 17: Station Road, Ludborough.</p> <p>Visual impact resulting from the Pipeline excavation/ works during construction.</p>	Moderate adverse (Significant)	Opportunities to reduce impacts of nearby highly sensitive visual receptors should be sought through sensitive design of construction compounds e.g., organising compound features and using earthworks / fencing to screen internal activities during the construction phase.	Moderate adverse (Significant)
Operation	No significant adverse effects are predicted to occur.			
Decommissioning	No significant adverse effects are predicted to occur.			
Chapter 8: Historic Environment				
Construction	<p><u>Pipeline – Section 2</u></p> <p>Direct physical permanent impact on any buried archaeological remains relating to historic settlement at Roxton.</p>	Moderate adverse	Archaeological investigation prior to or during construction, though noting this does not reduce the significance of effects.	Moderate adverse (Significant)

Phase	Description of Effect	Significance of Effect (prior to Additional Mitigation)	Summary of Additional Mitigation	Residual Significant Effects
Construction	<u>Pipeline – Section 2</u> Direct physical permanent impact on any buried archaeological remains relating to a former field system or enclosures southeast of Greenlands Farm.	Moderate adverse (Significant)	Archaeological investigation prior to or during construction, though noting this does not reduce the significance of effects.	Moderate adverse (Significant)
Construction	<u>Pipeline – Section 2</u> Temporary construction activities within views towards the Grade II* Church of St Edmund in Riby.	Moderate adverse (Significant)	None proposed	Moderate adverse (Significant)
Construction	<u>Pipeline – Section 3</u> Temporary construction activities will have a direct physical impact upon the area of surviving parkland at Barnoldby le Beck Park, resulting in further loss of its historic interest and its aesthetic value, prior to reinstatement and alter part of the setting of the Grade II Listed Manor House, Barnoldby le Beck.	Moderate adverse (Significant)	None proposed	Moderate adverse (Significant)
Construction	<u>Pipeline – Section 5</u> Temporary construction activities will alter part of	Moderate adverse (Significant)	None proposed	Moderate adverse (Significant)

Phase	Description of Effect	Significance of Effect (prior to Additional Mitigation)	Summary of Additional Mitigation	Residual Significant Effects
	the farmland setting of the grade II listed 19th century Ashleigh Farm.			
Construction	<u>Theddlethorpe Facility – Option 2</u> Temporary changes to the setting of Grade II listed Ashleigh Farm during construction.	Moderate adverse (Significant)	None proposed	Moderate adverse (Significant)
Construction	<u>Theddlethorpe Facility – Option 2</u> Temporary changes to the setting of Dicote House during construction.	Moderate adverse (Significant)	None proposed	Moderate adverse (Significant)
Construction	<u>All sections</u> Direct physical permanent impact on any as yet unidentified archaeological remains within the DCO Site Boundary.	Negligible adverse (Not Significant) to Major Adverse (Significant)	Archaeological investigation prior to or during construction, though noting this does not reduce the significance of effects.	Negligible adverse to Major adverse (Significant)
Operation	<u>Theddlethorpe Facility – Option 2</u> Changes to the setting of Grade II listed Ashleigh Farm which impact integrity and diminish the contribution of setting to significance.	Moderate adverse (Significant)	None proposed	Moderate adverse (Significant)
Decommissioning	No significant adverse effects are predicted to occur.			

Phase	Description of Effect	Significance of Effect (prior to Additional Mitigation)	Summary of Additional Mitigation	Residual Significant Effects
Chapter 9: Geology and Hydrogeology				
Construction	No significant adverse effects are predicted to occur.			
Operation				
Decommissioning				
Chapter 10: Agriculture and Soils				
Construction	Permanent, irreversible loss of 0.2 ha of Grade 2 agricultural land, due to development and/or land use change.	Moderate adverse (Significant)	Design measures to avoid land of higher grading where possible have reduced the permanent loss of BMV land as far as practicable. However, this loss is unavoidable and cannot be mitigated as all land within the area where the Block Valve Station is required is classed as Grade 2. No additional measures can be applied.	Moderate adverse (Significant)
Construction	No significant adverse effects are predicted to occur.			
Operation				
Decommissioning				
Chapter 11: Water Environment				
Construction	No significant adverse effects are predicted to occur.			
Operation				
Decommissioning				

Phase	Description of Effect	Significance of Effect (prior to Additional Mitigation)	Summary of Additional Mitigation	Residual Significant Effects
Chapter 12: Traffic and Transport				
Construction	Severance, Fear and Intimidation and Highway Safety associated with construction traffic for 50 – A1031 Grimsby Road in Section 3 of the pipeline route.	Moderate (Significant)	Construction Traffic Management Plan	Moderate (Significant)
Construction	Severance, Fear and Intimidation and Highway Safety associated with construction traffic for 51 – A1031 Humberston Road in Section 3 of the pipeline route.	Major (Significant)	Construction Traffic Management Plan	Major (Significant)
Construction	Severance, Fear and Intimidation and Highway Safety associated with construction traffic for 52 - A1031 Thoresby Road in Section 3 of the pipeline route.	Major (Significant)	Construction Traffic Management Plan	Major (Significant)
Construction	Severance, Fear and Intimidation and Highway Safety associated with construction traffic for 53 - A1031 Main Road in Section 4 of the pipeline route.	Major (Significant)	Construction Traffic Management Plan	Major (Significant)

Phase	Description of Effect	Significance of Effect (prior to Additional Mitigation)	Summary of Additional Mitigation	Residual Significant Effects
Construction	Severance, Fear and Intimidation and Highway Safety associated with construction traffic for 54 - A1031 Warren Road Section 4 of the pipeline route.	Major (Significant)	Construction Traffic Management Plan	Major (Significant)
Chapter 13: Noise and Vibration				
Construction	No significant adverse effects are predicted to occur.			
Operation	No significant adverse effects are predicted to occur.			
Decommissioning	No significant adverse effects are predicted to occur.			
Chapter 14: Air Quality				
Construction	No significant adverse effects are predicted to occur.			
Operation	The operation and decommissioning phases have been scoped out of the air quality assessment and no significant effects are anticipated.			
Decommissioning				
Chapter 15: Climate Change				
Construction	No significant adverse effects are predicted to occur.			
Operation	Effect of GHG emissions on the global climate - in consideration of the impact of the transportation of CO ₂ through the Proposed Development and onward storage within the overall Viking CCS Project	Transportation and storage activities of CO ₂ are considered Beneficial (Significant) .	None required. The overall Viking CCS Project is expected to transport and store at least 10 million tonnes of CO ₂ per annum once operational.	Beneficial (Significant)
Decommissioning	No significant adverse effects are predicted to occur.			

Phase	Description of Effect	Significance of Effect (prior to Additional Mitigation)	Summary of Additional Mitigation	Residual Significant Effects
Chapter 16: Socio-economics				
Construction	No significant adverse effects are predicted to occur.			
Operation				
Decommissioning				
Chapter 17: Health and Wellbeing				
Construction	No Significant adverse effects are predicted to occur.			
Operation				
Decommissioning				
Chapter 18: Materials and Waste				
Construction	The operation and decommissioning phases have been scoped out of the material and waste assessment and no significant effects are anticipated.			
Operation				
Decommissioning				
Chapter 19: Major Accidents and Disasters				
Construction	Based on the embedded design measures and additional mitigation outlined in Chapter 19: Major Accidents and Disasters and as outlined in all other supporting technical chapters of this ES, it is considered that the impact of identified potential major accident and disaster events identified during the construction and operation of the Proposed Development will all be managed to be ALARP and will be classed as being not significant .			
Operation				
Decommissioning				
Chapter 20: Cumulative Effects				
Construction	No Significant cumulative residual adverse effects are predicted to occur.			
Operation				
Decommissioning				

