

Mott MacDonald
Mott MacDonald House
8-10 Sydenham Road
Croydon CR0 2EE
United Kingdom

28 April 2021

Dear Victoria Deakin,

**SCREENING AND SCOPING OPINION UNDER THE MARINE WORKS
(ENVIRONMENTAL IMPACT ASSESSMENT) REGULATIONS 2007 (as amended)**

Central Rhyl Coastal Defences Scheme

I am writing further to your request for a screening and scoping opinion, dated 05 February 2021, made in accordance with The Marine Works (Environmental Impact Assessment) Regulations 2007 (as amended) ("The Regulations").

The purpose of the Environmental Impact Assessment (EIA) screening procedure is to determine whether the proposed works require an Environmental Impact Assessment and submission of an Environmental Statement (ES). The purpose of the scoping procedure is to determine what information should be provided in the ES.

In reaching our Screening Opinion we have considered the proposed works against Schedule A1 and A2 of the above regulations. In reaching our scoping opinion we have had regard to the information provided in the "EIA Screening and Scoping Report Part 1 and 2", dated 05 February 2021, and considered the requirements of Schedule 3 of the Marine Works Regulations. We have also consulted with the bodies that we consider have an interest in the project by reason of their environmental responsibilities, or local or regional competences, as required by the above regulations, and had regard to their comments.

Screening Opinion

It is our opinion that the works fall within the categories of project listed within Schedule A2, paragraph 69 of the above regulations, and therefore must be considered in terms of its size, nature and location having regard to the relevant criteria listed in Schedule 1 of the above regulations.

We have carefully considered the views of the consultation bodies alongside the criteria as set out in Schedule 1 of the regulations, and have determined, based on the information provided; that the project has the potential to have a significant effect on the environment and therefore a statutory Environmental Impact Assessment is required.

We have come to this conclusion due to the large-scale and nature of the development and the expected impacts which include but are not limited to the potential alteration to coastal processes and impacts on protected species in the area. In addition, the proposed works are within close proximity to the following protected sites:

- Liverpool Bay SPA
- Dee Estuary SPA, SAC, RAMSAR
- Gronant Dunes SSSI
- Gronant Dunes LNR
- Talacre Warren SSSI

Scoping Opinion

This letter sets out the additional information that we consider necessary to be included and/or assessed in the ES for this Project.

Please note our scoping opinion is based on the information available to us at this time. The information provided is not a definitive list of the ES / EIA requirements and further information may be required following an application for this project, to ensure a full assessment is carried out.

This Screening and Scoping Opinion will be provided to all those bodies that were consulted and will be publicised on our website and on our Public Register.

The Marine Works (Environmental Impact Assessment) Regulations 2007 (as amended)

Scoping Opinion (SC2101)

Summary of the proposal

Mott Macdonald Ltd for Balfour Beatty Civil Engineering Ltd on behalf of Denbighshire County Council, has sought a Screening and Scoping Opinion from Natural Resources Wales Permitting Service (NRW PS) for the proposed Central Rhyl Coastal Defences Scheme. The scheme is located in the central area of Rhyl waterfront, Denbighshire, North Wales. The proposed development includes coastal defence works comprising:

- New rock armour;
- Stepped concrete revetment;
- Promenade rising;
- Sea wall works;
- Access and promenade improvements; &
- Tie-in works.

Location

The scheme includes the area from the eastern section of the West Rhyl Coastal Defence Scheme to the western edge of the East Rhyl Coastal Defence Scheme, which is currently under construction. The location is illustrated in Figure 1.1 of EIA Screening and Scoping Report. The scheme is located along approximately 2.15km of coastline from the western end of the children's play area near River Street in the west, to Tynewydd Road in the east.

Consultation Responses Received

In considering the Scoping Report, the NRW PS consulted with various consultation bodies. The consultation bodies that responded are listed below:

- Natural Resources Wales Technical Experts (NRW TE)
- Maritime and Coastguard Agency (MCA)
- Royal Yachting Association (RYA)
- Trinity House Lighthouse Service (THLS)
- The Crown Estate (TCE)
- Cadw
- Welsh Archaeological Trusts
- Inshore Fisheries and Conservation Adviser (IFCA)
- NATS Safeguarding

0. General comments

- 0.1. Marine and coastal guidance produced by NRW that may provide useful information to help with your project is available here:
<https://naturalresources.wales/guidance-and-advice/business-sectors/marine/?lang=en>
- 0.2. The ES submitted should demonstrate consideration of the points raised in this scoping opinion. It is recommended that a table is provided in the ES summarising the scoping opinion comments and how they are addressed in the ES.
- 0.3. The ES submitted should demonstrate consideration of the points raised in this Scoping Opinion. It is recommended that a table is provided in the ES summarising the Scoping Opinion comments and how they are addressed in the ES.
- 0.4. The EIA must be undertaken by a competent person and the ES must include a competent expert statement.
- 0.5. Where possible, other environmental assessments should be coordinated with the EIA process. However, it is important to note that the Habitats Regulations Assessment (HRA) and Water Framework Directive assessment (WFD), and any other assessment, are separate processes to the EIA.
- 0.6. Throughout the ES robust evidence should be presented so that the potential environmental impacts can be properly understood and evaluated; and appropriate measures identified to avoid, reduce or where necessary compensate for those impacts.
- 0.7. The ES must include:
 - A Non-Technical Summary (NTS);
 - A chart or map identifying where the activity will be carried out;
 - A description of the likely significant effects of the project, whether direct, indirect, secondary, cumulative, transboundary, short-term, medium-term, long-term, permanent, temporary, positive and negative;
 - A description of the methods used to make the assessment of the significant effects and difficulties encountered in compiling the information and uncertainties involved;
 - A description of measures to avoid, prevent, reduce or offset identified significant adverse effects and proposed monitoring arrangements; &
 - A description of the expected significant adverse effects of the project on the environment resulting from the vulnerability of the project to risks of major accidents or disasters.
- 0.8. The ES must consider any potential transboundary impacts where appropriate.
- 0.9. Early engagement with relevant stakeholders is encouraged. You are able to obtain further advice from NRW TE through the NRW Discretionary Advice Service, please see here: <https://naturalresources.wales/guidance-and-advice/business->

- 0.10. The UK left the EU on 31 January 2020 – all legal obligations relating to compliance with environmental licences/permits and legislation will continue to apply. NRW on behalf of Welsh Ministers will continue to issue licenses in line with our current practice.
- 0.11. The assessment will need to cover the realistic worst-case scenario in relation to timescales, impacts from proposed methodologies and also the footprint of the works.
- 0.12. No definition has been given regarding the difference between a significant and non-significant effect presented in Table 9.2 of the Scoping Report. All terminology used within the ES should be adequately defined.

1. Proposed Development

- 1.1. Concerns have been raised surrounding the large footprint of the works over the intertidal area. Justification must be provided regarding the extent of the work and whether a smaller footprint has been considered. NRW TE would welcome discussions around this, and whether schemes with a shorter design life would be less intrusive to the environment.
- 1.2. The project must provide further detail on the extent of the works below the mean high-water spring level. The ES must include details of the extent of works seaward of MHWS, this must include details of any proposed outfall arrangements; how far off the beach they would extend and any likely impact on marine users.
- 1.3. Section 2.3.4 of the Scoping Report details management and maintenance activities that will be required following construction. Further detail will be required on maintenance activities within the ES. We agree that impacts from both construction and operation of the scheme must be assessed and detailed within the ES.
- 1.4. Section 2.4.2 provides a summary of anticipated construction activities. Further detail surrounding the construction process will be required within the ES. This must include the discussion around the excavation of beach materials such as quantity, composition and their subsequent placement. Further detail regarding amount, location and timing is also required on the temporary storage and sorting of rock armour in the intertidal zone.
- 1.5. The Scoping Report does not consider impact on marina users. The assessment must show consideration of other legitimate users of the sea.

2. Policy and legislation

- 2.1. You must ensure that reference is made to and consideration of compliance with

the UK Marine Policy Statement and the Welsh National Marine Plan and its associated policies within the submitted ES, alongside any further regional planning documentation.

The Welsh National Marine Plan can be found here:

<https://gov.wales/welsh-national-marine-plan-document>.

Implementation guidance for the Welsh National Marine Plan can also be found here:

<https://gov.wales/welsh-national-marine-plan-implementation-guidance>.

2.2. You must ensure consideration is given to the relevant Shoreline Management Plan. NRW TE question whether the proposal is in line with the Hold the Line Policy for the area. NRW TE suggest that this is discussed with the relevant Coastal Group.

3. Scoping of Environmental Effects

3.1 No comments were received from consultees in relation to the following sections of the Screening and Scoping Report. The ES should include an assessment of the impacts as set out in the Screening and Scoping Report:

- Air Quality
- Geology and Soils
- Landscape and Visual
- Materials and Waste
- Population and Health
- Traffic, Transport and Access

3.2 Archaeology and Cultural Heritage

3.2.1 Following consultation with Cadw, NRW PS can confirm that the following listed buildings are potentially affected by the proposal:

14276	War Memorial
14325	No 47, Water Street (E Side), Clwyd
14326	No 49, Water Street (E Side), Clwyd
14327	No 46, Water Street (W Side), Clwyd
14328	No 48, Water Street (W Side), Clwyd
14329	No 50, Water Street (W Side), Clwyd
14330	No 52, Water Street (W Side), Clwyd
14331	No 54, Water Street (W Side), Clwyd
14332	No 56, Water Street (W Side), Clwyd

3.2.2 The proposed development will bring new structures into the settings of the listed buildings noted above. As such we disagree that Archaeology and Cultural Heritage can be scoped out for the operation aspect of the project. An assessment must be carried out for impacts of the works on listed building during both the construction and operational phase of the works. This assessment should be undertaken in accordance with the methodology

outlined in the Welsh Government's best-practice guidance '*Setting of Historic Assets in Wales*'.

- 3.2.3 Listed buildings located within a 3km radius of the proposed works are identified in Annex 1 of this document. Cadw confirmed that apart from those listed above, in most cases the views between the listed building and the works are blocked and therefore no impact is predicted at this stage.
- 3.2.4 Cadw stated there are peat and sediment deposits which include important prehistoric features present in the intertidal area of the foreshore. The ES must consider the impact of the works on the peat deposits.
- 3.2.5 Cadw outlined Clwyd-Powys Archaeological Trusts detailed critique of the methodologies for investigating the archaeological resource that could be affected by the works, this is detailed in Annex 2.
- 3.2.6 Cadw highlight that there should be full reporting and archiving of all aspects of the assessment work in accordance with Chartered Institute for Archaeologists standards and guidance. Normally the digital archive should be sent to the Historic Environment record at CPAT and the National Monuments Record Finds should be archived at a regional museums service, or with the National Museum of Wales.

3.3 Biodiversity

- 3.3.1 Limited information has been provided on how the zone of influence distances detailed in Table 9.1 of the Scoping Report have been derived. Justification must be provided within the ES for the zone of influence used. Coastal processes assessment should be used to understand and inform the zone of influence. We would recommend that you discuss the proposed zone of influence for different receptors with NRW TE prior to completing the assessment.
- 3.3.2 We advise that a map is included showing the zone of influence assessed. The area assessed should be based on the potential scheme effects and the extent of the proposed pathways. See '[Natural Resources Wales \(2020\) GN041, Marine Physical Processes Guidance](#)' to inform the EIA.
- 3.3.3 We welcome the intent to produce a Construction Environmental Management Plan (CEMP) and would encourage you to engage with NRW TE as you develop this document. Further information would be required regarding the content of the CEMP before it could be accepted that potential effects could be mitigated through its use.

Marine Ecology

- 3.3.4 We agree as detailed in Section 9.3.2 of the Scoping Report that a Coastal Processes Assessment is necessary. This assessment should be used to assess the potential wider impacts to habitats and species, including *Sabellaria alveolata* reef.
- 3.3.5 The ES must consider potential effects to section 7 habitats Environment (Wales) Act (2016) during both the construction and operational phase of the project.
- 3.3.6 We agree that potential impact on benthic habitats *Sabellaria alveolata* reef and blue mussel (*Mytilus edulis*) beds must be scoped into the assessment. NRW TE note they have significant concerns for potential impact on these species, as it is currently unclear from the information provided what the location, quality and extent of these habitats are in relation to the proposed development, and therefore the significant effects associated with the project. Impact pathways during both construction and operation activities should be clearly identified and assessed within the ES.
- 3.3.7 Table 9.2 of the Scoping Report details that potential “*Adverse effects on marine invertebrates and submerged seaweed from construction activities and water quality effects*” will be scoped into the assessment. It is unclear what potential effects to the benthic receptor have been scoped in. Potential effects to benthic habitats and their impact pathways must be clearly identified in order to ensure that all relevant potential significant effects have been adequately assessed. These may include:
- Habitat loss;
 - Habitat disturbance;
 - Changes in water quality;
 - Changes in the sediment regime – There is the potential for changes in the sediment regime during the operation of the development, this may impact benthic habitats such as *Sabellaria alveolata*; &
 - Introduction of invasive non-native species (INNS).
- 3.3.8 There is a potential for INNS to be introduced and/or spread during construction and operation activities via vehicle movements, preferential settlement of INNS on new infrastructure etc. The potential impact through the introduction of INNS must be scoped in and assessed. NRW TE have advised that a full Biosecurity Risk Assessment and INNS Management Plan will need to be completed in relation to all marine operation activities associated to the current proposal. The risk assessment and management plan should include consideration of all activities, vessels/vehicles and equipment used, as well as how the risk will be minimised through appropriate mitigation and adherence to best practice guidance and management measures. The risk assessment should include a review of all the available data in relation to the presence of

marine INNS where applicable to the current proposal, and the potential risks associated to each species identified.

3.3.9 We welcome the proposal that environmental enhancement is incorporated into the scheme. We would advise that you engage with NRW TE to discuss potential opportunities for environment enhancement. At this stage due to the limited information on the scale of impact on section 7 habitats and lack of detail surrounding environmental enhancement it is not possible to ascertain whether these measures may mitigate for any potential effects.

3.3.10 We would need to agree on the CEMP and its mitigation measures before agreeing potential effects could be mitigated through its use.

Marine Mammals

3.3.11 We agree with the inclusion of marine mammals in the list of protected species, this is due to their occurrence in the area and the status of cetaceans as European Protected Species.

3.3.12 We are currently unable to agree with Table 9.2, listing marine mammals under 'potential non-significant effect' for acoustic disturbance (during high tides) based on the information provided. We have not had sight of the CEMP that is mentioned or the best practice measures. We will require the following additional information to agree with this conclusion:

- a detailed description & methodology of construction works occurring in water, particularly in regard to "Installation of sheet piles at revetment toe", any other piling activities, and all construction operations taking place in water;
- a full noise assessment as described in 15.6.1;
- the CEMP; &
- details of what best practice guidelines are to be followed, and how this will be achieved.

3.4 Climate

3.4.1 The ES must make clear the intended design life of the proposal, and this must be appropriately considered within the assessment. Places of the document state 100 years, but in the climate scenarios detailed, it states 2070-2100 (a range from 60 to a maximum of 80 years).

3.4.2 NRW TE have concerns over being able to assess the effects of 100 years if the sea level rise scenarios are not adequately evidenced based. NRW TE have queried how the 100-year design life has been engineered if the climate change scenarios are not available.

3.5 Coastal Processes (Including Flood Risk and Coastal Water Quality)

Coastal Processes

- 3.5.1 Impacts to the Dee Estuary SPA, SAC and RAMSAR, (including Gronant Dunes and Talacre Warren) must be scoped in for impacts during the operational phase of the development, as well as construction activities. This is due to concerns to disruption to sediment drifts or wider changes to coastal processes.
- 3.5.2 NRW TE has stated that works could alter coastal processes in the area, this may impact the features of the Dee Estuary SAC, SPA, RAMSAR. In addition, potential changes to the sediment regime to the shingle spit at Gronant Dunes and Talacre Warren SSSI, this may lead to effects on the Little Tern (*Sternula albifrons*), therefore this should be scoped in for operational phase of the project.
- 3.5.3 We recommend a map to be presented to visualise the area, this should include the seaward extent which we note is not mentioned in the report. The study extent should only be scaled down to a localised area based on assessment.
- 3.5.4 We recommend you review the following reports as advised by NRW TE: 'Evidence Report No: 243 Guidance on Best Practice for Marine and Coastal Physical Processes Baseline Survey and Monitoring Requirements to Inform EIA of Major Development Projects', and 'Evidence Report No: 208 Advice to Inform Development of Guidance on Marine, Coastal and Estuarine Physical Processes Numerical Modelling Assessments'. NRW TE would also expect site specific data to be used in modelling assessments. Evidence reports are available on the [NRW webpage](#).
- 3.5.5 Section 11.3.2 of the Scoping Report details that ground investigation is currently being undertaken. NRW TE welcome the use of a ground investigation in the ES, as there are fine sediments and clays present within the project footprint. Site specific data should be used in any modelling assessment.
- 3.5.6 The potential impact of works on coastal processes must be assessed and considered within the ES. NRW TE has raised concerns that the scheme will further narrow the intertidal zone, restricting sediment available for transport from the east and decrease natural resilience.
- 3.5.7 Both construction and operational activities must be scoped in at this stage for coastal processes (coastal hydromorphology). In addition to that which is identified in the Scoping Report, discussion is required on beach sediment management, including where the excavated sediment will be deposited when excavating for the permanent works. NRW TE strongly advise against using

the beach sediment for infill, as this is a detriment to the existing beach levels, coastal resilience and inhibiting sediment travelling to the east of the SAC.

3.5.8 The construction effects of stockpiling rock need to be considered in the ES; it is unclear at this stage if it has been adequately been addressed in the CEMP. Two years of construction could be significant if rock will be placed on the foreshore during this time.

3.5.9 NRW TE are concerned that sediment may be inhibited from passing east to the Dee Estuary SAC, through building out the defences and the permanent land take of 2.14 hectares. The potential of the works to inhibit sediment movement to the Dee Estuary SAC must be assessed.

3.5.10 NRW TE has provided advice (Annex 3 in this document) on the proposed methodology of assessment detailed in Appendix B.5 of the Scoping Report. NRW TE have noted that 1D modelling of sediment transport is not usual for schemes of this scale. We would strongly encourage you to engage with NRW TE to ensure that any modelling carried out is fit for purpose.

Water Quality

3.5.11 In relation to Table 11.1, coastal water quality should be scoped in. The table does not mention whether the Nitrate Vulnerable Zones (NVS) are to be scoped in, NVZs must be scoped into the ES.

3.5.12 NRW TE disagree with scoping out potential effects relating to moderate phytoplankton status. Although there is no history of phytoplankton blooms at the Rhyl bathing waters, the North Wales Coastal waterbody has a moderate ecological status. Therefore, effects on phytoplankton must be scoped into the construction phase of the scheme.

3.5.13 Table 11.1 states that construction effects will be of temporary nature. NRW TE disagree with this statement, as the proposed scheme is predicted to take two-years to complete; this is considered by NRW TE a long period of time and may result in long-term effects or permanent changes.

3.5.14 NRW TE cannot provide detailed comments on the WFD section at this stage and further information is required. We would advise that you engage with NRW TE to develop this section of the ES.

3.6 Other Considerations

3.6.1 In the ES numerical modelling for waves and sediments should be presented to understand baseline conditions in addition to the coastal processes report.

- 3.6.2 NRW TE welcomes the added protection the coastal scheme will provide to the Central Rhyl area. We recommend that a 'Flood Consequence Assessment' is included with the coastal processes' assessment. This should consider the impacts of the scheme on the main rivers and associated pumping stations which discharge into the sea within the schemes area of influence.
- 3.6.3 We recommend that Section 11.3.7 also refers to other readily available flood mapping products, including the Flood Risk Assessment Wales maps. For information TAN 15 is expected to be updated late 2021, this will entail combining the existing TAN 14 and 15 into a single document.
- 3.6.4 In the ES further information must be provided in relation to Section 11.3.8 to demonstrate that the scheme is not predicted to increase the fluvial flood risks in the area. This must include consideration to any potential loss of fluvial flood storage and conveyance, along with possible changes to the pumping stations gravity outfall and pumped outfall.
- 3.6.5 We welcome the approach stated in Section 11.4 regarding updated modelling, this is necessary to inform the coastal processes along the frontage.
- 3.6.6 Flood risk must be scoped into the ES, we advise you engage with NRW TE on ensuring there is no detriment to the main river systems and associated pumping stations in the area.

3.7 Noise and Vibration

- 3.7.1 We agree as detailed in Section 15.3.1, 'marine mammals, fish and birds have the potential to be affected by construction noise including piling activities'. The receptors are likely to be present within the coastal waters adjacent to the works area.
- 3.7.2 An underwater noise assessment must be undertaken to determine the extent of potential effects on marine mammals. We agree with the conclusions drawn in Table 15.1 that construction noise and vibration should be scoped into the ES.
- 3.7.3 We cannot currently agree with conclusions stated in Section 9.3.1. In the ES sufficient detail must be included in the noise assessment, including but not limited to; source of frequency, level, duration and impact radius.
- 3.7.4 Depending on the outcome of the noise assessment, it may be appropriate for you to consider if a Species Licence is necessary to avoid causing disturbance or injury to European Protected Species.

4. Cumulative Impacts and In-combination Effects

- 4.1 The ES must include an assessment of cumulative and in-combination effects. There are many projects either approved or being developed at present and therefore, caution will be needed with any in-combination assessment and baseline chosen.
- 4.2 The following data sources may provide useful information on other projects for the assessment of cumulative effects:
- The Nationally Significant Infrastructure Projects register:
<https://infrastructure.planninginspectorate.gov.uk/projects/register-of-applications/>
 - The Developments of National Significance Register:
<http://gov.wales/docs/desh/publications/180312-dns-register-en.pdf>
 - Planning Policy e.g. Local Development Plans, Transport Plans (National and Local) and National Policy Statements.
 - An up to date list of marine licensable developments can be found at the following link:
<http://lle.gov.wales/catalogue/item/MarineLicences/?lang=en>

5. Habitats Regulations Assessment (HRA)

- 5.1 The HRA assessment should draw upon the assessments and information provided in the wider EIA, where there are common topic areas.
- 5.2 NRW TE cannot agree that there is no potential impact pathway to the Dee Estuary SAC. This is due to the proposed works decreasing the intertidal area and taking sediment out of the active marine environment budget. This may result in less sediment being available for estuarine and intertidal habitats within the designated feature.
- 5.3 We recommend the operational impact of narrowing the intertidal area and having a permanent land take of 2.14ha needs further consideration.
- 5.4 We request further information to be included in the CEMP, ES and the HRA on the construction methodology. This will allow for a more detailed assessment to agree with the methods proposed.
- 5.5 We agree that a detailed coastal process study is required to enable assessment on the potential impacts to habitats downdrift.

- 5.6 NRW TE agree that Liverpool Bay SPA must be scoped in at this stage of the assessment due to its proximity to the proposed scheme.
- 5.7 In reference to Table 3.2 of the Scoping Report, we would welcome the completion of works outside of the over-wintering period. Alternatively, if this is not possible it is recommended that works avoid two hours either side of high tide if any significant wader or waterfowl roosts are present in the work area. We also welcome the ruling out use of the barge for direct delivery of revetment rock, this removes potential disturbance impact pathways.

6. Water Framework Directive (WFD)

- 6.1 The WFD assessment should draw upon the assessments and information provided in the wider EIA, where there are common topic areas.
- 6.2 Currently the 2018 interim data has been used. NRW TE advise that the WFD waterbody classifications from Cycle 2 (2015) be used instead.
- 6.3 NRW TE recommend that a scheme with a smaller footprint than 5% of the North Wales waterbody be considered. The Water Framework Directive states that projects with potential effects on more than 1% of the waterbody will need a detailed assessment.
- 6.4 Further information would be required regarding the inclusion of WFD elements in the Water Quality section.
- 6.5 We cannot provide comment on the scoping section of the WFD assessment as currently only the screening aspect has been provided. We recommend the WFD Screening and Scoping Assessment is a standalone document alongside the ES. We encourage you to engage with NRW TE when developing this document.
- 6.6 NRW TE recommend that Rhyl Marine Lake bathing water should be included in Section 11.3.5.2, as it is within 2km of the proposed scheme, following the 'Water Framework Directive Assessment: Estuarine and Coastal Waters Guidance – Gov.uk'. Although the marine lake is not directly linked to the sea, it can be overtopped during high tide. Kimnel Bay (Sandy Cover) bathing water is also just outside of the 2km boundary and should be considered in the assessment.

Yours sincerely



Jodie Pullen

Marine Licensing Team
Natural Resources Wales

Cc: All Consultation Bodies

Approved by:

A handwritten signature in black ink, appearing to read 'W. J. Dods'.

Marine Licensing Team Leader
Natural Resources Wales
Cc: Consultation Bodies.

Annex 1 – Buildings Identified by Cadw Inside 3km of the Proposed Works

Listed Buildings:

250	Church of St Mary, with churchyard walls	II*
251	Ty'n Llan Nursing Home	II*
252	Towyn and Kinmel Bay Youth Club	II*
1405	Rhydorddwy Goch Farmhouse	II
1422	Parish Church of St Thomas	II*
1423	Ty'n Rhyl	II
1498	Town Hall	II
1502	Plas Gwyn	II
1507	Pydew Farmhouse	II
1508	North Range of Farm Buildings at Pydew Farm	II
1510	Lookout tower in Boundry Wall	II
1511	Apollo Cinema & Bingo Club	II
1514	Rhyl No.2 Signal Box	II
1515	Rhyl No.1 Signal Box	II
1516	Midland Bank	II
1521	Sussex Street Baptist Church	II
1522	Bee and Station Hotel	II
1524	Telephone Call-box on the up platform at Rhyl Railway Station	II
1526	Rhyl Railway Station, Main Building	II
14136	The Gables	II
14137	Boundry Wall and Gate Piers at The Gables	II
14138	40 BATH STREET (E SIDE),,,,,CLWYD,	II
14139	42 BATH STREET (E SIDE),,,,,CLWYD,	II
14140	44 BATH STREET (E SIDE),,,,,CLWYD,	II
14141	46 BATH STREET (E SIDE),,,,,CLWYD,	II
14142	48 BATH STREET, (E SIDE),,,,,CLWYD,	II
14143	50 BATH STREET, (E SIDE),,,,,CLWYD,	II
14144	52 BATH STREET, (E SIDE),,,,,CLWYD,	II
14145	Bellevue Terrace	II
14252	English Methodist Church with former Sunday School	II
14253	Tan-Lan	II
14254	Springfields	II
14255	NO 2, BODFOR STREET (E SIDE),,,,,CLWYD,	II
14258	Main Building and Footbridge, Rhyl Railway Station	II
14259	Down-Platform Canopy, Rhyl Railway Station	II
14261	Former Manse to English Methodist Church	II
14262	Church House	II
14263	Gate Piers and Gated to Church House Side	II
14264	Welsh Presbyterian Church	II
14265	Gate Piers, Gates and Railings at Welsh Presbyterian Church	II
14266	NO 2 CLWYD STREET (W SIDE),CLWYD	II
14267	NO 3 CLWYD STREET (W SIDE),CLWYD	II
14268	NO 4 CLWYD STREET (W SIDE),CLWYD	II
14269	NO 5 CLWYD STREET (W SIDE),CLWYD	II

14270	NO 6 CLWYD STREET (W SIDE),CLWYD,II	
14271	NO 7 CLWYD STREET (W SIDE),CLWYD II	
14272	NO 8 CLWYD STREET (W SIDE),CLWYD II	
14273	Marine Villa II	
14274	NO 13 CRESCENT ROAD (E SIDE),CLWYD	II
14275	NO 15 CRESCENT ROAD (E SIDE),CLWYD	II
14276	War Memorial II	
14279	Crescent Public House II	
14280	Grafton Lodge II	
14281	Grafton Lodge II	
14282	New Inn II	
14283	NO 90 HIGH STREET (W SIDE),,,,,CLWYD,	II
14285	NO 135, HIGH STREET (E SIDE),,,,,CLWYD,	II
14286	NO 137, HIGH STREET (E SIDE),,,,,CLWYD,	II
14287	NO 139, HIGH STREET (E SIDE),,,,,CLWYD,	II
14288	NO 141 HIGH STREET (E SIDE),,,,,CLWYD,	II
14289	Cynval Villas II	
14290	Royal Alexandra Hospital II	
14292	NO 12, PARADISE STREET (N SIDE),,,,,CLWYD,	II
14293	NO 14, PARADISE STREET (N SIDE),,,,,CLWYD,	II
14294	Plas Penyddeuglawdd II	
14295	Plas Penyddeuglawdd II	
14296	Pendyffryn II	
14297	NO 40-42, QUEEN STREET (W SIDE),,,,,CLWYD,	II
14298	NO 44-46, QUEEN STREET (W SIDE),,,,,CLWYD,	II
14299	Church of the Holy Trinity II	
14301	The Swan P H II	
14303	NO 31, RUSSELL ROAD (NSIDE),,,,,CLWYD,	II
14304	NO 33, RUSSELL ROAD (N SIDE),,,,,CLWYD,	II
14305	NO 35, RUSSELL ROAD (N SIDE),,,,,CLWYD,	II
14306	NO 37, RUSSELL ROAD (N SIDE),,,,,CLWYD,	II
14307	NO 39, RUSSELL ROAD (N SIDE),,,,,CLWYD,	II
14308	NO 41, RUSSELL ROAD (N SIDE),,,,,CLWYD,	II
14309	Bath Street II	
14310	Bath Street II	
14311	Bath Street II	
14312	Bath Street II	
14314	Bethel Calvinistic Methodist Church II	
14315	Former Schoolroom II	
14316	Manse II	
14317	NO 14, WATER STREET (W SIDE),,,,,CLWYD,	II
14318	NO 14A, WATER STREET (W SIDE),,,,,CLWYD,	II
14319	NO 16, WATER STREET (W SIDE),,,,,CLWYD,	II
14320	Ellis's Bar II	
14321	Ellis's Bar II	
14322	Foryd Bridge II	
14323	Church of Saint John II	

14324	Christchurch United Reformed Church	II
14325	NO 47, WATER STREET (E SIDE),,,,,CLWYD,	II
14326	NO 49, WATER STREET (E SIDE),,,,,CLWYD,	II
14327	NO 46 WATER STREET (W SIDE),,,,,CLWYD,	II
14328	NO 48, WATER STREET (W SIDE),,,,,CLWYD,	II
14329	NO 50, WATER STREET (W SIDE),,,,,CLWYD,	II
14330	NO 52, WATER STREET (W SIDE),,,,,CLWYD,	II
14331	NO 54, WATER STREET (W SIDE),,,,,CLWYD,	II
14332	NO 56, WATER STREET (W SIDE),,,,,CLWYD,	II
14333	NO 71, WEST PARADE (S SIDE),,,,,CLWYD,	II
14334	NO 72, WEST PARADE (S SIDE),,,,,CLWYD,	II
14335	NO 73, WEST PARADE (S SIDE),,,,,CLWYD,	II
14336	NO 74, WEST PARADE (S SIDE),,,,,CLWYD,	II
14337	NO 75, WEST PARADE (S SIDE),,,,,CLWYD,	II

Annex 2 – Clwyd-Powys Archaeological Trust detailed critique outlined in Cadws Response

- i) The existing 2018 DBA should be updated with any new information from the sources previously examined and any new relevant sources that may be available.
- ii) A walkover survey of the whole red boundary area (including any intended works compounds, rock storage areas, vehicle tracking zones) should be completed at the optimum time and preferably at a very low tide to identify and map any timber/stone structural features, peat deposits, tree stump remains and potential prehistoric land surfaces that may be present. Identified features of archaeological significance should all preferably be avoided by iterative design.
- iii) The sub-surface potential for significant prehistoric deposits consisting of past land surfaces, peat deposits and prehistoric forest remains should be assessed by the provision of a paleo-environmental deposit model along the length of the scheme. Geoarchaeological specialists should be engaged to complete this model using appropriate techniques, which may include test pits, boreholes and/or geophysical survey. The geoarchaeological specialists will be responsible for designing the methodology, completing the evaluation works and reporting with suggested mitigation options. Mitigation may require additional sampling/excavation/survey or monitoring prior to, and during, construction works. The geo-archaeological deposit model should target the area of the beach which will see the most ground reduction or compression impacts, which will generally coincide with the toe of the proposed new rock revetments. Other areas where the surface of the beach below the present sand cover may be impacted, e.g. Heavy vehicle tracking, should also be targeted.
- iv) If any geo-technical test pitting or cores are proposed to inform the EIA, or at any subsequent stage prior to construction, then they must be observed via a watching brief process by a qualified archaeological contractor. The findings should be reported, and the information should be shared with the geo-archaeological specialists, who may also wish to be present during GI excavations.
- v) All works should be carried out in accordance with a written scheme of investigation, sometimes called a specification), approved by the archaeological curator for the project, prior to commencing any assessment so that the methodologies determined to be appropriate and meet professional standards.

Annex 3 – NRW TE Comments on Appendix B.5 Coastal Processes (including flood risk and WFD elements)

Referring to Section B.5.2, NRW TE has requested further information to be included in further submissions associated with this project, 1D modelling of sediment transport is not usual for schemes of this scale. Further information includes:

- i) definition of the problem being addressed, the study objectives
- ii) definition of a relevant source – pathway- receptor framework for investigation
- iii) a review of the available evidence base
- iv) justification for the decision whether to use modelling
- v) justification for the choice of any model used (1D, 2D, 3D etc.)
- vi) technical description of the model(s), including development history, examples of previous applications and experience of the model users
- vii) the basis for the definition of the model domain
- viii) the basis for the type of mesh chosen
- ix) the basis for selection of model boundary conditions
- x) the nature of any existing data used (bathymetry, water levels, currents, waves, sea bed characterization, sediment concentrations and particle size, water salinity, temperature and concentration of any other relevant features (phytoplankton, coliforms etc.), including their currency, spatial and temporal resolution, and procedures used to check data quality
- xi) the nature of any new data collected, including measurement methods and procedures for data quality control
- xii) the nature of any sensitivity tests undertaken
- xiii) the basis for selection of critical model parameter values (e.g. bed roughness, bed sediment size), and method of representation in the model
- xiv) the methods used for model calibration
- xv) the methods used for model validation and assessment of 'performance' of the model
- xvi) the magnitude of possible errors / bias in the modelling results and the potential implications for the conclusions reached
- xvii) full reference to data and metadata archiving methods, including full descriptions of the modelling procedures which can be audited by the regulator or other bodies if required.

NRW TE require further information on the metric used for assessment of significant effects in section B.5.3. We are unsure if the metric used for SMP cell changes to coastal processes is appropriate as localised changes could have a significant impact depending on the site, therefore scale should not be the only metric considered.

NRW TE disagree with Table B.9 'Scale for Evaluating the Significance Category with Respect to Impacts on Coastal Processes and Flood Risk Receptors' unless the following

has been considered in terms of loss or extensive permanent damage to a designated nature conservation site:

- i) Long-term changes (>2 years) needs to be considered, including changes to beach erosion and sediment dispersion patterns.
- ii) Medium term changes (6 months to 2 years) to beach erosion and dispersion patterns.