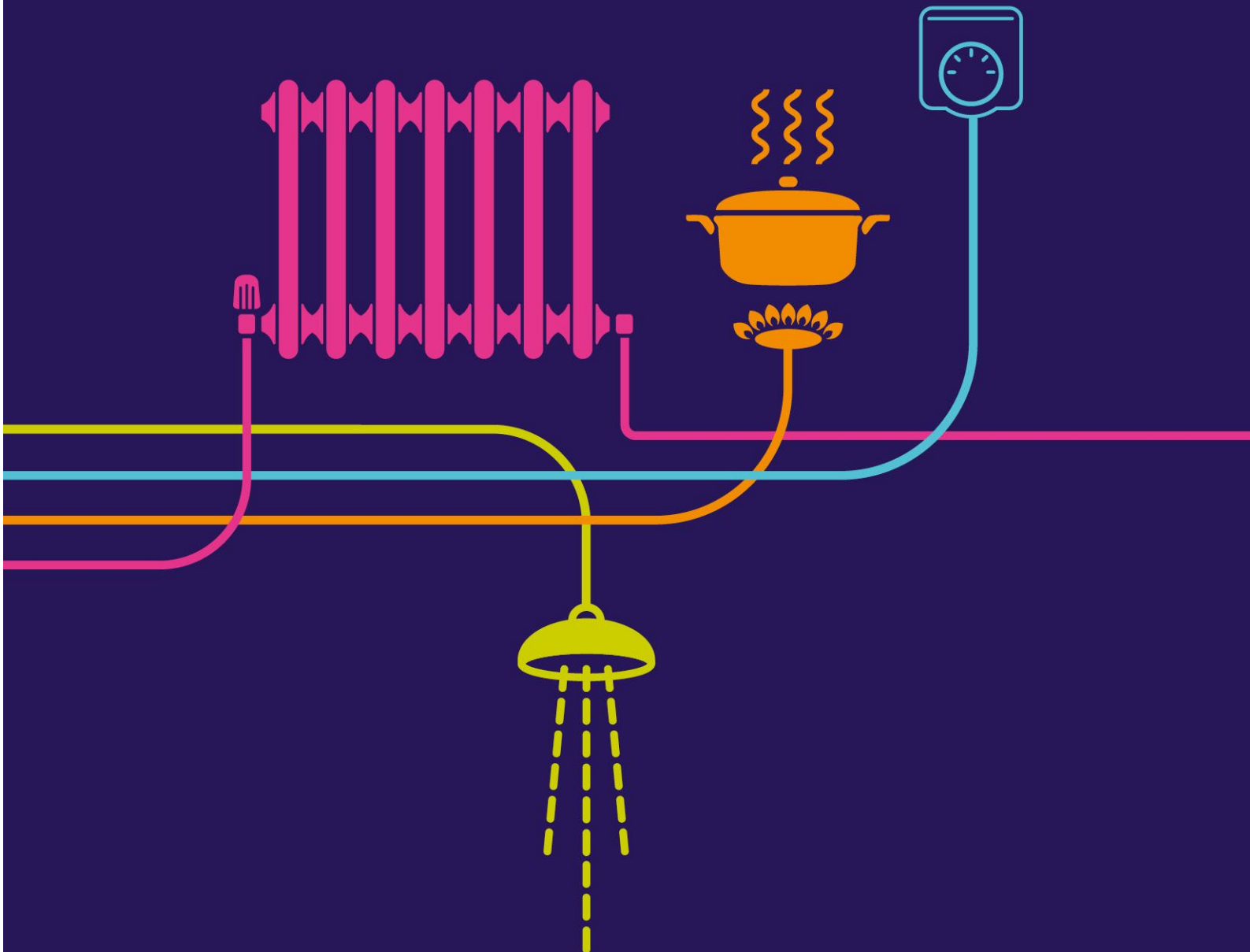


Environmental Mitigation Commitments Document

River Humber Gas Pipeline Replacement Project





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DCO Documents Referenced

DCO Document Reference	Title of Document
2.2B	Works Plans
2.4B	Indicative Site Layout Plans
5.2	Flood Risk Assessment
6.5	Chapter 5: Air Quality
6.6	Chapter 6: Cultural Heritage
6.7	Chapter 7: Ecology and Nature Conservation
6.8	Chapter 8: Geology and Soils
6.9	Chapter 9: Landscape and Visual Amenity
6.10	Chapter 10: Noise and Vibration
6.11	Chapter 11: Socio-Economics and Land Use
6.12	Chapter 12: Traffic and Transport
6.13	Chapter 13: Water Resources
6.13.2	Appendix 13.2: Initial Site Water Management Plan
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7.3B	Initial Construction Environmental Management Plan

Abbreviations

AGI	Above Ground Installation
CEMP	Construction Environmental Management Plan
DCO	Development Consent Order
ES	Environmental Statement
MWC	Main Works Contractor
PEMP	Project Environmental Management Plan
PPE	Personal Protective Equipment
RPE	Respiratory Protective Equipment
SoCG	Statement of Common Ground
SPA	Special Protection Area

Glossary

Term	Description
Above Ground Installation	Assets associated with buried gas pipelines, including structures and engineering that are located above ground to enable the operation and maintenance of the pipeline.
Bund	A barrier, dam or mound used to contain or exclude water (or other liquids). Can either refer to a bund made from earthworks material, sand etc. or a metal/concrete structure surrounding, for example, a fuel tank.
Construction Environmental Management Plan	A site specific plan developed to ensure that appropriate environmental management practices are followed during the construction phase of a project.
Construction Traffic Management Plan	A plan to predict traffic impacts associated with constructing activities of a scheme and outline appropriate mitigation measures which could be implemented.
Dewatering	The removal of groundwater/surface water to lower the water table or to empty an area, such as an excavation, of water.
Environmental Statement	Document that reports the findings of an Environmental Impact Assessment.
Existing No 09 Crossing	This refers to the existing pipeline crossing the Humber Estuary.
Flood Risk Assessment	An assessment of flood risk from all sources to a development and the mitigation of that risk
Groundwater	Defined by the European Commission groundwater Directive (80/68/EEC) as "all water which is below the surface of the ground in the saturation zone and in direct contact with the ground or subsoil".

Term	Description
Initial Traffic Management Plan	Plan is a contractual requirement and assesses the effects of the construction traffic on the local areas around the construction sites and identifies mitigating actions prior to the appointment of the Main Works Contractor and the finalisation of the Construction Traffic Management Plan.
Internal Drainage Boards	A type of operating authority which is established in areas of special drainage and is defined by water catchment areas. An Internal Drainage Board has permissive powers to carry out flood defence works for ordinary watercourses at their discretion.
Main Works Contractor	Main contractor who will undertake detailed design and construction.
Mitigation	Measures including any process, activity, or design to avoid, reduce, remedy or compensate for negative environmental impact or effects of a Scheme.
National Grid Gas	The applicant for this Development Consent Order application.
Pollution Prevention Guidelines	Best practice guidelines set out by the Environment Agency to advise industry and public on legal responsibilities and good environmental practice.
Public Right of Way	This is a path that anyone has the legal right to use on foot, and sometimes using other modes of transport. Legally, a Public Right of Way is part of the Queen's highway and subject to the same protection in law as all other highways, including trunk roads.
Site Waste Management Plan	Site waste management plans help to manage materials and provide an incentive for waste prevention/minimisation. They set out how resources will be managed and waste controlled at all stages during a construction project.
Special Protection Area	Special Protection Areas are strictly protected sites classified in accordance with Article 4 of the European Commission's Birds Directive (2009/147/EC).
Spoil	Material brought up during the course of an excavation, dredging or mining operation.
Unexploded Ordnance	Unexploded ordnance are explosive weapons (bombs, shells, grenades, land mines, naval mines, etc.) that did not explode when they were employed and still pose a risk of detonation, potentially many decades after they were used or discarded.
Watching brief	The watching of a situation by a suitably qualified person to ensure that works (e.g. an excavation) are being done correctly.

DOCUMENT CONTROL

Version	Description	Date
Version 01	Updated for Deadline 1	23 September 2015
Version 02	Updated for Deadline 3	2 November 2015
Version 03	Updated for Deadline 4	27 November 2015

EXECUTIVE SUMMARY

This Schedule of Mitigation Commitments principally provides the measures which the Environmental Statement requires to avoid or minimise impacts along with providing an audit of the way in which those measures will be secured and enforced. However, during Examination changes have been made to the Initial Construction Environmental Management Plan and the Initial Traffic Management Plan (both of which secure measures outlined in the Environmental Statement) at the request of, the Examining Authority, Statutory Consultees, and through the process of agreeing Statements of Common Ground with other stakeholders. This document therefore also outlines those additional / refined measures as requested.

1 INTRODUCTION

1.1.1 This document:

- Provides a summary of the impacts which have been assessed by the Environmental Statement (ES);
- Sets out the measures which the ES requires to avoid or minimise each of these impacts (mitigation measures); and
- Audits the ways in which those measures will be secured and enforced.

1.1.2 The mitigation measures are expressed as ‘commitments’ – they are binding obligations enforceable pursuant to management documents imposed by requirements in the Development Consent Order (DCO).

1.1.3 The table below shows the management documents that are to be produced by the Main Works Contractor (MWC) to record the commitments and the requirements by which compliance with them is secured in the DCO:

Document	Requirement in the DCO
Construction Environmental Management Plan (CEMP)	Requirement 12 of Schedule 3 of the DCO.
Site Waste Management Plan	Requirement 6 of Schedule 3 of the DCO.
Site Water Management Plan	Requirement 5 of Schedule 3 of the DCO.
Initial Traffic Management Plan	Requirement 15 of Schedule 3 of the DCO.

1.1.4 During Examination changes have been made principally to the Initial Construction Environmental Management Plan (DCO Document Reference 7.3B) and the Initial Traffic Management Plan (DCO Document Reference 7.2.1A) at the request of, the Examining Authority, Statutory Consultees, and through the process of agreeing Statements of Common Ground (SoCG) with other stakeholders. This document therefore also outlines those additional / refined mitigation measures as requested.

1.1.5 The Planning Act 2008 creates an offence for the breach of a requirement. Section 161 provides that:

'(1) A person commits an offence if without reasonable excuse the person –

(a) carries out, or causes to be carried out, development in breach of the terms of an order granting development consent, or

(b) otherwise fails to comply with the terms of an order granting development consent.'

1.1.6 A person guilty of an offence under this section is liable to a fine not exceeding £50,000 on summary conviction, or an unlimited fine for conviction on

indictment: see section 160(2).

- 1.1.7 The 'terms of an order' comprise the articles in the body of the DCO, the contents of its schedules (including any plans) and, in particular, the 'requirements'. Therefore an offence may be committed where a person either: (a) carries out development in 'breach' of a requirement or (b) 'fails to comply with a requirement.
- 1.1.8 Failure to comply with a 'condition' under a deemed 'marine licence' is not an offence under s 161, by virtue of ss 161(2) and 149A(4), although breach of requirement for, or conditions of, a marine licence would be an offence under s 85 of the Marine and Coastal Access Act 2009.

For Deadline 4 this document has been reviewed and updated to reflect the changes made to the commitments in the Initial CEMP (DCO Document Reference 7.3B). Changes have been made at the request of, the ExA, Statutory Consultees, and through the process of agreeing SoCGs with other stakeholders during the Examination.

2 MITIGATION COMMITMENTS

2.1.1 Mitigation measures required for the Scheme are presented in Table 2-1 and details are provided of where each measure is secured.

Table 2-1 Mitigation Commitments and Where They Are Secured

Topic	Mitigation Measure	Mechanism Through Which the Mitigation is Secured
Air Quality (DCO Document Reference 6.5)	As part of general site inspections, the Environmental Manager to monitor dust levels through inspections.	Commitment in the Initial CEMP (DCO Document Reference 7.3A) – Con D1
	Record all dust and air quality complaints, identify cause(s), take appropriate measures to reduce emissions in a timely manner, and record the measures taken. Make the complaints log available to the local authorities when asked.	Commitment in the Initial CEMP – Con D2
	Ensure bunding is erected around the sites as per the Indicative Site Layout Plans (DCO Document Reference 2.4B).	Commitment in the Initial CEMP – Con D3
	Remove materials that have a potential to produce dust from site as soon as possible, unless being re-used on site. If they are being re-used on-site, cover, seed or fence stockpiles to prevent wind whipping, if deemed necessary.	Commitment in the Initial CEMP – Con D4
	Ensure sand and other aggregates are stored in banded areas and are not allowed to dry out, unless this is required for a particular process, in which case ensure that appropriate additional control measures are in place, where considered necessary.	Commitment in the Initial CEMP – Con D5
	Ensure bulk cement and other bulk fine powder materials are delivered in enclosed tankers and stored in silos with suitable emission control systems to prevent escape of material and overfilling during delivery.	Commitment in the Initial CEMP – Con D6

Topic	Mitigation Measure	Mechanism Through Which the Mitigation is Secured
	For smaller supplies of fine powder materials ensure bags are sealed after use and stored appropriately to prevent dust.	Commitment in the Initial CEMP – Con D7
	Ensure all vehicles switch off engines when stationary and not in use - no idling vehicles. Ensure all vehicles entering and leaving sites, that are carrying dusty material, are covered to prevent escape of materials during transport.	Commitment in the Initial CEMP – Con D8
	Impose and signpost speed limits to reduce dust in the air. Limits would be; inside the redline site boundary all non-surfaced roads restricted to 10mph and any surfaced roads would be restricted to 15mph.	Commitment in the Initial Traffic Management Plan – Section 3.5 and in the Initial CEMP – Con D9
	Avoid the use of diesel or petrol powered generators and use mains electricity or battery powered equipment where practicable, and ensure generators are sited at least 200m from the nearest residential property or designated site on the Goxhill side, and 110m on the Paull side. Should the generators need to be placed closer than the distances stipulated or should additional generators be required, further assessment of the emissions should be undertaken.	Commitment in the Initial CEMP – Con D10 and D11
	Where possible, only use cutting and grinding equipment fitted or in conjunction with suitable dust suppression techniques such as water sprays or local extraction.	Commitment in the Initial CEMP – Con D12
	Avoid scabbling (roughening of concrete surfaces) if possible.	Commitment in the Initial CEMP – Con D13
	For surface related equipment, use enclosed chutes and conveyors and covered skips.	Commitment in the Initial CEMP – Con D14

Topic	Mitigation Measure	Mechanism Through Which the Mitigation is Secured
	Ensure an adequate water supply on the site for effective dust/particulate matter suppression/mitigation, using non-potable water where possible and appropriate.	Commitment in the Initial CEMP – Con D15
	Minimise drop heights from conveyors, loading shovels, hoppers and other loading or handling equipment.	Commitment in the Initial CEMP – Con D16
	Any contaminants produced using wet cleaning methods should be contained. Dispersant chemicals must not be used in conjunction with any washdown of the affected areas to disperse any residue, unless all contaminants and contaminated materials are to be contained in readiness for correct offsite disposal.	Commitment in the Initial CEMP – Con D17
	No bonfires and burning of waste materials. Manage waste on site in accordance with the Site Waste Management Plan (MWC to develop this plan).	Commitment in the Initial CEMP – Con D18 Requirement 6 of Schedule 3 of the DCO to prepare and approve a Site Waste Management Plan
	Ensure road brushes/scrapers used to avoid trackout.	Commitment in the Initial CEMP – Con D19 Commitment in the Initial Traffic Management Plan (TMP) (DCO Document Reference 7.2.1A) – Section 12
	Inspect on-site haul routes for integrity and instigate necessary repairs to the surface on a monthly basis with each local highway authority. Record all inspections of haul routes and any subsequent action in a site log book.	Commitment in the Initial CEMP – Con D20 Commitment in the Initial

Topic	Mitigation Measure	Mechanism Through Which the Mitigation is Secured
		Traffic Management Plan – Section 2
	Damp down haul routes where considered necessary.	Commitment in the Initial CEMP – Con D21
	Access gates to be located at least 10m from receptors where possible.	Commitment in the Initial CEMP – Con D22
	Concrete washout areas to be provided at appropriate locations	Commitment in the Initial CEMP – Con D23
Cultural Heritage (DCO Document Reference 6.6)	Complete an archaeological trial trench evaluation of the application site in early 2015 – note this is not mitigation but ongoing assessment. This evaluation will be undertaken in accordance with a Written Scheme of Investigation produced and agreed in writing with North Lincolnshire Council prior to commencement of the work.	Commitment in the Initial CEMP – Pre E1
	Open area excavations at Goxhill are to be centred on the area of the application site that would be impacted by the scheme where archaeological remains are present. This would be carried out in accordance with the WSI.	Commitment in the Initial CEMP – Pre E2
	Ensure all written records of the archaeological investigations undertaken at Goxhill are completed and submitted in a timely manner. A copy of any analysis, reporting, publication or archiving required as part of the mitigation strategy should be deposited at the North Lincolnshire Historic Environment Record (HER) within one year of completion of the Scheme or such other period as may be agreed in writing by the relevant planning authority.	Commitment in the Initial CEMP – Pre E3
	Prepare a WSI for all archaeological mitigation required and agree in writing the details of trial trenching prior to construction commencing	Commitment in the Initial CEMP – Pre E4

Topic	Mitigation Measure	Mechanism Through Which the Mitigation is Secured
	<p>[note that this is currently being discussed with the Archaeological Advisor at East Riding of Yorkshire Council].</p>	
	<p>As part of the on-going archaeological assessment of the Paull site a palaeoenvironmental assessment of the reception shaft and pipeline trench will be carried out at the earliest opportunity (by quarter three of 2016) in order to further determine the potential for palaeoenvironmental remains to be present. If of demonstrable potential cores taken during the palaeoenvironmental assessment would be analysed to gather further information on any palaeoenvironmental remains or buried land surfaces that are detected.</p>	<p>Commitment in the Initial CEMP – Pre E5</p>
	<p>Ensure all written records of the archaeological investigations undertaken at Paull are completed and submitted in a timely manner. A copy of any analysis, reporting, publication or archiving required as part of the mitigation strategy should be deposited at the East Riding of Yorkshire HER within one year of completion of the Scheme or such other period as may be agreed in writing by the relevant planning authority</p>	<p>Commitment in the Initial CEMP – Pre E6</p>
	<p>During the construction period the perimeter of both of the Goxhill and Paull sites would be surrounded in parts by topsoil storage bunds and either close board fencing or heras fencing (refer to the Indicative Site Layout Plans DCO Document Reference 2.4B).</p>	<p>Commitment in the Initial CEMP – Con E1 Requirement 4 of the DCO to approve the detailed design of the Scheme.</p>
	<p>In the event of human remains being found during the course of the works the local coroner and National Grid Gas Project Team Manager would be notified immediately. The local area around the remains would be immediately isolated and protected by the MWC. Work in the area would not recommence without the prior approval of the National Grid Gas Project Team Manager.</p>	<p>Commitment in the Initial CEMP – Con E2</p>

Topic	Mitigation Measure	Mechanism Through Which the Mitigation is Secured
	<p>Topsoil storage bunds, with minor gaps would be positioned around the site to the north of Thorngumbald Road in Paull would be surrounded by topsoil storage bunds and close board fencing (refer to the indicative Site Layout Plans (DCO Document Reference 2.4B). This partial screening of the construction activities within the site would be in place during the construction period and would serve to reduce the impacts on the setting, specifically the Church of St Andrews and The Hall and associated Stables and adjoining Coach House.</p>	<p>Commitment in the Initial CEMP – Con E3</p>
	<p>At the Paull site a programme of strip, map and sample would be carried out across the pipeline route and in the location of the reception shaft. An archaeological watching brief would be maintained during the topsoil strip across the remainder of the site. During the watching brief any archaeological remains associated with the medieval ridge and furrow and the medieval and post-medieval agricultural activity, along with any previously unknown archaeological remains would be identified and recorded prior to construction activity continuing. The strip, map and sample and archaeological watching brief would be carried out in accordance with a WSI.</p>	<p>Commitment in the Initial CEMP – Con E4</p>
	<p>If archaeological finds are discovered during works, the National Grid Gas Project Team Manager would be informed, and appropriate steps undertaken, in consultation with English Heritage and East Riding of Yorkshire Council.</p>	<p>Commitment in the Initial CEMP – Con E5</p>
	<p>An archaeological watching brief would be maintained across all other areas of the Goxhill site where soil stripping would take place to allow for any as yet unknown archaeological remains to be identified and recorded. The archaeological watching brief would be carried out in accordance with a Written Scheme of Investigation which would be</p>	<p>Commitment in the Initial CEMP – Con E6 and Con E7</p>

Topic	Mitigation Measure	Mechanism Through Which the Mitigation is Secured
	produced and agreed in writing with North Lincolnshire Council prior to the commencement of work.	
	All written records of the archaeological investigations undertaken at Goxhill and Paull would be completed and submitted in a timely manner. A copy of any analysis, reporting, publication or archiving required as part of the mitigation strategy would be deposited at the relevant Historic Environment Record (North Lincolnshire or East Riding of Yorkshire) within one year of completion of the Scheme or such other period as may be agreed in writing by the relevant planning authority.	Commitments in the Initial CEMP – Con E8 and Con E9
	All post excavation reporting and archiving must be completed in a timely manner to be agreed with the National Grid Gas Project Team Manager.	Commitments in the Initial CEMP – Post E1
Ecology and Nature Conservation (DCO Document Reference 6.7)	Undertake a pre-construction ecological walkover survey to ‘ground truth’ previous survey information prior to construction (Q3 2016).	Commitments in the Initial CEMP – Pre F1
	Where possible topsoil stripping, would be undertaken outside of the winter period (October to March inclusive).	Commitments in the Initial CEMP – Pre F2
	<p>A pre-construction water vole survey would be undertaken. The survey would include any ditches which could be affected by the works, such as crossing locations. Whilst no effects on water voles are predicted as a result of the ground water abstraction; should any effects on ditch water levels be identified, water vole surveys and appropriate measures would be implemented (as necessary).</p> <p>Based upon the findings of the water vole survey a water vole mitigation strategy would be developed in consultation with Natural England and a licence obtained (as required).</p> <p>A pre-construction badger survey would be undertaken in spring 2016. The pre-construction survey would determine the location and status of any badger setts within and adjacent to the application site boundary.</p>	Commitments in the Initial CEMP – Pre F3, Pre F4, Pre F5

Topic	Mitigation Measure	Mechanism Through Which the Mitigation is Secured
	Sufficient time should be allowed for obtaining any necessary badger licence.	
	In order to avoid impacts on the local badger population, particularly the four setts at Goxhill (shown as setts A, B, C and D on Confidential Figure 1, Appendix 7.2 (DCO Document Reference 6.7.2)); the Scheme has been designed to maintain a buffer of up to 30m around each sett. For setts A, B and D this would be achievable. Sett C lies along the boundary of the main works area; however, once the works are established the closest activities and infrastructure would be fencing delineating the site, and a storage bund providing a further buffer from disturbance. A pre-construction badger survey would be undertaken to determine if a licence would be required from Natural England. Any conditions in a badger licence would also need to be included within the PEMP to be prepared by the MWC.	Commitments in the Initial CEMP – Pre F5 and Pre F6
	Small-scale hedgerow removal for access purposes within the construction site should be undertaken outside of the breeding bird season (March – September). This would prevent birds nesting within the proposed construction works prior to construction. If scrub or hedgerow clearance is undertaken during the bird breeding season, then a breeding bird check should be undertaken by an experienced ecologist prior to any removal. If a nest is found, a suitable buffer would be erected and works would be required to stop within the vicinity until the young fledge.	Commitment in the Initial CEMP – Pre F7
	A pre-construction survey of the area of Japanese Knotweed at Paull, and the Cotoneaster within Paull Above Ground Installation (AGI), would be undertaken to determine their extent. An Invasive Species Management Plan (this would form part of the Project Environmental Management Plan (PEMP)) would be produced, as appropriate, to	Commitment in the Initial CEMP – Pre F8

Topic	Mitigation Measure	Mechanism Through Which the Mitigation is Secured
	ensure that all necessary precautions are taken to prevent the spread of any invasive species.	
	The MWC would be required to undertake light modelling to ensure no increase in light spill above that identified for the designed Scheme (the construction layout works only – not permanent AGIs). This should be undertaken in accordance with prevailing best practice guidance.	Commitment in the Initial CEMP – Pre F9
	Any small-scale hedgerow removal, or coppicing for access purposes at Goxhill, and scrub removal in Field 26 at Paull (the location of Field 26 is shown on Figure 7.6 (DCO Document Reference 6.7), would be undertaken outside of the bird breeding season (where possible) to avoid potential impacts on nesting birds, and/or or measures would be put in place to deter birds from nesting within sections of hedgerow to be removed e.g. buzzing tape.	Commitment in the Initial CEMP – Pre F10
	Pre-construction surveys for breeding marsh harrier would be undertaken to determine if marsh harrier are attempting to breed within 500m of the construction site. Depending upon the results of the survey, a mitigation strategy based upon the principles provided within Appendix D of the Initial CEMP (DCO Document Reference 7.3B) may be required to avoid adverse effects on marsh harrier. This would be developed further in consultation with Natural England and the RSPB.	Commitment in the Initial CEMP – Pre F11
	Bunding (approximately 3m high) would be installed in appropriate locations to reduce visual and noise disturbance to birds associated with Humber Estuary designations.	Commitment in the Initial CEMP – Con F1 Requirement 13 of Schedule 3 of the DCO to prepare a written scheme for noise management.

Topic	Mitigation Measure	Mechanism Through Which the Mitigation is Secured
	<p>Close board fencing would be installed around the outside of the bunding. At Paull, the fencing would be around the entire construction area to the north of Thorngumbald Road (this is especially important at Paull where gaps in the bunding are required for existing pipeline infrastructure (as shown on Figure 7.13)). At Goxhill, the fencing would be located around the drive pit and stopple pit working areas where the large majority of the works would take place. The fencing would further minimise the potential noise and visual impacts of the construction activities on birds using the Humber Estuary and adjacent field habitats. Green mesh fencing (instead of heras fencing) would be placed in any locations at Goxhill where there are gaps in the bunding and close board fencing has not been used (this is only likely to be in a small number of locations).</p>	<p>Commitment in the Initial CEMP – Con F2 and Con F3</p>
	<p>The lighting scheme has been designed to minimise light spill onto adjacent habitats. In addition, baffles/shields would also be added to the lights, to decrease light spill further. The MWC would be required to undertake light modelling to ensure no increase in light spill above that identified for the designed Scheme in the event of a modification to the site layout.</p>	<p>Commitment in the Initial CEMP – Con F4</p>
	<p>The existing ditch network would be retained as part of the Scheme design, with minimal ditch crossings to allow access to the main works area. Where practicable, a buffer of up to 10m would be maintained to either side of retained ditches which contain water to reduce any potential direct or indirect impacts on the species and habitats associated with them.</p>	<p>Commitment in the Initial CEMP – Con F5</p>
	<p>The majority of existing hedgerows would be retained as part of the Scheme design, with minimal hedgerow removal to allow access into the main works area (and some small-scale coppicing of trees along the Soff Lane Diversion and minimal tree surgery in some locations, if required). A buffer of 10m would be maintained to either side of all hedgerows (where</p>	<p>Refer to the Works Plans (DCO Document Reference 2.2B)</p>

Topic	Mitigation Measure	Mechanism Through Which the Mitigation is Secured
	practicable) to reduce any potential direct or direct impacts on the species and habitats associated with them (a 2-3m strip of this buffer would be strimmed to maintain access along the hedgerow).	Commitments in the Initial CEMP – Con F6
	A 3m strip of land within the 10m buffer to the ditches would be strimmed.	Commitments in the Initial CEMP – Con F7
	As part of his/her duties, the Environmental Manager shall develop and maintain a register of Sensitive Habitats and Protected Species actually encountered on the Project.	Commitments in the Initial CEMP – Con F8
	Species and habitats known or duly identified should not be disturbed, should be protected and the accepted controls implemented.	Commitments in the Initial CEMP – Con F9
	In the eventuality that a 'removed' or unforeseen species is found on the works during construction, the area should be isolated and protected from any further construction activities immediately. The Project Team Manager and National Grid Gas' Environmental Advisor should be notified immediately; and the MWC's competent ecologist should propose mitigation options based impact evaluation. Localised construction activities should not recommence without the prior approval of the National Grid Project Team Manager.	Commitments in the Initial CEMP – Con F10
	Where gaps have been made through hedgerows to form access to the site or along the working width, reinstatement of the line of hedges by reforming banks to the standard of the best parts of the remaining banks and installation permanent fencing should be undertaken as soon as practicable, unless otherwise instructed by the Project Team Manager or his representative.	Commitments in the Initial CEMP – Con F11
	Material from the hedge bank would be stored separately from topsoil to preserve the seed bank.	Commitment in the Initial CEMP – Con F12

Topic	Mitigation Measure	Mechanism Through Which the Mitigation is Secured
	No trees would be felled or lopped without written acceptance from National Grid Gas's Project Team Manager.	Commitment in the Initial CEMP – Con F13
	Work Number 11 (Refer to Works Plans, DCO Document Reference 2.2B) would be left as set aside for the duration of the construction period to compensate for some of the loss of habitat under the footprint of the works. This would be left as stubble for the duration of the construction works, and would provide an alternative roosting and/or foraging site for birds associated with the Special Protection Area (SPA).	Commitment in the Initial CEMP – Con F14 Works Plans, DCO Document Reference 2.2B
	Standard Environment Agency Pollution Prevention Guidelines and their relevant pollution and sedimentation prevention measures would be implemented. A combination of settlement ponds, hay bales and spill kits, etc. would be used, as appropriate to ensure that any works close to retained ditches would not have an adverse effect on downstream habitats.	Commitment in the Initial CEMP – Con F15
	<p>As part of the reinstatement of the main works area, additional enhancement measures are proposed for Field 26 (at Paull), which would help to provide an overall benefit to local biodiversity, in particular reptiles.</p> <p>Offcuts arising from works should be utilised and used to make a barn owl box and reptile hibernacula. This should be undertaken on the reception pit site.</p> <p>One barn owl box will be installed on an existing tree within the north-east corner of Field 26 and at least two reptile hibernacula will be created within Field 26.</p>	Commitment in the Initial CEMP – Con F16 and Post F3
	The deployment of the hoses for the abstraction of water for the flooding of the tunnel will comprise up to three people walking out onto the intertidal habitat to place the hose, and associated pumps, into the	Commitment in the Initial CEMP – Con F17

Topic	Mitigation Measure	Mechanism Through Which the Mitigation is Secured
	Humber Estuary (below the mean low water mark). Pumps shall be placed inside a cage in order to prevent debris / fish (i.e. lamprey) or benthic species from being drawn into the mechanism. The material used for the pump cage will be steel or aluminium. Maximum dimensions for a cage pump will be 1.5x1m. There shall be one cage per pump.	
	All mature trees would be retained as part of the Scheme Design with root protection zones clearly demarcated and protected.	Commitment in the Initial CEMP – Con F18
	Any small-scale coppicing of trees at Soff Lane would be undertaken outside of the breeding bird season (where possible).	Commitment in the Initial CEMP – Con F19
	Following completion of the construction works, the footprint of the main works area would be fully reinstated to its current usage.	Commitment in the Initial CEMP – Post F1, Post F2 and Post F3. Requirement 16 of Schedule 3 of the DCO
	Where appropriate and subject to landowner’s agreement, existing hedgerows within the application site boundary at both Goxhill and Paull would be planted up as part of the reinstatement of the application site. This would comprise gapping up of existing hedgerows with native shrub species, preferably sourced locally. This would provide further habitat enhancements for a range of ecological receptors, including terrestrial invertebrates, bats, amphibians, birds and reptiles.	Commitment in the Initial CEMP – Post F1
	Should any trees or shrubs, intended to be protected, be damaged by the works, the MWC would supply, plant and maintain for two years plants of a similar variety and size (National Grid Gas would replace four trees for every one tree damaged).	Commitment in the Initial CEMP – Post F2
	The enhancement area in the reception pit field at Paull would be made suitable for a species-rich grassland to develop. This area would also be	Commitment in the Initial CEMP – Post F3

Topic	Mitigation Measure	Mechanism Through Which the Mitigation is Secured
	<p>developed such that it is suitable for basking, foraging and hibernating reptiles. A reinstatement plan would be developed and agreed with the Environment Agency and Natural England.</p>	
	<p>In order to ensure the success of the mitigation measures proposed, monitoring would be undertaken before, during and after construction (up to one year after construction for SPA bird species). The results of the monitoring would be regularly reviewed to ensure that the mitigation measures for the Scheme continue to be appropriate and effective. Details of the monitoring strategy would be determined in consultation with Natural England, the County Ecologists and other bodies such as the Environment Agency. The monitoring strategy is likely to include the following:</p> <p>Water Bird surveys: This is likely to include a similar suite of surveys (such as tidal count, dawn and dusk, and transect surveys) to that which was undertaken to inform the baseline conditions presented within this ES. This would allow comparison between the pre- and post-construction survey results.</p> <p>Water vole monitoring: This would be required, prior to, and during the dewatering exercise at both Paull and Goxhill, and is likely to include surveys to determine the presence/absence of water voles from ditches which may be affected by the dewatering exercise.</p>	<p>Commitment in the Initial CEMP – Post F4</p>
	<p>Any possible impacts upon the Humber Estuary habitats (due to discharges into ditches that drain into the Humber) would be avoided through the implementation of standard pollution prevention measures to control pollution and sediment discharge (following best practice guidance from for example, CIRIA and the Environment Agency’s PPG5 and PPG6).</p>	<p>Production of a Site Water Management Plan (Initial Site Water Management Plan provided as DCO Document Reference 6.13.2) – Requirement 5 of Schedule 3 of the DCO.</p>

Topic	Mitigation Measure	Mechanism Through Which the Mitigation is Secured
		Refer to Water Resources mitigation measures below.
Geology and Soils (DCO Document Reference 6.8)	Prior to any compound areas being constructed, a baseline survey would be undertaken to determine the current land quality in these areas. This would be a general survey across the compound areas and would mainly consist of hand dug pits to establish the current land quality. Specific areas of contamination would be assessed in more detail such as shallow exploratory holes (e.g. windowless exploratory holes) to ensure that contamination is not present and therefore incorporated into stockpiles during stripping.	Commitment in the Initial CEMP – Pre G1
	An Emergency Response / Spill Response plan would be produced by the MWC. Appropriate equipment (e.g. spill kits, absorption mats) would be made easily accessible on-site and personnel would be trained in using them. Clear protocols and communication channels would be provided to ensure that any spillages are dealt with immediately and adequately. This would prevent large areas of soil / geology potentially becoming contaminated and in turn protect surface water quality.	Commitment in the Initial CEMP – Pre G2
	In order to promote sustainable reuse of soil / arisings within the Scheme, a Site Waste Management Plan and a Materials Management Plan (that would form part of the PEMP to be developed by the MWC) would be prepared which would detail the proposed use of the arisings. This would follow the protocols within the CL:AIRE Definition of Waste guidance and would ensure that the material is not considered waste. Consultation with the Environment Agency would be undertaken to prepare a Position Statement regarding the material to ensure that an understanding is secured prior to works commencing.	Commitment in the Initial CEMP – Pre G3
	Additional investigation / monitoring would be undertaken on both sides of the River Humber and if considered necessary appropriate gas	Commitment in the Initial CEMP – Pre G4

Topic	Mitigation Measure	Mechanism Through Which the Mitigation is Secured
	protection measures (following current guidance CIRIA C665) would be incorporated into the designs of any confined spaces to mitigate the potential for the build-up of gases.	
	A Magnetometer survey would be undertaken prior to the enabling works to establish the risk from Unexploded Ordnance in the vicinity of the pipeline.	Commitment in the Initial CEMP – Pre G5
	The MWC must use an appropriate piling technique and complete a piling risk assessment prior to works commencing. This should be agreed with the Environment Agency.	Commitment in the Initial CEMP – Pre G6
	The MWC must review whether it would be appropriate to undertake further ground investigation beneath the mudflats at Paull and ensure that all appropriate consents and method statements are obtained for the ground investigation before commencement.	Commitment in the Initial CEMP – Pre G7
	Asbestos has been encountered in localised areas of the reception pit field. Remediation of this field has taken place prior to hand over to National Grid Gas and asbestos was only found in four samples across a five acre area. If further asbestos containing materials are encountered during construction, appropriate measures would be put in place such as a Terram membrane to reduce the risk of exposure to site workers. In addition, air quality monitors would be put in place around the perimeter of any excavation in the reception pit field.	Commitment in the Initial CEMP – Con G1
	During the stripping and excavation work, a watching brief would be adopted with site workers remaining vigilant so any visual or olfactory signs of contamination are noted and that any contaminated soil is kept separate from other materials. Any suspected contaminated material would be analysed to determine if it is suitable for re-use on site or requires disposal off-site to an appropriate disposal facility. In areas of	Commitment in the Initial CEMP – Con G2

Topic	Mitigation Measure	Mechanism Through Which the Mitigation is Secured
	<p>known contamination, soil stripping may not occur and the affected areas would be covered with an appropriate cover system / barrier such as a Terram membrane to reduce the risk of exposure to site workers.</p>	
	<p>A designated area would be provided for the storage of arisings on the Goxhill side of the Humber Estuary. The maximum height of the bunds would be 3m to avoid slippages of material and stability of the bunds. Appropriate pollution prevention measures such as bunding of the spoil storage area would be implemented to prevent leaking of waste material or waste leachate spillages which may impact the soils and water quality in the vicinity of the storage area. If considered necessary, e.g. in extreme wet weather, the stockpiles would be covered with plastic sheeting to prevent sediment entering run off and material being lost from the stockpiles.</p>	<p>Commitments in the Initial CEMP – Con G3 Refer also to the Indicative Site Layout Plans (DCO Document Reference 2.4B)</p>
	<p>Implementation of pollution control techniques. Within the construction site compounds, specific areas would be designated for the storage of chemicals, waste oils and fuel and refuelling activities. These areas would be bunded and placed on hardstanding to prevent downward migration of contaminants. Any transfer of fuel or other potentially contaminated liquids would only take place within a designated fuel transfer area. Drip trays would be provided to reduce the risk of spillages. These areas would be designed with appropriate drainage to ensure any spillages can be isolated.</p>	<p>Commitments in the Initial CEMP – Con G3, Con G4 and Con G8 Production of a Site Water Management Plan (Initial Site Water Management Plan provided as DCO Document Reference 6.13.2) – Requirement 5 of Schedule 3 of the DCO. Refer also to Water Resources commitments below.</p>
	<p>Generators are to be placed within the compound areas and near to the launch / reception pits. These would be bunded (self bunded or within a</p>	<p>Commitment in the Initial CEMP – Con G5</p>

Topic	Mitigation Measure	Mechanism Through Which the Mitigation is Secured
	secondary containment bund) to protect underlying soils from spillages / leakages of fuel.	
	During the construction phase, localised contamination may occur within the compound areas through spillages / leakages of fuel and therefore a repeat baseline survey will be undertaken once the construction has finished and the compound dismantled to demonstrate the area has been returned to its previous state. If contamination has occurred during the lifetime of the compounds, remediation would be undertaken to return the land to its previous land quality state.	Requirement 16 of Schedule 3 of the DCO.
	During the stripping / excavation work there is the possibility for the creation of dust if undertaken during dry weather. Appropriate measures would be put in place to ensure that dust is not spread across the area and especially to residential properties.	Commitments in the Initial CEMP relating to air quality. Refer to the rows above in this table
	Suitable Personal Protective Equipment (PPE) including Respiratory Protective Equipment (RPE) (if necessary) would be available to all site workers.	Commitment in the Initial CEMP – Con G6
	During the construction phase, construction / site workers would be exposed via accidental ingestion, inhalation or dermal contact with soil and any contamination present. To mitigate any risks from contaminated areas all persons engaged in site construction works would be made aware of the findings of the intrusive investigations and the hazards associated with handling potentially contaminated materials.	Through induction and toolbox talks as outlined in the Initial CEMP – Con G6
	A designated area would be provided for the storage of arisings on the Goxhill side of the Humber Estuary. The maximum height of the bunds would be 3m to avoid slippages of material and stability of the bunds.	Commitment in the Initial CEMP – Con G7
	To facilitate access to Goxhill and Paull compounds, a number of temporary street works are required (for example localised widening of	Commitment in the Initial CEMP – Con G8

Topic	Mitigation Measure	Mechanism Through Which the Mitigation is Secured
	existing roads and improvement works to private tracks). Appropriate pollution prevention measures would be put in place by the MWC to prevent pollution incidents (e.g. spillages / fuel leakages) which could cause localised contamination of the underlying soils / geology.	
Landscape and Visual Amenity (DCO Document Reference 6.9)	Prior to construction commencing a topographic and photographic survey would be undertaken of the construction sites to record condition and to inform the reinstatement works	Commitment in the Initial CEMP – Pre H1
	A 2m high perimeter close board fence would also be provided around the full extent of the Paull compound to the north of Thorngumbald Road (with minor gaps) but limited to the perimeter of the tunnel and stopple pit working areas on the Goxhill side (with minor gaps), excluding the pipe stringing and waste storage area. The close board fencing would be left unpainted and display no logos or branding. These measures would be present for the duration of the works.	Commitments in the Initial CEMP – Con H1 and Con H2
	At Paull, heras fencing would be used to delineate the area for venting and existing pipeline isolation and associated compound.	Commitment in the Initial CEMP – Con H3
	Weed control should be undertaken to minimise the risk of weed infestations which could, if left untreated, spread to adjoining agricultural land.	Commitment in the Initial CEMP – Con H4
	If there is a change in design of the layout or positioning of the topsoil storage bunds the MWC must do this in such a way that ensures negative effects on the environment are not materially increased and/or created.	Commitment in the Initial CEMP – Con H5
	At Goxhill there would be a number of retained and protected hedgerows, typically located along the unaffected field and road side boundaries, which lie within the red line boundary. The hedgerows would then be	Commitment in the Initial CEMP – Con H6

Topic	Mitigation Measure	Mechanism Through Which the Mitigation is Secured
	protected by a 10m wide buffer (where practicable) to the external site fencing.	
	A 2.4m high perimeter close board fence would also be provided around the perimeter of the tunnel working area on the Goxhill side, excluding the pipe stringing and waste storage area.	Commitment in the Initial CEMP – Con H7
	All external perimeter close board fencing should be left unpainted with no logos or branding.	Commitment in the Initial CEMP – Con H8
	Silos would be a maximum of 15m in height. The silos would only be present for up to 12 months during the tunnelling works. The silos would be finished in a neutral and non reflective colour with no advertising or logos on them.	Commitments in the Initial CEMP – Con H9
	Signage would be kept to a minimum at the construction sites and only positioned at the site entrances. There would be no large scale colour branding anywhere on site.	Commitment in the Initial CEMP – Con H10
	At night the Goxhill compound would be lit. This would comprise static lighting points fixed to temporary structures such as the masts, cabins, workshops, gantry cranes and silos with the lamps being a maximum of 10m in height.	Commitment in the Initial CEMP – Con H11
	The Paull compound would typically not have 24 hour working and the night time lighting would be limited to security lighting at the cabins. However, there is the potential for a two week 24 hour working period at Paull during the installation of the pipeline into the tunnel which would require mobile light masts up to 10m high.	Commitment in the Initial CEMP – Con H12
	Once the construction works have ceased the land within the Scheme's redline boundary, including the sections of temporary road widening as part of the site access requirements, would be reinstated to reflect the existing landscape features. This would include reinstating the land back	Requirement 16 of Schedule 3 of the DCO.

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	to agriculture, removing the flumes or bridges over the field and road side boundary drainage ditches and making good any bank disturbance, opening up the field boundary ditch at Goxhill, which was culverted to accommodate the pipe stringing and replanting the hedgerows which were removed as part of the site clearance. In respect of the latter these would be replanted with a range of native hedgerow species plants and maintained for 24 months to ensure their successful establishment.	Commitments in the Initial CEMP – Post H1, Post H2, Post H3, Post H4 and Post H5.
	Landscape maintenance would be undertaken to maintain new planting for a period of 24 months. This maintenance would be undertaken by an appropriate individual.	Commitments in the Initial CEMP – Post H3
	With the agreement of the landowner, as part of the reinstatement works the existing gappy field boundary hedgerows within the redline boundary would be under planted so that overtime they would become continuous boundary hedgerows in keeping with the landscape character on both sides of the estuary.	Commitment in the Initial CEMP – Post H2
Noise and Vibration (DCO Document Reference 6.10)	Pre-construction noise monitoring surveys would be undertaken at Goxhill, at Fir Tree Farm, Spring Farm and Marshlands and at Paull at Lakes Farm and Lodge to establish a pre-construction baseline for monitoring compliance with construction noise limits.	Commitment in the Initial CEMP – Pre I1 and Pre I2
	Should the Scheme layout or design differ significantly the Contractor would ensure that an updated noise assessment be carried out to ensure there would be no additional or increase in negative effects on receptors.	Commitment in the Initial CEMP – Pre I3
	A written scheme for noise management during construction will be prepared and include appropriate limits for 12h LAeq, limits for shorter LAeq time periods and limits for LMax where appropriate.	Commitment in the Initial CEMP – Pre I4
	Heavy Goods Vehicle (HGV) movements would be restricted to 07:00 to 19:00 on weekdays (excluding bank holidays) only. Any HGV	Commitment in the Initial TMP – Section 3

Topic	Mitigation Measure	Mechanism Through Which the Mitigation is Secured
	<p>movements at the site would be limited to movements between the two construction sites along East Marsh Lane or a very small number of isolated movements at the weekend. Any isolated HGV movements on a Saturday would occur before 1pm and there would be no HGV movements on a Sunday.</p>	
	<p>3.0m high bunds to be formed as indicated on the Indicative Site Layout Plans (DCO Document Reference 2.4B) - MWC must implement as per the design or undertake an assessment to demonstrate no worsening of effects.</p>	<p>Commitment in the Initial CEMP – Pre I3</p>
	<p>2.4m closed board fencing to be installed as indicated on the Indicative Site Layout Plans (DCO Document Reference 2.4B) - MWC must implement as per the design or undertake an assessment to demonstrate no worsening of effects.</p>	<p>Commitment in the Initial CEMP – Pre I3</p>
	<p>Night time works should be re-assessed in accordance with BS 5228 using specific manufacturer’s data and position of equipment. Results of the assessment should be presented to the relevant local environmental health officer prior to commencement of night time works. In the event of the design differing significantly reassessment must be undertaken.</p>	<p>Commitment in the Initial CEMP – Con I1</p>
	<p>The MWC should notify local residents of particularly noisy work prior to commencement, for example, venting.</p>	<p>Commitment in the Initial CEMP – Con I2</p>
	<p>Provision of contact details for a site representative in the event that disturbance due to noise or vibration from the construction works occurs; ensuring that any complaints are dealt with pro-actively and that subsequent resolutions are communicated to the complainant.</p>	<p>Commitment within the CEMP to provision of a Community Relations Representative.</p>
	<p>Static noisy plant, including generators, would be located as far away from noise sensitive receptors as is feasible for the particular activity.</p>	<p>Commitment in the Initial CEMP – Con I3</p>

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	<p>All vehicles and mobile plant would be well maintained such that loose body fittings or exhausts do not rattle or vibrate.</p> <p>The most modern equipment available would be used and the equipment used would be properly maintained and operated by trained staff.</p> <p>Plant and equipment covers and hatches would be properly secured and there would be no loose fixings causing rattling.</p>	Commitment in the Initial CEMP – Con I3
	No music or radios would be played on site.	Commitment in the Initial CEMP – Con I4
	<p>To minimise noise from HGV movements, there would be monthly condition assessments to inspect for defects such as pot holes which could cause an increase in noise levels. Indentations of greater than 20mm to be repaired when identified.</p> <p>Site access routes would be in good condition and well maintained with no potholes or other significant surface irregularities.</p>	Commitment in the Initial TMP – Section 2
	Plant machinery would be turned off when not in use.	Commitment in the Initial CEMP – Con I5
	Silenced equipment would be used where possible, in particular silenced power generators and pumps.	Commitment in the Initial CEMP – Con I5
	As part of the plant selection process the MWC should adopt a procedure to ensure the quietest plant and equipment, techniques and working practices available would be selected and used.	Commitment in the Initial CEMP – Con I5
	Ensure installation of site bunding as per the indicative Site Layout Plans (DCO Document Reference 2.4B)	Commitment in the Initial CEMP – Con I6
	Ensure 2.4m close board fencing (refer to the indicative Site Layout Plans, DCO Document Reference 2.4B) installed along the site boundary at Paull and only located around the drive and stopple pit at Goxhill, to	Commitment in the Initial CEMP – Con I7

Topic	Mitigation Measure	Mechanism Through Which the Mitigation is Secured
	mitigate any potential adverse effects on receptors from noise through gaps in bunding.	
	During the construction phase it is recommended that noise monitoring is undertaken at Fir Tree Farm at Goxhill and Lakes Farm and the Lodge at Paull to ensure that the mitigation measures suggested are working effectively. This should be undertaken at least one day a month throughout the construction period.	Commitment in the Initial CEMP – Con I8
	During the night time works noise levels should be monitored continuously throughout the night at Fir Tree Farm, the Lodge and Marshlands and reported on a weekly basis to the MWC. Monitoring should be undertake initially for the first 21 days to ensure mitigation measures are being implemented and then reported on a monthly basis. This regime would be agreed with the relevant Environmental Health Officer prior to works commencing.	Commitment in the Initial CEMP – Con I9
	Static noisy plant, including generators, would be located as far away from noise sensitive receptors as is feasible for the particular activity.	Commitment in the Initial CEMP – Con I10
	Speed limits would be in place to reduce the effect of construction traffic noise. Limits would be inside the redline site boundary on all non-surfaced roads restricted to 10mph and any surfaced roads would be restricted to 15mph. Outside the redline site boundary 30mph zones would be restricted to 25mph for HGV drivers and 60mph zones would be restricted to 40mph for HGV drivers.	Commitment in the Initial TMP – Section 3
Socio Economics and Land Use (DCO Document Reference 6.11)	The relationship with the landowners, occupiers, stakeholders and the local community would be maintained throughout the 35 month construction phase through the Scheme website.	Commitment in the Initial CEMP – Pre J1 Community Relations Representative would be appointed as outlined in the

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		Initial CEMP (DCO Document Reference 7.3A).
	National Grid Gas would seek to develop links with educational establishments in the locality. For example, cycle proficiency courses for children in their final year at primary school. Talks at local secondary schools to provide an insight into engineering as a possible profession and introducing Vex Robotics. This system combines STEM (science, technology, engineering and maths) education with building robots and hopes to inspire the engineers of the future.	Commitment in the Initial CEMP – Pre J2
	Clearly establish the working area to prevent any encroachment into the construction area by third parties.	Commitment in the Initial CEMP – Pre J3
	Where Footpath 70 intersects with the Soff Lane Diversion, it would be clearly separated from the access track using a gate, fencing and appropriate signage. It would remain open for the duration of the construction works. The gate, fencing and signage would be agreed in liaison with North Lincolnshire Council.	Commitment in the Initial CEMP – Con J2
	There may be an interface with Footpath 71 associated with road widening works at the Soff Lane Diversion. If this is the case it is likely to involve moving the footpath signage. This would be agreed with North Lincolnshire Council. Access to Footpath 71 would be maintained throughout the construction works.	Commitment in the Initial CEMP – Con J3
	The construction site would be clearly delineated with heras and close board fencing to prevent any public access and would reduce risks to health and safety. At Goxhill the tunnelling, proposed stopple and bypass compound would be surrounded by close board fencing with heras fencing around other working areas. At Paull, the construction site would	Commitments in the Initial CEMP – Con J4

Topic	Mitigation Measure	Mechanism Through Which the Mitigation is Secured
	be surrounded by close board fencing with some heras fencing around those areas for monitoring settlement.	
	3m high topsoil storage bunds (with breaks) would be placed in appropriate locations. This would enable visual screening of construction. The bunding together with a combination of, heras and close board fencing at Goxhill and Close board fencing at Paull, would reduce effects on amenity for residents and tourists in the area.	Commitments in the Initial CEMP – Con J5
	An assessment would be made prior to works starting to identify existing land drainage and its condition. New field drains would be installed for the duration of construction, in consultation with the landowner and in accordance with the Initial CEMP (DCO Document Reference 7.3A). This would enable the current drainage system to continue working throughout construction whilst also minimising silt laden run off from construction.	Commitment in the Initial CEMP – Con J6
	The Environment Agency car parking area at Paull would be off limits to all construction vehicles and employee vehicles.	Commitment in the Initial CEMP – Con J7
	There would be a requirement to temporarily close Footpaths 6 and 1 at Paull to allow for the decommissioning of the Existing No 09 Crossing. These closures would be for a maximum of three days and clear signage would be provided.	Commitment in the Initial CEMP – Con J8
	Discussions would be held with the individual landowners to ensure that disruption to any agri-environment Schemes or Single Farm Payment Contracts is minimised. Habitats or features relevant to stewardship payments that are affected by construction works would be reinstated.	Commitment in the Initial CEMP – Con J9
	Where practicable, soil would be stored and handled in line with Defra’s Code of Practice for the Sustainable Use of Soils on Construction Sites.	Commitment in the Initial CEMP – Con J10

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	On completion of the works there would be reinstatement of all land in agreement with landowners.	Commitment in the Initial CEMP – Post J1
	In addition, vehicular and pedestrian access would also remain open between the tunnelling and pipeline working areas along East Marsh Road. However, a marshal would escort pedestrians and vehicles wishing to use this route.	Works Plans DCO Document Reference 2.2B
	National Grid will appoint an Agricultural Liaison Officer to liaise with landowners / occupiers.	Commitment in the Initial CEMP
Traffic and Transport, (DCO Document Reference 6.12)	A one-way traffic route would be used around Goxhill to reduce the potential impact on receptors.	Commitment in the Initial TMP Requirement 15 of Schedule 3 of the DCO.
	On the Goxhill side a temporary haul road would be created to by-pass the Churchside / Soff Lane junction at South End, which has width restrictions and poor visibility which would affect the movement of HGVs.	Commitment in the Initial TMP Works Plans DCO Document Reference 2.2B Requirement 15 of Schedule 3 of the DCO.
	On the Goxhill side a layby adjacent to the internal road connecting Soff Lane will be up graded to prevent haulage deliveries from blocking the track.	Commitment in the Initial TMP. Requirement 15 of Schedule 3 of the DCO.
	On the Paull side the private track road for Rose Hill Farm would be used for two way traffic to minimise the impact of receptors by avoiding the Paull and Thorngumbald villages.	Commitment in the Initial TMP Works Plans DCO Document Reference 2.2B Requirement 15 of Schedule 3 of the DCO.

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	Abnormal loads would be planned to avoid disruption on the highway with other HGV vehicles travelling to the sites.	Commitment in the Initial TMP and the proposed access routes as shown on the Works Plans, DCO Document Reference 2.2B Requirement 15 of Schedule 3 of the DCO.
	Traffic routes would be clearly signed and drivers would be provided with route plans identifying local weight restrictions	Commitment in the Initial TMP to the production of a Drivers Pack. Requirement 15 of Schedule 3 of the DCO.
	Speed limit reductions for construction vehicles only on routes to site would be in place. Limits would be; inside the redline site boundary all non-surfaced roads restricted to 10mph and any surfaced roads would be restricted to 15mph. 30mph zones outside of the site would be restricted to 25mph for HGV drivers and 60mph zones would be restricted to 40mph for HGV drivers. The Soff Lane Diversion would be limited to 15mph at all times.	Commitment in the Initial TMP. Requirement 15 of Schedule 3 of the DCO.
	Temporary signage for construction traffic and public to notify all road users of the presence of HGVs. Signs to be erected where PRowS and Bridleways intersect the highway.	Commitments in the Initial TMP Requirement 15 of Schedule 3 of the DCO.
	The TMP driver pack would advise drivers to be observant of walkers, cyclists and equestrians (the latter particularly on East Marsh Road near Uplands Lodge).	Commitment in the Initial TMP Requirement 15 of Schedule 3 of the DCO.

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	Traffic management would be provided in the form of traffic marshals to control the movement of general traffic and construction vehicles (particularly those with abnormal loads) at each site access/egress.	Commitment in the Initial TMP Requirement 15 of Schedule 3 of the DCO.
	Highway improvements such as localised widening to the road geometry would be undertaken to ensure sufficient swept paths are provided at junctions for HGVs and avoid conflict with other road users. Localised widening of the carriageway and hedge removal would be undertaken to improve visibility splays on approaches to access/egress to site.	Works Plans DCO Document Reference 2.2B Commitment in the Initial TMP Requirement 15 of Schedule 3 of the DCO.
	Passing places would be provided on single carriageway roads where two-way traffic movement is restricted and existing passing places lengthened where required.	Works Plans DCO Document Reference 2.2B Commitment in the Initial TMP Requirement 15 of Schedule 3 of the DCO.
	Electronic speed notification signs may be installed along the construction route to remind residents of the speed limit, particularly in sensitive areas.	Commitment in the Initial TMP Requirement 15 of Schedule 3 of the DCO.
	Site accesses would be provided with advance information signs and count down signs to provide a clear notification to road users approaching the site.	Commitment in the Initial TMP Requirement 15 of Schedule 3 of the DCO.
	At the Goxhill side a temporary haul road is to be created through the construction area to reduce the potential for conflict at the East Marsh Road / Chapelfield Road junction which has a tight bend in the carriageway and to avoid two-way traffic on the private track road leading towards the site (refer to the Indicative Site Layout Plans (DCO Document Reference 2.4B).	Commitment in the Initial TMP Requirement 15 of Schedule 3 of the DCO.

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	Brushes and scrapers will be kept at access points to clean roads.	Commitment in the Initial TMP Requirement 15 of Schedule 3 of the DCO.
	Local roads and roads off the public highway that are not currently subject to gritting during the winter months will be identified. A gritting regime shall be agreed with the Local Highway Authority to reduce the potential for sheet ice on the highway used by construction vehicles.	Commitment in the Initial TMP Requirement 15 of Schedule 3 of the DCO.
	Monthly condition assessments of the construction haul routes would be undertaken by the MWC to inspect for defects such as potholes which could cause an increase in noise levels. The highway authority would be notified and invited to attend inspections. Indentations would be repaired where required by the MWC.	Commitment in the Initial TMP Requirement 15 of Schedule 3 of the DCO.
	<p>At Goxhill during the school term HGV construction vehicle movements shall only occur between 9:00-15:15 hrs to the site with the exception of an emergency situation. Construction vehicles leaving the site can do so between 07:00 and 19:00hrs using the outbound construction route and the Soff Lane Diversion.</p> <p>HGV movements would be restricted to 07:00 to 19:00 on weekdays (excluding bank holidays) only (noting the above restrictions). Any weekend HGV movements at the site would be limited to movements between the two construction sites along East Marsh Road or a very small number of isolated movements at the weekend. Some trailers may already be parked up overnight and ready to leave in the morning. Any isolated HGV movements on a Saturday would be occur before 1pm and there would be no HGV movements on a Sunday.</p>	Commitment in the Initial TMP Requirement 15 of Schedule 3 of the DCO.

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	<p>Traffic movements at Paull would be restricted to 07:00 to 19:00 on weekdays (excluding bank holidays) only. Any weekend HGV movements at the site would be limited.</p>	
	<p>The Initial TMP (DCO Document Reference 7.2.1A) and the Indicative Site Layout Plans (DCO Document Reference 2.4B) would provide sufficient off road parking for all construction traffic. This would avoid parking on the footpaths, grass verges and double parking occurring by construction vehicles.</p>	<p>Commitment in the Initial TMP Requirement 15 of Schedule 3 of the DCO.</p>
<p>Water Resources (DCO Document Reference 6.13)</p>	<p>An assessment would be made prior to works starting to identify existing land drainage and its condition.</p>	<p>Commitment in the Initial CEMP – Pre L1 Requirement 12 of Schedule 3 of the DCO.</p>
	<p>The flood defences must be monitored (condition and topography) pre construction to obtain a baseline.</p>	<p>Commitment in the Initial CEMP – Pre L2 Requirement 12 of Schedule 3 of the DCO.</p>
	<p>The Initial Site Water Management Plan (DCO Document Reference 6.13.2) would need to be developed by the MWC.</p>	<p>Requirement 5 of Schedule 3 of the DCO. Commitment in the Initial CEMP – Pre L3</p>
	<p>The Scheme drainage would be designed to maximise the use of stone and terram and Sustainable Drainage Systems (SuDS) to reduce potential impacts resulting from increases in the rates and volumes of surface water runoff that are generated during rain storm events as a result of temporary increases in the coverage of impermeable surfaces.</p>	<p>Requirement in the Site Water Management Plan (DCO Document Reference 6.13.2) Commitment in the Initial CEMP – Pre L4</p>

Topic	Mitigation Measure	Mechanism Through Which the Mitigation is Secured
	<p>The MWC is to obtain all relevant abstraction and discharge licenses for the groundwater control operations, even if construction dewatering does not become a licensable activity prior to the works commencing.</p> <p>The MWC shall complete an updated Hydrogeological Impact Assessment to reflect the final temporary works design.</p> <p>The MWC shall undertake a pumping test at the Drive Pit, once the design is finalised to confirm the ground conditions (specifically anisotropy) at the location of the Drive Pit.</p> <p>The MWC will develop a recharge/reinjection system to minimum the net abstraction from the aquifer and drawdown at distance, in line with the abstraction license agreed with the Environment Agency.</p>	<p>Commitment in the Initial CEMP – Pre L5</p>
	<p>Obtain consent from North Lindsey Internal Drainage Board (IDB) for crossings of any ditches and works within 9m of the banks.</p>	<p>Commitment in the Initial CEMP – Pre L6</p>
	<p>The draft Flood Incident Response Plan appended to the FRA (DCO Document Reference 5.2) would be developed further by the MWC for the site and would form part of the PEMP. It would link into the Environment Agency’s advanced flood warning system and system of local gauges installed by the MWC to manage flooding on-site. The Flood Incident Response Plan (DCO Document Reference 5.2) would allow the MWC to be able to assess the need to put evacuation and site shutdown procedures into action. The suitability of the flood warnings provided would also be assessed by the MWC during the construction phase.</p>	<p>Commitment in the Initial CEMP – Pre L7</p>
	<p>The Flood Incident Response Plan (appended to the FRA) (DCO Document Reference 5.2) should contain detail regarding access and egress emergency plans.</p>	<p>Commitment in the Initial CEMP – Pre L8</p>
	<p>A water quality monitoring programme would be agreed with the Environment Agency prior to construction of the Scheme (a minimum of</p>	<p>Commitment in the Initial CEMP – Pre L9</p>

Topic	Mitigation Measure	Mechanism Through Which the Mitigation is Secured
	quarterly groundwater quality analysis sampling), this would monitor water pre construction as well as during the construction phase and post-construction for a period of two years, unless agreed with Environment Agency.	
	Where necessary and subject to agreement with the landowner/occupier, new field drains would be installed to aid recovery from the construction activities and maintain the site work areas as dry as practicable.	Commitment in the Initial CEMP – Pre L10
	Should the Scheme layout not be in general accordance with that shown on the indicative site layout plans (DCO Document Reference 2.4B) the MWC would ensure that updated flood risk modelling is carried out to ensure there would be no additional or increase in negative effects on receptors.	Commitment in the Initial CEMP – Pre L11
	The MWC must maintain access to flood defences for the duration of construction work.	Commitment in the Initial CEMP – Pre L12
	A monitoring strategy is to be developed, and agreed with the Environment Agency, as outlined in Chapter 16 of the Hydrogeological Impact Assessment (DCO Document Reference 6.13.3), Section 16.1. This shall include monitoring groundwater levels adjacent to the proposed drive pit / reception shaft, flow gauging in relevant surface water features and baseline water chemical analysis (Pre L9).	Commitment in the Initial CEMP – Pre L13
	An independent validation of the tunnel design will be undertaken by a chartered engineer prior to the commencement of tunnelling.	Commitment in the Initial CEMP – Pre L14
	In order to protect vulnerable temporary infrastructure (e.g. drive pit, diesel generators) on the site from flooding, environmental design measures comprising minimum 1.4m high flood bunds and raised platforms (to a minimum height of 3.4mAOD) would be constructed	Commitment in the Initial CEMP – Con L1

Topic	Mitigation Measure	Mechanism Through Which the Mitigation is Secured
	around/under vulnerable infrastructure. The bunds would need to be constructed to be able to provide a flood proof barrier, i.e. impermeable.	
	Joints along the pipe which runs to the outfall at East Halton Beck would be checked daily to ensure there are no defects present.	Commitment in the Initial CEMP – Con L2 Requirements of the Initial Site Water Management Plan (DCO Document Reference 6.13.2).
	Water monitoring would take place at active discharge points to local drainage ditches. Daily visual inspections would also be undertaken periodically as part of the works.	Commitment in the Initial CEMP – Con L3 Requirements of the Initial Site Water Management Plan (DCO Document Reference 6.13.2).
	In line with the Flood Incident Response Plan (which is appended to the FRA) (DCO Document Reference 5.2) weather forecasts would be monitored and the construction compound would be signed up to the Environment Agency’s Flood Warning service. A system of local gauges would be installed by the MWC to manage flood risk on site.	Commitment in the Initial CEMP – Con L4
	Tunnelling works could impact on the integrity of the flood defences protecting the site, in the form of settlement. Survey arrays would be set out and a pre tunnelling baseline agreed. Surveys of the arrays would be undertaken periodically throughout construction and a maximum allowable settlement would be agreed with the EA to trigger further action.	Commitment in the Initial CEMP – Con L5
	In line with the Flood Incident Response Plan (appended to the FRA) (DCO Document Reference 5.2), in the event of a severe warning site	Commitment in the Initial CEMP – Con L6

Topic	Mitigation Measure	Mechanism Through Which the Mitigation is Secured
	based construction activities would be terminated and the site evacuated of construction personnel as appropriate. This would form part of the PEMP.	
	The Site Water Management Plan (DCO Document Reference 6.13.2) would be implemented to efficiently manage the use of water and manage/mitigate pollution risks. This would make available a suitable quantity of pollution control equipment, including consumable items such as sorbent pads and sorbent granules or similar material. These materials should be readily available at the work site at all times and a regular check during the weekly inspections made to see that they are available. Adequate provision should be made to ensure that sorbent pads, booms and granules are kept dry prior to use.	Commitment in the Initial CEMP – Con L7 Requirement 5 of Schedule 3 of the DCO.
	All fuel bowzers and emergency vehicles should carry larger spill kits including sorbent pads and sorbent material to deal with any small spillages, in addition to polythene sacks for gathering spent absorbents.	Requirements of the Initial Site Water Management Plan (DCO Document Reference 6.13.2). Commitment in the Initial CEMP – Con L8
	The detailed PEMP to be prepared must include all pollution prevention measures relevant to the Scheme that are documented in the Environment Agency’s Pollution Prevention Guidelines.	Requirements of the Initial Site Water Management Plan (DCO Document Reference 6.13.2). Commitment in the Initial CEMP – Con L9
	Establish a user friendly register of pumping that details the location of all pumping operations, points of discharge, type of discharge, any	Requirements of the Initial Site Water Management Plan

Topic	Mitigation Measure	Mechanism Through Which the Mitigation is Secured
	mitigation requirements at discharge points, the plant "tagged" identification number; the responsible attendant, dates of discharge, permit numbers, irregularities occurring.	(DCO Document Reference 6.13.2). Commitment in the Initial CEMP – Con L10
	Provide a system for issue and registering "discharge permits" whereby a Permit to Discharge water is issued to the pump attendant following an inspection of each proposed pumping location and discharge point prior to the commencement of discharge.	Requirements of the Initial Site Water Management Plan (DCO Document Reference 6.13.2). Commitment in the Initial CEMP – Con L11
	Maintain a register of all pumping equipment to record type, purpose, maintenance frequencies, inspections etc. and set up a system for regular monitoring and auditing of the equipment. This would be incorporated into the master plant register.	Requirements of the Initial Site Water Management Plan (DCO Document Reference 6.13.2). Commitment in the Initial CEMP – Con L12
	Designated contained washout areas should be provided at least 10m from any watercourse or surface water drain to minimise the risk of pollution, and they must comply with advice from the Environment Agency. Washout areas must be impermeable to prevent pollution of groundwater. Washout areas should be signposted and delivery drivers informed about their position and washout activities should be carried out or supervised by competent persons.	Requirements of the Initial Site Water Management Plan (DCO Document Reference 6.13.2). Commitment in the Initial CEMP – Con L13
	Spill kits must be tagged, checked and logged on a register.	Requirements of the Initial Site Water Management Plan (DCO Document Reference 6.13.2).

Topic	Mitigation Measure	Mechanism Through Which the Mitigation is Secured
		Commitment in the Initial CEMP – Con L14
	No re-fuelling of mobile plant within 10m of a watercourse.	Commitment in the Initial CEMP – Con L15 Requirements of the Initial Site Water Management Plan (DCO Document Reference 6.13.2).
	For the lagoons, utilised for the storage of dewatering water, a secondary method of bunding (impermeable) would be constructed around the perimeter of the lagoon in order to prevent spillages in the event that there is a breach of the lagoon retaining wall. This would minimise the risk of flooding to the site from this source. In addition, no single lagoon or hydraulically linked lagoons, would store more than 10,000m ³ of water above the natural ground level.	Requirement in the Site Water Management Plan (DCO Document Reference 6.13.2) Requirement 5 of Schedule 3 of the DCO. Commitment in the Initial CEMP – Con L16
	Undertake water quality monitoring programme during the construction phase.	Commitment in the Initial CEMP – Con L17
	Topsoil stripped from the banks of surface water receptors would be stored separately.	Commitment in the Initial CEMP – Con L18
	Materials used for grouting would be submitted to the Environment Agency for review and approval.	Commitment in the Initial CEMP – Con L19
	Monitoring would be undertaken throughout the construction works as outlined in Chapter 16 of the Hydrogeological Impact Assessment (DCO Document Reference 6.13.3), Section 16.2. This shall include groundwater level monitoring, flow gauging and water chemical analysis (Con L17) along with monitoring groundwater net abstraction.	Commitment in the Initial CEMP – Con L20

Topic	Mitigation Measure	Mechanism Through Which the Mitigation is Secured
	An Emergency Spillage Response Plan would be produced by the MWC and this would form part of their PEMP.	Requirement in the CEMP for the MWC to develop – Section 6.
	The generator compound would include a concrete pad with a bund, bunded fuel tanks, oil/diesel traps and drains in order to mitigate against pollution impacts on water quality of nearby watercourses.	Commitment in the Initial CEMP – Con G5
	The flood defences must be monitored (condition and topography) post construction for 24 months unless agreed with the EA. This should take place at quarterly intervals.	Commitment in the Initial CEMP – Post L1
	Where necessary and subject to agreement with the landowner/occupier, new field drains would be installed to aid recovery from the construction activities and maintain the site work areas as dry as practicable.	Commitment in the Initial CEMP – Post L2
	Undertake water quality monitoring programme during the post construction phase (for 24 months) unless agreed with the EA.	Commitment in the Initial CEMP – Post L3
	Groundwater monitoring as per pre and during construction shall continue following construction. A monthly review of data should be undertaken for the first six months post construction. Followed by quarterly reviews for the following year.	Commitment in the Initial CEMP – Post L4

3 REFERENCES

The Marine and Coastal Access Act 2009 Available at:
<http://www.legislation.gov.uk/ukpga/2009/23/contents> (online)

The Planning Act 2008 Available at:
<http://www.legislation.gov.uk/ukpga/2008/29/contents> (online)