Mersea Harbour Protection Trust

Mersea Harbour and Tollesbury Wick - climate change adaptation recharge project

Strategic appraisal

i. Identification of any conflicts between the project and the relevant marine plan.

ii. Identification of alignment of the project with the Marine Policy Statement and any relevant National Policy Statement.

With the South-East Marine Plan in preparation an assessment of the recharge proposal has been made against the Marine Policy Statement. The proposal has also been evaluated with regard to the National Planning Policy Framework. No conflicts with these national policy statements have been identified. These appraisals have been summarised to include with the application, with a full account included in the Environmental Statement.

iii. Identification of the environmental, social and economic drivers for a project that have been identified through existing feasibility studies or discussions with other public bodies (e.g. Local Authorities or Local Economic Partnerships).

The project proposal has been driven by the Mersea Harbour Protection Trust, a charitable trust formed by a group of local people with a stake in the future of the harbour. The proposal is designed to safeguard the harbour and the wider environment against climate-change induced sea level rise. This will help to sustain the native oyster and inshore fishing industry; shore-based marine businesses; farmland; residences, and the historic Mersea waterfront. Storm protection of the harbours fleets and creeks will also benefit notified nature conservation features, and the recharge structures themselves will provide habitat for breeding little tern and reverse erosion of the saltmarsh and mudflats in the lee of the recharge bunds. The influence of the recharge also extends to terrestrial SSSI, SPA and Ramsar sites helping to sustain fresh and brackish-water grazing marshes. The coastal management strategy identified in the Essex and South Suffolk Shoreline Management Plan is to realign these sites in Epoch 3 (between 2055 and 2105). Realignment would help to absorb the energy of long fetch waves driven by north-easterly winds which impact the current defence line. However, the foreshore recharge would perform the same function over the medium to longer term. It is acknowledged that the negative effect of allowing flooding over 390ha of historic grazing marsh would be difficult to mitigate and the policy may revert to ‘hold the line’ in future reviews of the SMP.

The Environment Agency has also identified opportunities for the beneficial use of dredgings within the Essex and South Suffolk Shoreline Management Plan project area. Two of the locations featured in the current proposal, Cobmarsh and Packing Marsh Islands, have been highlighted as potential receptor sites for inclusion in any future study. The study is scheduled prior to the 2020 SMP review, subject to funding.

With the potential to offer sustainable management of the commercially and historically important harbour and the marine protected area, the Mersea Harbour Protection Trust engaged in early discussions with the Environment Agency, Colchester Borough Council and

Essex County Council at the consultation stage. This has led to the MHPT recharge proposal receiving financial support from the Environment Agency, the Essex County Council Community Initiative Fund, and has been chosen by Colchester councillors to be the recipient of funding from Colchester Borough Council's Community Budget.

iv. Identification of any potential issues that may arise due to EU legislation (e.g. Water Framework Directive, Marine Strategy Framework Directive, Habitats Directive), and how these can potentially be avoided, or mitigated, at the strategic level.

The project has been fully assessed at the strategic level in the Environmental Statement, taking account of all relevant EU Directives and UK legislation interpreting the Directives. Water quality has been addressed within the ES and a separate WFD assessment is included with the licence application. No adverse impacts at the water body level have been identified. Any potential adverse impacts on European protected sites have been avoided through suitable mitigation measures. It is concluded that there will be no impact on site integrity.

The Marine Strategy Framework Directive (MSDF) requires all EU Member States to take measures to achieve Good Environmental Status (GES) in their seas by 2020. It establishes a framework to promote co-ordinated action across Europe to improve the marine environment. The MSFD came into force in 2008 and the requirements of the Directive were transposed into national legislation through the Marine Strategy Regulations 2010 (covering England, Scotland, Wales and Northern Ireland). The Directive provides the wider mechanisms needed to achieve clean, healthy, safe, productive and biologically diverse oceans and seas for the UK. The Environmental Assessment has concluded that the current proposal would not have the potential to alter hydrographical conditions at the regional or subregional scale, individually or through acting cumulatively with other developments,

The current proposal will make a positive contribution towards the achievement of GES with regard to MSFD GES Descriptor 1: *'Biological diversity is maintained. The quality and occurrence of habitats and the distribution and abundance of species are in line with prevailing physiographic, geographic and climatic conditions.'*

v. Identification of any priority issues that may need addressing with regard to cumulative effects

As indicated in paragraph iv, the Environmental Statement has considered the potential for cumulative effects and no priority issues have been identified.

vi. Options appraisal undertaken by the applicant, and the social, economic and environmental reasoning behind why the preferred option has been chosen

Four options have been considered to combat future erosion: do nothing; construction of a fixed off-shore wavebreak; silt recharge; and, the chosen option, mixed shell, sand and gravel foreshore recharge. Details of the social, economic and environmental reasoning behind why the preferred option has been chosen are outlined under paragraph iii above.

Do nothing

The do nothing option is likely to result, at some time in the next 50 to 100 years, in the irreversible loss of quality and extent of designated intertidal conservation habitats and commercial oyster layings, the demise of West Mersea Harbour as a yachting and sailing

centre, increased flood risk to a significant number of residential and commercial properties and a decline in local employment opportunities. In addition there will be an increased flood risk, and potential habitat loss, to the freshwater marshes of Old Hall Marshes National Nature Reserve and Tollesbury Wick Nature Reserve.

Fixed wavebreak

Fixed wavebreaks using old Thames lighters have been effective in combating erosion on the Dengie peninsular at Sales Point and the Marsh House outfall. However, there is the potential for scour around the structures and at the Mersea Harbour location they would present a hazard to navigation. The importation of rocks to build fixed wavebreaks would be prohibitively expensive, costing in the order of £10 million to provide and place to Old Hall, Cobmarsh and Packing Marsh Islands. Furthermore, this material does not occur naturally within the estuary system.

Silt recharge

The beneficial use of fine-grained material is inadvisable due to the predominant wave size and tidal currents operating around the proposal areas, which have the capacity to entrain fine-grained materials and carry them seaward.

Sand and gravel recharge

Coarser and denser materials are required to provide a more resilient solution to protect finer sediments from being undermined by eroding forces. The function of the recharge is to alter the morphology to one that will cope better with the natural forces in the estuary system, allowing coastal processes to continue to operate, but at a slower rate. The earlier recharge campaign carried out in the late 1990s, at or adjacent to the current proposed locations, has demonstrated that sand, shell and gravel can remain relatively in situ on a steepening foreshore, and resist erosion. The material emulates the Pleistocene gravels which form natural beach ridges in the Blackwater as a consequence of erosion and landward transgression. Where there is some degree of energy dissipation in the lee of the recharge ridge, fine sediments will be deposited, as evidenced at the Tollesbury Wick frontage. This method presents the best outcome offering a robust, more congruous and longer term solution to sustaining the social and economic fabric and environmental features of the harbour area.