

Project title	Central Rhyl Coastal Defences
Subject	Sediment modelling update
Location	Remote Teams Meeting
Date/time of meeting	19/05/21 10:00 to 10:45
Project number	100420823
Attendees	Emmer Litt (Natural Resources Wales) Ian Beckett (Balfour Beatty Civil Engineering Ltd) Nicholas Price (Mott MacDonald) Victoria Deakin (Mott MacDonald) Shirin Costa (Mott MacDonald) Darren Price (Mott MacDonald)
Apologies	Matt Cowle (Mott MacDonald), Wayne Hope (Denbighshire County Council)
Recorded by	Victoria Deakin
Distribution	Attendees plus apologies

Item	Text	Action
1	<p>Introduction and Objectives</p> <p>Shirin Costa introduced the workshop and outlined the key objective as follows (PowerPoint presentation used);</p> <ul style="list-style-type: none"> • Provide an update on the sediment modelling 	
2	<p>Sediment modelling update</p> <p>Shirin Costa presented the modelling results to date. Emmer Litt indicated that the good thing about the model is it can show long term timescales. A question was raised regarding if the beach would reach equilibrium over long term for the cross shore changes. Shirin Costa and Darren Price advised that the long term evolution model will link profiles together based on the sediment transport model. This will also feedback changes in the cross shore into the model.</p> <p>There is no significant changes to the sediment budgets over the whole system seen in the current modelling results. Emmer Litt asked if it was possible to take the profiles at the Point of Ayr (last 4 profiles in the model) and look at them in detail to show the changes to the transport rates. These results could then be presented in the modelling report and Environmental Statement.</p> <p>Emmer Litt advised that the Point of Ayr is currently eroding which is different to what is showing in model – Darren Price and Shirin Costa advised that the physical processes acting at the Point of Ayr are</p>	

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	<p>complex, whilst we are only considering the impact to the longshore littoral transport brought about by the potential development at Rhyl. Many factors could affect the accretion/erosion at the Point of Ayr beyond littoral transport alone. Changes to the tidal prism of the estuary could have an impact, as could interactions with offshore sandbanks and deep channels. The modelling we are undertaking will identify the change to the supply of sediment to the Point of Ayr (from the west),but will not investigate the changes brought about by other factors which could be part of longer term trends.</p>	
	<p>Emmer Litt asked if the offshore movement of sediment affects the Central Rhyl frontage. Shirin Costa and Darren Price advised that the material from the offshore banks can be added into the evolution model based on available data / information. This could be undertaken as a sensitivity test using some of the onshore sediment movements estimated in other studies.</p>	
	<p>Emmer Litt asked what scenarios are we looking at for the modelling, as this will be something that is reviewed in the Environmental Statement. Shirin Costa and Darren Price identified that the cross shore modelling includes a 1 in 100 storm for present and future conditions (2120) both baseline and with the scheme. For the coastline evolution model a period of time (likely to be between 6 months and a year) will be run to smooth out inconsistencies in the model. The baseline and proposed layout will be run for 10 years which will include the storm events within the 10 years. This also allows changes in the summer and winter profiles / storms etc.</p>	
	<p>Emmer Litt advised that the sediment movement in Central Rhyl is west to east offshore but east to west in the nearshore.</p>	
	<p>Shirin Costa and Darren Price presented the plots showing the proportion of the time the tide is affecting the structure is limited. These plots can also be added into the modelling report.</p>	
	<p>Emmer Litt questioned if it was possible to hindcast backwards in the model. Shirin Costa advised that LiDAR has been analysed which shows the changes in erosion and accretion (compared against the results). These changes have been presented within the sediment modelling report as part of the historical analysis chapter, which analysis profiles and LiDAR trends for Central Rhyl.</p>	
	<p>Emmer Litt advised that, at present, based on what has been presented in the meeting, there are no concerns with the modelling approach. It was also highlighted that NRW would not want to see material being locked out of the system in the revetment.</p>	
	<p>A meeting to review the longshore transport modelling results will be proposed to discuss the outputs. Emmer Litt asked that the project team consider the aim of the modelling throughout to determine the impact of the scheme on the coastal processes and the impacts downdrift at the SAC.</p>	<p>Victoria Deakin to organise</p>