HyNet North West

REGISTER OF ENVIRONMENTAL ACTIONS AND COMMITMENTS (REAC)

HyNet Carbon Dioxide Pipeline

The Planning Act 2008

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Applicant: Liverpool Bay CCS Limited
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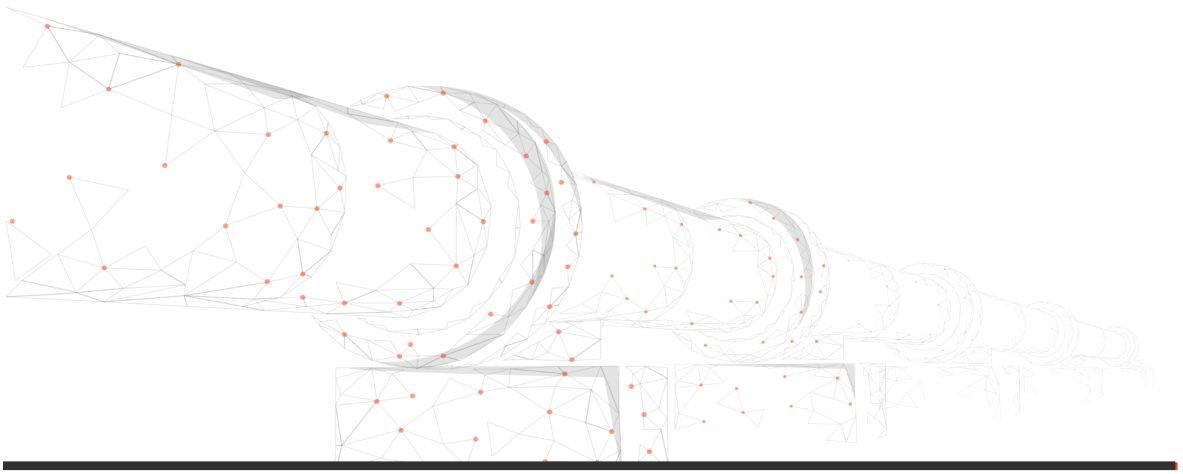

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HyNet North West

Unique ES Ref	Topic	Action/Commitment/mitigation (Including Monitoring Requirements)	Objective	Source Reference	Organisation / Individual Delivering Measure	Achievement Criteria and Reporting Requirements (Reported on the Requirements Register published on the Applicant's Scheme website)	Project Stage (Design, Pre-Construction, Construction, Operation, Monitoring)	Evidence / Record of Completion (Signature and Date)
D-GN-001	General	The Construction Contractor(s) will set up and maintain a register with details of consents, permits and licences required for the DCO Proposed Development including those which have been disapplied through the DCO process.	To keep an up to date record of all past and current consents, permits and licences to ensure the DCO Proposed Development is remaining compliant with the appropriate legislative measures.	Outline Construction Environment Management Plan (OCEMP), (D.6.5.4)	Construction Contractor	Detailed CEMP approved by the Local Authority	Pre-Construction / Construction	
D-GN-002	General	The Construction Contractor(s) will prepare and implement appropriate measures to control the risk of pollution due to construction activities, materials and extreme weather events.	To avoid or otherwise minimise the risk of environmental effects due to unexpected pollution incidents	Outline Construction Environment Management Plan (OCEMP), (D.6.5.4)	Construction Contractor	Detailed CEMP approved by the Local Authority	Construction	
D-GN-003	General	The Construction Contractor(s) will be required to investigate and provide a report to The Applicant in the event a pollution incident does occur, including the following: - A description of the pollution incident, including its location, the type and quantity of contaminant and the likely receptor(s); - Contributory causes; - Adverse effects and the measures implemented to mitigate adverse effects; and - Recommendations to reduce the risk of reoccurrence.	To provide record of any unexpected pollution incidents for monitoring and compliance purposes and to inform the development of action plans to avoid or minimise the potential for reoccurrence	Outline Construction Environment Management Plan (OCEMP), (D.6.5.4)	Construction Contractor	Detailed CEMP approved by the Local Authority	Construction	
D-GN-004	General	The Construction Contractor(s) will consult with the relevant organisations, statutory bodies and other relevant parties when preparing response measures.	To provide the opportunity for relevant organisation and stakeholders to input or comment on response measures	Outline Construction Environment Management Plan (OCEMP), (D.6.5.4)	Construction Contractor	Detailed CEMP approved by the Local Authority	Construction	
D-GN-005	General	The Applicant will require the Construction Contractor(s) to provide Suitable Experienced Personnel (SEP) to monitor and manage works for which they are responsible.	To ensure that construction practices are carried out in line with the appropriate best practice and legislative requirements	Outline Construction Environment Management Plan (OCEMP), (D.6.5.4)	The Applicant / Construction Contractor	Detailed CEMP approved by the Local Authority	Construction	
D-GN-006	General	The Detailed CEMP will set out as a minimum: - Description of the relevant phase(s) of the DCO Proposed Development, and clear figures identifying receptors that could be affected by construction activities; - An outline of the pre-construction and construction works; - An organogram showing names, roles, responsibilities and communication methods; - Protocol for external reporting and community relations; - Staff competence and requirements for training personnel, identifying mechanisms on how these are achieved and maintained; - Information on inductions (including environmental), site briefings and toolbox talks to ensure staff are briefed on environmental matters and procedures specific to their location; - A protocol to manage change as work progresses (e.g. updating evidence of compliance with the REAC, and detailed CEMP and having an audit trail of changes in line with the Construction Contractor(s) EMS), including procedures for updating, sign off and version control of environmental asset data and as built drawing requirements; and - Emergency response, preparedness and non-conformance processes.	To ensure that the Detailed CEMP is compliant, robust and fit for purpose	Outline Construction Environment Management Plan (OCEMP), (D.6.5.4)	Construction Contractor	Detailed CEMP approved by the Local Authority	Pre-Construction / Construction	
D-GN-007	General	The Applicant will require the Construction Contractor(s) to have an EMS certified to BS EN ISO 14001.	To ensure that the Construction Contractor has a certified environmental management system	Outline Construction Environment Management Plan (OCEMP), (D.6.5.4)	The Applicant / Construction Contractor	Detailed CEMP approved by the Local Authority	Pre-Construction / Construction	
D-GN-008	General	Site inspections will be recorded in an environmental log book, incorporating all environmental areas.	To keep an up to date record of all works being carried out, best practice examples and improvement requirements for the Construction Contractor to action.	Outline Construction Environment Management Plan (OCEMP), (D.6.5.4)	Construction Contractor	Environmental Log Book	Construction	
D-GN-009	General	The CEMP will set out construction mitigation and management measures outlined in the ES and REAC during the construction stage. These measures will illustrate how the monitoring strategy will be undertaken and who is responsible for each of the measures listed.	To ensure mitigation and management measures are followed correctly during the construction stage of works.	Outline Construction Environment Management Plan (OCEMP), (D.6.5.4)	Construction Contractor	Detailed CEMP approved by the Local Authority	Construction	

D-PD-001	Description of the DCO Proposed Development	For complex crossings, to avoid disruption to utilities, major highways, railways, watercourses and/or particular environmental sensitivities (e.g. ancient woodland), specialist trenchless installation techniques will be used.	To reduce the impacts on environmental features	Chapter 3: Description of the DCO Proposed Development (D.6.2.3), Volume II of the DCO ES	Construction Contractor	Design Drawings	Construction	
D-PD-002	Description of the DCO Proposed Development	All above-ground equipment will be elevated on concrete foundations/plinths, and no vulnerable equipment is expected to be located near ground level.	To mitigate against flood risk	Chapter 3: Description of the DCO Proposed Development (D.6.2.3), Volume II of the DCO ES	Construction Contractor	Design Drawings	Construction	
~~D-PD-003~~	Description of the DCO Proposed Development	Unique REAC identifier unused						
D-PD-004	Description of the DCO Proposed Development	Where reasonably practicable, the Detailed Design refinement of the Newbuild Carbon Dioxide Pipeline route will avoid environmentally sensitive receptors.	To reduce the impacts on environmental features	Chapter 3: Description of the DCO Proposed Development (D.6.2.3), Volume II of the DCO ES	Construction Contractor	Design Drawings	Design / Construction	
D-PD-005	Description of the DCO Proposed Development	The Construction Contractor will prepare a detailed Surface Water Drainage Strategy which will be based on the Outline Surface Water Drainage Strategy Report	To reduce impacts upon environmental features and surface water drainage	Chapter 3: Description of the DCO Proposed Development (D.6.2.3), Volume II of the DCO ES	Construction Contractor	Design Drawings	Design / Construction	
D-PD-006	Description of the DCO Proposed Development	The landowner/occupier will be engaged with before any off site disposal is planned. In such instances, disposal will be undertaken in accordance with waste management regulations (England and Wales)	Re-use of excess materials and limit permanent removal of soils during Construction Stage	Chapter 3: Description of the DCO Proposed Development (D.6.2.3), Volume II of the DCO ES	Construction Contractor	Detailed CEMP approved by the Local Authority	Construction	
D-PD-007	Description of the DCO Proposed Development	For smaller scale de-watering (such as after periods of heavy rainfall), most local de-watering will be by porable sump-pump discharging to ground through suitable de-silting arrangements. Where required, local soil saturation levels will be monitored to prevent water logging adjacent areas.	To reduce the impacts on surface water quality, groundwater and flood risk	Chapter 3: Description of the DCO Proposed Development (D.6.2.3), Volume II of the DCO ES	Construction Contractor	Detailed CEMP approved by the Local Authority	Construction	
D-PD-008	Description of the DCO Proposed Development	Where larger volumes of de-watering are required, portable pumps will be used to abstract the water into mobile de-silting and water treatment systems.	To reduce the impacts on surface water quality, groundwater and flood risk	Chapter 3: Description of the DCO Proposed Development (D.6.2.3), Volume II of the DCO ES	Construction Contractor	Detailed CEMP approved by the Local Authority	Construction	
D-PD-009	Description of the DCO Proposed Development	Regular quality testing of the water will take place after it has passed through the weirs to determine if further treatment is required prior to discharge, which would be to a nearby watercourse, licenced sewer discharge point, or, if none is present, to greenfield surface. Any captured sediment would be disposed of offsite at a location to be agreed with the local authority. These activities would be subject to a separate consents which would be granted sought by the relevant authorities (Natural Resources Wales (Wales) or Environment Agency (EA) (England)) and would be applied for in advance of the construction works	To reduce the impacts on surface water quality, groundwater and flood risk	Chapter 3: Description of the DCO Proposed Development (D.6.2.3), Volume II of the DCO ES	Construction Contractor	Detailed CEMP approved by the Local Authority	Pre-Construction / Construction	
D-PD-010	Description of the DCO Proposed Development	The Construction Contractor(s) will be responsible for obtaining all required environmental permits, licences and consents from the relevant authorities where required.	To reduce the impacts upon environmental features and remain compliant to the appropriate legislation requirements	Chapter 3: Description of the DCO Proposed Development (D.6.2.3), Volume II of the DCO ES	Construction Contractor	Detailed CEMP approved by the Local Authority	Construction	

D-PD-011	Description of the DCO Proposed Development	All watercourse banks, sides of drainage ditches, and all open cut ground road crossing will be backfilled. Each layer will be thoroughly compacted by suitable compacting equipment to provide a good bond between the undisturbed sides of the trench and the new backfill material.	Re-use of excess materials and limit permanent removal of soils during Construction Stage	Chapter 3: Description of the DCO Proposed Development (D.6.2.3), Volume II of the DCO ES	Construction Contractor	Detailed CEMP approved by the Local Authority	Construction	
D-PD-012	Description of the DCO Proposed Development	The Applicant will develop an Operation and Maintenance Environment Management Plan (OMEMP) in line with their Environmental Management System (EMS) in line with ISO14001.	To reduce environmental effects during operation	Chapter 3: Description of the DCO Proposed Development (D.6.2.3), Volume II of the DCO ES	The Applicant	OMEMP approved by the Local Authority	Operation	
D-PD-013	Description of the DCO Proposed Development	The lighting columns installed at the perimeter of the AGIs and BVSs will not be permanently lit; lighting will only operate should there be a security or safety reason (e.g. an unexpected need for a maintenance visit during low light conditions). The perimeter lighting columns will be directed only into the facility area and will incorporate measures such as louvres and/or barn doors, to reduce light spill on the occasions that the lighting is required. The exception to this is Stanlow AGI, which may be permanently lit, due to safety reasons owing to its surrounding industrial context.	To reduce disturbance to fauna and reduce landscape and visual impacts	Chapter 3: Description of the DCO Proposed Development (D.6.2.3), Volume II of the DCO ES	The Applicant	OMEMP approved by the Local Authority	Operation	
D-PD-014	Description of the DCO Proposed Development	The Applicant will prepare a Lighting Plan, which will detail the operational lighting requirements and associated mitigation	To reduce disturbance to fauna and reduce landscape and visual impacts	Chapter 3: Description of the DCO Proposed Development (D.6.2.3), Volume II of the DCO ES	The Applicant	OMEMP approved by the Local Authority	Operation	
D-PD-015	Description of the DCO Proposed Development	The DCO Proposed Development will operate without the need for any permanent on-site staff, at the AGIs and BVSs, which will generally be operated remotely.	To reduce travel requirements and reduce GHG emissions through unnecessary travel.	Chapter 3: Description of the DCO Proposed Development (D.6.2.3), Volume II of the DCO ES	The Applicant	OMEMP approved by the Local Authority	Operation	
D-PD-016	Description of the DCO Proposed Development	A Scheme for Aerodrome Safeguarding Measures will be implemented, this will outline mitigation to reduce impacts upon surrounding aviation land during construction in surrounding areas.	To ensure that impacts upon nearby aviation operations are avoided or otherwise minimised	Chapter 3: Description of the DCO Proposed Development (D.6.2.3), Volume II of the DCO ES	Construction Contractor	Design Drawings	Construction	
~~D-PD-017~~	Description of the DCO Proposed Development	Unique REAC identifier unused						
D-PD-018	Description of the DCO Proposed Development	The working width for open cut trenching installation will be kept as narrow as possible, to a maximum of 32m where reasonably practicable.	To avoid or otherwise minimise potential environmental impacts	Chapter 3: Description of the DCO Proposed Development (D.6.2.3), Volume II of the DCO ES	Construction Contractor	Design Drawings	Construction	
D-PD-019	Description of the DCO Proposed Development	No excavated material from the trenches will be placed outside of the demarcated working area	To avoid or otherwise minimise potential environmental impacts	Chapter 3: Description of the DCO Proposed Development (D.6.2.3), Volume II of the DCO ES	Construction Contractor	Design Drawings	Construction	
D-CA-001	Consideration of Alternatives	The Principals of inherent safe design have been incorporated into the design of the pipeline as per relevant industry codes of practice and standards and the requirements of the Pipeline Safety Regulations 1996.	To avoid potential effects on sensitive environmental receptors.	Chapter 4: Consideration of Alternatives (D.6.2.4), Volume II of the DCO ES	Construction Contractor	Design Drawings	Design	
D-CA-002	Consideration of Alternatives	Inclusion of remotely operated valves to allow isolation of sections of the pipeline if required.	To avoid potential effects on sensitive environmental receptors.	Chapter 4: Consideration of Alternatives (D.6.2.4), Volume II of the DCO ES	Construction Contractor	Design Drawings. Environmental Inspection Records.	Design	
D-CA-003	Consideration of Alternatives	24-hour remote monitoring of pipeline operation to detect leaks and enable remote shut down of the pipeline if required.	To avoid potential effects on sensitive environmental receptors.	Chapter 4: Consideration of Alternatives (D.6.2.4), Volume II of the DCO ES	The Applicant	Monitoring Records.	Operation	
~~D-AQ-001~~	Air Quality	Unique REAC identifier unused						

D-AQ-002	Air Quality	The stakeholder communications plan that includes community engagement before work commences on site will be implemented.	To ensure the project air quality contacts are known.	Chapter 6: Air Quality (D.6.2.6), Volume II of the DCO ES	Construction Contractor	Suitable Stakeholder Communications Plan.	Construction	
D-AQ-003	Air Quality	The name and contact details of person(s) accountable for air quality and dust issues will be displayed on the Site boundary and within site cabins. This may be the environment manager/engineer or the Site manager. The head or regional office contact information will also be displayed.	To ensure the project air quality contacts are known.	Chapter 6: Air Quality (D.6.2.6), Volume II of the DCO ES	Construction Contractor	Detailed CEMP approved by the Local Authority	Construction	
D-AQ-004	Air Quality	The Dust Management Plan (DMP) will be implemented on site by the Construction Contractor. This will include measures to control other emissions, in addition to dust and PM10 mitigation measures.	To control and monitor dust deposition, dust flux, real-time PM10 and other emissions.	Chapter 6: Air Quality (D.6.2.6), Volume II of the DCO ES	Construction Contractor	Dust Management Plan (DMP) approved by the Local Authority	Construction	
D-AQ-005	Air Quality	All dust and air quality complaints will be recorded, and causes identified. Appropriate remedial action will be taken in a timely manner with a record kept of actions taken including of any additional measures put in-place to avoid reoccurrence.	Site Management.	Chapter 6: Air Quality (D.6.2.6), Volume II of the DCO ES	Construction Contractor	Remedial action record.	Construction	
D-AQ-006	Air Quality	The complaints log will be made available to the appropriate local authority on request.	Site Management.	Chapter 6: Air Quality (D.6.2.6), Volume II of the DCO ES	Construction Contractor	Complaints log.	Construction	
D-AQ-007	Air Quality	Any exceptional incidents that cause dust and/or air emissions, either on- or off-site will be recorded, and then the action taken to resolve the situation recorded in the site log book.	Site Management.	Chapter 6: Air Quality (D.6.2.6), Volume II of the DCO ES	Construction Contractor	Log book.	Construction	
D-AQ-008	Air Quality	Daily on-site and off-site inspections (up to a minimum of 50m from the site boundary) will be undertaken by a suitably experienced person, where receptors (including roads) are nearby (within 100m of Site or access roads) to monitor dust. The inspection results will be recorded and made available to the local authority when asked. This will include regular dust soiling checks of surfaces such as street furniture, cars, and windowsills within 100m of construction works.	Monitoring of dust producing activities during construction.	Chapter 6: Air Quality (D.6.2.6), Volume II of the DCO ES	Construction Contractor	Environmental Inspection Records.	Construction	
D-AQ-009	Air Quality	The frequency of Site inspections will be increased when activities with a high potential to produce dust are being carried out and during prolonged dry or windy conditions.	Monitoring of dust producing activities during construction.	Chapter 6: Air Quality (D.6.2.6), Volume II of the DCO ES	Construction Contractor	Environmental Inspection Records.	Construction	
D-AQ-010	Air Quality	Continuous dust monitoring will be undertaken at Centralised Compounds. For locations of trench digging and trenchless crossings visual inspections of receptors in the vicinity of the works will be undertaken and results recorded in the Inspection Log.	Monitoring of dust producing activities during construction.	Chapter 6: Air Quality (D.6.2.6), Volume II of the DCO ES	Construction Contractor	Monitoring Records.	Construction	
~~D-AQ-011~~	Air Quality	Unique REAC identifier unused						
D-AQ-012	Air Quality	The Site layout will be designed and planned so that machinery and dust causing activities are located away from sensitive receptors, as far as reasonably practicable.	Preparing and Maintaining Site.	Chapter 6: Air Quality (D.6.2.6), Volume II of the DCO ES	Construction Contractor	Design Drawings	Construction	

D-AQ-013	Air Quality	Where practicable, erect solid screens or barriers around dusty activities or the Site boundary that are at least as high as any stockpiles on Site.	Preparing and Maintaining Site.	Chapter 6: Air Quality (D.6.2.6), Volume II of the DCO ES	Construction Contractor	Detailed CEMP approved by the Local Authority	Construction	
D-AQ-014	Air Quality	Runoff of water and/or mud will be mitigated against while the Site is being set up and maintained.	Preparing and Maintaining Site.	Chapter 6: Air Quality (D.6.2.6), Volume II of the DCO ES	Construction Contractor	Detailed CEMP approved by the Local Authority	Construction	
D-AQ-015	Air Quality	Manage earthworks and exposed areas or soil stockpiles to prevent wind-borne dust. Use methods such as covering, seeding or using water suppression.	Preparing and Maintaining Site.	Chapter 6: Air Quality (D.6.2.6), Volume II of the DCO ES	Construction Contractor	Detailed CEMP approved by the Local Authority	Construction	
D-AQ-016	Air Quality	Ensure all vehicle operators switch off engines when not in use and ensure there is no idling.	Operating Vehicle/Machinery and Sustainable Travel.	Chapter 6: Air Quality (D.6.2.6), Volume II of the DCO ES	Construction Contractor	Detailed CEMP approved by the Local Authority	Construction	
D-AQ-017	Air Quality	Where reasonably practicable reduce the use of diesel- or petrol-powered generators, for example by using hybrid site generators.	Operating Vehicle/Machinery and Sustainable Travel.	Chapter 6: Air Quality (D.6.2.6), Volume II of the DCO ES	Construction Contractor	Detailed CEMP approved by the Local Authority	Construction	
D-AQ-018	Air Quality	A maximum-speed-limit of 15 mph on surfaced and 10 mph on unsurfaced haul roads and work areas will be imposed.	Operating Vehicle/Machinery and Sustainable Travel.	Chapter 6: Air Quality (D.6.2.6), Volume II of the DCO ES	Construction Contractor	Detailed CEMP approved by the Local Authority	Construction	
D-AQ-019	Air Quality	The most practically sustainable form of transport for the delivery of goods and materials would be chosen, so far as reasonably practicable	Operating Vehicle/Machinery and Sustainable Travel.	Chapter 6: Air Quality (D.6.2.6), Volume II of the DCO ES	Construction Contractor	Detailed CEMP approved by the Local Authority	Construction	
D-AQ-020	Air Quality	Only use cutting, grinding or sawing equipment fitted or in conjunction with suitable dust suppression techniques such as water sprays or local extraction, for example, suitable local exhaust ventilation systems.	To reduce risk of dust blowing around Site and to protect workers from inhalation.	Chapter 6: Air Quality (D.6.2.6), Volume II of the DCO ES	Construction Contractor	Detailed CEMP approved by the Local Authority	Construction	
D-AQ-021	Air Quality	Ensure an adequate water supply is on the Site for effective dust/particulate matter suppression/mitigation, using non-potable water where possible and appropriate.	To ensure dust creating activities are dampened down to reduce risk to Site workers.	Chapter 6: Air Quality (D.6.2.6), Volume II of the DCO ES	Construction Contractor	Detailed CEMP approved by the Local Authority	Construction	
D-AQ-022	Air Quality	Covered skips will be used to reduce the risk of materials or dusty materials blowing out and contaminating the surrounding site.	Reduce risk of materials becoming loose and potential contamination of Site.	Chapter 6: Air Quality (D.6.2.6), Volume II of the DCO ES	Construction Contractor	Detailed CEMP approved by the Local Authority	Construction	
D-AQ-023	Air Quality	Ensure equipment is readily available on-site to clean any dry spillages and clean up spillages as soon as reasonably practicable after the event using wet cleaning methods.	To prevent further spread of spills and contamination to surrounding environment.	Chapter 6: Air Quality (D.6.2.6), Volume II of the DCO ES	Construction Contractor	Detailed CEMP approved by the Local Authority	Construction	
D-AQ-024	Air Quality	Following excavation works, return subsoil and topsoil at the earliest suitable time of year after construction has been completed.	Earthwork mitigation measures.	Chapter 6: Air Quality (D.6.2.6), Volume II of the DCO ES	Construction Contractor	Detailed CEMP approved by the Local Authority	Construction	

D-AQ-025	Air Quality	Avoid scabbling (roughening of concrete surfaces) if possible to reduce concrete dust..	Construction mitigation measures.	Chapter 6: Air Quality (D.6.2.6), Volume II of the DCO ES	Construction Contractor	Detailed CEMP approved by the Local Authority	Construction	
D-AQ-026	Air Quality	For smaller supplies of fine powder materials ensure bags are sealed after use and stored appropriately to prevent dust.	Construction mitigation measures.	Chapter 6: Air Quality (D.6.2.6), Volume II of the DCO ES	Construction Contractor	Detailed CEMP approved by the Local Authority	Construction	
D-AQ-027	Air Quality	All construction plant and equipment will be maintained and in good working order.	Construction mitigation measures.	Chapter 6: Air Quality (D.6.2.6), Volume II of the DCO ES	Construction Contractor	Detailed CEMP approved by the Local Authority	Construction	
D-AQ-028	Air Quality	Use water-assisted dust sweeper(s) on the access and local roads, to remove, as necessary, any material tracked out of the Site. This may require the sweeper being in frequent use.	Trackout mitigation measures	Chapter 6: Air Quality (D.6.2.6), Volume II of the DCO ES	Construction Contractor	Detailed CEMP approved by the Local Authority	Construction	
D-AQ-029	Air Quality	Avoid dry sweeping of large areas.	Trackout mitigation measures	Chapter 6: Air Quality (D.6.2.6), Volume II of the DCO ES	Construction Contractor	Detailed CEMP approved by the Local Authority	Construction	
D-AQ-030	Air Quality	Ensure vehicles entering and leaving sites are covered to prevent escape of materials during transport.	Trackout mitigation measures	Chapter 6: Air Quality (D.6.2.6), Volume II of the DCO ES	Construction Contractor	Detailed CEMP approved by the Local Authority	Construction	
D-AQ-031	Air Quality	Inspect on-site haul routes for integrity and instigate necessary repairs to the surface as soon as reasonably practicable. Inspect on-site haul routes for integrity and instigate necessary repairs to the surface as soon as reasonably practicable.	Trackout mitigation measures	Chapter 6: Air Quality (D.6.2.6), Volume II of the DCO ES	Construction Contractor	Environmental Inspection Records.	Construction	
D-AQ-032	Air Quality	Record all inspections of haul routes and any subsequent action in a site log book.	Trackout mitigation measures	Chapter 6: Air Quality (D.6.2.6), Volume II of the DCO ES	Construction Contractor	Environmental Inspection Records.	Construction	
D-AQ-033	Air Quality	Where practicable, hard surfaced haul routes will be installed, which are regularly damped down with fixed or mobile sprinkler systems, or mobile water bowsers and regularly cleaned.	Trackout mitigation measures	Chapter 6: Air Quality (D.6.2.6), Volume II of the DCO ES	Construction Contractor	Detailed CEMP approved by the Local Authority	Construction	
D-AQ-034	Air Quality	Access points to the local highway will be prepared with temporary hard surfacing and wheel-washing facilities.	Trackout mitigation measures	Chapter 6: Air Quality (D.6.2.6), Volume II of the DCO ES	Construction Contractor	Detailed CEMP approved by the Local Authority	Construction	
D-AQ-035	Air Quality	Ensure construction traffic does not pass along sensitive roads (residential roads, congested roads, via unsuitable junctions, etc.) where possible, and that vehicles are kept clean (using wheel washers, etc.) and sheeted when on public highways. Timing of large-scale vehicle movements to avoid peak hours on the local road network will also be beneficial.	Establish the most suitable access and haul routes for the site traffic.	Chapter 6: Air Quality (D.6.2.6), Volume II of the DCO ES	Construction Contractor	Agreement from the relevant highway authorities	Construction	
~~D-AQ-036~~	Air Quality	Unique REAC identifier unused						
D-AQ-037	Air Quality	Ensure effective water suppression is used during decommissioning operations.	Decommissioning mitigation measures	Chapter 6: Air Quality (D.6.2.6), Volume II of the DCO ES	Construction Contractor	Detailed CEMP approved by the Local Authority	Decommissioning	

D-AQ-038	Air Quality	Bag and remove any biological debris or damp down such material before decommissioning.	Decommissioning mitigation measures	Chapter 6: Air Quality (D.6.2.6), Volume II of the DCO ES	Construction Contractor	Detailed CEMP approved by the Local Authority	Decommissioning	
D-AQ-039	Air Quality	Pigging campaigns and manifold venting, wherever possible, to be undertaken during the working day.	To minimise the likelihood of odours	Chapter 6: Air Quality (D.6.2.6), Volume II of the DCO ES	The Applicant	DCO Proposed Development operation	Decommissioning / Operation	
D-AQ-040	Air Quality	There will be no bonfires or burning of waste materials.	Waste Management practices and reducing hazardous fumes	Chapter 6: Air Quality (D.6.2.6), Volume II of the DCO ES	Construction Contractor	Detailed CEMP approved by the Local Authority	Construction	
D-AQ-041	Air Quality	Only remove the stockpile cover (where implemented) in small areas during work and not all at once	Earthwork mitigation measures.	Chapter 6: Air Quality (D.6.2.6), Volume II of the DCO ES	Construction Contractor	Detailed CEMP approved by the Local Authority	Construction	
D-AQ-042	Air Quality	The Odour Management Plan will be put in place to notify local residents (as early as possible) of all planned pigging campaigns and manifold venting.	Minimise likelihood of odours being detected.	Chapter 6: Air Quality (D.6.2.6), Volume II of the DCO ES	The Applicant	DCO Proposed Development operation	Operation	
D-CR-001	Climate Resilience	There will be an Operation and Maintenance Environment Management Plan (OMEMP) to be followed for routine maintenance and inspection visits on the AGIs and BVSs.	To ensure the maintenance and efficiency of the AGIs / BVS during the operational life against climate hazards	Chapter 7: Climate Resilience (D.6.2.7), Volume II of the DCO ES	The Applicant	Operations and Maintenance Environment Management Plan approved by the Local Authority	Operation	
D-CR-002	Climate Resilience	The Principal Designer and Construction Contractor(s) will ensure ground investigations and surveys are completed to ensure ground quality is sufficient to withstand increased precipitation and temperatures during construction.	To ensure there is mitigation for temperature increase effects on soils.	Chapter 7: Climate Resilience (D.6.2.7), Volume II of the DCO ES	Construction Contractor	Evidence of ground surveys, GI report	Design / Construction	
D-CR-003	Climate Resilience	Emergency shut down valves will be located at the AGIs, with an Emergency Response Plan and Major Accident Prevention Document implemented to prevent the risk of fire and increased maintenance.	To ensure the protection of the AGIs during heatwaves and extreme temperatures	Chapter 7: Climate Resilience (D.6.2.7), Volume II of the DCO ES	Construction Contractor	Approved Emergency Response Plan and Major Accident Prevention Documents	Design / Operation	
D-CR-004	Climate Resilience	There will be a Lightning Protection Study assigned during Detailed Design to monitor and protect components against lightning events.	To ensure the protection of the / BVS during extreme storm events	Chapter 7: Climate Resilience (D.6.2.7), Volume II of the DCO ES	Construction Contractor	Approved Lightning Protection Study.	Design / Operation	
D-CR-005	Climate Resilience	The location of AGIs and BVS will be above potential flood lines, and will have gravelled surfaces to help with drainage of any increased precipitation events.	To aid resilience to increased rainfall levels.	Chapter 7: Climate Resilience (D.6.2.7), Volume II of the DCO ES	Construction Contractor	Design Drawings	Design	
D-CR-006	Climate Resilience	All the outdoor equipment at the AGIs and BVSs will be designed to a temperature of 60ºC or more. Each E&I Kiosk within the AGIs and BVSs will have an HVAC system to ensure the electrical equipment within does not overheat. The Newbuild Carbon Dioxide Pipeline is predominantly installed below ground and will be designed to a maximum design temperature of 65ºC.	To ensure sufficient margin for climate change	Chapter 7: Climate Resilience (D.6.2.7), Volume II of the DCO ES	Construction Contractor	Design Drawings	Design / Operation	
D-CR-007	Climate Resilience	Consideration will be taken during design with relation to wind loading in accordance with EN 1991-1-4 “Eurocode 1: Actions on structures".	Will aid resilience to high winds.	Chapter 7: Climate Resilience (D.6.2.7), Volume II of the DCO ES	Construction Contractor	Design Drawings	Design / Operation	
D-CR-008	Climate Resilience	A list of extreme weather-related incidents (for example, rainfall, heatwaves, snow and ice etc.) will be maintained by the Applicant to assist in identifying thresholds which, when exceeded, require maintenance or alteration. Inspections will be carried out following an intense rainfall event or heatwave to monitor any damage and implement appropriate mitigation as necessary.	To monitor the resilience of structures against extreme weather incidents	Chapter 7: Climate Resilience (D.6.2.7), Volume II of the DCO ES	The Applicant	A Management Strategy / Procedure	Operation	

D-CR-009	Climate Resilience	A schedule of general inspections and principal inspections of each structure will be carried out to determine condition of the AGIs / BVSs and identify any potential maintenance requirements. Inspections will be undertaken following an intense rainfall event or heatwave to monitor any damage and implement appropriate mitigation as necessary as stated within the DMRB BD 63/17.	To manage the resilience of structures against extreme weather incidents	Chapter 7: Climate Resilience (D.6.2.7), Volume II of the DCO ES	The Applicant	A Management Strategy / Procedure	Operation	
D-CR-010	Climate Resilience	An end-of-life Decommissioning Environmental Management Plan will be in place to protect the site and workers from climate effects (i.e. rising temperatures and precipitation)	Protect workers and the site from climate effects	Chapter 7: Climate Resilience (D.6.2.7), Volume II of the DCO ES	The Applicant	Decommissioning Environmental Management Plan approved by the Local Authority	Decommissioning	
D-CH-001	Cultural Heritage	Archaeological works where required will be undertaken in consultation with the relevant Archaeological Advisor (the LPA, Historic England or Cadw), and in accordance with an approved archaeological Written Scheme of Investigation (WSI).	To set out a clear scope and method of investigation, and post-excavation reporting and dissemination strategy.	Chapter 8: Cultural Heritage (D.6.2.8), Volume II of the DCO ES	Construction Contractor	Local Authority approval.	Construction	
D-CH-002	Cultural Heritage	Boundaries of the scheduled monument (NHLE 1012122) will be avoided during construction, and any works in the surrounding area will adhere to the WSI and in consultation with the relevant Archaeological Advisor (the LPA, Historic England or Cadw),	To prevent any potential impacts to the scheduled monument.	Chapter 8: Cultural Heritage (D.6.2.8), Volume II of the DCO ES	Construction Contractor	As Built Drawings.	Design / Construction	
D-BD-001	Biodiversity	Prior to construction, a team of suitably qualified and experienced Ecological Clerk of Works (ECoWs), will be appointed to support, oversee and monitor the Construction Contractor with the implementation of measures defined within the OCEMP. Multiple ECoWs may be required during construction to ensure appropriate oversight of multiple active works locations. Broadly, the ECoW will: •Provide ecological advice to the Construction Contractor over the entire construction programme, at all times as required. •Undertake or oversee pre-construction surveys for protected species in the areas affected by the DCO Proposed Development. •Monitor ecological conditions during the Construction Stage to identify additional constraints that may arise as a result of natural changes to ecological baseline over time, e.g., the monitoring of badger activity within and in close proximity to construction works. •Provide ecological toolbox talks to site personnel to make them aware of ecological constraints and information; highlight mitigation to minimise impacts; and make site personnel aware of their responsibility with regards to wildlife and sensitive habitats in the context of legislation and policy. Toolbox talks will include, as required, all ecological receptors considered within the ES as a minimum. •Monitor the implementation of mitigation measures during the Construction Stage to ensure compliance with protected species legislation, licensing, and commitments within the ES. The ECoW will have previous experience in similar ECoW roles and be approved by the Applicant. The ECoW will be appointed in advance of the main construction programme commencing to ensure pre-construction surveys are undertaken and any advance mitigation measures required are implemented.	To ensure implementation of mitigation measures, track compliance with commitments and legal requirements.	Chapter 9: Biodiversity (D.6.2.9), Volume II of the DCO ES	The Applicant / Construction Contractor	Detailed CEMPS approved by the Local Authority	Pre-Construction / Construction	
D-BD-002	Biodiversity	All necessary permits, licenses and assents will be applied for from relevant bodies in advance of construction or enabling works commencing. Only once licence/permit applications have been granted, and any initial licenced actions completed, can works commence. Licences and permits are likely to include, but are not limited to, derogation licences for protected species, permits for in-water works, etc. Assents are likely to be required for works in proximity to statutory designated sites.	To protect sites, habitats and fauna and comply with conservation legislation, local and national policies.	Chapter 9: Biodiversity (D.6.2.9), Volume II of the DCO ES	Construction Contractor	Detailed CEMPS approved by the Local Authority	Pre-Construction	
D-BD-003	Biodiversity	The Applicant will appoint an external, third-party to conduct Environmental Compliance Audits during construction of the DCO Proposed Development. The 'Auditing ECoW' will undertake checks of the Construction Contractor and their ECoW(s) reporting on compliance of construction works, mitigation and activities on site against the ES and Detailed CEMPs, as well as any obtained licenses, permits or assents. The Auditing ECoW will produce monthly reports (or otherwise agreed reporting deadlines in response to on site activities) and provide written and verbal feedback to the Construction Contractor and ECoW on performance and adherence with the ES, Detailed CEMPs, licenses, permits and assents throughout the construction period, as required.	To ensure implementation of mitigation measures and legal requirements.	Chapter 9: Biodiversity (D.6.2.9), Volume II of the DCO ES	The Applicant	Detailed CEMPS approved by the Local Authority	Pre-Construction / Construction	

D-BD-004	Biodiversity	Ecological mitigation measures as detailed within the **Outline Landscape and Ecological Management Plan (OLEMP) (Document Reference: D.6.5.10)** will be implemented, with a Detailed LEMP to be produced at Detailed Design.	To maintain and enhance ecological features within the landscape.	Chapter 9: Biodiversity (D.6.2.9), Volume II of the DCO ES	The Applicant / Construction Contractor	LEMP and Landscape design approved by the Local Authority Landscape Design Certificates Design Drawings	Design / Construction / Post-construction	
D-BD-005	Biodiversity	A pre-commencement walkover survey will be completed by the ECoW (or appointed ecologist) of areas within the Newbuild Infrastructure Boundary (extended where necessary to encompass a relevant zone of influence as determined by the ECoW/ecologist) or any areas that could not be accessed during baseline surveys completed in 2021 and 2022. The walkover survey shall include a ground level assessment of land in search of presence or activity of protected and or notable species. The walkover survey results will determine the need for additional survey, mitigation and/or licensing beyond that included within the ES; to be considered in advance of construction commencement. Results of surveys and any needs for mitigation and licensing will be discussed with relevant stakeholders (.e.g. Natural England, Natural Resources Wales, Environment Agency) where required, with updates captured within the detailed CEMPs for the DCO Proposed Development.	To update baseline survey results and protect species and habitats.	Chapter 9: Biodiversity (D.6.2.9), Volume II of the DCO ES	Construction Contractor	Detailed CEMPS approved by the Local Authority	Design / Pre-Construction	
D-BD-006	Biodiversity	The need for pre-construction surveys to update baseline results across the Newbuild Infrastructure Boundary will be assessed by the appointed ecologist/ECoW following confirmation of Detailed Design of the DCO Proposed Development. Pre-construction surveys may be necessary to update baseline results in advance application of protected species licenses/permits/exemptions required to facilitate construction of the DCO Proposed Development.	To protect species.	Chapter 9: Biodiversity (D.6.2.9), Volume II of the DCO ES	Construction Contractor	Detailed CEMPS approved by the Local Authority	Pre-Construction	
D-BD-007	Biodiversity	The design of the DCO Proposed Development has avoided sites and habitats subject to nature conservation designations where possible. Where significant crossings are required, such as the River Dee SAC, Gowy Meadows and Ditches LWS and Shropshire Union Canal LWS, trenchless installation techniques will be employed preventing the need for open-cut construction methods. Through use of trenchless installation techniques, impacts arising from construction upon habitats and species associated with designated sites will be avoided and reduced. This includes minimising, as far as is reasonably practicable, the loss of mature trees – in particular around the Shropshire Union Canal (noting this is also a Conservation Area)	To avoid adverse impacts to designated sites and protected species and comply with conservation legislation	Chapter 9: Biodiversity (D.6.2.9), Volume II of the DCO ES	Construction Contractor	Detailed CEMPS approved by the Local Authority Design	Design / Construction	
D-BD-008	Biodiversity	Where possible, Ancient Woodland has been excluded from the Newbuild Infrastructure Boundary. Design of the DCO Proposed Development has included use of trenchless crossing techniques to avoid and reduce adverse effects on Ancient Woodland present within the Newbuild Infrastructure Boundary. This has been implemented in Northop Hall, where Ancient Woodland spans the entire width of the Newbuild Infrastructure Boundary.	To avoid adverse impacts to Ancient Woodland	Chapter 9: Biodiversity (D.6.2.9), Volume II of the DCO ES	Construction Contractor	Design Drawings	Design / Construction	
D-BD-009	Biodiversity	Micro-siting techniques will be employed throughout the detailed design of the DCO Proposed Development, including during pre-construction and construction to avoid waterbodies, sensitive habitats, trees (including ancient and veteran trees and trees covered by Tree Preservation Orders and trees within Conservation Areas), hedgerows, etc., as much as practicably possible. Where opportunities exist for routing through existing gaps in hedgerows, scrub and woodlands, avoiding the need to remove vegetation, these will be prioritised.	To minimise adverse impacts on designated sites/ habitats/ watercourses/trees.	Chapter 9: Biodiversity (D.6.2.9), Volume II of the DCO ES	Construction Contractor	Detailed CEMPS approved by the Local Authority Landscape design approved by the Local Authority Landscape Design Certificates Design Drawings	Design / Pre-Construction / Construction	
D-BD-010	Biodiversity	Where practicable, areas of woodland and trees within the Newbuild Infrastructure Boundary will be retained and exclusion buffers clearly demarcated (where woodland does not encroach into the 32 m construction corridor). Identified woodlands include (shown on **Figure 9.11.1 within Appendix 9.11 – Arboricultural Impact Assessment Report, Volume III**), but are not limited to: •G978 •G552 •G328 •G109 The extent of demarcation of retained woodlands/trees will be driven by assessed Root Protection Areas (RPA) of retained trees. Where encroachment within RPAs is required to facilitate construction, ECoW and arboriculturist advice will be sought to discuss sensitive working methods in order to protect retained trees.	To avoid and minimise adverse impacts on woodland and trees.	Chapter 9: Biodiversity (D.6.2.9), Volume II of the DCO ES	Construction Contractor	Detailed CEMPS approved by the Local Authority Landscape design approved by the Local Authority Landscape Design Certificates Design Drawings	Design / Pre-Construction / Construction	

D-BD-011	Biodiversity	Micro-siting techniques have been employed to avoid waterbodies (ponds) across the DCO Proposed Development. All waterbodies identified during baseline surveys, with the exception of one near Stanlow Manufacturing Complex, will be retained and will not be temporarily or permanently lost to facilitate construction of the DCO Proposed Development. Retained waterbodies within the construction easement of the DCO Proposed Development will be demarcated by a minimum 5 m exclusion buffer to avoid/reduce potential adverse impacts to waterbodies, associated terrestrial bankside habitat and associated aquatic receptors from construction.	To avoid impacts to waterbodies and associated riparian and aquatic receptors	Chapter 9: Biodiversity (D.6.2.9), Volume II of the DCO ES	Construction Contractor	Detailed CEMPS approved by the Local Authority Design Drawings	Design / Construction	
D-BD-012	Biodiversity	Where hedgerow removal is required to facilitate construction, it has been assumed this will be kept to a maximum width of 15 m (this includes both hedgerows and the trees that sit within hedgerows). Opportunities to reduce the amount of hedgerow removal required at each hedgerow crossing will be explored, with the smallest practicable width of hedgerow removal possible prioritised to facilitate construction of the DCO Proposed Development.	To minimise adverse impacts on Habitats of Principal Importance (HPI)	Chapter 9: Biodiversity (D.6.2.9), Volume II of the DCO ES	Construction Contractor	Detailed CEMPS approved by the Local Authority Landscape design approved by the Local Authority Landscape Design Certificates Design Drawings Detailed LEMP approved by the Local Authority	Design / Construction	
D-BD-013	Biodiversity	All trees and hedgerows sited above any trenchless crossing point will be retained, unless otherwise required for access, where the trenchless crossing is of adequate depth to avoid impacts to root plates and below ground vegetation structure.	To minimise adverse impacts on Habitats of Principal Importance (HPI)	Chapter 9: Biodiversity (D.6.2.9), Volume II of the DCO ES	Construction Contractor	Detailed CEMPs approved by the Local Authority Detailed LEMP and Landscape Design approved by the Local Authority	Design / Construction	
D-BD-014	Biodiversity	Site/vegetation clearance and tree felling will be kept to a minimum, as far as practicable, to reduce impacts of habitat loss and fragmentation. Areas of clearance, particularly those within temporary works, shall be identified within a works plan and agreed with the ECoW. Site clearance of vegetation will be undertaken carefully (where possible using hand tools) by experienced contractors to reduce the risk of mortality to wildlife; and completed under the supervision of the ECoW. Care should be afforded to dense stands of bramble or similar vegetation, which may be used by sheltering hedgehog or other wildlife, particularly during the winter months. Where trees and other woody vegetation are to be felled/ cleared, the felled material will, where practicable, be used to create hibernacula within appropriate retained habitats rather than being chipped. Locations will be identified by the appointed ECoW and agreed during detailed design of the DCO Proposed Development/during construction.	To reduce impacts to flora and fauna, reduce habitat loss and fragmentation	Chapter 9: Biodiversity (D.6.2.9), Volume II of the DCO ES	Construction Contractor	Detailed CEMPs approved by the Local Authority Detailed LEMP approved by the Local Authority	Pre-Construction / Construction	
D-BD-015	Biodiversity	Where lighting is required during construction, a suitable lighting design (where necessary on a case-by-case basis) for implementation across the DCO Proposed Development in accordance with best practice guidance on lighting with regards to protected species, will broadly include: •Avoidance of direct lighting upon any buildings or trees that contain bat roosts or barn owl nest/ roost sites. •Avoidance of artificial lighting of watercourses, particularly during the hours of darkness, to prevent impacts to fish behaviour or passage. •Avoidance of light spill through use of directional and/or baffled lighting. •The use of movement triggers, lighting only turning on when people (large objects) move through an area. •Positioning of lighting columns away from habitats of value to foraging and commuting bats and other nocturnal fauna (e.g. hedgerows, trees, woodland). •Reducing the height of lighting columns to reduce light spill onto adjacent retained habitats. •Undertaking works during daylight hours (broadly 08:00 to 18:00) reducing the need for night time lighting. •Avoiding use of blue-white short wavelength lights and high UV content. The lighting design will be developed at detailed design based on guidance for lighting with regards to protected species and be approved by the LPA. Bespoke lighting designs will be prepared for works locations where 24-hour working is required (e.g. River Dee crossing, A494 crossing, Church Lane crossing).	To reduce disturbance to nocturnal and crepuscular fauna during construction.	Chapter 9: Biodiversity (D.6.2.9), Volume II of the DCO ES	Construction Contractor	Detailed CEMPs approved by the Local Authority	Design / Construction / Operation	

D-BD-016	Biodiversity	The design of the DCO Proposed Development has ensured that permanent built structures (Above Ground Infrastructure (AGIs) and Block Valve Stations (BVSs) are sited in locations where habitats are of low ecological value, such as poor semi-improved grassland, associated with grazing pasture, or arable fields.	To minimise and avoid impacts to terrestrial habitats	Chapter 9: Biodiversity (D.6.2.9), Volume II of the DCO ES	Construction Contractor	Design Drawings	Design / Construction	
D-BD-017	Biodiversity	Localised and Centralised Compounds and storage areas to facilitate construction of the DCO Proposed Development have been sited within habitats of low ecological importance such as poor semi-improved grassland, associated with grazing pasture, or arable fields, or existing hardstanding/sealed surface areas	To minimise and avoid impacts to terrestrial habitats	Chapter 9: Biodiversity (D.6.2.9), Volume II of the DCO ES	Construction Contractor	Design Drawings	Design / Construction	
D-BD-018	Biodiversity	A minimal working width at watercourse crossings will be adopted, as far as practicable, to minimise potential impacts of open cut watercourse crossings.	To minimise and avoid impacts to aquatic habitats	Chapter 9: Biodiversity (D.6.2.9), Volume II of the DCO ES	Construction Contractor	Detailed CEMPs approved by the Local Authority Design Drawings	Pre-Construction / Construction	
D-BD-019	Biodiversity	All entry and exit pits for all trenchless crossings will be sited a minimum of 8 m away from any main river bank top (and/or flood defence), and 16 m away from any transitional (tidal) waters. Stand-off distances around watercourses will be implemented prior to the commencement of works and clearly demarcated through the use of physical barriers (fencing, tape or similar). These include; •A minimum 8 m buffer will be demarcated around non-tidal ordinary or main river watercourses; and •A minimum 16 m buffer will be demarcated around tidal watercourses, i.e., the River Dee. With regards the crossing under the River Dee, this will be a minimum of 15 m depth (distance between the top of the pipe and the riverbed).	To avoid impacts to watercourses and associated riparian and aquatic receptors	Chapter 9: Biodiversity (D.6.2.9), Volume II of the DCO ES	Construction Contractor	Detailed CEMPs approved by the Local Authority Design Drawings	Design / Construction	
D-BD-020	Biodiversity	It is currently assumed that the detailed design alignment of the DCO Proposed Development will maintain a 30 m buffer from all sett entrances associated with the following identified main badger setts: [redacted] Where a 30 m buffer cannot be maintained, this will be discussed with the ECoW and may be reduced dependent on the type, extent and duration of works proposed. No direct impacts to main setts are anticipated as result of construction. Any indirect impacts to main badger setts will be assessed and associated mitigation to ameliorate impacts will be captured with a method statement. Where required, a Protected Species Licence (PSL) application will be made and subject to approval by NE/NRW. Only upon receipt of a granted licence can mitigation be implemented. Construction in the area of an identified main sett will only commence following completion of all licence requirements and implementation of all necessary mitigation.	To avoid adverse impacts to badger and comply with conservation legislation.	Chapter 9: Biodiversity (D.6.2.9), Volume II of the DCO ES	Construction Contractor	Detailed CEMPs approved by the Local Authority Design Drawings	Design / Pre-Construction / Construction	
D-BD-021	Biodiversity	Prior to works commencing a pre-commencement walkover survey for badger will be undertaken of the works area and a 30 m buffer (extended at the discretion of the ECoW/appointed ecologist). The walkover survey will be undertaken by the ECoW to confirm that baseline results remain accurate and relevant. This is recommended to be undertaken at least three months in advance of works commencement. The detailed design alignment of the pipeline will, wherever practicable, maintain a 30 m buffer from all sett entrances associated with annex, subsidiary and outlier setts. Where this is not possible, at the discretion of the ECoW and in response to the type, duration and extent of works, a reduction in exclusion buffer size may be granted. Where not possible, appropriate mitigation measures will be devised and captured within a method statement alongside an application for a PSL (where considered necessary). Mitigation measures may include the temporary closure or permanent closure and destruction of a sett under licence. Only upon receipt of a granted licence and following completion of all necessary licence requirements/mitigation can works commence. The following setts have been identified at risk of direct impacts as a result of construction of the DCO Proposed Development and will require full closure and destruction under licence to facilitate construction. •Sett 19 – Outlier •Sett 20 – Outlier •Sett 26 – Outlier •Sett 32 - Annex Setts requiring closure will be subject to PSL applications detailing proposed closure methods, mitigation recommendations (where necessary) and timeframes, in advance of construction commencement. The process and method of sett closure will be detailed within method statements, accompanying any licence application. Methods are broadly to follow: •Preparation of method statement and licence application with submission to relevant body. •Appointment of an appropriately experienced and licensed ecologist to oversee the closure process and adherence to licence requirements following granted licence receipt. •Installation of wire mesh and one-way gates on and around sett entrance/s. •A minimum period of 21 days monitoring post gate installation, to determine whether badger have vacated a sett. •If signs of badger re-entry are recorded, exclusion measures will be repaired and extended (as required) and the 21-day monitoring period restarted. •Following successful conclusion of 21-day period without badger activity or evidence, destruction of the sett by careful excavation under the supervision of the licensed ecologist (or named accredited agent). Sett closure and destruction is restricted to the period July to November inclusive. Only once the entirety of the sett exclusion period has been successfully completed (i.e. no evidence of badgers occupying or utilising the sett) can destruction of the sett take place and construction commence thereafter. Should a badger sett or activity be discovered within a zone of influence of proposed construction works, mitigation will be developed and, where required, an application for a derogation licence from NE / NRW will be applied for in advance of construction. Any necessary mitigation to facilitate construction will be implemented in advance of construction commencement (within that zone of influence) following receipt of a granted licence.	To avoid adverse impacts to protected species and comply with conservation legislation	Chapter 9: Biodiversity (D.6.2.9), Volume II of the DCO ES	Construction Contractor	Detailed CEMPs approved by the Local Authority	Design / Pre-Construction / Construction	

D-BD-022	Biodiversity	Due to the presence of badger within the Newbuild Infrastructure Boundary, badger permeable fencing will be used, where fencing is required to allow the free movement of badger through the landscape. It may be necessary to implement badger-resistant fencing around spoil heaps/storage locations to prevent any attempts of sett creation/excavation. Where possible, spoil will be stored in heaps with shallow angles to dissuade badger from sett creation attempts. Spoil heaps will be left in situ for as short a duration as possible, or else covered and secured with appropriate material (e.g., tarpaulin), where considered required by the ECoW.	To avoid adverse impacts to badger movement within the landscape	Chapter 9: Biodiversity (D.6.2.9), Volume II of the DCO ES	Construction Contractor	Detailed CEMPs approved by the Local Authority	Construction	
D-BD-023	Biodiversity	To prevent entrapment of wildlife, where trenches or voids are to be left overnight, a suitable means of escape will be provided (such as a ramp at no greater than a 45° angle) at regular intervals along the excavated trench channel/excavations. Any void/trench channel should be visually inspected prior to re-starting works each morning to confirm the absence of entrapped wildlife. All escape measures will be discussed and agreed with the ECoW to ensure they are suitable for the size of void and wildlife that may become trapped. Any exposed tunnels or pipes will, where practicable, be covered or capped to prevent access to wildlife. If deemed appropriate, the ECoW may enforce additional measures such as the installation of temporary amphibian/ reptile fencing around voids / trenches to prevent entry.	To prevent entrapment and mortality of wildlife.	Chapter 9: Biodiversity (D.6.2.9), Volume II of the DCO ES	Construction Contractor	Detailed CEMPs approved by the Local Authority	Construction	
D-BD-024	Biodiversity	Bat roosts (excluding maternity or hibernation roosts) have been identified during baseline surveys. Where practicable, trees containing roosts will be retained and an exclusion buffer of a minimum of 10 m demarcated around the identified tree to reduce disturbance during construction. The ECoW will assess potential for disturbance in response to the type, duration and extent of works proposed in proximity to known roosts, advising of the need to implement mitigation or else apply for a European Protected Species Licence (EPSL) to facilitate works. A EPSL application will be required where trees with confirmed bat roosts cannot be retained or safeguarded, and roosts will be lost. Further surveys to ascertain roost type, species present and number of bats may be required in advance of any EPSL application to allow the preparation of a suitable method statement detailing methods of felling and necessary mitigation for roost loss. Works will be undertaken in compliance with the licence when granted.	To protect the Conservation Status of local bat populations.	Chapter 9: Biodiversity (D.6.2.9), Volume II of the DCO ES	Construction Contractor	Detailed CEMPs approved by the Local Authority Licenses to be granted by NE and NRW	Pre-Construction / Construction	
D-BD-025	Biodiversity	Maternity or hibernation bat roosts identified during baseline and pre-commencement surveys will be retained and an exclusion buffer of a minimum of 30m physically demarcated around any identified tree or structure to safeguard roosts from construction affiliated impacts. Should the ECoW determine that construction works type, duration, extent poses a risk to the integrity of a roost it may be necessary to implement seasonal restrictions on work outwith the recognised maternity or hibernation period for the species identified. Where this is not possible it will be necessary to apply for a EPSL, devising appropriate mitigation to mitigate for loss/disturbance to a roost. It is not currently anticipated that any maternity or hibernation roosts will be lost as a result of construction of the DCO Proposed Development	To avoid adverse impacts on protected species To protect the Conservation Status of local bat populations.	Chapter 9: Biodiversity (D.6.2.9), Volume II of the DCO ES	Construction Contractor	Detailed CEMPs approved by the Local Authority Licenses to be granted by NE and NRW	Pre-Construction / Construction	
D-BD-026	Biodiversity	The detailed design alignment of the Newbuild Carbon Dioxide Pipeline will wherever practicable, physically demarcate a minimum 10 m exclusion buffer around all buildings with confirmed bat roosts. Where this is not possible, potential impacts to roosts will be assessed in respect of the type, extent and duration of works proposed, by the ECoW. At the discretion of the ECoW it may be possible to reduce the exclusion buffer. Where risk of damage/disturbance of a roost persists after assessment, a EPSL will be applied for, with works only allowed to proceed following receipt of a granted licence from NE/NRW and implementation of any necessary mitigation.	To avoid adverse impacts on protected species To protect the Conservation Status of local bat populations.	Chapter 9: Biodiversity (D.6.2.9), Volume II of the DCO ES	Construction Contractor	Detailed CEMPs approved by the Local Authority Licenses to be granted by NE and NRW	Design / Pre-Construction / Construction	

D-BD-027	Biodiversity	Trees proposed for felling or pruning that are recorded as Moderate or High suitability for roosting bats (see **Appendix 9.3: Bat Activity Survey Report, Volume III**) will be subject to an aerial tree-climbed inspection by a suitably licensed ecologist, and/or dusk emergence or dawn re-entry surveys (in line with best practice guidance at that time) no more than 24 hours prior to pruning/felling to confirm that baseline conditions remain the same (i.e. the absence of bats or roosts). Should a bat roost be recorded, a method statement detailing appropriate mitigation will accompany an EPSL application for submission to the relevant statutory body. Only upon receipt of a granted licence and implementation of necessary mitigation (as detailed within the licence application) can works take place.	To confirm the presence or absence of roosting bats.	Chapter 9: Biodiversity (D.6.2.9), Volume II of the DCO ES	Construction Contractor	Detailed CEMPs approved by the Local Authority Licenses to be granted by NE and NRW	Design / Pre-Construction / Construction	
D-BD-028	Biodiversity	Pre-commencement surveys will be completed to update baseline survey results to inform the EPSL application or the Bat Mitigation Class Licence (if suitable). Full details of mitigation and compensation will be presented within the EPSL Method Statement and associated documents. Works will also be completed under a bat method statement, associated documents and work schedule (as part of the EPSL) and a PWMS (for land which falls outside the licensable extent) which will detail: •The method, scope and requirement of pre-commencement surveys. •The timing of works which will be agreed in advance with the relevant statutory body and dependant on the species and type of roost identified, following completion of updated pre-commencement baseline surveys. •Felling protocols. •Compensation requirements (for example, erection of compensatory bat boxes at an expected ratio of 3:1), which will be required to be installed ahead of any felling of trees covered within the EPSL. •Toolbox talks which will be carried out by the Named Ecologist (or accredited agent) and will provide a briefing to the site operatives to outline the planned works at each roost location, actions required if a bat is found, and their legal responsibility regarding bats and their roosts. Mitigation and compensation requirements subject to the agreement with NE/NRW.	To protect the Conservation Status of local bat populations.	Chapter 9: Biodiversity (D.6.2.9), Volume II of the DCO ES	Construction Contractor	Detailed CEMPs approved by the Local Authority Bat PWMS Licenses to be granted by NE and NRW	Design / Pre-Construction	
D-BD-029	Biodiversity	Upon completion of pre-construction baseline surveys, where trees with features suitable to support roosting bats remain as Moderate or High suitability, and no roost is present, these will be 'soft felled' under supervision by a suitability experienced and bat licenced ECoW. Soft felling will consist of the removal of major branches and limbs followed by section felling of the main trunk. Sections of trees with features with suitability to support bats will be lowered to the ground for inspection by the bat licensed ECoW. In the event a bat or roost is identified works will cease and liaison with NE/NRW sought for further advice.	To protect roosting bats.	Chapter 9: Biodiversity (D.6.2.9), Volume II of the DCO ES	Construction Contractor	Detailed CEMPs approved by the Local Authority	Pre-Construction / Construction	
D-BD-030	Biodiversity	Where practicable, and as the primary position, and at the discretion of the ECoW, where trees with features suitable for roosting bats (but absent of roosting bats as determined through surveys) are required to be felled to facilitate construction, these will be felled in such a way so as to retain the potential roost feature/s. These features will then be translocated and erected on nearby retained trees under direction of the ECoW or suitably bat licensed ecologist to retain future viability of the feature as a roost. Secondly to the above, where trees with suitable roost features (but absent of bat roosts as determined through surveys) are to be lost, and it is not practicable or possible to retain potential roost features for erection on nearby retained trees; veteranisation of retained trees and creation of monoliths will be explored within the Newbuild Infrastructure Boundary under direction of the ECoW or suitably bat licensed ecologist, to enhance landscape opportunities to support roosting bats. Monoliths may be moved from the original tree location and erected in alternative areas under the supervision of a bat licensed ecologist. Where trees with potential roost features are felled, nearby retained trees will be assessed for the potential of veteranisation, with a view to creating future roosting opportunities. Veteranisation will be conducted by a suitably experienced practitioner under the advisement of a bat licensed ecologist.	To maintain roosting opportunities within the landscape for bats.	Chapter 9: Biodiversity (D.6.2.9), Volume II of the DCO ES	Construction Contractor	Detailed CEMPs approved by the Local Authority	Pre-Construction / Construction	
D-BD-031	Biodiversity	Where open cut trenching results in loss of sections of good or excellent assessed hedgerows, artificial (faux) hedgerow measures will be employed during construction to maintain the 'structure' of hedgerows to ensure bat foraging and commuting routes are not adversely impacted during works. Poor hedgerows will only be considered for artificial hedgerow deployment where they provide key connectivity into an excellent hedgerow, but as a default position will not be subject to faux hedgerow deployment. To mitigate impacts on identified bat foraging and commuting routes, artificial hedgerows will be utilised following removal of hedgerow sections throughout the construction period and until such time that reinstatement planting has been completed for good hedgerows, and until planting has established for excellent hedgerows. Establishment will be assessed by the ECoW (as part of post-construction monitoring of reinstated habitats – see the **OLEMP Document Reference: D.6.5.10**) and faux hedgerows only removed once establishment is considered successful (i.e. akin to the structure of retained hedgerow sections) **(see D-BD-033)**. Faux hedgerow design will be determined during detailed design of the DCO Proposed Development, but may include the use of straw bales, tall shrubs in pots, live willow screening.	To avoid adverse impacts to protected species and comply with conservation legislation To maintain commuting and foraging routes	Chapter 9: Biodiversity (D.6.2.9), Volume II of the DCO ES	Construction Contractor	Detailed CEMPs approved by the Local Authority	Construction	

D-BD-032	Biodiversity	Post construction, all hedgerows subject to hedgerow loss to facilitate construction will be reinstated with native species of local provenance in-keeping with the overall species compositions of hedgerows. Reinstatement will comprise a combination planting of whips and standard-sized shrubs. Planting shall be selected in order to match as close as possible, the height of any adjacent retained hedgerow. Hedgerows directly impacted as a result of Newbuild Carbon Dioxide Pipeline construction (i.e. those not impacted as a result of Construction Compounds) will be reinstated within 1 year of impact. Hedgerows identified as 'Excellent' foraging and commuting routes (as detailed within **Appendix 9.4: Bat and Hedgerows Survey Report, Volume III**) will be planted with whips alongside double the amount of standard-sized shrubs to provide more instant hedgerow structure. 'Excellent' hedgerows are classified as those with bat activity levels considered significant for the conservation of the species recorded and that are retained as, or categorisation increased to, 'Excellent' as detailed within **Appendix 9.4: Bat and Hedgerows Survey Report, (Volume III).**	To avoid adverse impacts to protected species and comply with conservation legislation To maintain commuting and foraging routes	Chapter 9: Biodiversity (D.6.2.9), Volume II of the DCO ES	The Applicant / Construction Contractor	Detailed CEMPs approved by the Local Authority Detailed LEMP approved by the Local Authority	Construction / Post-Construction	
D-BD-033	Biodiversity	Following planting of all impacted hedgerows post construction, those hedgerows identified as 'Excellent' (as detailed within **Appendix 9.4: Bat and Hedgerows Assessment, Volume III**) will be supplemented through the retention of temporary flight lines via the use of artificial (faux) hedgerows (as detailed within D-BD-031) (the design of which to be agreed at detailed design) to maintain linear structure whilst planted sections establish. In addition, such hedgerows will be subject to monitoring through monthly crossing point surveys during the first active bat season following hedgerow reinstatement (period May to September inclusive) to determine use (or otherwise) by target species (for example lesser horseshoe lesser horseshoe *Rhinolophus hipposideros* and activity levels considered sufficiently high to affect the favourable conservation status of other species (e.g. brown long-eared bat *Plecotus auritus* and *Myotis* species). Where absence of use or reduced use when compared with baseline survey results is recorded, additional measures will be considered and introduced, for example, potential planting of larger shrub species to provide greater hedgerow structure. In instances where further planting is required, further crossing points surveys undertaken on a monthly basis across the subsequent active bat season will be carried out. Only once the planted hedgerow section has established to levels akin to the unimpacted hedgerow, as assessed by an appropriately experienced ecologist, can the artificial (faux) hedgerow be removed.	To avoid adverse impacts to protected species and comply with conservation legislation To maintain commuting and foraging routes	Chapter 9: Biodiversity (D.6.2.9), Volume II of the DCO ES	The Applicant / Construction Contractor	Detailed CEMPs approved by the Local Authority	Construction / Post-Construction	
D-BD-034	Biodiversity	A pre-commencement survey in search of evidence/activity of riparian mammals, namely otter and water vole, will be completed for watercourses crossed by the DCO Proposed Development and those within an appropriate buffer of proposed works. Surveys should include all sections of watercourses within the -Working Width, extending to 150 m either side of the Working Width, as a minimum. This should also include watercourses not crossed but within potential disturbance distance of construction works at the discretion of the ECoW/appointed ecologist. Surveys will be undertaken at least 3 months prior to construction works commencing to confirm baseline conditions remain accurate and identify whether mitigation proposals remain accurate or else inform requirements for new mitigation and/or licencing. If otter rest sites or water vole burrows are recorded but an offence can be avoided through mitigation (either as detailed within this document or additional measures) the ECoW will develop an appropriate plan and work with the Construction Contractor to implement this.	To protect riparian mammals and update riparian mammal baseline data to inform an EPS Licence application.	Chapter 9: Biodiversity (D.6.2.9), Volume II of the DCO ES	Construction Contractor	Detailed CEMPs approved by the Local Authority	Pre-Construction	
D-BD-035	Biodiversity	At watercourses with confirmed water vole presence, vegetation clearance will be required as part of displacement method mitigation techniques, under licence as per best practice guidance. Vegetation clearance (by strimming or turf stripping) will aim to make habitat unsuitable for water vole and will cover a maximum span of 50 m along each bank from proposed crossing locations where open-cut trenching is required. Vegetation clearance will be completed between February and April inclusive under supervision of a licensed ecologist and will be maintained until such time that works commence to ensure continued discouragement of water vole from proposed crossing locations. Vegetation clearance will only take place following confirmation that nesting birds are absent from the area of works if undertaken during the nesting bird season March to August inclusive. At the commencement of works, banks will be excavated under supervision of the ECoW (or other licensed ecologist) and burrows carefully excavated and destroyed. In the unlikely event water vole are encountered during the excavation process works will cease and consultation sought from NE/NRW.	To avoid adverse impacts to water vole and comply with conservation legislation.	Chapter 9: Biodiversity (D.6.2.9), Volume II of the DCO ES	Construction Contractor	Detailed CEMPs approved by the Local Authority Water Vole Method Statement	Pre-Construction / Construction	
D-BD-036	Biodiversity	Where culverts are to be installed, provision of mammal ledges to facilitate passage of mammals will be included, where practicable and where culvert design allows. This will include the incorporation of mammal ledges into the culvert design to provide safe passage for mammals. Where temporary culverts are to be installed, these will remain in place for as short a time as practicable only to serve facilitating construction. Reinstatement of habitats following culvert removal will be undertaken where considered necessary by the ECoW, or else left to naturally regenerate.	To avoid adverse impacts to protected species and comply with conservation legislation	Chapter 9: Biodiversity (D.6.2.9), Volume II of the DCO ES	Construction Contractor	Detailed CEMPs approved by the Local Authority	Pre-Construction / Construction	

D-BD-037	Biodiversity	Whilst known barn owl roost and nest sites will be avoided and retained where possible, exclusion of barn owls from barn owl boxes and other features may be required under licence. Where this is required, a minimum of 30 days prior to the exclusion works, compensatory barn owl boxes (at a ratio 1:1) will be erected in suitable locations under supervision of an appropriately licensed ecologist, where practicable, within 250 m of the feature/box being excluded to compensate for the temporary loss of roosting and/or nesting sites. Erected boxes will be sited in locations that will not be subject to disturbance or impact by construction under the advice of a barn owl licensed ecologist. The following features are currently known to require exclusion prior to construction commencement: •Barn Owl Box - BOB3; and •Tree T465 Following the completion of construction works and the removal of construction compounds, any barn owl features temporarily excluded will be re-opened for use by barn owl.	To compensate for the temporary loss of barn owl nesting / rooting sites and protect barn owl.	Chapter 9: Biodiversity (D.6.2.9), Volume II of the DCO ES	Construction Contractor	Detailed CEMPs approved by the Local Authority Licensing to be obtained from NE and NRW	Pre-Construction / Construction	
D-BD-038	Biodiversity	Trees recorded within the Newbuild Infrastructure Boundary with suitability to support roosting/nesting barn owl (**Appendix 9.7: Barn Owl Survey Report (Confidential), Volume III**) will be subject to an ecological inspection during the winter period (October – February inclusive) prior to works commencing. Where no evidence of nesting barn owl is visible, features will be temporarily blocked-up until construction works and activities within a 250 m have been completed. Upon completion of construction works, features will be unblocked.	To reduce the impacts of disturbance to barn owl	Chapter 9: Biodiversity (D.6.2.9), Volume II of the DCO ES	Construction Contractor	Detailed CEMPs approved by the Local Authority	Pre-Construction / Construction	
D-BD-039	Biodiversity	Known barn owl roost or nest sites will be avoided and retained where possible. Where this is not possible, and where barn owl are likely to be temporarily impacted, suitable mitigation measures will be employed under licence, and will include the use of exclusion techniques (e.g. blocking up of features with material or otherwise affixing an exclusion device over a feature) on features suitable for use by barn owl (e.g., barn owl boxes or trees) prior to the nesting season (March to August). The means of exclusion will be assessed, and installation supervised by an appropriately licensed ecologist.	To comply with conservation legislation and protect barn owl	Chapter 9: Biodiversity (D.6.2.9), Volume II of the DCO ES	Construction Contractor	Detailed CEMPs approved by the Local Authority	Construction	
D-BD-040	Biodiversity	Construction in proximity to barn owl nest sites that have not been subject to temporary exclusion measures (i.e. nests that have established after construction commencement) will be temporarily and spatially restricted to avoid or reduce impacts of disturbance in accordance with the criteria below (developed in accordance with good practice). •Pedestrian movement of a Low to Medium Disturbance Risk, e.g., site personnel walking near nests / roosts, will implement a Minimum Protection Zone of 20 m •Artificial lighting of a Low to Medium Disturbance Risk, e.g., illumination of works area (no direct lighting or nest/roost), will implement a Minimum Protection Zone of 30 m •Vehicular movements of a Medium Disturbance Risk, e.g., vehicles or heavy plant moving past nest / roost sites, will implement a Minimum Protection Zone of 40 m •General light building and landscape works of a Medium to High Disturbance Risk, e.g., laying concrete, using mechanised plant will implement a Minimum Protection Zone of 60 m •Heavy construction of a High Disturbance Risk, e.g., piling or compaction works, ground levelling, crushing of materials will implement a Minimum Protection Zone of 175 m It is assumed that works will be undertaken during daylight hours, however, some night time work will be required. Where works need to be conducted within the minimum protection zone these will be discussed with the ECoW, and where necessary a barn owl licensed ecologist, who will assess the proposed works, duration and extent and potential use of mitigation to facilitate works. Where works are deemed to pose a significant risk to nesting barn owl, licensing may be required and/or the rescheduling of works to periods outwith the most sensitive period (March to June inclusive), however, this would be at the discretion of the ECoW/barn owl licensed ecologist.	To comply with conservation legislation and protect barn owl.	Chapter 9: Biodiversity (D.6.2.9), Volume II of the DCO ES	Construction Contractor	Detailed CEMPs approved by the Local Authority	Pre-Construction / Construction	

D-BD-041	Biodiversity	Invasive Non-Native Species (INNS) are present within the Newbuild Infrastructure Boundary (**Appendix 9.1: Habitats and Designated Sites Survey Report, Volume III**). A Biosecurity Method Statement will be implemented throughout the construction of the DCO Proposed Development. The Biosecurity Method Statement will detail the locations and extent of any INNS identified, alongside appropriate measures to control and prevent spread or propagation of INNS. High-level recommendations for the treatment and removal of INNS will be identified. Appropriate good hygiene measures (e.g., Check, Clean, Dry methods will be detailed. Workers should be equipped with the necessary equipment, Personal Protective Equipment (PPE) and substances to implement biosecurity control measures, including effective hygiene and sanitation practices. This will most frequently comprise disinfectant tablets, sprayers, and brushes to clean and disinfect equipment and PPE prior to entering/leaving construction areas. Other noteworthy biosecurity considerations (e.g. avian flu, bovine TB) will also be referenced within the Biosecurity Management Plan.	To prevent the spread of invasive species and manage other biosecurity concerns.	Chapter 9: Biodiversity (D.6.2.9), Volume II of the DCO ES	Construction Contractor	Detailed CEMPs approved by the Local Authority	Pre-Construction / Construction	
D-BD-042	Biodiversity	Where INNS are located and within the construction corridor, engagement of an INNS specialist will be sought whom will provide options for treatment and or removal in advance of construction. Any remaining stands of INNS will be subject to exclusion zones which will be clearly and physically demarcated and enforced around areas of invasive species to avoid spread or propagation. The extent of buffer will be determined by the species and in consultation with the ECoW. Biosecurity measures, as detailed within a Biosecurity Management Plan to be prepared at detailed design will be implemented during construction to prevent the spread of INNS.	To prevent the spread of invasive species and manage other biosecurity concerns.	Chapter 9: Biodiversity (D.6.2.9), Volume II of the DCO ES	Construction Contractor	Detailed CEMPs approved by the Local Authority	Pre-Construction / Construction	
D-BD-043	Biodiversity	Vegetation and site clearance works will be undertaken outside the bird nesting period, recognised as March to August inclusive, to avoid damage or destruction of nests. Where this is not possible, site clearance will be preceded by an inspection from an experienced ECoW within 24 hours of clearance works commencing to confirm the absence of active nests or nesting activity. If an active nest or activity is recorded, a minimum exclusion buffer of 5 m within which no works can take place will be implemented (exclusion buffer size will be at the discretion of the ECoW and in response to the species of bird encountered) and remain in place until the nest is confirmed inactive (either eggs hatch and chicks have fledged, or the nest attempt fails). All cleared vegetation will be rendered unsuitable for nesting birds, for example, by covering or chipping depending on the end purpose of the vegetation or will be removed from the works area.	To protect nesting birds.	Chapter 9: Biodiversity (D.6.2.9), Volume II of the DCO ES	Construction Contractor	Detailed CEMPs approved by the Local Authority	Pre-Construction / Construction	
D-BD-044	Biodiversity	Given the confirmed presence of GCN within the below listed ponds, an EPS Licence will be required to enable the construction of the DCO Proposed Development. •England : 43, 46, 166, 167, 168, 169, 171; •Wales: 9, 14, 15, 31, 35, 38, 49, 154, 155, 157, 161. The following ponds have been assessed as precautionarily having GCN presence: •England: 42, 47, 48, 49, 52; •Wales: 10, 11, 12, 50, 121, 148. Although only a single pond (Pond 141) will be permanently lost as a result of the DCO Proposed Development, suitable terrestrial habitat in close proximity to known GCN ponds will be impacted. Works will proceed under a GCN Precautionary Working Method Statement (PWMS) and under ECoW supervision. This will include a provision for suitable timing of works to take place, i.e., where terrestrial habitat suitable for overwintering GCN is to be cleared, this will only be done during the active GCN season, generally from March to September, when overnight temperatures are consistently above 5°C. Clearance of such terrestrial habitat will be subject to inspection, at the discretion of the ECoW, in advance of clearance. Within England, works pertaining to GCN will be carried out under a Natural England District Level Licence. However, areas within the Red Risk Zone within England will not be covered under a District Level Licence and will be subject to a traditional EPS licence application, with avoidance and any necessary mitigation captured within the PWMS, supporting the licence application.	To protect the Conservation Status of local GCN populations.	Chapter 9: Biodiversity (D.6.2.9), Volume II of the DCO ES	Construction Contractor	Detailed CEMPs approved by the Local Authority Licensing to be obtained from NE and NRW	Pre-Construction / Construction	

D-BD-045	Biodiversity	Where suitable GCN terrestrial habitat will be impacted, either temporarily or permanently, habitat clearance will take place prior to construction works. This will be undertaken under a PWMS and ECoW supervision and will include: •Prior to the commencement on site, all site operatives will be provided a toolbox talk by the ECoW. This will include a description of the location of known GCN populations in proximity to the works area, legislative policy, identification of GCN and other amphibians, how works will proceed under a PWMS and what occurs in the event a GCN, or other species, is found. •The gradual strimming of vegetation following ECoW inspection of vegetation to a short sward. Vegetation should be inspected by the ECoW, and if clear, strimmed to 10 cm; then checked again by the ECoW before strimming to ground level. Vegetation should then be maintained as a short sward for the duration of the construction works. The use of GCN Detection Dogs will be considered to supplement the ECoW prior to works commencing. GCN Detection Dogs may be used across large areas of habitat and will aid inspections of woodland, hedgerows and grassland habitat that requires clearance or will be impacted by construction activities.	To protect GCN and other amphibians.	Chapter 9: Biodiversity (D.6.2.9), Volume II of the DCO ES	Construction Contractor	Detailed CEMPs approved by the Local Authority	Pre-Construction	
D-BD-046	Biodiversity	Where practicable, construction works will avoid works on watercourses during high flow events to reduce the risk of fine sediment release. The Detailed Design construction programme will seek to target construction activities involving watercourses for the drier summer months to reduce this risk, whilst taking into account the window for construction activities in relation to aquatic ecology and, in particular, fish migratory seasons. Where this is not possible, the ECoW will assess the need for mitigation and/or permits to facilitate construction to prevent adverse impacts as a result of construction. Only once mitigation and/or permits are in place can works then proceed	To avoid adverse impacts on water quality and aquatic species	Chapter 9: Biodiversity (D.6.2.9), Volume II of the DCO ES	Construction Contractor	Detailed CEMPs approved by the Local Authority	Pre-Construction / Construction	
D-BD-047	Biodiversity	Turbidity and oxygen monitoring to be undertaken during the Construction Stage where deemed required due to the sensitivity of aquatic species receptors. The need and frequency of turbidity and oxygen monitoring would be determined by the regulatory authority and detailed in any required permits for undertaking work within or near watercourses.	To avoid adverse impacts on water quality and aquatic species	Chapter 9: Biodiversity (D.6.2.9), Volume II of the DCO ES	Construction Contractor	Detailed CEMPs approved by the Local Authority	Construction	
D-BD-048	Biodiversity	Channel and banks will be reinstated to mimic baseline conditions as far as practicable to ensure more natural bank forms and in-channel features and morphological diversity. This includes reinstatement of an appropriate vegetation assemblage and structure within the riparian zone along with enhancements to the riparian zone to off-set impacts. Any tree loss would be compensated for in accordance with the site wide replanting strategy.	To minimise and avoid impacts to waterbodies and associated riparian and aquatic receptors	Chapter 9: Biodiversity (D.6.2.9), Volume II of the DCO ES	Construction Contractor	Detailed CEMPs approved by the Local Authority Designs Landscape Design Drawings Detailed LEMP approved by the Local Authority	Design / Construction	
D-BD-049	Biodiversity	Any habitats within watercourses that have been removed will be reinstated, such as riffles, pools, point bars, berms, large wood, log jams, cross-sectional and planform variation. Any reinstatement will be ensured to not cause other potential impacts, such as increased flood risk.	To minimise and avoid impacts to aquatic habitats	Chapter 9: Biodiversity (D.6.2.9), Volume II of the DCO ES	Construction Contractor	Detailed CEMPs approved by the Local Authority Designs Landscape Design Drawings	Design / Construction	
D-BD-050	Biodiversity	Where necessary and practicable, the installation of temporary culverts and causeways/access routes within watercourses will avoid sensitive fish migration and spawning periods: •1 October to 31 April - European eel, lamprey and salmonids. •15 March to 15 June - Coarse fish. The requirement for such structures would be determined during the detailed design stage of the DCO Proposed Development. Where unable to be accommodated outwith fish migration and spawning periods, liaison with NRW/EA will be required with applications for exemptions sought.	To avoid adverse impacts to protected species and comply with conservation legislation	Chapter 9: Biodiversity (D.6.2.9), Volume II of the DCO ES	Construction Contractor	Detailed CEMPs approved by the Local Authority	Pre-Construction / Construction	

D-BD-051	Biodiversity	Temporary culverts required on main watercourses (i.e. not field ditches) will be suitability sized and designed/installed to Environment Agency Fish Pass standards (https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/298053/geho0910btbp-e-e.pdf) to facilitate passage of eel, lamprey, salmonids and coarse fish species.	To avoid adverse impacts to protected species and comply with conservation legislation	Chapter 9: Biodiversity (D.6.2.9), Volume II of the DCO ES	Construction Contractor	Detailed CEMPs approved by the Local Authority Designs	Design / Construction	
D-BD-052	Biodiversity	Temporary culverts and causeways/access routes will be removed as soon as practicable when no longer required.	To avoid adverse impacts to protected species and comply with conservation legislation	Chapter 9: Biodiversity (D.6.2.9), Volume II of the DCO ES	Construction Contractor	Detailed CEMPs approved by the Local Authority	Pre-Construction / Construction	
D-BD-053	Biodiversity	Plant, personnel and site traffic will be constrained to a prescribed working corridor through the use of temporary barriers, where practicable, to firstly avoid and secondly minimise damage to habitats, encroachment of the construction easement, and potential direct mortality and/or disturbance of fauna located within and adjacent to the construction corridor.	To protect habitats and fauna.	Chapter 9: Biodiversity (D.6.2.9), Volume II of the DCO ES	Construction Contractor	Detailed CEMPs approved by the Local Authority	Construction	
D-BD-054	Biodiversity	Temporary discharges will comply with the requirements for permits on Main Rivers from the Environment Agency, both regarding acceptable discharge volumes and water quality.	To avoid adverse impacts to sensitive watercourses and comply with conservation legislation	Chapter 9: Biodiversity (D.6.2.9), Volume II of the DCO ES	Construction Contractor	Detailed CEMPs approved by the Local Authority Environmental Permits	Pre-Construction / Construction	
D-BD-055	Biodiversity	In line with NPS EN-4, permanent habitat loss will be minimised along the DCO Proposed Development as far as reasonably practicable.	To avoid and minimise adverse impacts to habitats.	Chapter 9: Biodiversity (D.6.2.9), Volume II of the DCO ES	Construction Contractor	Detailed CEMPs approved by the Local Authority Landscape design approved by the Local Authority Landscape Design Certificates Design Drawings	Design / Pre-Construction / Construction	
D-BD-056	Biodiversity	Where fish communities have been identified at a crossing point location, updated baseline surveys will be undertaken prior to works commencing and, where practicable, works will avoid risk of impacts to fish populations through seasonal timings of works to account for the migration and spawning periods of those fish species identified. Where it is not possible to avoid seasonal sensitivities, applications for exemptions from the Environment Agency or NRW will be sought on a case-by-case basis. Only upon receipt of granted exemptions and implementation of any necessary required mitigation can works commence.	To avoid adverse impacts to protected species and comply with conservation legislation	Chapter 9: Biodiversity (D.6.2.9), Volume II of the DCO ES	Construction Contractor	Detailed CEMPs approved by the Local Authority	Pre-Construction / Construction	
D-BD-057	Biodiversity	Sensitivity (to noise and vibration) of those fish species present will be considered to ensure that appropriate construction methods can be implemented to minimise and avoid disturbance or avoidance behaviour. Implementation of a Noise and Vibration Management Plan, to be prepared at the Detailed Design stage, will include, where practicable; soft-starts to pile driving to enable fish dispersal, utilisation of press or vibratory pile driving methods, and phased or intermittent work schedules (break periods) to allow for windows of fish recovery and movement through the works area.	To avoid adverse impacts to protected species and comply with conservation legislation	Chapter 9: Biodiversity (D.6.2.9), Volume II of the DCO ES	Construction Contractor	Detailed CEMPs approved by the Local Authority Noise and Vibration Management Plan	Pre-Construction / Construction	
D-BD-058	Biodiversity	Where possible, seasonal timings of works will aim to avoid risk of impacts to fish populations to account for sensitive life cycle stages (migration and spawning). Where this is not possible, applications for exemptions will be sought from the Environment Agency or NRW on a case-by-case basis. Seasonal restrictions for consideration are: •1 October to 31 April - European eel, lamprey and salmonids. •15 March to 15 June - Coarse fish. Only upon receipt of granted exemptions and implementation of any necessary required mitigation can works commence.	To avoid adverse impacts to protected species and comply with conservation legislation	Chapter 9: Biodiversity (D.6.2.9), Volume II of the DCO ES	Construction Contractor	Detailed CEMPs approved by the Local Authority Exemptions to be obtained from NRW/EA	Pre-Construction / Construction	
D-BD-059	Biodiversity	Where works are required on the watercourse banks, or in-channel, vegetation clearance will be restricted to the minimum required for the construction working area and should be undertaken only immediately prior to the commencement of those works, except for other circumstances where earlier clearance may be required due to the presence of protected and / or notable species. Vegetation should be re-established as soon as practicable. If necessary, and where practicable (e.g. where difficulties in planting and establishment of vegetation are likely to occur), additional measures such as geotextiles (biodegradable and non-biodegradable), willow whips, mulching, brushwood mattresses etc. will be used to protect soils before vegetation has re-established, particularly on the watercourse banks.	To minimise adverse impacts to watercourses and associated riparian and aquatic receptors.	Chapter 9: Biodiversity (D.6.2.9), Volume II of the DCO ES	The Applicant / Construction Contractor	Detailed CEMPs approved by the Local Authority	Design / Pre-Construction / Post Construction	
D-BD-060	Biodiversity	Seeded biodegradable fibre matting will be used to encourage re-vegetation after works on, or near, the banks of each watercourse (except field drains unless otherwise advised by the ECoW) disturbed by the works to reduce establishment time and to help support bank structure. A suitable seed mix appropriate for the production of a tussocky species-rich sward will be used to mitigate for the loss of habitats suitable to support riparian mammals. Where appropriate, willow whips will be installed to both provide green bank protection and to mitigate loss of riparian habitat. A sediment boom will be used downstream of the temporary crossing to intercept any sediment artificially mobilised during the Construction Stage	To minimise adverse impacts to watercourses and associated riparian and aquatic receptors.	Chapter 9: Biodiversity (D.6.2.9), Volume II of the DCO ES	Construction Contractor	Detailed CEMPs approved by the Local Authority	Construction	

D-BD-061	Biodiversity	During any river dewatering and/or in-channel working, an ecological watching brief and fish rescue plan will be employed. Where areas are required to be temporarily dewatered to facilitate construction activities, fish will be removed by means of electrofishing under Environment Agency or NRW consent and relocated upstream prior to dewatering Suitable temporary channels may be implemented to divert water during culvert construction works. Any environmental permit(s) shall be obtained and in place prior to the creation of a temporary dry channel. The construction of a temporary dry channel shall be undertaken in accordance with the mitigation measures contained within the Detailed CEMPs and any other relevant measures prescribed by granted permits from NRW/EA. Works will be subsequently undertaken under ECoW supervision. A pump may be required to divert flows during construction. Where this occurs, the ECoW shall be in attendance and a 2 mm screen fitted on the transfer intake to minimise the risk of fish and eel entrainment.	To avoid adverse impacts to protected species and comply with conservation legislation	Chapter 9: Biodiversity (D.6.2.9), Volume II of the DCO ES	Construction Contractor	Detailed CEMPs approved by the Local Authority Consents to be obtained from NRW/EA	Construction	
D-BD-062	Biodiversity	Reinstatement of HPI habitats will take place post construction, however, recognising the need to reinstate with alternative habitats should former habitats potentially interfere with the buried pipeline (e.g. where trees are removed and cannot be reinstated, scrub will be planted as an alternative). Species will comprise native species of local provenance and will comprise a mixture of species **(OLEMP (Document Reference D.6.5.10)**). Planting should be undertaken in the appropriate planting season but as soon as possible following completion of the works to reduce the likelihood of undesired colonisation by flora or INNS. Non-HPI/BAP habitats impacted by construction will be reinstated on a like-for-like basis at the locations of loss/impact. Where adjudged appropriate, certain habitats may be left to naturally recover or otherwise be left to be managed by landowners, rather than be subject to dedicated mitigation planting/sowing (e.g. arable fields, pasture grassland). Habitats requiring mitigation planting/sowing will be determined during the detailed design of the DCO Proposed Development and captured within a final Landscape and Ecological Management Plan. Reinstated habitats will be monitored and managed for a minimum 5-year period post reinstatement. Any dead or dying plants will be removed and replaced during the monitoring period.	To compensate for the loss of habitats	Chapter 9: Biodiversity (D.6.2.9), Volume II of the DCO ES	The Applicant / Construction Contractor	Detailed CEMPS approved by the Local Authority OLEMP	Construction / Post-Construction	
D-BD-063	Biodiversity	Where woodland and trees are to be lost to facilitate construction of the DCO Proposed Development these will be mitigated for through the planting of trees across areas identified within the D.2.4 -Work Plans. Trees will be replaced at a ratio of 3:1 and will comprise planting of native species of local provenance, in-keeping with woodland within the wider landscape. Areas for planting have sought to prioritise areas on the basis of connections to, and to enhance, existing green infrastructure, for example the inclusion of areas associated with functionally linked woodland of the Deeside and Buckley Newt SAC either side of Alltami Brook. Management of newly planted woodland and trees will be prescribed by the detailed LEMP but will broadly follow management across a 10-year period during establishment, to be developed at detailed design. Management of other habitat types (e.g. scrub and riparian planting) will be subject to a 5-year management plan.	To mitigate for the loss of woodland and trees	Chapter 9: Biodiversity (D.6.2.9), Volume II of the DCO ES	The Applicant / Construction Contractor	Detailed CEMPS approved by the Local Authority OLEMP	Construction / Post-Construction	
D-BD-064	Biodiversity	The Construction Contractor will, as far as practicable, seek to reduce watercourse crossings for those watercourses that do not intersect the Newbuild Infrastructure Boundary, and/or those with a partial extent or reach within the Newbuild Infrastructure Boundary.	To minimise impacts on aquatic fauna and flora through a reduction of potential watercourse crossings	Chapter 9: Biodiversity (D.6.2.9), Volume II of the DCO ES	Construction Contractor	Detailed CEMPS approved by the Local Authority	Design / Pre-Construction / Construction	
D-BD-065	Biodiversity	In advance of decommissioning works, ecology surveys will be undertaken, where required, to determine the ecological baseline and presence, or otherwise, of protected and/or notable species to determine any mitigation or licensing requirements in advance of decommissioning works commencement.	To minimise adverse impacts on protected/notable species and habitats.	Chapter 9: Biodiversity (D.6.2.9), Volume II of the DCO ES	Construction Contractor	Detailed CEMPS approved by the Local Authority	Decommissioning	
D-BD-066	Biodiversity	Opportunities for enhancement will be identified during the detailed design and throughout construction of the DCO Proposed Development. Enhancement opportunities will be reflected within the detailed CEMPs as and where identified, but may include: •Where possible, cleared deadwood, felled trees and arisings from site clearance works will be used in a variety of locations to benefit wildlife. These locations will be determined by the ECoW and based on site conditions at the time. Materials will be stored in a suitable location away from the working area to prevent risk of damage and then placed within areas of retained woodland or woodland planting at an appropriate time. •Additional bat and bird nest boxes could be installed on suitable mature trees/structures or mounted on poles. Bat boxes will be installed in unlit areas on multiple aspects (including facing south, west or east) at a height of a minimum of 3m and have a clear flight path to the access point. The bat boxes will be located within existing or newly created suitable foraging and commuting habitats. The requirements of the bird boxes will be specific to the type installed and manufacturers advice will be followed. The bat and bird boxes could be placed within existing retained woodlands, during construction or once mature, the boxes could be placed within newly created woodlands, (on poles or mature existing trees along the edge), post-construction.	To provide opportunities for biodiversity	Chapter 9: Biodiversity (D.6.2.9), Volume II of the DCO ES	Construction Contractor	Detailed CEMPS approved by the Local Authority	Construction	
D-BD-067	Biodiversity	During or following detailed design, the Construction Contractor will undertake a sensitivity test of the Habitats Regulations Assessment (HRA) should any of the project parameters change (as assessed within the HRA). The sensitivity test will seek to confirm that the conclusion of the HRA remain valid. If the assessment or conclusions within the HRA change, the Construction Contractor will produce an updated HRA for review and agreement with the statutory regulator(s).	To protect biodiversity and ensure legal compliance with the Habitats Regulations	Chapter 9: Biodiversity (D.6.2.9), Volume II of the DCO ES	Construction Contractor	Detailed CEMPS approved by the Local Authority Habitats Regulations Assessment	Construction	

D-BD-068	Biodiversity	Post construction monitoring will be undertaken in accordance with the proposed LEMP as included as a Requirement of the **Draft DCO (Document Reference: D.3.1)**. This plan will be included within the Operations and Maintenance Environment Management Plan. Protected species licenses required to facilitate construction will also require a period of monitoring post implementation which will be included within the LEMP and the Operations and Maintenance Environment Management Plan (which is a Requirement of the **Draft DCO (Document Reference: D.3.1)**. The Operations and Maintenance Environment Management Plan will be developed from the detailed CEMPs and the LEMP and will detail monitoring and management requirements and future maintenance arrangements that must be adhered to through the operation of the DCO Proposed Development.	To protect and maintain biodiversity and comply with conservation legislation	Chapter 9: Biodiversity (D.6.2.9), Volume II of the DCO ES	The Applicant / Construction Contractor	Detailed CEMP and LEMP approved by the Local Authority	Operation / Monitoring	
D-GG-001	Greenhouse Gases	The Detailed Design of the DCO Proposed Development will ensure the design is optimised, to avoid unnecessary permanent design aspects, and minimising material consumption and waste generation, as far as reasonably practicable	Design optimisation to reflect the carbon reduction hierarchy	Chapter 10: Greenhouse Gases (D.6.2.10), Volume II of the DCO ES	Construction Contractor	Design Drawings	Design	
D-GG-002	Greenhouse Gases	The Detailed Design of the DCO Proposed Development will aim to substitute-in and use alternative raw materials and resources , where practicable.	Design optimisation to reflect the carbon reduction hierarchy	Chapter 10: Greenhouse Gases (D.6.2.10), Volume II of the DCO ES	Construction Contractor	Design Drawings	Design	
D-GG-003	Greenhouse Gases	The Detailed Design of the DCO Proposed Development will use efficient construction processes, such as embracing design for manufacture and assembly, where practicable.	Design optimisation to reflect the carbon reduction hierarchy	Chapter 10: Greenhouse Gases (D.6.2.10), Volume II of the DCO ES	Construction Contractor	Detailed CEMP approved by the Local Authority	Design / Construction	
D-GG-004	Greenhouse Gases	Maximising the opportunity to use more sustainable materials and products with reduced embodied carbon emissions and materials/resources featuring recycled content (where safe and of sufficient integrity for engineering), eventually supported with eco- and carbon labels or verified Environmental Product Declarations (EPD), are preferred.	Design optimisation to reflect the carbon reduction hierarchy	Chapter 10: Greenhouse Gases (D.6.2.10), Volume II of the DCO ES	Construction Contractor	Design Drawings Detailed CEMP approved by the Local Authority.	Design / Construction	
D-GG-005	Greenhouse Gases	Construction materials will be sourced from local suppliers and local waste disposal facilities will be used in the Flintshire and Cheshire regions where practicable.	Design optimisation to reflect the carbon reduction hierarchy	Chapter 10: Greenhouse Gases (D.6.2.10), Volume II of the DCO ES	Construction Contractor	Detailed CEMP approved by the Local Authority	Design / Construction	
D-GG-006	Greenhouse Gases	Avoid disposal of construction waste to landfill, maximising recycling, and reuse of waste where possible.	Design optimisation to reflect the carbon reduction hierarchy	Chapter 10: Greenhouse Gases (D.6.2.10), Volume II of the DCO ES	Construction Contractor	Detailed CEMP approved by the Local Authority	Design / Construction	
D-GG-007	Greenhouse Gases	Using modern and efficient low emission construction plant and delivery vehicles, and/or those powered by electricity from alternative/lower carbon fuels. Construction Contractors will ensure high performance of plant and equipment through correct and efficient operation, maintenance, and servicing of vehicle fleet to avoid polluting emissions.	Design optimisation to reflect the carbon reduction hierarchy	Chapter 10: Greenhouse Gases (D.6.2.10), Volume II of the DCO ES	Construction Contractor	Detailed CEMP approved by the Local Authority	Design / Construction	
D-GG-008	Greenhouse Gases	Training policies will be in place during site induction to avoid idling of engines, spills of fuels (for example, when refuelling) and safe/environmentally sensitive driving techniques to maximise fuel saving.	Reduce GHG emissions associated with construction plant and equipment	Chapter 10: Greenhouse Gases (D.6.2.10), Volume II of the DCO ES	Construction Contractor	Detailed CEMP approved by the Local Authority	Construction	
D-GG-009	Greenhouse Gases	The sustainability credentials of suppliers and companies in the supply chain will be considered as part of the procurement process.	Design optimisation to reflect the carbon reduction hierarchy	Chapter 10: Greenhouse Gases (D.6.2.10), Volume II of the DCO ES	The Applicant / Construction Contractor	Use of certified suppliers and companies.	Design / Construction	
D-GG-010	Greenhouse Gases	Where practicable, innovative construction methods (for example, optimising gradients of haul and access roads/points) will be incorporated to reduce construction energy consumption, such as plant use and minimise the need for sharp acceleration and braking in order to save fuel.	Design optimisation to reflect the carbon reduction hierarchy	Chapter 10: Greenhouse Gases (D.6.2.10), Volume II of the DCO ES	Construction Contractor	Detailed CEMP approved by the Local Authority	Design / Construction	
D-GG-011	Greenhouse Gases	The design of the DCO Proposed Development will be undertaken with a view to maximising the operational lifespan and minimising the need for maintenance and refurbishment.	Reduce GHG emissions associated with the maintenance and refurbishment of the DCO Proposed Development	Chapter 10: Greenhouse Gases (D.6.2.10), Volume II of the DCO ES	The Applicant / Construction Contractor	Design Drawings Detailed CEMP approved by the Local Authority.	Design	

D-GG-012	Greenhouse Gases	Specifying efficient mechanical and electrical equipment that is long-lasting and based on its durability, repairability and energy efficiency credentials.	Reduce GHG emissions from operational energy use	Chapter 10: Greenhouse Gases (D.6.2.10), Volume II of the DCO ES	The Applicant / Construction Contractor	Design Drawings	Design	
D-GG-013	Greenhouse Gases	The detailed design of the AGI / BVS will ensure that high energy efficiency transformers will be selected.	Reduce GHG emissions from operational energy use	Chapter 10: Greenhouse Gases (D.6.2.10), Volume II of the DCO ES	The Applicant / Construction Contractor	Design Drawings	Design	
D-GG-014	Greenhouse Gases	Light-emitting diode (LED) based illumination systems will be installed instead of traditional lights for both outdoor and indoor areas of all AGIs / BVSs.	Reduce GHG emissions from operational energy use	Chapter 10: Greenhouse Gases (D.6.2.10), Volume II of the DCO ES	The Applicant / Construction Contractor	Design Drawings	Design	
D-GG-015	Greenhouse Gases	Low-voltage electrical installations will comply with IEC60364, Part 8-1: Energy Efficiency.	Reduce GHG emissions from operational energy use	Chapter 10: Greenhouse Gases (D.6.2.10), Volume II of the DCO ES	The Applicant / Construction Contractor	Design Drawings	Design	
D-GG-016	Greenhouse Gases	The energy monitoring system will incorporate the new features of the DCO Proposed Development, to comply with ISO 50001 certification.	Reduce GHG emissions from operational energy use	Chapter 10: Greenhouse Gases (D.6.2.10), Volume II of the DCO ES	The Applicant / Construction Contractor	Design Drawings	Design	
D-GG-017	Greenhouse Gases	Operating, maintaining, and refurbishing the DCO Proposed Development using best-practices in energy efficiency, and using low/no-carbon approaches, plant, and equipment, such as sourcing clean energy for the operation of the DCO Proposed Development.	Reduce GHG emissions associated with maintenance and refurbishment of the DCO Proposed Development as well as operational energy use	Chapter 10: Greenhouse Gases (D.6.2.10), Volume II of the DCO ES	The Applicant	OMEMP approved by the Local Authority.	Operation	
D-GG-018	Greenhouse Gases	The Applicant will explore opportunities to source the energy required for operation from 100% clean energy suppliers.	Reduce GHG emissions from operational energy use	Chapter 10: Greenhouse Gases (D.6.2.10), Volume II of the DCO ES	The Applicant	OMEMP approved by the Local Authority.	Operation	
D-GG-019	Greenhouse Gases	A leak detection and maintenance programme will be implemented as part of the operational management and monitoring regime.	Reduce GHG emissions from leaks across the DCO Proposed Development	Chapter 10: Greenhouse Gases (D.6.2.10), Volume II of the DCO ES	The Applicant	OMEMP approved by the Local Authority.	Operation	
D-GG-020	Greenhouse Gases	Where practicable, designing, specifying, and dismantling the DCO Proposed Development with a view to maximising the potential for the reuse/repurposing, recycling and/or recovery of materials and components of the DCO Proposed Development at its end-of-life stage.	Reduce GHG emissions from the disposal of wate in the decommissioning stage	Chapter 10: Greenhouse Gases (D.6.2.10), Volume II of the DCO ES	The Applicant / Construction Contractor	Design Drawings	Design	
D-GG-021	Greenhouse Gases	Using local waste disposal facilities where available and practicable to minimise the distance that waste is transported from Site to disposal.	Reduce GHG emissions from the transport of wate in the decommissioning stage	Chapter 10: Greenhouse Gases (D.6.2.10), Volume II of the DCO ES	The Applicant	Design Drawings	Decommissioning	
D-GG-022	Greenhouse Gases	Decommissioning the DCO Proposed Development using best-practices in energy efficiency, and using low/no-carbon approaches, plant, and equipment.	Reduce GHG emissions from energy use in the decommissioning stage	Chapter 10: Greenhouse Gases (D.6.2.10), Volume II of the DCO ES	The Applicant	Decommissioning Environmental Management Plan approved by the Local Authority	Decommissioning	

D-LS-001	Land and Soils	Temporary installation or upgrade of existing access tracks for the Construction Compounds and work-fronts will be set up Options include provision of bog matts (where wet soil conditions are anticipated) and compacted gravel tracks (where road-going vehicles or heavy traffic is anticipated).	To minimise disruption and local environmental impacts to land and soil.	Chapter 11: Land and Soils (D.6.2.11), Volume II of the DCO ES	Construction Contractor	Detailed CEMP approved by the Local Authority	Construction	
D-LS-002	Land and Soils	Routing of the Newbuild Carbon Dioxide Pipeline will be performed to avoid potential historical mine shafts or shallow workings identified by the CA, particularly in proximity to Alltami Brook, the A550 Gladstone way, Greenacres Animal Park, Colliery Lane, Magazine Lane and Wepre Brook.	To avoid risks from historical mine shafts	Chapter 11: Land and Soils (D.6.2.11), Volume II of the DCO ES	Construction Contractor	Detailed CEMP approved by the Local Authority	Design / Construction	
D-LS-003	Land and Soils	Risk of shallow workings, in particular in proximity to Colliery Lane and Gladstone Way (Sections 4 & 5), will be considered within any construction plan and further works to establish their locations will be considered.	To avoid risks from historical shallow workings	Chapter 11: Land and Soils (D.6.2.11), Volume II of the DCO ES	Construction Contractor	Detailed CEMP approved by the Local Authority	Design / Construction	
D-LS-004	Land and Soils	Where construction works would take place within areas of potential historic mine shafts, these areas will be cordoned off and only excavated if necessary for the installation of the Newbuild Carbon Dioxide Pipeline. The zone of the potential shaft will be determined from the co-ordinates available within the Coal Authority reports.	To avoid risks from historical mine shafts	Chapter 11: Land and Soils (D.6.2.11), Volume II of the DCO ES	Construction Contractor	Detailed CEMP approved by the Local Authority	Construction	
D-LS-005	Land and Soils	Any concrete used in below ground infrastructure will be selected based on the appropriate sulphate classifications	To prevent damage to DCO Proposed Development Infrastructure from aggressive ground conditions.	Chapter 11: Land and Soils (D.6.2.11), Volume II of the DCO ES	Construction Contractor	Detailed CEMP approved by the Local Authority	Construction	
D-LS-006	Land and Soils	The Material Management Plan (MMP) will: provide a clear, consistent and efficient process to enable the reuse of excavated material without it being classified as a waste and outline a cut / fill balance to reduce the amount of material permanently removed during the construction of the DCO Proposed Development	Assure correct management of soils	Chapter 11: Land and Soils (D.6.2.11), Volume II of the DCO ES Outline Soil Management Plan (OSMP): Appendix 1 of the OCEMP (Document reference: D.6.5.4) Outline Peat Management Plan (OPMP): Appendix 2 of the OCEMP (Document reference: D.6.5.4)	Construction Contractor	Detailed CEMP approved by the Local Authority	Design / Pre-Construction / Construction	
D-LS-007	Land and Soils	An **Outline Soil Management Plan (OSMP) (an appendix to the OCEMP, Document reference: D.6.5.**4) has been produced to present options to manage the risk of damage to soil structure during construction and reinstatement. The findings of the OSMP will be used by the appointed Construction Contractor as a basis for preparing the detailed construction SMP, as part of a detailed Construction Environmental Management Plan (CEMP) prior to construction and the detailed design will take into consideration the location of BMV soils and the alignment of the Newbuild Carbon Dioxide Pipeline and working areas will seek to reduce impacts to and /or avoid these areas, as far as practicable.	Limit permanent removal of soils during construction phase Re-use of excess material. To reduce adverse impacts on land and soil	Chapter 11: Land and Soils (D.6.2.11), Volume II of the DCO ES Outline Soil Management Plan (OSMP): Appendix 1 of the OCEMP (Document reference: D.6.5.4) Outline Peat Management Plan (OPMP): Appendix 2 of the OCEMP (Document reference: D.6.5.4)	Construction Contractor	Detailed CEMP approved by the Local Authority	Design / Pre-Construction / Construction	
D-LS-008	Land and Soils	An **Outline Peat Management Plan (OPMP) (an appendix to the OCEMP Document reference D.6.5.4)** was produced to provide a report estimating the potential volume of peat to be excavated during the construction process and present options to minimise / re-use excavated peat. The findings of the OPMP will be used by the appointed Construction Contractor as a basis for preparing the detailed construction PMP, as part of a detailed Construction Environmental Management Plan (CEMP) prior to construction .	To reduce adverse impacts on peat	Chapter 11: Land and Soils (D.6.2.11), Volume II of the DCO ES Outline Soil Management Plan (OSMP): Appendix 1 of the OCEMP (Document reference: D.6.5.4) Outline Peat Management Plan (OPMP): Appendix 2 of the OCEMP (Document reference: D.6.5.4)	Construction Contractor	Detailed CEMP approved by the Local Authority	Design / Pre-Construction / Construction	
D-LS-009	Land and Soils	Any facilities for the storage of oils, fuels or chemicals will be sited on impervious bases and surrounded by impervious bund walls. The volume of the bunded compound should be 110% of the capacity of the tank, all filling points, gauges, vents and sight glasses will be located within the bund. Associated pipework should be located above ground and protected from accidental damage. All filling points and tank overflow pipe outlets will be detailed to discharge downwards into the bund and refuelling will be supervised at all times, preferably on an impermeable surface. This system will reduce the potential for the addition of new contaminants to the existing baseline environment (e.g., spill or leak)	Prevention of spills and leaks of hazardous substances	Chapter 11: Land and Soils (D.6.2.11), Volume II of the DCO ES	Construction Contractor	Detailed CEMP approved by the Local Authority	Construction	

D-LS-010	Land and Soils	If, during open trench construction and excavations, unexpected contamination is encountered, the open trench will be lined in order to inhibit water percolation and subsequent leachate generation.	Prevent pollution of Principal Aquifers in bedrock and Secondary A Aquifers in superficial deposits.	Chapter 11: Land and Soils (D.6.2.11), Volume II of the DCO ES	Construction Contractor	Detailed CEMP approved by the Local Authority	Construction	
D-LS-011	Land and Soils	Measures contained within the detailed CEMP to resolve impacts to land and soil will include: •Using appropriate risk assessments and method statements (RAMS) •All site operatives should follow hygiene best practices and be provided with the correct PPE (e.g. safety glasses, gloves and face masks where applicable) to reduce the risk of inhaling / ingesting / touching contaminated materials. •All site operatives will be made aware of the risks posed from ground conditions likely to be encountered during the construction, for example through toolbox talks before undertaking any works. •All site operatives will be fully trained and competent. There will be a trained and responsible manager on site during construction works, including any movement of the stockpiles.	Protection of construction and maintenance workers from ingestion / inhalation / dermal contact with contaminated soils.	Chapter 11: Land and Soils (D.6.2.11), Volume II of the DCO ES	Construction Contractor	Detailed CEMP approved by the Local Authority	Construction	
D-LS-012	Land and Soils	Acute exposure to potential contamination will be mitigated through normal working practice using appropriate RAMS and use of standard PPE and hygiene best practice . Where contamination is suspected, construction workers will be provided with appropriate Personal Protective Equipment (PPE) or Respiratory Protective Equipment (RPE) (over and above the standard PPE) to prevent direct contact, ingestion or inhalation of potential soil or groundwater contamination.	Protection of construction and maintenance workers from ingestion / inhalation / dermal contact with contaminated soils.	Chapter 11: Land and Soils (D.6.2.11), Volume II of the DCO ES	Construction Contractor	Detailed CEMP approved by the Local Authority	Construction	
D-LS-013	Land and Soils	During construction, the use of bowsers for dust suppression in dry weather and wheel washes and road sweepers in locations where required will be employed to limit exposure pathways to human health, in particular to offsite neighbouring site users, nearby residential properties, or members of the public. As set out in D-AQ-004.	Protection of future site users from the short-term risk of exposure to contaminated dust through ingestion / inhalation / dermal contact.	Chapter 11: Land and Soils (D.6.2.11), Volume II of the DCO ES	Construction Contractor	Detailed CEMP approved by the Local Authority	Construction	
D-LS-014	Land and Soils	The Construction Contractor will appoint an appropriately qualified person (e.g., Environmental Clerk of Works (EnvCoW)) to maintain a Watching Brief for the duration of any ground excavations. The aim and scope of the Watching Brief will be to identify any unexpected contamination and advise on the correct course of action if discovered. Should unexpected Made Ground or unexpected contaminated ground (i.e., visual or olfactory evidence of contamination) be encountered during the construction phase the ECoW or equivalent qualified person will be notified. Testing of Made Ground for a minimum of asbestos, metals, petroleum hydrocarbons and polyaromatic hydrocarbons to assess suitability for re-use and potential risks to construction works should be undertaken.	To mitigate unacceptable contaminated land related risks to the environment and construction workers and ensure works are legally compliant	Chapter 11: Land and Soils (D.6.2.11), Volume II of the DCO ES	Construction Contractor	Detailed CEMP approved by the Local Authority	Construction	
D-LS-015	Land and Soils	The Construction Contractor will undertake ongoing monitoring and maintenance to ensure that any temporary or permanent drainage in the main works area is meeting its operational requirements. This will prevent surface runoff and/ or contamination from entering surface water or groundwater bodies and migrating. Appropriate measures and maintenance procedures will be detailed in the detailed CEMP. Emergency procedures will be in place should a leak of contamination i.e., from a drainage failure or machine tank occur. These emergency procedures will be detailed in the detailed CEMP. Should a leak or drainage failure occur the ECoW will be informed, and appropriate actions taken.	To limit contamination to groundwater and surface waterbodies.	Chapter 11: Land and Soils (D.6.2.11), Volume II of the DCO ES	Construction Contractor	Detailed CEMP approved by the Local Authority	Construction / Operation	
D-LS-016	Land and Soils	Any unexpected disused below ground tanks, structures and / or pipework/ services encountered during construction that cannot be avoided will be appropriately decommissioned and removed (where necessary) by an appropriately qualified person as appointed by the Construction Contractor	To ensure that contaminants do not enter the ground.	Chapter 11: Land and Soils (D.6.2.11), Volume II of the DCO ES	Construction Contractor	Detailed CEMP approved by the Local Authority	Construction	
D-LS-017	Land and Soils	Should asbestos containing material (ACM) be encountered during the construction or soil testing indicate that asbestos fibres are present, then the EnvCoW should be notified.	To ensure that construction workers are not exposed to asbestos	Chapter 11: Land and Soils (D.6.2.11), Volume II of the DCO ES	Construction Contractor	Detailed CEMP approved by the Local Authority	Construction	
D-LS-018	Land and Soils	For excavation in areas of known Made Ground the EnvCoW should supervise the excavation to observe for visual or olfactory evidence of contamination or ACM.	To ensure that construction workers are not exposed to contamination or asbestos.	Chapter 11: Land and Soils (D.6.2.11), Volume II of the DCO ES	Construction Contractor	Detailed CEMP approved by the Local Authority	Construction	

D-LS-019	Land and Soils	An Unexploded Ordnance (UXO) assessment will be undertaken for the Newbuild Infrastructure Boundary and will be used during the production of all risk assessments and method statements.	To prevent ground workers from UXO risk.	Chapter 11: Land and Soils (D.6.2.11), Volume II of the DCO ES	Construction Contractor	Detailed CEMP approved by the Local Authority	Construction	
D-LS-020	Land and Soils	Additional investigation including groundwater monitoring and analysis and ground gas assessment will be undertaken for points sources i.e., Stanlow Manufacturing Complex and Ewloe infilled land.	To provide information for the design stage and construction stage of potential contamination within the ground.	Chapter 11: Land and Soils (D.6.2.11), Volume II of the DCO ES	Construction Contractor	Updated Phase II Geo-Environmental Site Investigation and Remediation Strategy (if required)	Construction	
D-LS-021	Land and Soils	If following D-LS-020 above remediation is determined to be required. A suitable remediation strategy will be produced following the additional Ground Investigation of point sources of contamination or if unexpected Made Ground is encountered during the construction phase. The remediation strategy will be approved by the Local Authority (FCC / CWCC/ EA/ NRW) prior to being implemented to mitigate unacceptable contaminated land related risks. Ground gas measures are not considered necessary however following D-LS-024 the requirement for ground measures will be reassessed in the areas that are investigated.	To provide information for the design stage and constriction stage of potential contamination within the ground.	Chapter 11: Land and Soils (D.6.2.11), Volume II of the DCO ES	Construction Contractor	Updated Phase II Geo-Environmental Site Investigation and Remediation Strategy (if required)	Construction	
D-LS-022	Land and Soils	Areas of known Made Ground are discussed in **Ground Investigation Report (Appendix 11.6, Volume III)**. These areas of Made Ground have been tested and are below the GAC. They are therefore considered to be suitable for re-use within the DCO Proposed Development however they will be supervised in a watching brief to assess for previously unidentified Made Ground as set out in D-LS-017 of the **REAC (Document reference: D.6.5.1).**	To provide information for the design stage and constriction stage of potential contamination within the ground.	Chapter 11: Land and Soils (D.6.2.11), Volume II of the DCO ES	Construction Contractor	Updated Phase II Geo-Environmental Site Investigation and Remediation Strategy (if required)	Construction	
D-LS-023	Land and Soils	Prior to decommissioning, a Decommissioning Environmental Management Plan will be developed. Prior to development, consultation with relevant stakeholders will be undertaken. The approach/scope of the Decommissioning Environmental Management Plan will be agreed with the Local Authority prior to commencement.	To outline mitigation and manage risks during decommissioning of the DCO Proposed Development.	Chapter 11: Land and Soils (D.6.2.11), Volume II of the DCO ES	The Applicant	Decommissioning Environmental Management Plan approved by the Local Authority	Construction / Decommissioning / Monitoring	
D-LS-024	Land and Soils	Groundwater and surface water monitoring plans will be developed by the Construction Contractor to ensure appropriate monitoring before, during and after the construction works. The details of this monitoring will be agreed between the Construction Contractor and the regulator (FCC/ NRW/ CWCC and the EA) prior to the commencement of the Construction Stage. These commitments.	To assess the water quality of Controlled Waters Receptors and maintain they do not become impacted during the works.	Chapter 11: Land and Soils (D.6.2.11), Volume II of the DCO ES	Construction Contractor	Detailed CEMP approved by the Local Authority	Construction	
D-LS-025	Land and Soils	Monitoring of gas ingress, such as mine gas, will be undertaken during trenching and drilling works where necessary. In addition, any trenches / excavations should be gas tested (as it is standard practice) prior to entry.	To avoid potential risk to human health	Chapter 11: Land and Soils (D.6.2.11), Volume II of the DCO ES	Construction Contractor	Detailed CEMP approved by the Local Authority	Construction	
D-LV-001	Landscape and Visual	The Construction Compounds will, where relevant and practicable, be micro-sited to reduce the proximity to residential properties to minimise visibility and avoid key landscape features.	To minimise landscape and visual impacts	Chapter 12: Landscape and Visual (D.6.2.12), Volume II of the DCO ES	Construction Contractor	Landscape design and Detailed CEMP approved by the Local Authority	Construction	
D-LV-002	Landscape and Visual	Land disturbed to make way for Construction that isn't then utilised as part of the DCO Proposed Development during operation will be reinstated and returned to original land uses following completion of the Construction Stage.	To minimise landscape and visual impacts	Chapter 12: Landscape and Visual (D.6.2.12), Volume II of the DCO ES	Construction Contractor	Detailed CEMP approved by the Local Authority	Construction / Operation	
~~D-LV-003~~	Landscape and Visual	Unique REAC identifier unused						
~~D-LV-004~~	Landscape and Visual	Unique REAC identifier unused						
D-LV-005	Landscape and Visual	The detailed design alignment of the Newbuild Carbon Dioxide Pipeline will, wherever practicable, be micro-sited to, avoid locally valued landscape features including woodland, hedgerows, and field drains, including root protection zones of existing mature trees.	To minimise landscape and visual impacts	Chapter 12: Landscape and Visual (D.6.2.12), Volume II of the DCO ES	Construction Contractor	Landscape design and Detailed CEMP approved by the Local Authority	Design	

D-LV-006	Landscape and Visual	The detailed design alignment of the Newbuild Carbon Dioxide Pipeline will, wherever practicable, be micro-sited to utilise existing visual screening, through location in proximity (but to avoid damage) to areas of woodland, belts and/or locally enclosed topography, such as valley bottoms or dips in localised undulations.	To minimise landscape and visual impacts	Chapter 12: Landscape and Visual (D.6.2.12), Volume II of the DCO ES	Construction Contractor	Landscape design and Detailed CEMP approved by the Local Authority	Design	
D-LV-007	Landscape and Visual	The detailed design will consider further utilisation of trenchless installation techniques to maintain views from towpaths and recreational routes as well as vegetation associated with these features and/or roadside hedgerow. Any additional use of trenchless crossing method will consider the conclusions of the Environmental Statement, permit requirements and any other agreements to ensure that this would be acceptable.	To minimise landscape and visual impacts	Chapter 12: Landscape and Visual (D.6.2.12), Volume II of the DCO ES	Construction Contractor	Landscape design and Detailed CEMP approved by the Local Authority	Design / Construction	
~~D-LV-008~~	Landscape and Visual	Unique REAC identifier unused						
D-LV-009	Landscape and Visual	Prior to the commencement of construction, the Construction Contractor(s) will set out where reinstatement of arable land, fenced boundaries, hedgerows and grassland upon completion of construction will take place. This will include any protective fencing to areas of reinstatement that would typically remain in place to exclude livestock and allow establishment to take place.	To minimise landscape and visual impacts	Chapter 12: Landscape and Visual (D.6.2.12), Volume II of the DCO ES	Construction Contractor	Detailed CEMP approved by the Local Authority	Design / Construction	
D-LV-010	Landscape and Visual	Pipeline marker posts and aerial marker posts will be located to minimise intrusion on the landscape, as far as practicable.	To minimise landscape and visual impacts	Chapter 12: Landscape and Visual (D.6.2.12), Volume II of the DCO ES	Construction Contractor	Landscape design approved by Local Authority. Landscape Design Certificates.	Design / Construction	
D-LV-011	Landscape and Visual	Where construction will impact road verges, these will be reinstated and, where appropriate and practicable, enhanced through the addition of species rich grass mixes or similar as appropriate for the benefit of biodiversity.	To minimise landscape and visual impacts	Chapter 12: Landscape and Visual (D.6.2.12), Volume II of the DCO ES	Construction Contractor	Landscape design approved by Local Authority. Landscape Design Certificates.	Construction	
D-LV-012	Landscape and Visual	During decommissioning, appropriate protections to the established vegetation will be provided to ensure no damage during the removal of apparatus. Where damage is unavoidable, replacement of any lost or damaged planting that was provided during the Operational Stage or any pre-existing, or newly planted by others will be provided in agreement with the relevant Local Authority.	To minimise landscape and visual impacts	Chapter 12: Landscape and Visual (D.6.2.12), Volume II of the DCO ES	The Applicant	Decommissioning Environmental Management Plan approved by the Local Authority	Decommissioning	
~~D-LV-013~~	Landscape and Visual	Unique REAC identifier unused						
D-LV-014	Landscape and Visual	Where trees (stems) sit outside of the Newbuild Infrastructure Boundary, the Root Protection Areas (RPAs) of these trees will be protected and retained. Protective measures will be detailed within a site specific Arboricultural Method Statement (AMS) and shown on a Tree Protection Plan (TPP) and where necessary, working methods will be monitored by a suitable Arboricultural Clerk of Works (ACoW). The Construction Contractor will prepare the AMS following detailed design and will ensure works within root protection areas will be appropriately supervised in line with BS5837:2012	To minimise landscape and visual impacts	Chapter 12: Landscape and Visual (D.6.2.12), Volume II of the DCO ES	Construction Contractor	AMS, TPP approved by the Local Authority.	Construction	
D-LV-015	Landscape and Visual	All ancient woodland areas will be protected. A 15m works exclusion zone or similar approved by an Arboriculturist is assumed, except for environmental mitigation works, such as drainage works. In these areas, works will be carried out as required but will ensure protection of the trees under supervision of a suitably qualified Arboriculturist In these areas, works will be carried out as required but will ensure protection of the trees. Protective measures will be detailed within a site specific Arboricultural Method Statement (AMS) and shown on a Tree Protection Plan (TPP) and where necessary, working methods will be monitored by a suitable Arboricultural Clerk of Works (ACoW). The Construction Contractor will prepare the AMS	To minimise landscape and visual impacts	Chapter 12: Landscape and Visual (D.6.2.12), Volume II of the DCO ES	Construction Contractor	AMS, TPP approved by the Local Authority.	Construction	

D-LV-016	Landscape and Visual	All existing hedgerow, trees and groups of trees running parallel with the Millennium Greenway will be protected and retained. Any access requirements identified at detailed design will be sought via existing gaps in trees and hedgerow. Protective measures will be detailed within a site specific Arboricultural Method Statement (AMS) and shown on a Tree Protection Plan (TPP) and where necessary, working methods will be monitored by a suitable Arboricultural Clerk of Works (ACoW).	To minimise landscape and visual impacts	Chapter 12: Landscape and Visual (D.6.2.12), Volume II of the DCO ES	Construction Contractor	LEMP, Detailed CEMP and Landscape design approved by the Local Authority	Construction	
D-LV-017	Landscape and Visual	The hedgerow and tree T771 north of Townfield Lane, Mollington will be retained and protected. Protective measures will be detailed within a site specific Arboricultural Method Statement (AMS) and shown on a Tree Protection Plan (TPP) and where necessary, working methods will be monitored by a suitable Arboricultural Clerk of Works (ACoW).	To minimise landscape and visual impacts	Chapter 12: Landscape and Visual (D.6.2.12), Volume II of the DCO ES	Construction Contractor	LEMP, Detailed CEMP and Landscape design approved by the Local Authority	Construction	
D-LV-018	Landscape and Visual	The large linear belt of trees G1071 and G1073, west of Halls Green Lane will be retained to a minimum of half its current depth, approx. 20m width to ensure the characteristic of screening the motorway is retained	To minimise landscape and visual impacts	Chapter 12: Landscape and Visual (D.6.2.12), Volume II of the DCO ES	Construction Contractor	LEMP, Detailed CEMP and Landscape design approved by the Local Authority	Construction	
D-LV-019	Landscape and Visual	Linear belts of trees G1075, G1078, G1086, G1087, G1088, G1089, G1091, G1093, G1094, G1098, G1109, G1134, at Halls Green Lane and to the west of Halls Green Lane will be retained to such a level that visual screening of the M56 and DCO Proposed Development from nearby PRoW and residents will be maintained	To minimise landscape and visual impacts	Chapter 12: Landscape and Visual (D.6.2.12), Volume II of the DCO ES	Construction Contractor	LEMP, Detailed CEMP and Landscape design approved by the Local Authority	Construction	
D-LV-020	Landscape and Visual	The large linear belt of trees G1223 to the north of Ince Lane at the Chester Services will be retained to a minimum of half its current depth approx. 15m to ensure the characteristic of screening the Chester Services and associated roads from residents can be retained.	To minimise landscape and visual impacts	Chapter 12: Landscape and Visual (D.6.2.12), Volume II of the DCO ES	Construction Contractor	LEMP, Detailed CEMP and Landscape design approved by the Local Authority	Construction	
D-LV-021	Landscape and Visual	Kiosks and lighting columns within the AGIs and BVSs will be painted to a colour that fits the context in which they are located. This will be RAL6011 for all locations with the exception of Stanlow AGI which may be left as galvanised or painted grey. This external finish paint colour will be subject to approval at detailed design stage with the precise shade specified at that time.	To minimise landscape and visual impacts	Chapter 12: Landscape and Visual (D.6.2.12), Volume II of the DCO ES	Construction Contractor	Detailed CEMP and Landscape design approved by the Local Authority	Design / Construction	
D-LV-022	Landscape and Visual	Fences around the AGIs and BVSs will be PVC coated green to ensure the colour that fits the context in which they are located. This will be the case everywhere with the exception of Stanlow AGI which may be a standard galvanised finish or coated grey	To minimise landscape and visual impacts	Chapter 12: Landscape and Visual (D.6.2.12), Volume II of the DCO ES	Construction Contractor	Detailed CEMP and Landscape design approved by the Local Authority	Design / Construction	
D-LV-023	Landscape and Visual	AGI and BVS sites each have a specific Landscape Layout that forms the Preliminary Design. Deviations from this Preliminary Design may affect LVIA assessment findings within the ES. A check of the final designs at the Detailed Design stage will be made against the findings to ensure no worsening.	To minimise landscape and visual impacts	Chapter 12: Landscape and Visual (D.6.2.12), Volume II of the DCO ES	Construction Contractor	Landscape design approved by the Local Authority	Design	
D-LV-024	Landscape and Visual	During Detailed Design, the Construction Contractor(s) will prepare Landscape Layouts for the Newbuild Carbon Dioxide Pipeline route. Indicative planting species and specification has been provided on **Landscape Layouts (Document Reference: EN070007-D.2.14-LAY-Sheet 10 Indicative Species List)** alongside the Landscape Layouts but a full planting schedule with plant numbers, spacing etc will be provided for the whole DCO Proposed Development at Detailed Design stage.	To minimise landscape and visual impacts	Chapter 12: Landscape and Visual (D.6.2.12), Volume II of the DCO ES	Construction Contractor	LEMP and Landscape design approved by the Local Authority	Design	
~~D-LV-025~~	Landscape and Visual	Unique REAC identifier unused						
D-LV-026	Landscape and Visual	Along the Newbuild Carbon Dioxide Pipeline route, where loss of hedgerow, tree or woodland is otherwise unavoidable and takes place as a result of construction works, the loss will be replaced like-for like in a like-for-like location, unless otherwise prohibited by pipeline easement requirements or offset requirements from services. This will be in accordance with National Grid's Notes for guidance –Tree Planting Restrictions on Pipelines, as well as similar or any updated guidance notes for the relevant service provider as appropriate. Where this is the case, the replacement features will be planted as close to the original location as reasonably practicable and in agreement with the relevant Local Planning Authority.	To minimise landscape and visual impacts	Chapter 12: Landscape and Visual (D.6.2.12), Volume II of the DCO ES	Construction Contractor	LEMP, Detailed CEMP and Landscape design approved by the Local Authority	Design / Construction	

~~D-LV-027~~	Landscape and Visual	Unique REAC identifier unused						
D-LV-028	Landscape and Visual	Hedgerows, trees and woodland which are located between trenchless crossing entry/exit pits (i.e., that Newbuild Carbon Dioxide Pipeline will cross via trenchless method) will be protected and retained, unless otherwise required for access. Protective measures will be detailed within a site specific Arboricultural Method Statement (AMS) and shown on a Tree Protection Plan (TPP) and where necessary, working methods will be monitored by a suitable Arboricultural Clerk of Works (ACoW).	To minimise landscape and visual impacts	Chapter 12: Landscape and Visual (D.6.2.12), Volume II of the DCO ES	Construction Contractor	LEMP, Detailed CEMP and Landscape design approved by the Local Authority	Construction	
~~D-LV-029~~	Landscape and Visual	Unique REAC identifier unused						
D-LV-030	Landscape and Visual	Construction works will utilise existing accesses wherever practicable. Where new temporary construction accesses are required in existing hedgerows, the width to be lost will be kept to the minimum practicable and will not exceed 15m. Hedgerows, trees and woodland outside of this 15m will be protected and retained. Protective measures will be detailed within a site specific Arboricultural Method Statement (AMS) and shown on a Tree Protection Plan (TPP) and where necessary, working methods will be monitored by a suitable Arboricultural Clerk of Works (ACoW).	To minimise landscape and visual impacts	Chapter 12: Landscape and Visual (D.6.2.12), Volume II of the DCO ES	Construction Contractor	Detailed CEMP and Landscape design approved by the Local Authority	Construction	
D-LV-031	Landscape and Visual	The detailed design will seek to minimise the loss of tree groups G576 and G578 which are anticipated to be impacted to make way for a temporary access track.	To minimise landscape and visual impacts	Chapter 12: Landscape and Visual (D.6.2.12), Volume II of the DCO ES	Construction Contractor	Detailed CEMP and Landscape design approved by the Local Authority	Design / Construction	
D-LV-032	Landscape and Visual	Where hedgerow, trees and woodland loss is unavoidable and takes place to make way for temporary access, these will be replaced on a like-for like basis and as close to the original location as practicable.	To minimise landscape and visual impacts	Chapter 12: Landscape and Visual (D.6.2.12), Volume II of the DCO ES	Construction Contractor	Detailed CEMP and Landscape design approved by the Local Authority	Design / Construction	
D-LV-033	Landscape and Visual	During Detailed Design, further investigations will take place to ensure minimal tree loss takes place in areas where natural screening from hedgerow and linear belts of trees or woodland exist. This will be considered as part of decision making around the Newbuild Carbon Dioxide Pipeline alignment to avoid such loss	To minimise landscape and visual impacts	Chapter 12: Landscape and Visual (D.6.2.12), Volume II of the DCO ES	Construction Contractor	Detailed CEMP and LEMP approved by the Local Authority	Design / Construction	
D-LV-034	Landscape and Visual	The Construction Contractor will ensure suitable landscape management through production of a Detailed LEMP to enable the establishment of all proposed vegetation in agreement with the relevant Local Planning Authority	To minimise landscape and visual impacts and ensure survival and establishment of mitigation planting	Chapter 12: Landscape and Visual (D.6.2.12), Volume II of the DCO ES	Construction Contractor	LEMP approved by Local Authority	Design / Construction	
D-LV-035	Landscape and Visual	Following the completion of the construction stage, once all planting is in place, a suite of drawings will be produced by the Construction Contractor referred to as ‘as built drawings’ or similar to ensure what has been constructed matches the proposed drawings, as well as forming a reference for on-going maintenance and associated record keeping.	To minimise landscape and visual impacts and ensure survival and establishment of mitigation planting	Chapter 12: Landscape and Visual (D.6.2.12), Volume II of the DCO ES	Construction Contractor	LEMP approved by Local Authority	Design / Construction / Operation / Monitoring	
D-LV-036	Landscape and Visual	During detailed design, where vegetation loss is identified to be unavoidable, and replacement cannot take place in like-for-like locations due to utilities constraints or the constraints of the proposed pipeline route, Table 1 of the **OLEMP (Doc Ref: D.6.5.10)** should be referred to in order to establish how to mitigate for these losses. Replacement blocks for vegetation have been identified and are shown on the Landscape and Ecological Mitigation Plan **(Document Ref: D.6.5.10.1.)**	To minimise landscape and visual impacts and ensure survival and establishment of mitigation planting	Chapter 12: Landscape and Visual (D.6.2.12), Volume II of the DCO ES	Construction Contractor	LEMP approved by Local Authority	Design / Construction	
D-MD-001	Major Accidents and Disaster	The construction stage(s) of the DCO Proposed Development will be managed through the implementation of the Construction Phase Plan (required under the CDM Regulations 2015).	To reduce the vulnerability of the DCO Proposed Development to the risk of MA&D events.	Chapter 13: Major Accidents and Disasters (D.6.2.13), Volume II of the DCO ES	Construction Contractor	Implementation of the Construction Phase Plan.	Construction	
D-MD-002	Major Accidents and Disaster	The design, installation, commissioning, operation and maintenance of plant, drainage systems, equipment, and machinery, including associated systems, will consider Good Engineering Practice.	To reduce the vulnerability of the DCO Proposed Development to the risk of MA&D events.	Chapter 13: Major Accidents and Disasters (D.6.2.13), Volume II of the DCO ES	The Applicant / Construction Contractor	Design Drawings Detailed CEMP approved by the Local Authority. Operational procedures.	Design / Construction / Operation	

D-MD-003	Major Accidents and Disaster	The Applicant will undertake a programme of hazard studies.	To produce an inherently safe design and to ensure residual risks are managed to be as low as reasonably possible (ALARP).	Chapter 13: Major Accidents and Disasters (D.6.2.13), Volume II of the DCO ES	The Applicant	Design Drawings	Design	
D-MD-004	Major Accidents and Disaster	The DCO Proposed Development will be managed in accordance with Environmental, Health & Safety Management systems.	To reduce the vulnerability of the DCO Proposed Development to the risk of MA&D events.	Chapter 13: Major Accidents and Disasters (D.6.2.13), Volume II of the DCO ES	The Applicant / Construction Contractor	Safety, health and environment (SHE) Progress Meetings. CEMP approved by the Local Authority	Construction / Operation	
D-MD-005	Major Accidents and Disaster	All construction risks will be managed in accordance with the CDM Health & Safety Plan and Construction Phase Plan.	To reduce the vulnerability of the DCO Proposed Development to the risk of MA&D events.	Chapter 13: Major Accidents and Disasters (D.6.2.13), Volume II of the DCO ES	The Applicant / Construction Contractor	Safety, health and environment (SHE) Progress Meetings. CDM Construction Phase Plan Detailed CEMP approved by the Local Authority.	Construction	
D-MD-006	Major Accidents and Disaster	The Proposed Development will be managed in accordance with supplier management environmental, health & safety standards (for example, Construction Skills Certification Scheme).	To reduce the vulnerability of the DCO Proposed Development to the risk of MA&D events.	Chapter 13: Major Accidents and Disasters (D.6.2.13), Volume II of the DCO ES	The Applicant / Construction Contractor	Safety, health and environment (SHE) Progress Meetings. SHE tender requirements as specified in the contract with contractor. Detailed CEMP approved by the Local Authority.	Construction	
D-MD-007	Major Accidents and Disaster	The Applicant will implement a risk management system.	To reduce the vulnerability of the DCO Proposed Development to the risk of MA&D events.	Chapter 13: Major Accidents and Disasters (D.6.2.13), Volume II of the DCO ES	The Applicant / Construction Contractor	Safety, health and environment (SHE) Progress Meetings. SHE tender requirements as specified in the contract with contractor. Implementation of a SHE Management System. Detailed CEMP approved by the Local Authority..	Construction / Operation	
D-MD-008	Major Accidents and Disaster	The Applicant will implement a Construction and Environmental Management systems (including the CEMP).	To reduce the vulnerability of the DCO Proposed Development to the risk of MA&D events.	Chapter 13: Major Accidents and Disasters (D.6.2.13), Volume II of the DCO ES	The Applicant / Construction Contractor	Construction Phase Plan approved by the Local Authority. Detailed CEMP approved by the Local Authority.	Construction	
D-MW-001	Material Assets and Waste	The Construction Contractor will ensure that the application of circular economy Principals will be followed, as implemented in the detailed CEMP, including: •Designing solutions to prevent the generation of waste where feasible, and to send waste for recovery, wherever possible. •Considering all stages of construction, operation and decommissioning in a lifecycle approach. •Identification of resource streams that might be considered by-products (i.e. not wastes, as per applicable legislation) and reused or recycled.	Effective design for the future.	Chapter 14: Material Assets and Waste (D.6.2.14), Volume II of the DCO ES	Construction Contractor	Design Drawings Detailed CEMP approved by the Local Authority	Design / Construction	
D-MW-002	Material Assets and Waste	The Waste Management Plan will adhere to the highest tiers of the Waste Hierarchy, all relevant legislation and the Applicant's waste management procedures.	To identify opportunities to further reduce any waste. To reduce associated impacts such as potential harm to the environment. To monitor waste generation and disposal methods.	Chapter 14: Material Assets and Waste (D.6.2.14), Volume II of the DCO ES	Construction Contractor	Detailed CEMP approved by the Local Authority WMP approved by the Local Authority	Design / Construction	
D-MW-003	Material Assets and Waste	Waste storage areas will be incorporated into the Detailed Design. Waste segregation measures will be put in place by the Construction Contractor as implemented in the detailed CEMP and WMP.	To maximise the potential for highest value reuse and recycling.	Chapter 14: Material Assets and Waste (D.6.2.14), Volume II of the DCO ES	Construction Contractor	Design Drawings. Detailed CEMP approved by the Local Authority. WMP approved by the Local Authority.	Design / Construction	
D-MW-004	Material Assets and Waste	The Construction Contractor will ensure that the backfilling of earthworks generated through trenching activities (subject to suitability of material) will be undertaken.	Construction methods with the potential to reduce adverse material asset and waste impacts	Chapter 14: Material Assets and Waste (D.6.2.14), Volume II of the DCO ES	Construction Contractor	Detailed CEMP approved by the Local Authority	Construction	

D-MW-005	Material Assets and Waste	The use of trenchless installation techniques will prevent additional material resource consumption and waste generation and disposal through the avoidance of infrastructure removal and replacement.	Construction methods with the potential to reduce adverse material asset and waste impacts	Chapter 14: Material Assets and Waste (D.6.2.14), Volume II of the DCO ES	Construction Contractor	Detailed CEMP approved by the Local Authority	Construction	
D-MW-006	Material Assets and Waste	The Construction Contractor will implement, and follow guidance within, the Materials Management Plan (MMP) in accordance with the CL:AIRE Definition of Waste: Code of Practice.	To monitor the maximum reuse of both natural soils and Made Ground (contaminated or otherwise).	Chapter 14: Material Assets and Waste (D.6.2.14), Volume II of the DCO ES	Construction Contractor	MMP approved by the Local Authority	Design / Construction	
D-NV-001	Noise and Vibration	The Noise and Vibration Management Plan will detail the noise mitigation measures included in the Detailed Design, the noise and vibration limits to be met and a programme of noise and vibration monitoring which should be followed during the Construction Stage.	Provide a mitigation scheme based on final design. The Noise and Vibration Mitigation Plan will seek to avoid significant effects (daytime, evening and night-time), where reasonably practicable.	Chapter 15: Noise and Vibration (D.6.2.15), Volume II of the DCO ES	Construction Contractor	Assessment Criteria presented in Chapter 15 of the ES	Pre-Construction / Construction / Decommissioning / Monitoring	
D-NV-002	Noise and Vibration	Prior to construction works commencing, consultation will take place with the Local Planning Authorities Environmental Health Officers (or equivalent positions and/or further stakeholders as appropriate) to agree the parameters to be included in the Noise and Vibration Management Plan. This will include, but is not limited to, appropriate consents and agreements (e.g. Section 61) and best practice measures and specific mitigation measures to ensure that the noise and vibration effects reported in the ES is, as a minimum, achieved. The consultation will also cover the mitigation measures included to avoid significant effects during the operational phase.	Agreement of Noise and Vibration Management Plan	Chapter 15: Noise and Vibration (D.6.2.15), Volume II of the DCO ES	Construction Contractor	Detailed CEMP approved by the Local Authority Noise and Vibration Management Plan.	Pre-Construction / Construction	
D-NV-003	Noise and Vibration	The Construction Contractor will nominate a Community Liaison Representative (or equivalent title) who will be a nominated competent site contact for whom the contact details will be shared with local residents and other third parties within close proximity to the construction works, and will be displayed clearly within the site compounds. The Community Liaison Representative will be responsible for engaging with any noise or vibration related matters raised by third parties. Responsibilities should be clearly started in the Noise and Vibration Management Plan.	Best Practicable Means to minimise noise and vibration impacts.	Chapter 15: Noise and Vibration (D.6.2.15), Volume II of the DCO ES	Construction Contractor	Detailed CEMP approved by the Local Authority Noise and Vibration Management Plan.	Construction	
D-NV-004	Noise and Vibration	Construction works will utilise low noise generating plant and equipment and will adopt methods which minimise noise and vibration, wherever practicable.	Best Practicable Means to minimise noise and vibration impacts.	Chapter 15: Noise and Vibration (D.6.2.15), Volume II of the DCO ES	Construction Contractor	Detailed CEMP approved by the Local Authority Noise and Vibration Management Plan.	Construction	
D-NV-005	Noise and Vibration	Where required, temporary acoustic barriers will be considered around significant noise producing plant that are in close proximity to sensitive receptors. The locations of these screens will be optimised for acoustic mitigation whilst considering other potential impacts. The location and design of the temporary acoustic barriers will be detailed in conjunction with the Landscape Architect to ensure impacts upon landscape character and visual amenity are avoided and do not give rise to increased levels of effect as reported in Chapter 12 of the ES. Particular consideration will be given to PRoW and residential receptors.	Best Practicable Means to minimise noise and vibration impacts.	Chapter 15: Noise and Vibration (D.6.2.15), Volume II of the DCO ES	Construction Contractor	Design Drawings Detailed CEMP approved by the Local Authority. Noise and Vibration Management Plan.	Pre-Construction / Construction	
D-NV-006	Noise and Vibration	Optimal location(s) of all equipment with the potential to cause a significant effect on noise on site will be agreed with the Local Authorities as part of the Noise and Vibration Management Plan prior to construction to minimise noise disturbance to local sensitive receptors.	Best Practicable Means to minimise noise and vibration impacts.	Chapter 15: Noise and Vibration (D.6.2.15), Volume II of the DCO ES	Construction Contractor	Detailed CEMP approved by the Local Authority Noise and Vibration Management Plan.	Pre-Construction / Construction	
D-NV-007	Noise and Vibration	During construction, the Construction Contractor will ensure that the provision of acoustic enclosures around static plant, where practicable, is in place to reduce noise disturbance. The Noise and Vibration Management Plan will estipulate where this is necessary.	Best Practicable Means to minimise noise and vibration impacts.	Chapter 15: Noise and Vibration (D.6.2.15), Volume II of the DCO ES	Construction Contractor	Detailed CEMP approved by the Local Authority. Noise and Vibration Management Plan.	Construction	
D-NV-008	Noise and Vibration	Construction vehicles will, wherever practicable, be fitted with less intrusive warning alarms, such as broadband vehicle reversing warnings.	Best Practicable Means to minimise noise and vibration impacts.	Chapter 15: Noise and Vibration (D.6.2.15), Volume II of the DCO ES	Construction Contractor	Detailed CEMP approved by the Local Authority. Noise and Vibration Management Plan.	Construction	
D-NV-009	Noise and Vibration	Temporary noise screening methods and management such as low noise equipment, hoarding etc as per agreement with the Local Planning Authorities EHO (or equivalent positions and/or further stakeholders as appropriate) should achieve a minimum attenuation of 10 dB(A) at all sensitive locations during construction where the noise impact in the ES was identified. During detailed design, the Construction Contractor will explore further attenuation opportunities to mitigate any residual impacts at all sensitive locations, where required.	Best Practicable Means to minimise noise and vibration impacts.	Chapter 15: Noise and Vibration (D.6.2.15), Volume II of the DCO ES	Construction Contractor	Detailed CEMP approved by the Local Authority. Noise and Vibration Management Plan.	Construction	

D-NV-010	Noise and Vibration	The construction programme will seek to minimise the duration of high noise generating construction activities, as far as practicably possible. Where construction activities near sensitive areas are expected to affect residents with a magnitude of medium and high, and exceed the durations of 10 or more days or nights in any 15 consecutive days or nights, or a total number of days exceeding 40 in any 6 consecutive months, then a set of enhanced mitigation measures will be discussed and agreed with the Local Authority. Temporary re-housing will be also considered through consultation with the Local Authority for specific locations where other mitigation measures do not provide sufficient attenuation to prevent sleep disturbance during activities in the night-time period.	Best Practicable Means to minimise noise and vibration impacts.	Chapter 15: Noise and Vibration (D.6.2.15), Volume II of the DCO ES	Construction Contractor	Detailed CEMP approved by the Local Authority. Noise and Vibration Management Plan.	Design / Pre-Construction / Construction / Decommissioning	
D-NV-011	Noise and Vibration	The rating levels arising from the operation of the AGIs and BVSs is not expected to exceed the rating levels at the nearest sensitive receptors presented in the ES (Table 15-22, Table 15-23). Mitigation measures within the design envelope such as use of low noise plant and acoustic enclosures will be required for the AGIs and BVS if the proposed noise limits cannot be met.	Mitigation to minimise operational noise impacts.	Chapter 15: Noise and Vibration (D.6.2.15), Volume II of the DCO ES	Construction Contractor	Detailed CEMP approved by the Local Authority. Noise and Vibration Management Plan.	Construction	
D-NV-012	Noise and Vibration	Construction works will be programmed to the following core hours: 8am to 6pm Monday to Friday. Any exceptions to this, such as for works associated with trenchless crossings or any other unexpected requirement to work outside of the core construction working hours, will be discussed and agreed prior to such works commencing with the Local Planning Authority's EHO (or equivalent position and/or further stakeholders as appropriate). This includes, where relevant, agreeing any additional noise mitigation with the EHO/s, and notifying local residents/communities of planned works outside of core construction hours prior to such works commencing.	Best Practicable Means to minimise noise and vibration impacts.	Chapter 15: Noise and Vibration (D.6.2.15), Volume II of the DCO ES	Construction Contractor	Detailed CEMP approved by the Local Authority. Noise and Vibration Management Plan.	Construction	
D-NV-013	Noise and Vibration	Noise and vibration monitoring during the Construction Stage at locations stipulated in the Noise and Vibration Management Plan. As part of the Plan, a set of representative monitoring locations will be agreed along with actions for the Construction Constructor when the likelihood of significant effect is triggered	Best Practicable Means to minimise noise and vibration impacts.	Chapter 15: Noise and Vibration (D.6.2.15), Volume II of the DCO ES	Construction Contractor	Detailed CEMP approved by the Local Authority. Noise and Vibration Management Plan.	Construction	
~~D-PH-001~~	Population and Human Health	Unique REAC identifier unused						
D-PH-002	Population and Human Health	The Construction Contractor will promote the use of local workforce and suppliers, wherever practicable.	To minimise population and health impacts.	Chapter 16: Population and Human Health (D.6.2.16), Volume II of the DCO ES	Construction Contractor	Detailed CEMP approved by the Local Authority	Construction	
~~D-PH-003~~	Population and Human Health	Unique REAC identifier unused						
D-PH-004	Population and Human Health	The public will be informed of the nature, timing and duration of particular construction activities and the duration of the construction works by newsletters and liaison with the Applicant.	To minimise population and health impacts.	Chapter 16: Population and Human Health (D.6.2.16), Volume II of the DCO ES	The Applicant / Construction Contractor	Stakeholder Communications Plan.	Construction	
D-PH-005	Population and Human Health	Construction Compounds will be set out and managed so as to reduce impacts on access to / from private property and housing, and community facilities as far as practicable.	To minimise population and health impacts.	Chapter 16: Population and Human Health (D.6.2.16), Volume II of the DCO ES	Construction Contractor	Detailed CEMP approved by the Local Authority	Construction	
D-PH-006	Population and Human Health	Clear signage and directions for any alternative routes and appropriate alternative diversions will be provided and diversions clearly publicised to maintain access. Signage to advertise that businesses are open and operating as normal will also be provided where required.	To minimise population and health impacts.	Chapter 16: Population and Human Health (D.6.2.16), Volume II of the DCO ES	Construction Contractor	Detailed CEMP approved by the Local Authority	Construction	
~~D-PH-007~~	Population and Human Health	Unique REAC identifier unused						
D-PH-008	Population and Human Health	Community Facilities will be consulted prior to construction where access arrangements will be directly affected. Traffic management systems and diversion routes will be put in place to maintain access to identified community facilities.	To minimise population and health impacts.	Chapter 16: Population and Human Health (D.6.2.16), Volume II of the DCO ES	Construction Contractor	Public consultation strategy.	Pre-Construction / Construction	
D-PH-009	Population and Human Health	Vehicular access will be maintained at all times to community facilities which perform emergency service activities.	To minimise population and health impacts.	Chapter 16: Population and Human Health (D.6.2.16), Volume II of the DCO ES	Construction Contractor	Detailed CEMP approved by the Local Authority	Construction	
~~D-PH-010~~	Population and Human Health	Unique REAC identifier unused						
~~D-PH-011~~	Population and Human Health	Unique REAC identifier unused						

~~D-PH-012~~	Population and Human Health	Unique REAC identifier unused						
D-PH-013	Population and Human Health	Construction activities that take place outside of St Oswald's School and Sandycroft County Primary School will be scheduled outside of term time where possible, to avoid potential disturbance and traffic delays.	To minimise population and health impacts.	Chapter 16: Population and Human Health (D.6.2.16), Volume II of the DCO ES	Construction Contractor	Detailed CEMP approved by the Local Authority	Construction	
D-PH-014	Population and Human Health	Discussions will be undertaken with Greenacres Animal Park to ascertain the off-peak season and/or the most convenient period to undertake construction activities	To minimise population and health impacts.	Chapter 16: Population and Human Health (D.6.2.16), Volume II of the DCO ES	Construction Contractor	Detailed CEMP approved by the Local Authority	Construction	
D-PH-015	Population and Human Health	Discussions will be undertaken with 2 Sisters Group to fully understand the implications of using the existing car park for construction and setting out a mitigation plan for the business. If additional parking spaces are required, the Construction Contractor will work with 2 Sisters Group to identify additional parking facilities offsite	To minimise population and health impacts.	Chapter 16: Population and Human Health (D.6.2.16), Volume II of the DCO ES	Construction Contractor	Detailed CEMP approved by the Local Authority	Construction	
~~D-PH-016~~	Population and Human Health	Unique REAC identifier unused						
~~D-PH-017~~	Population and Human Health	Unique REAC identifier unused						
D-TT-001	Traffic and Transport	Careful consideration will be taken of the siting of temporary access points during construction. Access points will require the incorporation of site-specific and appropriate visibility splays, turning radii and, where deemed necessary or appropriate, speed limit reductions.	To minimise disruption to existing transport links.	Chapter 17: Traffic and Transport (D.6.2.17), Volume II of the DCO ES	Construction Contractor	Detailed CEMP approved by the Local Authority	Design / Construction	
D-TT-002	Traffic and Transport	The Construction Contractor will follow the mitigation measures in the Construction Traffic Management Plan (CTMP) during construction works.	To achieve the following: Ensure movements of people, plant and materials are achieved in a safe, efficient, timely and sustainable manner; Ensure any impact to local communities and the local economy is reduced as far as reasonably practical; Ensure construction traffic levels do not exceed an acceptable level during network peak periods; Reduce and control construction vehicle trips where practical; Ensure that strategies and mitigation measures are implemented and adhered to through continued monitoring, review, and improvement; and Limit the effects of construction traffic on the local road network.	Chapter 17: Traffic and Transport (D.6.2.17), Volume II of the DCO ES	Construction Contractor	CTMP approved by the Local Authority.	Construction	
D-TT-003	Traffic and Transport	Sensitive selection and specification of construction access points off the public highway to reduce wider traffic volumes in the surrounding area..	To reduce, where possible, traffic effects on links that would be more sensitive to changes in traffic volumes.	Chapter 17: Traffic and Transport (D.6.2.17), Volume II of the DCO ES	Construction Contractor	CTMP approved by the Local Authority.	Design / Construction	
D-TT-004	Traffic and Transport	The CTMP will provide details of construction traffic routes away from sensitive receptors to reduce impacts upon the wider area.	To reduce, where possible, traffic effects on links that would be more sensitive to changes in traffic volumes.	Chapter 17: Traffic and Transport (D.6.2.17), Volume II of the DCO ES	Construction Contractor	CTMP approved by the Local Authority.	Construction	

D-TT-005	Traffic and Transport	Details of temporary diversions for footpaths are provided within the Outline CTMP, of which the Construction Contractor will implement on site.	To retain access to the PRoW.	Chapter 17: Traffic and Transport (D.6.2.17), Volume II of the DCO ES	Construction Contractor	CTMP approved by the Local Authority.	Design / Construction	
~~D-TT-006~~	Traffic and Transport	Unique REAC identifier unused						
D-TT-007	Traffic and Transport	Control of HGV Traffic Movements and Timings. At the following junctions: Deeside Lane/ Sealand Road B5127/ B5125 Brookside/ B5125 B5125/ Upper Aston Hall Lane A5119/ Starkey Lane	To reduce the effects of construction traffic on sensitive links or those with sensitive receptors such as school, or to minimise the impacts of construction traffic at junctions or links with capacity/ operational issues at specific times of the days.	Chapter 17: Traffic and Transport (D.6.2.17), Volume II of the DCO ES	Construction Contractor	CTMP approved by the Local Authority.	Construction	
D-TT-008	Traffic and Transport	Dilapidation Surveys, Maintenance, and Repair to ensure that the adopted highway is not left in a state of disrepair following use by DCO Proposed Development construction traffic. To include a photographic survey on all construction traffic routes to centralised compounds, AGI and BVS (extents to be agreed with LHAs) prior to construction and site walkover with relevant LHAs officer. All damage incurred following the construction phase to be remediated by the contractor.	To meet the requirements of Sections 59 of the Highways Act (1980); ensuring that extraordinary damage to the highway incurred as a result of the DCO Proposed Development is remediated	Chapter 17: Traffic and Transport (D.6.2.17), Volume II of the DCO ES	Construction Contractor	CTMP approved by the Local Authority.	Pre-Construction	
D-TT-009	Traffic and Transport	Community Engagement and Public Information. Information regarding construction traffic activities and movements would be provided to the public. The means of communication would include online updates, letter drops, information boards and details of key contacts. The contractor would manage a 24-hour free telephone hotline and a project website.	To ensure that local communities are made aware of ongoing construction activities and can report issues and non-adherence by the contractor to agreed CTMP measures.	Chapter 17: Traffic and Transport (D.6.2.17), Volume II of the DCO ES	Construction Contractor	CTMP approved by the Local Authority.	Construction	
D-TT-010	Traffic and Transport	Introduction of Temporary Traffic Regulation Orders – Speed Limits at Access Locations where required. Speed limits required to achieve visibility splays at all Primary Access Location are set out in the **Access Principals Note (Annex D, Outline CTMP (Document Reference 6.5.4.3)**	Ensure safe access to working locations and for other road users as well as maintaining appropriate visibility splays.	Chapter 17: Traffic and Transport (D.6.2.17), Volume II of the DCO ES	Construction Contractor	CTMP approved by the Local Authority Access Principals Note approved by the Local Authority	Construction	
D-TT-011	Traffic and Transport	Introduction of Temporary Traffic Regulation Orders – One-Way Systems on Construction Traffic Routes associated with the Picton Lane, Chorlton Lane, and Wood Farm centralised compounds as detailed on the temporary works plans for Centralised Compounds - presented in the **Outline Construction Traffic Management Plan (Document Reference: 6.5.4.3)**	Maintain the safe and effective flow of traffic on construction traffic routes; in particular ensuring that HGVs can safely access working locations and minimise as far as reasonably practicable, disruption to local communities and other road users.	Chapter 17: Traffic and Transport (D.6.2.17), Volume II of the DCO ES	Construction Contractor	CTMP approved by the Local Authority.	Pre-Construction	
D-TT-012	Traffic and Transport	Temporary Traffic Management (e.g. Traffic Marshals, Temporary Traffic Signals, Hazard Warning Signage) on Construction Traffic Routes and at Access Locations – primarily at 'Primary Access Locations' i.e. Centralised Compounds and AGI/ BVS Sites. Temporary works plans for Centralised Compounds are presented in the **Outline Construction Traffic Management Plan (Document Reference: 6.5.4.3)**	Maintain the safe and effective flow of traffic on construction traffic routes; in particular ensuring that HGVs can safely access working locations and minimise as far as reasonably practicable, disruption to local communities and other road users.	Chapter 17: Traffic and Transport (D.6.2.17), Volume II of the DCO ES	Construction Contractor	CTMP approved by the Local Authority.	Pre-Construction	

D-TT-013	Traffic and Transport	Implement a Travel Plan. Travel plan to include measures to reduce single occupancy car trips via a car sharing scheme and the use of minibuses to transport workers to compounds and access locations.	Encourage sustainable travel behaviour; Reduce car usage (particularly single occupancy car journeys); Raise awareness of the sustainable transport measures serving the Site; and Minimise the impact of traffic on sensitive locations.	Chapter 17: Traffic and Transport (D.6.2.17), Volume II of the DCO ES	Construction Contractor	CTMP approved by the Local Authority.	Construction	
D-TT-014	Traffic and Transport	Provide HGVs that are fitted with side guards and mirrors to enhance safety for cyclists and motorcyclists.	Address risk associated with identified trend of cyclist and motorcyclists collision on construction traffic routes and minimise DCO Proposed Development impact on highways safety.	Chapter 17: Traffic and Transport (D.6.2.17), Volume II of the DCO ES	Construction Contractor	CTMP approved by the Local Authority.	Pre-Construction / Construction	
D-WR-001	Water Resources and Flood Risk	Construction works will avoid the positioning of temporary material stockpiles near to watercourses and will ensure material stockpiles are located outside of the flood zone where practicable. Welfare facilities and stored equipment and materials to be located within the compounds so that areas of high flood risk are avoided.	To minimise the impacts on surface water quality, groundwater and flood risk.	Chapter 18: Water Resources and Flood Risk (D.6.2.18), Volume II of the DCO ES	Construction Contractor	Detailed CEMP approved by the Local Authority	Construction	
D-WR-002	Water Resources and Flood Risk	Construction works will ensure that a sufficient working area, as agreed by the Construction Contractor, is made available for effective sediment management for works within watercourses.	To minimise the impacts on surface water quality, groundwater and flood risk.	Chapter 18: Water Resources and Flood Risk (D.6.2.18), Volume II of the DCO ES	Construction Contractor	Detailed CEMP approved by the Local Authority	Construction	
D-WR-003	Water Resources and Flood Risk	Temporary stockpiles will be located a minimum of 10m from the top of bank of any watercourse, where practicable.	To minimise the impacts of surface water quality, groundwater and flood risk.	Chapter 18: Water Resources and Flood Risk (D.6.2.18), Volume II of the DCO ES	Construction Contractor	Detailed CEMP approved by the Local Authority	Construction	
D-WR-004	Water Resources and Flood Risk	Where necessary temporary stockpiles will be protected by silt netting when not in use.	To minimise the impacts of surface water quality, groundwater and flood risk.	Chapter 18: Water Resources and Flood Risk (D.6.2.18), Volume II of the DCO ES	Construction Contractor	Detailed CEMP approved by the Local Authority	Construction	
D-WR-005	Water Resources and Flood Risk	Surface water runoff from construction works within 10m of watercourses will be treated by use of a sediment trap where required.	To minimise the impacts of surface water quality, groundwater and flood risk.	Chapter 18: Water Resources and Flood Risk (D.6.2.18), Volume II of the DCO ES	Construction Contractor	Detailed CEMP approved by the Local Authority	Construction	
D-WR-006	Water Resources and Flood Risk	Temporary drainage systems will be implemented near sensitive receptors to control surface water runoff, to alleviate both flood risk and help to prevent sediment laden runoff entering the watercourse.	To minimise the impacts of surface water quality, groundwater and flood risk.	Chapter 18: Water Resources and Flood Risk (D.6.2.18), Volume II of the DCO ES	Construction Contractor	Detailed CEMP approved by the Local Authority	Pre-Construction / Construction	
D-WR-007	Water Resources and Flood Risk	Temporary cut-off drains will be used uphill and downhill of the Construction Compounds to prevent clean runoff entering and dirty water leaving the working area without appropriate treatment.	To minimise the impacts of surface water quality, groundwater and flood risk.	Chapter 18: Water Resources and Flood Risk (D.6.2.18), Volume II of the DCO ES	Construction Contractor	Detailed CEMP approved by the Local Authority	Pre-Construction / Construction	
D-WR-008	Water Resources and Flood Risk	All drains within the construction works areas will be identified and labelled and measures implemented to those considered most at risk of polluting substances from entering them.	To minimise the impacts of surface water quality, groundwater and flood risk.	Chapter 18: Water Resources and Flood Risk (D.6.2.18), Volume II of the DCO ES	Construction Contractor	Detailed CEMP approved by the Local Authority	Construction	

D-WR-009	Water Resources and Flood Risk	All new permanent connections of open drainage channels to receiving watercourses, as part of the detailed AGI/BVS surface water drainage strategy, will be constructed to reduce the impact on the geomorphology of the relevant watercourses.	To minimise the impacts of surface water quality, groundwater and flood risk.	Chapter 18: Water Resources and Flood Risk (D.6.2.18), Volume II of the DCO ES	Construction Contractor	Detailed CEMP approved by the Local Authority	Construction	
D-WR-010	Water Resources and Flood Risk	Areas with a greater risk of spillage (for example, vehicle maintenance and storage areas for hazardous materials) will be carefully sited (for example, away from drains or areas where surface waters may pond) and on an impermeable surface.	To minimise the impacts of surface water quality, groundwater and flood risk.	Chapter 18: Water Resources and Flood Risk (D.6.2.18), Volume II of the DCO ES	Construction Contractor	Detailed CEMP approved by the Local Authority	Construction	
D-WR-011	Water Resources and Flood Risk	Emergency response plans will be developed, and spill kits made available on-site.	To minimise the impacts of surface water quality, groundwater and flood risk.	Chapter 18: Water Resources and Flood Risk (D.6.2.18), Volume II of the DCO ES	Construction Contractor	Detailed CEMP approved by the Local Authority	Construction	
D-WR-012	Water Resources and Flood Risk	Measures to be put in place to prevent pollution from construction plant, vehicles and machinery including refuelling and lubricating in designated areas, on an impermeable surface, with appropriate cut-off drainage located away from watercourses; plant to be maintained in a good condition with wheel washing in place (avoiding vehicle cleaning near to existing watercourses), all refuelling would be supervised and carried out in a designated area. In the event of plant breakdown, drip trays would be used during any emergency maintenance and spill kits would be available on-site.	To minimise the impacts of surface water quality, groundwater and flood risk.	Chapter 18: Water Resources and Flood Risk (D.6.2.18), Volume II of the DCO ES	Construction Contractor	Detailed CEMP approved by the Local Authority	Construction	
D-WR-013	Water Resources and Flood Risk	Fuels and potentially hazardous construction materials would be stored in bunds that have areas with external cut-off drainage; fuel would be stored in double skinned tanks with 110% capacity.	To minimise the impacts of surface water quality, groundwater and flood risk.	Chapter 18: Water Resources and Flood Risk (D.6.2.18), Volume II of the DCO ES	Construction Contractor	Detailed CEMP approved by the Local Authority	Construction	
D-WR-014	Water Resources and Flood Risk	Construction plant will be checked regularly for oil and fuel leaks, particularly when construction works are undertaken in or near the existing waterbodies.	To minimise the impacts of surface water quality, groundwater and flood risk.	Chapter 18: Water Resources and Flood Risk (D.6.2.18), Volume II of the DCO ES	Construction Contractor	Detailed CEMP approved by the Local Authority	Construction	
D-WR-015	Water Resources and Flood Risk	Waste fuels and other fluid contaminants will be collected in leak-proof containers prior to removal from the construction area to an approved recycling processing facility.	To minimise the impacts of surface water quality, groundwater and flood risk.	Chapter 18: Water Resources and Flood Risk (D.6.2.18), Volume II of the DCO ES	Construction Contractor	Detailed CEMP approved by the Local Authority	Construction	
D-WR-016	Water Resources and Flood Risk	Oil absorbent booms will be made available at construction compounds and works areas and will be deployed as soon as possible in the event of a significant spillage.	To minimise the impacts of surface water quality, groundwater and flood risk.	Chapter 18: Water Resources and Flood Risk (D.6.2.18), Volume II of the DCO ES	Construction Contractor	Detailed CEMP approved by the Local Authority	Construction	
~~D-WR-017~~	Water Resources and Flood Risk	Unique REAC identifier unused						
D-WR-018	Water Resources and Flood Risk	Measures implemented to control spillage or pollution risks for site runoff or works within watercourses will be regularly inspected to ensure they are working effectively.	To minimise the impacts of surface water quality, groundwater and flood risk.	Chapter 18: Water Resources and Flood Risk (D.6.2.18), Volume II of the DCO ES	Construction Contractor	Detailed CEMP approved by the Local Authority	Construction	

D-WR-019	Water Resources and Flood Risk	Concrete wash out will only take place at designated concrete washout areas.	To minimise the impacts of surface water quality, groundwater and flood risk.	Chapter 18: Water Resources and Flood Risk (D.6.2.18), Volume II of the DCO ES	Construction Contractor	Detailed CEMP approved by the Local Authority	Construction	
D-WR-020	Water Resources and Flood Risk	Avoid pumping or similar processes of concrete over or adjacent to open water where possible and such works will be closely observed to ensure the swift shut off any pumps if a spillage occurs.	To minimise the impacts of surface water quality, groundwater and flood risk.	Chapter 18: Water Resources and Flood Risk (D.6.2.18), Volume II of the DCO ES	Construction Contractor	Detailed CEMP approved by the Local Authority	Construction	
D-WR-021	Water Resources and Flood Risk	Surface water run-off and excavation dewatering will be captured and settled out prior to disposal where practicable. The Construction Contractor will ensure that any contaminants are to be suitably removed prior to disposal.	To minimise the impacts of surface water quality, groundwater and flood risk.	Chapter 18: Water Resources and Flood Risk (D.6.2.18), Volume II of the DCO ES	Construction Contractor	Detailed CEMP approved by the Local Authority	Construction	
D-WR-022	Water Resources and Flood Risk	Temporary cofferdams will be used to exclude work areas from the waterbodies, thus reducing the risk of increased sediment loads or hazardous substances entering the main water flow.	To minimise the impacts of surface water quality, groundwater and flood risk.	Chapter 18: Water Resources and Flood Risk (D.6.2.18), Volume II of the DCO ES	Construction Contractor	Detailed CEMP approved by the Local Authority	Construction	
D-WR-023	Water Resources and Flood Risk	Where works are within 10m of watercourses, sediment barriers will be provided between earth works and the construction zone and the watercourse to prevent sediment from washing into the river. Silt management will be considered not only for areas adjacent to the watercourse, but also up the valley sides to minimise fine sediment input to the watercourse. Where practicable, there will be no works within 8m of watercourses. This extends to 16m for transitional waters and tidal defences.	To minimise the impacts of surface water quality, groundwater and flood risk.	Chapter 18: Water Resources and Flood Risk (D.6.2.18), Volume II of the DCO ES	Construction Contractor	Detailed CEMP approved by the Local Authority	Construction	
D-WR-024	Water Resources and Flood Risk	Silt fences, silt traps, filter bunds, settlement basins and/or proprietary units' will be used to treat sediment laden water generated on-site before discharge.	To minimise the impacts of surface water quality, groundwater and flood risk.	Chapter 18: Water Resources and Flood Risk (D.6.2.18), Volume II of the DCO ES	Construction Contractor	Detailed CEMP approved by the Local Authority	Construction	
D-WR-025	Water Resources and Flood Risk	Sewage generated from site welfare facilities will be disposed of appropriately. This may be by discharge to the foul sewer network or by collection in septic tank for disposal off-site.	To minimise the impacts of surface water quality, groundwater and flood risk.	Chapter 18: Water Resources and Flood Risk (D.6.2.18), Volume II of the DCO ES	Construction Contractor	Detailed CEMP approved by the Local Authority	Construction	
D-WR-026	Water Resources and Flood Risk	Works will be undertaken in compliance with the relevant sections of BS6031:2009 Code of Practice for Earthworks (British Standards, 2009) with respect to protection of water quality and control of Site drainage including washings, dewatering, abstractions, and surface water.	To minimise the impacts of surface water quality, groundwater and flood risk.	Chapter 18: Water Resources and Flood Risk (D.6.2.18), Volume II of the DCO ES	Construction Contractor	Detailed CEMP approved by the Local Authority	Construction	
D-WR-027	Water Resources and Flood Risk	Clearance of vegetation on the channel banks, valley sides and riparian zone will be limited to the minimum practicable. A minimum of 8m, vegetated buffer strip between the construction zone and the watercourse will be retained, wherever practicable.	To minimise the impacts of surface water quality, groundwater and flood risk.	Chapter 18: Water Resources and Flood Risk (D.6.2.18), Volume II of the DCO ES	Construction Contractor	Detailed CEMP approved by the Local Authority	Construction	

D-WR-028	Water Resources and Flood Risk	Where works are required on the watercourse banks, or in-channel, vegetation clearance will be restricted to the minimum required for the construction working area and should be undertaken only immediately prior to the commencement of those works, except for other circumstances where earlier clearance may be required due to the presence of protected species. Vegetation should be re-established as soon as practicable. If necessary, and where practicable, additional measures such as geotextiles (biodegradable and non-biodegradable), willow whips, mulching, brushwood mattresses etc. will be used to protect soils before vegetation has re-established, particularly on the watercourse banks.	To minimise the impacts of surface water quality, groundwater and flood risk.	Chapter 18: Water Resources and Flood Risk (D.6.2.18), Volume II of the DCO ES	Construction Contractor	Detailed CEMP approved by the Local Authority	Construction	
D-WR-029	Water Resources and Flood Risk	The watercourse will be temporarily blocked and pumped over where practicable whilst the temporary crossing is constructed.	To minimise the impacts of surface water quality, groundwater and flood risk.	Chapter 18: Water Resources and Flood Risk (D.6.2.18), Volume II of the DCO ES	Construction Contractor	Detailed CEMP approved by the Local Authority	Construction	
D-WR-030	Water Resources and Flood Risk	Where practicable, construction works will avoid works on watercourses during high flow events to reduce the risk of fine sediment release and minimise the increase to flood risk from dewatering / hydrostatic testing discharges. The Detailed Design construction programme will seek to target the construction activities involving watercourses for the drier summer months to reduce this risk, whilst taking into account the window for construction activities in relation to aquatic ecology and, in particular, the fish migratory season.	To minimise the impacts of surface water quality, groundwater and flood risk.	Chapter 18: Water Resources and Flood Risk (D.6.2.18), Volume II of the DCO ES	Construction Contractor	Detailed CEMP approved by the Local Authority	Construction	
~~D-WR-031~~	Water Resources and Flood Risk	Unique REAC identifier unused						
D-WR-032	Water Resources and Flood Risk	Weather conditions will be monitored and the contractor will sign up for the flood warning service. Where appropriate, action will be taken to halt works when information indicates a flood event or peak flows may occur.	To minimise the impacts of surface water quality, groundwater and flood risk.	Chapter 18: Water Resources and Flood Risk (D.6.2.18), Volume II of the DCO ES	Construction Contractor	Detailed CEMP approved by the Local Authority	Construction	
D-WR-033	Water Resources and Flood Risk	All relevant consents will be sought from the Environment Agency and/or NRW for temporary discharges and in-stream works affecting Main Rivers. Consents will be sought from the LLFAs for works affecting ordinary watercourses.	To minimise the impacts of surface water quality, groundwater and flood risk.	Chapter 18: Water Resources and Flood Risk (D.6.2.18), Volume II of the DCO ES	The Applicant / Construction Contractor	Obtained relevant consents.	Design	
D-WR-034	Water Resources and Flood Risk	A groundwater management and monitoring plan (GWMMP) will be implemented alongside a CEMP. The GWMMP will consider: limits to the scale, depth and time of temporary dewatering by change of method or by division of works to reduce the zone of influence of dewatering; reduction in the use of damaging construction methods to aquifer physical properties such as consolidating; provision of (compensatory) discharges to Groundwater Dependant Terrestrial Ecosystems (GWDTEs) or use of water recycling during dewatering to support water level and flows where these may be reduced and provision of monitoring of water levels in nearby wells or surface water to enable/ identify further mitigation measures when needed.	To set out the monitoring strategy of the shallow groundwater where any dewatering activities are proposed, and to ensure all groundwater abstracted through construction is appropriately managed.	Chapter 18: Water Resources and Flood Risk (D.6.2.18), Volume II of the DCO ES	Construction Contractor	GWMMP approved by the Local Authority.	Construction	
D-WR-035	Water Resources and Flood Risk	The Dewatering Management Plan will provide a general framework for assessing the potential risks arising from dewatering. The Dewatering Management Plan will aim to keep the duration of pumping and the rates to a minimum which is achieved by minimising the required dewatering. The Dewatering Management Plan will summarise all licences and permits to abstract and discharge from dewatering works issued by the Environment Agency. In addition to permitting, the Dewatering Management Plan will included detailed description of the main discharge points, abstraction and discharge rates, equipment used and construction sequence, any authorisation and details of any pre-treatment required prior to discharge approved by the Environment Agency.	To set out the dewatering strategy of groundwater where dewatering activities are proposed, and to ensure all groundwater abstracted through construction is appropriately managed	Chapter 18: Water Resources and Flood Risk (D.6.2.18), Volume II of the DCO ES	Construction Contractor	Dewatering Management Plan approved by the Environment Agency	Construction	

D-WR-036	Water Resources and Flood Risk	In areas of shallow groundwater, the use of temporary sheet-piles shall be considered as a hydraulic control measure to limit the ingress of water to the pipeline trench and act as mitigation to reduce the groundwater dewatering rate. If implemented sheet piles will then be removed as soon as practicable after their use.	To minimise the impacts of dewatering to groundwater receptors	Chapter 18: Water Resources and Flood Risk (D.6.2.18), Volume II of the DCO ES	Construction Contractor	Design Drawings	Design	
D-WR-037	Water Resources and Flood Risk	Construction works will seek to minimise the loss of groundwater quantity from the water environment. Where practicable, water recycling practices, including re-use of hydrotest water, will be considered.	To minimise the impacts of surface water quality, groundwater and flood risk.	Chapter 18: Water Resources and Flood Risk (D.6.2.18), Volume II of the DCO ES	Construction Contractor	Design Drawings	Design / Construction	
D-WR-038	Water Resources and Flood Risk	The groundwater abstraction at Croughton Road, Caughall, may be impacted slightly by the proposed dewatering for the entry and exit pits of the trenchless crossing. The overhead power lines are already acting as a constraint on the possible location of the pits situated between the proposed pit locations and the abstraction, meaning that the likelihood of impact is already very low. However, any impact to the abstraction will be sought to be avoided as far as reasonably practicable.	To minimise the risk of impact from dewatering on groundwater receptors	Chapter 18: Water Resources and Flood Risk (D.6.2.18), Volume II of the DCO ES	Construction Contractor	Design Drawings	Design	
D-WR-039	Water Resources and Flood Risk	Trench breakers (clay plugs) will be placed at regular intervals along the Carbon Dioxide pipeline trench where required to avoid preferential flow pathways being created which could impact groundwater flows to receptors	To minimise the impacts of surface water quality, groundwater and flood risk.	Chapter 18: Water Resources and Flood Risk (D.6.2.18), Volume II of the DCO ES	Construction Contractor	Design Drawings	Operation	
D-WR-040	Water Resources and Flood Risk	A Flood Action Plan will be prepared and implemented for all AGIs and BVSs. This will include a list of key stakeholders (e.g. site managers, Environment Agency, NRW) and actions to be taken for ongoing weather monitoring (e.g. subscription to flood warning service in areas at risk of fluvial/coastal flooding), in case of expected flooding and/or when flooding is happening. E.g. early closure of the premises, evacuation procedures, reinstatement after flooding. Level of detail of the FAP to reflect level of flood risk in the area	Flood Risk Management	Chapter 18: Water Resources and Flood Risk (D.6.2.18), Volume II of the DCO ES	The Applicant	Flood Action Plan approved by the Local Authority.	Operation	
D-WR-041	Water Resources and Flood Risk	A Flood Action Plan will be developed and implemented for all construction compounds The Flood Action Plan will contain procedures to minimise the risk to construction workers and the measures will be reflective of the flood risk of each area but will include as a minimum a requirement for: -Where applicable the Construction Contractor/s will sign up to flood warning service to obtain information related to the area of the DCO Proposed Development and will check online warnings regularly in areas at risk of fluvial/coastal flooding. -Construction works will avoid working in the floodplain, where practicable -Weather forecasts will be regularly monitored so to avoid working in peak flows or when flooding is possible. If a flood warning is received from the Environment Agency or NRW, move all machinery and equipment out of any undefended floodplain. If this cannot be completed in a safe time, secure equipment to prevent it being washed away.	Flood Risk Management	Chapter 18: Water Resources and Flood Risk (D.6.2.18), Volume II of the DCO ES	Construction Contractor	Detailed CEMP approved by the Local Authority	Construction	
D-WR-042	Water Resources and Flood Risk	The Construction Contractor/s will ensure that all construction staff are made aware and trained in the procedures of the Flood Action Plans	Flood Risk Management	Chapter 18: Water Resources and Flood Risk (D.6.2.18), Volume II of the DCO ES	Construction Contractor	Flood Action Plan approved by the Local Authority.	Construction / Operation	

D-WR-043	Water Resources and Flood Risk	Surface water drainage solutions and discharge rates from construction compounds will be discussed with the LLFA.	Flood Risk Management	Chapter 18: Water Resources and Flood Risk (D.6.2.18), Volume II of the DCO ES	Construction Contractor	Detailed CEMP approved by the Local Authority	Construction	
D-WR-044	Water Resources and Flood Risk	Turbidity monitoring will be undertaken by an Ecological Clerk of Works (ECoW) during the construction phase where deemed required by the Construction Contractor's Environmental Manager due to the sensitivity of aquatic species receptors. The need and frequency of turbidity monitoring would be determined by the regulatory authority and detailed in any required permits for undertaking work within or near watercourses	Water quality protection	Chapter 18: Water Resources and Flood Risk (D.6.2.18), Volume II of the DCO ES	Construction Contractor	Detailed CEMP approved by the Local Authority	Pre-Construction / Construction	
~~D-WR-045~~	Water Resources and Flood Risk	Unique REAC identifier unused						
~~D-WR-046~~	Water Resources and Flood Risk	Unique REAC identifier unused						
~~D-WR-047~~	Water Resources and Flood Risk	Unique REAC identifier unused						
~~D-WR-048~~	Water Resources and Flood Risk	Unique REAC identifier unused						
~~D-WR-049~~	Water Resources and Flood Risk	Unique REAC identifier unused						
D-WR-050	Water Resources and Flood Risk	Where practicable, the alignment of the pipeline to be developed during detailed design will seek to minimise potential environmental impacts as far as practicable	To minimise the impacts on surface water quality, groundwater, hydromorphology and flood risk	Chapter 18: Water Resources and Flood Risk (D.6.2.18), Volume II of the DCO ES	Construction Contractor	Detailed CEMP approved by the Local Authority	Design	
~~D-WR-051~~	Water Resources and Flood Risk	Unique REAC identifier unused						
D-WR-052	Water Resources and Flood Risk	A pre-works crossing point survey will be carried out to record channel and bank morphology and features, riparian zone structure, and collect photographic record, so that reinstatement is as close to baseline as practicable. Re-instatement works should be supervised by an appropriately qualified ECoW.	To minimise the impacts on surface water quality, groundwater, hydromorphology and flood risk	Chapter 18: Water Resources and Flood Risk (D.6.2.18), Volume II of the DCO ES	Construction Contractor	Detailed CEMP approved by the Local Authority	Construction	
~~D-WR-053~~	Water Resources and Flood Risk	Unique REAC identifier unused						
D-WR-054	Water Resources and Flood Risk	A strategy for exceedance flows during pumping or pump malfunction will be implemented during peak flows. This will need to assess where the water would naturally flow in those instances and include appropriate control measures if a potential impact on third parties is possible e.g. in case of flows potentially affecting developed areas	Flood risk management	Chapter 18: Water Resources and Flood Risk (D.6.2.18), Volume II of the DCO ES	Construction Contractor	Detailed CEMP approved by the Local Authority	Construction	
D-WR-055	Water Resources and Flood Risk	The Construction Contractor will undertake further engagement with the Environment Agency Planning and Geomorphology Technical Specialists during the detailed design process to determine the required floodplain extent for pipeline burial depth below the existing river bed level of the Rover Gowy. This will determine the potential distance for setting back of the embankments (to a maximum distance of 100m) along the River Gowy to allow for the WFD Mitigation Measure to be achieved. This mitigation is required to enable the re-naturalisation of a sinuous planform of the River Gowy, as depicted in historical mapping records, without the risk of the pipeline becoming exposed	To minimise the impacts to geomorphology of watercourses. To ensure the DCO Proposed Development is WFD compliant	Chapter 18: Water Resources and Flood Risk (D.6.2.18), Volume II of the DCO ES	Construction Contractor	Detailed CEMP approved by the Local Authority	Design / Pre-Construction	
D-WR-056	Water Resources and Flood Risk	The Construction Contractor will undertake further consultation with Natural Resources Wales and the Lead Local Flood Authority Planning and Geomorphology Technical Specialists to determine the appropriate depth and extent of the pipeline placement so as not to prevent the future re-naturalisation of the Alltami Brook to a sinuous planform.	To minimise the impacts to geomorphology of watercourses. To ensure the DCO Proposed Development is WFD compliant	Chapter 18: Water Resources and Flood Risk (D.6.2.18), Volume II of the DCO ES	Construction Contractor	Detailed CEMP approved by the Local Authority	Design / Pre-Construction	

D-WR-057	Water Resources and Flood Risk	Maintenance vehicles will be equipped with a spill kit in case of emergency (if one is not already available on board these vehicles) and spill kits will be stored in the kiosks at AGIs and BVSs.	To reduce the risk of spillage impacting water quality of surface water and groundwater receptors	Chapter 18: Water Resources and Flood Risk (D.6.2.18), Volume II of the DCO ES	The Applicant	OMEMP approved by the Local Authority	Operation	
D-WR-058	Water Resources and Flood Risk	Within construction compounds, the location of temporary structures and material avoid being sited in areas of medium or high surface water flood risk, as identified in the ES	To minimise risk of surface water flooding	Chapter 18: Water Resources and Flood Risk (D.6.2.18), Volume II of the DCO ES	Construction Contractor	Detailed CEMP approved by the Local Authority	Construction	
D-WR-059	Water Resources and Flood Risk	The Groundwater Management and Monitoring plan will set out the monitoring requirements, establish a protocol for the assessment and response to monitoring data and provide methods to assess compliance with the conditions of development consents, environmental protection licences and legislation relating to groundwater and GWDTE.	To minimise the risk of groundwater flooding and impacts from dewatering to groundwater receptors	Chapter 18: Water Resources and Flood Risk (D.6.2.18), Volume II of the DCO ES	Construction Contractor	GWMP approved by the Local Authority	Construction	
D-WR-060	Water Resources and Flood Risk	The proposed access road to Rock Bank BVS will be raised by approximately 0.3m from existing ground levels to reduce the likelihood of flooding of the road.	To minimise risk of flooding for access route	Chapter 18: Water Resources and Flood Risk (D.6.2.18), Volume II of the DCO ES	Construction Contractor	Design Drawings	Design	
D-WR-061	Water Resources and Flood Risk	The need for localised profiling of the Mollington BVS and Aston Hill BVS and Northop Hall AGI permanent access tracks as a result of local topography leading surface water accumulation along the adjacent roads to naturally flow into the access road will be explored further at detailed design.	To minimise risk of flooding of BV through access route	Chapter 18: Water Resources and Flood Risk (D.6.2.18), Volume II of the DCO ES	Construction Contractor	Design Drawings	Design	
D-WR-062	Water Resources and Flood Risk	Riparian planting along Friars Park Ditch, Backford Brook and Finchetts Gutter Tributary, which is additional to the vegetation which would be reinstated from open cut crossings. This should be a mix of riparian trees and shrub species where practicable.	To provide mitigation for WFD impacts to these watercourses from removal of mature vegetation	Appendix 18-3 : WFD assessment	Construction Contractor	Design Drawings	Design / Operation	
D-WR-063	Water Resources and Flood Risk	The width within which the works for the Alltami Brook Crossing will be contained will not exceed 16 metres within the riparian zone. Maximum width of bedrock channel permanently impacted from removal of bedrock will be no more than 4m.	To minimise the impacts to geomorphology of watercourses. To ensure the DCO Proposed Development is WFD compliant	Appendix 18-3 : WFD assessment	Construction Contractor	Design Drawings / Method Statement	Construction	
D-WR-064	Water Resources and Flood Risk	A bespoke geomorphological assessment will be carried out by the Construction Contractor to inform: •micro-siting the crossing location of the pipe so that the least sensitive section of river bed is permanently impacted, where practicable, •the detailed design of the permanent works installed as part of the reinstatement of the watercourse after pipe is laid Further engagement with Natural Resources Wales and the Lead Local Flood Authority Planning would be undertaken to inform the methodology of this bespoke geomorphological assessment.	To minimise the impacts to geomorphology of watercourses. To ensure the DCO Proposed Development is WFD compliant	Appendix 18-3 : WFD assessment	Construction Contractor	Drawing Drawings / Geomorphological assessment	Design	
D-WR-065	Water Resources and Flood Risk	Geomorphological and ecological monitoring of the permanent works would be carried out, post construction, to ensure the integrity of the reinstated channel and to identify any early intervention that may be required to ensure no deterioration in WFD status. Type, duration and frequency of monitoring is to be determined through the development of the geomorphological assessment and detailed design, and in consultation with NRW and FCC LLFA. Adaptive mitigation would be implemented to maintain the integrity of the reinstated channel	To minimise the impacts to geomorphology of watercourses. To ensure the DCO Proposed Development is WFD compliant	Appendix 18-3 : WFD assessment	The Applicant	Monitoring results and reporting	Operation	
D-WR-066	Water Resources and Flood Risk	Gravel augmentation will occur through the modified reach of Alltami Brook to off-set the potential reduction in spawning habitat. This will be designed in collaboration with the geomorphological assessment.	To offset potential reduction in spawning habitat To ensure the DCO Proposed Development is WFD compliant	Appendix 18-3 : WFD assessment	Construction Contractor	Design Drawings	Construction	

D-WR-067	Water Resources and Flood Risk	At the GWDTE at the River Gowy, the GWDTE is situated to the south of the NVC vegetation area which the pipeline will not encroach into. As the expected radius of influence from the dewatering does not extend into this area of GWDTE, there is no impact to it anticipated. Regardless, during detailed design, the final alignment will seek to avoid any impact on the GWDTE as far as reasonably practicable. This is expected to be achieved by the final alignment being situated to the north of the NVC vegetation area	To avoid any impact to the GWDTE	Chapter 18: Water Resources and Flood Risk (D.6.2.18), Volume II of the DCO ES	Construction Contractor	Design Drawings	Design	
D-WR-068	Water Resources and Flood Risk	Ince AGI fence line will be located at least 8 metres away from the main watercourse to the north of it (i.e. East Central Drain). As far as reasonably practicable permanent earthworks will also be located 8 metres away from the watercourse at the detailed design. The Environment Agency and the Lead Local Flood authority will be consulted on the detailed alignment for comments e.g. in relation to the proposed outfall into the watercourse.	To minimise risk of concerns from LLFA and EA as part of the FRAP/ordinary watercourse consent process	Chapter 18: Water Resources and Flood Risk (D.6.2.18), Volume II of the DCO ES	Construction Contractor	Obtain relevant FRAP/Ordinary Watercourse Consent	Design / Construction	
D-WR-069	Water Resources and Flood Risk	The contractor will engage with the Canal and River Trust regarding construction close to waterway infrastructure.	To minimise risk of concerns from CRT	Chapter 18: Water Resources and Flood Risk (D.6.2.18), Volume II of the DCO ES	Construction Contractor	Agreement from CRT	Design / Construction	
D-WR-070	Water Resources and Flood Risk	The contractor will develop and implement a Surface Water Management and Monitoring Plan to ensure appropriate monitoring of water quality is carried out before, during and after the construction works and that adaptive mitigation is implemented if monitoring shows that existing mitigation measures are not deemed sufficient.	To minimise the impact to surface water bodies during the construction stage	Chapter 18: Water Resources and Flood Risk (D.6.2.18), Volume II of the DCO ES	The Applicant / Construction Contractor	Detailed CEMPs approved by the Local Authority	Pre-Construction / Construction / Post-Construction / Monitoring	