Welsh Inshore Marine Plan key policies relevant to the project		
Policy	Policy Objective Aim	Assessment
GEN_01	There is a presumption in favour of the sustainable development of the plan area in order to contribute to Wales' well-being goals.	The installation of the new water main will increase resilience of supply between Connah's Quay and the development areas to the north of the River Dee. The installation of the water main will ensure sustainable development for areas north of the River Dee.
GEN_02	Relevant public authorities should take a proportionate, risk-based approach to application of relevant marine planning policies in decision making.	By submitting this application to NRW and other stakeholders a proportionate risk-based approach to decision making will be undertaken.
ECON_01	Proposals for economically sustainable activities are encouraged, particularly where they contribute to: the sustainable management of natural resources thereby supporting ecosystem resilience; a more resilient economy; employment opportunities particularly for coastal communities; protecting and creating employment at all skill levels; maintaining communities with a high-density of Welsh speakers; and/or tackling poverty by supporting deprived coastal communities.	The installation of the new water main will increase resilience of supply between Connah's Quay and the development areas to the north of the River Dee. The installation of the water main will ensure the natural resource is sustainably managed and therefore support ecosystem resilience and a more resilient economy. The HDD works may provide employment opportunities and a more resilient economy.
ECON_02	Proposals should demonstrate how they have considered opportunities for coexistence with other compatible sectors in order to optimise the value and use of the marine area and marine natural resources.	As the installation method for the water main is HDD, this will ensure no implications for river use by other sea users. Additionally, local users Connah's Quay STW and an active discharge point will not be impacted by the works, therefore a level of coexistence will occur.
SOC_02	Proposals that contribute to the well-being of coastal communities are encouraged.	The installation of the new water main will increase resilience of supply between Connah's Quay and the development areas to the north of the River Dee. Therefore the coastal communities will benefit from the installation of the pipeline.
SOC_03	Proposals should demonstrate how they minimise their risk of causing or contributing to marine pollution incidents.	HDD drilling will be required to install the new water main under the river Dee. Standard requirements such as bunding and storage of pollutants will be in place and a range of embedded mitigation measures will be utilised to ensure potential for marine pollution is As Low As is Reasonably Practicable (ALARP). A contingency plan will be in place for break outs consisting of the following stages: Prevention; Containment; Control.
SOC_07	Proposals should demonstrate how potential impacts on seascapes have been taken into consideration and should, in order of preference: avoid adverse impacts on seascapes; and/or minimise impacts where they cannot be avoided; and/or mitigate impacts where they cannot be minimised. If significant adverse impacts cannot be avoided, minimised or mitigated, proposals must present a clear and convincing case for proceeding. Opportunities to enhance seascapes are encouraged.	HDD drilling under the River Dee will not impact on the seascape as works will be under the riverbed. Machinery used to undertake HDD may be visible from the estuary however this will be temporary during construction.
SOC_08	Proposals should demonstrate how they are resilient to coastal change and flooding over their lifetime.	The project is resilient to coastal change and flooding as it is below the riverbed. The HDD entry and exit points (and associated working areas) are not located within any flood risk areas (Flood Risk

Welsh Inshore Marine Plan key policies relevant to the project		
Policy	Policy Objective Aim	Assessment
		Assessment Wales Map; https://maps.cyfoethnaturiolcymru.gov.uk/)
SOC_09	Proposals should demonstrate how they: avoid significant adverse impacts upon coastal processes; and minimise the risk of coastal change and flooding; Proposals that align with the relevant Shoreline Management Plan(s) and its policies are encouraged.	The project is resilient to coastal change and flooding as it is below the riverbed. Works will not impact coastal processes.
SOC_10	Proposals should demonstrate how they, in order of preference: avoid the emission of greenhouse gases; and/or minimise them where they cannot be avoided; and/or mitigate them where they cannot be minimised. Where significant emission of greenhouse gases cannot be avoided, minimised or mitigated, proposals for regulated activities must present a clear and convincing case for proceeding.	There will be releases of greenhouse gases via construction phase plant and generators. The HDD works will be relatively short term (with a duration of c.7 months) and there will be no release of greenhouse gases following project completion. Use of mobile plant cannot be avoided for temporary works of this nature. The project will help to deliver long-term resilience of water supply, minimising the risk of outages and provision of emergency supplies, which generally have large pumping and/or transport implications; in other words the scheme will mitigate against future generation of greenhouse gases.
SOC_11	Proposals should demonstrate that they have considered the impacts of climate change and have incorporated appropriate adaptation measures, taking into account Climate Change Risk Assessments for Wales. Proposals that contribute to climate change adaptation and/or mitigation are encouraged.	The HDD works will be relatively short term and there are not anticipated to have any effects on, or be affected by Climate Change. The works will provide increased resilience of water supply in the local area.
ENV_01	Proposals should demonstrate how potential impacts on marine ecosystems have been taken into consideration and should, in order of preference: avoid adverse impacts; and/or minimise impacts where they cannot be avoided; and/or mitigate impacts where they cannot be minimised. If significant adverse impacts cannot be avoided, minimised or mitigated, proposals must present a clear and convincing case for proceeding. Proposals that contribute to the protection, restoration and/or enhancement of marine ecosystems are encouraged.	Using HDD for the water main will avoid adverse impact to marine ecosystems as works will be below the seabed. The impacts of underwater noise and vibration on invertebrates, fish and marine mammals are expected to be negligible (see project Underwater Noise and Vibration assessment (APEM 2021a). A Report to Inform HRA has been prepared (APEM 2021). It is the intention of the project to achieve Biodiversity Net Gain, achieved particularly via enhancement of an area of currently poor habitat adjacent to the saltmarsh south of the river (APEM 2021b). *APEM (2021). Habitat Regulations Assessment Report - River Dee Crossing.* *APEM. 2021a. River Dee Crossing HDD Underwater Noise and Vibration assessment. Report for Dŵr Cymru Welsh Water.* *APEM (2021b) Dee Crossing Ecological Survey Report.*

Welsh Inshore Marine Plan key policies relevant to the project		
Policy	Policy Objective Aim	Assessment
ENV_02	Proposals should demonstrate how they: avoid adverse impacts on individual Marine Protected Areas (MPAs) and the coherence of the network as a whole; have regard to the measures to manage MPAs; and avoid adverse impacts on designated sites that are not part of the MPA network.	HDD drilling under the River Dee will ensure interaction with the Dee Estuary SAC is limited to equipment in working areas that are set back from the banks of the river. Mitigation measures will be utilised to minimise potential pollution events and outline the process for any such events. A Report to Inform HRA has been produced for the project (APEM 2021) which concluded 'No adverse effects' on all protected sites (SAC, SPA, Ramsar and SSSI) once mitigation measures/avoidance measures have been taken into account. *APEM. 2021. Habitat Regulations Assessment Report: River Dee Crossing*
ENV_03	Proposals should demonstrate how they avoid or minimise the risk of introducing and spreading invasive non-native species. Where appropriate, proposals should include biosecurity measures to reduce the risk of introducing and spreading of invasive non-native species.	There will be no interaction between equipment or personnel and the River Dee and therefore the risk of introduction of INNS is minimal. A Preliminary Ecological Appraisal (reported within APEM 2021b) has been carried out for the Project Site (as per best practice guidance) and has not identified any INNS of concern. The potential for introduction and spread of INNS was screened out of the WFD assessment for the Proposed Development (APEM 2021d) *APEM. 2021b. Dee Crossing Ecological Survey Report, Ref P00005198.* *APEM. 2021d. River Dee Crossing WFD Assessment*
ENV_04	Proposals should demonstrate how they: avoid the deliberate introduction of litter into the marine plan area; and minimise the risk of accidental release of litter.	As highlighted above mitigation measures will be in place to minimise pollution and litter will be managed via effective contractor practices. Mitigation measures that will be applied to prevent pollution are outlined in the method statement for the Proposed Development (O'Connor Utilities Ltd 2021) *O'Connor Utilities Ltd. 2021. Directional Drilling Method Statement*
ENV_05	Proposals should demonstrate that they have considered man-made noise impacts on the marine environment and, in order of preference: avoid adverse impacts; and/or minimise impacts where they cannot be avoided; and/or mitigate impacts where they cannot be minimised. If significant adverse impacts cannot be avoided, minimised or mitigated, proposals must present a clear and convincing case for proceeding.	An assessment of the potential effects of underwater noise and vibration on marine ecology receptors was conducted for the Proposed Development. The assessment concluded that any impacts on invertebrates, fish and marine mammals are expected to be negligible (APEM 2021a)

Welsh Inshore Marine Plan key policies relevant to the project		
Policy	Policy Objective Aim	Assessment
		APEM. 2021a. River Dee Crossing HDD Underwater Noise and Vibration assessment. Report for Dŵr Cymru Welsh Water.
ENV_06	Proposals should demonstrate that they have considered their potential air and water quality impacts and should, in order of preference: avoid adverse impacts; and/or minimise adverse impacts where they cannot be avoided; and/or mitigate adverse impacts where they cannot be minimised. If significant adverse impacts cannot be avoided, minimised or mitigated, proposals must present a clear and convincing case for proceeding.	Regarding potential introduction of chemicals to the water column, the risk of accidental spillage is minimised due to the distance of the working areas and the drill pits themselves from the River Dee (the entry point is c.300 m from the River Dee). In addition, a wide range of measures will be applied to prevent chemical spillages and pollution of the environment (outlined in O'Connor Utilities Ltd 2021). Pollutants deriving from the historic landfill at the entry point are not expected to be mobilised because the drill annulus is pressurised and the bentonite drill fluid will act as a fissure grout, effectively sealing the drill. All drill fluid and particle arisings will be collected and disposed of appropriately according to waste disposal classifications (a waste strategy has been developed, e.g. ARUP 2021). *O'Connor Utilities Ltd. 2021. Directional Drilling Method Statement* *ARUP (2021). Deeside Crossing Directional Drilling - Waste Assessment Technical Note, 29 March 2021.*
ENV_07	Proposals potentially affecting important feeding, breeding (including spawning & nursery) and migration areas or habitats for key fish and shellfish species of commercial or ecological importance should demonstrate how they, in order of preference: avoid adverse impacts on those areas; and/or minimise adverse impacts where they cannot be avoided; and/or mitigate adverse impacts where they cannot be minimised; If significant adverse impacts cannot be avoided, minimised or mitigated, proposals must present a clear and convincing case for proceeding.	The River Dee is a migratory pathway for key fish species. An assessment of the potential effects of underwater noise and vibration on marine ecology receptors including migratory fish species and invertebrates was conducted for the Proposed Development. The assessment concluded that any impacts on invertebrates (including shellfish) and fish are expected to be negligible (APEM 2021a) *APEM. 2021a. River Dee Crossing HDD Underwater Noise and Vibration assessment. Report for Dŵr Cymru Welsh Water*.
GOV_01	Proposals should demonstrate that they have assessed potential cumulative effects and should, in order of preference: avoid adverse effects; and/or minimise effects where they cannot be avoided; and/or mitigate effects where they cannot be minimised. If significant adverse effects cannot be avoided, minimised or mitigated, proposals must present a clear and convincing case for proceeding. Proposals	Cumulative effects with other projects have been considered in the HRA report (APEM 2021) and the WFD assessment (APEM 2021d) The HRA report indicated that given the available information for the other plans in the area it is considered unlikely that there will be any direct or indirect cumulative

Welsh Inshore Marine Plan key policies relevant to the project		
Policy	Policy Objective Aim	Assessment
	that contribute to positive cumulative effects are encouraged.	effects on any environmental receptors. The WFD assessment concluded that the proposed activities are not anticipated to jeopardise River Basin Management Plan mitigation measures in place for the Dee Estuary catchment, the achievement of good status for the Dee (N. Wales) transitional water body or the achievement of any WFD objectives for freshwater bodies or groundwater bodies either now, or in the future. This was the case when considering the proposed activities in isolation and when considering cumulative effects with other projects. *APEM. 2021. Habitat Regulations Assessment Report: River Dee Crossing* *APEM. 2021d. Dee Crossing Ecological Survey Report, Ref P00005198.*
GOV_02	Relevant public authorities, in making their decisions, should have regard to: any applicable policy in a relevant marine plan; any applicable policy in relevant terrestrial development plans or related documents; the Natural Resources Policy; any relevant local well-being plan(s) (including the local well-being assessment); and evidence in any relevant Area Statement(s) produced by Natural Resources Wales (NRW).	By submitting this application to NRW and other stakeholders policies will be assessed during the decision making process.
SCI_01	Relevant public authorities should make decisions using sound evidence and a risk-based, proportionate approach. Where appropriate they should apply the precautionary principle and consider opportunities to apply adaptive management.	The precautionary principle has been adopted throughout the assessments.