Connah's Quay Low Carbon Power

Environmental Statement Volume II
Chapter 11: Terrestrial and Aquatic Ecology

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11.1 Introduction

Overview

11.1.1 This chapter of the Environmental Statement (ES) presents an assessment of the likely significant environmental effects of the Connah's Quay Combined Cycle Gas Turbine (CCGT) fitted with Carbon Capture Plant (CCP) (hereafter referred to as the Proposed Development) with respect to The assessment considers: during the construction, operation (including maintenance), and decommissioning phases of the Proposed Development. A description of the Proposed Development, including details of maximum parameters, is set out in **Chapter 4: The Proposed Development (EN010166/APP/6.2.4)**. The assessment considers:

- the present-day and future ecological baseline conditions;
- the effects of construction of the Proposed Development on relevant nature conservation designations, habitats and species;
- the effects of the operation of the Proposed Development on relevant nature conservation designations, habitats and species; and
- the potential effects of the eventual decommissioning of the Proposed Development on relevant nature conservation designations, habitats and species.

11.1.2 This chapter is interrelated with other environmental effects and, therefore, should be read in conjunction with the following ES chapters:

- **Chapter 8: Air Quality (EN010166/APP/6.2.8);**
- **Chapter 9: Noise and Vibration (EN010166/APP/6.2.9);**
- **Chapter 12: Marine Ecology (EN010166/APP/6.2.12);**
- **Chapter 13: Water Environment and Flood Risk (EN010166/APP/6.2.13);**
- **Chapter 15: Landscape and Visual Amenity (EN010166/APP/6.2.15);** and
- **Chapter 24: Cumulative and Combined Effects (EN010166/APP/6.2.24).**

11.1.3 This chapter is supported by the following figures in (**EN010166/APP/6.3**):

- **Figure 3-3: Areas Described in the ES;**
- **Figure 5-5: Vegetation Clearance Plan;**
- **Figure 11-1: Statutory Designated Sites within 15 km of the Proposed Development;**

- **Figure 11-2: Local Designated Sites within 2 km of the Proposed Development; and**
- **Figure 11-3: Ancient woodland and priority habitat within 2 km of the Proposed Development.**

11.1.4 A number of terms are used throughout this assessment to identify different areas within the Order limits. These areas include, but are not limited to, the Construction and Operation Area, Main Development Area and Proposed CO_2 Connection Corridor as shown on **Figure 3-3: Areas described in the ES** (**EN010166/APP/6.3**). Further information is also presented in **Chapter 3: Location of the Proposed Development** (**EN010166/APP/6.2.3**).

11.1.5 This chapter is supported by the following appendices in (**EN010166/APP/6.4**):

- **Appendix 1-A: Scoping Report;**
- **Appendix 1-B: Scoping Opinion;**
- **Appendix 2-B: Scoping Opinion Response;**
- **Appendix 7-A: Legislative, Policy and Guidance Framework for Technical Topics;**
- **Appendix 11-A: Ecological Impact Assessment Methodology;**
- **Appendix 11-B: Terrestrial and Aquatic Ecology Baseline Surveys and Study Area;**
- **Appendix 11-C: Botanical Technical Appendix;**
- **Appendix 11-D: Ornithology Technical Appendix;**
- **Appendix 11-E: Great Crested Newt Technical Appendix;**
- **Appendix 11-F: Reptile Desk Study;**
- **Appendix 11-G: Bat Technical Appendix;**
- **Appendix 11-H: Badger Technical Appendix CONFIDENTIAL;**
- **Appendix 11-I: Water Vole Technical Appendix;**
- **Appendix 11-J: Otter Technical Appendix CONFIDENTIAL;**
- **Appendix 11-K: Terrestrial Invertebrate Technical Appendix; and**
- **Appendix 11-L: Aquatic Ecology Technical Appendix.**

11.1.6 In addition to the above documents, this chapter should be read with reference to the following:

- **Report to Inform Habitats Regulations Assessment** (**EN010166/APP/6.12**);
- **Green Infrastructure Statement** (**EN010166/APP/6.11**);

- **Framework Construction and Environmental Management Plan (CEMP)** (**EN010166/APP/6.5**);
- **Lighting Strategy** (**EN010166/APP/7.22**); and
- **Outline Landscape and Ecological Management Plan (LEMP)** (**EN010166/APP/6.9**).

Legislation, Policy and Guidance

11.1.7 Legislation, planning policy, and guidance relating to Terrestrial and Aquatic Ecology and pertinent to the Proposed Development are listed in **Table 11-1**. Further detail regarding these can be found in **Appendix 7-A: Legislative, Policy and Guidance Framework for Technical Topics** (**EN010166/APP/6.4**).

Table 11-1: Legislation, Planning Policy, and Guidance relating to Terrestrial and Aquatic Ecology

Type	Legislation, Policy and Guidance
Legislation	• Infrastructure Planning (Environmental Impact Assessment (EIA)) Regulations 2017 (Ref 11-1) • The Conservation of Habitats and Species Regulations 2017 (the Habitats Regulations) (Ref 11-2); • Wildlife and Countryside Act 1981 (the WCA) (Ref 11-3); • Environment Act 2021 (Ref 11-4); • Environment (Wales) Act 2016 (Ref 11-5); • Countryside and Rights of Way Act 2000 (CRoW) (Ref 11-6); • The Hedgerows Regulations 1997 (Ref 11-7); • Wild Mammals (Protection) Act 1996 (Ref 11-8); • Protection of Badgers Act 1992 (Ref 11-9); • The Water Environment (Water Framework Directive) (England and Wales) Regulations 2017 (Ref 11-10); • The Water Framework Directive (Standards and Classifications) Directions (England and Wales) 2015 (Ref 11-11); • Salmon & Freshwater Fisheries Act 1975 (as amended) (Ref 11-12); • The Eels (England and Wales) Regulations 2009 (Ref 11-13); • The Invasive Alien Species (Enforcement and Permitting) Order 2019 (Ref 11-14); • Natural Environment and Rural Communities (NERC) Act 2006 (Ref 11-15); • The Convention on Migratory Species (CMS) (Bonn Convention) Appendix II (Ref 11-16); and • Well-being of Future Generations (Wales) Act 2015 (Ref 11-17).

Type	Legislation, Policy and Guidance
National Planning Policy	• Future Wales: the National Plan 2040 (Ref 11-16); • The Overarching National Policy Statement (NPS) for Energy (EN-1) (Ref 11-19); • The NPS for Natural Gas Electricity Generating Infrastructure (EN-2) (Ref 11-20); • The NPS for Natural Gas Supply Infrastructure and Gas and Oil Pipelines (EN-4) (Ref 11-21); • The NPS for Electricity Networks Infrastructure (EN-5) (Ref 11-22); • Planning Policy Wales (PPW) (Ref 11-23); and • PPW Technical Advice Note 5: Nature Conservation and Planning (Ref 11-24).
Local Planning Policy	• Flintshire County Council (FCC) Local Development Plan (LDP) (2015-2030) (Ref 11-25). Relevant policies include: - Policy STR13: Natural and Built Environment, Green Networks and Infrastructure; - Policy EN2: Green Infrastructure; - Policy EN3: Undeveloped Coast and Dee Estuary Corridor; - Policy EN6: Site of Biodiversity Importance; - Policy EN7: Development Affecting Trees, Woodland and Hedgerows; • FCC Biodiversity Plan Supporting Nature in Flintshire 2020-2023 (Ref 11-26); and • Habitats Regulations Assessment (HRA) to Inform the assessment of the FCC LDP (Ref 11-27).
National Guidance	• Chartered Institute of Ecology and Environmental Management (CIEEM) good practice guidelines (the CIEEM Guidelines) (Ref 11-28); • CIEEM Preliminary Ecological Appraisal (PEA) Guidance (the CIEEM PEA Guidance) (Ref 11-29); • CIEEM Ecological Impact Assessment (EcIA) (Ref 11-30); and • British Standard 42020:2013 Biodiversity – Code for Planning and Development (Ref 11-31).

11.2 Consultation and Scope of Assessment

Consultation

Environmental Impact Assessment (EIA) Scoping Opinion

11.2.1 An EIA Scoping Opinion was requested from the Secretary of State (SoS) through the Planning Inspectorate (PINS) in February 2024 as part of the

EIA Scoping Process. The EIA Scoping Opinion was adopted on 20 March 2024 (**Appendix 1-B: Scoping Opinion** (**EN010166/APP/6.4**)).

11.2.2 A high-level summary of responses to the EIA Scoping Opinion relevant to Terrestrial and Aquatic Ecology is summarised in **Table 11-2**.

Statutory Consultation

11.2.3 **Table 11-3** summarises the responses received at Statutory Consultee consultation.

Targeted Consultation

11.2.4 Following Statutory Consultation changes were made to the heights of the proposed absorber and HRSG stacks and the Applicant undertook further targeted consultation. This consultation included a Supporting Information Report which detailed the environmental considerations associated with these changes. This Targeted Consultation was held between Thursday 8 May to Friday 6 June 2025. Responses to this targeted consultation are presented in the **Consultation Report (EN010166/APP/5.1)** and **Table 11-4** below outlines how and where these comments have been addressed within this chapter of the ES.

Additional Technical Engagement

11.2.5 A summary of consultation conducted outside of statutory consultation and the EIA Scoping process in relation to the Terrestrial and Aquatic Ecology assessment is provided in **Table 11-5**.

Table 11-2: EIA Scoping Opinion Responses

Comment ID	Consultee	Extract of comment	Response
3.4.1	PINS	**Permanent loss and temporary land take of designated sites and habitats during operation** *'Table 9-7 of the Scoping Report considers this potential impact pathway during construction but does not refer to it in respect of operation. As such, the Inspectorate understands that it is proposed to scope this matter out of the ES. The Inspectorate advises that the ES should assess the significance of any permanent habitat loss from the construction phase that would continue into the operational phase, and any habitat loss or degradation that could arise from operational air quality and water changes. The ES should also describe any maintenance requirements that could affect designated sites and habitats during operation, including any temporary land take that may be required to facilitate these. Where any such activities could give rise to likely significant effects, an assessment should be provided in the ES.'*	Habitat loss/degradation is assessed for both temporary and permanent loss within the construction assessment presented in Section 11.6. Maintenance requirements that could affect designated sites and habitats during operation have also been considered within Section 11.6. The existing Conservation Areas Management Plan has been reviewed and is considered within the **Outline LEMP** (**EN010166/APP/6.9**).
3.4.2	PINS	**Impacts on dormouse during all phases** *'The Scoping Report proposes to scope this matter out based on a lack of suitable habitat for dormouse. Paragraph 9.4.26 of the Scoping Report states that phase 1 habitat surveys completed in August 2021 and November 2023 concluded that habitats within the site provide limited opportunities for hazel dormouse and that there is limited connectivity with offsite habitats due to the site being surrounded by the River Dee and other development. The Preliminary Ecological Appraisal (Appendix B to the Scoping Report) states that the "site is close to the limits of the known UK distribution of this species."*	The position on the agreement to scope out hazel dormouse *Muscardinus avellanarius* is acknowledged. The results of the ecology surveys undertaken to date and all information obtained from local records is reported within the ES or supporting appendices. Details of desk study information that support the baseline conditions considered within this

Comment ID	Consultee	Extract of comment	Response
		On that basis, the Inspectorate agrees that significant effects to hazel dormouse are unlikely to occur and this matter can be scoped out of the ES. The results of the phase 1 habitat surveys and any information obtained from local records should be reported in the ES.'	assessment are summarised in **Table 11-6**.
3.4.3	PINS	**Study area and receptors** '*The Scoping Report proposes a study area of 15 km around the main site [Main Development Area] to identify European designated sites, SSSI and National Nature Reserves (NNR) based on guidance for air quality impact assessment during operation. For avoidance of doubt, the Inspectorate understands that all European designated sites and SSSIs within 15 km are being assessed for the effects listed are in Table 9-7. Based on the information presented, the Inspectorate considers that this is an appropriate study area but notes that Figure 9-1 shows several SSSIs and a Ramsar site outside but close to the 15 km buffer. The Inspectorate advises that these sites should be assessed in the ES where there is potential for impacts to extend to them and result in LSE. Please note the comments from NRW regarding potential air quality impacts to SSSI, as noted in ID 3.1.4 of this Scoping Opinion.*'	A 15 km study area has been considered. This assessment only considers those sites within the 15 km study areas as identified in the PEA included as Annex F of **Appendix 11-C: Botanical Technical Appendix** (**EN010166/APP/6.4**). No significant effects have been identified on sites 15 km from the Proposed Development. Therefore, no potential for impacts on SSSIs or European designated sites further than 15 km from the Proposed Development has been identified. The PEA also provides further information on which designated sites have been scoped out of the assessment. **Table 11-9** identified the International and National Statutory Designated Sites that are considered to be of relevance to this assessment.

3.4.4	PINS	**Proposed ecological surveys** *'Table 9-5 of the Scoping Report sets out the proposed ecological surveys and data collection, together with suggested scope, timing and survey extents. The Inspectorate considers that the proposed survey scope is acceptable subject to the following comments:* *Final survey extents should be clearly described and illustrated on figures within the ES;* *Paragraph 9.4.18 of the Scoping Report states that habitat surveys are proposed at all locations of permanent infrastructure construction, i.e. excluding the repurposed carbon dioxide (CO_2) connection corridor and existing natural gas corridor, and areas of temporary land take/disturbance, as well as the Indicative Enhancement Area. In finalising the survey extents, the Inspectorate advises that consideration should be given to any vegetation clearance and/or maintenance activity required at the excluded connection corridors. Where such activity is proposed and could result in impact pathways to likely significant effects, the Inspectorate considers that these locations should also be subject to survey to establish sufficient understanding of the baseline;* *In several instances, it is stated that survey extents would be within the Site and a buffer "where accessible". Where survey extent is limited due to access issues, the ES should explain what efforts were made to obtain access and how any gaps in survey data are proposed to be addressed;* *For breeding bird surveys, NRW has, in its response, requested additional visits to be completed to determine the presence of crepuscular/nocturnal species;* *Consideration should be given to bird species records from local records and whether these indicate potential presence of additional ornithological receptors within the study area, e.g. breeding barn owl, which would require survey (and assessment in the ES);*	All final survey extents and any limitations have been clearly described and illustrated within the supporting ecological technical appendices (**EN010166/APP/6.4**). The position that no further hazel dormouse and reptile surveys are required is acknowledged. Whilst it has been confirmed that further reptile surveys are not required for the purposes of this EIA, after further engagement with FCC following scoping, it was agreed that reptile surveys would be repeated in 2025 to provide up to date population information. This information will be provided as supporting environmental information following submission of the Development Consent Order (DCO) Application but the absence of such survey data at the time of writing this ES chapter does not affect the validity of its findings.

		Effort should be made to agree the scope, timing and extent of survey effort with relevant consultation bodies prior to survey work commencing. Evidence of any agreement or otherwise should be presented in the ES; and, *Where it is ultimately determined to scope further survey effort out, for example it is stated that this could be the case for natterjack toad, bat roost presence/absence, fish eDNA and terrestrial invertebrate the ES should provide an explanation of why this approach is appropriate together with evidence of any agreement with relevant consultation bodies; and,* *The ES should confirm the overall length of hedgerow likely to be affected by the Proposed Development across the DCO Order limits, and categorise the amount likely to be subject to temporary and/or permanent effects.* *Based on information presented in the Scoping Report and Appendix B Preliminary Ecological Appraisal, the Inspectorate agrees that:* • *no further hazel dormouse survey is required, noting there is limited habitat and/or connection to suitable offsite habitat for hazel dormouse; and* • *no further reptile survey is required, noting the surveys completed in April 2022 concluded potential for small numbers of common reptiles to be present within the Indicative Enhancement Area only and the habitat is largely unchanged since the survey. The Inspectorate advises that survey work should be summarised in the ES and survey reports should be provided as technical appendices to the ES.'*	The supporting ecological appendices (**EN010166/APP/6.4**) explain the efforts made to obtain access and how any gaps in survey data have been. The Applicant has undertaken nocturnal surveys to determine the use of the survey area by wading birds; this includes recording the presence of foraging barn owl *Tyto alba* which is readily detected by the use of a thermal imaging monocular. Further information is provided in Section 11.4 and **Appendix 11-D: Ornithology Technical Appendix** (**EN010166/APP/6.4**). A habitat suitability assessment of all trees and buildings within the Site (the Site includes the Main Development Area, Construction and Indicative Enhancement Area (C&IEA), Repurposed CO_2 Connection Corridor and Proposed CO_2 Connection Corridor) for suitability and occupancy of barn owl has also been carried out as detailed in Section 11.4. The

			findings of these surveys are reported in **Appendix 11-G: Bat Technical Appendix** (**EN010166/APP/6.4**) and **Appendix 11-D: Ornithology Technical Appendix** (**EN010166/APP/6.4**). Ten years' worth of data from 2013 to 2023 in relation to bird species have been obtained from Deeside Naturalists Society (DNS) and has been used to inform this assessment. A summary of this data is provided in **Appendix 11-D: Ornithology Technical Appendix** (**EN010166/APP/6.4**) It has been agreed with FCC that natterjack toad *Epidalea calamita* can be scoped out of further assessment. The Proposed Development would result in the temporary loss of 32 m of hedgerow and 22 m of permanent loss. This is considered further in Section 11.6.

Comment ID	Consultee	Extract of comment	Response
			The Applicant has engaged with NRW through their discretionary advice service and FCC on survey scope, timing and extent as detailed in **Table 11-5.**
3.4.5	PINS	**Ornithological receptors** *'The Scoping Report summarises the findings of bird surveys completed to date. The Inspectorate notes that there appears to be a discrepancy between information presented in the Scoping Report main text, and that in the preliminary ecological appraisal (and annexes) at Appendix B of the Scoping Report. For example, the Scoping Report main text does not refer to the presence of curlew, a qualifying feature of the Dee Estuary Special Protection Area (SPA) but paragraph 2.10.5 of the preliminary ecological appraisal states that there are "large numbers of foraging curlew… present within these habitats at the time of the field surveys." The assessment in the ES should be based on a robust baseline, which should be described consistently with survey and other data gathered.'*	**Appendix 11-D: Ornithology Technical Appendix** (**EN010166/APP/6.4**) presents a summary of the information collated and reviewed to date. This includes details of curlews (and other SPA/Ramsar site qualifying species) which are assessed in this chapter.
3.4.6	PINS	**Habitats regulations assessment (HRA)** *'The Scoping Report states that an HRA is proposed and would be prepared in accordance with the Inspectorate's Advice Note Ten: Habitats Regulations Assessment (AN10)[.] The Inspectorate advises that the findings of the HRA should be used to inform the assessment in the ES. Whilst not of direct relevance to the ES, the Inspectorate notes that AN10 no longer requires provision of matrices as part of the HRA report(s).'*	This information is acknowledged. The findings of the HRA process contained in **Report to Inform Habitats Regulations Assessment** (**EN010166/APP/6.12**) have informed the assessment of effects on terrestrial and aquatic ecology.
3.4.7	PINS	**Embedded mitigation**	This position is acknowledged and has been used to inform the

Comment ID	Consultee	Extract of comment	Response
		'*For several potential embedded mitigation measures, the Scoping Report states that these would be implemented "as far as reasonably practicable". This includes avoidance of nesting bird season for habitat clearance works and routing of connection corridors to avoid sensitive habitats/use of non-intrusive construction techniques at the Pentre Brook/Lead Brook tributary. Where it is unclear if such mitigation can be achieved and/or secured, the assessment should consider the worst-case without the measures and identify any additional mitigation that would be required to address LSE arising.*'	assessment presented in Section 11.6.
3.4.8	PINS	**Potential effects – hedgerow and ancient woodland** '*For the avoidance of doubt, the Inspectorate understands that the assessment of habitat loss/temporary land take and disturbance and degradation of ecological features, particularly from dust/air quality change will include consideration of hedgerow and ancient woodland.*'	Air quality impacts on hedgerows have only been considered in relation to construction and operation. A discussion on the potential effects of changes in air quality on ecological features (including Ancient Woodland and hedgerows) is presented in Section 11.6. Further information is also included in **Appendix 8-D: Air Quality Operational Assessment** (**EN010166/APP/6.4**).
3.4.9	PINS	**Potential effects – spread of invasive non-native species (INNS)** '*Paragraphs 9.4.27 and 9.4.37 of the Scoping Report refer to survey work considering potential for presence of terrestrial and aquatic INNS [invasive non-native species] but the effects section does not include potential for spread of INNS as an impact pathway. Section 4.1 of the Phase 1 Habitat and Fauna Survey (Appendix B of the Scoping Report) states that there are records of Japanese Knotweed, Himalayan*	**Appendix 11-C: Botanical Technical Appendix** (**EN010166/APP/6.4**) and **Appendix 11-L: Aquatic Ecology Technical Appendix** (**EN010166/APP/6.4**) and **Appendix 12-D: Intertidal**

Comment ID	Consultee	Extract of comment	Response
		Balsam and Cherry Laurel, although the site survey did not identify their presence. The Inspectorate advises that the ES should identify and describe any INNS present in the baseline and include an assessment where significant effects are likely to occur, or otherwise explain why significant effects are not likely with evidence of agreement with relevant consultation bodies.'	**Survey Report** (**EN010166/APP/6.4**) provide a discussion on INNS as relevant.
3.4.10	PINS	**Vibration effects to notable and protected species during construction** *'It is noted that vibration is included at Table 9-7 of the Scoping Report but not listed in the separate paragraphs describing potential effects. For the avoidance of doubt, the Inspectorate understands that in addition construction noise, the assessment would assess the construction vibration where significant effects are likely to occur.'*	All relevant ecological receptors have been assessed in relation to any potential impacts as a result of construction vibration. This assessment is included in Section 11.6.
3.4.11	PINS	**Potential effects to fish, including entrainment/ impingement and/ or disruption to migration routes during operation** '*Paragraph 9.7.6 of the Scoping Report states that entrainment, impingement and disruption to migration routes will be assessed in the marine ecology ES chapter but Table 9-7 states it is scoped in for terrestrial and aquatic ecology. This matter is also scoped in with reference to "marine ecology" in Table 10-2 of the Scoping Report. For the avoidance of doubt, potential effects to fish (including eels and lamprey) from entrainment, impingement or other disruption to migration routes during operation should be assessed in the ES, together with any other impact pathways during construction and operation that could give rise to likely significant effects. The Inspectorate is content for this to be presented in either the terrestrial and aquatic ecology or marine ecology ES chapter with cross-referencing as necessary, provided that all potentially affected watercourses, e.g. rivers, intertidal and marine areas are assessed.*	The requirement of screening for Eels and the risks to protected fish species populations in the River Dee and related watercourses from entrainment is considered in **Chapter 12: Marine Ecology** (**EN010166/APP/6.2.12**).

Comment ID	Consultee	Extract of comment	Response
		Paragraph 10.4.4 of the Scoping Report states that the requirement for upgraded or replacement eel screens is assessed as part of Chapter 9.0 Terrestrial and Aquatic Ecology but there is no reference to eel screens in section 9 of the Scoping Report. The need for upgraded or replacement eel screens, and any intake screens as mitigation for other impacts to other migratory Annex II fish species, should be identified in the ES; if required, they should be demonstrably secured through the DCO. The Applicant's attention is drawn to the comments of NRW (see Appendix 2).'	
3.4.12	PINS	**Conservation management plan** '*The Applicant's attention is drawn to the comments of NRW (see Appendix 2), which state that there is a conservation management plan in place at the Proposed Development site providing mitigation for previous developments. The description of the baseline in the ES should include consideration of the plan and targets it is required to meet. The ES should confirm how any mitigation for the Proposed Development would relate to this plan.*'	The existing Conservation Area Management Plan has been taken into account when determining the future baseline in Section 11.4. In addition, the existing Conservation Area Management Plan is considered within the **Outline LEMP** (**EN010166/APP/6.9**).
3.4.13	PINS	**Confidential annexes** '*Public bodies have a responsibility to avoid releasing environmental information that could bring about harm to sensitive or vulnerable ecological features. Specific survey and assessment data relating to the presence and locations of species such as badgers, rare birds and plants that could be subject to disturbance, damage, persecution, or commercial exploitation resulting from publication of the information, should be provided in the ES as a confidential annex. All other assessment information should be included in an ES chapter, as normal, with a placeholder explaining that a confidential annex has*	Confidential information has been included in confidential appendices of the ES (**EN010166/APP/6.4**) as required. These are expressly marked 'CONFIDENTIAL' and will not be available to the public.

Comment ID	Consultee	Extract of comment	Response
		been submitted to the Inspectorate and may be made available subject to request.'	
N/A	FCC	Planning/site constraints and opportunities: '• *Areas of Ancient Woodland Mixed woodland to the south of the site*.'	Areas of Ancient Woodland have been mapped and are shown on **Figure 11-3: Ancient Woodland and Priority Habitats within 2 km** (**EN010166/APP/6.3**). These areas are considered within Section 11.6.
N/A	FCC	Planning/site constraints and opportunities: '• *Dee Estuary/Aber Dyfrdwy Special Area Conservation (SAC) and Site of Special Scientific* [Scientific] *Interest (SSSI), and Wildlife Sites to the south of the site*'	These sites have been considered within Section 11.6.
N/A	FCC	'*The Council is satisfied that Scoping Report Document (Reference 60717119) covers the key ecological issues associated with the site and its locality and that the Assessment will also be informed by other specialist assessments relating to Air Quality, Noise and Vibration, Marine Ecology and the Water Environment. The proposed Ecological Surveys and data collection Table 9-5 based on the Preliminary Ecological Appraisal Report is acceptable.*'	The position of FCC on the scope of the assessment is acknowledged.
N/A	FCC	'*In addition, we note that the Deeside Naturalist's Society Reserve is referenced as an ecological sensitive habitat and we would recommend discussions with this organisation in regards to specific local features - plants and insects etc. as well as birds.*'	Engagement with the DNS is summarised in **Table 11-5.**
N/A	FCC	'*Chapter 6 Air Quality [of the Scoping Report] makes reference to the sensitive ecological receptors namely designated sites plus ancient woodland and local wildlife sites within the locality. 'Noise and Vibration' (Chapter 7) also has the potential to impact the designated*	Where relevant the assessment in Section 11.6 draws on the conclusions of the air quality and noise and vibration assessments

Comment ID	Consultee	Extract of comment	Response
		sites/features during construction and operation and ecological sensitive receptors for noise/vibration do not appear to be specifically referenced. The Council believes they should be considered.'	presented in **Chapter 8: Air Quality** (**EN010166/APP/6.2.8**) and **Chapter 9: Noise and Vibration** (**EN010166/APP/6.2.9**) (and their supporting appendices (**EN010166/APP/6.4**).
N/A	FCC	'*Technical appendices will include Habitat regulations assessment, which is welcomed, as is a Net Benefit for Biodiversity assessment. The biodiversity metric proposed to be used is acceptable providing that habitat and species proposals are considered together with biodiversity benefit and ecosystem resilience.*'	These points are acknowledged. Further discussion with FCC and NRW agreed that the Net Benefit for Biodiversity (NBB) assessment would follow the stepwise approach (see **Table 11-5**
N/A	FCC	'*We would welcome further discussion in Net Benefit for Biodiversity and potential mitigation options.*'	Further details of engagement on NBB matters undertaken with FCC are provided in **Table 11-5**.
N/A	DNS	'*Curlew are one of the qualifying migratory species for the SPA/Ramsar designation, therefore we suggest there is more focus within the Scoping Report on fully researching the importance of the migratory Curlew population using the site and assessing this in the context of the SPA/Ramsar site Curlew population to enable an effective mitigation and compensation strategy to be designed and implemented.*'	**Appendix 11-D: Ornithology Technical Appendix** (**EN010166/APP/6.4**) presents a summary of the baseline data collated and reviewed to date. This includes details of curlews (and other SPA/Ramsar site qualifying species).
N/A	DNS	'*Deeside Naturalists Society has a wealth of bird data, and Uniper has much other data gathered by various bird watchers for at least 20 years (not all of which is in the public domain) and other biodiversity data from the development area that should be used in helping assess both the*	This point is acknowledged and further engagement undertaken with the DNS is summarised in **Table 11-5.**

Comment ID	Consultee	Extract of comment	Response
		impact of the development at the EIA stage, and in supporting the design of mitigation and compensation for Curlews and other wading birds using the area proposed for development.'	
N/A	DNS	'*We note that one of the purposes of the PEA is 'to begin to identify requirements for mitigation, including mitigation measures that will be required and those that may be required (depending on results of further surveys or final Proposed Development design)'.*' '*We cannot find any mitigation/compensation measures suggested so far for the impact on wintering Curlews. We wish to comment that this will be difficult to do as Curlews are known to have a high level of site fidelity to wintering areas.*'	Sections 11.5 and 11.8 provide an overview of the mitigation and compensation (on and off- site) measures (including for curlew) relevant to the Proposed Development.
N/A	DNS	'*We note that the Scoping Report main text does not mention the importance of the development site for foraging Curlews within Section 9.4.32. We consider that this is a major omission.*' '*We suggest adding the text from the PEA: 2.10.5 Large numbers of foraging curlew (Numenius arquata) were present within these habitats at the time of the field surveys. And adding that this is one of the qualifying migratory species for the SPA/Ramsar designation.*'	The Applicant notes the importance of the site to foraging curlew. **Appendix 11-D: Ornithology Technical Appendix** (**EN010166/APP/6.4**) presents a summary of the baseline data collected for all SPA/Ramsar site species including curlew.
N/A	NRW	'*The ES should include sufficient information to enable the decision makers to determine the extent of any environmental impacts arising from the Proposed Development on legally protected species, including those which may also comprise notified features of designated sites affected by the proposals.*'	This assessment is supported by Survey Reports as technical appendices (**Appendix 11-D: Ornithology Technical Appendix** (**EN010166/APP/6.3**) which include a detailed account

Comment ID	Consultee	Extract of comment	Response
		'*Evaluation of the impacts of the Proposed Development should include: direct and indirect; secondary; cumulative; short, medium and long-term; permanent and temporary; positive and negative, and construction, operation and decommissioning phase and long-term site security impacts on the nature conservation resource, landscape, and public access.*'	of the baseline surveys undertaken and their results. Section 11.6 presents an assessment of the effects of the Proposed Development and considers the potential impacts noted by NRW.
N/A	NRW	'*Within the ES, the Proposed Development should be described in detail in its entirety. This description should cover construction, operation, and decommissioning phases as appropriate and include detailed, scaled maps and drawings as appropriate.*' '*Any maps, drawings and illustrations that are produced to describe the project should be designed in such a way that they can be overlaid with drawings and illustrations produced for other sections of the ES, such as biodiversity.*'	The Proposed Development is described in **Chapter 4: The Proposed Development** (**EN010166/APP/6.2.4**). **Figure 5-3: Construction Areas** (**EN010166/APP/6.3**) illustrate the anticipated construction working area and **Figure 5-5: Vegetation Clearance Plan** (**EN010166/APP/6.3**) illustrates retained habitats.
N/A	NRW	'*The ES should include a description of all the existing natural resources and wildlife interests within and in the vicinity of the proposed development, together with a detailed assessment of the likely impacts and significance of those impacts.*'	Section 11.4 provides a summary of the baseline conditions within the study area and identifies which ecological features are taken forward for consideration within the assessment presented in Section 11.6.

Comment ID	Consultee	Extract of comment	Response
N/A	NRW	'*We advise that the ES considers significance (both alone and in-combination) and where applicable, conservation status. In respect of conservation status, we advise consideration is given to current conservation status (CCS), and demonstration of no likely detriment to the maintenance of favourable conservation status (FCS) during construction, operation, and decommissioning phases of the Proposed Development. In respect of paragraph 9.5.4 (scales of importance), we advise that consideration is also given to the FCS of each species assessed.*'	The assessment methodology for the Terrestrial and Aquatic Ecology Assessment is presented in **Appendix 11-A: Ecological Impact Assessment Methodology Report** (**EN010166/APP/6.4**) which identifies that effects are considered in the context of conservation status (where applicable). In addition, the assessment presented in Section 11.6 has considered whether the Proposed Development would have any effect on the ability of the species considered to maintain FCS.
N/A	NRW	'*Any habitat surveys should accord with the NCC Phase 1 survey guidelines (NCC (1990) Handbook for Phase 1 habitat survey. NCC, Peterborough). We advise that Phase 1 surveys are undertaken and completed during the summer to ensure the best chance of identifying the habitats present. We also advise that Habitats Directive Annex 1 habitats are identified as part of this assessment.*'	This position is acknowledged. However, as noted in paragraph 9.4.21 of the Scoping Report (**Appendix 1-A: Connah's Quay Scoping Report** (**EN010166/APP/6.4**)), the Applicant has proposed UKHab Survey Methodology which is a CIEEM approved method. UKHab is designed to identify Annex 1 habitats. The best

Comment ID	Consultee	Extract of comment	Response
			practice optimal period for survey is generally April to September (JNCC, 2010), which aligns with the Applicant's survey dates. UKHab habitat survey information has been translated into Phase 1 habitat survey information for the NBB assessment and translation tables have been included for reference within the **Green Infrastructure Statement** (**EN010166/APP/6.11**)
N/A	NRW	'*We advise that the site is subject to assessment to determine the likelihood of protected species being present and that targeted species surveys are undertaken for all species scoped in. These should comply with current best practice guidelines and in the event that the surveys deviate, or there are good reasons for deviation, full justification for this should be included within the ES.*'	A full summary of the surveys undertaken to inform the assessment is provided in **Table 11-3.**
N/A	NRW	'*Should protected species be found during the surveys, information should be provided identifying the species-specific impacts in the short, medium, and long-term together with any mitigation and compensation measures proposed to offset the impacts identified. We advise that the ES sets out how the long-term site security of any mitigation or compensation will be assured, including management and monitoring information and long-term financial, tenure, and management responsibility. Where the potential for significant impacts on protected species is identified, we advise that a Conservation Plan is prepared for the relevant species and included as an Annex to the ES.*'	Sections 11.5 and 11.7 provide an overview of the mitigation measures relevant of the Proposed Development. Section 11.6 sets out the detailed impact assessment of any protected species within the Zone of Influence (ZoI) of the Proposed Development. Where relevant the

Comment ID	Consultee	Extract of comment	Response
			short and long term impacts have been considered. Section 11.7 sets out any monitoring requirements. Conservation Plans have not been prepared in support of the Application in light of the findings of the assessment presented in Section 11.8.
N/A	NRW	'*We generally concur with the proposed approach to protected species surveys outlined in Table 9-5. However, while the breeding bird surveys are broadly appropriate for diurnal bird species, additional visits should be completed to determine the presence of crepuscular/nocturnal species such as the Schedule 1 listed barn owl. We would refer the applicant to the CIEEM guidelines for bird surveys (Bird Survey Guidelines for assessing ecological impacts) in this regard.*'	Further consideration has been given to the potential presence of barn owl (and other nocturnal/crepuscular species) in the vicinity of the Proposed Development, and the relevant findings are detailed in **Appendix 11-D: Ornithology Technical Appendix** (**EN010166/APP/6.3**).
N/A	NRW	'*With reference to paragraph 9.4.36, we note that "Technical engagement/consultation with Natural Resources Wales is also proposed to discuss and agree the scope of ornithological surveys." We would welcome further engagement with the applicant regarding this.*'	Details of further discussions held with NRW are provided in **Table 11-5**.
N/A	NRW	'*The Preliminary Ecological Appraisal (PEA, Appendix B) and relevant annexes do not appear to contain a robust summary of the bird species records returned from the local biological records centre. It is therefore*	A full assessment of effects of the Proposed Development on

Comment ID	Consultee	Extract of comment	Response
		not clear whether all ornithological receptors have been sufficiently identified and considered within the PEA and relevant annexes. For example, the application boundary appears to provide areas suitable for foraging, and possibly breeding, barn owl. Therefore, while we broadly concur with the birds that have been scoped in (Table 9-7), additional bird species may need to be considered for the ES.'	ornithological receptors is presented in Section 11.6. A full summary of local biological records relating to birds can be found in **Appendix 11-D: Ornithology Technical Appendix** (**EN010166/APP/6.3**) along with consideration of barn owl presence within the ZoI of the Proposed Development.
N/A	NRW	'*We note that a conservation management plan is currently in place at the site, secured as mitigation for previous developments at this location. This involves areas of the site being managed for estuarine birds. However, no details have been provided to confirm if the applicant intends to continue to maintain or enhance the management of the site for estuarine birds. We would welcome further dialogue with the applicant regarding this.*'	As detailed in **Appendix 4-A: Operation and Maintenance Mitigation Register** (**EN010166/APP/6.4**) upon the end of management arrangements detailed within the Conservation Areas Management Plan for the existing Connah's Quay Power Station, an updated Conservation Areas Management Plan would be prepared and submitted to FCC and NRW for approval prior to the commencement of operation. This updated Conservation Areas Management Plan would be reviewed and updated at a frequency to be agreed with FCC and NRW and would remain in

Comment ID	Consultee	Extract of comment	Response
			place until the point of the completion of the decommissioning of the CQLCP Abated Generating Station, unless otherwise agreed with FCC and NRW.
N/A	NRW	'*Section 9.7.6 (Aquatic Ecology): we note that a number of watercourses are identified in Chapter 11, Water Environment and Flood Risk, Table 11-1. We therefore advise that impacts to fish, in particular European eel and Annex II species, are considered further in the Aquatic Ecology section of the ES.*'	Details of the aquatic ecology baseline surveys are provided in **Appendix 11-L: Aquatic Ecology Technical Appendix** (**EN010166/APP/6.3**). An assessment of effects on aquatic ecology is included in Section 11.6.
N/A	NRW	'*The scoping report highlights that potential impacts on birds include noise, light and visual disturbance during construction and operation, and permanent loss of habitat. We acknowledge that the preliminary bird surveys detected large numbers of birds, many of which are features of the Dee Estuary Special Protection Area (SPA) and other designated sites, and we note that further surveys are proposed.*' '*We advise that Shotton Lagoons and Reedbeds SSSI and Inner Marsh Farm SSSI should also be scoped in for the construction, operation, and maintenance phases of the development.*'	This point is acknowledged. Shotton Lagoons and Reedbeds SSSI and Inner Marsh Farm SSSI have been considered within this assessment.
N/A	NRW	'*As the proposed works may cause disturbance impacts during construction, operation, and maintenance, we advise that a sensitivity assessment is undertaken and the applicant considers, for example, Cutts et al. (2009) regarding this (Cutts, N., Phelps, A. & Burdon D.*	This position is acknowledged and the guidance provided in Cutts et al. (2009) (Ref 11-32) has been reviewed and

Comment ID	Consultee	Extract of comment	Response
		2009. Construction and waterfowl: Defining sensitivity, response, impacts and guidance. Report to Humber INCA).'	considered as part of the sensitivity assessment.
N/A	NRW	'*We advise that further information on the nature and extent of the proposed permanent loss of habitat, and its effects on bird features, is provided in the ES.*'	Section 11.6 considers the extent habitat loss on all ornithological receptors (important ecological features) based on the data presented in **Appendix 11-D: Ornithology Technical Appendix** (**EN010166/APP/6.3**).
N/A	NRW	'*The determining authority for the DCO application is the Competent Authority for the purposes of the Conservation of Habitats and Species Regulations 2017 (as amended). As such, they must not agree to any plan or project unless they are certain it will not adversely affect the integrity of a Special Area of Conservation (SAC), Special Protection Area (SPA) and/or Ramsar site.*' '*The determining authority should carry out a test of likely significant effects (TLSE) for the relevant SAC/SPA/Ramsar sites, which is required under Regulation 63 of the Conservation of Habitats and Species Regulations 2017 (as amended). This test applies to impacts on the sites from the proposed works, either alone or in-combination with other plans and projects.*' '*If the test concludes there is likely to be a significant effect, then an Appropriate Assessment of the impacts on the SAC/SPA/Ramsar sites from the proposed works, either alone or in-combination with other plans and projects, will be required. We would be able to assist with that assessment in our role as the Statutory Nature Conservation Body under the above Regulations.*'	This is acknowledged and the Applicant has prepared a **Report to Inform Habitats Regulations Assessment** (**EN010166/APP/6.12**) which is included as part of the Application. The **Report to Inform Habitats Regulations Assessment** (**EN010166/APP/6.12**) is based on the latest relevant guidance. Details of further discussions with NRW are provided in **Table 11-5**.

Comment ID	Consultee	Extract of comment	Response
N/A	NRW	'*The Wildlife and Countryside Act 1981 (as amended) places a duty on public authorities in exercising their functions, so far as this is likely to affect the flora, fauna, geological or physiographical features of a SSSI, to take reasonable steps consistent with the proper exercise of their functions to further the conservation and enhancement of those features. We refer you to our website for further advice.*'	The requirements of the Wildlife and Countryside Act 1981 (as amended) have been considered, where relevant, throughout the this assessment.
N/A	NRW	'*We recommend that the applicant consults the local authority ecologist on the scope of the assessment to ensure that regional and local biodiversity issues are adequately considered, particularly those habitats and species listed in the relevant Local Biodiversity Action Plan, and areas that are considered important for the conservation of biological diversity in Wales.*'	Details of further discussions with FCC are provided in **Table 11-5**
N/A	NRW	'*We would advise the applicant to contact other relevant people/organisations for biological information/records relevant to the site and its surrounds. These include the relevant Local Records Centre and any local ecological interest groups (e.g. bat groups, mammal groups).*'	Biological information/records have been obtained from Cofnod (biodiversity records centre for the region) and are detailed in **Appendices 11A-L** (**EN010166/APP/6.3**) as relevant.
N/A	NRW	'*We advise that provisions of the EIA audit compliance in respect of relevant nature conservation legislation (UK and Wales) together with relevant local and national policies, including BS 42020:2013.*'	The assessment has been produced in compliance with relevant legislation, policy and guidance. Details of relevant legislation and policy are provided in **Table 11-1** with further details included in **Appendix 7-A: Legislative, Policy and Guidance**

Comment ID	Consultee	Extract of comment	Response
			Framework for Technical Topics (**EN010166/APP/6.4**).
N/A	NRW	'*Throughout the PEA and relevant annexes there is reference to Section 40 of the Natural Environment and Rural Communities (NERC) Act 2006. This has been superseded in Wales by the Environment (Wales) Act 2016. We therefore advise that the documents are amended to correct this and ensure that they refer to the relevant Welsh legislation and policy.*'	References to this particular Section of the NERC Act 2006 have been removed throughout this assessment (Ref 11-15). The ES and its supporting Technical Appendices refer to the relevant Welsh legislation and policy where applicable.
N/A	NRW	'*We advise that, in accordance with Planning Policy Wales, the application demonstrates how it will deliver a net benefit for biodiversity and thus contribute to promoting ecosystem resilience.*'	The Applicant has prepared the **Green Infrastructure Statement** (**EN010166/APP/6.11**) to summarise the NBB assessment.
N/A	NRW	'*Paragraph 10.4.4: we note the requirement to implement intake screens to comply with the Eels Regulations 2009 has been recognised and that this will be considered in Chapter 9 (Terrestrial and Aquatic Ecology) of the ES. We advise that intake screens should also be designed to minimise impacts to migratory Annex II fish species, which are features of the Dee Estuary SAC and River Dee and Bala Lake SAC.*'	The requirement of screening for Eels and the risks to protected fish species populations in the River Dee and related watercourses from entrainment are considered in **Chapter 12: Marine Ecology** (**EN010166/APP/6.2.12**).
N/A	Flint Town Council (FTC)	'*They* [the Applicant] *advised they* [the Applicant] *are responsible for management of SSSI at the briefing meeting. Can we* [FTC] *have an impact assessment of what future plans they have for the site and what they will do during construction to mitigate risk.*'	The existing Conservation Management Plan would be reviewed and considered alongside the design and management proposals for the Proposed Development in

Comment ID	Consultee	Extract of comment	Response
			accordance with the **Outline LEMP** (**EN010166/APP/6.9**). Impacts on the Dee Estuary/Aber Afon Dyfrdwy SSSI are considered in section 11.6.

Table 11-3: Statutory Consultee Responses[1]

Consultee	Summary of Comment	Response
FCC	*'The submitted environmental statement will need to have regard for Planning Policy Wales (PPW) (edition 12, 2024) and any relevant legislation and guidance such as relevant Technical Advice Notes that is in force/adopted in Wales. Also the application should have regard to the respective and relevant policies within the Flintshire Local Development Plan (LDP) adopted by the Council on 24 January 2023.'*	This ES takes into account all relevant planning policy applicable in Flintshire and Wales, including the policy highlighted by FCC, as noted in **Table 11-1**.
FCC	*'The scope and methodology of ecology surveys and assessments being undertaken as set out within Chapter 11 Terrestrial and Aquatic Ecology are accepted and as agreed at the EIA Scoping stage.* *Appendix 11-B Table 1 references the Terrestrial and Aquatic Ecology baseline surveys and the study area with the majority yet to be completed/reported.* *Dee Estuary SSSI/SAC/SPA/Ramsar is immediately adjacent which includes Deeside Naturalist Society (DNS) Nature Reserve; River Dee SSSI/SAC is within 100m.*	This position is noted, as noted in **Table 11-3** the surveys referenced have now been completed and have informed the assessment presented in Section 11.6. Section 11.4 provides a summary of the baseline conditions recorded during the field surveys.

[1] Please note any consultee comments that only relate to the HRA are not included here. For a summary of comments and the applicants refer to **Report to Inform Habitats Regulations Assessment** (**EN010166/APP/6.12).**

Consultee	Summary of Comment	Response
	The Test of Likely Significant Effect/Habitat Regulations Assessment report is welcomed and the cross reference with the relevant assessments on air quality, noise/vibration and water/flood risk. *Wildlife Sites/Priority habitats as listed in Ch 11 include ancient woodland which will not be directly impacted but are vulnerable to air quality changes and have been included within the air quality assessment.'*	
FCC	*'**Development Design and Embedded Mitigation*** *A Framework CEMP will be provided as part of the ES with the requirement for the final version prior to commencement included in the DCO. This is in line with the agreed Hynet DCO. This also included a REAC (Register of Environmental Actions and Commitments) produced to inform the CEMP and which provided a comprehensive list of actions/proposed mitigation measures which would also be useful for this site.* *A Mitigation Strategy that incorporates existing management plans/relevant SSSI management agreements as well as the proposals for habitat protection during construction and creation of new habitats. This strategy also needs to demonstrate that NBB can be achieved following the stepwise approach. This can be summarised e.g. in a Table or on an annotated plan highlighting losses, what can be re-created, and/or enhanced through future management. Species and habitat mitigation proposals can be linked together where appropriate.* *Long term management and continuation of existing nature reserve agreements will be key to maintaining and enhancing the designated site features. The proposed Outline Landscape and Biodiversity Management and Enhancement Plan is welcomed*	The habitat creation, management and monitoring within the Order limits proposed post construction of the Proposed Development are presented in the **Outline LEMP** (**EN010166/APP/6.9**). The Applicant has also prepared the **Offsite Net Benefit for Biodiversity and Green Infrastructure Strategy** (**EN010166/APP/6.14**) and the **Curlew Mitigation Strategy** (**EN010166/APP/6.13**) which outline habitat creation, management and monitoring of land at Gronant Fields, Prestatyn.

Consultee	Summary of Comment	Response
	which develops and secures habitat management and monitoring of retained and created habitats and as a means to demonstrate biodiversity enhancement long term. *The proposed management and enhancement plan needs to distinguish between habitat creation and aftercare requirements and the long-term management of new and existing habitats. An updated management plan, post establishment is preferred, which details the long-term management and monitoring, regularly reviewed (5 yearly) to demonstrate that enhancements are being achieved.* *As with other large-scale projects this can include annual monitoring visits involving relevant LPA/NRW officers and other relevant bodies which can assist management flexibility.'*	
JNCC	*'While JNCC co-ordinates nature conservation advice at a UK-level, and advises UK Government on matters relating to nature conservation internationally, within each UK country the separate statutory bodies are responsible for nature and landscape conservation, these being: Natural England (NE), Natural Resources Wales (NRW), NatureScot (NS) and the Council for Nature Conservation and the Countryside Northern Ireland (CNCCNI).'* *'This development proposal is not located within the offshore area, does not have any potential offshore nature conservation issues and is not concerned with nature conservation at a UK-level, therefore JNCC does not have any comments to make on the consultation.'*	This position is acknowledged.
Natural England	***Noise impacts on SPA birds*** *Natural England note that an assessment of the impact of noise and vibration on ecological receptors such as SPA qualifying bird species is not included*	An assessment of the noise impact on The Dee Estuary SPA/Ramsar site qualifying bird species is included within Section 11.6.

Consultee	Summary of Comment	Response
	within this chapter but is to be included within Chapter 11. We also note and welcome that baseline surveys have been undertaken at the ecological receptors, and that noise contour maps have been produced. We advise that an increase of 3dB at receptor (at bird) from baseline to predicted noise levels should be considered significant and warrant further analysis, with the ES and within the appropriate assessment stage of the HRA.	Reference has been made to the Waterbird Disturbance Mitigation Toolkit pdf (Ref 11-32) for assessing noise impacts on waterbirds as agreed with NRW. This method determines disturbance thresholds that occur at different noise levels according to the sensitivity of the species impacted. Changes from baseline noise levels during the construction and operation phases and likely effects on birds are assessed.
Natural England	*'**Section 11.2.11** We note that the Temporary AIL [Abnormal Indivisible Load] Work Areas have been excluded from consideration within this assessment, and advise that subsequent scoping of designated site impacts, among other impacts, may need to be revised in subsequent iterations of this assessment, and in the HRA.'*	This position is noted. The Abnormal Indivisible Load (AIL) Accommodation Works are considered in **Appendix 5-A: Environmental Screening of Accommodation works** (**EN010166/APP/6.4**).
Natural England	*'Table 11-5 We concur with the scoping of internationally and nationally designated sites for impacts at this stage.'*	This position is acknowledged.
Natural England	*'Table 11-7 We concur with the use of a 1% SPA population threshold for impact. We advise that consideration should also be given to SSSI only bird features, for example, Ringed Plover (Charadrius hiaticula) is a feature of Dee Estuary SSSI but not Dee Estuary SPA.'*	This position is acknowledged.
Natural England	*'Table 11-7 We advise that as Otter (Lutra lutra) are a feature of River Dee and Bala Lake SAC, they should be considered to be of 'International' Ecological Importance.'*	As detailed in **Table 11-5**, otter have been considered to be of local importance within the assessment following the completion of the surveys detailed in **Appendix 11-J: Otter Technical Appendix CONFIDENTIAL** (**EN010166/APP/6.4**).

Consultee	Summary of Comment	Response
Natural England	'***Section 11.6*** *Natural England note that an assessment of construction impacts on bird species associated with designated sites is not offered within this iteration of the ES, due to limited available data, but will be required within the ES and HRA'*	This position is acknowledged, an assessment is presented in Section 11.6.
Natural England	'***Section 11.6*** *Natural England note that no preliminary assessment of likely significant effects that may occur during the decommissioning phase is offered within this section of the ES, but will be required within the ES and HRA.'*	This position is acknowledged, an assessment is presented in Section 11.6.
Natural England	'***Section 11.6.11*** *Natural England note that works within the Water Connection Corridor may lead to the loss of Saltmarsh habitat, a qualifying feature of the Dee Estuary SAC (Atlantic salt meadows), such as the laying of pipeline. Works within areas of saltmarsh should be avoided wherever possible and your assessment should consider use of the least damaging methods where saltmarsh cannot be avoided.'*	**Chapter 4: The Proposed Development** (**EN010166/APP/6.2.4**) and **Chapter 5: Construction Management and Programme** (**EN010166/APP/6.2.5**) provide an overview of the works required in the Water Connection Corridor. The works in the Water Connection Corridor would be limited to the refurbishment and upgrades to the existing intake structure. These works would be undertaken by divers and a support boat and/or barge, or similar, and foot-only access via the saltmarsh itself over an estimated three- to five-month period. Works within the Water Connection Corridor would not require interaction with the riverbed. All materials and plant (if required; it is expected that the majority of works within the Water Connection Corridor would require hand tools only) would be stored within the support

Consultee	Summary of Comment	Response
		barge and a working area would be established using scaffolding attached to the existing protection structure.
Natural England	*'Appendix 11-D In support of this consultation, Natural England have also reviewed Appendix 11-D (Ornithology Baseline Survey and Information Report) of the ES. We concur with the overall bird survey methodology but advise that Wetland Bird Survey (WeBS) data is utilised in the desk study to provide a broader picture of bird usage at the site and surrounding area.'*	This position is noted and WeBS data has been considered in **Appendix 11-D: Ornithology Technical Appendix** (**EN010166/APP/6.3**).
NRW	'***Protected Species*** *Paragraph 11.4.23: we concur with the scoping out of natterjack toad and hazel dormouse from the ecological impact assessment.* *Table 11-7 (Summary of species relevant to the ecological impact assessment) - Otters: features of the River Dee and Bala Lake Special Area of Conservation (SAC) include otter. We concur with the proposed survey approach in respect of the Dee and affected tributaries. The assessment should also consider the functional use of ponds as feeding sites for otters during the spring.* *Paragraphs 11.6.92 – 11.6.96: we note and concur with the assessment and conclusions regarding bat roosts.* *Paragraphs 11.6.100 – 11.6.115: we note the assessment and conclusions together with further surveillance regarding otter and water vole. We concur with the potential requirement for licensing. We acknowledge that surveys and assessment consider affected*	The position is acknowledged. Consideration has been given to ponds as feeding sites for otter in **Appendix 11-J: Otter Technical Appendix CONFIDENTIAL** (**EN010166/APP/6.4**).

Consultee	Summary of Comment	Response
	tributaries of the Dee. The assessments should also consider the functional use of ponds as feeding sites for otter during the spring. *Paragraph 11.6.134: we concur with the assessment of no impacts to the listed protected species from the operational phase of the proposals, provided any long-term habitat loss is subject to appropriate long-term compensation; this should be clarified in the DCO submission.* *Paragraph 11.7.5: we note the overall proposal for construction mitigation regarding protected species and concur with the outline approach.* *Table 11-8 (Summary of Likely Significant Residual Effects (Construction)): we concur with the conclusions regarding bat species, otters and water voles that "Likely significant effects cannot be ruled out. Further assessment is required, and surveys are ongoing".'*	
NRW	*'Section 11.3 (Assessment Methodology): The ES should consider current conservation status (CCS) and favourable conservation status (FCS); in consideration of EC Guidance C/2021/7301. Note that the concept of conservation status applies to a range of spatial scales. We do not consider a hierarchical, spatial approach to conservation status to be applicable in this context (ref. paragraph 11.3.8).'*	Consideration has been given to CCS and FCS for European protected species in Section 11.6.
NRW	*'Paragraph 11.3.23: we note that the preliminary assessment is to be updated in the ES following further surveys in respect of:* *• Bats*	This chapter provides updated assessments for the identified ecological features (where relevant) based on the baseline survey data

Consultee	Summary of Comment	Response
	• *Great Crested Newts* • *Otters and water voles* • *Botanical features* • *Birds (and barn owl assessment)'*	and evidence provided in **Appendix 11-C** to **11-L** (**EN010166/APP/6.4**).
NRW	*'Table 11-7 (Summary of species relevant to the ecological impact assessment) - Great Crested Newts (GCN): we do not concur with the stated ecological importance of GCN as "local". This should be amended to accord with Nicolet, P., Weatherby, A., Biggs, J., Williams, P., and Hatton-Ellis, T. (2007). A preliminary assessment of Important Areas for Ponds (IAPs) in Wales. Pond Conservation. (Report for the Countryside Council for Wales). Section 5.2.1 of this report states: "The North-east Wales IAP has three SACs and a number of SSSIs designated for their Great Crested Newt (*Triturus cristatus*) populations. The three counties also support species and assemblages of national importance".* *Paragraph 11.6.88 states: "Considering the abundance of great crested newt in the wider region, that there will be no loss of waterbodies as a result of the Proposed Development and only a relatively small proportion of optimal terrestrial habitat suitable for great crested newts is to be lost in comparison to that retained (as detailed above), it is considered these impacts are not likely to impact the conservation status of great crested newt." However, this appears not to have considered the international importance of the north-east Wales GCN population (see comment 16 above). The assessment also fails to consider that the current conservation status of GCN at a Wales spatial scale is "unfavourable"; see NRW Evidence Report 259 for further*	The FCS of great crested newt has been considered in the impact assessment in Section 11.6. The valuation of great crested newt takes into account CCS of great crested newt and the sites designated for great crested newt in the area local to the Proposed Development. Details can be found in **Appendix 11-E: Great Crested Newt Technical Appendix** (**EN010166/APP/6.3**). Disturbance to great crested newt during construction is presented within Section 11.6.

Consultee	Summary of Comment	Response
	information. In our view, this assessment is also applicable to Flintshire. *Reference to GCN disturbance during the construction phase should be included in the ES.* *Table 11-8 (Summary of Likely Significant Residual Effects (Construction)): we do not concur with the conclusions that GCN will not be significantly affected (paragraph 11.7.5), as surveys are ongoing (planned for 2025). This approach appears to contradict that taken for bat species, otters and water voles, for which surveys are also ongoing (see comment 26 above).'*	
NRW	*'Table 11-7 (Summary of species relevant to the ecological impact assessment) – Breeding birds: Appendix 11-D, para. 4.1.4 states that "Avocet and Cetti's warbler which are both listed on Schedule 1 of the Wildlife and Countryside Act 1981 were recorded breeding on the Connah's Quay Nature Reserve in 2022". As a Schedule 1 breeding species, Cetti's warbler should therefore be recognised alongside avocet in the summary of species relevant to the ecological impact assessment, along with any other Schedule 1 breeding bird species identified as being present at the site through further surveys/desk study. Disturbance to the nests, eggs or dependent young of Schedule 1 bird species listed in the Wildlife and Countryside Act 1981 (as amended) is not permissible unless licenced by NRW through a Schedule 1 disturbance licence.'*	This position is noted.
NRW	*'Paragraph 11.7.11: the overall scope of monitoring during construction should include an external ecological compliance audit of all identified ecological (habitat and species) features.'*	This position is noted. Monitoring requirements are captured within the **Outline LEMP**

Consultee	Summary of Comment	Response
		(**EN010166/APP/6.9**) or the **Framework CEMP** (**EN010166/APP/6.5**) where applicable.
NRW	*'If protected species are found during the surveys, information should be provided identifying the species-specific impacts in the short, medium, and long-term together with any mitigation and compensation measures proposed to offset the impacts identified. The ES should explain how the long-term site security of any mitigation or compensation will be assured, including management and monitoring information and long-term financial, tenure, and management responsibility. Where the potential for significant impacts on protected species is identified, we advise that a Conservation Plan is prepared for the relevant species and included as an Annex to the ES. In respect of European Protected Species, we advise consideration of Section 3.3.2 of EC Guidance C/2021/73013.'*	This position is noted. Monitoring requirements are captured within the **Outline LEMP** (**EN010166/APP/6.9**) or the **Framework CEMP** (**EN010166/APP/6.5**) where applicable.
NRW	*'**Species licensing*** *Where a European Protected Species is identified and the development proposal is predicted to likely contravene the legal protection they are afforded, a licence should be sought from NRW. The ES should include consideration of the requirements for a licence and set out how the works will satisfy the three requirements as set out in the Conservation of Habitats and Species Regulations 2017 (as amended). One of these requires that the development authorised will 'not be detrimental to the maintenance of the population of the species concerned at a favourable conservation status (FCS) in their natural range.'* *These requirements are translated into planning policy through Planning Policy Wales (PPW), edition 12, dated February 2024,*	This position is noted. No protected species licences are currently anticipated to be required for the Proposed Development.

Consultee	Summary of Comment	Response
	sections 6.4.35 and 6.4.36 and Technical Advice Note (TAN) 5, Nature Conservation and Planning (September 2009). The relevant decision maker should take them into account when considering development proposals where a European Protected Species is present.'	
NRW	*'**Protected Sites*** *Our advice relates to designated nature conservation sites within Wales. We advise that Natural England is consulted regarding potential impacts to the relevant designated nature conservation sites that lie within England that may be affected by the proposed development.'*	This position is noted.
NRW	*'We note that air quality impacts at a range of protected sites cannot be ruled out in the screening process so the ES indicates these will be assessed in greater detail in the ES for all statutory protected sites, and in the HRA for the European designations. We therefore have no further comment at this stage.* *We note that there are some potentially significant air quality impacts to protected sites, particularly from operational emissions of ammonia and nutrient nitrogen deposition (Nitrogen Oxides are close to screening out and acidity is also marginal), which will need to be considered in the ES and HRA. In-combination effects with other large developments in the area will also need to be considered.'*	This assessment includes an assessment of air quality effects associated with the Proposed Development, informed by **Chapter 8: Air Quality** (**EN010166/APP/6.2.8**) and its supporting appendices (**EN010166/APP/6.4**). The air quality assessment also considers in-combination effects with other large development (**Appendix 8-D: Operational Air Quality Assessment** (**EN010166/APP/6.4**)) which have been considered in the **Report to Inform Habitats Regulations Assessment** (**EN010166/APP/6.12**).
NRW	*'Further information on the nature and extent of the proposed permanent loss of habitat and its effects on birds, including the designated features of the Dee Estuary SPA and Ramsar site, should be provided in the ES and HRA. Preliminary bird survey results detected large numbers of birds, many of which are*	Sections 11.6 and 11.7 of this assessment and the **Report to Inform Habitats Regulations Assessment** (**EN010166/APP/6.12**) considers all potential impacts to birds utilising the SPA and Ramsar site and surrounding habitat.

Consultee	Summary of Comment	Response
	features of the Dee Estuary SPA and other designated sites, and we note that further surveys are planned. We await the results of these surveys to be able to comment further on the permanent loss of habitat. *Paragraph 11.2.6: the ES highlights disturbance during construction as a potential impact on birds, including designated features of the Dee Estuary SPA and Ramsar site. This should be assessed further once survey results are available. We suggest that a sensitivity assessment is undertaken. Please see, for example, work by: Cutts, N., Phelps, A. & Burdon D. 2009. Construction and waterfowl: Defining sensitivity, response, impacts and guidance. Report to Humber INCA.* *Section 11.2 - Consultation and Scope of Assessment and paragraph 11.2.8: the effects of disturbance to birds, including the designated features of the Dee Estuary SPA and Ramsar site, during operation (e.g. through visual and noise disturbance) should also be assessed.'*	
NRW	*'Paragraph 11.2.8 (Scope of the Assessment): reference to long-term habitat loss and the consequent potential requirement for compensation should be included in the ES and HRA.'*	Sections 11.5 and 11.8 provide an overview of the mitigation measures relevant to the Proposed Development, including off-site mitigation.
NRW	*'Paragraph 11.4.26: we note that a Conservation Areas Management Plan is currently in place as part of the site's current use as a power station. This involves areas of the site being managed for estuarine birds, which was secured as mitigation for previous developments. Paragraph 11.4.28 states that the Conservation Areas Management Plan will still be in place until*	As detailed in **Appendix 4-A: Operation and Maintenance Mitigation Register** (**EN010166/APP/6.4**) upon the end of management arrangements detailed within the Conservation Areas Management Plan for the existing Connah's Quay Power Station, an

Consultee	Summary of Comment	Response
	the existing power station ceases to operate. We are unclear how arrangements for compensation for significant adverse effects on the Dee Estuary SPA/Ramsar site will be provided as operations transition. This should be further expanded on and clarified in the ES and HRA.'	updated Conservation Areas Management Plan would be prepared and submitted to FCC and NRW for approval prior to the commencement of operation. This updated Conservation Areas Management Plan would be reviewed and updated at a frequency to be agreed with FCC and NRW and would remain in place until the point of the completion of the decommissioning of the CQLCP Abated Generating Station, unless otherwise agreed with FCC and NRW.
NRW	*'Table 11-6 states that "Coastal saltmarsh" 'and "Other standing water" "within the Water Connection Corridor and adjacent to the Main Site where land is required for construction and laydown" is to be "Assessed as part of the Dee Estuary designated site". Details relating to construction works including trackways, machinery and the potential for significant effects on the saltmarsh feature will therefore need to be provided in the ES and HRA.* *Paragraph 11.6.10 states that "construction of the Proposed Development has the potential to directly and indirectly impact saltmarsh habitat, which is present within the Indicative Order limits, specifically within the Water Connection Corridor and Existing Surface Water Outfall areas". The saltmarsh at the location of the Water Connection Corridor is an Annex I habitat feature ('Atlantic salt meadows') of the Dee Estuary SAC. We note that likely significant effects on the saltmarsh habitat cannot be ruled out until further details are available.*	As detailed in **Chapter 5: Construction Management and Programme** (**EN010166/APP/6.2.5**) the works within the Water Connection Corridor have been considerably reduced. **Chapter 5: Construction Management and Programme** (**EN010166/APP/6.2.5**) also confirms that excavation may be required within the Surface Water Outfall Area could directly affect saltmarsh habitat within the Dee Estuary SAC. As set out in Section 11.5, the **Framework CEMP** (**EN010166/APP/6.5**) requires detailed method statements for works in the area to be submitted to FCC and NRW for approval in advance of the works taking place.

Consultee	Summary of Comment	Response
	We would advise that laying pipes in areas of saltmarsh should be avoided in the first instance. However, if this is not feasible, directional drilling should be used rather than the open-cut method. Directional drilling, deep enough below the plant root zone, may leave the saltmarsh feature relatively intact, whereas trenching with backfill may de-stabilise the saltmarsh, which may then become prone to erosion. Detailed information should be included within the ES and HRA to enable an assessment of whether the saltmarsh could be successfully reinstated following the works. A detailed method statement and outline of any mitigation/compensation proposed is therefore likely to be required. *Paragraph 11.6.11 states that: "Any existing or proposed water intake and discharge will be located outside of the saltmarsh within the Dee Estuary". We note that the pipe will discharge away from the saltmarsh. However, confirmation should be provided in the ES and HRA of whether 'cooling water' discharged into the estuary on high tides, which submerge the marsh, could impact the saltmarsh with elevated water temperatures. If so, the effects of the cooling water discharge on the saltmarsh will also need to be considered.'*	With regard to discharges into the River Dee, it is assumed that these would be within the parameters of the existing permits held by the Applicant for the existing Connah's Quay Power Station. Further details on permitting requirements are provide within the **Consents and Agreement Position Statement** (**EN010166/APP/3.3**).
NRW	*'Paragraph 11.6.36 states: "There are no Ancient Woodlands located within the Indicative Order limits. The nearest Ancient Woodland is located approximately 50m south-west of the Indicative Order limits by the Proposed CO_2 Connection Corridor, which is a sufficient distance away to not be damaged or disturbed. There will be no direct impacts on Ancient Woodland." It is not clear how this assessment relates to other sections of Chapter 11 as it appears to contradict paragraphs 11.6.152 and*	This position is noted. Ancient Woodlands (including the features of Deeside and Buckley Newt Sites SAC) have been considered in the assessment provided in Section 11.6.

Consultee	Summary of Comment	Response
	11.6.153 regarding the ongoing assessments of air quality impacts. This should be addressed in the ES. *Paragraph 11.6.153: the ancient woodland assessment should consider woodland communities that are listed under Annex I of the Habitats Directive (and are one of the features of Deeside and Buckley Newt Sites SAC).'*	
RSPB Wales	*'The RSPB has a number of concerns relating to the Application, which have not been adequately addressed in the Environmental Statement (ES) and we consider that at present it is not possible to conclude that there will be no adverse effects on the integrity of the following designated sites and their features:* *• Dee Estuary Site of Special Scientific Interest (SSSI),* *• Dee Estuary Special Protection Area (SPA),* *• Dee Estuary Special Area of Conservation (SAC),* *• Dee Estuary Ramsar site.* *There is a need for further information to assess the effects on bird populations and associated habitats of the Dee Estuary SSSI, SPA, SAC and Ramsar site. We trust that the ongoing ornithological surveys and impact assessment will help address our concerns.'*	An updated assessment on the identified features is presented in Section 11.6 and in the **Report to Inform Habitats Regulations Assessment** (**EN010166/APP/6.12**) where relevant. Further details of engagement with the RSPB are provided in **Table 11-5.**
RSPB Wales	*'**Disturbance impacts*** *The application site is adjacent to and impinges upon the Dee Estuary SSSI/SPA/SAC/Ramsar. The proposal has potential to cause noise and visual disturbance to waterbird features. We understand that ornithological surveys were due to be completed in October 2024 and an impact assessment is ongoing.*	An assessment of disturbance effects on waterbird features during the construction and operation of the Proposed Development is provided in Section 11.6. Sections 11.5 and 11.7 provide an overview of the mitigation measures relevant of the

Consultee	Summary of Comment	Response
	We are concerned over the potential disturbance to nearby roosts and feeding areas, particularly during construction but also during operation. The ES does not include details for an assessment of the likely effects of disturbance and sensitivity at various locations on the estuary, for example noise modelling in relation to feeding and roosting of SPA bird species. *We welcome the proposed mitigation measures to address noise and visual disturbance although it is not clear what calibre of mitigation is needed until further information on disturbance levels is provided, both during construction and operational phases. We request further details on how such measures would be implemented. This is to ensure that appropriate mitigation measures are in place to ensure the predicted disturbance will not have an adverse effect on the waterbird features.* *In addition to the above comments, there is insufficient information on the potential disturbance impact of the works associated with the Water Connection Corridor, owing to an indecision on which working methods will be applied during the construction works. The works entail installing new intake and outfall structures and pipework in close proximity to the existing outfalls within the SSSI, SAC, SPA and Ramsar. We understand that details will be confirmed in the Environmental Statement.'*	Proposed Development, including off-site mitigation. **Chapter 4: The Proposed Development** (**EN010166/APP/6.2.4**) and **Chapter 5: Construction Management and Programme** (**EN010166/APP/6.2.5**) provide an overview of the works required in the Water Connection Corridor. The works in the Water Connection Corridor would be limited to the refurbishment and upgrades to the existing intake structure and have now been reduced following statutory consultation . These works would be undertaken by divers and a support boat and/or barge, or similar, and foot-only access via the saltmarsh itself over an estimated three- to five-month period. Works within the Water Connection Corridor would not require interaction with the riverbed. All materials and plant (if required; it is expected that the majority of works within the Water Connection Corridor would require hand tools only) would be stored within the support barge and a working area would be established using scaffolding attached to the existing protection structure.

Consultee	Summary of Comment	Response
RSPB Wales	*'**Habitat loss*** *The fields in the Main Site are used by over-wintering birds associated with the Dee Estuary including Curlew. As such part of the proposed development site is likely to be considered as functionally linked to the SPA. Curlew is red-listed as a species of high conservation concern in Wales.* *Paragraph 11.6.40 identifies that habitat loss will occur within the Main Site but only refers to temporary habitat loss. The western part of the fields at the Main Site will be used as a laydown area during construction and will be reinstated into sheep pasture on completion of works. However, the remainder of the fields will form part the new power station footprint, resulting in permanent habitat loss.* *This will have a direct impact on birds using the sheep-gazed fields during and after construction. These fields are an important wintering area for over 100 Curlew. It is important that the displacement of Curlew - a designated feature of the SPA - is adequately addressed at a local level. Consideration needs to be given to the creation of compensatory habitat in for Curlew. Furthermore, compensation habitat must be fully functional before construction begins'*	This matter has been discussed with RSPB and NRW, as detailed in **Table 11-5**. Sections 11.5 and 11.7 provide an overview of the mitigation measures relevant to the Proposed Development, including off-site mitigation.
RSPB Wales	*'We reserve the right to make further comments in future.'*	This position is acknowledged.

Table 11-4: Targeted Consultation

Consultee	Summary of Comment	Response
Flint Town Council	**Mitigation, Monitoring, and Compensation**: The Council expects: • Transparent, accountable mitigation strategies for all identified environmental risks—including noise and vibration (e.g., from pile driving) in relation to nearby Listed Buildings; • Clear summaries of these assessments for public understanding; Full details of compensation mechanisms available to adversely affected residents and businesses, including: • How compensation will be calculated, • Who will administer the scheme, • How the public will be made aware of it. Additionally, the Council requests: • Clarification on how often the project's environmental performance will be reviewed, and • How local residents will be kept informed of those findings.	Details of all mitigation and monitoring proposed is included within the **Commitments Register** (**EN010166/APP/6.10**).
Natural Resources Wales	**Protected Sites:** The PEIR reported some potentially significant air quality impacts to protected sites, particularly from operational emissions of ammonia and nutrient nitrogen	The Air Quality assessment is presented **in Appendix 8-D: Air Quality Operational Assessment** (**EN010166/APP/6.4**) and is considered in Section 11.6 as well as the **Report**

Consultee	Summary of Comment	Response
	deposition (Nitrogen Oxides were close to screening out and acidity was also marginal), which will need to be considered in the ES and HRA. In-combination effects with other large developments in the area will also need to be considered.	**to Inform Habitats Regulations Assessment** (**EN010166/APP/6.12**).

Table 11-5: Additional Relevant Engagement

Consultee	Description	Response
FCC	A meeting was held in May 2024 to discuss the approach to NBB. Additionally, a summary of the approach to ecology surveys and method outlined in the Scoping Report was briefly discussed.	N/A
JS	A meeting was held in May 2024 to discuss the Proposed Development, particularly in relation to ornithological interest of the Main Development Area.	N/A
NRW	A meeting was held in July 2024 to discuss ecology survey scope and engage on ecological matters related to the Proposed Development.	N/A
FCC	A meeting was held in January 2025 to provide an update on the ecology survey scope and findings to date. A discussion was had about the options to mitigate the loss of the Functionally Linked Land and its impacts on curlew. FCC advised reptile population in C&IEA maybe larger than surveys to date suggested as other sites in the region connected to the railway corridor had found when time came to undertake mitigation that many more individuals than expected were caught.	After discussion with FCC, it was decided that reptile surveys should be repeated in 2025 to update the population information available and to inform further mitigation needed. These surveys are in progress at the submission of the Application.

Consultee	Description	Response
RSPB	A meeting was held in January 2025 to provide an update on the ornithology surveys to date. A discussion was had about the options to mitigate the loss of the Functionally Linked Land and its impacts on Curlew.	These discussions have helped inform the site selection process outline within the **Curlew Mitigation Strategy** (**EN010166/APP/6.13**).
NRW	A meeting was held in March 2025 to provide an update on the ecology survey scope and findings to date. Discussion of methodology for assessing noise on birds. A discussion was had about the options to mitigate the loss of the Functionally Linked Land and its impacts on Curlew. NRW advised assessment of EPS should be based on FCS not on CIEEM methodology for ecological impacts	FCS has been included in our assessment of EPS in section 11.6.
RSPB	A meeting was held in April 2025 to present the WeBS data for the two options for potential offsite mitigation of the Functionally Linked Land (FLL) within the Order limits. The RSPB responded post meeting to advise their preferred option for off-site mitigation.	These discussions have helped inform the site selection process outline within the **Curlew Mitigation Strategy** (**EN010166/APP/6.13**).
NRW	A meeting was held in May 2025 to present the ornithology results in detail and further discuss the options for mitigation for the FLL. The methodology for the assessment of noise impacts on birds was agreed. It should be done according to *Waterbird Disturbance Mitigation Toolkit* (Ref 11-32) Update was provided on impacts to saltmarsh.	These discussions have helped inform the site selection process outline within the **Curlew Mitigation Strategy** (**EN010166/APP/6.13**). Discussions related to the assessment of noise effects have been reflected in Section 11.6 and the **Report to Inform Habitats Regulations Assessment** (**EN010166/APP/6.12**).
NRW	A meeting was held in June 2025 to present the findings of the Air Quality assessment to NRW.	This assessment includes an assessment of air quality effects associated with the Proposed Development, informed by **Chapter 8: Air Quality**

Consultee	Description	Response
	Update was provided on impacts to saltmarsh as a result of the works at the surface water outfall area. High level discussion of statement of common ground.	(**EN010166/APP/6.2.8**) and its supporting appendices (**EN010166/APP/6.4**). The air quality assessment also considers in-combination effects with other large development (**Appendix 8-D: Operational Air Quality Assessment** (**EN010166/APP/6.4**)) which have been considered in the **Report to Inform Habitats Regulations Assessment** (**EN010166/APP/6.12**).

Scope of the Assessment

11.2.6 The scope of the assessment considered in this chapter of the ES is as follows:

Construction phase

11.2.7 During the construction phase, the potential impacts to Terrestrial and Aquatic Ecology scoped into this assessment are:

Terrestrial Ecology

- temporary disturbance impacts (including temporary habitat loss, changes in air quality and alteration of local hydrology and water quality) and permanent loss and degradation of nature conservation designations and other relevant terrestrial and aquatic habitats (including areas considered to be FLL[2] following evaluation of survey data) within the Order limits during construction, and within the wider ZoI (as defined within Section 11.4) where potential pathways for impact extend beyond the Order limits;
- direct and indirect impacts on relevant protected and notable species, e.g. as a result of injury, habitat loss or noise, lighting and visual disturbance, during construction;
- temporary water quality (sediment run-off, other possible emissions to water) and air quality impacts (dust emissions) on relevant habitats and species during construction; and
- introduction and spread of any INNS from construction works;

Ornithology

- the effects on birds resulting from temporary habitat loss within the Order limits during construction;
- temporary noise and visual disturbance of birds from construction related activities; and
- permanent loss of habitats used by nesting, roosting, and feeding birds during construction of the Proposed Development;

Aquatic Ecology

- direct impacts associated with changes in land use resulting from the Proposed Development, for example temporary works associated with site clearance, and permanent land-take (mainly arable land) associated with the construction of the Proposed Development;
- indirect fragmentation impacts due to the Proposed Development dividing a habitat, group of related habitats, site or ecological network, or the creation of partial or complete barriers (e.g. culverts) to the

[2] FLL is a term often used to describe areas of land or sea occurring outside a designated site which is considered to be critical to, or necessary for, the ecological or behavioural functions in a relevant season of a qualifying feature for which a SAC, SPA or Ramsar site has been designated. These habitats are frequently used by qualifying species and supports the functionality and integrity of the designated sites for these features.

movement of species, with a consequent impairment of ecological function;

- indirect disturbance impacts resulting from a change in normal conditions (e.g. light, noise, vibration and human activity) that result in individuals or populations of aquatic species changing behaviour or range;
- direct or indirect impacts resulting in the reduction in the condition of a habitat and its suitability for some or all of the species it supports, for example changes in chemical water quality, increased sedimentation and dust deposition, or changes in surface flow or groundwater;
- direct impacts on species populations associated with mortalities due to construction activities, for example site clearance; and
- introduction and/or spread of INNS, due to the movement of personnel, equipment and plant machinery, potentially facilitating the introduction of INNS.

Operational phase

11.2.8 During the operational phase, the potential impacts to Terrestrial and Aquatic Ecology scoped into this assessment are:

Terrestrial Ecology

- direct impacts in association with operation of the proposed Connah's Quay Low Carbon Power (CQLCP) Abated Generating Station, on relevant protected and notable species, e.g. as a result of permanent lighting, noise and/or visual disturbance; and
- long-term air and water quality impacts on nature conservation designations and any associated protected and notable species in the vicinity of, or downwind/downstream of, the Order limits.

Aquatic Ecology

- direct impacts in association with operation of the proposed CQLCP Abated Generating Station, on relevant protected and notable species, e.g. as a result of permanent lighting, noise and/or visual disturbance; and
- long-term water quality impacts on nature conservation designations and any associated protected and notable species in the vicinity of, or downstream of, the Order limits.

Decommissioning phase

11.2.9 The potential impacts and associated effects of decommissioning are considered to be similar to construction.

11.2.10 Decommissioning activities would be conducted in accordance with the appropriate guidance and legislation in force at the time of decommissioning. A Decommissioning Environmental Management Plan (DEMP) would be produced at the time of decommissioning, pursuant to a Requirement of the **Draft DCO** (**EN010166/APP/3.1**). The DEMP would include an outline

programme of works, would consider all potential environmental risks and contain guidance on how risks can be removed, mitigated or managed, accounting for potential future changes to baseline conditions. It is not anticipated that the decommissioning of the Proposed Development would present any significant environmental effects beyond those that assessed for the construction phase and therefore the decommissioning of the Proposed Development is assessed further within the ES.

Exclusions from the assessment

11.2.11 The following aspects have not been considered within the scope of the assessment in this chapter:

- natterjack toads have been scoped out of the assessment, as explained within Section 11.3 of this Chapter and within Annex F of **Appendix 11-C: Botanical Technical Appendix** (**EN010166/APP/6.4**);
- marine ecology is assessed separately within **Chapter 12: Marine Ecology** (**EN010166/APP/6.2.12**); and
- the Accommodation Work Areas Offloading Area and Routes are excluded from the assessment for Terrestrial and Aquatic Ecology (including ornithology) (refer to **Chapter 4: Proposed Development** (**EN010166/APP/6.2.4**)). A separate Rapid Impact Assessment of ecological constraints in relation to the Accommodation Work Areas Offloading Area and Routes is included at **Appendix 5-A: Environmental Screening of Acommodation works** (**EN010166/APP/6.4**). This considers the impacts of all works (largely limited to clearance of discreet areas of vegetation and pruning of trees) within the accommodation works areas on ecological features and what mitigation is required to ensure these works do not impact ecological features. These mitigation measures have been captured within the **Framework CEMP** (**EN010166/APP/6.5**).

11.3 Assessment Method

11.3.1 The EcIA has been conducted in accordance with best practice guidance issued by the Chartered Institute of Ecology and Environmental Management (Ref 11-30). Full details of the approach applied is provided in **Appendix 11-A: Ecological Impact Assessment Methodology** (**EN010166/APP/6.4**) for terrestrial ecology and **Appendix 11-L: Aquatic Ecology Technical Appendix** for aquatic ecology (**EN010166/APP/6.4**).

Study Area

11.3.2 The study areas used in this assessment have been defined with reference to the likely ZoI where there is potential for significant effects on relevant ecological features to occur, through construction, operation (including maintenance) and decommissioning of the Proposed Development.

11.3.3 The spatial scope was informed by professional judgment in line with good practice guidance and standards including British Standard 42020:2013 Biodiversity – Code for Planning and Development (Ref 11-31), and Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater and Coastal version 1.3 (Ref 11-30).

11.3.4 The spatial scope also takes account of the potential ZoI of the Proposed Development by extending the desk-based exercise to outside the Order limits of the Proposed Development where required. The ZoI is the area over which ecological features may be subject to likely significant effects because of the Proposed Development and associated activities. These effects (and therefore the distance and area of the ZoI) vary for each ecology feature and are dependent on several factors including the presence of connective pathways and sensitivity or importance of the ecology feature.

11.3.5 The ZoI of the Proposed Development may vary over time (e.g. the construction zone of influence may differ from the operational zone of influence) and/or depending on the individual sensitivities of different ecological features.

Information Sources

11.3.6 The terrestrial and aquatic ecology baseline for the Construction and Operation Area and wider area where applicable has been determined through a combination of desk study and field survey, as described in **Appendices 11-B** to **11-L** (**EN010166/APP/6.4**) and as summarised below.

Data Sources

11.3.7 A desk study was carried out to identify nature conservation designations, protected and notable habitats and species potentially relevant to the Proposed Development. The desk study was carried out using the data sources detailed in **Table 11-6** and is reported in detail in the following Appendices:

- **Appendix 11-B: Terrestrial and Aquatic Ecology Baseline Surveys and Study Area (EN010166/APP/6.4);**
- **Appendix 11-C: Botanical Technical Appendix (EN010166/APP/6.4);**
- **Appendix 11-D: Ornithology Technical Appendix (EN010166/APP/6.4);**
- **Appendix 11-E: Great Crested Newt Technical Appendix (EN010166/APP/6.4);**
- **Appendix 11-F: Reptile Desk Study (EN010166/APP/6.4);**
- **Appendix 11-G: Bat Technical Appendix (EN010166/APP/6.4);**
- **Appendix 11-H: Badger Technical Appendix CONFIDENTIAL (EN010166/APP/6.4);**
- **Appendix 11-I Water Vole Technical Appendix (EN010166/APP/6.4);**
- **Appendix 11-J: Otter Technical Appendix CONFIDENTIAL (EN010166/APP/6.4);**
- **Appendix 11-K: Terrestrial Invertebrates Technical Appendix (EN010166/APP/6.4); and**
- **Appendix 11-L: Aquatic Ecology Technical Appendix (EN010166/APP/6.4).**

Table 11-6: Desk Study Area and Data Sources

Data Source	Desk Study Area	Accessed/Data Received	Data Obtained
Multi Agency Geographic Information for the Countryside (MAGIC) (Ref 11-33)	Up to 15 km	November 2023 / May 2025	15 km for all statutory designated sites for nature conservation at a European or international level or national level. 2 km for all other features (local statutory designations, ancient woodland, Priority Habitats).
Joint Nature Conservation Committee (JNCC) Website (Ref 11-34)	Up to 15 km	November 2023	Reasons for designation and other information on European or international designated sites for nature conservation.
@Data Map Wales (Ref 11-35)	Up to 2 km	November 2023	2 km for Local Nature Reserves (LNR).
Phase 1 Habitat and Faunal Survey Northern and Southern Land Parcel (Aspect Ecology) (Ref 11-36)	Up to 2 km	August 2021 and April 2023	2 km for non-statutory designated sites (Local Wildlife Sites (LWS)) and protected and notable habitats and species recorded from survey information.
Breeding, Passage and Wintering Bird Surveys Northern and Southern Land Parcel	The Order limits (excluding the Temporary Accommodation Work Areas) (i.e. Main Development Area and C&IEA) and adjacent areas	April 2022 to February 2023	Bird survey data for breeding and wintering activity.

Data Source	Desk Study Area	Accessed/Data Received	Data Obtained
(Aspect Ecology) (Ref 11-37)			
Reptile Surveys Northern and Southern Land Parcel (Aspect Ecology) (Ref 11-38)	The Order limits (excluding the Temporary Accommodation Work Areas) (i.e. Main Development Area and C&IEA) and adjacent areas	May 2022	Reptile survey data.
National Biodiversity Network (NBN) Atlas (Commercially available data according to licencing criteria) (Ref 11-39)	Up to 2 km	November 2023	European eel *Anguilla anguilla* data.
British Trust for Ornithology (BTO) WeBS	5 km from Main Development Area[3]	July 2024[4]	High tide and low tide WeBS (wetland bird) data was reviewed within selected official count sectors.
Cofnod – North Wales Environmental Information Service (Ref 11-40)	Up to 2 km	March 2024	2 km for non-statutory designated sites (LWS) and protected and notable habitats and species. Reasons for designation and other information on Welsh national designated sites for nature conservation.

[3] A 5 km search area was considered sufficient to gain an understanding of the way in which estuary birds use the survey area and immediate surrounds and provides contextual information on importance.
[4] WEBs data was requested when the most contemporary data set became available for inclusion in the assessment and baseline report

Data Source	Desk Study Area	Accessed/Data Received	Data Obtained
Deeside Naturalists Society (provided by Uniper Limited) (Ref 11-41)	The Main Development Area i.e. Connah's Quay Power Station Nature Reserve adjacent to the Main Development Area (Compartment 1 north-west and Compartment 2 north-east)	December 2023	Monthly wetland bird data January 2013 to December 2023.
North East Wales Bird Report 2022 (Ref 11-42)	Flintshire and Denbighshire	November 2024	Species records from across north-east Wales.
Flintshire bird recorder	Up to 2 km	May 2024	Barn owl nest site records.
Wirral Barn Owl Trust	Up to 2 km	May 2024	Barn owl nest site records.
HyNet GCN Survey Report (Ref 11-43)	The Construction and Operation Area +500 m specifically the Proposed and Repurposed CO_2 Corridors	April/May 2024	Great crested newt *Triturus cristatus* presence/absence data.
HyNet Bat activity survey reports (Ref 11-44)	The Order limits (excluding the Temporary Accommodation Work Areas) specifically the Proposed CO_2 Connection Corridor	April/May 2024	Previous bat survey data.
HyNet Bird Survey report (Ref 11-45)	The Order limits (excluding the Temporary Accommodation Work Areas) and surrounds	July 2024	No data considered of relevance to the Proposed Development.
North East Wales Amphibian and Reptile Network	Up to 2 km	April 2024	Natterjack toad data.
Environment Agency (EA) Ecology and Fish Data	Up to 2 km	April 2024	Fish, macroinvertebrate and aquatic macrophyte species.

Data Source	Desk Study Area	Accessed/Data Received	Data Obtained
Explorer (Ref 11-46)			
NRW data request service (Ref 11-47)	Up to 2 km	April 2024	Fish, macroinvertebrate and aquatic macrophyte species.

Field Surveys

11.3.8 The scope for habitat and protected species surveys was determined through the PEA included as Annex F of **Appendix 11-C: Botanical Technical Appendix** (**EN010166/APP/6.4**) and engagement with FCC (as described in Section 11.2).

11.3.9 The scope of the field surveys completed, or in progress, to inform the EcIA for the ES, as described in the PEA included as Annex F of **Appendix 11-C: Botanical Technical Appendix** (**EN010166/APP/6.4**), is summarised in **Table 11-7** below. Full details of the scope and methods for each survey area is provided in the technical **Appendices 11-C: Botanical Technical Appendix** to **11-L: Aquatic Ecology Technical Appendix** (**EN010166/APP/6.4**) (as appropriate) and **Appendix 11-B: Terrestrial and Aquatic Ecology Baseline Surveys and Study Area** (**EN010166/APP/6.4**).

Table 11-7: Summary of ecological field surveys / defining the baseline for the Proposed Development

Ecological Survey	Appendix (EN010166/APP/6.4)	Survey area/Scope[5]	Status/Date
UK Habitat Classification (UKHab) survey, and habitat condition assessment to inform NBB	**Appendix 11-C**: **Botanical Technical Appendix**	Terrestrial habitats within the Main Development Area, C&IEA, Proposed CO_2 Connection Corridor and Repurposed CO_2 Connection Corridor and up to 50 m (where accessible)	Completed June 2024 to October 2024
Hedgerow Surveys	**Appendix 11-C**: **Botanical Technical Appendix**	Assessment of all hedgerows within the Main Development Area, C&IEA, Proposed CO_2 Connection Corridor and Repurposed CO_2 Connection Corridor and up to 50 m (where accessible)	Completed June 2024 to October 2024
Botanical including National Vegetation Classification (NVC) (terrestrial) surveys	**Appendix 11-C**: **Botanical Technical Appendix**	NVC surveys of saltmarsh within the Water Connection Corridor Survey of areas of Open Mosaic Habitat within the C&IEA to determine if they qualify as Priority Habitat	Completed NVC of Saltmarsh -July 2024 Completed Survey of Open Mosaic Habitat-June 2024
Wetland and breeding bird (including barn owl) surveys	**Appendix 11-D: Ornithology Technical Appendix**	All land within the Site (specifically the Main Development Area. Water Connection Corridor, C&IEA, Proposed CO_2 Connection Corridor and Repurposed CO_2 Connection Corridor) and estuary/saltmarsh habitats up to 1.5 km (as visibility allows)	Completed November 2023 to October 2024

[5] Figures showing the Study/Survey Areas and justification for their size for each survey type can be found in the relevant Technical Appendix.

Ecological Survey	Appendix (EN010166/APP/6.4)	Survey area/Scope[5]	Status/Date
Great crested newt surveys (Habitat Suitability Index Assessments and environmental DNA)	**Appendix 11-E: Great Crested Newt Technical Appendix**	Ponds Within the Construction and Operation Area plus up to 500 m (where applicable)	Completed 15 April to end of June 2024 and May to June 2025
Reptile surveys	**Appendix 11-F: Reptile Desk Study**	The Main Development Area and C&IEA	May 2022 Update surveys started May 2025 and are ongoing at time of writing.
Bat Preliminary Roost Assessment (PRA)	**Appendix 11-G: Bat Technical Appendix**	The Construction and Operation Area plus up 50 m (where accessible)	Completed February 2024
Bat activity surveys	**Appendix 11-G: Bat Technical Appendix**	Proposed CO_2 Connection Corridor and Repurposed CO_2 Connection Corridor	Completed April to October 2024
Badger *Meles meles* surveys	**Appendix 11-H: Badger Technical Appendix CONFIDENTIAL**	The Construction and Operation Area plus up to 30 m (where accessible)	Completed April to November 2024
Water vole *Arvicola amphibius* surveys	**Appendix 11-I Water Vole Technical Appendix**	The Construction and Operation Area, focused on waterbodies within the Construction and Operation Area and adjacent areas	Completed June to September 2024
Otter *Lutra lutra* surveys	**Appendix 11-J Otter Technical Appendix CONFIDENTIAL**	The Construction and Operation Area, focused on the River Dee and adjacent habitat within the Site extending up to 200 m up and downstream	Completed June to September 2024
Terrestrial invertebrate surveys	**Appendix 11-K Terrestrial Invertebrate Technical Appendix**	The Construction and Operation Area, and targeted areas within the Main Development Area and C&IEA	Completed April to July 2024

Ecological Survey	Appendix (EN010166/APP/6.4)	Survey area/Scope[5]	Status/Date
Aquatic surveys	**Appendix 11-L: Aquatic Ecology Technical Appendix**	The Construction and Operation Area, focused on waterbodies within the Construction and Operation Area and adjacent areas	Completed 2024

Impact Assessment Method

11.3.10 The assessment has determined the reasonable worst-case scenario for impact pathways to terrestrial ecology (including ornithology) and aquatic ecology features in line with the Rochdale Envelope approach (as described in paragraph 11.3.18) and has focused on those features considered to be ecologically important. Refer to **Appendix 11-A: Ecological Impact Assessment Methodology, Appendix 11-L: Aquatic Ecology Technical Appendix** (**EN010166/APP/6.4**) and **Chapter 2: Assessment Methodology** (**EN010166/APP/6.2.2**) for details.

11.3.11 For terrestrial and aquatic ecology (including ornithology), the approach to EcIA has followed the Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater and Coastal version 1.3 (Ref 11-30). The evaluation method for this EcIA uses a geographic scale to determine the importance (i.e. sensitivity/value) of ecological features as detailed in **Table 11-8.**

Table 11-8: Ecological Importance for Terrestrial (including Ornithology) and Aquatic Ecology

Ecological Importance	Ecological Importance Criteria
International	Typically within an international context reflecting the general availability of data to allow cross-comparison
National	Great Britain, but considering the potential for certain features to be more notable (of higher value) in a Welsh context, relative to Great Britain as a whole
Regional	Important at North Wales geographical scale
County	Important at Flintshire geographical scale
District	Important at Deeside geographical scale
Local	Features do not meet criteria for valuation at District or higher level but have sufficient value at the Site level to merit retention or mitigation
Negligible	Common and widespread features that have very low value at the level of the site, and which do not require retention or mitigation at the relevant location to otherwise maintain a favourable nature conservation status, or to deliver wider relevant biodiversity objective and can be screened out

11.3.12 In line with the CIEEM EcIA Guidance the terminology used within the EcIA draws a clear distinction between the terms "impact" and "effect". For the purposes of the EcIA these terms are defined as follows:

- impact – actions resulting in changes to an ecological feature. For example, demolition activities leading to the removal of a building utilised as a bat roost; and

- effect – outcome resulting from an impact acting upon the conservation status or structure and function of an ecological feature. For example, killing/injury of bats during demolition and reducing the availability of breeding habitat as a result of the loss of a bat roost may lead to an adverse effect on the conservation status of the population concerned.

11.3.13 The assessment of impacts presented in this chapter focuses on features that are of at least Local ecological importance or have the potential to be affected by the Proposed Development either positively or negatively. Ecological features of less than Local importance are considered in the context of national and local planning policies that require NBB. Features protected by legislation are discussed separately. For example, INNS listed under Schedule 9 of the WCA (Ref 11-3) do not have any ecological importance, however it is illegal to plant or otherwise cause INNS to grow in the wild.

11.3.14 The assessment includes:

- the identification of potential impacts on important ecological features (IEF); and
- characterising impacts (extent, magnitude, duration, timing, frequency, reversibility, beneficial (positive), adverse (negative) to determine effects.

11.3.15 These effects are then assessed based on their likelihood to be significant in EcIA terms. An effect is either not significant (no ecologically meaningful effect) or significant (an ecologically meaningful effect). To provide consistency in terminology across other chapters, the residual effects of the Proposed Development are also translated to EIA significance level on a scale of neutral, minor, moderate and major as defined in **Chapter 2: Assessment Methodology** (**EN010166/APP/6.2.2**). Refer to **Appendix 11-A: Ecological Impact Assessment Methodology** (**EN010166/APP/6.4**) for further details.

11.3.16 In consultation with NRW it was requested that in addition to the CIEEM EcIA Guidance the Proposed Development should assess impacts on the Favourable Conservation Status of European protected species.

11.3.17 An assessment of cumulative impacts with other committed developments that could interact with the impacts and effects of the Proposed Development has been carried out, and is presented in **Chapter 24: Cumulative and Combined Effects** (**EN010166/APP/6.2.24**).

Rochdale Envelope

11.3.18 The setting of design parameters using the Rochdale Envelope approach is described in **Chapter 2: Assessment Methodology** (**EN010166/APP/6.2.2**). The maximum parameters for the principal components of the Proposed Development are set out in the **Design Principles Document** (**EN010166/APP/7.8**) and are illustrated on the **Works Plans** (**EN010166/APP/2.4**) and the **Parameter Plans** (**EN010166/APP/2.5**). These parameters, together with assumptions regarding the future plans for the existing Connah's Quay Power Station set out in **Chapter 2: Assessment Methodology** (**EN010166/APP/6.2.2**) have been used to inform the representative worst-case scenario that has been assessed in this

chapter, in order to provide a robust assessment of the impacts and likely significance of environmental effects of the Proposed Development at its current stage of design.

11.3.19 In particular, focused use of the Rochdale Envelope has been adopted for the following aspects:

- **Construction based on the Phased Construction scenario:** it is assumed for terrestrial (including ornithology) and aquatic ecology that the Phased Construction, as described in **Chapter 5: Construction Management and Programme** (**EN010166/APP/6.2.5**), is the reasonable worst-case scenario with Train 1 and Train 2 constructed one after the other, lasting up to nine years. It is assumed that this construction method has the greatest impact on ecology for example, due to the land take required and the effects of noise and visual disturbance from construction on IEFs over a greater period of time.

- **Land use for Construction Laydown Areas:** For this assessment the reasonable worst-case scenario assumption is that all land identified as construction laydown (as indicated on **Figure 5-3: Construction Areas** (**EN010166/APP/6.3**), would be lost for up to nine years, based on the Phased Construction, with habitat then reinstated.

- **The Repurposed CO_2 Connection Corridor:** For this assessment, it is assumed that no intrusive works would be required, as detailed in **Chapter 5: Construction Management and Programme** (**EN010166/APP/6.2.5**). Accordingly, no impacts would arise and it is therefore not considered further in this assessment.

- **Routing of the Proposed CO_2 Connection Corridor and Flint Above Ground Installation** (**AGI**)**:** For this assessment, it is assumed that the Proposed CO_2 Connection Corridor would involve the installation of an approximately 610 mm diameter pipeline, 1.2 m below ground level for a length of 422 m. Given the uncertainties around the routing, the worst-case scenario assumption is that all habitats within the 32 m wide connection corridor working area would be lost. To support the modification of the Flint AGI, and the construction of the Proposed CO_2 Connection a compound with an area of 0.42 ha has been considered in this assessment. Land take for the pipeline and construction compound is assumed to be temporary (up to nine months; as shown in Table 5-2 in **Chapter 5: Construction Management and Programme** (**EN010166/APP/6.2.5**), with habitat reinstated on completion.

- **Construction within the Water Connection Corridor:** For this assessment, it is assumed that all works within the Water Connection Corridor would be completed using hand tools, working areas would be accessed by foot over the saltmarsh and required materials would be brought in by barge. There would be no impacts to the river bed, works would be temporary (three to five months in duration) and all habitat would be restored on completion of the works, noting that the Order limits as shown on **Figure 3-3** (**EN010166/APP/6.3**) are the maximum extent of land required for the works.

- **Surface water outfall:** For this assessment, it is assumed that a new permanent outfall structure for surface water drainage discharge would be required in the immediate vicinity of the existing surface water outfall. A 10 m buffer around the existing artificial structure has been included to allow for access and additional permanent artificial structures. Therefore, the assumed reasonable worst-case is that all habitat within the Surface Water Outfall Area would be lost for a period of up to three months and reinstated upon completion. The only exclusion to this would be the permanent loss of habitat within the footprint of the proposed headwall extension (<5 m^2).

- **Ecological safeguard zones:** For the assessment, it is assumed that only the habitats within the proposed ecological safeguard zones can be retained to the north and north-western boundary of the Main Development Area and northern boundary of the C&IEA. This minimum 30 m ecological safeguard zones, with acoustic fencing would be used to provide protection for sensitive habitats and IEFs, including within the Dee Estuary. Following the installation of the drainage assets as part of the enabling works, this zone would be a no construction zone and construction plant and machinery would not be able to enter. The ecological safeguard zones are discussed further in paragraph 11.5.7 and are shown on **Figure 5-3: Construction Laydown Areas** (**EN010166/APP/6.3**).

- **Numbers and heights/dimensions for the CCP elements including absorber:** For the assessment, in terms of considering potential visual impacts of new infrastructure on IEFs using the Dee Estuary, a maximum height of 150 m above ground level for the absorber stacks and Heat Recovery Steam Generator (HRSG) stacks is considered. With the exception of the absorber and HRSG stacks, the Proposed Development is assumed not to introduce new buildings or structures that are significantly taller than those of the existing Connah's Quay Power Station.

- **External lighting:** Some external lighting would be required during the operational phase to ensure the CCGT and CCP and associated infrastructure can operate safely at all times. The **Lighting Strategy** (**EN010166/APP/7.22**), describes the reasonable worst-case scenario and has been put in place to reduce the visual impact of lighting on the local environment, including IEFs.

- **Air quality:** For the assessment of air quality impacts during construction and operation of the Proposed Development, the worst-case scenario has been described in **Chapter 8: Air Quality** (**EN010166/APP/6.2.8**). The assessment of construction and operational phase impacts to terrestrial and aquatic ecology is therefore also based upon this reasonable worst-case scenario.

- **Water quality:** For the assessment of water quality impacts during construction and operation, the worst-case has been described in **Chapter 13: Water Environment and Flood Risks** (**EN010166/APP/6.2.13**). The assessment of construction and operational phase impacts to terrestrial and aquatic ecology is therefore also based upon this worst-case.

- **Noise and Vibration:** For the assessment of noise and vibration impacts during construction and operation, the worst-case scenario has been described in **Chapter 9: Noise and Vibration** (**EN010166/APP/6.2.9**). The assessment of construction and operational phase impacts to terrestrial (including ornithology) and aquatic ecology is therefore also based upon this worst-case. Reference has been made to the Waterbird Disturbance Mitigation Toolkit pdf (Ref 11-32) for assessing noise impacts on birds. This method determines disturbance thresholds that occur at different noise levels according to the sensitivity of the species impacted.

Habitats Regulations Assessment

11.3.20 A **Report to Inform Habitats Regulations Assessment** (**EN010166/APP/6.12**) has been prepared to assess whether the Proposed Development is likely to have a significant effect on Habitats Sites (formerly known as European Sites), or (using HRA terminology) whether an adverse effect on integrity would arise. The need to undertake a HRA is implemented in domestic law by the Habitats Regulations (as amended) (Ref 11-2).

11.3.21 **The Report to Inform Habitats Regulations Assessment** (**EN010166/APP/6.12**) has been prepared with reference to the general European Commission (EC) guidance on HRA (Ref 11-49), general guidance on Appropriate Assessment published by the UK Government in July 2019 (Ref 11-50) and PINS Advice on Habitats Regulations Assessment (Ref 11-51). The key findings of the HRA are reflected in this chapter. Note that HRA terminology and EIA terminology are slightly different, with HRA using the term likely significant effects to refer to a preliminary stage of assessment and adverse effects on integrity used to refer to a later stage of assessment. In this chapter EIA terminology has been used to refer to HRA conclusions, such that the phrase likely significant effects is used throughout.

Assessment Assumptions and Limitations

11.3.22 The following assumptions apply to the assessment presented in Section 11.6:

- any ecological constraints in relation to the Accommodation Works Areas have been considered in a separate Rapid Impact Assessment of ecological constraints in relation to the Accommodation Work Areas Offloading Area and Routes. This assessment is included at **Appendix 5-A: Environmental Screening of Accommodation works**; and

- surveys to date are reported in species-specific appendices (**Appendices 11-C: Botanical Technical Appendix** to **11-K: Aquatic Ecology Technical Appendix** (**EN010166/APP/6.4**). The assumptions and limitations associated with these species specific surveys or assessments are presented in the relevant appendix.

11.4 Baseline Conditions and Study Area

11.4.1 This section describes the baseline ecological characteristics for the Construction and Operation Area.

Existing Baseline

11.4.2 The terrestrial (including ornithological) and aquatic ecological features relevant to the Proposed Development are summarised in this section. Details of the findings of desk and field-based studies, including evaluation of the relative nature conservation value of identified features are provided in **Appendices 11-C to 11-K** (**EN010166/APP/6.4**), where applicable. These appendices should be referred to where more information is required on the justification for scoping features in and out of the EcIA.

International and National Statutory Designated Sites

11.4.3 There are nine international and 30 national statutory designated sites within the study area detailed in **Table 11-6**. The relevance and importance of the identified international and national nature conservation designations to the Proposed Development is summarised in **Table 11-9** based on the initial screening and rationale provided in **Appendix 11-C: Botanical Technical Appendix** (**EN010166/APP/6.4**). The location of these sites can be found on **Figure 11-1: Statutory Designated Sites within 15 km of the Proposed Development** (**EN010166/APP/6.3**).

11.4.4 Of the 30 national statutory designated, the following four sites were scoped out following initial identification in the PEA included as Annex F of **Appendix 11-C: Botanical Technical Appendix** (**EN010166/APP/6.4**). As they are each designated for geological interest only, they have no designated features of ecological importance which could be impacted by the Proposed Development[6]:

- Ddôl Uchaf SSSI – of geological interest only;
- Caerwys Tufa SSSI – of geological interest only;
- The Dungeon SSSI (England) – of geological interest only; and
- Graig, Llanarmon-Yn-Ial SSSI – outside of the 15 km study area from the Main Development Area for potential operational air quality impacts.

11.4.5 There are no National Nature Reserves (NNR) within the study area.

[6] These geological SSSIs are also located outside of the study area for **Chapter 14: Geology and Ground Conditions** (**EN010166/APP/6.2.14**).

Table 11-9: Relevant international and national nature conservation designations

Designation	Potential Impacts During[7]			Relevance to the Proposed Development[8]	Ecological Importance
	Construction	Operation	Decommissioning		
The Dee Estuary SPA	✓	✓	✓	Overlaps with the Order limits, specifically the Water Connection Corridor.	International
The Dee Estuary Ramsar	✓	✓	✓	Overlaps with the Order limits, specifically the Water Connection Corridor.	International
The Dee Estuary/Aber Dyfrdwy SAC	✓	✓	✓	Overlaps with the Order limits, specifically the Water Connection Corridor.	International
The River Dee and Bala Lake/Afon Dyfrdwy a Llyn Tegid SAC	✓	✓	✓	Contains habitats potentially susceptible to changes in air quality: tidal saltmarsh, mudflats, improved grassland and broadleaved deciduous woodland Located approximately 0.076 km north-east of the Order limits and 0.52 km east of the Main Development Area.	International

[7] Indicates what stages of the impact assessment each site is scoped in for in Section 11.6
[8] Habitat features are only discussed for national designated sites to identify potential impact pathways.

Designation	Potential Impacts During[7]			Relevance to the Proposed Development[8]	Ecological Importance
	Construction	Operation	Decommissioning		
Deeside and Buckley Newt Sites SAC	x	✓	x	Designated for its population of great crested newts. Contains habitats potentially susceptible to changes in air quality: ponds, bogs, broadleaved deciduous woodland and improved grassland. Located approximately 1.5 km south of the Order limits and 2.1 km south of the Main Development Area.	International
Halkyn Mountain/Mynydd Helygain SAC	x	✓	x	Contains habitats potentially susceptible to changes in air quality: bogs, broadleaved deciduous woodland and grassland. Located approximately 3.6 km west of the Order limits and 5.3 km west of the Main Development Area.	International

Designation	Potential Impacts During[7]			Relevance to the Proposed Development[8]	Ecological Importance
	Construction	Operation	Decommissioning		
Alyn Valley Woods/Coedwigoedd Dyffryn Alun SAC	x	✓	x	Contains habitats potentially susceptible to changes in air quality: broadleaved deciduous woodland and grassland. Located approximately 6.8 km south-west of the Order limits and 8.5 km south-west of the Main Development Area.	International
Mersey Estuary SPA (England)	x	✓	x	Ornithological interest Located approximately 12.7 km north-east of the Order limits and 13.0 km north-east of the Main Development Area.	International
Mersey Estuary Ramsar (England)	x	✓	x	Contains habitats potentially susceptible to changes in air quality: tidal saltmarsh, mudflats Located approximately 12.7 km north-east of the Order limits and 13.0 km north-east of the Main Development Area	International
Dee Estuary/Aber Afon Dyfrdwy SSSI	✓	✓	✓	Overlaps with the Order limits, specifically the Water Connection Corridor.	National

Designation	Potential Impacts During[7]			Relevance to the Proposed Development[8]	Ecological Importance
	Construction	Operation	Decommissioning		
Afon Dyfrdwy (River Dee) SSSI	✓	✓	✓	Contains habitats potentially susceptible to changes in air quality: tidal saltmarsh Located approximately 0.075 km north-east of the Order limits and 0.52 km east of the Main Development Area.	National
Shotton Lagoons and Reedbeds SSSI	✓	✓	✓	Ornithological interest. Contains habitats potentially susceptible to changes in air quality: reed swamp. Located approximately 0.48 km north-east of the Order limits and 1.3 km east of the Main Development Area.	National
Mynydd Y Fflint/Flint Mountain SSSI	x	✓	x	Contains habitats potentially susceptible to changes in air quality: semi natural broadleaved woodland and unimproved neutral grassland. Located approximately 0.5 km north-west of the Order limits and 1.7 km west of the Main Development Area.	National

Designation	Potential Impacts During[7]			Relevance to the Proposed Development[8]	Ecological Importance
	Construction	Operation	Decommissioning		
Connah's Quay Ponds and Woodland SSSI	x	✓	x	Contains habitats potentially susceptible to changes in air quality: semi natural broadleaved woodland and unimproved neutral grassland Located approximately 1.5 km south of the Order limits and 2.1 km south of the Main Development Area.	National
Dee Estuary SSSI (England)	✓	✓	✓	Contains habitats potentially susceptible to changes in air quality: grassland, saltmarsh, dune community. Ornithological interest Hydrologically linked to the Dee Estuary/Aber Afon Dyfrdwy SSSI and part of the same ecosystem Located approximately 2.0 km north-east of the Order limits and 2.1 km north-east of the Main Development Area.	National

Designation	Potential Impacts During[7]			Relevance to the Proposed Development[8]	Ecological Importance
	Construction	Operation	Decommissioning		
Inner Marsh Farm SSSI	✓	✓	✓	Ornithological interest Located approximately 2.8 km north-east of the Order limits and 3.2 km north-east of the Main Development Area.	National
Comin Helygain a Glaswelltiroedd Treffynnon/Halkyn Common and Holywell Grasslands SSSI	x	✓	x	Contains habitats potentially susceptible to changes in air quality: Calcareous grassland and fen meadow Located approximately 3.6 km west of the Order limits and 5.3km west of the Main Development Area.	National
Buckley Claypits and Commons SSSI	x	✓	x	Contains habitats potentially susceptible to changes in air quality: including semi natural grassland Located approximately 4.0 km south of the Order limits and 4.4 km south of the Main Development Area.	National

Designation	Potential Impacts During[7]			Relevance to the Proposed Development[8]	Ecological Importance
	Construction	Operation	Decommissioning		
Maes y Grug SSSI	x	✓	x	Contains habitats potentially susceptible to changes in air quality: including marshy grassland, broadleaved plantation, mixed plantation, semi-natural woodland Located approximately 4.0 km south of the Order limits and 4.4 km south of the Main Development Area.	National
Hallwood Farm Marl Pit SSSI (England)	x	✓	x	Contains habitat potentially susceptible to changes in air quality: trees (black poplar *Pupulas nigra*) Located approximately 7.5 km north-east of the Order limits and 7.8 km north-east of the Main Development Area.	National
Herward Smithy SSSI	x	✓	x	Contains habitats potentially susceptible to changes in air quality: Calmanarian grassland Located approximately 6.3 km north-west of the Order limits and 4.4 km south of the Main Development Area.	National

Designation	Potential Impacts During[7]			Relevance to the Proposed Development[8]	Ecological Importance
	Construction	Operation	Decommissioning		
Parc Linden, Lixwm SSSI	x	✓	x	Contains habitats potentially susceptible to changes in air quality: Calcareous grassland Located approximately 6.8 km west of the Order limits and 8.2 km west of the Main Development Area.	National
Tyddyn-y-barcut SSSI	x	✓	x	Contains habitats potentially susceptible to changes in air quality: Neutral grassland and broadleaved woodland Located approximately 6.8 km south-west of the Order limits and 8.5 km south-west of the Main Development Area.	National
Alyn Valley Woods and Alyn Gorge Caves SSSI	x	✓	x	Contains habitats potentially susceptible to changes in air quality: Neutral grassland, calcareous grassland and broadleaved woodland Located approximately 6.8 km south-west of the Order limits and 8.5 km south-west of the Main Development Area.	National

Designation	Potential Impacts During[7]			Relevance to the Proposed Development[8]	Ecological Importance
	Construction	Operation	Decommissioning		
Parc Bodlondeb and Gwenallt-parc, Lixwm SSSI	x	✓	x	Contains habitats potentially susceptible to changes in air quality: Neutral grassland, calcareous grassland and broadleaved woodland Located approximately 7.2 km west of the Order limits and 8.7 km west of the Main Development Area.	National
Pen-y-Cefn Pasture SSSI	x	✓	x	Contains habitats potentially susceptible to changes in air quality: Calcareous grassland Located approximately 7.5 km south-west of the Order limits and 9.2 km south-west of the Main Development Area.	National
Cefn Meadow SSSI	x	✓	x	Contains habitats potentially susceptible to changes in air quality: Calcareous grassland Located approximately 7.7 km south-west of the Order limits and 9.4 km south-west of the Main Development Area.	National

Designation	Potential Impacts During[7]			Relevance to the Proposed Development[8]	Ecological Importance
	Construction	Operation	Decommissioning		
Chwarel Cambrian/Cambrian Quarry, Gwernymynydd SSSI	x	✓	x	Not considered functionally linked in relation to bats as the qualifying feature, refer to **Appendix 11-F: Bat Technical Appendix** (**EN010166/APP/6.4**) for details. However, contains habitats potentially susceptible to changes in air quality: woodland Located approximately 9.1 km south-west of the Order limits and 10.5 km south-west of the Main Development Area.	National
Dibbinsdale SSSI (England)	x	✓	x	Contains habitats potentially susceptible to changes in air quality: Woodland Located approximately 10.4 km north-east of the Order limits and 10.6 km north-east of the Main Development Area.	National
Heswell Dales SSSI (England)	x	✓	x	Contains habitats potentially susceptible to changes in air quality: Heath, mire and woodland. Located approximately 9.8 km north of the Order limits and 9.9 km north of the Main Development Area.	National

Designation	Potential Impacts During[7]			Relevance to the Proposed Development[8]	Ecological Importance
	Construction	Operation	Decommissioning		
Dee Cliffs SSSI (England)	x	✓	x	Contains habitats potentially susceptible to changes in air quality: Grassland, bluebell community and standing waters Located approximately 10.3 km north of the Order limits and 10.4 km north of the Main Development Area.	National
River Dee (England) SSSI	✓	✓	✓	Contains habitats potentially susceptible to changes in air quality: Mesotrophic rivers. Hydrologically linked to Afon Dyfrdwy (River Dee) SSSI and part of same ecosystem Located approximately 10.7 km south-east of the Order limits and 11.9 km south-east of the Main Development Area.	National

Designation	Potential Impacts During[7]			Relevance to the Proposed Development[8]	Ecological Importance
	Construction	Operation	Decommissioning		
The Mersey Estuary SSSI (England)	x	✓	x	Contains habitats potentially susceptible to changes in air quality: Saltmarsh, reed-beds, sheltered muddy shores, maritime cliff and slope, and cord-grass *Spartina maritima* Located approximately 12.7 km north-east of the Order limits and 13.0 km north-east of the Main Development Area.	National
Coed Trefraith SSSI	x	✓	x	Contains habitats potentially susceptible to changes in air quality: Broadleaved woodland Located approximately 11.6 km west of the Order limits and 13.0 km west of the Main Development Area	National
Coed Talon Marsh SSSI	x	✓	x	Contains habitats potentially susceptible to changes in air quality: Broadleaved woodland and mire habitats. Located approximately 11.6 km south of the Order limits and 12.2 km south of the Main Development Area.	National

Designation	Potential Impacts During[7]			Relevance to the Proposed Development[8]	Ecological Importance
	Construction	Operation	Decommissioning		
Bryn Alyn SSSI	x	✓	x	Contains habitats potentially susceptible to changes in air quality: Calcareous grassland and acid grassland. Located approximately 12.2 km south-west of the Order limits and 13.5 km south-west of the Main Development Area.	National
Thurstaston Common SSSI (England)	x	✓	x	Contains habitats potentially susceptible to changes in air quality: heath and woodland. Located approximately 12.5 km north of the Order limits and 12.6 km north of the Main Development Area.	National
Glaswelltiroedd Eryrys (Eryrys Grasslands) SSSI	x	✓	x	Contains habitats potentially susceptible to changes in air quality: Calcareous grassland, neutral grassland, calmanarian grassland and acid grassland Located approximately 13.3 km south-west of the Order limits and 14.7 km south-west of the Main Development Area.	National

Designation	Potential Impacts During[7]			Relevance to the Proposed Development[8]	Ecological Importance
	Construction	Operation	Decommissioning		
New Ferry SSSI (England)	x	✓	x	Ornithological interest. Contains habitats potentially susceptible to changes in air quality: intertidal mudflats. Located approximately 14.5 km north-east of the Order limits and 14.7 km north-east of the Main Development Area.	National

11.4.6 Habitats within the Dee Estuary SPA/SAC/Ramsar site have been identified as Ground Water Dependant Terrestrial Ecosystems (GWDTE) (for further information see **Chapter 13: Water Environment and Flood Risk** (**EN010166/APP/6.2.13**).

Local Nature Conservation Designations

11.4.7 There is one local statutory nature conservation designation (i.e. LNR) and 13 local non-statutory nature conservation designations (11 LWS and two Wild Ground Reserves) within the study area relevant to the Proposed Development (as defined in the PEA which is included as Annex F of **Appendix 11-C: Botanical Technical Appendix** (**EN010166/APP/6.4**)). The locations of these sites are shown in **Figure 11-2: Local Designated Sites within 2 km of the Proposed Development** (**EN010166/APP/6.3**).

11.4.8 **Table 11-10** details the local conservation designations (along with their ecological importance) relevant to the Proposed Development. Where information for designation was unavailable, a precautionary approach was taken and they were included for further assessment with regard to potential impacts from changes in air quality and/or hydrology.

Table 11-10: Relevant local nature conservation designations

Designation	Distance from Proposed Development	Relevance to the Proposed Development	Ecological Importance
Gathering Grounds Woods and Llyyni Pond LNR	Located approximately 1.47 km south-east of the Order limits and approximately 2.24 km south-east of the Main Development Area.	Overlaps with the Deeside and Buckley Newt Sites SAC. Contains habitats potentially susceptible to changes in air quality: woodland and grassland.	District
Leadbrook Wood LWS	Located approximately 0.1 km from the Order limits and approximately 0.35 km from the Main Development Area.	Contains habitats potentially susceptible to changes in air quality: broadleaved woodland and grassland.	County
Top-y-fron Dingle and Kelsterton Brook LWS	Located approximately 0.35 km south-east of the Order limits and Main Development Area.	Contains habitats potentially susceptible to changes in air quality: broadleaved woodland.	County
Llwyn-onn LWS	Located approximately 0.46 km north-west of the Order limits and 1.86 km west of the Main Development Area.	Overlaps with Mynydd Y Fflint/Flint Mountain SSSI. No further LWS information available.	County
Cheshire Farm LWS	Located approximately 0.8 km south-east of the Order limits and 0.85 km south-west of the Main Development Area.	Contains habitats potentially susceptible to changes in air quality: broadleaved woodland.	County
Caeau Alt-vois LWS	Located approximately 0.77 km west of the Order limits and 2.3 km west of the Main Development Area.	Overlaps with Mynydd Y Fflint/Flint Mountain SSSI Contains habitats potentially susceptible to changes in air quality: grassland.	County
Shotton Steelworks LWS	Located approximately 0.38 km east of the Order limits and 2.1 km east of the Main Development Area.	Adjacent to Shotton Lagoons and Reedbeds SSSI Ornithological interest. Contains habitats susceptible to changes in air quality: grassland and reedbeds	County

Designation	Distance from Proposed Development	Relevance to the Proposed Development	Ecological Importance
The River Dee LWS	Located approximately 1.09 km east of the Order limits and approximately 2.27 km east of the Main Development Area.	Adjacent to Dee Estuary/Aber Afon Dyfrdwy SSSI Ornithological interest. Contains habitats susceptible to changes in air quality: coastal and floodplain grazing marsh, coastal saltmarsh and mudflats.	County
Coed Stanley LWS	Located approximately 1.5 km south-west of the Order limits and 2.9 km west of the Main Development Area.	No further LWS information available.	County
Coed Bryn-y-Garreg LWS	Located approximately 1.5 km west of the Order limits and 3.1 km west of the Main Development Area.	No further LWS information available.	County
Wepre Wood LWS	Located approximately 1.9 km south-west of the Order limits and 2.9 km south-west of the Main Development Area.	Overlaps with Deeside and Buckley Newt sites SAC Contains habitats potentially susceptible to changes in air quality: broadleaved woodland.	County
Coed y Cra LWS	Located approximately 1.9 km west of the Order limits and 3.5 km west of the Main Development Area.	Contains habitats potentially susceptible to changes in air quality: broadleaved woodland.	County
Brown Oak Wood Wild Ground Reserve	Located approximately 1.4 km south-east of the Order limits and approximately 2.2 km south-east of the Main Development Area.	Overlaps with Deeside and Buckley Newt sites SAC Contains habitats potentially susceptible to changes in air quality: broadleaved woodland.	Local
Llwyni Valley Wild Ground Reserve	Located approximately 1.5 km south-east of the Order limits and approximately 2.26 km south-east of the Main Development Area.	Overlaps with Deeside and Buckley Newt sites SAC Contains habitats potentially susceptible to changes in air quality: broadleaved woodland, ponds and grassland.	Local

Protected and Notable Habitats, including Ancient Woodland

11.4.9 Protected and notable habitats located within the boundaries of nature conservation designations identified within the study area, are noted in this section, however the assessment of impact to those habitats are considered in the impact assessment of those nature conservation designations and are not duplicated here.

11.4.10 The semi-natural habitats present within the Order limits are summarised in **Table 11-11** and mapped on Figure 11C-2 of **Appendix 11-C: Botanical Technical Appendix** (**EN010166/APP/6.4**), along with identification of whether or not the land they occupy would be required for the construction, operation and/or decommissioning of the Proposed Development. Additionally, the evaluation of ecological importance is provided. These habitats are described in more detail in **Appendix 11-C: Botanical Technical Appendix** (**EN010166/APP/6.4**). Relevant aquatic habitats are also covered in detail within **Appendix 11-L: Aquatic Ecology Technical Appendix** (**EN010166/APP/6.4**).

11.4.11 All habitats of Local or higher value within the Order limits as identified in **Table 11-11** are taken forward for impact assessment where there is potential for these to be adversely or beneficially affected by the Proposed Development.

11.4.12 Other habitats within the 2 km study area for this EcIA (as defined in **Table 11-6**) are only assessed further where they are of sufficiently high ecological importance (i.e. Priority Habitats, as defined in **Appendix 11-C: Botanical Technical Appendix** (**EN010166/APP/6.4**)) that assessment of potential indirect impacts and effects is appropriate, after first considering typical good practice requirements for air and water quality impact assessment as defined in **Chapter 8: Air Quality** (**EN010166/APP/6.2.8**) and **Chapter 13: Water Environment and Flood Risk** (**EN010166/APP/6.2.13**). This includes the saltmarsh along the Dee Estuary as shown on Figure 11C-2 of **Appendix 11-C: Botanical Technical Appendix** (**EN010166/APP/6.4**), which is assessed separately as part of the designated sites assessment.

11.4.13 There are no Ancient Woodlands within the Order limits, however there are areas of Ancient Woodland within the 2 km study area. The nearest area of Ancient Woodland to the Order limits is within 50 m of the Proposed CO_2 Connection Corridor (refer to Figure 11C-3 of **Appendix 11-C: Botanical Technical Appendix** (**EN010166/APP/6.4**)).

Table 11-11: Summary of semi-natural habitats present within 50 m of the Order limits

Habitat	Ecological Importance	Relevant to EcIA
Within the Order limits		
Coastal saltmarsh[9]	International	Yes – within the Water Connection Corridor, Surface Water Outfall Area and adjacent to the Main Development Area

[9] Also extends beyond the Order limits and considered up to 2 km

Habitat	Ecological Importance	Relevant to EcIA
		where land is required for construction and laydown. Assessed as part of the Dee Estuary designated site.
Intertidal Mudflat (River Dee Estuary)[10]	International	Yes – within the Water Connection Corridor, Surface Water Outfall Area and adjacent to the Main Development Area where land is required for construction and laydown. Assessed as part of the Dee Estuary designated site.
Open Mosaic	County	Yes – within the C&IEA.
Other lowland mixed deciduous woodland	District	Yes – adjacent to the Proposed CO_2 Connection Corridor and within the Existing CO_2 Connection Corridor.
Species rich native hedgerow	Local	Yes – within the Proposed CO_2 Connection Corridor.
Other native hedgerow	Local	Yes – within Main Development Area and Proposed CO_2 Connection Corridor.
Modified Grassland	Local	Yes – within the Main Development Area where land is required for construction and laydown. Also present in the Proposed CO_2 Connection corridor.
Other neutral grassland	Local	Yes – within the Main Development Area and C&IEA where land is required for construction and laydown.
Mixed Scrub	Local	Yes – within the Main Development Area.
Bramble Scrub	Local	Yes – within the Main Development Area.
Other cereal crops	Local	No – located within Repurposed CO_2 Connection Corridor where no works are proposed.
Temporary grass and clover leys	Local	Yes – located within the Proposed CO_2 Connection Corridor.
Other rivers and streams	Local	No – located within Repurposed CO_2 Connection Corridor where no works are proposed.
Other broadleaved woodland	Local	Yes – located adjacent to the Main Development Area.

[10] Also extends beyond the Order limits and considered up to 2 km

Habitat	Ecological Importance	Relevant to EcIA
Suburban mosaic of Developed and natural surface	Local	No – Located within Repurposed CO_2 Connection Corridor where no works are proposed.
Adjacent or other relevant habitats within 2 km		
Ancient Woodland	National	Yes – relevant to operational air quality assessment.
Sparsely vegetated urban land ruderal/ephemeral	Local	Yes – located adjacent to the Main Development Area.

Protected and Notable Species

11.4.14 The ornithological features and species relevant to this assessment are described in Section 5.2 of **Appendix 11-D: Ornithology Technical Appendix** (**EN010166/APP/6.4**) and are presented in **Table 11-9** and **Table 11-12**.

11.4.15 Protected and notable species relevant to this EcIA are summarised in **Table 11-12** and **Table 11-13**. The identification of relevant species, and their ecological importance (where applicable) is described in more detail in **Appendices 11-C: Botanical Technical Appendix** to **11-L: Aquatic Ecology Technical Appendix** (**EN010166/APP/6.4**). Only confirmed species of Local or higher importance are discussed in **Table 11-8**. For purposes of clarity, the following potential protected and notable species have been scoped out and not considered relevant to the ecological impact assessment and are not considered further:

- Hazel dormouse - The lack of suitable habitat within the Construction and Operation Area and the lack of suitable connections to any potentially suitable habitat in the surrounding landscape means hazel dormouse are unlikely to be present within the Construction and Operation Area and so are unlikely to be impacted by the Proposed Development. Refer to the PEA included as Annex F of **Appendix 11-C: Botanical Technical Appendix** (**EN010166/APP/6.4**). This position has also been agreed with PINS as detailed in **Table 11-2** and **Appendix 1-B: Scoping Opinion** (**EN010166/APP/6.4**);
- Natterjack toad - Through review of environmental records received from Cofnod and correspondence with the Northeast Wales Amphibian & Reptile Network, it was determined that the nearest record of natterjack toad is approximately 6.4 km from the Proposed Development. There are no records for natterjack toads within the vicinity of Connah's Quay. This species has therefore been scoped out of further assessment and this approach has been agreed with FCC and NRW. Refer to **Table 11-3**; and
- Water vole – surveys conducted in the Spring and Autumn of 2024 found that water vole were absent from watercourses within the ZoI of the Proposed Development as detailed in **Appendix 11-I: Water Vole**

Technical Appendix. Therefore, they have been scoped out of this assessment.

11.4.16 Further information on the ecological features scoped out of this assessment can be found in the PEA which is included as Annex F of **Appendix 11-C: Botanical Technical Appendix** (**EN010166/APP/6.4**).

Table 11-12: Summary of Relevant Ornithological Features Requiring Further Assessment of Impacts and Effects[11]

Feature	Description of Feature Key Locations	Proximity to the Order limits	Value	Rationale for Valuation	Relevance to Assessment of the Proposed Development	Scoping In or Out for Assessment
The Dee Estuary SPA/Ramsar site qualifying species						
Common tern *Sterna hirundo* (breeding)	Recorded in small numbers between April and August foraging over the Dee Estuary. There is a common tern breeding colony 485 m north-east of the Order limits at Shotton Lagoons and Reedbeds SSSI.	Overlapping	District	Common breeding summer visitor in Flintshire (Ref 11-42).	Main Development Area Not relevant. This species is regularly recorded foraging and breeding at locations that are sufficiently distant and hence not susceptible to potential impact from the Proposed Development. Impacts to the breeding colony (for air quality to its supporting habitats) are addressed in Section 11.6.150.	Out
					Water Connection Corridor Not relevant. This species is regularly recorded foraging and breeding at locations that are sufficiently distant and hence not susceptible to potential impact from the Proposed Development.	Out

[11] Multiple locations and/or multiple years of occurrence are available for some species, in which case the distance is measured to the closest known or recorded occupied location. Breeding locations used are those where breeding was confirmed where possible. Approximate distances are provided for receptors represented only by third party records that do not confirm precise locations.

Feature	Description of Feature Key Locations	Proximity to the Order limits	Value	Rationale for Valuation	Relevance to Assessment of the Proposed Development	Scoping In or Out for Assessment
					Surface water outfall into Old Rockcliffe Brook (Kelsterton Brook) Not relevant. This species is regularly recorded foraging and breeding at locations that are sufficiently distant and hence not susceptible to potential impact from the Proposed Development.	Out
Bar-tailed godwit *Limosa lapponica* (non-breeding)	Regularly recorded in small numbers foraging on the mudflats north of the Order limits mainly between April and May and between September and January. Peak count of 28 was	120 m	District	Uncommon passage migrant and winter visitor in Flintshire (Ref 11-42).	Main Development Area	In
					Water Connection Corridor	In
					Surface water outfall into Old Rockcliffe Brook (Kelsterton Brook)	In

Feature	Description of Feature Key Locations	Proximity to the Order limits	Value	Rationale for Valuation	Relevance to Assessment of the Proposed Development	Scoping In or Out for Assessment
	observed in January 2024.					
Pintail *Anas acuta* (non-breeding)	Small numbers use the Order limits infrequently, with greater numbers at low tide on the Dee Estuary during the winter. Peak count of 34 was observed in February 2024.	Overlapping	District	An abundant winter visitor in Flintshire (Ref 11-42).	Main Development Area	In
					Water Connection Corridor	In
					Surface water outfall into Old Rockcliffe Brook (Kelsterton Brook)	In
Teal *Anas crecca*	Regularly occurred at low and high	Overlapping	Local	An abundant winter visitor in Flintshire (Ref 11-42).	Main Development Area	In
					Water Connection Corridor	In

Feature	Description of Feature Key Locations	Proximity to the Order limits	Value	Rationale for Valuation	Relevance to Assessment of the Proposed Development	Scoping In or Out for Assessment
(non-breeding)	tide within the Proposed Water Connection Corridor (considerably larger numbers occurred at low tide) between August and March. Small numbers occasionally recorded on the Main Development Area fields. Peak count was observed in December 2023.				Surface water outfall into Old Rockcliffe Brook (Kelsterton Brook)	In
Dunlin *Calidris alpina*	Uses the mud flats	Overlapping	Local		Main Development Area	In
					Water Connection Corridor	Out

Feature	Description of Feature Key Locations	Proximity to the Order limits	Value	Rationale for Valuation	Relevance to Assessment of the Proposed Development	Scoping In or Out for Assessment
(non-breeding)	north of the Order limits in varying numbers over winter, with greater numbers observed at high tide mainly between October and February. Peak count of 2,500 was observed in January 2024. Small numbers occasionally recorded on the Main Development Area fields.			An abundant winter visitor and passage migrant in Flintshire (Ref 11-42).	Not relevant. This species is regularly recorded foraging at locations that are sufficiently distant and hence not susceptible to potential impact from the Proposed Development.	
					Surface water outfall into Old Rockcliffe Brook (Kelsterton Brook) Not relevant. This species is regularly recorded foraging at locations that are sufficiently distant and hence not susceptible to potential impact from the Proposed Development.	Out
		120 m	Local		Main Development Area	In

Feature	Description of Feature Key Locations	Proximity to the Order limits	Value	Rationale for Valuation	Relevance to Assessment of the Proposed Development	Scoping In or Out for Assessment
Knot *Calidris canutus* (non-breeding)	Recorded in small numbers foraging on the mudflats north of the Order limits occasionally during diurnal surveys only, with greater numbers present at low tide mainly between October and March. A peak count of 94 was observed in March 2024.			An abundant winter visitor in Flintshire (Ref 11-42).	Water Connection Corridor	In
					Surface water outfall into Old Rockcliffe Brook (Kelsterton Brook)	In
	Regularly recorded on	Overlapping	Local	An abundant winter visitor in Flintshire (Ref 11-42).	Main Development Area	In
					Water Connection Corridor	In

Feature	Description of Feature Key Locations	Proximity to the Order limits	Value	Rationale for Valuation	Relevance to Assessment of the Proposed Development	Scoping In or Out for Assessment
Oystercatcher *Haematopus ostralegus* (non-breeding)	fields at the Main Development Area in small numbers, and foraging in large numbers at low tide on the adjacent mudflats. A peak count of 47 was observed in January 2024.				Surface water outfall into Old Rockcliffe Brook (Kelsterton Brook)	In
Black-tailed godwit *Limosa limosa* (non-breeding)	Large population (greater than the cited SPA population) consistently foraging on the mudflats north of the site and occasionally	120 m	Regional	An abundant passage migrant and winter visitor in Flintshire (Ref 11-42).	Main Development Area	In
					Water Connection Corridor	In
					Surface water outfall into Old Rockcliffe Brook (Kelsterton Brook)	In

Feature	Description of Feature Key Locations	Proximity to the Order limits	Value	Rationale for Valuation	Relevance to Assessment of the Proposed Development	Scoping In or Out for Assessment
	roosting on Connah's Quay Nature Reserve between July and October, with a peak count of 3,000 observed in September 2024.					
Curlew (non-breeding)	Present throughout the year including the Main Development Area, particularly between October to March. A peak count of 192 was observed in	Overlapping	District	A common winter visitor in Flintshire (Ref 11-42).	Main Development Area	In
					Water Connection Corridor	In
					Surface water outfall into Old Rockcliffe Brook (Kelsterton Brook)	In

Feature	Description of Feature Key Locations	Proximity to the Order limits	Value	Rationale for Valuation	Relevance to Assessment of the Proposed Development	Scoping In or Out for Assessment
	December 2024.					
Grey plover *Pluvialis squatarola* (non-breeding)	Only recorded on the mudflats north of the Order limits as single individuals in November and December 2023.	120 m	District	An uncommon winter visitor in Flintshire (Ref 11-42).	Main Development Area	In
					Water Connection Corridor Not relevant. This species is regularly recorded foraging at locations that are sufficiently distant and hence not susceptible to potential impact from the Proposed Development.	Out
					Surface water outfall into Old Rockcliffe Brook (Kelsterton Brook) Not relevant. This species is regularly recorded foraging at locations that are sufficiently distant and hence not susceptible to potential impact from the Proposed Development.	Out
	Recorded regularly	Overlapping	Local	A very common year-round visitor in Flintshire (Ref 11-42).	Main Development Area	In
					Water Connection Corridor	In

Feature	Description of Feature Key Locations	Proximity to the Order limits	Value	Rationale for Valuation	Relevance to Assessment of the Proposed Development	Scoping In or Out for Assessment
Shelduck *Tadorna tadorna* (non-breeding)	throughout the year, with a peak count of 224 was observed in June 2024. Numbers were greater at high tide.				Surface water outfall into Old Rockcliffe Brook (Kelsterton Brook)	In
Redshank *Tringa totanus* (non-breeding)	Recorded in large numbers throughout the year, particularly between August and October. Regularly forages and roosts within Connah's Quay Nature Reserve Compartment 2. Small numbers	Overlapping	District	An abundant passage migrant and fairly common winter visitor in Flintshire (Ref 11-42).	Main Development Area	In
					Water Connection Corridor	In
					Surface water outfall into Old Rockcliffe Brook (Kelsterton Brook)	In

Feature	Description of Feature Key Locations	Proximity to the Order limits	Value	Rationale for Valuation	Relevance to Assessment of the Proposed Development	Scoping In or Out for Assessment
	occasionally recorded on the Main Development Area fields. Peak count of 1,070 was observed in July 2024.					
Mersey Estuary SPA/Ramsar site qualifying species not already named above						
Golden plover *Pluvialis apricaria* (non-breeding)	Recorded only on the Dee Estuary north of the Order limits. Peak count of 10 was observed in December 2023.	120 m	District	An uncommon winter visitor in Flintshire (Ref 11-42).	Main Development Area	In
					Water Connection Corridor Not relevant. This species is regularly recorded foraging at locations that are sufficiently distant and hence not susceptible to potential impact from the Proposed Development.	Out
					Surface water outfall into Old Rockcliffe Brook (Kelsterton Brook) Not relevant. This species is regularly recorded foraging at locations that are sufficiently	Out

Feature	Description of Feature Key Locations	Proximity to the Order limits	Value	Rationale for Valuation	Relevance to Assessment of the Proposed Development	Scoping In or Out for Assessment
					distant and hence not susceptible to potential impact from the Proposed Development.	
Wigeon (non-breeding)	Recorded in large numbers between September and March, with a peak count of 560 was observed in December 2023. Regularly recorded at high tide within the Proposed Water Connection Corridor.	Overlapping	Local	An abundant winter visitor in Flintshire (Ref 11-42).	Main Development Area	In
					Water Connection Corridor	In
					Surface water outfall into Old Rockcliffe Brook (Kelsterton Brook)	In
Great crested grebe	Recorded in small	250 m	Local	A common winter visitor in Flintshire (Ref 11-42).	Main Development Area	In
					Water Connection Corridor	In

Feature	Description of Feature Key Locations	Proximity to the Order limits	Value	Rationale for Valuation	Relevance to Assessment of the Proposed Development	Scoping In or Out for Assessment
Podiceps cristatus (non-breeding)	numbers in the Dee Estuary in September.				Surface water outfall into Old Rockcliffe Brook (Kelsterton Brook) Not relevant. This species is regularly recorded foraging at locations that are sufficiently distant and hence not susceptible to potential impact from the Proposed Development.	Out
Lapwing *Vanellus vanellus* (non-breeding)	Recorded consistently between July and March. Peak count of 1,100 was observed in January 2024. Recorded roosting at night on the Main Development Area fields.	Overlapping	Local	An abundant winter visitor in Flintshire (Ref 11-42).	Main Development Area	In
					Water Connection Corridor)	In
					Surface water outfall into Old Rockcliffe Brook (Kelsterton Brook)	In
		120 m	District		Main Development Area	In

Feature	Description of Feature Key Locations	Proximity to the Order limits	Value	Rationale for Valuation	Relevance to Assessment of the Proposed Development	Scoping In or Out for Assessment
Ringed plover *Charadrius hiaticula* (non-breeding)	Recorded as single individuals on mudflats north of the Order limits in May and August 2024.			A fairly common passage migrant and winter visitor in Flintshire (Ref 11-42).	Water Connection Corridor Not relevant. This species is regularly recorded foraging at locations that are sufficiently distant and hence not susceptible to potential impact from the Proposed Development.	Out
					Surface water outfall into Old Rockcliffe Brook (Kelsterton Brook) Not relevant. This species is regularly recorded foraging at locations that are sufficiently distant and hence not susceptible to potential impact from the Proposed Development.	Out
Dee Estuary SSSI species (additional to those listed under SPA/Ramsar site qualifying features)						
Cormorant *Phalacrocorax carbo* (non-breeding)	Recorded throughout the year foraging in the Dee Estuary. A	Overlapping	Local	A common resident in Flintshire (Ref 11-42).	Main Development Area	In
					Water Connection Corridor	In
					Surface water outfall into Old Rockcliffe Brook (Kelsterton Brook)	Out

Feature	Description of Feature Key Locations	Proximity to the Order limits	Value	Rationale for Valuation	Relevance to Assessment of the Proposed Development	Scoping In or Out for Assessment
	peak count of 12 was observed in October 2024. Regularly recorded roosting within the Proposed Water Connection Corridor.				Not relevant. This species is regularly recorded foraging at locations that are sufficiently distant and hence not susceptible to potential impact from the Proposed Development.	
Regularly occurring species and assemblages (local or higher value only, excluding species that are reasons for designation of the above designated sites)						
Avocet[12] *Recurvirostra avosetta* (breeding)	Two pairs of avocet were recorded nesting within the Connah's Quay Nature Reserve Compartment 1.	120 m	County	A 'Less Scarce' breeder in Great Britain (Eaton *et al*, 2023). A 'very local breeding resident and very scarce passage migrant' in Flintshire (Ref 11-42).	Main Development Area	In
					Water Connection Corridor	In
					Surface water outfall into Old Rockcliffe Brook (Kelsterton Brook)	In

[12] Avocet is singled out from the breeding bird assemblage recorded within the Survey Area because it is of higher ornithological value.

Feature	Description of Feature Key Locations	Proximity to the Order limits	Value	Rationale for Valuation	Relevance to Assessment of the Proposed Development	Scoping In or Out for Assessment
	Regularly forages in The Dee Estuary and Connah's Quay Nature Reserve Compartment 2. A peak count of 47 was recorded in July 2024.					
Spotted redshank *Tringa erythropus* (non-breeding)	Regularly forages and roosts within Connah's Quay Nature Reserve Compartment 2, mainly between August and October. A peak count of 12 was recorded in August 2024.	30 m	County	An uncommon winter visitor in Flintshire (Ref 11-42).	Main Development Area	In
					Water Connection Corridor	In
					Surface water outfall into Old Rockcliffe Brook (Kelsterton Brook)	In

Feature	Description of Feature Key Locations	Proximity to the Order limits	Value	Rationale for Valuation	Relevance to Assessment of the Proposed Development	Scoping In or Out for Assessment
Greenshank *Tringa nebularia* (non-breeding)	Regularly forages and roosts within Connah's Quay Nature Reserve Compartment 2, mainly between August and October. A peak count of 17 was recorded in September 2024.	30 m	District	A regular passage migrant and winter visitor in Flintshire Ref 11-42).	Main Development Area	In
					Water Connection Corridor	In
					Surface water outfall into Old Rockcliffe Brook (Kelsterton Brook)	In
Breeding bird assemblage	Breeding and foraging in scrub, grassland and hedgerows. The breeding season for most species	Overlapping	District	56 breeding species including: 14 Red List, 16 Amber List, and 8 S7 species.	Main Development Area	In
					Water Connection Corridor Not relevant. This species assemblage is regularly recorded breeding at locations that are sufficiently distant and hence not susceptible to potential impact from the Proposed Development.	Out

Feature	Description of Feature Key Locations	Proximity to the Order limits	Value	Rationale for Valuation	Relevance to Assessment of the Proposed Development	Scoping In or Out for Assessment
	recorded within the Survey Area (with the exception of woodpigeon which can nest year round) is between March and August inclusive.				Surface water outfall into Old Rockcliffe Brook (Kelsterton Brook)	In
Non-breeding wetland bird assemblage	Regularly attracts a range of migratory and winter visiting waterbirds.	Overlapping	Regional	High density and diversity of waterbird species.	Main Development Area	In
					Water Connection Corridor	In
					Surface water outfall into Old Rockcliffe Brook (Kelsterton Brook)	In

Table 11-13: Summary of species relevant to the ecological impact assessment

Species	Ecological Importance	Baseline Information	Summary of existing baseline	Relevance to the EcIA[13]
Great crested newt	Local	**Appendix 11-E: Great Crested Newt Technical Appendix (EN010166/APP/6.4)**	Twenty-seven waterbodies were identified within 500 m of the Proposed Development as having potential to support great crested newt. No suitable waterbodies were identified within the Order limits. Suitable terrestrial habitat for great crested newt has been identified within the Proposed Development. One metapopulation of great crested newts was identified within 250 m to 500 m of the Order limits (in proximity to the Proposed CO_2 Connection Corridor).	Construction of the Proposed CO_2 Connection Corridor.

[13] Surveys were conducted within the Repurposed CO_2 Connection Corridor before it was confirmed that no works were required in this area. Survey information is included for information, but the areas within the Repurposed CO_2 Connection Corridor are outside the ZoI of the Proposed Development and so not relevant to the EcIA.

Species	Ecological Importance	Baseline Information	Summary of existing baseline	Relevance to the EcIA[13]
Reptiles	Local	**Appendix 11-F: Reptile Desk Study** (**EN010166/APP/6.4**)	Previous survey work identified a low population of common lizard *Zootoca vivipara* within the C&IEA. Incidental sightings have confirmed a population of grass snake *Natrix helvetica* present within the Main Development Area	Construction and decommissioning of the Main Development Area and C&IEA and construction of the Proposed CO_2 Connection Corridor.
Bats - roosts	Local	**Appendix 11-G: Bat Technical Appendix** (**EN010166/APP/6.4**)	All buildings within the Order limits were found to have no suitability for roosting bats. Five trees, (one within the Construction and Operation Area), one tree group and a strip of woodland were all found to have potential features for roosting bats within the Survey Area (See **Appendix 11-G: Bat Technical Appendix** (**EN010166/APP/6.4**).	Construction, operation and decommissioning of the Main Development Area and C&IEA; and construction of the Proposed CO_2 Connection Corridor.

Bats - foraging and commuting	County	**Appendix 11-G: Bat Technical Appendix (EN010166/APP/6.4)**	The Main Development Area and C&IEA were assessed as having negligible suitable habitat for foraging and commuting bats. The Proposed CO_2 Connection Corridor and Repurposed CO_2 Connection Corridor, were assessed as having moderate suitability to support foraging and commuting bats. Bat activity was recorded sporadically across the Main Development Area during the Night-time Bat Walkover (NBW) surveys, with the locations of highest activity varying by time of year. Hedgerows and tree lines were frequently used by foraging and commuting bats. During the NBW, the following bat species were recorded: common pipistrelle *Pipistrellus pipistrellus*, soprano pipistrelle *Pipistrellus pygmaeus*, *Myotis* sp., serotine *Eptesicus serotinus*, noctule *Nyctalus*	Construction, operation and decommissioning of the Main Development Area; use of the C&IEA for construction; and construction of the Proposed CO_2 Connection Corridor.

Species	Ecological Importance	Baseline Information	Summary of existing baseline	Relevance to the EcIA[13]
			noctula, and Leisler's bat *Nyctalus leisleri*. The automated bat detector surveys recorded at least nine different bat species. In addition to those recorded during the NBWs these species were: Nathusius' pipistrelle *Pipistrellus nathusii*, brown long-eared bat *Plecotus auritus*, and lesser horseshoe bats *Rhinolophus hipposideros*.	
Badgers	Local	**Appendix 11-H: Badger Technical Appendix CONFIDENTIAL (EN010166/APP/6.4**	Suitable terrestrial habitats for badgers were identified within the Proposed Development. No badger setts were found to present within the ZoI of the Proposed Development. Incidental sightings of badger showed they were active in habitats within the Main Development Area.	Construction, operation and decommissioning of the Main Development Area; use of the C&IEA for construction; and construction of the Proposed CO_2 Connection Corridor.

Species	Ecological Importance	Baseline Information	Summary of existing baseline	Relevance to the EcIA[13]
Otters	Local	**Appendix 11-J: Otter Technical Appendix CONFIDENTIAL (EN010166/APP/6.4)**	Otter were not found to be using the Construction and Operation Area for shelter. Furthermore, no conclusive evidence for otter presence was recorded, however, given their wide-ranging behaviour and known status in the local area they may occasionally move through the Construction and Operation Area to forage in more suitable habitats than those present within the Construction and Operation Area.	Construction, operation and decommissioning of the Main Development Area and construction of the Proposed CO_2 Connection Corridor.
Terrestrial invertebrates	County	**Appendix 11-K: Terrestrial Invertebrate Technical Appendix (EN010166/APP/6.4)**	The saltmarsh habitats, mosaic of grassland and scrub located within the Order limits and the Open Mosaic Habitats all supported important invertebrate assemblages.	Construction and decommissioning of the Main Development Area and use of the C&IEA for construction.

Species	Ecological Importance	Baseline Information	Summary of existing baseline	Relevance to the EcIA[13]
Other notable species – potentially hedgehog *Erinaceus europaeus* and amphibians	Local	Annex F of **Appendix 11-C: Preliminary Ecological Appraisal Report** (**EN010166/APP/6.4**)	Habitats were identified within the survey area suitable to support hedgehog and notable amphibians (other than great crested newts).	Construction, operation and decommissioning of the Main Development Area; use of the C&IEA for construction; and construction of the Proposed CO_2 Connection Corridor.

Species	Ecological Importance	Baseline Information	Summary of existing baseline	Relevance to the EcIA[13]
Aquatic invertebrates	Local	**Appendix 11-L: Aquatic Ecology Technical Appendix (EN010166/APP/6.4)**	Three ponds to the west of the Main Development Area outside the Order limits were surveyed in 2024 and were found to have macroinvertebrates of local conservation value giving them a community conservation index of fairly high conservation value. All watercourses in the area were of moderate and low conservation value with the rivers deemed to be sedimented or moderately sedimented. The quality of the resident macroinvertebrate community within the watercourses have adequate but unremarkable habitat quality.	Construction of the Proposed CO_2 Connection Corridor; Construction of Surface Water Outfall and Water Connection Corridor.

Species	Ecological Importance	Baseline Information	Summary of existing baseline	Relevance to the EcIA[13]
Fish	Up to National	**Appendix 11-G: Aquatic Ecology Technical Appendix (EN010166/APP/6.4)**	Allt-Goch Brook (WC1) and Lead Brook were shown to have fish present, in 2024 of which European eel (protected under Wales Environment Act 2016) was present in high abundance on Allt-Goch Brook (WC1). No fish surveys could be undertaken at Kelsterton (WC5) or Oakenholt Brook (WC3) due to access at time of survey visit so fish were presumed to be present.	Construction of the Proposed CO_2 Connection Corridor; Construction of Surface Water Outfall and Water Connection Corridor.
Aquatic Macrophytes	Local	**Appendix 11-G: Aquatic Ecology Technical Appendix (EN010166/APP/6.4)**	Allt-Goch Brook (WC1) and Lead Brook were surveyed for macrophytes in 2024. Due to the dense tree canopy causing significant shading on Allt-Goch brook, no aquatic macrophytes were found. Only one species was found on Lead Brook.	Within the Proposed Development; specifically, the Proposed CO_2 Connection Corridor; Construction of Surface Water Outfall and Water Connection Corridor.

Future Baseline

11.4.17 The assessment years and assessment scenarios for the Proposed Development are set out in **Chapter 2: Assessment Methodology** (**EN010166/APP/6.2.2**).

11.4.18 The future baseline are the conditions anticipated to prevail at a certain point in the future (assuming the Proposed Development does not progress) and are identified for comparison with the predicted conditions with the Proposed Development. This can include, for example, changes as a result of climate change, natural succession of habitats, the introduction of new receptors into an area, the continued operation of existing developments, or new development schemes that have the potential to change the baseline, where these comprise committed developments. The following future baseline assessment years have been identified:

- construction (2026 to 2035); and
- operation (2036).

Construction (2026 to 2035)

11.4.19 In the absence of the Proposed Development, it is predicted that the habitat context and management of the Order limits and adjacent land would remain as it is in the current baseline. The Conservation Areas Management Plan for the land within Uniper's control (which is a legal requirement of the Section 36 consent for the existing Connah's Quay Power Station) must be maintained for the life of the existing Connah's Quay Power Station. It is therefore acceptable to assume for the purposes of this assessment that whilst the existing Connah's Quay Power Station remains operational there would be no substantive change in management of the Main Development Area, C&IEA and adjacent areas managed by the Applicant.

11.4.20 As no substantive changes in habitat context and condition are predicted, the species value of the Order limits and adjacent land would also remain consistent with the current baseline. Minor changes (upwards or downwards) in the distribution of some species, e.g. nesting birds, roosting bats, may occur in line with small-scale changes in habitat structure as a result of ecological succession or other natural processes. Any such changes are likely to be within the range of normal inter-annual variation in the distribution and abundance of species populations. In addition, potentially relevant protected species (e.g. badger) could establish in new locations where they would impose new working constraints, due to a need to ensure compliance with the legislation protecting these species.

Operation (from 2035)

11.4.21 It is not expected that there would be any marked change in local land management practice and associated habitats by the time of first commercial operation. It is noted that the Conservation Areas Management Plan for the existing Connah's Quay Power Station would still be in place until the operation of the Proposed Development.

11.4.22 Water quality is expected to improve due to legislation requirements and interventions, including Water Framework Directive Targets, positively

supporting terrestrial and aquatic ecology. Refer to **Chapter 13: Water Environment and Flood Risk** (**EN010166/APP/6.2.13**).

11.4.23 Current air quality background concentrations are assumed to apply to the future baseline scenarios with no substantive changes to habitats and species. Refer to **Chapter 8: Air Quality** (**EN010166/APP/6.2.8**).

Decommissioning (2065)

11.4.24 The future baseline conditions in the vicinity of the Proposed Development are likely to be similar to the operational baseline.

11.5 Development Design and Embedded Mitigation

11.5.1 The EcIA process aims to avoid, prevent, reduce, or offset potential environmental effects through design and/or management measures. These are measures that are inherent in the design and construction of the Proposed Development (also known as "embedded measures").

11.5.2 The following impact avoidance measures have either been incorporated into the design or are standard construction or operational practices. These measures are all to be accommodated within the Proposed Development and have, therefore, been taken into account during the ecological impact assessment. Similarly, it has been assumed that the Proposed Development would comply with all relevant protected species legislation.

11.5.3 The design process for the Proposed Development has included consideration of IEFs and has incorporated, where reasonably practicable, measures to reduce the potential for adverse effects on these, in accordance with the mitigation hierarchy (see **Appendix 11-A: Ecological Impact Assessment Methodology** (**EN010166/APP/6.4**)) and relevant planning policy. The measures identified and adopted include those that are inherent to the design of the Proposed Development, and those that can realistically be expected to be applied as part of construction, operational or decommissioning environmental best practice, or as a result of legislative requirements.

Construction

11.5.4 All construction works would be carried out in accordance with a CEMP. The **Framework CEMP** (**EN010166/APP/6.5**) has been produced alongside this **ES**. A final CEMP would be produced for approval prior to commencement of construction and would be prepared in accordance with the **Framework CEMP** (**EN010166/APP/6.5**). The **Framework CEMP** (**EN010166/APP/6.5**) includes mitigation measures identified in the chapter, with other mitigation measures of relevance to this assessment also included in **Chapter 8: Air Quality** (**EN010166/APP/6.2.8**), **Chapter 9 Noise and Vibration** (**EN010166/APP/6.2.9**) and **Chapter 13: Water Environment and Flood Risk** (**EN010166/APP/6.2.13**).

11.5.5 It is assumed that the contractor(s) would comply with all relevant protected species legislation, as this is mandatory. Where relevant, licences would be sought from NRW to allow works to proceed where they impact protected species. These may require design mitigation (such as habitat creation for specific species, creation of designated receptor sites for species such as

great crested newt, provision of artificial setts for badgers or the provision of bat boxes as replacement roosts for bats), which would be incorporated into the design of the Proposed Development. To assist in transparency in what may be required, potential species-specific measures are addressed in section 11.7, which may influence the development design further to support with licence requirements.

11.5.6 Measures to deliver compliance with industry good practice and environmental protection legislation during both construction and operation (e.g. in relation to prevention of surface and groundwater pollution, fugitive dust management, noise prevention or amelioration) can be assumed in accordance with NPS EN-1 paragraph 4.12.1. It must be assumed that all measures available to regulators to secure such requirements would be properly applied and enforced by the relevant regulators. Most of the measures required are already committed and are set out in the **Framework CEMP** (**EN010166/APP/6.5**) which accompanies the DCO Application.

11.5.7 The following measures of relevance to terrestrial (including ornithology) and aquatic ecology have been included in the **Framework CEMP** (**EN010166/APP/6.5**):

- the Proposed Development and construction laydown areas have been designed to include a minimum 30 m ecological safeguard zones, for the protection of sensitive habitats/species occupying the Dee Estuary, as shown on **Figure 5-3: Construction Laydown Areas (EN010166/APP/6.3).** Habitats in these areas would be retained during construction and protected from any damage during the construction phase. These areas would include acoustic fencing to the north of the Main Development Area and C&IEA and acoustic fencing to the western side of the Main Development Area;

- the Proposed CO_2 Connection would be constructed in the same way as a natural gas transmission pipeline, involving excavation of an open trench (to provide a depth of cover, at a minimum of 1.2 m), lowering of the pipe into the trench and backfilling with the excavated material. The ground would be reinstated after construction to its pre-existing habitat condition where practicable. Existing vegetation lost/disturbed would be replanted/replaced;

- all works within the Water Connection Corridor would be carried out using hand tools and the area would be accessed on foot through the saltmarsh. Materials would be brought in by barge (between April and June inclusive) to reduce the potential noise and vibratory impact to birds, fish and other wildlife;

- additional sediment control measures would be in place around the Kelsterton Brook/Old Rockcliffe Drain culvert so construction works do not result in untreated water entering the culvert as a pathway to the River Dee. Refer to **Chapter 13: Water Environment and Flood Risk** (**EN010166/APP/6.2.13**);

- there would be retention of, and appropriate stand-offs from all waterbodies/courses (including the Allt-Goch Brook, Allt-Goch Tributary and Lead Brook as shown on **Figure 13-6 Water Resources**

(**EN010166/APP/6.3**) associated with the Proposed CO_2 Connection Corridor) if required. Refer to **Chapter 13: Water Environment and Flood Risk** (**EN010166/APP/6.2.13**);

- minor works (if required) within the Electrical Connection Corridor would be carried out via existing access points or within the existing substation, avoiding any potential impact to terrestrial (including ornithology) and aquatic ecology;
- lighting would be restricted to focused point-use where reasonably practicable. Refer to **Chapter 5: Construction Management and Programme** (**EN010166/APP/6.2.5**) and the **Lighting Strategy** (**EN010166/APP/7.22**). The strategy seeks to provide safe working conditions whilst reducing light pollution and the visual impact of light on the local environment, including nocturnal fauna such as bats and badgers;
- all habitats subject to temporary impacts during construction, such as those within the construction laydown areas, Electrical Connection Corridor, Surface Water Outfall and Proposed CO_2 Connection Corridor, would be reinstated in accordance with the **Outline LEMP** (**EN010166/APP/6.9**). Where appropriate, well-established plant stock would be used to reduce the time taken to restore habitats to their pre-construction condition. Additionally, vegetation would be protected from tracked construction vehicles with ground protection mats where applicable;
- habitat to be retained would be protected from any direct effects of the construction works through appropriate measures such as (but not restricted to) demarcation zones and toolbox talks delivered by the Ecological Clerk of Works (ECoW);
- an ECoW appointed by the Applicant would provide ecological oversight, instruct and report on all site clearance and construction works with potential to affect protected species, encompassing both licensed and unlicensed activities; and
- precautionary working methods would be put in place prior to and during construction for the purposes of avoiding impacts on named species and to comply with relevant legislation. These include:
  - **Toolbox Talk:** Prior to the start of the construction works the ECoW would deliver a pre-works briefing to all site staff. This would detail the precautionary working methods the be implemented, what to do if an animal is found on site and how to identify the species that may be present onsite;
  - **Nesting birds:** All clearance of suitable vegetation to be done outside the breeding season (typically March to August inclusive for most species), where possible. If not possible, the ECoW would check the working area for nests before works commence. If active nests are discovered through this process, then the ECoW would advise on appropriate mitigation to ensure that these are not impacted by construction activities. All relevant works would be completed in accordance with this advice and under an ecological

watching brief (in the presence of the ECoW). Birds may be dissuaded from nesting in construction/site access routes by removing vegetation from the desired area before the breeding season commences. Where this is not possible bird deterrent measures would be deployed to deter birds from nesting, followed by the completion of a pre-works survey to check for the presence of nests. In some cases a combination of measures may be required (to be advised by the ECoW) such as to prevent ground nesting species nesting on bare ground after vegetation removal. If Schedule 1 bird species are found breeding within the working area, or close enough to the working area that works would result in disturbance of the breeding birds, works would stop immediately and the advice of an ornithologist would be consulted to ensure that measures are put in place to avoid disturbance occurring;

- **Reptiles/Amphibians/Hedgehog:** Vegetation would be removed in a two-stage cut. The first cut would take vegetation down to 150 mm. Any cuttings would be removed from the works area. The second cut would be performed down to ground level at least 72 hours after the first cut to allow any animals present chance to move away from the area. Any animals found should be moved out of the works area with gloved hands and released in similar habitat to where they were found outside the area of works;
- **Great Crested Newt:** In areas where there is a low risk of encountering great crested newts on site (within the Proposed CO_2 Corridor) an ECoW would be present for any vegetation removal. Vegetation would be removed in a two-stage cut. The first cut would take vegetation down to 150 mm. Any cuttings would be removed from the works area. After the first cut the ECoW would hand search the works area focusing on any suitable resting sites for great crested newt before the second cut down to ground level is performed. If a great crested newt is found then all works in the area would cease and a mitigation licence for the works would be sought from NRW;
- **Badger:** Any animal hole or burrow found within the construction boundary would be inspected by the ECoW who would advise on the course of action to be taken. A 30 m buffer would be maintained from any active badger sett during the works should this be discovered (to date no badger setts have been recorded). If this is not possible then a licence for full or partial closure of the sett would be required from NRW prior to commencement of the works;
- **Bats:** Minimum buffer zone of approximately 30 m (which may be reduced subject to findings and assessment by an appropriately qualified bat licensed ecologist) from any retained trees with suitability for roosting bats, or further surveys to be carried out where there is potential for direct impacts (where applicable). Refer to **Appendix 11-G: Bat Technical Appendix** (**EN010166/APP/6.4**);
- General animal welfare during construction, such as:
- Animal welfare legislation would be adhered to during vegetation clearance; and

- all excavations would be covered overnight, or where this is not practicable, a means of escape would be fitted (for example, a battered soil slope or scaffold plank, to provide an escape route) should any animals (for example, reptiles, badger, otter, hedgehog) stray into the construction site and fall into an excavation;
- Invasive Plant Species: an Invasive Species Management Plan (ISMP) survey would be updated prior to construction to determine the current location and extent of plant INNS, and to inform specification of the ISMP. If determined as necessary through this survey and after consideration of other available plant and animal INNS data, an ISMP would be prepared to accompany the final CEMP and would be agreed with relevant stakeholders. The ISMP would specify the measures and supervision necessary during construction to prevent the spread of plant and animal INNS to new locations; and
- Preconstruction update surveys: These would be carried out for protected species where relevant or necessary, for example to inform licensing or to identify potential additional features which may become established in the study area.

11.5.8 Further measures related to tree protection are provided in Appendix 15-G: Arboriculture Assessment (**EN010166/APP/6.4**) and are replicated within the **Framework CEMP** (**EN010166/APP/6.5**).

Design/Operation

11.5.9 The design of the Proposed Development has evolved in response to findings of ecological surveys and studies conducted to date.

11.5.10 An **Outline LEMP** (**EN010166/APP/6.9**) has been developed to secure habitat management and monitoring of retained and created habitats. A final version of the plan would be prepared and approved in advance of the construction/operation of the Proposed Development. This is secured by DCO requirement.

11.5.11 At this stage, the following measures are embedded within the design of the Proposed Development:

- the Proposed Development has been designed to provide NBB. A benefit for biodiversity above the existing baseline situation has been sought through the design process for the Proposed Development. Following construction, the C&IEA would be used for NBB measures. A proactive, creative and holistic approach towards facilitating the delivery of biodiversity and ecosystem resilience has been taken. This has been done together with engagement from FCC. See the **Green Infrastructure Statement** (**EN010166/APP/6.11**) for further details;
- the Conservation Areas Management Plan for the existing Connah's Quay Power Station would be reviewed to support with design of mitigation strategy for the Proposed Development as part of the commitments within the **Outline LEMP** (**EN010166/APP/6.9**);
- new eel screens would be placed across abstraction infrastructure. Refer to **Chapter 12: Marine Ecology** (**EN010166/APP/6.2.12**). New fish

screens would be installed to an agreed standard at construction during Upgrade of water supply infrastructure to achieve compliance with the Eels (England and Wales) Regulations 2009 and other relevant legislation and regulatory requirements (where/if applicable) during operation of the Proposed Development;

- cooling water would be discharged at a rate and with a chemical water quality compliant with the discharge limits set by the Environment Agency within the Environmental Permit, taking into account Best Available Techniques (BAT) for those discharges;
- the **Lighting Strategy** (**EN010166/APP/7.22**) details the operational lighting requirements for the Proposed Development. It identifies that lighting would be sited or screened in such a way as to reduce illumination on adjoining sensitive habitats to minimise effects on receptors sensitive to light impacts where practicable. This includes Guidance Note 8/23 Bats and Artificial Lighting at Night published by the Bat Conservation Trust and Institution of Lighting Professionals (Ref 11-52);
- landscaping and ecological management within the Main Development Area and C&IEA laydown areas (including reprovision of saltmarsh) is set out in the **Outline LEMP** (**EN010166/APP/6.9**); and
- the final stack height for the Proposed Development has been optimised to aid dispersion of pollutants, with consideration given to minimisation of ground-level air quality impacts, including on relevant biodiversity and nature conservation features. **Chapter 8: Air Quality** (**EN010166/APP/6.2.8**) and **Appendix 8-D: Air Quality Operational Assessment** (**EN010166/APP/6.2.4**) describe the results of atmospheric dispersion modelling which have informed the maximum and minimum stack heights set out in **Chapter 4: The Proposed Development** (**EN010166/APP/6.2.4**). The proposed height of the absorber stacks and HRSG stack(s) for the Proposed Development have been assessed as a robust case with consideration given to minimisation of ground-level air quality impacts and the visual impacts of taller stacks, based on current biggest building massing of the main structures of the Proposed Development.

Decommissioning

11.5.12 Decommissioning would require submission of a DEMP which is secured by a requirement of the DCO. Appropriate best practice mitigation measures, including measures to deliver compliance with nature conservation legislation applicable at that time, would be applied during any decommissioning works as documented in the DEMP. No additional mitigation for decommissioning of the Proposed Development beyond such best practice measures, including appropriate survey effort, is considered necessary at this stage.

11.6 Assessment of Likely Impacts and Effects

11.6.1 Taking into account the embedded mitigation measures as detailed in Section 11.5, the potential impacts and effects of the Proposed Development

have been assessed using the method as detailed in Section11.3 of this chapter and **Chapter 2: Assessment Methodology** (**EN010166/APP/6.2.2**) and **Appendix 11-A: Ecological Impact Assessment Methodology** (**EN010166/APP/6.3**).

11.6.2 For the purposes of the assessment, the construction phase includes enabling and demolition works required to facilitate the Proposed Development.

11.6.3 In making this assessment, regard has been given to other relevant Chapters, specifically **Chapter 8: Air Quality** (**EN010166/APP/6.2.8**), **Chapter 9: Noise and Vibration** (**EN010166/APP/6.2.9**), **Chapter 12: Marine Ecology** (**EN010166/APP/6.2.12**) and **Chapter 13: Water Environment and Flood Risk** (**EN010166/APP/6.2.13**). It is not considered necessary in this chapter to replicate the impact assessments provided in these source chapters. Where mitigation has been identified as necessary in other chapters to address and remove potential significant adverse effects, then it can be assumed that there is a commitment to provide this mitigation, and that it would be delivered as outlined in the relevant chapter and/or as specified in the **Framework CEMP** (**EN010166/APP/6.5**) that accompanies the Application.

11.6.4 Relevant terrestrial and aquatic ecological features are those that are considered to be of Local or higher geographical importance, and which have potential to be affected by the Proposed Development as summarised in **Table 11-9**, **Table 11-10**, **Table 11-11**, **Table 11-12** and **Table 11-13**.

Construction Phase

Designated Sites

11.6.5 This section focusses on the plants and habitats of designated sites scoped into the assessment. The assessment on other qualifying features is addressed, as relevant, within the discussion by species group.

11.6.6 During construction, the potential impacts experienced by designated sites include:

- habitat loss;
- changes in air quality (i.e. dust deposition and construction vehicle exhaust emissions);
- construction noise disturbance;
- visual disturbance; and
- alteration of local hydrology and water quality.

Dee Estuary/Aber Dyfrdwy SAC, SPA, Ramsar, SSSI

Habitat Loss/Changes in Air Quality/Construction Noise Disturbance/Visual Disturbance/Alteration of Local Hydrology and Water Quality

11.6.7 The Proposed Development overlaps with, and is directly adjacent to, the Dee Estuary/Aber Dyfrdwy SAC, SPA, Ramsar and SSSI within the Water Connection Corridor and the Surface Water Outfall Area.

11.6.8 The effects of the Proposed Development on the Dee Estuary/Aber Dyfrdwy SAC, SPA and Ramsar, along with other Habitats Sites, are fully assessed through the HRA process and are reported in full in **Report to Inform Habitats Regulations Assessment** (**EN010166/APP/6.12**). Only a summary is provided in this chapter.

11.6.9 In terms of plants and habitats only, construction of the Proposed Development has the potential to directly and indirectly impact saltmarsh habitat, which is present within the Order limits, specifically within the Water Connection Corridor and Surface Water Outfall Area. Saltmarsh is evaluated as up to International Importance, as it is a qualifying habitat feature of the Dee Estuary SAC (taking the highest ecological importance evaluation of the applicable site designation).

11.6.10 The Order limits demarks the maximum extent required for works within the Water Connection Corridor. However, materials would be supplied by boat as there is a concrete plinth, and workers would access by foot across the saltmarsh, which is current practice for inspections. The actual engineering work to refurbish/upgrade the existing intake structures would be located outside of the saltmarsh within the Dee Estuary. Therefore, no loss of saltmarsh or intertidal mudflat habitat would arise.

11.6.11 A new surface water outfall would be constructed adjacent to the Existing Surface Water Outfall as an extension to the existing headwall. Noting that **Chapter 5: Construction Programme and Management** (**EN010166/APP/6.2.5**) identifies the works could be undertaken via trenchless construction methods or with open excavation, as a worst-case assessment it is assumed there would be approximately 650 m^2 of temporary habitat loss during construction.

11.6.12 There is also potential for temporary indirect impacts to any retained saltmarsh habitat through changes in air quality (dust deposition and vehicle exhaust emissions) and alterations in hydrology and water quality, outside of the Order limits located along the River Dee, during construction. However, as set out in Section 8.6 of **Chapter 8: Air Quality** (**EN010166/APP/6.2.8**), dust control measures in the **Framework CEMP** (**EN010166/APP/6.5**) would prevent any significant effects from any sensitive features within the designated site. A minimum of 30 m ecological buffer zone would be maintained around the C&IEA and Main Development Area, where construction laydown areas are located, providing an area of protection to any retained saltmarsh habitat within the Dee Estuary/Aber Dyfrdwy SAC, SPA, Ramsar and SSSI (as shown on **Figure 5-5: Vegetation Clearance Plan** (**EN010166/APP/6.3**). Works within the Water Connection Corridor are occurring outside of these buffer zones so the dust control measures within the **Framework CEMP** (**EN010166/APP/6.5**) would need to be applied at source. Detailed assessment of this impact is within the **Report to Inform Habitats Regulations Assessment** (**EN010166/APP/6.12**). In summary, the **Report to Inform Habitats Regulations Assessment** (**EN010166/APP/6.12**) concludes that the measures included in the Proposed Development to protect water resources/levels, dust and water quality **would avoid any likely significant effect**.

11.6.13 With regard to vehicle exhaust emissions during construction, an assessment has been undertaken of construction period emissions of all

relevant pollutants (oxides of nitrogen (NOx), ammonia and nitrogen deposition) on transects leading back into areas of ancient woodland, or statutory designated wildlife sites (SSSIs, SACs, SPAs) from all roads that lie within 200 m of those sites. Table 17 (NOx), Table 19 (ammonia) and Table 21 (nitrogen deposition) in **Appendix 8-C: Air Quality Traffic Emissions Assessment** (**EN010166/APP/6.4**), detail the relevant information and assessment results.

11.6.14 Specifically regarding the Dee Estuary SSSI/SAC/SPA it can be concluded that there would be no likely significant effects on the qualifying features of any Habitats Site as a result of NOx or ammonia from construction traffic emissions as the screening thresholds (either the 1% of the critical level threshold for the process contribution, and/or the 100% of the critical load threshold for the predicted environmental concentration) are not exceeded.

11.6.15 The worst-case nitrogen deposition impact is on transect TE8b where the contribution of the Proposed Development remains elevated above 1% of the critical load up to 65 m into the SAC. This would affect approximately 1.3 ha of saltmarsh or 0.008% of saltmarsh in the SAC. However, the following factors and characteristics that counteract negative ecological impacts must be taken into account:

- the small (though not imperceptible) scale of nitrogen deposition (maximum of 0.25 kgN/ha/yr)[14];
- the fact that some saltmarsh in this area would be pioneer saltmarsh less susceptible to nitrogen deposition;
- the fact that less than 0.01% of saltmarsh in the SAC would be affected and this would be a qualitative effect rather than loss of saltmarsh and may not arise at all in practice due to other confounding factors such as management and tidal inundation regime;
- the fact that the effect would be temporary. Although not short-term, construction would last approximately five years but the worst-case data reported above are for the worst-case construction year not the entire construction period; and
- the fact that long-term nitrogen deposition over decades is generally more of a concern than shorter-term changes in deposition[15].

11.6.16 Therefore, it is considered that this would not constitute a likely significant effect on the Dee Estuary / Aber Dyfrdwy SAC / SPA / Ramsar site.

Construction activities would involve the presence of site staff and heavy machinery which would cause a visual disturbance to sensitive ecological receptors.

11.6.17 Noise modelling undertaken for the HRA/ornithology study has confirmed that with the embedded mitigation (construction of an acoustic barrier and

[14] For example, National Highways Design Manual for Roads and Bridges (DMRB) Volume LA105: Air Quality identifies that any impact below 0.4 kg N/ha/yr would not cause a significant effect (Ref 11-55).
[15] . Caporn et al (2016) (Ref 11-54) specifically address this point in sections 2.2.1 and 5.1 stating that '*The current rate of N deposition is primarily a proxy for long-term cumulative N deposition. Thus we would not expect that a change in N deposition, either increasing or decreasing, would immediately change species richness or composition, but instead these would be gradually influenced by longer-term changes in N deposition'.*

the implementation of standard construction noise control measures), construction noise would not reach disturbing levels (60dB) within the Dee Estuary SSSI/SAC/SPA, this is in part because baseline LA_{max} noise levels within the study area are already high.

11.6.18 The exception is for works related to the drainage proposals, Proposed Surface Water Outfall and within the Water Connection Corridor. These aspects are beyond the acoustic barrier and would therefore need to be timed to prevent disturbance to birds (undertaken outside the wintering period following nesting bird checks as identified in Section 11.5). With this mitigation in place **no likely significant effect** would arise.

11.6.19 There would be likely significant effects on saltmarsh habitat in the absence of mitigation. That mitigation would take the form of setting back the existing defences south of the existing Connahs Quay Power Station to allow saltmarsh habitat within the SSSI/SAC to extend inland naturally. This would create approximately 1,200 m^2 of permanent new saltmarsh thus offsetting the approximately 650 m^2 temporary loss. It would also involve extending the duration of the existing management by the Applicant of the saltmarsh within the existing Connah's Quay Conservation Areas, which lie within the Dee Estuary / Aber Dyfrdwy SAC / SPA / Ramsar site. The management agreement to which these areas are subject only runs until the existing Connahs Quay Power Station is decommissioned. Once the existing Power Station is decommissioned the management agreement would cease to be in effect. Management would therefore be extended throughout the lifetime of the Proposed Development, or in perpetuity (80 years) whichever is the shorter. This management commitment covers approximately 26 ha of the Dee Estuary SAC/SSSI. With this mitigation in place there would be **no likely significant effect** on the Dee Estuary SAC/SSSI.

Other International and National Nature Conservation Designations

Habitat Loss

11.6.20 There would not be any direct impacts of habitat loss on any other International or National important designated sites.

Changes in Air Quality/Alteration of Local Hydrology and Water Quality

11.6.21 The River Dee and Bala Lake/Afon Dyfrdwy a Llyn Tegid SAC and Afon Dyfrdwy (River Dee) SSSI and River Dee SSSI (England) are hydrologically linked to the Dee Estuary SPA/Ramsar/SAC/SSSI.

11.6.22 The River Dee and Bala Lake/Afon Dyfrdwy a Llyn Tegid SAC is located more than 200 m away in terms of potential impacts from construction dust and as set out in Section 8.6 of **Chapter 8: Air Quality** (**EN010166/APP/6.2.8**), dust control measures in the embedded mitigation detailed in the **Framework CEMP** (**EN010166/APP/6.5**) would prevent any significant effects from any sensitive features within the designated site.

11.6.23 A detailed assessment of impacts is located within the **Report to Inform Habitats Regulations Assessment** (**EN010166/APP/6.12**). In summary, the **Report to Inform Habitats Regulations Assessment** (**EN010166/APP/6.12**) concludes that the measures included in the **Framework CEMP** (**EN010166/APP/6.5**) to protect water resources/levels, dust and water quality **would avoid any likely significant effect**.

11.6.24 There are no indirect construction impacts anticipated on any other Habitats Sites due to their distance from the Order limits (>1.5 km) and lack of impact pathways, or (with regard to Deeside & Buckley Newts SAC) because air quality modelling reported in in **Appendix 8-C: Air Quality Traffic Emissions Assessment** (**EN010166/APP/6.4**) and summarised in **Report to Inform Habitats Regulations Assessment** (**EN010166/APP/6.12**) confirms that there would be **no likely significant effects** from construction traffic emissions.

11.6.25 As well as being hydrologically linked to the Proposed Development, Afon Dyfrdwy (River Dee) SSSI is also located within 200 m of the Proposed Development and could therefore be subject to potential impacts from construction dust. The assessment carried out in **Chapter 13: Water Environment and Flood Risk** (**EN010166/APP/6.2.13**) concluded that embedded mitigation (such as good practice dust control measures) as part of the Proposed Development and secured in the **Framework CEMP** (**EN010166/APP/6.5**) would result in **no likely significant effects** (**neutral**, **not significant**) from the alteration of local hydrology and water quality on the Afon Dyfrdwy (River Dee) SSSI.

11.6.26 Shotton Lagoons and Reedbed SSSI and Inner Marsh Farm SSSI are Nationally important sites of ornithological interest. Shotton Lagoons and Reedbed SSSI is located approximately 0.48 km north-east from the C&IEA and 1.4 km east of the Main Development Area. Inner Marsh Farm SSSI overlaps with the Dee Estuary SPA and is located approximately 2.8 km north-east from the Proposed Development. Potential impacts from construction on ornithology are assessed separately within the ornithological section of this Chapter. Both SSSIs are considered to be located a sufficient distance away from the Proposed Development not to be significantly affected by dust deposition or alterations in hydrology and water quality i.e. located greater than 200 m from the Order limits and separated from the Proposed Development by the River Dee. With embedded good practice measures in place in association with dust control and protection of the water environment within the **Framework CEMP** (**EN010166/APP/6.5**), there are anticipated to be **no significant effects** (**neutral**, **not significant**) on Shotton Lagoons and Reedbed SSSI and Inner Marsh Farm SSSI as a result of construction activities.

11.6.27 There are no indirect construction impacts anticipated on any other National designated sites due to their distance from the Order limits (>200 m) and lack of impact pathways. Air quality modelling reported in in **Appendix 8-C: Air Quality Traffic Emissions Assessment** (**EN010166/APP/6.4**) confirms that there would be **no likely significant effects** from construction traffic emissions on any SSSIs other than those already discussed.

Local Conservation Designations

Habitat Loss

11.6.28 There would be no direct impacts of habitat loss on any local conservation designated sites as a result of the Proposed Development.

Changes in Air Quality

Air Quality (Construction traffic)

11.6.29 For non-statutory wildlife sites other than Ancient Woodland, the available guidance (Ref 11-53) indicates that provided the exhaust emissions of the Proposed Development (the Process Contribution) do not exceed the critical level or critical load for the relevant pollutant, no further consideration is required. Nowhere on the network would the emissions from road traffic due to the Proposed Development exceed the critical level for NOx or ammonia, or the critical load for nitrogen deposition. Therefore, in line with guidance (Ref 11-53) the impact is considered **negligible**, and a conclusion of **no likely significant effect** can be drawn.

Air Quality (Dust deposition)

Leadbrook Wood LWS

11.6.30 Leadbrook Wood LWS is located within 200 m of the Proposed Development and so could potentially be impacted by dust deposition from construction. However, with good practice measures in place in association with dust control and protection of the water environment being undertaken as part of the embedded mitigation for the Proposed Development detailed in section 11.5 and within the **Framework CEMP** (**EN010166/APP/6.5**), there are anticipated to be **no likely significant effects** (**neutral**, **not significant**) on the Leadbrook Wood LWS from construction activities.

Other local conservation designations

11.6.31 There are no indirect construction impacts (from dust deposition) anticipated on any other Local designated sites (i.e. LWS and Wild Ground Reserves) listed in **Table 11-10** due to their distance from the Order limits (>200 m) and lack of impact pathways.

Alteration of Local Hydrology and Water Quality

River Dee LWS

11.6.32 The River Dee LWS is hydrologically connected to the Proposed Development via the River Dee and the water dependent habitats in association with the River Dee LWS. The assessment carried out in **Chapter 13: Water Environment and Flood Risk** (**EN010166/APP/6.2.13**) concluded that embedded mitigation (such as measures related to the protection of the water environment) as part of the Proposed Development and secured in the **Framework CEMP** (**EN010166/APP/6.5**) would result in **no likely significant effects** (**neutral**, **not significant**) from the alteration of local hydrology and water quality on the River Dee LWS.

Other local conservation designations

11.6.33 There are no indirect construction impacts (from changes in water quality or hydrology) anticipated on any other Local designated sites (i.e. LWS and Wild Ground Reserves) listed in **Table 11-10** as they are not hydrologically connected to the Proposed Development or are located upstream of it.

Habitats

11.6.34 The following habitats have been scoped into the assessment of likely significant effects during the construction of the Proposed Development:

- Ancient Woodland;
- Sparsely vegetated urban land ruderal/ephemeral
- Coastal Saltmarsh;
- Intertidal Mudflats;
- Open mosaic habitats;
- Other lowland mixed deciduous woodland;
- Species-rich native hedgerows;
- Other native hedgerows;
- Modified grassland;
- Other neutral grassland;
- Mixed scrub;
- Bramble scrub;
- Temporary grass and clover leys; and
- Other broadleaved woodland.

11.6.35 Assessments of Coastal Saltmarsh and Intertidal Mudflats (River Dee Estuary) are presented in the Designated Sites section and are not duplicated here.

11.6.36 During construction, the potential impacts experienced by habitats include:

- habitat loss; and/or
- changes in air quality (i.e. dust deposition); and/or
- alterations of local hydrology and water quality.

11.6.37 **Figure 5-5: Vegetation Clearance Plan** (**EN010166/APP/6.3**) identifies the location of temporary and permanent habitat loss along with areas of retained vegetation.

Ancient Woodland

Habitat Loss

11.6.38 There are no Ancient Woodlands located within the Order limits. The nearest Ancient Woodland is located approximately 50 m south-west of the Proposed CO_2 Connection Corridor, which is a sufficient distance away to not be damaged or disturbed. There would be no direct impacts on Ancient Woodland and so the Proposed Development would result in **no likely significant effects** (**neutral**, **not significant**).

Changes in Air Quality/Alterations of local hydrology and water quality

11.6.39 Whilst the closest Ancient Woodland is located within 50 m of the Order limits, as described in **Appendix 8-B: Air Quality Construction Phase – Dust Risk Assessment** (**EN010166/APP/6.4**) with embedded good practice

measures in place in association with dust control and within the **Framework CEMP** (**EN010166/APP/6.5**) dusk risk for all construction impacts is considered low. All other Ancient Woodland sites either do not have hydrological connections to the Proposed Development or are upstream of the Proposed Development. This lack of impact pathway coupled with the measures associated with the protection of the water environment within the **Framework CEMP** (**EN010166/APP/6.5**), there are anticipated to be **no likely significant effects** (**neutral**, **not significant**) on Ancient Woodland from construction activities.

11.6.40 For Ancient Woodland, **Appendix 8-C: Air Quality Traffic Emissions Assessment** (**EN010166/APP/6.4**) modelled construction vehicle exhaust emissions on six transects (TE1 to TE6). At no point are total NOx concentrations forecast to exceed the critical level for this pollutant. Therefore, **no likely significant effect** would arise. With regard to ammonia, for three of the modelled ancient woodlands the effect of construction traffic is not visible in the modelling when reported to two decimal places, being less than 0.01 μgm^{-3}. Since the contribution is too small to be visible in the model it can be deemed imperceptible and **insignificant**. For transects TE4 to TE6 the contribution of construction traffic at the roadside would exceed 1% of the critical level being between 7.5% and 8% of the critical level depending on transect.

11.6.41 A similar pattern is observed for nitrogen deposition. For transects TE1 to TE3 the contribution of the Proposed Development is well below 1% of the critical load at the roadside, being a maximum of 0.3% of the critical load resulting in **no likely significant effect** (**neutral**, **not significant**). However, for transects TE4 to TE6 the contribution of construction traffic at the roadside would exceed 1% of the critical level being approximately 6% of the critical load depending on transect. Transects T4 to T6 are all off Kelsterton Lane into Top-y-fron Dingle Ancient Woodland. Cumulative nitrogen deposition would exceed 1% of the critical load throughout the 200 m transect, with the Proposed Development contribution falling below 1% by approximately 40m from the roadside. A 700 m stretch of the road adjacent to the ancient woodland would be affected by the Proposed Development meaning approximately 2.8 ha (35%) of an approximately 8 ha Ancient Woodland would be affected.

11.6.42 The existing background ammonia concentrations are already elevated well above the critical level and load. Background ammonia is approximately 1.7 μgm^{-3} compared to a contribution of 0.07 μgm^{-3} from the Proposed Development, while background nitrogen deposition rates are approximately 29 kgN/ha/yr compared to 0.61 kgN/ha/yr from the Proposed Development. As a result, the deposition due to the Proposed Development represents a worst-case 4% and 2% increase in concentrations/deposition respectively. Moreover, the actual impact would be less than this as this represents the worst-case year out the construction programme.

11.6.43 The forecast impact is therefore temporary and relatively small (equivalent to less than 5% of the critical level/load). Impacts of a small amount of deposition above the critical load when the critical load is far exceeded (as it is at this woodland) are likely to be relatively subtle (e.g. a change in species richness, percentage grass cover, or shift to more competitive species in the affected area) rather than wholesale habitat damage. Moreover, effects on

the ground may not arise at all in practice. Research shows the woodland canopy and woodland management have a major impact on vegetation characteristics, and factors such as rainfall and light penetration, which may make any impact undetectable on the ground resulting in **no likely significant effect** (**neutral**, **not significant**).

Open Mosaic Habitat

Habitat Loss

11.6.44 The establishment of the C&IEA would result in the direct loss and damage to all of the open mosaic habitat located within the C&IEA. The loss of habitat would be temporary, for up to nine years, during construction of the Proposed Development. Therefore, the assessment based on this loss is a likely **significant** effect at a County level (**moderate adverse**, **significant**) in the short term (i.e. during construction). However open mosaic habitat within the C&IEA would be reinstated following construction of the Proposed Development, as detailed with the **Outline LEMP** (**EN010166/APP/6.9**), resulting in **no significant adverse effect** (**neutral**, **not significant**) in the medium to long term (i.e. 1 to 2 years post construction) as the area would be left to recolonise and re-establish.

11.6.45 As all open mosaic habitat would be lost to the Proposed Development there are no other impact pathways considered within this assessment.

Other lowland mixed deciduous woodland

Habitat Loss

11.6.46 All areas of other lowland mixed deciduous woodland present within the Order limits would be retained. However, the area of this habitat located on the north-eastern boundary of the Proposed CO_2 Connection Corridor has the potential to be damaged by the construction works in this area if proper controls are not put in place. All works would be sited far enough from the woodland to ensure root zones are protected and the woodland would not be damaged indirectly by construction. These measures would be set out in the **Framework CEMP** (**EN010166/APP/6.5**) and with these controls in place there are anticipated to be **no likely significant effects** (**neutral**, **not significant**) on other lowland mixed deciduous woodland from construction activities.

Changes in Air Quality/Alterations of local hydrology and water quality

11.6.47 As described in **Appendix 8-B: Air Quality Construction Phase – Dust Risk Assessment** (**EN010166/APP/6.4**) with embedded good practice measures in place in association with dust control and within the **Framework CEMP** (**EN010166/APP/6.5**) dusk risk for all construction impacts is considered low. All areas of other lowland mixed deciduous woodland habitat either do not have hydrological connections to the Proposed Development or are upstream of the Proposed Development. This lack of impact pathway and the measures associated with the protection of the water environment within the **Framework CEMP** (**EN010166/APP/6.5**), there are anticipated to be no significant effects (**neutral**, **not significant**) on other lowland mixed deciduous woodland from construction activities.

Modified grassland

Habitat Loss

11.6.48 Within the Main Development Area, the western most fields of grassland habitat would be temporarily lost to construction activities in association with the laydown areas and then replaced with other neutral grassland following the Proposed Development as detailed within the **Outline LEMP** (**EN010166/APP/6.9**). The loss of habitat would be temporary (10.03 hectares (ha)), for up to nine years, during construction of the Proposed Development. The eastern most fields of grassland habitat would be permanently lost (12.45 ha) in association with operational footprint of the CQLCP Abated Generation Station. The assessment concludes the habitat loss (12.45 ha) of modified grassland considered to be of Local importance would result in **no likely significant effects** (**minor adverse**, **not significant**)[16].

Changes in Air Quality/Alterations of local hydrology and water quality

11.6.49 Although all areas of modified grassland would be removed from the Main Development Area this habitat also exists in areas surrounding the Proposed Development. With embedded good practice measures in place in association with dust control and protection of the water environment as detailed within the **Framework CEMP** (**EN010166/APP/6.5**), there are anticipated to be **no likely significant effects** (**neutral**, **not significant**) on modified grassland from construction activities.

Other neutral grassland

Habitat Loss

11.6.50 There are discrete areas of other neutral grassland within the Main Development and C&IEA of Local importance, some of which would be permanently and temporarily lost during construction. As detailed in the **Outline LEMP** (**EN010166/APP/6.9**), where grassland habitats would be reinstated post construction the existing modified grassland habitats present would be replaced with other neutral grassland habitat resulting in a net increase of this habitat.

11.6.51 Therefore, taking into consideration all impacts on other neutral grassland as described above, it is considered that there would be **no adverse likely significant effects** (**minor adverse**[17], **not significant**) on the structure and function of other neutral grassland habitat from construction activities.

Changes in Air Quality/Alterations of local hydrology and water quality

11.6.52 Although all areas of other neutral grassland would be removed from the Main Development Area this habitat also exists in areas surrounding the Proposed Development. With embedded good practice measures in place in association with dust control and protection of the water environment within the **Framework CEMP** (**EN010166/APP/6.5**), there are anticipated to be **no likely significant effects** (**neutral**, **not significant**) on other neutral grassland from construction activities.

[16] Note: the effects associated with ornithological interest in association with these fields is assessed separately.
[17] Professional judgement applied where deviation from Methodology criteria in Appendix 11-A (**EN010166/APP.6.4**) Table 1

Other broadleaved woodland

Habitat Loss

11.6.53 At the Main Development Area, two areas of young plantation (other broadleaved) woodland (i.e. less than 30 years old) are located to the southern side of the Main Development Area either side of the access road to the existing Connah's Quay Power Station. A small area (0.83 ha) of this habitat would be permanently lost during the construction within the Main Development Area. All other areas of the other broadleaved woodland within the Order limits (4.17 ha) would be retained.

11.6.54 In addition woodland would be replanted post construction of the Proposed Development as detailed in the **Outline LEMP** (**EN010166/APP/6.9**).

11.6.55 This loss of a small area of the woodland valued at Local importance would result in **no likely significant effects** (**minor adverse**, **not significant**).

Changes in Air Quality/Alterations of local hydrology and water quality

11.6.56 Areas of other broadleaved woodland would be retained in and around the Main Development Area during construction. With embedded good practice measures in place in association with dust control and protection of the water environment within the **Framework CEMP** (**EN010166/APP/6.5**), there are anticipated to be **no significant effects** (**neutral**, **not significant**) on other broadleaved woodland from construction activities.

Scrub

Habitat Loss

11.6.57 There are discrete areas of scrub (both mixed and predominately bramble) within the Main Development Area of Local importance, some of which would be permanently and temporarily lost due to construction works. Some of this habitat which is temporarily impacted would be reinstated in accordance with the **Outline LEMP** (**EN010166/APP/6.9**). Those areas to be temporarily and permanently lost, are relatively small in extent in comparison to other habitats present across the Order limits to be impacted and beyond Order limits, reflecting a small loss of an abundant resource.

11.6.58 In addition to the areas directly impacted, there are two areas of scrub located adjacent to the woodland belt within the Main Development Area to the south which is to be retained and protected; and an area of scrub on the western boundary of the Main Development Area which would be retained and protected within the 30 m ecological safeguard zone as shown on **Figure 5-5: Vegetation Clearance Plan** (**EN010166/APP/6.3**).

11.6.59 Therefore, taking into consideration all impacts on scrub as described above, it is considered that there would be **no adverse significant effect** (**minor adverse**[18], **not significant**) on the structure and function of scrub habitat from construction activities.

[18] Professional judgement applied where deviation from Methodology criteria in **Appendix 11-A (EN010166/APP.6.4)** Table 1

Changes in Air Quality/Alterations of local hydrology and water quality

11.6.60 Areas of scrub would be retained in and around the Main Development Area during construction. With embedded good practice measures in place in association with dust control and protection of the water environment within the **Framework CEMP** (**EN010166/APP/6.5**), there are anticipated to be **no significant effects** (**neutral**, **not significant**) on scrub from construction activities.

Temporary grass and clover leys

Habitat Loss

11.6.61 An area of temporary grass and clover leys habitat would be temporarily lost (up to 9 months) for installation of a CO_2 pipeline (approximately and 1.35 ha) and for a construction compound (0.4 ha) within the Proposed CO_2 Connection Corridor. This habitat would be reinstated post construction and returned to its previous land use.

11.6.62 The loss of this temporary grass and clover leys which is valued at the Local level would result in **no significant adverse effect** (**minor adverse**[19], **not significant**), on this habitat from construction activities.

Changes in Air Quality/Alterations of local hydrology and water quality

11.6.63 Areas of temporary grass and clover leys would be retained in and around the Proposed CO_2 Connection Corridor during construction With embedded good practice measures in place in association with dust control and protection of the water environment within the **Framework CEMP** (**EN010166/APP/6.5**), there are anticipated to be **no significant effects** (**neutral**, **not significant**) on temporary grass and clover leys habitat from construction activities.

Hedgerow

Habitat Loss

11.6.64 The construction of the Proposed Development would result in the permanent loss of approximately 22 m of other native hedgerow (valued at Local importance) within the Main Development Area. This would result in **no significant adverse effect** (**minor adverse**, **not significant**).

11.6.65 There would be temporary loss (up to 9 months) of 32 m of hedgerow within the Proposed CO_2 Connection Corridor for pipeline works. This hedgerow habitat lost within the Proposed CO_2 Connection Corridor would be reinstated following construction works in this area resulting in **no significant adverse effect** (**neutral**, **not significant**) in the long term (i.e. post construction) once the habitat has re-established.

Changes in Air Quality/Alterations of local hydrology and water quality

11.6.66 Hedgerows would be retained in and round the Construction and Operation Area. With embedded good practice measures in place in association with dust control and protection of the water environment within the **Framework CEMP** (**EN010166/APP/6.5**), there are anticipated to be **no significant**

[19] Professional judgement applied where deviation from Methodology criteria in **Appendix 11-A** (**EN010166/APP.6.4**) Table 1

effects (**neutral**, **not significant**) on hedgerow habitat from construction activities.

Sparsely vegetated urban land ruderal/ephemeral

Habitat Loss

11.6.67 There is no sparsely vegetated urban land ruderal/ephemeral habitat located within the Order limits, therefore there would be no direct impacts on sparsely vegetated urban land ruderal/ephemeral habitat and therefore the Proposed Development would result in **no significant effects** (**neutral**, **not significant**).

Changes in Air Quality/Alterations of local hydrology and water quality

11.6.68 Sparsely vegetated urban land ruderal/ephemeral habitats are located adjacent to the Proposed Development south-west of the Main Development Area so could be impacted by construction dust. With embedded good practice measures in place in association with dust control within the **Framework CEMP** (**EN010166/APP/6.5**), there are anticipated to be **no significant effects** (**neutral**, **not significant**) on sparsely vegetated urban land ruderal/ephemeral habitat from construction activities.

Birds

11.6.69 During construction, the potential impacts on relevant ornithological features could include:

- habitat loss and fragmentation; and
- noise and visual disturbance.

11.6.70 The following impact pathways were assessed to have no likely significant effects on ornithological features:

- degradation of water quality and alteration of local hydrology – following the implementation of measures included in the **Framework CEMP** (**EN010166/APP/6.5**), **no significant effects** on water quality or ornithological features associated with wetland habitats are predicted;
- changes in air quality – changes to air quality would not have a direct effect on bird species but could potentially alter the composition and structure of habitat types on which bird species depend. As described in **Appendix 8-B: Air Quality Construction Phase – Dust Risk Assessment** (**EN010166/APP/6.4**) with embedded good practice measures in place in association with dust control and within the **Framework CEMP** (**EN010166/APP/6.5**) dusk risk for all construction impacts is considered low. Consequently, potential effects on habitats and their associated ornithological features through changes in air quality, are considered unlikely and **no significant effects** are predicted; and
- increases in light and spillage could also impact ornithological features. As noted in Section 11.5, a **Lighting Strategy** (**EN010166/APP/7.22**) has been prepared and is included as part of the application. This strategy provides guidance on construction lighting measures, and noting the standard construction working hours, it is anticipated there

would be very limited works for prolonged periods when lighting is required. The lighting would be shielded and directed on to the construction working area. The **Lighting Strategy** (**EN010166/APP/7.22**) therefore minimises the potential for lighting impacts to arise.

11.6.71 **Appendix 11-D: Ornithology Technical Appendix** (**EN010166/APP/6.4**) describes where bird species utilise the various parts of the Order limits and immediate surrounds. The pattern of use by different bird species is influenced by tide, prey availability, seasonality and other factors which are more difficult to quantify such as anthropogenic disturbance and predation.

11.6.72 The following subsections discuss the potential impacts in further detail. **Table 11-14** summarises the potential impacts and effects for relevant bird species during construction.

Habitat loss and fragmentation

11.6.73 Assessment of this impact pathway considers habitat that would be removed during construction to facilitate the construction of the Proposed Development as well as permanent loss within the footprint of the CQLCP Abated Generation Station. As identified in **Chapter 5: Construction Management and Programme** (**EN010166/APP/6.2.5**) and illustrated on **Figure 5-5: Vegetation Clearance Plan** (**EN010166/APP/6.3**), there would be permanent loss of 14 ha and a further 11 ha of temporary loss of modified grassland within the Main Development Area that has been demonstrated to be functionally linked[20] to the Dee Estuary SPA / Ramsar site (**Appendix 11-D: Ornithology Technical Appendix** (**EN010166/APP/6.4**)) and is, therefore, considered as an extension to the designation itself. In addition to this there would be loss of up to 0.06 ha of saltmarsh habitat from within the Dee Estuary SPA/Ramsar site associated with the construction and operation of the Surface Water Outfall.

11.6.74 When considering the availability of other foraging habitat within the Dee Estuary SPA/Ramsar site, the habitat loss represents a very small proportion (0.004%) of that available. This loss is considered in the context of the ornithological features scoped into the assessment (**Table 11-12**) within **Table 11-14**.

Noise and visual disturbance

11.6.75 Noise modelling has been undertaken to explore the predicted noise levels in areas surrounding the Order limits. In relation to ornithology, the main focus of this has been on the Main Development Area, Water Connection Corridor and the C&EIA. **Appendix 9-C: Construction Noise Effects and Assumptions** (**EN010166/APP/6.4**) provides details of the construction noise models, including a full list of plant associated with the construction activities and identified predicted construction noise levels at various receptors. Additional modelling based on the same assumptions has been prepared for ornithology, considering LA_{max} (maximum instantaneous sound level) as well as LA_{eq}. The results of this modelling are shown on (see Appendix D of the **Report to Inform Habitats Regulations Assessment**

[20] Supports over 1% of the designated sites population of a bird species: a peak count of 92 curlews (2.4% of the SPA / Ramsar site population) were recorded within the proposed laydown area on a single visit in December 2024.

(**EN010166/APP/6.12**)) which indicate predicted sound levels. Consideration has been given in **Table 11-12** for the potential for the predicted sound levels to result in a behavioural response by ornithological features (a sudden noise event of over 60dB or prolonged noise of over 72dB (Ref 11-32)).

Table 11-14: Summary of Potential Impacts and Effects During Construction

Feature	Value	Description of Potential Impacts and Effects	Duration	Potential Effects Significance (prior to Additional Mitigation)
The Dee Estuary SPA/Ramsar site qualifying species				
Bar-tailed godwit (non-breeding)	District	*Main Development Area* Noise disturbance and visual disturbance of birds resulting in their displacement from regularly used habitats (foraging on adjacent mudflats and temporary through the tide roosting on the adjacent saltmarsh).	Medium term	**Significant** (**moderate adverse**)
		Water Connection Corridor Noise and visual disturbance of birds resulting in their displacement from regularly used habitats (foraging on mudflats and temporary through the tide roosting on saltmarsh).	Medium term	**Significant** (**moderate adverse**)
		Surface water outfall into Old Rockcliffe Brook (Kelsterton Brook)	Medium term	**Significant** (**moderate adverse**)

Feature	Value	Description of Potential Impacts and Effects	Duration	Potential Effects Significance (prior to Additional Mitigation)
		Loss of temporary (through the tide) roosting on saltmarsh. Noise and visual disturbance of birds resulting in their displacement from regularly used habitats (temporary through the tide roosting on saltmarsh).		
Pintail (non-breeding)	District	*Main Development Area* Noise and visual disturbance of breeding birds resulting in displacement of birds from regularly used habitats (foraging on intertidal water and mudflats).	Medium term	**Significant** (**moderate adverse**)
		Water Connection Corridor Noise and visual disturbance of birds resulting in their displacement from regularly used habitats (foraging on intertidal water and mudflats).	Medium term	**Significant** (**moderate adverse**)

Feature	Value	Description of Potential Impacts and Effects	Duration	Potential Effects Significance (prior to Additional Mitigation)
Teal (non-breeding)	Local	*Main Development Area* Loss of roosting habitat (grassland with ephemeral pools). Noise and visual disturbance of birds resulting in their displacement from regularly used habitats (foraging on adjacent saltmarsh and mudflats).	Medium term	**Not Significant (minor adverse)**
		Water Connection Corridor Noise and visual disturbance of birds resulting in their displacement from regularly used habitats (foraging on mudflats and saltmarsh).	Medium term	**Not Significant (minor adverse)**
		Surface water outfall into Old Rockcliffe Brook (Kelsterton Brook) Loss of roosting and foraging saltmarsh habitat. Noise and visual disturbance of birds resulting in their	Medium term	**Not Significant (minor adverse)**

Feature	Value	Description of Potential Impacts and Effects	Duration	Potential Effects Significance (prior to Additional Mitigation)
		displacement from regularly used roosting and foraging saltmarsh habitat.		
Dunlin (non-breeding)	Local	*Main Development Area* Loss of roosting habitat (grassland with ephemeral pools). Noise and visual disturbance of birds resulting in their displacement from regularly used habitats (foraging on adjacent mudflats).	Medium term	**Not Significant** (**minor adverse**)
Knot (non-breeding)	Local	*Main Development Area* Noise and visual disturbance of birds resulting in their displacement from regularly used habitats (foraging on adjacent mudflats).	Medium term	**Not Significant** (**minor adverse**)
		Water Connection Corridor Noise and visual disturbance of birds resulting in their displacement from regularly	Medium term	**Not Significant** (**minor adverse**)

Feature	Value	Description of Potential Impacts and Effects	Duration	Potential Effects Significance (prior to Additional Mitigation)
		used habitats (foraging on mudflats).		
		Surface water outfall into Old Rockcliffe Brook (Kelsterton Brook) Loss of temporary (through the tide) roosting on saltmarsh. Noise and visual disturbance of birds resulting in their displacement from regularly used habitats (temporary through the tide roosting on saltmarsh).	Medium term	**Not Significant (minor adverse)**
Oystercatcher (non-breeding)	Local	*Main Development Area* Loss of roosting and foraging grassland habitat. Noise and visual disturbance of birds resulting in their displacement from regularly used roosting and foraging grassland habitat.	Medium term	**Not Significant (minor adverse)**
		Water Connection Corridor	Medium term	**Not Significant (minor adverse)**

Feature	Value	Description of Potential Impacts and Effects	Duration	Potential Effects Significance (prior to Additional Mitigation)
		Noise and visual disturbance of birds resulting in their displacement from regularly used habitats.		
		Surface water outfall into Old Rockcliffe Brook (Kelsterton Brook) Loss of foraging saltmarsh habitat. Noise and visual disturbance of birds resulting in their displacement from regularly used foraging saltmarsh habitat.	Medium term	**Not Significant** (**minor adverse**)
Black-tailed godwit (non-breeding)	Regional	*Main Development Area* Noise and visual disturbance of birds resulting in their displacement from regularly used habitats (foraging on adjacent mudflats and temporary through the tide roosting on the adjacent saltmarsh).	Medium term	**Significant** (**major adverse**)

Feature	Value	Description of Potential Impacts and Effects	Duration	Potential Effects Significance (prior to Additional Mitigation)
		Water Connection Corridor Noise and visual disturbance of birds resulting in their displacement from regularly used habitats (foraging on mudflats and temporary through the tide roosting on saltmarsh).	Medium term	**Significant (major adverse)**
		Surface water outfall into Old Rockcliffe Brook (Kelsterton Brook) Loss of temporary (through the tide) roosting on saltmarsh. Noise and visual disturbance of birds resulting in their displacement from regularly used habitats (temporary through the tide roosting on saltmarsh).	Medium term	**Significant (major adverse)**
Curlew (non-breeding)	District	*Main Development Area* Loss of roosting and foraging grassland habitat.	Medium term	**Significant (moderate adverse)**

Feature	Value	Description of Potential Impacts and Effects	Duration	Potential Effects Significance (prior to Additional Mitigation)
		Noise and visual disturbance of birds resulting in their displacement from regularly used habitats (foraging on adjacent mudflats and temporary through the tide roosting on the adjacent saltmarsh).		
		Water Connection Corridor Noise and visual disturbance of birds resulting in their displacement from regularly used habitats (foraging on mudflats and temporary through the tide roosting on saltmarsh).	Medium term	**Significant** (**moderate adverse**)
		Surface water outfall into Old Rockcliffe Brook (Kelsterton Brook) Loss of temporary (through the tide) roosting on saltmarsh. Noise and visual disturbance of birds resulting in their	Medium term	**Significant** (**moderate adverse**)

Feature	Value	Description of Potential Impacts and Effects	Duration	Potential Effects Significance (prior to Additional Mitigation)
		displacement from regularly used habitats (temporary through the tide roosting on saltmarsh).		
Grey plover (non-breeding)	District	*Main Development Area* Noise and visual disturbance of birds resulting in their displacement from regularly used adjacent mudflat foraging habitat.	Medium term	**Not Significant** (**minor adverse**)
Shelduck (non-breeding)	Local	*Main Development Area* Loss of roosting grassland habitat. Noise and visual disturbance of birds resulting in their displacement from regularly used habitats (foraging on adjacent saltmarsh and mudflats).	Medium term	**Not Significant** (**minor adverse**)
		Water Connection Corridor Noise and visual disturbance of birds resulting in their displacement from regularly	Medium term	**Not Significant** (**minor adverse**)

Feature	Value	Description of Potential Impacts and Effects	Duration	Potential Effects Significance (prior to Additional Mitigation)
		used saltmarsh foraging habitats.		
		Surface water outfall into Old Rockcliffe Brook (Kelsterton Brook) Loss of saltmarsh foraging habitats. Noise and visual disturbance of birds resulting in their displacement from regularly used saltmarsh foraging habitat.	Medium term	**Not Significant** (**minor adverse**)
Redshank (non-breeding)	District	*Main Development Area* Loss of roosting and foraging habitats (grassland with ephemeral pools). Noise and visual disturbance of birds resulting in their displacement from regularly used habitats (foraging on adjacent mudflats and temporary through the tide roosting on the adjacent saltmarsh).	Medium term	**Not Significant** (**minor adverse**)

Feature	Value	Description of Potential Impacts and Effects	Duration	Potential Effects Significance (prior to Additional Mitigation)
		Water Connection Corridor Noise and visual disturbance of birds resulting in their displacement from regularly used habitats (foraging on mudflats and temporary through the tide roosting on saltmarsh).	Medium term	**Not Significant (minor adverse)**
		Surface water outfall into Old Rockcliffe Brook (Kelsterton Brook) Loss of temporary (through the tide) roosting on saltmarsh. Noise and visual disturbance of birds resulting in their displacement from regularly used habitats (temporary through the tide roosting on saltmarsh).	Medium term	**Not Significant (minor adverse)**
Mersey Estuary SPA/Ramsar site qualifying species not already named above				
Golden plover (non-breeding)	District	*Main Development Area* Noise and visual disturbance of birds	Medium term	**Not Significant (minor adverse)**

Feature	Value	Description of Potential Impacts and Effects	Duration	Potential Effects Significance (prior to Additional Mitigation)
		resulting in their displacement from regularly used adjacent mudflat foraging habitat.		
Wigeon (non-breeding)	Local	*Main Development Area* Noise and visual disturbance of birds resulting in their displacement from regularly used habitats (foraging on adjacent saltmarsh and mudflats).	Medium term	**Not Significant** (**minor adverse**)
		Water Connection Corridor Noise and visual disturbance of birds resulting in their displacement from regularly used habitats (foraging on mudflats and saltmarsh).	Medium term	**Not Significant** (**minor adverse**)
		Surface water outfall into Old Rockcliffe Brook (Kelsterton Brook) Loss of roosting and foraging saltmarsh habitat. Noise and visual disturbance of birds	Medium term	**Not Significant** (**minor adverse**)

Feature	Value	Description of Potential Impacts and Effects	Duration	Potential Effects Significance (prior to Additional Mitigation)
		resulting in their displacement from regularly used roosting and foraging saltmarsh habitat.		
Great crested grebe (non-breeding)	Local	*Main Development Area* Noise and visual disturbance of breeding birds resulting in displacement of birds from regularly used habitats (foraging on adjacent intertidal water).	Medium term	**Not Significant** (**minor adverse**)
		Water Connection Corridor Noise and visual disturbance of breeding birds resulting in displacement of birds from regularly used habitats (foraging on adjacent intertidal water).	Medium term	**Not Significant** (**minor adverse**)
Lapwing (non-breeding)	Local	*Main Development Area* Loss of roosting and foraging grassland habitat. Noise and visual disturbance of birds resulting in their	Medium term	**Not Significant** (**minor adverse**)

Feature	Value	Description of Potential Impacts and Effects	Duration	Potential Effects Significance (prior to Additional Mitigation)
		displacement from regularly used adjacent saltmarsh and mudflat foraging habitats.		
		Water Connection Corridor Noise and visual disturbance of birds resulting in their displacement from regularly used saltmarsh and mudflat foraging habitats.	Medium term	**Not Significant (minor adverse)**
Ringed plover (non-breeding)	District	*Main Development Area* Noise and visual disturbance of birds resulting in their displacement from regularly used adjacent mudflat foraging habitat.	Medium term	**Not Significant (minor adverse)**
Dee Estuary SSSI species (additional to those listed under SPA/Ramsar site qualifying features)				
Cormorant (non-breeding)	Local	*Main Development Area* Noise and visual disturbance of birds resulting in their displacement from regularly used adjacent intertidal foraging habitats.	Medium term	**Not Significant (minor adverse)**

Feature	Value	Description of Potential Impacts and Effects	Duration	Potential Effects Significance (prior to Additional Mitigation)
		Water Connection Corridor Noise and visual disturbance of birds resulting in their displacement from regularly used roosting pier and intertidal foraging habitats.	Medium term	**Not Significant** (**minor adverse**)
Regularly occurring species and assemblages (**local or higher value only, excluding species that are reasons for designation of the above designated sites**)				
Avocet (breeding)	County	*Main Development Area* Noise and visual disturbance of birds resulting in their displacement from regularly used habitats (foraging on adjacent mudflats and temporary through the tide roosting on the adjacent saltmarsh).	Medium term	**Significant** (**moderate adverse**)
		Water Connection Corridor Noise and visual disturbance of birds resulting in their displacement from regularly used habitats (foraging on mudflats and temporary	Medium term	**Significant** (**moderate adverse**)

Feature	Value	Description of Potential Impacts and Effects	Duration	Potential Effects Significance (prior to Additional Mitigation)
		through the tide roosting on saltmarsh).		
		Surface water outfall into Old Rockcliffe Brook (Kelsterton Brook) Loss of temporary (through the tide) roosting on saltmarsh. Noise and visual disturbance of birds resulting in their displacement from regularly used habitats (temporary through the tide roosting on saltmarsh).	Medium term	**Significant (moderate adverse)**
Spotted redshank (non-breeding)	County	*Main Development Area* Noise and visual disturbance of birds resulting in their displacement from regularly used habitats (foraging on adjacent mudflats and temporary through the tide roosting on the adjacent saltmarsh).	Medium term	**Significant (moderate adverse)**
		Water Connection Corridor	Medium term	**Significant**

Feature	Value	Description of Potential Impacts and Effects	Duration	Potential Effects Significance (prior to Additional Mitigation)
		Noise and visual disturbance of birds resulting in their displacement from regularly used habitats (foraging on mudflats and temporary through the tide roosting on saltmarsh).		(**moderate adverse**)
		Surface water outfall into Old Rockcliffe Brook (Kelsterton Brook) Loss of temporary (through the tide) roosting on saltmarsh. Noise and visual disturbance of birds resulting in their displacement from regularly used habitats (temporary through the tide roosting on saltmarsh).	Medium term	**Significant** (**moderate adverse**)
Greenshank (non-breeding)	District	*Main Development Area* Noise and visual disturbance of birds resulting in their displacement from regularly used habitats (foraging on	Medium term	**Not Significant** (**minor adverse**)

Feature	Value	Description of Potential Impacts and Effects	Duration	Potential Effects Significance (prior to Additional Mitigation)
		adjacent mudflats and temporary through the tide roosting on the adjacent saltmarsh).		
		Water Connection Corridor Noise and visual disturbance of birds resulting in their displacement from regularly used habitats (foraging on mudflats and temporary through the tide roosting on saltmarsh).	Medium term	**Not Significant** (**minor adverse**)
		Surface water outfall into Old Rockcliffe Brook (Kelsterton Brook) Loss of temporary (through the tide) roosting on saltmarsh. Noise and visual disturbance of birds resulting in their displacement from regularly used habitats (temporary through the tide roosting on saltmarsh).	Medium term	**Not Significant** (**minor adverse**)

Feature	Value	Description of Potential Impacts and Effects	Duration	Potential Effects Significance (prior to Additional Mitigation)
Breeding bird assemblage	District	*Main Development Area* Loss of nesting, roosting and foraging habitats. Noise and visual disturbance of birds resulting in their displacement from regularly used habitats.	Medium term	**Not Significant (minor adverse)**
		CO_2 Connection Corridor Loss of nesting, roosting and foraging habitats. Noise and visual disturbance of birds resulting in their displacement from regularly used habitats.	Medium term	**Not Significant (minor adverse)**
		Surface water outfall into Old Rockcliffe Brook (Kelsterton Brook) Loss of roosting and foraging habitats. Noise and visual disturbance of birds resulting in their displacement from regularly used habitats.	Medium term	**Not Significant (minor adverse)**

Feature	Value	Description of Potential Impacts and Effects	Duration	Potential Effects Significance (prior to Additional Mitigation)
Non-breeding wetland bird assemblage	Regional	*Main Development Area* Loss of roosting and foraging habitats. Noise and visual disturbance of birds resulting in their displacement from regularly used habitats.	Medium term	**Significant** (**major adverse**)
		Water Connection Corridor Noise and visual disturbance of birds resulting in their displacement from regularly used habitats.	Medium term	**Significant** (**major adverse**)
		Surface water outfall into Old Rockcliffe Brook (Kelsterton Brook) Loss of roosting and foraging habitats. Noise and visual disturbance of birds resulting in their displacement from regularly used habitats.	Medium term	**Significant** (**major adverse**)

Badger

11.6.76 During construction, the potential impacts to badger include:

- foraging habitat loss and fragmentation;
- incidental mortality; and
- disturbance through noise, vibration and light.

Destruction, disturbance and fragmentation of foraging habitat

11.6.77 Habitats suitable for foraging badger were identified within and adjacent to the Order limits, including grassland, woodland, scrub, and ruderal habitats some of which would be removed to facilitate the construction works. The Proposed Development would result in the permanent loss of approximately 14 ha and temporary loss of approximately 10 ha of foraging habitat for badgers. However, given that badgers are widespread across Wales and suitable habitats in the vicinity of the Order limits would be retained with large areas of lost habitat to be reinstated post construction (i.e. the Proposed CO_2 Connection Corridor, C&IEA and construction laydown area in the west of the Main Development Area), any impacts on badgers are likely to not alter the conservation status of the species.

11.6.78 Overall, the potential impacts associated with the loss of foraging habitat would have on badgers has been assessed as **no significant adverse effects** (**minor adverse**[21], **not significant**).

Incidental mortality

11.6.79 The requirement for precautionary working methods to be developed in advance of the construction is outlined within the **Framework CEMP** (**EN010166/APP/6.5**). As described in Section 11.5, these precautionary working methods would aim to eliminate the risk of incidental mortality to badger during construction, therefore it is anticipated there would be **no significant adverse effects** (**neutral**, **not significant**).

Disturbance through noise, vibration and light

11.6.80 The requirement for precautionary working methods (such as noise controls, and restrictions to lighting) to be developed in advance of the construction is outlined within the **Framework CEMP** (**EN010166/APP/6.5**) and supported by the **Lighting Strategy** (**EN010166/APP/7.22**). As described in Section 11.5, the aim of the precautionary working methods would be to eliminate the risk of disturbance to badger during construction, therefore it is anticipated there would be **no significant adverse effects** (**neutral, not significant**).

Great crested newt

11.6.81 During construction, the potential impacts on great crested newt include:

- habitat loss and fragmentation; and
- incidental mortality.

[21] Professional judgement applied where deviation from Methodology criteria in **Appendix 11-A (EN010166/APP.6.4**) Table 1

Habitat Loss and Fragmentation

11.6.82 No waterbodies suitable for supporting breeding great crested newt or confirmed as supporting breeding great crested newt would be lost as a result of the construction of the Proposed Development.

11.6.83 Within the Proposed CO_2 Connection Corridor, the Proposed Development would result in temporary terrestrial habitat loss within 250 m of a pond where great crested newts are known to be present (P2, as shown on Figure 11E-3 of **Appendix 11-E: Great Crested Newt Technical Appendix** (**EN010166/APP/6.4**)).

11.6.84 Population surveys carried out in May and June 2025 recorded a small population present in (P1 & P2) They found great crested newt to be absent from all other surveyed waterbodies within the ZoI of the Proposed Development. Refer to **Appendix 11-E: Great Crested Newt Technical Appendix** (**EN010166/APP/6.4**).

11.6.85 Arable, modified grassland and hedgerow habitats would be temporarily lost to the great crested newt metapopulation present in P1 and P2 (as shown on Figure 11E-3 of **Appendix 11-E: Great Crested Newt Technical Appendix** (**EN010166/APP/6.4**)). The arable and modified grassland habitats (close grazed pasture) are considered of lower value to great crested newt than the habitats closer to these ponds (a network of woodland, hedgerows and grazed pasture). The hedgerow habitat to be lost, although suitable for great crested newt, is a relatively small proportion in comparison to the available hedgerows within 250 m of the ponds which are to be retained. Additionally, P1 and P2 (as shown on Figure 11E-3 of **Appendix 11-E: Great Crested Newt Technical Appendix** (**EN010166/APP/6.4**)) are separated from the Proposed CO_2 Connection Corridor by Allt-Goch Lane acting as a potential partial barrier to great crested newt movement. Therefore, it is considered unlikely that the great crested newts present in these ponds would transverse away from more optimal habitat closer to P1 and P2 (as shown on Figure 11E-3 of **Appendix 11-E: Great Crested Newt Technical Appendix** (**EN010166/APP/6.4**)) and migrate into the less suitable habitats lost to the Proposed Development.

11.6.86 There would be no loss of waterbodies as a result of the Proposed Development and only a relatively small proportion of optimal terrestrial habitat suitable for great crested newts is to be lost in comparison to that retained, in addition construction of the Proposed Development would not result in significant impacts on the Deeside and Buckley Newt Site SAC. Therefore, it is considered these impacts are not likely to impact the favourable conservation status of great crested newt.

11.6.87 Overall, the effects associated with the loss of terrestrial habitat would have on great crested newt has been assessed as **no significant adverse effects** (**minor adverse**[22], **not significant**).

Incidental Mortality

11.6.88 The requirement for precautionary working methods to be developed in advance of the construction is outlined within the **Framework CEMP**

[22] Professional judgement applied where deviation from Methodology criteria in **Appendix 11-A** (**EN010166/APP.6.4**) Table 1

(**EN010166/APP/6.5**). As described in Section 11.5, the aim of the precautionary working method would be to eliminate the risk of incidental mortality to great crested newt during construction, therefore it is anticipated there would be **no significant adverse effects** (**neutral**, **not significant**).

Bats

11.6.89 During construction, the potential impacts on bats include:

- loss of roosts and habitat fragmentation;
- incidental mortality; and
- disturbance through noise, vibration and light.

Habitat loss and fragmentation/Incidental Mortality

Bat Roosts:

11.6.90 All structures within the Main Development Area (Buildings 1a – 22, as shown on Figure 11G-3 of **Appendix 11-G: Bat Technical Appendix** (**EN010166/APP/6.4**)) were categorised as being Negligible suitability for roosting bats.

11.6.91 Two trees within the Main Development Area (Tree A and B, as shown on Figure 11G-1 of **Appendix 11-G: Bat Technical Appendix** (**EN010166/APP/6.4**) were identified as potentially suitable for roosting bats, however given the current design it is not expected that these trees would be directly impacted (See **Figure 5-5: Vegetation Clearance Plan** (**EN010166/APP/6.3**)). A 30m buffer would be implemented around these trees during construction as detailed in the **Framework CEMP** (**EN010166/APP/6.5**), if works are anticipated to impact these trees then further surveys would be carried out to determine presence/likely absence of roosting bats and a licence sought from NRW, where applicable, prior to carrying out the works.

11.6.92 All trees within the Proposed CO_2 Connection Corridor that have the potential to support bat roosts would be retained and a 30 m buffer would be implemented during construction as detailed in the **Framework CEMP** (**EN010166/APP/6.5**).

11.6.93 Therefore, the Proposed Development's effects on roosting bats has been assessed to be **no significant adverse effects** (**neutral**, **not significant**).

Bats: Foraging and Commuting:

11.6.94 The Main Development Area and C&IEA have limited habitats that offer opportunities for feeding and commuting bats and was assessed as having negligible suitability for foraging and commuting bats.

11.6.95 The Proposed CO_2 Connection Corridor was assessed as having Moderate suitability to support foraging and commuting bats given hedgerow and tree line connectivity to the wider landscape and surrounding farm buildings which may have potential to support roosting bats.

11.6.96 The NBW surveys determined that the hedgerows and trees throughout the Proposed CO_2 Connection Corridor are important habitat for foraging and commuting bats.

11.6.97 This network of hedgerows and trees would be retained by the Proposed Development and so no loss of habitat would occur for foraging and commuting bats as a result of the Proposed Development.

11.6.98 Therefore, the effect associated with the construction of the Proposed Development on foraging and commuting bats has been assessed as **no significant adverse effects** (**neutral**, **not significant**).

11.6.99 There would be no significant effects on bats through habitat loss and so the Proposed Development would not impact the Favourable Conservation Status of bats in the local area.

Disturbance through noise, vibration and light

11.6.100 The requirement for precautionary working methods (such as noise controls, and restrictions to lighting) to be developed in advance of the construction is outlined within the **Framework CEMP** (**EN010166/APP/6.5**) and supported by the **Lighting Strategy** (**EN010166/APP/7.22**). As described in Section 11.5, the aim of the precautionary working methods would be to eliminate the risk of disturbance to bats during construction, therefore it is anticipated there would be **no significant adverse effects** (**neutral**, **not significant**).

Otter

11.6.101 The construction of the Proposed Development has the potential to impact otter through:

- habitat loss and fragmentation;
- incidental mortality; and
- disturbance from noise, vibration and lighting.

Habitat Loss and Fragmentation

11.6.102 The River Dee provides suitable foraging and commuting habitat for otter, although the tidal character limits opportunities for shelter or breeding. Otter are known to be present within this watercourse through incidental sightings.

11.6.103 No evidence of otter was found within habitats within Order limits so it is considered unlikely otter are using habitats present for shelter or resting but could be using the watercourses and nearby landscape for commuting and foraging.

11.6.104 The habitats that would be lost as part of the Proposed Development (grassland, scrub, arable habitats and urban habitats) are widespread throughout the local area and considered lower value to otter. The higher value habitats for foraging and commuting otter such as watercourses and waterbodies would be retained.

11.6.105 Therefore, the effect of the construction of the Proposed Development on otter through habitat loss has been assessed as **no significant adverse effects** (**neutral**, **not significant**).

Incidental Mortality

11.6.106 The requirement for precautionary working methods to be developed in advance of the construction is outlined within the **Framework CEMP**

(**EN010166/APP/6.5**). As described in Section 11.5, the aim of the precautionary methods of work would be to eliminate the risk of incidental mortality and disturbance to otter during construction, therefore it is anticipated there would be **no significant adverse effects** (**neutral**, **not significant**).

Disturbance through noise, vibration and light

11.6.107 The requirement for precautionary working methods (such as noise controls, and restrictions to lighting) to be developed in advance of the construction is outlined within the **Framework CEMP** (**EN010166/APP/6.5**) and supported by the **Lighting Strategy** (**EN010166/APP/7.22**). As described in Section 11.5, the aim of the precautionary working methods would be to eliminate the risk of disturbance to otter during construction, therefore it is anticipated there would be **no significant adverse effects** (**neutral**, **not significant**).

Reptiles

11.6.108 The construction of the Proposed Development has the potential to impact reptiles through:

- habitat loss and fragmentation; and
- incidental mortality.

Habitat loss and fragmentation

C&IEA

11.6.109 Approximately 11.9 ha of habitat suitable to support a population of common lizard (open mosaic, grassland and bracken) would be lost within the C&IEA (which has been assessed as Local importance) for the length of the construction period (nine years).

11.6.110 These habitats connect to the railway line that borders the southern side of the C&IEA which may allow some common lizard to commute away from the works to other areas of suitable habitat and recolonise following reinstatement of the habitats within the C&IEA. In addition, the ecological safeguard zones would retain a small amount of suitable habitat within the C&IEA. However, this loss represents most of the suitable reptile habitat available to this population. At current estimates of the population size from survey work conducted to date displacement of individuals to the ecological safeguard zone prior to construction is considered sufficient to retain this population during the construction period to allow recolonisation of the C&IEA post construction.

11.6.111 However, during engagement with FCC they advised that other schemes that had conducted reptile mitigation exercises along the railway line adjacent to the Proposed Development had found reptile populations present that were much larger than suggested by survey work carried out to date and that the population present in the C&IEA may be larger than the surveys carried out to date have indicated. Surveys have commenced in May 2025 and are ongoing at time of writing to update the survey work carried out to date and confirm the population size present. The assessment carried out in this ES has been undertaken on a precautionary basis and based on the survey information to date (that there is a small population of common lizard

present in the C&IEA) presented in **Appendix 11-F: Reptile Desk Study** (**EN010166/APP/6.4**). If this population is larger than previous surveys indicated then offsite mitigation would be required so this population can be translocated otherwise the Proposed Development would likely result in the loss of the population present within the C&IEA. This would result in **no significant effects** (**minor adverse**, **not significant**).

Main Development Area

11.6.112 Incidental sightings during ecology surveys have confirmed a population of grass snake within the Main Development Area (which has been assessed as Local importance). Approximately 24 ha of suitable reptile habitat (grassland and scrub) would be lost to this population for the length of construction period (nine years). Some of this habitat would be permanently lost to the CQLCP Abated Generation Station but the remainder would be reinstated post construction. There are habitats available outside the Proposed Development that this population can use during construction and then return to recolonise the habitats impacted post construction when re-established and the habitats lost represent a small proportion of the suitable habitat available to this population of grass snake. This temporary habitat loss would result in **no significant effects** (**minor adverse**, **not significant**).

11.6.113 It is considered that the controls put in place to prevent incidental mortality detailed in paragraph 11.6.113 and Section 11.5 are sufficient within the Main Development Area and no further mitigation is required.

Incidental mortality

11.6.114 The requirement for precautionary working methods to be developed in advance of the construction is outlined within the **Framework CEMP** (**EN010166/APP/6.5**). As described in Section 11.5, the aim of the precautionary working method would be to eliminate the risk of incidental mortality to common species of reptile during construction, therefore it is anticipated there would be **no significant adverse effects** (**neutral**, **not significant**).

Terrestrial Invertebrates

11.6.115 The construction of the Proposed Development has the potential to impact terrestrial invertebrates through habitat loss.

Habitat loss

11.6.116 Three distinct assemblages of terrestrial invertebrates were identified according to habitat within the ZoI of the Proposed Development:

- an invertebrate assemblage associated with the grassland and scrub mosaic located within the Main Development Area which was valued at District importance;
- an invertebrate assemblage associated with the saltmarsh habitats which was valued at County importance; and
- an invertebrate assemblage associated with the open mosaic habitats within the C&IEA valued at County importance.

11.6.117 Approximately 2.87 ha of grassland and 0.29 ha of scrub habitat would be temporarily removed (9 years). 0.73 ha of grassland and 0.1 ha of scrub habitat would be lost permanently to the invertebrate assemblage occupying the grassland and scrub habitats within the Main Development Area. This would result in a **significant effect** at a District level (**moderate adverse**, **significant**) in the short term (i.e. during construction). However the areas of temporary loss would be reinstated following construction of the Proposed Development, in accordance with an **Outline LEMP** (**EN010166/APP/6.9**), resulting in **no significant adverse effect** (**neutral**, **not significant**) in the medium to long term (i.e. 1 to 2 years post construction) as the area would be left to recolonise and re-establish.

11.6.118 There would be a small amount of temporary habitat loss in relation to works to the Surface Water Outfall Area (3 month duration) that would temporarily remove a small area of saltmarsh habitat which would be reinstated post construction. Additionally, a small amount of saltmarsh habitat would be permanently lost where a new headwall would be installed for the proposed surface water outfall. These areas of lost habitat represent a very small amount (<5 m^2) of the saltmarsh habitat available to the invertebrate assemblage present. Therefore, it is considered there would be **no significant adverse effect** (**neutral**, **not significant**) on this assemblage of County importance.

11.6.119 Approximately 6.12 ha of open mosaic habitat would be lost for the duration of construction (up to 9 years) to the invertebrate assemblage present resulting in **a significant effect** at a County level (**moderate adverse**, **significant**) in the short term (i.e. during construction). This 6.12 ha of habitat would be reinstated following construction of the Proposed Development, with an additional 4.02 ha of open mosaic habitat created in accordance with an **Outline LEMP** (**EN010166/APP/6.9**), resulting in **no significant adverse effect** (**neutral**, **not significant**) in the medium to long term (i.e. 1 to 2 years post construction) as the area would be left to recolonise and re-establish.

Aquatic Ecology Habitat

11.6.120 Allt-Goch Brook (WC1 on Figure 11-E1 of **Appendix 11-E: Great Crested Newt Technical Appendix (EN010166/APP/6.4**) and Lead Brook (Lead Brook on Figure 11-E1 of **Appendix 11-E: Great Crested Newt Technical Appendix** (**EN010166/APP/6.4**)) traverse the Repurposed CO_2 Connection Corridor, with Allt-Goch Brook sitting adjacent to the Proposed CO_2 Connection Corridor. Oakenholt Brook (WC3 on Figure 11-E1 of **Appendix 11-E: Great Crested Newt Technical Appendix** (**EN010166/APP/6.4**)) is culverted under the Main Development Area and these could offer suitable habitat to aquatic invertebrates, fish and aquatic macrophytes, as do, ponds to the west and north of the Main Development Area (P19, P20, P21 and P28 on Figure 11-E1 of **Appendix 11-E:Great Crested Newt Technical Appendix** (**EN010166/APP/6.4**)).

11.6.121 No freshwater aquatic macrophyte species and only saline macroinvertebrate species were found in the lagoon/pond area (P28) to the north of the Main Development Area that is situated above the Mean High Tide line. The ponds to the west have fairly high conservation value due to the species present. But as these ponds to the west are outside the area of

influence from the Order limits they have been scoped out of further assessment as the works would not affect them. With embedded good practice measures in place in association with dust control and protection of the water environment within the **Framework CEMP** (**EN010166/APP/6.5**), there are anticipated to be **no significant adverse effects** (**neutral**, **not significant**) on ponds from construction activities.

Aquatic Macroinvertebrates

11.6.122 Potential impacts on aquatic macroinvertebrates of Local importance are dependent on runoff from construction activities and subsequent water quality.

11.6.123 Aquatic macroinvertebrates were found to be of a Moderate WFD classification within Allt-Goch Brook with a moderate conservation value due to the diverse species assemblage of true fly (**Appendix 11L: Aquatic Ecology Technical Appendix** (**EN010166/APP/6.4**)). The boundary of works for the Proposed CO_2 Connection Corridor is the closest point of works to any watercourse within the vicinity of the Order limits. During construction it is likely that there would be short temporary impacts from runoff, which has the potential to influence water quality and suspended sediments in the watercourse. However, appropriate mitigation measures are outlined and secured in the **Framework CEMP** (**EN010166/APP/6.5**). This includes:

- the provision of retention areas which would allow sediment to settle out of the runoff before the water is released into the watercourse;
- measures to control the storage, handling and disposal of potentially polluting substances during construction;
- measures relating to the control of spillages and leaks; and
- where possible, earthworks would be conducted during the drier months of the year. When conducting earth moving works, periods of wet weather would be avoided, if possible. If working during wet weather is unavoidable, mitigation measures would be implemented to control fine sediment laden runoff to prevent runoff contaminated fine particulates from entering surface water without treatment.

11.6.124 For all other waterbodies, including Lead Brook, Oakenholt Brook and Kelsterton Brook (WC5) the main concern is a change of water quality due to increase of dust in the area by movement of construction traffic. This is mitigated in the **Framework CEMP** (**EN010166/APP/6.5**) with the potential for the introduction of wheel washing at access/egress locations of the Main Development Area to reduce likelihood of spoils on the road, with any spoils found immediately cleaned up and stand-off distances in place away from watercourses.

11.6.125 Due to the temporary nature of water quality changes due to runoff and reduced impact of dust and spoils entering the watercourse, the potential impact of changes in water quality on aquatic macroinvertebrate assemblages is assessed to be small in scale and temporary in nature and therefore it is anticipated there would be **no significant adverse effects** (**minor adverse, not significant**).

Freshwater Fish

11.6.126 During construction the potential impacts experienced by relevant freshwater fish features could include:

- changes in water quality;
- light; and
- incidental mortality.

Water quality

11.6.127 As previously stated during construction of the Proposed CO_2 Connection Corridor, applying a precautionary approach, it has been assumed at this stage that construction would result in some temporary impacts to a small stretch of Allt-Goch Brook (assumed up to 100 m) namely runoff from proposed construction works.

11.6.128 In all other areas, including Lead Brook, there would be retention and appropriate stand-offs from all waterbodies secured through the **Framework CEMP** (**EN010166/APP/6.5**). Assessment of the River Dee in relation to changes and construction of the Water Connection Corridor is covered in the **Chapter 12: Marine Ecology** (**EN010166/APP/6.2.12**).

11.6.129 European eel were identified within Allt-Goch Brook (WC1) which is likely to have the greatest effect from water quality changes due to the potential run off from the construction of the Proposed CO_2 Connection Corridor. European eel is of National value as it is a protected species under the Section 7 of Environment (Wales) Act 2016. However, the precautionary working methods for construction as outlined in the **Framework CEMP** (**EN010166/APP/6.5**) would eliminate the risk of impact from water quality. Therefore, it is anticipated that there would be **no significant adverse effects** (**minor adverse**[23], **not significant**).

Light

11.6.130 There are many ponds and waterbodies near to or the Order limits where artificial light may be used particularly during winter months. Light is known to affect species movement particularly European eel (Ref 11-32) which are known to be present within Allt-Goch Brook (WC1 on Figure 11-E1 of **Appendix 11-E: Great Crested Newt Technical Appendix** (**EN010166/APP/6.4**) and the River Dee (see **Chapter 12: Marine Ecology** (**EN010166/APP/6.2.12**)).

11.6.131 The **Framework CEMP** (**EN010166/APP/6.5**) and **Lighting Strategy** (**EN010166/APP/7.22**) identifies that lights would be placed so that they do not cause disturbance to ecological receptors.

11.6.132 Due to the presence of European eel where lights are near waterbodies during construction periods, this would result in a **significant effect** at a County level (**moderate adverse**, **significant**) in the short term (i.e. during construction).

[23] Professional judgement applied where deviates from Methodology criteria in **Appendix 11-A (EN010166/APP.6.4)** Table 1

Incidental Mortality

11.6.133 Oakenholt Brook (WC3 on Figure 11-E1 of **Appendix 11-E: Great Crested Newt technical Appendix** (**EN010166/APP/6.4**) is culverted directly underneath the Main Development Area. It has been proposed that a new culvert is installed to traverse the edge of the north of the operational footprint of the CQLCP Abated Generating Station (see Annex G of **Appendix 13-D: Outline Survey Water Drainage Strategy** (**EN010166/APP/6.4**)). As the watercourse is already culverted the new culvert would not degrade the habitat any further. However, on joining of the two culverts, a gentle closure is advised so that water slowly diverts into the new channel and as per the **Framework CEMP** (**EN010166/APP/6.5**) an ECoW should be present when this happens. If any section is to be dewatered then a fish rescue would be required prior to the works taking place. and lighting is focused away from the open section of the watercourse south of the Main Development Area.

11.6.134 The requirement for precautionary working methods to be developed in advance of the construction is outlined within the **Framework CEMP** (**EN010166/APP/6.5**). The aim of the precautionary working methods would be to eliminate the risk of incidental mortality to fish, particularly eels, during construction. Therefore, it is anticipated that during construction there would be **no significant adverse effects** (**neutral**, **not significant**).

Aquatic Macrophytes

11.6.135 The impact of damage to aquatic macrophytes, which are of Local importance, is considered to be dependent on the amount of runoff from construction and subsequent water quality and sedimentation. Incidental mortality and lighting effects are not considered for assessment for aquatic macrophytes due to no likelihood of any effect occurring.

11.6.136 As previously stated, the boundary of works for the Proposed CO_2 Connection Corridor is the closest point of works to any watercourse within the vicinity of the Order limits. During construction works it is likely that there would be short temporary impacts from runoff which may alter the water quality and sedimentation of the watercourse on Allt-Goch Brook (WC1). Much of the area along the watercourse is shaded due to woodland on both banks, this has meant there is very little aquatic macrophyte growth within the channel itself with only one species having been identified. Therefore, with retention/stand-off areas, alongside wheel-washing and immediate spoil cleanup as stated in the **Framework CEMP** (**EN010166/APP/6.5**), it is anticipated that the during construction there would be **no significant adverse effects** (**neutral**, **No Effect**).

Operation Phase

11.6.137 Impacts on Terrestrial and Aquatic Ecology features during operation of the Proposed Development are likely to arise as a result of:

- loss of habitat within designated sites;
- changes in water quality, which could result in damage to habitats within designated sites;

- changes in air quality, which could result in damage to protected habitats; and
- the presence of the operation CQLCP Abated Generating Station, which could result in noise and visual disturbance.

11.6.138 At this stage of the EIA process, no other impacts are anticipated on the following Terrestrial and Aquatic Ecology features during operation of the Proposed Development:

- Great crested newt;
- Reptiles;
- Terrestrial invertebrates; and
- Aquatic Ecology.

Designated Sites

11.6.139 This section focusses on the plants and habitats of designated sites scoped into the assessment. The assessment on other qualifying features is addressed, as relevant, within the discussion by species group.

11.6.140 During operation, the potential impacts experienced by designated sites include:

- loss of habitat;
- changes in air quality; and
- alteration of local hydrology and water quality.

Dee Estuary/Aber Dyfrdwy SAC, SPA, Ramsar, SSSI; and River Dee and Bala Lake/Afon Dyfrdwy a Llyn Tegid SAC, SSSI

11.6.141 The Proposed Surface Water Outfall would not result in an increase in saltmarsh erosion due to the discharge.

11.6.142 An operational air quality assessment has been undertaken (**Appendix 8-D: Air Quality Operational Assessment** (**EN010166/APP/6.4**)). Two potential Front-End Engineering Design (FEED) scenarios have been modelled; FEED1 and FEED2. With regard to ammonia and acid deposition, the unabated scenario is no worse than the FEED scenarios when the data are reported to two decimal places. For annual NOx the unabated scenario is worse than either FEED scenario. For nitrogen deposition the unabated scenario is generally worst-case, although for some sites (notably Dee Estuary SAC/SPA/Ramsar) FEED1 is the worst-case scenario. The difference between the scenarios is always small. The data for the worst-case scenario at each receptor are used in this chapter.

11.6.143 The tables relevant to ecological receptors are Tables 32 to 51 of **Appendix 8-D: Air Quality Operational Assessment** (**EN010166/APP/6.4**), with the cumulative results presented in Tables D-4 to D-15. They are not reproduced in this chapter. The **Report to Inform Habitats Regulations Assessment** (**EN010166/APP/6.12**) provides a detailed analysis of the air quality data as

they relate to Habitats Sites. Therefore, only a summary is provided in this chapter.

11.6.144 With regard to Dee Estuary SAC/SPA/Ramsar site, neither short-term or long-term total NOx exceed the critical level and therefore no significant effect would arise. Similarly, at no point would total ammonia concentrations exceed the critical level of 3 μgm^{-3} and therefore no significant effect would arise. In combination nitrogen deposition at the closest point would be 2.5% of the critical load for saltmarsh, for which the Proposed Development would be responsible for a maximum of 1.5% of the critical load. Isopleth mapping shows that a total of 445 ha of saltmarsh would be subject to 'in-combination' nitrogen deposition above 1% of the critical load (with approximately 245ha being subject to nitrogen deposition above 1% of the critical load due to the project alone). While this is a large area of saltmarsh (approximately 10% to 17% of the 2,566.3ha of saltmarsh in the Dee Estuary / Aber Dyfrdwy SAC / SPA / Ramsar site) the nitrogen impact is relatively small (a maximum 0.24 kgN/ha/yr, with most saltmarsh being subjected to smaller quantities) particularly given that as a precaution the lower critical load for saltmarsh (that applicable to upper saltmarsh) has been applied to the entire affected area. Areas of lower (pioneer) saltmarsh would be affected to a smaller extent.

11.6.145 To address its contribution to the impact, the Proposed Development commits to extending the duration of positive management of the saltmarsh and other habitats within the approximately 26 ha Connah's Quay Conservation Areas for the lifetime of the Proposed Development, or in perpetuity (80 years) whichever is the shorter. (most notably in Compartment 2 and 3 where saltmarsh is concentrated). The Proposed Development would also include managed retreat of part of the existing embankment between the existing Connahs Quay Power Station and Dee Estuary/ Aber Dyfrdwy SAC / SPA / Ramsar site to create an approximately 0.12 ha area of retreat to allow natural migration inland of SAC saltmarsh that would otherwise be reduced in extent (and ultimately entirely lost) due to coastal squeeze.

11.6.146 Collectively this would ensure no net loss of the amount of saltmarsh in the Habitats site, ensure positive management of 26 ha of the SAC that would otherwise cease to be managed at all, due to the lapse of the management agreement on decommissioning of the existing power station, and significantly delay the effects of coastal squeeze that would otherwise arise. It is considered that the positive effects of these measures would also offset the relatively subtle ecological effect of the small (up to 1.5% of the critical load) forecast operational nitrogen deposition on the Dee Estuary/ Aber Dyfrdwy SAC / SPA / Ramsar.

11.6.147 This would support a conclusion of **no likely significant** (**not significant**) air quality effect on Dee Estuary SAC/SPA/Ramsar site.

Other International and National Nature Conservation Designations

11.6.148 Potential impacts from changes in air quality on the qualifying features of any of the other Habitats Sites within the 15 km study area would be fully assessed through the HRA process.

11.6.149 Likely significant effects can be ruled out for all other Habitats Sites except Deeside & Buckley Newts SAC/Connah's Quay Ponds & Woodlands SSSI, either because the interest features are not sensitive, at no point does the 'in combination' process contribution exceed 1% of the critical load/level, and/or at no point do total concentrations (the predicted environmental concentration) exceed the critical load or level.

11.6.150 With regard to Deeside & Buckley Newts Sites SAC/Connah's Quay Ponds & Woodland SSSI, in-combination nitrogen deposition at the closest part of Deeside and Buckley Newt Sites SAC (receptor OE11) would be 2.1 % of the critical load for oak woodland while the in-combination ammonia impact would be 1.1 % of the critical level. The majority of this impact is attributable to the Proposed Development. These are relatively small forecast impacts (given the threshold for defining impacts as imperceptible is 1 % of the critical level/load), although it does affect a relatively large amount of the SAC (approximately 65 ha or 31% of the SAC). Any actual ecological effects would apply to the oak woodland (which is not a primary reason for SAC designation) rather than the great-crested newt population.

11.6.151 It is considered that the most appropriate way to address this effect on the SAC oak woodland and underline a conclusion of no adverse effect on integrity would be for the Applicant to make a financial contribution to the site managers of the affected part of Deeside and Buckley Newt Sites SAC to address any small increase in woodland management burden that may arise due to operation of the Proposed Development. The impact of a small increase in nitrogen deposition and ammonia concentrations may never be detected in practice but may result in a slight increase in growth of more competitive groundflora species, requiring slightly more frequent woodland management. The impact of the Proposed Development (maximum of 0.21 kgN/ha/yr) equates to a maximum 0.6% increase on the 30.6 kgN/ha/yr background nitrogen deposition. This can therefore be precautionarily argued to potentially increase the woodland management burden to the same extent. In the absence of a contribution to the woodland management costs this is considered to be a **moderate adverse** (**significant**) effect on Deeside & Buckley Newts SAC/Connah's Quay Ponds & Woodland SSSI.

11.6.152 Note that SSSIs that are also Habitats Sites are not discussed separately in this section. This is because there are no affected Habitats Sites that have SSSI interest features which differ from those for which the Habitats Site is designated. The rest of this section therefore considers SSSIs that are not also Habitats sites.

11.6.153 At no point are total long-term or short-term NOx concentrations (known as the Predicted Environmental Concentration) forecast to exceed the critical level for this pollutant. Therefore, no likely significant effect would arise. Moreover, for short-term (24hr) NOx the new plant would in the long-term represent an overall improvement in NOx compared to the existing Connah's Quay Power Station. With regard to ammonia, the modelled contribution of the Proposed Development is too small to be visible when reported to two decimal places, with the exception of Shotton Lagoons and Reedbeds SSSI and Inner Marsh Farm SSSI. Air quality modelling data are never reported to more than two decimal places to avoid false precision. Therefore, the ammonia contribution of the proposed development is effectively zero except at these two SSSIs.

11.6.154 However, even for these SSSI the Process Contribution does not exceed 1% of the critical level. Moreover, APIS identifies that no features of Inner Marsh Farm SSSI are sensitive to air quality impacts, and the only designated features of Shotton Lagoons and Reedbeds SSSI sensitive to air quality impacts are the nesting terns. These nest on artificial rafts in the lagoon, rather than on vegetated substrates, which would therefore not be affected by ammonia. With regard to nitrogen deposition, no SSSIs that are not also Habitats Sites have a Process Contribution (i.e. that of the Proposed Development) exceeding the imperceptible threshold of 1% of the critical load. However, cumulative nitrogen deposition to OE1 Heswall Dales, Transect OE2 Dee Estuary, and OE10 River Dee SSSI, do exceed 1% of the critical load cumulatively.

11.6.155 Regarding Heswall Dales SSSI, approximately half the SSSI would be subject to this impact. However, the cumulative nitrogen impact is small (though not mathematically imperceptible) being only 1.4% of the critical load (0.07 kgN/ha/yr). It is therefore only just over threshold for dismissal on mathematical grounds, and the contribution of the Proposed Development alone is below that threshold (being 0.8% of the critical load).

11.6.156 Regarding River Dee SSSI, downstream of Chester along the canalised section of the river towards the estuary saltmarsh transition habitats have developed and it is these which would be affected by cumulative nitrogen deposition. However, the cumulative impact is very small being only 1.3% of the critical load (0.13 kgN/ha/yr); only slightly over the threshold for dismissal on purely mathematical grounds; the contribution of the Proposed Development alone is below this threshold being 0.7% of the critical load. For both SSSIs, the forecast impact is therefore relatively small (equivalent to less than 5% of the critical load).

11.6.157 The botanical effect of additional nitrogen on both heathland and saltmarsh would most likely take the form of a shift in species richness away from less nitrogen tolerant species and towards more common nitrogen tolerant species, and an increase in percentage grass cover. However, the botanical effect of additional nitrogen is dependent on a range of factors including existing exposure. For example, Caporn, et al., 2016 (Ref 11-54) examined the effect of different incremental additions of nitrogen deposition on parameters such as species richness. While saltmarsh was not included in the study, heathland was included.

11.6.158 The study noted that for some parameters such as species richness the botanical impact of further nitrogen reduced relative to the background nitrogen deposition rates, possibly because nitrogen was already present in excess at higher deposition rates. This is contextually relevant as background nitrogen deposition rates for both SSSIs are well above the critical load. For Heswell Dates deposition rates are 15 kgN/ha/yr and thus well above the 5 kgN/ha/yr critical load for heathland (the most sensitive designated habitat). For River Dee SSSI background nitrogen deposition rates are 16.2 kgN/ha/yr, compared to a critical load for saltmarsh of 10 kgN/ha/yr. Therefore, the cumulative impact would equate to a 0.4% and 0.8% increase in deposition respectively, compared to existing deposition rates. For heathland, Caporn et al (2016) (Ref 11-54) identified that at background deposition rates of 15 kgN/ha/yr a nitrogen dose of 1.3

kgN/ha/yr would be required to reduce species richness by one species. This is far greater than that forecast to arise cumulatively on either SSSI.

11.6.159 The study also indicated that the minimum nitrogen dose required to cause a change in species richness of 1 species (other than in nitrogen impoverished sand dunes) was 0.4 kgN/ha/yr. For this reason, National Highways DMRB guidance on Air Quality Volume LA105 (Ref 11-55) directs those undertaking assessments for Highways Schemes that if the forecast impact is less than 0.4 kgN/ha/yr no significant effect would arise. Moreover, the project would be doing saltmarsh management and creation albeit not actually in the SSSI but nearby and therefore overall saltmarsh resource would be preserved and increased.

11.6.160 Transect OE09 Inner Marsh Farm is also modelled to exceed 1% of the critical load cumulatively but APIS indicates that none of the bird interest features of this SSSI would be adversely affected by nitrogen deposition on their habitats (or that effects are as likely to be positive as negative. Therefore, no likely significant effect would arise on Inner Marsh Farm SSSI.

11.6.161 Taking into account all of the above, it is concluded that **no likely significant effect** would arise on any SSSIs from operational stack or vehicle emissions.

11.6.162 It is noted that Shotton Lagoons and Reedbed SSSI and Inner Marsh Farm SSSI are also Nationally important sites of ornithological interest. Inner Marsh Farm SSSI overlaps with the Dee Estuary SPA. Potential impacts from operation on ornithology (i.e. disturbance) are assessed separately within the ornithological section of this Chapter.

Local Conservation Designations

11.6.163 There is no non-statutory wildlife site where the combined emissions from the operational stacks and operational road traffic due to the Proposed Development would exceed the critical level for NOx or ammonia, or the critical load for nitrogen or acid deposition. Therefore, in line with guidance the impact is considered **negligible**, and a conclusion of **no significant effect** can be drawn.

Habitats

11.6.164 All effects associated with habitat loss remain as described in the construction assessment.

11.6.165 Consideration has been given to potential effects on habitats through changes in air quality during operation of the Proposed Development where they overlap with designated sites (i.e. saltmarsh) and separately for other sensitive habitats i.e. Ancient Woodlands and Open Mosaic Habitat.

Ancient Woodland

11.6.166 One Ancient Woodland was modelled (receptor OE30). At no point are total long-term or short-term NOx concentrations forecast to exceed the critical level for this pollutant. Therefore, no likely significant effect would arise. Moreover, for short-term (24 hr) NOx the new plant would, in the long-term, represent an overall improvement in NOx compared to the exiting Connah's Quay Power Station. With regard to ammonia and nitrogen deposition, the contribution of the Proposed Development slightly exceeds 1% of the critical

level/load, being 1.1% of the critical level for ammonia and 1.5% of the critical load for nitrogen deposition. The forecast extent of cumulative nitrogen deposition represents a very small increase over the existing nitrogen deposition levels (a 0.6% increase).

11.6.167 Approximately 1.5ha (4.5%) of ancient woodland Leadbrook Wood (transect OE30) is forecast to be affected by cumulative nitrogen deposition above 1% of the critical load although only slightly above (0.19 kgN or 1.9% of the critical load). Most of this nitrogen would be due to the Proposed Development. However, background nitrogen deposition is very high at 31.1 kgN/ha/yr. As such the forecast cumulative impact represents only a 0.6% increase on background.

11.6.168 The forecast impact is therefore relatively small (equivalent to less than 5% of the critical load). Impacts of a small amount of deposition above the critical load when the critical load is far exceeded (as it is at this woodland) are likely to be relatively subtle (e.g. a change in species richness, percentage grass cover, or shift to more competitive species in the affected area) rather than wholesale habitat damage. Moreover, effects on the ground may not arise at all in practice. Research shows the woodland canopy and woodland management have a major impact on vegetation characteristics, and factors such as rainfall and light penetration, which may make any impact undetectable on the ground. Therefore, during operation there would be **no significant adverse effect** (**neutral**, **No Effect**).

Birds

11.6.169 During operation, the following impact pathways were assessed to have no likely significant effects on ornithological features:

11.6.170 Noise disturbance on birds - modelling has identified that noise during operation would not reach disturbing levels (a sudden noise event of over 60dB or prolonged noise of over 72dB (Ref 11-32)). within habitats surrounding the Proposed Development. See **Chapter 9: Noise and Vibration** (**EN010166/APP/6.2.9**). Therefore, it is anticipated that during operation there would be **no significant adverse effect** (**neutral**, **No Effect**).

11.6.171 Air quality indirect impacts on bird habitats – modelling has identified nitrogen deposition at low levels on the intertidal habitats within the Dee Estuary SPA/Ramsar site - see **Appendix 8-D: Air Quality Operational Assessment** (**EN010166/APP/6.4**) and **Report to Inform Habitats Regulations Assessment** (**EN010166/APP/6.12**). It is anticipated that none of the SPA/Ramsar site bird qualifying features (which are mainly present in winter and or during spring/autumn migration) would be adversely affected by nitrogen deposition on the regularly used intertidal habitats. The common tern and avocet breeding site habitats within the study area would also not be affected by nitrogen deposition. Therefore, during operation there would be **no significant adverse effect** (**neutral**, **No Effect**).

11.6.172 Lighting displacement - as set out in the **Lighting Strategy** (**EN010166/APP/7.22**) operational lighting would be required to carry out specific tasks safely however this is expected to be restricted to the central portion of the Main Development Area which sit toward the north and west within the Construction and Operation Area. Any lighting should be aimed

away from habitats surrounding the Proposed Development and embedded mitigation put in place to prevent overspill and disturbance of species using surrounding habitat. With these measures in place, it is anticipated that the during operation there would be **no significant adverse effect** (**neutral**, **No Effect**).

Badger

11.6.173 During operation, the potential impacts experienced by badger include disturbance by:

- Lighting; and
- Noise and vibration.

Lighting

11.6.174 As set out in the **Lighting Strategy** (**EN010166/APP/7.22**) operational lighting would be required to undertake specific tasks safely however this is expected to be restricted to the central portion of the Main Development Area which sits toward the north and west within the Construction and Operation Area. Any lighting should be aimed away from habitats surrounding the Proposed Development and mitigation put in place to prevent overspill and disturbance of species using surrounding habitat. With these measures in place, it is anticipated that the during operation there would be **no significant adverse effects** (**neutral**, **No Effect**).

Noise and vibration

11.6.175 The noise and vibration assessment presented in **Chapter 9: Noise and Vibration** (**EN010166/APP/6.2.9**) identified there would be low potential for any noise and vibration disturbance during operation. Therefore, it is anticipated that during operation there would be **no significant adverse effects** (**neutral**, **No Effect**).

Bats

11.6.176 During operation, the potential impacts experienced by bats include:

- Lighting; and,
- Noise and vibration.

Lighting

11.6.177 As set out in the **Lighting Strategy** (**EN010166/APP/7.22**) operational lighting would be required to carry out specific tasks safely however this is expected to be restricted to the central portion of the Main Development Area which sit toward the north and west within the Construction and Operation Area. Any lighting should be aimed away from habitats surrounding the Proposed Development and embedded mitigation put in place to prevent overspill and disturbance of species using surrounding habitat. With these measures in place, it is anticipated that the during operation there would be **no significant adverse effects** (**neutral**, **No Effect**).

Noise and vibration

11.6.178 The noise and vibration assessment presented in **Chapter 9: Noise and Vibration** (**EN010166/APP/6.2.9**) identified there would be low potential for any noise and vibration disturbance during operation. Therefore, it is anticipated that the during operation there would be **no significant adverse effects** (**neutral**, **No Effect**)

Otter

11.6.179 During operation, the potential impacts experienced by otter include:

- lighting; and
- noise and vibration.

Lighting

11.6.180 As set out in the **Lighting Strategy** (**EN010166/APP/7.22**) operational lighting would be required to carry out specific tasks safely however this is expected to be restricted to the central portion of the Main Development Area which sit toward the north and west within the Construction and Operation Area. Any lighting should be aimed away from habitats surrounding the Proposed Development and mitigation put in place to prevent overspill and disturbance of species using surrounding habitat. With these measures in place, it is anticipated that the during operation there would be **no significant adverse effects** (**neutral**, **No Effect**).

Noise and Vibration

11.6.181 The noise and vibration assessment presented in **Chapter 9: Noise and Vibration** (**EN010166/APP/6.2.9**) identified there would be low potential for any noise and vibration disturbance during operation. Therefore, it is anticipated that the during operation there would be **no significant adverse effects** (**neutral**, **No Effect**)

Aquatic Ecology (Macroinvertebrates, Fish and Aquatic Macrophytes)

Water quality

11.6.182 Assessment of the River Dee in relation to operation of the water connection corridor and any discharges to the Dee is covered in **Chapter 12: Marine Ecology** (**EN010166/APP/6.2.12**).

11.6.183 Process wastewater from the Proposed Development would be transferred by vacuum truck to a registered waste contractor or alternatively treated to meet required standards in an on-site wastewater treatment plant, prior to discharge to the River Dee. In the latter case, the discharge would be regulated by NRW through the Environmental Permit required for the operation of the Proposed Development.

11.6.184 Given that any discharge to the environment of process wastewater would be from an on-site wastewater treatment plant in line with permit conditions then a negligible impact would be anticipated to the water quality of the River Dee (Very High Importance), and this would give a **negligible** effect, which is **not significant**.

Lighting

11.6.185 As set out in the **Lighting Strategy** (**EN010166/APP/7.22**) operational lighting would be required to carry out specific tasks safely however this is expected to be restricted to the central portion of the Main Development Area which sit toward the north and west within the Construction and Operation Area. Any lighting should be aimed away from habitats surrounding the Proposed Development and mitigation put in place to prevent overspill and disturbance of species using surrounding habitat. With these measures in place, it is anticipated that the during operation there would be **no significant adverse effects** (**neutral**, **No Effect**).

Decommissioning

11.6.186 The potential impacts and associated effects of decommissioning are considered to be similar to construction and therefore as a worst-case it is considered that the effects would remain as described for construction. Given the timescales for construction it is not possible to confirm the presence or absence of species. These effects would be appropriately management through the preparation of the DEMP prepared in advance of the decommissioning works.

11.7 Additional Mitigation and Enhancement Measures

Construction Mitigation

11.7.1 The assessment as presented in this chapter indicates that the Proposed Development is anticipated to generate potentially significant adverse effects (based on CIEEM terms/methodology) during construction.

11.7.2 Additional mitigation measures in relation to the designated sites and habitats, would be considered to reduce likely significant effects during construction. This would include the following:

- the **Curlew Mitigation Strategy** (**EN010166/APP/6.13**) sets out the approach to mitigation of impacts to land functionally linked to the Dee Estuary/Aber Dyfrdwy SAC, SPA, Ramsar, SSSI;
- permanent habitat loss to be mitigated for with replacement planting within the Order limits in advance of construction activities where possible and through compensation off-Site (for the loss of Functionally Linked Land that is used by SPA/Ramsar site bird species, particularly curlew);
- additional mitigation measures in relation to alterations in hydrology and water quality. Refer to Section 13.7 of **Chapter 13: Water Environment and Flood Risk** (**EN010166/APP/6.2.13**); and
- monitoring of habitats, such as the Saltmarsh within the Water Connection Corridor, post-construction to feedback into the management of those areas within the Order limits would be managed by Section 7 of the **Outline LEMP** (**EN010166/APP/6.9**).

11.7.3 With embedded mitigation, adverse effects (which are not significant in CIEEM or EIA terms i.e. negligible or minor), have been reported during construction on the loss of the following habitat types;

- Modified grassland (evaluated at Local importance);
- Other broadleaved woodland (evaluated at Local importance); and
- Scrub (evaluated at Local importance).

11.7.4 A NBB assessment has been undertaken for the Proposed Development to ensure that the Proposed Development results in a NBB. The full assessment is included in the **Green Infrastructure Statement** (**EN010166/APP/6.11**).

11.7.5 Additional mitigation measures in relation to effects on the species scoped into the assessment would be considered to reduce likely significant effects during construction. This would include the following:

- a fish rescue may be required under an FR2 permit granted by NRW during construction where de-watering or over-pumping is required. Where any pumping is required, Eels Regulations 2009 compliant

screens would be used on any pump used for drain-down or over-pumping of watercourses;

- where there are likely to be direct impacts to watercourses or waterbodies it is advised that key migration periods are avoided wherever practicable e.g. April-June and September – November inclusively for eel;
- construction should be carried out during daylight hours to avoid the use of artificial light. Where this is not possible then lights should be directed away from watercourses and bodies so that fish migration, spawning and feeding is not disrupted;
- further species surveys in 2025 reptiles (being undertaken in the Summer/Autumn 2025) to feedback into the design process, avoiding and/or minimising impacts (where possible);
- 3 m high acoustic fencing would be erected between the Main Development Area and the Dee Estuary/Aber Dyfrdwy SPA, Ramsar site and SSSI, to reduce the level of construction noise qualifying waterbird species would be subjected to;
- additional measures to minimise noise are required and would be considered, at detailed design stage once a contractor is appointed and a full list of plant is available. Although such measures have not been modelled at this stage, they could include jackets on pneumatic drills, acoustic covers on compressors and shrouds on piling rigs and cranes. These additional mitigation measures can provide the up to 15 to 20 dB sound reduction (based on **Table B.1** in **BS 5228**) required to avoid significant disturbance to relevant waterbird species. Other mitigation options include fitting a suitably designed muffler or other noise reducing equipment to minimise noise without impairing machine efficiency. BS 5288 states this could provide up to 10 dB noise reduction. Further assessment of appropriate noise reduction measures would be undertaken at the detailed design stage and the measures incorporated into the final CEMP(s) (as set out in the **Framework CEMP** (**EN010166/APP/6.5**));
- construction works within the water connection works and proposed surface water outfall would be undertaken outside of the period of September to March, inclusive, to minimise construction disturbance on qualifying waterbird species of the Dee Estuary/Aber Dyfrdwy SPA, Ramsar site and SSSI.
- timing and duration of works to avoid or reduce noise and visual disturbance impacts, particularly on SPA/Ramsar site bird species (ECoW to advise when works are to be avoided such as extremely adverse prolonged cold weather in winter, especially during spring tides when birds are more vulnerable to the effects of disturbance on their feeding habits and therefore energy costs.);
- additional species-specific mitigation incorporated into the design (as appropriate) following analysis of results of further surveys to support

with obtaining Letters of No Impediment from NRW for protected species (where applicable); and

- monitoring of species present during and post construction.

11.7.6 With embedded mitigation, adverse effects (which are not significant i.e. negligible or minor), have been reported during construction on reptiles. The following measures would be put in place to reduce these effects where possible:

- to mitigate the impacts to reptiles as a result of the Proposed Development habitat creation maybe required (subject to the results of the surveys ongoing in 2025) to offset the loss to the populations during the construction phase. There is not sufficient land available within the Order limits of the Proposed Development to supply this habitat creation so offsite would be required. Offsite mitigation would need to be created prior to the translocation of reptile population present within the Order limits in advance of construction; and
- surveys are ongoing in 2025 to inform fully the offsite mitigation required, however the offsite area would need to fulfil the following criteria:
  - large enough area of suitable habitat to support the translocated population of reptiles; and
  - reptiles either absent from the receptor site or a small enough population present that the translocated individuals do not exceed the carrying capacity of the habitats within the receptor site (further survey work is likely needed to determine this once a potential receptor site is identified). Potentially habitats within the receptor site could be created/enhanced to increase carrying capacity of reptiles to support translocated individuals but any enhancements or creation would need to be conducted prior to translocating reptiles to the receptor site; ideally the receptor site would be in close proximity to the Main Development Area but if this is not possible then the site should be located within Flintshire. This receptor site would need to be protected from future development and managed to ensure it remains suitable for reptiles in the long term.

Operation Mitigation

11.7.7 The assessment indicates that the Proposed Development is anticipated to potentially generate significant adverse effects (based on CIEEM terms/methodology) during operation. Additional mitigation measures in relation to designated sites and habitats during operation would reduce likely significant effects during operation. This is limited to a financial contribution to any enhanced management that may be required at Deeside and Buckley Newt Sites SAC to address the small amount of additional nitrogen deposition due to the Proposed Development. Following the consideration of this contribution the conclusion of **no significant effects** (**not significant**) can be drawn.

Decommissioning Mitigation

11.7.8 No additional mitigation has been identified for the decommissioning phase beyond that set out in Section 11.5.

Enhancements

11.7.9 An **Outline LEMP** (**EN010166/APP/6.9**) has been produced and provided alongside the ES. Section 6 of this document sets out biodiversity enhancement proposals and the habitat management and monitoring considered necessary to deliver and manage the created habitats. It is proposed that submission and approval of the final LEMP is be secured by a requirement of the **Draft DCO** (**EN010166/APP/3.1**).

11.7.10 The approach to be taken for demonstrating and agreeing NBB has been discussed further and agreed during pre-application consultations with relevant stakeholders (e.g. FCC) to ensure that this is appropriate to the specifics of the Proposed Development and is otherwise responsive to the management needs and priorities for existing habitats present within the Applicant's control. Details can be found in the **Green Infrastructure Statement** (**EN010166/APP/6.11**).

Monitoring

11.7.11 The measures proposed to avoid and reduce, where possible, significant adverse effects on terrestrial and aquatic biodiversity and nature conservation features are set out above. Monitoring requirements to track compliance with these commitments during construction are set out in the **Framework CEMP** (**EN010166/APP/6.5**) that accompanies the DCO Application. In particular, an ECoW would be employed to oversee the delivery of all necessary mitigation.

11.7.12 Requirements for post-construction monitoring of the establishment of landscape and biodiversity enhancement measures has been set out in section 7 of the **Outline LEMP** (**EN010166/APP/6.9**) that accompanies the ES and subsequently approved and secured by a Requirement of the DCO (see Enhancements, above).

11.8 Summary of Residual Effects

11.8.1 **Table 11-15, Table 11-16** and **Table 11-17** summarise the residual effects of the Proposed Development on terrestrial and aquatic ecology and receptors following implementation of mitigation.

11.8.2 An assessment of cumulative effects with other proposed developments that could interact with the effects of this Proposed Development has been presented in **Chapter 24: Cumulative and Combined Effects** (**EN010166/APP/6.2.24**). **Chapter 24: Cumulative and Combined Effects** (**EN010166/APP/6.2.24**) and also assesses the in-combination effects of multiple aspects on one receptor.

Table 11-15: Summary of Likely Significant Residual Effects (Construction/Decommissioning)

Receptor	Sensitivity (value)	Description of Impact	Classification of Effect (prior to Additional Mitigation)	Additional Mitigation/Enhancement Measure	Residual Effect after Additional Mitigation
Dee Estuary SPA/Ramsar/SAC	International	Habitat loss/ changes in air quality/ construction noise disturbance/ visual disturbance/ alteration of local hydrology and water quality.	No significant effects (neutral, not significant)	N/A	No significant effects (neutral, not significant)
The River Dee and Bala Lake/Afon Dyfrdwy a Llyn Tegid SAC	International	Habitat loss/changes in air quality/ construction noise disturbance/ visual disturbance/ alteration of local hydrology and water quality.	No significant effects (neutral, not significant)	N/A	No significant effects (neutral, not significant)
Deeside and Buckley Newt sites SAC	International	Habitat loss/changes in air quality /construction	No significant effects (significant)	N/A	No significant effects (neutral, not significant)

Receptor	Sensitivity (value)	Description of Impact	Classification of Effect (prior to Additional Mitigation)	Additional Mitigation/Enhancement Measure	Residual Effect after Additional Mitigation
		noise disturbance/ visual disturbance/ alteration of local hydrology and water quality.			
Dee Estuary/Aber Afon Dyfrdwy SSSI	National	Changes in air quality/Alteration of local hydrology and water quality	No significant effects (neutral, not significant)[24]	N/A	No significant effects (neutral, not significant)
Afon Dyfrdwy (River Dee) SSSI	National	Changes in air quality/Alteration of local hydrology and water quality	No significant effects (neutral, not significant)	N/A	No significant effects (neutral, not significant)
Shotton Lagoons and Reedbeds SSSI	National	Changes in air quality/Alteration of local hydrology and water quality	No significant effects (neutral, not significant)	N/A	No significant effects (neutral, not significant)
Dee Estuary SSSI (England)	National	Changes in air quality/Alteration	No significant effects (neutral, not significant)	N/A	No significant effects (neutral, not significant)

[24] As explained in paragraphs 11.6.26 and 11.6.27 as this site is located over 200 m from the Order limits, a conclusion of **No significant effects** (**neutral, not significant**) has been reached

Receptor	Sensitivity (value)	Description of Impact	Classification of Effect (prior to Additional Mitigation)	Additional Mitigation/Enhancement Measure	Residual Effect after Additional Mitigation
		of local hydrology and water quality			
Inner Marsh Farm SSSI	National	Changes in air quality/Alteration of local hydrology and water quality	No significant effects (neutral, not significant)	N/A	No significant effects (neutral, not significant)
River Dee (England) SSSI	National	Changes in air quality/Alteration of local hydrology and water quality	No significant effects (neutral, not significant)[25]	N/A	No significant effects (neutral, not significant)
Gathering Grounds Woods and Llyyni Pond LNR	District	Changes in Air Quality	No significant effects (neutral, not significant)	N/A	No significant effects (neutral, not significant)
Leadbrook Wood LWS	County	Changes in Air Quality	No significant effects (neutral, not significant)	N/A	No significant effects (neutral, not significant)
Top-y-fron Dingle and Kelsterton Brook LWS	County	Changes in Air Quality	No significant effects (neutral, not significant)	N/A	No significant effects (neutral, not significant)

[25] As explained in paragraphs 11.6.26 and 11.6.27 as this site is located over 200 m from the Order limits, a conclusion of **No significant effects** (**neutral, not significant**) has been reached

Receptor	Sensitivity (value)	Description of Impact	Classification of Effect (prior to Additional Mitigation)	Additional Mitigation/Enhancement Measure	Residual Effect after Additional Mitigation
Llwyn-onn LWS	County	Changes in Air Quality	No significant effects (neutral, not significant)	N/A	No significant effects (neutral, not significant)
Cheshire Farm LWS	County	Changes in Air Quality	No significant effects (neutral, not significant)	N/A	No significant effects (neutral, not significant)
Caeau Alt-vois LWS	County	Changes in Air Quality	No significant effects (neutral, not significant)	N/A	No significant effects (neutral, not significant)
Shotton Steelworks LWS	County	Changes in Air Quality	No significant effects (neutral, not significant)	N/A	No significant effects (neutral, not significant)
The River Dee LWS	County	Alteration of Local Hydrology and Water Quality	No significant effects (neutral, not significant)	N/A	No significant effects (neutral, not significant)
The River Dee LWS	County	Changes in Air Quality	No significant effects (neutral, not significant)	N/A	No significant effects (neutral, not significant)
Coed Stanley LWS	County	Changes in Air Quality	No significant effects (neutral, not significant)	N/A	No significant effects (neutral, not significant)

Receptor	Sensitivity (value)	Description of Impact	Classification of Effect (prior to Additional Mitigation)	Additional Mitigation/Enhancement Measure	Residual Effect after Additional Mitigation
Coed Bryn-y-Garreg LWS	County	Changes in Air Quality	No significant effects (neutral, not significant)	N/A	No significant effects (neutral, not significant)
Wepre Wood LWS	County	Changes in Air Quality	No significant effects (neutral, not significant)	N/A	No significant effects (neutral, not significant)
Coed y Cra LWS	County	Changes in Air Quality	No significant effects (neutral, not significant)	N/A	No significant effects (neutral, not significant)
Brown Oak Wood Wild Ground Reserve	Local	Changes in Air Quality	No significant effects (neutral, not significant)	N/A	No significant effects (neutral, not significant)
Llwyni Valley Wild Ground Reserve	Local	Changes in Air Quality	No significant effects (neutral, not significant)	N/A	No significant effects (neutral, not significant)
Saltmarsh	National	Habitat loss/changes in air quality/hydrology and water quality	Refer to Dee Estuary SPA/Ramsar/SAC/SSSI above.		
Intertidal Mudflats	National	Habitat loss/changes in	Refer to Dee Estuary SPA/Ramsar/SAC/SSSI above.		

Receptor	Sensitivity (value)	Description of Impact	Classification of Effect (prior to Additional Mitigation)	Additional Mitigation/Enhancement Measure	Residual Effect after Additional Mitigation
		air quality/hydrology and water quality			
Ancient Woodland	National	Habitat Loss	No Significant Effect (neutral, not significant)	N/A	No Significant Effect (neutral, not significant)
Ancient Woodland	National	Changes in Air Quality/Alterations of local hydrology and water quality	No Significant Effect (neutral, not significant)	N/A	No Significant Effect (neutral, not significant)
Open Mosaic Habitat	County	Habitat loss	Significant adverse effect (moderate Adverse, Significant) in the short term (construction only)[26]; reducing to no significant adverse effect (neutral, not significant)in the medium to long	N/A	Significant adverse effect (moderate Adverse, Significant) in the short term (construction only)[27]; reducing to no significant adverse effect (neutral, not significant) in the medium to long term (2 years post construction).

[26] This effect would not arise during the decommissioning phase.
[27] This effect would not arise during the decommissioning phase.

Receptor	Sensitivity (value)	Description of Impact	Classification of Effect (prior to Additional Mitigation)	Additional Mitigation/Enhancement Measure	Residual Effect after Additional Mitigation
			term (2 years post construction).		
Other lowland mixed deciduous woodland	District	Habitat loss	No Significant Effect (neutral, not significant)	N/A	No Significant Effect (neutral, not significant)
Other lowland mixed deciduous woodland	District	Changes in Air Quality/Alterations of local hydrology and water quality	No Significant Effect (neutral, not significant)	N/A	No Significant Effect (neutral, not significant)
Modified Grassland	Local	Habitat loss	No Significant Effect (minor adverse, not significant)	N/A	No Significant Effect (minor adverse, not significant)
Modified Grassland	Local	Changes in Air Quality/Alterations of local hydrology and water quality	No Significant Effect (neutral, not significant)	N/A	No Significant Effect (neutral, not significant)
Other neutral grassland	Local	Habitat loss	No Significant Effect (minor adverse, not significant)	N/A	No Significant Effect (minor adverse, not significant)

Receptor	Sensitivity (value)	Description of Impact	Classification of Effect (prior to Additional Mitigation)	Additional Mitigation/Enhancement Measure	Residual Effect after Additional Mitigation
Other neutral grassland	Local	Changes in Air Quality/Alterations of local hydrology and water quality	No Significant Effect (neutral, not significant)	N/A	No Significant Effect (neutral, not significant)
Other broadleaved woodland	Local	Habitat loss	No Significant Effect (minor adverse, not significant)	N/A	No Significant Effect (minor adverse, not significant)
Other broadleaved woodland	Local	Changes in Air Quality/Alterations of local hydrology and water quality	No Significant Effect (neutral, not significant)	N/A	No Significant Effect (neutral, not significant)
Scrub	Local	Habitat loss	No Significant Effect (minor adverse, not significant)	N/A	No Significant Effect (minor adverse, not significant)
Scrub	Local	Changes in Air Quality/Alterations of local hydrology and water quality	No Significant Effect (neutral, not significant)	N/A	No Significant Effect (neutral, not significant)
Temporary grass and clover leys	Local	Habitat loss	No Significant Effect (minor	N/A	No Significant Effect (minor adverse, not significant)

Receptor	Sensitivity (value)	Description of Impact	Classification of Effect (prior to Additional Mitigation)	Additional Mitigation/Enhancement Measure	Residual Effect after Additional Mitigation
			adverse, not significant)		
Temporary grass and clover leys	Local	Changes in Air Quality/Alterations of local hydrology and water quality	No Significant Effect (neutral, not significant)	N/A	No Significant Effect (neutral, not significant)
Hedgerows	Local	Habitat loss	No Significant Effect (minor adverse, not significant)	N/A	No Significant Effect (minor adverse, not significant)
Hedgerows	Local	Changes in Air Quality/Alterations of local hydrology and water quality	No Significant Effect (neutral, not significant)	N/A	No Significant Effect (neutral, not significant)
Sparsely vegetated urban land ruderal/ephemeral	Local	Habitat loss	No Significant Effect (neutral, not significant)	N/A	No Significant Effect (minor adverse, not significant)
Sparsely vegetated urban land ruderal/ephemeral	Local	Changes in Air Quality/Alterations of local hydrology and water quality	No Significant Effect (neutral, not significant)	N/A	No Significant Effect (neutral, not significant)

Receptor	Sensitivity (value)	Description of Impact	Classification of Effect (prior to Additional Mitigation)	Additional Mitigation/Enhancement Measure	Residual Effect after Additional Mitigation
Badger	Local	Habitat loss and fragmentation	No Significant Effect (minor adverse, not significant)	N/A	No Significant Effect (minor adverse, not significant)
Badger	Local	Incidental mortality	No Significant Effect (neutral, not significant)	N/A	No Significant Effect (neutral, not significant)
Badger	Local	Disturbance through noise, vibration and light	No Significant Effect (neutral, not significant)	N/A	No Significant Effect (neutral, not significant)
Great crested newt	Local	Habitat loss and fragmentation	No Significant Effect (minor adverse, not significant)	N/A	No Significant Effect (minor adverse, not significant)
Great crested newt	Local	Incidental mortality	No Significant Effect (neutral, not significant)	N/A	No Significant Effect (neutral, not significant)
Bats	Local	Loss of roosts and habitat fragmentation	No Significant Effect (neutral, not significant)	N/A	No Significant Effect (neutral, not significant)

Receptor	Sensitivity (value)	Description of Impact	Classification of Effect (prior to Additional Mitigation)	Additional Mitigation/Enhancement Measure	Residual Effect after Additional Mitigation
Bats	Local	Incidental mortality	No Significant Effect (neutral, not significant)	N/A	No Significant Effect (neutral, not significant)
Bats	County	Disturbance through noise, vibration and light	No Significant Effect (neutral, not significant)	N/A	No Significant Effect (neutral, not significant)
Otter	Local	Habitat loss and fragmentation	No Significant Effect (neutral, not significant)	N/A	No Significant Effect (neutral, not significant)
Otter	Local	Incidental Mortality	No Significant Effect (neutral, not significant)	N/A	No Significant Effect (neutral, not significant)
Otter	Local	Disturbance through noise, vibration and light	No Significant Effect (neutral, not significant)	N/A	No Significant Effect (neutral, not significant)

Receptor	Sensitivity (value)	Description of Impact	Classification of Effect (prior to Additional Mitigation)	Additional Mitigation/Enhancement Measure	Residual Effect after Additional Mitigation
Reptiles	Local	Habitat loss and fragmentation (C&IEA)	No Significant Effect (minor adverse, not significant)	If 2025 surveys find population is larger than anticipated by previous survey work then offsite receptor site and mitigation would need to be secured then when established the common lizard population would need to be translocated to receptor site prior to start of construction works	No Significant Effect (neutral, not significant)
Reptiles	Local	Habitat loss and fragmentation (Main Development Area)	No Significant Effect (minor adverse, not significant)	N/A	No Significant Effect (neutral, not significant)
Reptiles	Local	Incidental Mortality	No Significant Effect (neutral, not significant)	N/A	No Significant Effect (neutral, not significant)

Receptor	Sensitivity (value)	Description of Impact	Classification of Effect (prior to Additional Mitigation)	Additional Mitigation/Enhancement Measure	Residual Effect after Additional Mitigation
Terrestrial Invertebrates	Up to County	Habitat loss	Significant Adverse Effect (moderate adverse, significant) in the short term; reducing to no significant adverse effect (neutral, not significant) in the medium to long term (2 years post construction).	N/A	Significant Adverse Effect (moderate adverse, significant) in the short term; reducing to no significant adverse effect (neutral, not significant) in the medium to long term (2 years post construction).
Aquatic Invertebrates	Local	Alterations of local hydrology and water quality	No Significant Effect (minor adverse, not significant)	N/A	No Significant Effect (minor adverse, not significant)
Aquatic Macrophytes	Local	Alterations of local hydrology and water quality	No Significant Effect (neutral, not significant)	N/A	No Significant Effect (neutral, not significant)
Freshwater Fish	Up to National	Changes to water quality	No Significant Effect (minor adverse, not significant)	N/A	No Significant Effect (minor adverse, not significant)

Receptor	Sensitivity (value)	Description of Impact	Classification of Effect (prior to Additional Mitigation)	Additional Mitigation/Enhancement Measure	Residual Effect after Additional Mitigation
Freshwater Fish	Up to National	Disturbance through light	Significant effect (moderate adverse, significant)	Timing of works to avoid migration periods. Construction carried out in daylight hours to minimise lighting.	No Significant Effect (neutral, not significant)
Freshwater Fish	Up to National	Incidental mortality	No Significant Effect (neutral, not significant)	N/A	No Significant Effect (neutral, not significant)

Table 11-16: Summary of Residual Effects During Construction/Decommissioning on Ornithology

Feature	Value	Description of Potential Impacts	Potential Effects Significance (prior to Additional Mitigation)	Additional Mitigation Measures	Residual Effects Significance (after Additional mitigation)
The Dee Estuary SPA/Ramsar site qualifying species					

Feature	Value	Description of Potential Impacts	Potential Effects Significance (prior to Additional Mitigation)	Additional Mitigation Measures	Residual Effects Significance (after Additional mitigation)
Bar-tailed godwit (non-breeding)	District	*Main Development Area* Noise disturbance of birds from the piling works resulting in their displacement from regularly used habitats.	Significant (moderate adverse)	Provision of enhanced habitats on-site and off-site. Additional measures to minimise noise.	Not Significant (minor adverse)
		Water Connection Corridor Noise and visual disturbance of birds resulting in their displacement from regularly used habitats.	Significant (moderate adverse)	Timing of works to avoid the overwintering period	Not Significant (minor adverse)
		Surface water outfall into Old Rockcliffe Brook (Kelsterton Brook) Loss of roosting and foraging habitats. Noise and visual disturbance of birds resulting in their displacement from	Significant (moderate adverse)	Provision of enhanced habitats on-site and off-site. Timing of works to avoid the overwintering period.	Not Significant (minor adverse)

Feature	Value	Description of Potential Impacts	Potential Effects Significance (prior to Additional Mitigation)	Additional Mitigation Measures	Residual Effects Significance (after Additional mitigation)
		regularly used habitats.			
Pintail (non-breeding)	District	*Main Development Area* Noise disturbance of birds from the piling works resulting in their displacement from regularly used habitats.	Significant (moderate adverse)	Provision of enhanced habitats on-site and off-site. Additional measures to minimise noise	Not Significant (minor adverse)
		Water Connection Corridor Noise and visual disturbance of birds resulting in their displacement from regularly used habitats.	Significant (moderate adverse)	Timing of works to avoid the overwintering period	Not Significant (minor adverse)
		Surface water outfall into Old Rockcliffe Brook (Kelsterton Brook) Loss of roosting and foraging habitats.	Significant (moderate adverse)	Provision of enhanced habitats on-site and off-site. Timing of works to avoid the overwintering period.	Not Significant (minor adverse)

Feature	Value	Description of Potential Impacts	Potential Effects Significance (prior to Additional Mitigation)	Additional Mitigation Measures	Residual Effects Significance (after Additional mitigation)
		Noise and visual disturbance of birds resulting in their displacement from regularly used habitats.			
Teal (non-breeding)	Local	*Main Development Area* Loss of roosting habitat. Noise disturbance of birds from the piling works resulting in their displacement from regularly used habitats.	Not Significant (minor adverse)	Provision of enhanced habitats on-site and off-site. Additional measures to minimise noise	Not Significant (negligible)
		Water Connection Corridor Noise and visual disturbance of birds resulting in their displacement from regularly used habitats.	Not Significant (minor adverse)	Timing of works to avoid the overwintering period	Not Significant (negligible)

Feature	Value	Description of Potential Impacts	Potential Effects Significance (prior to Additional Mitigation)	Additional Mitigation Measures	Residual Effects Significance (after Additional mitigation)
		Surface water outfall into Old Rockcliffe Brook (Kelsterton Brook) Loss of roosting and foraging habitats. Noise and visual disturbance of birds resulting in their displacement from regularly used habitats.	Not Significant (minor adverse)	Provision of enhanced habitats on-site and off-site. Timing of works to avoid the overwintering period.	Not Significant (negligible)
Dunlin (non-breeding)	Local	*Main Development Area* Loss of roosting habitat. Noise disturbance of birds from the piling works resulting in their displacement from regularly used habitats.	Not Significant (minor adverse)	Provision of enhanced habitats on-site and off-site. Additional measures to minimise noise	Not Significant (negligible)
Knot (non-breeding)	Local	*Main Development Area*	Not Significant (minor adverse)	Provision of enhanced habitats on-site and off-site.	Not Significant (negligible)

Feature	Value	Description of Potential Impacts	Potential Effects Significance (prior to Additional Mitigation)	Additional Mitigation Measures	Residual Effects Significance (after Additional mitigation)
		Noise disturbance of birds from the piling works resulting in their displacement from regularly used habitats.		Additional measures to minimise noise	
		Water Connection Corridor Noise and visual disturbance of birds resulting in their displacement from regularly used habitats.	Not Significant (minor adverse)	Timing of works to avoid the overwintering period	Not Significant (negligible)
		Surface water outfall into Old Rockcliffe Brook (Kelsterton Brook) Loss of roosting and foraging habitats. Noise and visual disturbance of birds resulting in their displacement from regularly used habitats.	Not Significant (minor adverse)	Provision of enhanced habitats on-site and off-site. Timing of works to avoid the overwintering period.	Not Significant (negligible)

Feature	Value	Description of Potential Impacts	Potential Effects Significance (prior to Additional Mitigation)	Additional Mitigation Measures	Residual Effects Significance (after Additional mitigation)
Oystercatcher (non-breeding)	Local	*Main Development Area* Loss of roosting and foraging habitats. Noise disturbance of birds from the piling works resulting in their displacement from regularly used habitats.	Not Significant (minor adverse)	Provision of enhanced habitats on-site and off-site. Additional measures to minimise noise	Not Significant (negligible)
		Water Connection Corridor Noise and visual disturbance of birds resulting in their displacement from regularly used habitats.	Not Significant (minor adverse)	Timing of works to avoid the overwintering period	Not Significant (negligible)
		Surface water outfall into Old Rockcliffe Brook (Kelsterton Brook) Loss of roosting and foraging habitats.	Not Significant (minor adverse)	Provision of enhanced habitats on-site and off-site.	Not Significant (negligible)

Feature	Value	Description of Potential Impacts	Potential Effects Significance (prior to Additional Mitigation)	Additional Mitigation Measures	Residual Effects Significance (after Additional mitigation)
		Noise and visual disturbance of birds resulting in their displacement from regularly used habitats.		Timing of works to avoid the overwintering period.	
Black-tailed godwit (non-breeding)	Regional	*Main Development Area* Noise disturbance of birds from the piling works resulting in their displacement from regularly used habitats.	Significant (major adverse)	Provision of enhanced habitats on-site and off-site. Additional measures to minimise noise	Not Significant (minor adverse)
		Water Connection Corridor Noise and visual disturbance of birds resulting in their displacement from regularly used habitats.	Significant (major adverse)	Timing of works to avoid the overwintering period	Not Significant (minor adverse)
		Surface water outfall into Old Rockcliffe	Significant (major adverse)	Provision of enhanced habitats on-site and off-site.	Not Significant (minor adverse)

Feature	Value	Description of Potential Impacts	Potential Effects Significance (prior to Additional Mitigation)	Additional Mitigation Measures	Residual Effects Significance (after Additional mitigation)
		Brook (Kelsterton Brook) Loss of roosting and foraging habitats. Noise and visual disturbance of birds resulting in their displacement from regularly used habitats.		Timing of works to avoid the overwintering period.	
Curlew (non-breeding)	District	*Main Development Area* Loss of roosting and foraging habitats. Noise disturbance of birds from the piling works resulting in their displacement from regularly used habitats.	Significant (moderate adverse)	Provision of enhanced habitats on-site and off-site. Additional measures to minimise noise.	Not Significant (minor adverse)
		Water Connection Corridor Noise and visual disturbance of birds resulting in their displacement from	Significant (moderate adverse)	Timing of works to avoid the overwintering period	Not Significant (minor adverse)

Feature	Value	Description of Potential Impacts	Potential Effects Significance (prior to Additional Mitigation)	Additional Mitigation Measures	Residual Effects Significance (after Additional mitigation)
		regularly used habitats.			
		Surface water outfall into Old Rockcliffe Brook (Kelsterton Brook) Loss of roosting and foraging habitats. Noise and visual disturbance of birds resulting in their displacement from regularly used habitats.	Significant (moderate adverse)	Provision of enhanced habitats on-site and off-site. Timing of works to avoid the overwintering period.	Not Significant (minor adverse)
Grey plover (non-breeding)	District	*Main Development Area* Noise disturbance of birds from the piling works resulting in their displacement from regularly used habitats.	Not Significant (minor adverse)	Additional measures to minimise noise.	Not Significant (negligible)
Shelduck (non-breeding)	Local	*Main Development Area*	Not Significant (minor adverse)	Provision of enhanced habitats on-site and off-site.	Not Significant (negligible)

Feature	Value	Description of Potential Impacts	Potential Effects Significance (prior to Additional Mitigation)	Additional Mitigation Measures	Residual Effects Significance (after Additional mitigation)
		Loss of roosting habitat. Noise disturbance of birds from the piling works resulting in their displacement from regularly used habitats.		Additional measures to minimise noise.	
		Water Connection Corridor Noise and visual disturbance of birds resulting in their displacement from regularly used habitats.	Not Significant (minor adverse)	Provision of enhanced habitats on-site and off-site. Timing of works to avoid the overwintering period.	Not Significant (negligible)
		Surface water outfall into Old Rockcliffe Brook (Kelsterton Brook) Loss of roosting and foraging habitats. Noise and visual disturbance of birds resulting in their displacement from	Not Significant (minor adverse)	Provision of enhanced habitats on-site and off-site. Timing of works to avoid the overwintering period.	Not Significant (negligible)

Feature	Value	Description of Potential Impacts	Potential Effects Significance (prior to Additional Mitigation)	Additional Mitigation Measures	Residual Effects Significance (after Additional mitigation)
		regularly used habitats.			
Redshank (non-breeding)	District	*Main Development Area* Loss of roosting and foraging habitats. Noise disturbance of birds from the piling works resulting in their displacement from regularly used habitats.	Not Significant (minor adverse)	Provision of enhanced habitats on-site and off-site. Additional measures to minimise noise.	Not Significant (negligible)
		Water Connection Corridor Noise and visual disturbance of birds resulting in their displacement from regularly used habitats.	Not Significant (minor adverse)	Provision of enhanced habitats on-site and off-site. Timing of works to avoid the overwintering period.	Not Significant (negligible)
		Surface water outfall into Old Rockcliffe Brook (Kelsterton Brook)	Not Significant (minor adverse)	Provision of enhanced habitats on-site and off-site.	Not Significant (negligible)

Feature	Value	Description of Potential Impacts	Potential Effects Significance (prior to Additional Mitigation)	Additional Mitigation Measures	Residual Effects Significance (after Additional mitigation)
		Loss of roosting and foraging habitats. Noise and visual disturbance of birds resulting in their displacement from regularly used habitats.		Timing of works to avoid the overwintering period.	
Mersey Estuary SPA/Ramsar site qualifying species not already named above					
Golden plover (non-breeding)	District	*Main Development Area* Noise disturbance of birds from the piling works resulting in their displacement from regularly used habitats.	Not Significant (minor adverse)	Provision of enhanced habitats on-site and off-site. Additional measures to minimise noise.	Not Significant (negligible)
Wigeon (non-breeding)	Local	*Main Development Area* Noise disturbance of birds from the piling works resulting in their displacement from regularly used habitats.	Not Significant (minor adverse)	Additional measures to minimise noise.	Not Significant (negligible)

Feature	Value	Description of Potential Impacts	Potential Effects Significance (prior to Additional Mitigation)	Additional Mitigation Measures	Residual Effects Significance (after Additional mitigation)
		Water Connection Corridor Noise and visual disturbance of birds resulting in their displacement from regularly used habitats.	Not Significant (minor adverse)	Provision of enhanced habitats on-site and off-site. Timing of works to avoid the overwintering period	Not Significant (negligible)
Great crested grebe (non-breeding)	Local	*Main Development Area* Noise disturbance of birds from the piling works resulting in their displacement from regularly used habitats.	Not Significant (minor adverse)	Provision of enhanced habitats on-site and off-site. Additional measures to minimise noise.	Not Significant (negligible)
		Water Connection Corridor Noise and visual disturbance of birds resulting in their displacement from regularly used habitats.	Not Significant (minor adverse)	Timing of works to avoid the overwintering period	Not Significant (negligible)

Feature	Value	Description of Potential Impacts	Potential Effects Significance (prior to Additional Mitigation)	Additional Mitigation Measures	Residual Effects Significance (after Additional mitigation)
Lapwing (non-breeding)	Local	*Main Development Area* Loss of roosting and foraging habitats. Noise disturbance of birds from the piling works resulting in their displacement from regularly used habitats.	Not Significant (minor adverse)	Provision of enhanced habitats on-site and off-site. Additional measures to minimise noise.	Not Significant (negligible)
		Water Connection Corridor Noise and visual disturbance of birds resulting in their displacement from regularly used habitats.	Not Significant (minor adverse)	Timing of works to avoid the overwintering period	Not Significant (negligible)
Ringed plover (non-breeding)	District	*Main Development Area* Noise disturbance of birds from the piling works resulting in their displacement from	Not Significant (minor adverse)	Provision of enhanced habitats on-site and off-site. Timing of works to avoid the overwintering period	Not Significant (negligible)

Feature	Value	Description of Potential Impacts	Potential Effects Significance (prior to Additional Mitigation)	Additional Mitigation Measures	Residual Effects Significance (after Additional mitigation)
		regularly used habitats.			
Dee Estuary SSSI species (**additional to those listed under SPA/Ramsar site qualifying features**)					
Cormorant (non-breeding)	Local	*Main Development Area* Noise disturbance of birds from the piling works resulting in their displacement from regularly used habitats.	Not Significant (minor adverse)	Provision of enhanced habitats on-site and off-site. Additional measures to minimise noise.	Not Significant (negligible)
		Water Connection Corridor Noise and visual disturbance of birds resulting in their displacement from regularly used roost site.	Not Significant (minor adverse)	Provision of enhanced habitats on-site and off-site. Timing of works to avoid the overwintering period	Not Significant (negligible)
Regularly occurring species and assemblages (**local or higher value only, excluding species that are reasons for designation of the above designated sites**)					

Feature	Value	Description of Potential Impacts	Potential Effects Significance (prior to Additional Mitigation)	Additional Mitigation Measures	Residual Effects Significance (after Additional mitigation)
Avocet (breeding)	County	*Main Development Area* Noise disturbance of birds from the piling works resulting in their displacement from regularly used habitats.	Significant (moderate adverse)	Provision of enhanced habitats on-site and off-site. Additional measures to minimise noise.	Not Significant (minor adverse)
		Water Connection Corridor Noise and visual disturbance of birds resulting in their displacement from regularly used habitats.	Significant (moderate adverse)	Timing of works to avoid the overwintering period.	Not Significant (minor adverse)
		Surface water outfall into Old Rockcliffe Brook (Kelsterton Brook) Loss of roosting and foraging habitats. Noise and visual disturbance of birds resulting in their displacement from	Significant (moderate adverse)	Provision of enhanced habitats on-site and off-site. Timing of works to avoid the overwintering period.	Not Significant (minor adverse)

Feature	Value	Description of Potential Impacts	Potential Effects Significance (prior to Additional Mitigation)	Additional Mitigation Measures	Residual Effects Significance (after Additional mitigation)
		regularly used habitats.			
Spotted redshank (non-breeding)	County	*Main Development Area* Noise disturbance of birds from the piling works resulting in their displacement from regularly used habitats.	Significant (moderate adverse)	Provision of enhanced habitats on-site and off-site. Additional measures to minimise noise.	Not Significant (minor adverse)
		Water Connection Corridor Noise and visual disturbance of birds resulting in their displacement from regularly used habitats.	Significant (moderate adverse)	Timing of works to avoid the overwintering period.	Not Significant (minor adverse)
		Surface water outfall into Old Rockcliffe Brook (Kelsterton Brook) Loss of roosting and foraging habitats.	Significant (moderate adverse)	Provision of enhanced habitats on-site and off-site. Timing of works to avoid the overwintering period.	Not Significant (minor adverse)

Feature	Value	Description of Potential Impacts	Potential Effects Significance (prior to Additional Mitigation)	Additional Mitigation Measures	Residual Effects Significance (after Additional mitigation)
		Noise and visual disturbance of birds resulting in their displacement from regularly used habitats.			
Greenshank (non-breeding)	District	*Main Development Area* Noise disturbance of birds from the piling works resulting in their displacement from regularly used habitats.	Not Significant (minor adverse)	Provision of enhanced habitats on-site and off-site. Timing of works to avoid the overwintering period	Not Significant (negligible)
		Water Connection Corridor Loss of roosting and foraging habitats. Noise and visual disturbance of birds resulting in their displacement from regularly used habitats.	Not Significant (minor adverse)	Timing of works to avoid the overwintering period	Not Significant (negligible)

Feature	Value	Description of Potential Impacts	Potential Effects Significance (prior to Additional Mitigation)	Additional Mitigation Measures	Residual Effects Significance (after Additional mitigation)
		Surface water outfall into Old Rockcliffe Brook (Kelsterton Brook) Loss of roosting and foraging habitats. Noise and visual disturbance of birds resulting in their displacement from regularly used habitats.	Significant (minor adverse)	Provision of enhanced habitats on-site and off-site. Timing of works to avoid the overwintering period.	Not Significant (negligible)
Breeding bird assemblage	District	*Main Development Area* Loss of nesting, roosting and foraging habitats. Noise disturbance of birds from the piling works resulting in their displacement from regularly used habitats.	Not Significant (minor adverse)	Provision of enhanced habitats on-site and off-site. Timing of works to avoid the overwintering period	Not Significant (negligible)

Feature	Value	Description of Potential Impacts	Potential Effects Significance (prior to Additional Mitigation)	Additional Mitigation Measures	Residual Effects Significance (after Additional mitigation)
		CO_2 Connection Corridor Loss of roosting and foraging habitats. Noise and visual disturbance of birds resulting in their displacement from regularly used habitats.	Not Significant (minor adverse)	Timing of works to avoid the overwintering period	Not Significant (negligible)
		Surface water outfall into Old Rockcliffe Brook (Kelsterton Brook) Loss of roosting and foraging habitats. Noise and visual disturbance of birds resulting in their displacement from regularly used habitats.	Not Significant (minor adverse)	Provision of enhanced habitats on-site and off-site. Timing of works to avoid the overwintering period.	Not Significant (negligible)
Non-breeding wetland bird assemblage	Regional	*Main Development Area*	Significant (major adverse)	Provision of enhanced habitats on-site and off-site.	Not Significant (minor adverse)

Feature	Value	Description of Potential Impacts	Potential Effects Significance (prior to Additional Mitigation)	Additional Mitigation Measures	Residual Effects Significance (after Additional mitigation)
		Loss of roosting and foraging habitats. Noise disturbance of birds from the piling works resulting in their displacement from regularly used habitats.		Additional measures to minimise noise.	
		Water Connection Corridor Noise and visual disturbance of birds resulting in their displacement from regularly used habitats.	Significant (major adverse)	Timing of works to avoid the overwintering period.	Not Significant (minor adverse)
		Surface water outfall into Old Rockcliffe Brook (Kelsterton Brook) Loss of roosting and foraging habitats. Noise and visual disturbance of birds resulting in their displacement from	Significant (major adverse)	Provision of enhanced habitats on-site and off-site. Timing of works to avoid the overwintering period.	Not Significant (minor adverse)

Feature	Value	Description of Potential Impacts	Potential Effects Significance (prior to Additional Mitigation)	Additional Mitigation Measures	Residual Effects Significance (after Additional mitigation)
		regularly used habitats.			

Table 11-17: Summary of Significant Residual Effects (Operation)

Receptor	Sensitivity (value)	Description of Impact	Classification of Effect (prior to Additional Mitigation)	Additional Mitigation/Enhancement Measure	Residual Effect after Additional Mitigation
The Dee Estuary SPA/Ramsar/SAC	International	Habitat loss/changes in air quality/alteration of local hydrology and water quality	No Significant Effect (neutral, not significant)	N/A	No Significant Effect (neutral, not significant)
The River Dee and Bala Lake/Afon Dyfrdwy a Llyn Tegid SAC	International	Changes in air quality/alteration of local hydrology and water quality	No Significant Effect (neutral, not significant)	N/A	No Significant Effect (neutral, not significant)
Deeside and Buckley Newt sites SAC	International	Changes in air quality	Significant (moderate adverse, significant)	Contribution to the management and monitoring of habitats	No Significant Effect (neutral, not significant)

Receptor	Sensitivity (value)	Description of Impact	Classification of Effect (prior to Additional Mitigation)	Additional Mitigation/Enhancement Measure	Residual Effect after Additional Mitigation
				through the operational phase	
Halkyn Mountain/Mynydd Helygain SAC	International	Changes in air quality	No Significant Effect (neutral, not significant)	N/A	No Significant Effect (neutral, not significant)
Alyn Valley Woods/Coedwigoedd Dyffryn Alun SAC	International	Changes in air quality	No Significant Effect (neutral, not significant)	N/A	No Significant Effect (neutral, not significant)
Mersey Estuary SPA/Ramsar (England)	International	Changes in air quality	No Significant Effect (neutral, not significant)	N/A	No Significant Effect (neutral, not significant)
Dee Estuary/Aber Afon Dyfrdwy SSSI	National	Changes in air quality	No Significant Effect (neutral, not significant)	N/A	No Significant Effect (neutral, not significant)
Afon Dyfrdwy (River Dee) SSSI	National	Changes in air quality	No Significant Effect (neutral, not significant)	N/A	No Significant Effect (neutral, not significant)
Shotton Lagoons and Reedbeds SSSI	National	Changes in air quality	No Significant Effect (neutral, not significant)	N/A	No Significant Effect (neutral, not significant)
Inner Marsh Farm SSSI	National	Changes in air quality	No Significant Effect (neutral, not significant)	N/A	No Significant Effect (neutral, not significant)
Mynydd Y Fflint / Flint Mountain SSSI	National	Changes in air quality	No Significant Effect (neutral, not significant)	N/A	No Significant Effect (neutral, not significant)

Receptor	Sensitivity (value)	Description of Impact	Classification of Effect (prior to Additional Mitigation)	Additional Mitigation/Enhancement Measure	Residual Effect after Additional Mitigation
Connah's Quay Ponds and Woodland SSSI	National	Changes in air quality	Significant (moderate adverse, significant)	Contribution to the management and monitoring of habitats through the operational phase	No Significant Effect (neutral, not significant)
Comin Helygain a Glaswelltiroedd Treffynnon / Halkyn Common and Holywell Grasslands SSSI	National	Changes in air quality	No Significant Effect (neutral, not significant)	N/A	No Significant Effect (neutral, not significant)
Buckley Claypits and Commons SSSI	National	Changes in air quality	No Significant Effect (neutral, not significant)	N/A	No Significant Effect (neutral, not significant)
Maes y Grug SSSI	National	Changes in air quality	No Significant Effect (neutral, not significant)	N/A	No Significant Effect (neutral, not significant)
Herward Smithy SSSI	National	Changes in air quality	No Significant Effect (neutral, not significant)	N/A	No Significant Effect (neutral, not significant)
Parc Linden, Lixwm SSSI	National	Changes in air quality	No Significant Effect (neutral, not significant)	N/A	No Significant Effect (neutral, not significant)
Tyddyn-y-barcut SSSI	National	Changes in air quality	No Significant Effect (neutral, not significant)	N/A	No Significant Effect (neutral, not significant)

Receptor	Sensitivity (value)	Description of Impact	Classification of Effect (prior to Additional Mitigation)	Additional Mitigation/Enhancement Measure	Residual Effect after Additional Mitigation
Alyn Valley Woods and Alyn Gorge Caves SSSI	National	Changes in air quality	No Significant Effect (neutral, not significant)	N/A	No Significant Effect (neutral, not significant)
Parc Bodlondeb and Gwenallt-parc, Lixwm SSSI	National	Changes in air quality	No Significant Effect (neutral, not significant)	N/A	No Significant Effect (neutral, not significant)
Pen-y-Cefn Pasture SSSI	National	Changes in air quality	No Significant Effect (neutral, not significant)	N/A	No Significant Effect (neutral, not significant)
Cefn Meadow SSSI	National	Changes in air quality	No Significant Effect (neutral, not significant)	N/A	No Significant Effect (neutral, not significant)
Chwarel Cambrian / Cambrian Quarry, Gwernymynydd SSSI	National	Changes in air quality	No Significant Effect (neutral, not significant)	N/A	No Significant Effect (neutral, not significant)
Dibbinsdale SSSI (England)	National	Changes in air quality	No Significant Effect (neutral, not significant)	N/A	No Significant Effect (neutral, not significant)
Heswell Dales SSSI (England)	National	Changes in air quality	Significant (major adverse, significant)	Management and monitoring of habitats through the operational phase	No Significant Effect (neutral, not significant)
Dee Cliffs (England) SSSI	National	Changes in air quality	No Significant Effect (neutral, not significant)	N/A	No Significant Effect (neutral, not significant)

Receptor	Sensitivity (value)	Description of Impact	Classification of Effect (prior to Additional Mitigation)	Additional Mitigation/Enhancement Measure	Residual Effect after Additional Mitigation
River Dee (England) SSSI	National	Changes in air quality	No Significant Effect (neutral, not significant)	N/A	No Significant Effect (neutral, not significant)
The Mersey Estuary SSSI (England)	National	Changes in air quality	No Significant Effect (neutral, not significant)	N/A	No Significant Effect (neutral, not significant)
Coed Trefraith SSSI	National	Changes in air quality	No Significant Effect (neutral, not significant)	N/A	No Significant Effect (neutral, not significant)
Coed Talon Marsh SSSI	National	Changes in air quality	No Significant Effect (neutral, not significant)	N/A	No Significant Effect (neutral, not significant)
Bryn Alyn SSSI	National	Changes in air quality	No Significant Effect (neutral, not significant)	N/A	No Significant Effect (neutral, not significant)
Thurstaston Common SSSI (England)	National	Changes in air quality	No Significant Effect (neutral, not significant)	N/A	No Significant Effect (neutral, not significant)
Glaswelltiroedd Eryrys (Eryrys Grasslands) SSSI	National	Changes in air quality	No Significant Effect (neutral, not significant)	N/A	No Significant Effect (neutral, not significant)
Graig, Llanarmon-Yn-Ial SSSI	National	Changes in air quality	No Significant Effect (neutral, not significant)	N/A	No Significant Effect (neutral, not significant)
New Fery (England) SSSI	National	Changes in air quality	No Significant Effect (neutral, not significant)	N/A	No Significant Effect (neutral, not significant)

Receptor	Sensitivity (value)	Description of Impact	Classification of Effect (prior to Additional Mitigation)	Additional Mitigation/Enhancement Measure	Residual Effect after Additional Mitigation
Gathering Grounds Woods and Llwyni Pond LNR	District	Changes in air quality	No Significant Effect (neutral, not significant)	N/A	No Significant Effect (neutral, not significant)
Leadbrook Wood LWS	County	Changes in air quality	No Significant Effect (neutral, not significant)	N/A	No Significant Effect (neutral, not significant)
Top-y-fron Dingle and Kelserton Brook LWS	County	Changes in air quality	No Significant Effect (neutral, not significant)	N/A	No Significant Effect (neutral, not significant)
Llwyn-onn LWS	County	Changes in air quality	No Significant Effect (neutral, not significant)	N/A	No Significant Effect (neutral, not significant)
Cheshire Farm LWS	County	Changes in air quality	No Significant Effect (neutral, not significant)	N/A	No Significant Effect (neutral, not significant)
Caeau Alt-vois LWS	County	Changes in air quality	No Significant Effect (neutral, not significant)	N/A	No Significant Effect (neutral, not significant)
Shotton Steelworks LWS	County	Changes in air quality	No Significant Effect (neutral, not significant)	N/A	No Significant Effect (neutral, not significant)
The River Dee LWS	County	Changes in air quality	No Significant Effect (neutral, not significant)	N/A	No Significant Effect (neutral, not significant)
Coed Stanley LWS	County	Changes in air quality	No Significant Effect (neutral, not significant)	N/A	No Significant Effect (neutral, not significant)
Coed Bryn-y-Garreg LWS	County	Changes in air quality	No Significant Effect (neutral, not significant)	N/A	No Significant Effect (neutral, not significant)

Receptor	Sensitivity (value)	Description of Impact	Classification of Effect (prior to Additional Mitigation)	Additional Mitigation/Enhancement Measure	Residual Effect after Additional Mitigation
Wepre Wood LWS	County	Changes in air quality	No Significant Effect (neutral, not significant)	N/A	No Significant Effect (neutral, not significant)
Coed y Cra LWS	County	Changes in air quality	No Significant Effect (neutral, not significant)	N/A	No Significant Effect (neutral, not significant)
Brown Oak Wood Wild Ground Reserve	Local	Changes in air quality	No Significant Effect (neutral, not significant)	N/A	No Significant Effect (neutral, not significant)
Llwyni Valley Wild Ground Reserve	Local	Changes in air quality	No Significant Effect (neutral, not significant)	N/A	No Significant Effect (neutral, not significant)
Ancient Woodland	National	Changes in air quality	No Significant Effect (neutral, not significant)	N/A	No Significant Effect (neutral, not significant)
Saltmarsh	National	Changes in air quality	Refer to Dee Estuary SPA/Ramsar/SAC/SSSI above		
Intertidal mudflats	National	Changes in air quality	Refer to Dee Estuary SPA/Ramsar/SAC/SSSI above		
Badger	Local	Disturbance from lighting	No Significant Effect (neutral, not significant)	N/A	No Significant Effect (neutral, not significant)
Badger	Local	Disturbance from noise and vibration	No Significant Effect (neutral, not significant)	N/A	No Significant Effect (neutral, not significant)
Bats	County	Disturbance from lighting	No Significant Effect (neutral, not significant)	N/A	No Significant Effect (neutral, not significant)

Receptor	Sensitivity (value)	Description of Impact	Classification of Effect (prior to Additional Mitigation)	Additional Mitigation/Enhancement Measure	Residual Effect after Additional Mitigation
Bats	County	Disturbance from noise and vibration	No Significant Effect (neutral, not significant)	N/A	No Significant Effect (neutral, not significant)
Otter	Local	Disturbance from lighting	No Significant Effect (neutral, not significant)	N/A	No Significant Effect (neutral, not significant)
Otter	Local	Disturbance from noise and vibration	No Significant Effect (neutral, not significant)	N/A	No Significant Effect (neutral, not significant)
Aquatic Ecology (Macroinvertebrates, Fish and Aquatic Macrophytes)	Up to National	Changes to water quality	No Significant Effect (neutral, not significant)	N/A	No Significant Effect (neutral, not significant)
Aquatic Ecology (Macroinvertebrates, Fish and Aquatic Macrophytes)	Up to National	Disturbance from lighting	No Significant Effect (neutral, not significant)	N/A	No Significant Effect (neutral, not significant)

References

Ref 11-1 UK Government, 2017; The Infrastructure Planning (Environmental Impact Assessment) Regulations 2017 (online). Available at: https://www.legislation.gov.uk/uksi/2017/572/contents (Accessed 30/07/25).

Ref 11-2 UK Government, 2017; The Conservation of Habitats and Species Regulations 2017. Available at: The Conservation of Habitats and Species Regulations 2017 (legislation.gov.uk) (Accessed 30/07/25).

Ref 11-3 UK Government, 1981; Wildlife and Countryside Act 1981. Available at: Wildlife and Countryside Act 1981 (legislation.gov.uk) (Accessed 30/07/25).

Ref 11-4 UK Government, 2021; Environment Act 2021. Available at: https://www.legislation.gov.uk/ukpga/2021/30/contents (Accessed 30/07/25).

Ref 11-5 UK Government, 2016; Environment (Wales) Act 2016. Available at: Environment (Wales) Act 2006 (legislation.gov.uk) (Accessed 30/07/25).

Ref 11-6 UK Government, 2000; Countryside and Rights of Way Act 2000. Available at: https://www.legislation.gov.uk/ukpga/2000/37/contents (Accessed 30/07/25).

Ref 11-7 UK Government, 1997; The Hedgerows Regulations 1997. Available at: The Hedgerows Regulations 1997 (legislation.gov.uk) (Accessed 30/07/25).

Ref 11-8 UK Government, 1996; Wild Mammals (Protection) Act 1996. Available at: Wild Mammals (Protection) Act 1996 (legislation.gov.uk) (Accessed 30/07/25).

Ref 11-9 UK Government, 1992; Protection of Badgers Act 1992. Available at: Protection of Badgers Act 1992 (legislation.gov.uk) (Accessed 30/07/25).

Ref 11-10 Department for Environment, Food & Rural Affairs (Defra), 2017; The Water Environment (Water Framework Directive (WFD)) (England and Wales) Regulations 2017 – Explanatory Memorandum. Available at: https://www.legislation.gov.uk/uksi/2017/407/pdfs/uksiem_20170407_en.pdf (Accessed 30/07/25).

Ref 11-11 UK Government, 2015; The Water Framework Directive (Standards and Classification) Directions (England and Wales) 2015. Available at The Water Framework Directive (Standards and Classification) Directions (England and Wales) 2015 (legislation.gov.uk) (Accessed 30/07/25).

Ref 11-12 UK Government, 1975; Salmon and Freshwater Fisheries Act 1975. Available at Salmon and Freshwater Fisheries Act 1975 (legislation.gov.uk) (Accessed 30/07/25).

Ref 11-13 UK Government, 2009; The Eels (England and Wales) Regulations 2009. Available at The Eels (England and Wales) Regulations 2009 (legislation.gov.uk) (Accessed 30/07/25).

Ref 11-14 UK Government, 2019; The Invasive Alien Species (Enforcement and Permitting) Order 2019. Available at: The Invasive Alien Species (Enforcement and Permitting) Order 2019 (legislation.gov.uk) (Accessed 30/07/25).

Ref 11-15 UK Government (2006). Natural Environment and Rural Communities Act 2006. Available at: Natural Environment and Rural Communities Act 2006 (Accessed 30/07/25).

Ref 11-16 Bonn Convention (1979).

Ref 11-17 National Assembly of Wales (2015) Well-being of Future Generations (Wales) Act 2015. Available at https://www.legislation.gov.uk/anaw/2015/2/contents (Accessed 30/07/25).

Ref 11-18 Welsh Government, 2021; Future Wales: The National Plan 2040. Available at: https://www.gov.wales/sites/default/files/publications/2021-02/future-wales-the-national-plan-2040.pdf (Accessed 30/07/25).

Ref 11-19 Department for Energy Security and Net Zero (DESNZ), 2023; Overarching National Policy Statement for Energy (EN-1) [online]. Available at: https://assets.publishing.service.gov.uk/media/65a7864e96a5ec0013731a93/overarching-nps-for-energy-en1.pdf (Accessed 30/07/25).

Ref 11-20 DESNZ, 2023; National Policy Statement for Natural Gas Electricity Generating Infrastructure (EN-2) [online]. Available at: https://assets.publishing.service.gov.uk/media/655dc15a544aea000dfb3239/nps-natural-gas-electricitygenerating-infrastructure-en2.pdf (Accessed 30/07/25).

Ref 11-21 DESNZ, 2023; National Policy Statement for Gas Supply Infrastructure and Gas and Oil Pipelines (EN-4) [online]. Available at: https://assets.publishing.service.gov.uk/media/655dc2d4046ed4000d8b9dd9/nps-natural-gas-supply-infrastructurepipelines-en4.pdf (Accessed 30/07/25).

Ref 11-22 DESNZ, 2023; National Policy Statement for Electricity Networks Infrastructure (EN-5) [online]. Available at: https://assets.publishing.service.gov.uk/media/655dc25e046ed400148b9dca/nps-electricity-networks-infrastructure-en5.pdf (Accessed 11/05/25)

Ref 11-23 Welsh Government, 2024; Planning Policy Wales: Edition 12 [online]. Available at: https://www.gov.wales/sites/default/files/publications/2024-07/planning-policy-wales-edition-12.pdf (Accessed 30/07/25).

Ref 11-24 Welsh Government, 2017; TAN 5: nature conservation and planning (May 2017) [online]. Available at: Technical advice note (TAN) 5: nature conservation and planning | GOV.WALES (Accessed 30/07/25).

Ref 11-25 FCC, 2023; Flintshire Local Development Plan 2015 – 2030. Adopted Plan 24th January 2023. [Online] Available at:

https://flintshire.gov.uk/en/PDFFiles/Planning/Examination-Library-Documents/FINAL-LDP-Written-Statement-English.pdf (Accessed 30/07/25).

Ref 11-26 Flintshire County Council, 2020; Supporting Nature in Flintshire. Available at: 2120/14390 Supporting Nature in Flintshire Plan (Accessed 30/07/25).

Ref 11-27 Arcadis, 2019; Habitats Regulations Assessment to inform the assessment of the Flintshire Local Development Plan. Available at: Final Habitats Regulations Assessment (flintshire.gov.uk) (Accessed 30/07/25).

Ref 11-28 CIEEM, 2021; Good Practice Guidance for Habitats and Species.

Ref 11-29 CIEEM, 2018; Guidelines for Preliminary Ecological Appraisal (GPEA). (Accessed 29/03/2024)

Ref 11-30 CIEEM (2024) Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater Version 1.3.

Ref 11-31 British Standard Institute 2013; BS 42020:2013 Biodiversity — Code of practice for planning and development

Ref 11-32 Cutts, N., Phelps, A., Spencer, J., & Hemmingway, K. (2013). Waterbird disturbance mitigation toolkit. Tide toolbox, Interreg IVB North Sea Region Programme.

Ref 11-33 MAGIC, 2023; Multi Agency Geographic Information for the Countryside. Available at: Magic Map Application (defra.gov.uk) (Accessed 30/07/25).

Ref 11-34 JNCC, 2023; Joint Nature Conservation Committee. Available at: JNCC - Adviser to Government on Nature Conservation (Accessed 30/07/25).

Ref 11-35 Welsh Government, 2023; Data Map Wales. Available at: Home | DataMapWales (gov.wales) (Accessed 30/07/25).

Ref 11-36 Aspect Ecology, 2023; Connah's Quay Power Station: Northern and Southern Land Parcel, Phase 1 Habitat and Faunal Surveys

Ref 11-37 Aspect Ecology, 2023; Connah's Quay Power Station: Northern and Southern Land Parcel, Breeding, Passage and Wintering Bird Surveys.

Ref 11-38 Aspect Ecology, 2023; Connah's Quay Power Station: Northern and Southern Land Parcel, Reptile Surveys.

Ref 11-39 NBN. 2023; National Biodiversity Atlas. Available at: NBN Atlas - UK's largest collection of biodiversity information (Accessed 30/07/25).

Ref 11-40 COFNOD, 2024; North Wales Environmental Service. Available at: Cofnod - North Wales Environmental Information Service | Home (Accessed 30/07/25).

Ref 11-41 Deeside Naturalists Society, 2024; Deeside Naturalists Society. Available at: https://www.deenats.org.uk/ (Accessed 30/07/25).

Ref 11-42 Morris, G. E. (2023). North-East Wales Bird Report 2022. Clwyd Bird Recording Group.

Ref 11-43 K Ltd (2022) HyNet North West Environmental Statement – (Volume III) Appendix 9.2 Great Crested Newt Survey Report. HyNet Carbon Dioxide Pipeline DCO. Available at: Environmental Statement (Volume III) (planninginspectorate.gov.uk) (Accessed 30/07/25).

Ref 11-44 WSP UK Ltd (2022) HyNet North West Environmental Statement – (Volume III) Appendix 9.3 Bat Activity Survey Report. HyNet Carbon Dioxide Pipeline DCO. Available at: https://nsip-documents.planninginspectorate.gov.uk/published-documents/EN070007-001322-D.6.3.9.3%20Appendix%209.3%20Bat%20Activity%20Survey%20Report%20Rev%20B%20Part%201%20(Clean).pdf (Accessed 30/07/25).

Ref 11-45 WSP UK Ltd (2022) HyNet North West Environmental Statement – (Volume III) Appendix 9.8 Bat Activity Survey Report. HyNet Carbon Dioxide Pipeline DCO. Available at: https://nsip-documents.planninginspectorate.gov.uk/published-documents/EN070007-002684-D.6.3.9.3%20Appendix%209.3%20Bat%20Activity%20Survey%20-%20Rev%20E%20(Clean).pdf (Accessed 30/07/25).

Ref 11-46 Environment Agency, 2024. Ecology and Fish Data Explorer. Available at: EA Ecology & Fish Data Explorer (Accessed 30/07/25).

Ref 11-47 National Resources Wales, 2024. Request Environmental Data. Available at: Natural Resources Wales/Request environmental data (Accessed 30/07/25).

Ref 11-48 UK Government, 2017; The Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019. Available at: The Conservation of Habitats and Species Regulations 2017 (legislation.gov.uk) (Accessed 30/07/25).

Ref 11-49 European Commission, 2000; Assessment of plans and projects significantly affecting Natura 2000 Sites: Methodological Guidance on the Provisions of Article 6(3) and 6(4) of the Habitats Directive.

Ref 11-50 UK Government, Guidance on the use of Habitats Regulations Assessment. Available at: Appropriate assessment - GOV.UK (www.gov.uk) (Accessed 30/07/25).

Ref 11-51 Planning Inspectorate, 2024; Nationally Significant Infrastructure Projects: Advice on Habitats Regulations Assessments [online]. Available at: https://www.gov.uk/guidance/nationally-significant-infrastructure-projects-advice-on-habitats-regulations-assessments (Accessed 30/07/25).

Ref 11-52 Bat Conservation Trust & Institute of Lighting Professionals (ILP), 2023; Guidance Note 8 Bats and Artificial Lighting. ILP Publications. Available At: https://theilp.org.uk/publication/guidance-note-8-bats-and-artificial-lighting/ (Accessed 30/07/25).

Ref 11-53 UK Government Air emissions risk assessment for your environmental permit Available at] https://www.gov.uk/guidance/air-emissions-risk-assessment-for-your-environmental-permit (Accessed 30/07/25).

Ref 11-54 Caporn, S., Field, C., Payne, R., Dise, N., Britton, A., Emmett, B., Stevens, C. (2016). Assessing the Effects of Small Increments of Atmospheric Nitrogen Deposition (Above the Critical Load) on Semi Natural Habitats of Conservation Importance. Natural England Commissioned Report 210. Natural England.

Ref 11-55 National Highways (2024), Design Manual for Roads and Bridges Volume LA105: Air Quality.