

REPORT

Little Oakley Managed Realignment Environmental Statement

Non-Technical Summary

Client: Hutchison Ports (UK) Ltd

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1 INTRODUCTION AND BACKGROUND

1. Hutchison Ports (UK) Limited ('HPUK') is intending to progress with the development of a container terminal facility at Bathside Bay (Bathside Bay Container Terminal (BBCT) in the lower Stour estuary, Essex, pursuant to planning permission 10/00202/FUL, granted by Tendring District Council in February 2013. This planning permission authorises the reclamation of Bathside Bay and the construction and subsequent operation of a new 122ha deep sea container port facility (1.4km length quay) with associated rail terminal and buildings.
2. Planning permission 10/00202/FUL replaced an earlier permission (reference 03/00600/FUL), granted in 2006, and extended the time limit for the implementation of the BBCT. Other permissions and consents granted in 2006, and subsequently time extended to be coterminous with permission 10/00202/FUL, authorise:
 - the construction of a 'small boat harbour' in the vicinity of Gas House Creek, Harwich (planning permission reference 10/00203/FUL).
 - the partial demolition of the Grade II Listed Train Ferry Gantry structure at Gas House Creek (Listed Building consent reference 10/00204/LBC).
3. The planning permissions and Listed Building consent expire on 29 March 2022.
4. A series of environmental assessments were undertaken in connection with the above applications, founded on an Environmental Statement (ES) ('the 2001 ES') (Posford Haskoning and HR Wallingford, 2001) submitted in support of an application for tidal works pursuant to the Harwich Parkeston Quay Act 1988, which originally authorised the reclamation of Bathside Bay.
5. One of the key findings of the environmental assessments was that the BBCT would be likely to have an adverse effect on the integrity of the Stour and Orwell Estuaries Special Protection Area (SPA) and Ramsar site. Consequently, in line with The Conservation of Habitats and Species Regulations 2017 (as amended by The Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019)¹, compensatory measures were required. Due to the nature of the habitat that would be lost at Bathside Bay, and the magnitude of this loss, the only feasible method of creating compensatory habitat was considered to be managed realignment of coastal flood defences.
6. In light of the above conclusion, a proposal was developed for the managed realignment of coastal flood defences at Little Oakley in the Walton Backwaters ('the proposed scheme') located to the south of the Stour and Orwell estuaries, approximately 2.6km from Bathside Bay. An ES ('the 2003 ES') was prepared for that scheme (Royal Haskoning, 2003) and an application for planning permission was granted by TDC (reference 03/01200/FUL) ('the 2006 permission'). The 2006 permission expired in 2016. HPUK intends to make a new application for planning permission for the same scheme as previously authorised by planning permission 03/01200/FUL, together with a marine licence application for the licensable works.
7. An Environmental Scoping Report (Royal HaskoningDHV, 2021) was submitted to TDC and the MMO on 30 June 2021 to define and agree the content of the ES required to support the applications. This report is the non-technical summary of the ES.

¹ At the time of the 2001 ES, the applicable legislation was *The Conservation (Natural Habitats &c.) Regulations 1994*

2 NEED FOR THE PROPOSED SCHEME AND ALTERNATIVES

2.1 Need for the proposed scheme

1. Given the conclusion of the 2003 ES, HPUK sought land that can provide the necessary compensation for the BBCT scheme. EC guidance 'Managing Natura 2000 sites' (European Communities, 2000) states that:

"In order to ensure the overall coherence of Natura 2000, the compensatory measures proposed for a project should:

- a) *address, in comparable proportions, the habitats and species negatively affected*
- b) *concern the same biogeographical region in the same Member State and,*
- c) *provide functions comparable to those which had justified the selection criteria of the original site".*

2. The distance between the original site and the place of the compensatory measures is not, therefore, an obstacle as long as it does not affect the functionality of the site and the reasons for its initial selection.
3. Given the nature of the impact associated with the proposed scheme at Bathside Bay, and the objectives for compensation set out in relevant EC guidance (above), managed realignment is the best option for creating the required area of intertidal habitat and the necessary mosaic of habitat types. Therefore, no alternative approaches to compensation were considered.

2.2 Alternatives

4. In order to select a suitable compensation site, a list of desirable parameters was defined. These parameters are described below and were developed based on informal guidance provided to HPUK by the Department of Environment, Food and Rural Affairs (DEFRA) European Wildlife Division in 2001 and subsequent consultation with relevant nature conservation bodies. These have been updated in line with the latest guidance for developing compensatory measures published by Defra (2021).

2.2.1 Geographic location

5. The preferred location for compensatory habitats is local (i.e. adjacent) to the lost site, followed by compensation in an adjacent SPA or within the region, and then compensation nationally (in the biogeographic region) if the compensation were sufficient to enable the coherence of the National Site Network to be protected. In this case, a local habitat was considered to be one in the Stour and Orwell Estuaries SPA or Hamford Water SPA, and ideally in the mouth of the system to replicate conditions that do not freeze.
6. In addition, it is desirable for the compensatory habitat to have similar physical characteristics to the affected site in order to provide comparable conditions (similar functionality) to those present in the designated area. Therefore, in the case of Bathside Bay, the suitable site would be:
 - In the lower reaches of an estuary or close to the open coast
 - Adjacent to existing intertidal areas (ideally designated as SPA) to increase the likelihood of the site being used by feeding waterfowl and,
 - Subject to similar hydrodynamic conditions and exposure following breaching.

2.2.2 Topography and habitat design

7. Given that the best option for creating intertidal mudflat and saltmarsh is undertaking managed realignment, it is necessary to find a location where the natural land levels behind the seawall are sufficiently low to allow the creation of intertidal habitat without the requirement for excessive earthworks.
8. Any compensatory habitats need to be of similar habitat type with comparable ecological function to those lost as a result of the works (Defra, 2021). Therefore, the compensatory habitat should be designed in such a way as to support the suite of designated waterfowl species that were supported by the habitats that have been lost.

2.2.3 Land area

9. Compensatory measures are intended to provide replacements for the key habitats and species affected by the proposals (i.e. those qualifying features for which the site is notified). Therefore, in order to compensate effectively for the loss of Bathside Bay, a site (or sites) that could deliver a minimum 69ha of intertidal mudflat was required. Furthermore, it was desirable to attempt to meet the requirements for compensation within a single site rather than through a number of smaller sites.
10. Given the above, suitable land (i.e. meeting the above requirements) was sought in the Stour and Orwell Estuaries, the Deben Estuary and the Walton Backwaters (the latter two being the adjacent estuaries to the north and south respectively of the Stour and Orwell Estuaries). In seeking suitable land, the main constraint was that a relatively large area of low-lying land was required; no suitably large sites were found to be available, and are still available, within either the Stour and Orwell Estuaries or the Deben Estuary. After an initial survey of a number of possible opportunities, the proposed site was alighted upon in consultation with relevant conservation bodies. It was subsequently determined that the most suitable site was an area of reclaimed farmland on the northern shore of the Walton Backwaters, situated approximately 2.5km to the south of Bathside Bay.
11. The proposed realignment site fulfils the main criteria required for the compensatory habitat. For example, it is adjacent to the Hamford Water SPA, the levels within the site would allow the desired range of habitats to develop with minimal intervention, it is in the lower reaches of an estuary and is the closest site to the place of the impact where the required area of habitat can be created by undertaking managed realignment.

3 SUMMARY OF PROPOSED SCHEME

3.1 Construction phase

1. The works required during the construction phase can be summarised as follows:
 - Stripping of vegetation and removal and temporary storage of topsoil.
 - Construction of a seawall around the site to prevent tidal inundation of the surrounding farmland.
 - Installation of drainage channels.
 - Excavation of a creek system to facilitate drainage of the realignment site (largely based on the existing system of drainage channels, with only minor deepening and widening in places).
 - Placement of sand and shingle over an area approximately 3 hectare (ha) in size above the level of mean high water springs at the back of the site.

- Breaching of the existing seawall. This would involve removal of an approximately 70m long stretch of the existing seawall during low water.
- Extension of the intertidal creek system within the realignment site across the existing intertidal.
- Pumping of approximately 150,000m³ of dredged mud into the realignment site. The dredged material would be derived from regular maintenance dredging undertaken in the berths and approaches to Felixstowe by the Harwich Haven Authority (HHA).

2. **Figure 3.1** visually illustrates the proposed scheme.

3. The construction phase is envisaged to require the following construction plant and machinery:

- Rubber tyred face shovels or tracked bulldozers.
- Rubber tyred self-loading scrapers.
- 360° excavators.
- Rubber tyred dump trucks.
- Trailing suction hopper dredger.

4. Construction of the realignment scheme would commence subject to the discharge of consents being achieved for Bathside Bay, and the commencement of marine works. Overall, the construction phase is expected to be completed within 18 months. No works would be undertaken during the winter period because the ground would be too soft.

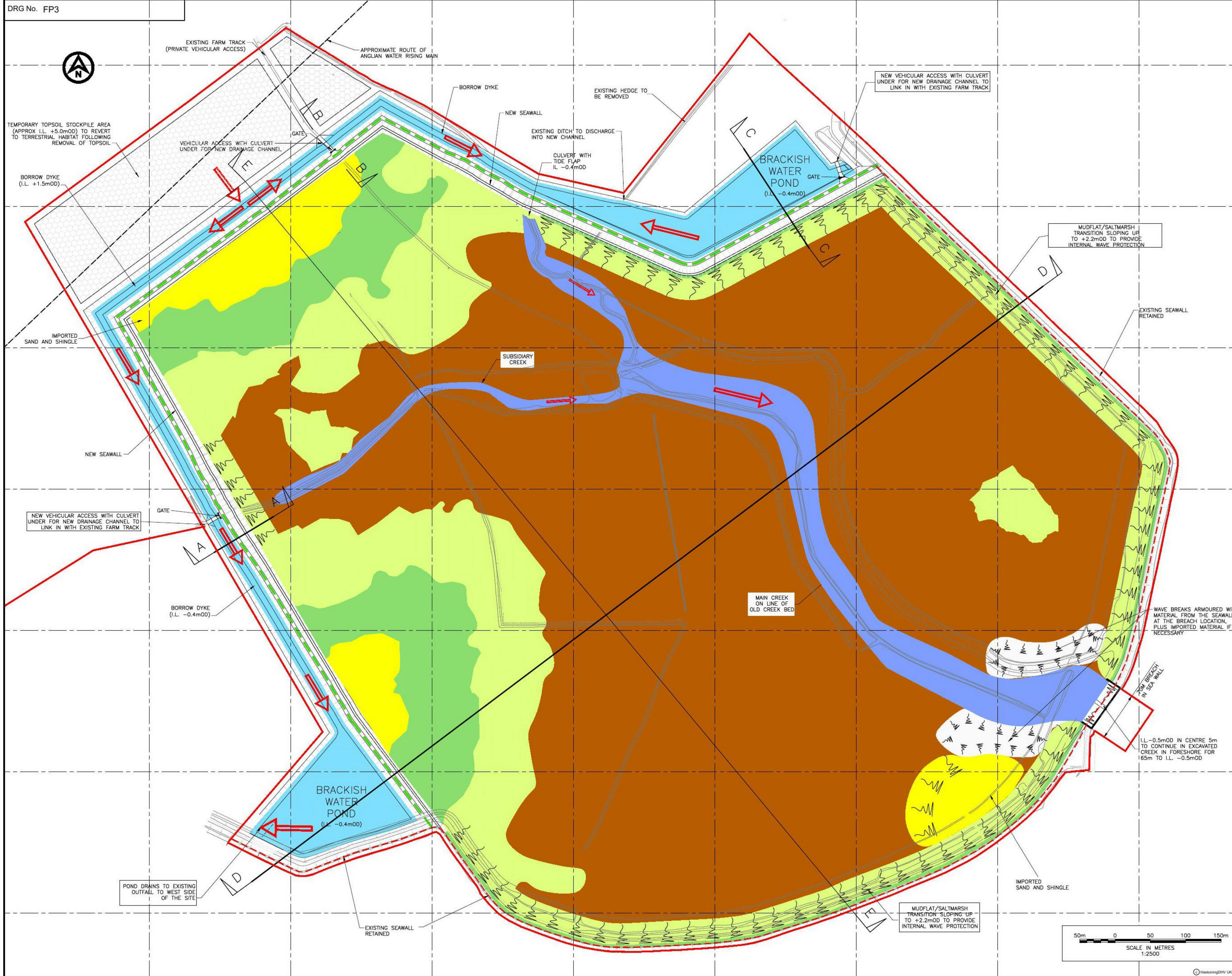
3.2 Operational phase

5. Once construction is complete, the surface of the site would be a combination of undisturbed in-situ material, reworked in-situ material and placed dredged material. Over time this surface would evolve; the initial distribution of areas predicted to form within the site is provided in **Table 3.1**.

Table 3.1 Estimated areas of habitat within the Little Oakley realignment site post-construction

Habitat	Level (mOD)	Approximate area (ha)	Objective for compensation (ha)
Intertidal mudflat (including intertidal creek)	Below +1.5	76	Minimum of 69
Intertidal mudflat/saltmarsh transition	From +1.5 to +2.0	19	
Saltmarsh	From +2.0 to +2.4	10	10 to 20
Sand and shingle	Above +2.4	2	n/a
Wave breaks	Above +2.4	2	n/a
Area outside seawall (used for temporary topsoil storage)	n/a	7	n/a
New borrow dyke system	n/a	7	up to 5
Other (i.e. footpath, seawall and terrestrial areas in between)	n/a	12	n/a
Total	-	138	94

6. In addition to the above, an area of approximately 7ha outside of the new seawall would be used for the temporary storage of c. 110,000m³ of topsoil. The majority of this, c. 77,000m³, will be used by local farmers and approximately 23,000m³ of this material would be used for landscaping work at Bathside Bay.



NOTES
1. FIGURE FP3 TO BE READ IN CONJUNCTION WITH FIGURE FP4.

- LEGEND**
- SITE BOUNDARY
 - - - PROPOSED FOOTPATH DIVERSION
 - - - EXISTING FOOTPATH
 - NEW DRAINAGE SYSTEM APPROXIMATE BED LEVEL VARIES BETWEEN -0.4mOD AND -0.5mOD
 - FLOW DIRECTION

- LEVEL(mOD) AND APPROXIMATE AREAS OF HABITAT CREATION WITHIN SITE
- UP TO +1.500m INTERTIDAL MUDFLAT 76 ha.
 - +1.500m TO +2.000m INTERTIDAL MUDFLAT/SALTMARSH 19 ha.
 - +2.000m TO +2.400m SALTMARSH 10 ha.
 - ABOVE +2.400m MARINE TO TERRESTRIAL 5 ha.
 - BRACKISH WATER 7 ha.
 - AREA FOR TEMPORARY STOCKPILE OF TOPSOIL

REV	DATE	DESCRIPTION	BY	CHK	APP



PROJECT
MANAGED REALIGNMENT AT LITTLE OAKLEY, HAMFORD WATER

TITLE
PLANNING SCHEME



DRAWN	MH	CHECKED	MH	APPROVED	MH
DATE	24/11/20	CLIENT'S REF.			
SCALE AT A1	1:2500	AUTOCAD REF.			
DRAWING No.	FP3	STATUS	-	REVISION	-

4 APPROACH TO ASSESSMENT AND SUMMARY OF POTENTIAL IMPACTS

1. The characteristics of the existing (baseline) environment were defined, and the potential environmental
2. impacts of the proposed scheme identified and assessed, through the following methods and activities:
 - Desk based reviews, interpretation and assessment of existing data.
 - Site surveys.
 - Consultation.
3. The ES reports the findings of the EIA process. The following environmental parameters / topics were considered in detail within this process:
 - Coastal and estuarine processes.
 - Water and sediment quality.
 - Marine and coastal ecology.
 - Ornithology.
 - Terrestrial and freshwater ecology.
 - Landscape and visual.
 - Archaeology and cultural heritage.
 - Tourism, recreation and local community.
 - Land drainage and coastal defence.
 - Accidents and disasters.
4. Where potential adverse impacts have been identified, mitigation measures have been recommended to reduce or avoid potential impacts to acceptable levels.
5. **Appendix A** contains a full list of the potential environmental impacts predicted to arise for all topics scoped into the assessment during construction and operation.

5 CUMULATIVE IMPACT ASSESSMENT

1. The EIA Regulations require that an assessment is made of the potential for cumulative effects to arise. This should consider the impacts of the proposed scheme with other past, present and reasonably foreseeable (proposed) projects and was undertaken in this case. The projects which have been considered in the cumulative impact assessment (CIA) are the Harwich Haven Approach Channel Deepening and Walton Pier Concrete Repair Programme.
2. The first phase of works to Walton Pier are completed and are therefore considered to part of the baseline. Should further works to the pier require a marine licence application the project would be expected to consider the cumulative effects with the proposed scheme. Therefore, the project was screened out of further assessment in the CIA.
3. The Harwich Haven Approach channel project was screened into the assessment on the basis that computer modelling indicates the sediment plume arising from that activity will extend to within Hamford Water and the vicinity of the proposed scheme. No significant cumulative impacts with the Harwich Haven Approach channel project are predicted.

6 WATER FRAMEWORK DIRECTIVE COMPLIANCE ASSESSMENT

1. A Water Framework Directive (WFD) compliance assessment has been undertaken for the proposed scheme. The scoping stage of the assessment identified a number of WFD compliance parameters for the Harwich Approaches coastal water body that could be at risk from the proposed activities, which were subject to further assessment.
2. Further detailed assessment of the proposed construction and operational phase activities was undertaken which determined that the construction activities would not cause deterioration in water body status, potential problems with respect to the ability of the water body to meet its objectives in the future or compromise the mitigation measures in place for the water body. The following operational phase aspects were however considered further:
 - Hydromorphology: activity is within a HMWB modified for the same activity,
 - Hydromorphology: may significantly impact hydromorphology within the water body;
 - Habitats: within 500m of a higher sensitivity habitat.
3. The assessment concluded that the proposed scheme is not anticipated to cause a non-temporary effect on WFD parameters within the Harwich Approaches coastal water body, and will not, therefore, cause a deterioration in status of this water body.

7 HABITATS REGULATIONS ASSESSMENT

1. An assessment of the potential for the proposed scheme to affect sites within the NSN has been undertaken. The proposed scheme partially overlaps with the Hamford Water SPA, SAC and Ramsar site.
2. Likely significant effects cannot be ruled out for the Hamford Water SAC (specifically in relation to the Fisher's estuarine moth). Likely significant effects can be ruled out for all other sites considered at the screening stage. The assessment has concluded that in-combination likely significant effects can be ruled out.
3. The effects and impacts of the proposed scheme are considered to be of sufficiently low magnitude and can be mitigated such that an adverse effect on the integrity of the Hamford Water SAC would not occur (either alone or in-combination with other plans and projects).

8 REFERENCES

Defra (2021) Best practice guidance for developing compensatory measures in relation to Marine Protected Areas. 22nd July 2021

Royal HaskoningDHV (2021) Managed Realignment at Little Oakley, Hamford Water Environmental scoping report. PC2519-RHD-ZZ-XX-RP-Z-0001. 21 June 2021

Appendix A

Summary of potential environmental impacts

Table 1 Summary of potential environmental impacts

Construction phase				Operational phase			
Potential impact	Impact significance	Mitigation	Residual impact	Potential impact	Impact significance	Mitigation	Residual impact
Coastal and estuarine processes							
<p>Potential impacts to coastal and estuarine processes would occur following completion of the creation of the managed realignment site. Therefore, these effects are considered for the operational phase. No impacts are anticipated during the construction phase, with any effects realised during the operational phase of the proposed scheme.</p>				Offshore effects			
				Changes to the hydrodynamic regime	The effect of the proposed scheme on the tidal and wave-driven currents is limited to the immediate vicinity of the breach. The effect on the hydrodynamic regime is predicted to be localised.	None required	-
				Sources and sinks of fine sediment	In the medium term (i.e. after approximately two to five years) the site would have stabilised and generally act as a sink for sediment from offshore. However, the site would also be an occasional source of sediment. Under storm wave conditions, fine sediment could be transported into the site in suspension (entrained) and removed from the site (as is the case in other bays, including Walton Backwaters).	None required	-
				Localised erosion and deposition of sediment	It is predicted that erosion of the breach and channel across the foreshore would occur on both the flood and the ebb tides and be deposited a short distance from the breach (both inside the site and outside in the nearshore area). This potential scouring would cut into the underlying in-situ consolidated sediments. This erosion is predicted to be a short-term effect (within the first two years) associated with the deepening of the breach and based on the nature and strength of the breach foundations and foreshore.	None required	-
				Changes to longshore sediment transport	The channel is likely to deepen slightly to a depth greater than its constructed depth until a new equilibrium is established. The coast immediately adjacent to the breach (i.e. either side of the breach for about 70m (the same width as the breach)) is likely to suffer minor erosion due to a reduction in sediment supply.	None required	-
				Dispersion of fine sediment from managed realignment site	Under conditions when mud is mobilised from the site (due to waves and rain), it is likely that there would be a similar insignificant mobilisation of sediment within the Backwaters.	None required	-
				Internal and local effects			
				Changes to hydrodynamics	Maximum tidal flows are predicted immediately seaward of the breach location. Maximum water levels within the site are expected to be similar to those offshore. The site is expected to be exposed for most of the spring tide.	None required	-
				Morphological evolution	The evolution of the site following construction would be governed initially by redistribution of the placed sediment, then by erosion of the reworked sediment in response to the wave and tidal energies in the site. Over time (i.e. after two to five years), the dominant influence would be the pattern of accumulation within the site from natural supply of sediment from offshore.	None required	-
				Water and sediment quality			
Deterioration in soil conditions due to	No impact	None required.	No impact	Deterioration in water quality due to mobilisation of exposed soils	No impact	None required	No impact

Construction phase				Operational phase			
Potential impact	Impact significance	Mitigation	Residual impact	Potential impact	Impact significance	Mitigation	Residual impact
excavation of areas of contaminated land							
Deterioration in water quality during excavation of the creek within the foreshore	Negligible	None required (however sediment sampling to be undertaken and analysis will be submitted to the MMO)	Negligible	-	-	-	-
Deterioration in water and sediment quality due to pumping of dredged material into the realignment site	No impact	None required	No impact	-	-	-	-
Marine and coastal ecology							
Removal of a section of seawall and potential loss of marine species	No direct impact	None required	No impact	Infaunal benthic invertebrate colonisation of intertidal mudflat	Major beneficial	None required	Major beneficial
Direct impact on benthic communities and habitats due to creation of a shallow creek on the existing foreshore	Negligible	None required	Negligible	Development of saltmarsh community	Major beneficial	None required	Major beneficial
Disturbance to marine communities during construction due to presence of construction plant	No impact (outwith the footprint of the creek excavation)	None required	No impact	Development of sand and shingle habitat	Moderate to major beneficial	None required	Moderate to major beneficial
Potential impacts on marine mammals	Moderate adverse	Works on the foreshore to be undertaken after a watching brief to ensure no seals hauled out on the intertidal in the vicinity of works. Works on the intertidal to be scheduled to avoid the pupping season.	Minor adverse	Potential changes to pattern of erosion and accretion of intertidal and subtidal areas due to changes to tidal currents	Minor adverse on benthic communities on the foreshore. No impact on subtidal communities.	No mitigation measures are possible.	Minor adverse. No impact on subtidal.
Accidental spills and leaks of diesel and oil	Negligible	None required, although good practice guidance will be adopted.	Negligible	Short term localised deposition immediately seaward of the breach	Negligible	None required	Negligible
Potential impact of the temporary pipeline on intertidal marine communities	Negligible	None required, although movement of the temporary pipeline will be minimised as far as practicable.	Negligible	Short term changes to the pattern of erosion and deposition due to export of material from the realignment site	Negligible	None required	Negligible
-	-	-	-	Potential for ecological deterioration of Irlam's beach, Middle Beach and adjacent saltmarsh due to effect of breaching on littoral drift	Moderate adverse	Development of monitoring and management strategy.	No impact
Ornithological interest							

Construction phase				Operational phase			
Potential impact	Impact significance	Mitigation	Residual impact	Potential impact	Impact significance	Mitigation	Residual impact
Disturbance to waterbirds due to construction	Minor adverse	Not possible to mitigate.	Minor adverse	Establishment of new intertidal feeding areas	Major beneficial	None required	Major beneficial
Loss of breeding habitat	Minor adverse	Not possible to mitigate.	Minor adverse	Establishment of potential roosting areas for waterbirds	Moderate beneficial	None required	Moderate beneficial
-	-	-	-	Potential effects on existing feeding and roosting areas due to predicted changes in tidal currents	Negligible	None required	Negligible
-	-	-	-	Potential effects on feeding and roosting areas at Irlam's Beach and Middle Beach	Minor adverse	Development of monitoring and management strategy.	No impact
-	-	-	-	Disturbance to feeding and roosting waterfowl	Minor beneficial	None required	Minor beneficial
-	-	-	-	Establishment of new breeding habitat	Negligible	None required	Negligible
Terrestrial and freshwater ecology							
Direct impact to terrestrial habitats	Moderate adverse	Investigate the feasibility of translocating plant species of nature conservation value to other suitable areas.	Minor to moderate adverse	Colonisation of seawall and borrow dyke	Negligible	Creation of a physical connection between existing and new borrow dyke system. Disturbance to the dyke system kept to a minimum. Creation of stepped banks to the borrow dykes.	Negligible
Impacts to protected species	Minor adverse (bats, water voles, reptiles). Minor to moderate adverse (aquatic and terrestrial invertebrates)	Construction lighting will only operate when necessary and will be directional to avoid unnecessary and direct illumination. Translocation of water voles and reptiles.	Minor adverse (bats, water voles, reptiles). Minor to moderate adverse (aquatic and terrestrial invertebrates)	Colonisation of new ditch system with aquatic invertebrates	Negligible		Negligible
Landscape and visual character							
Visual intrusion of land based construction plant / machinery	Minor adverse	Not possible to mitigate	Minor adverse	Change in land use and landscape character of the area affected by the breach	Moderate beneficial	None required	Moderate beneficial
Visual intrusion of water-based construction plant / machinery	Negligible	None required	Negligible	Change in appearance from arable field with hedgerows to expanse of mud and saltmarsh	Negligible	None required	Negligible
-	-	-	-	Impact on footpath users	Minor adverse	Not possible to mitigate	Minor adverse
Archaeology and cultural heritage							
Direct physical impact to heritage assets	Major adverse (Potential buried prehistoric archaeology, including palaeoenvironmental remains) Moderate adverse (Red Hills and potential Late Iron Age/Roman archaeology, Cropmarks, earthworks and archaeological	A programme of survey and evaluation will be required followed by additional mitigation to be agreed in consultation with the heritage stakeholders (Historic England and Place Services).	Offset, or reduced to satisfactory levels	Direct (physical) impact to heritage assets	No impact	None required	No impact

Construction phase				Operational phase			
Potential impact	Impact significance	Mitigation	Residual impact	Potential impact	Impact significance	Mitigation	Residual impact
	remains relating to post-reclamation landuse, or possible earlier features, WWII heritage assets)						
Indirect impact (setting)	No impact	None required	No impact	Indirect (physical) impacts through changes in coastal and estuarine processes	Major adverse	A programme of survey and evaluation will be required followed by additional mitigation to be agreed in consultation with the heritage stakeholders (Historic England and Place Services).	Offset, or reduced to satisfactory levels
Indirect impact (setting) during construction	No impact	None required	No impact	Indirect impact (setting) during operation	No impact	None required	No impact
Tourism, recreation and local community							
Effect on wildfowling due to changes to access	Minor adverse	Access arrangements to be put in place to allow vehicular access landward of the area where the raised area of land would be constructed behind the new seawall.	Negligible	Effect on recreational navigation	No impact	None required	No impact
Effect on wildfowling due to changes to habitats behind the existing seawall	Minor adverse	Not possible to mitigate	Minor adverse	Effect on recreational navigation	No impact	None required	No impact
Effect on recreational navigation	Negligible	Appropriate marking on the dredger and use of Notice to Mariners.	Negligible	Effect on wildfowling due to changes to access	No impact	None required	No impact
Effect on access due to creation of a beach in the existing seawall	Minor adverse	Signs to be erected at suitable points to inform the public of the work.	Minor adverse	Effect on access to the footpath network	No impact	Signs to be erected at suitable points to inform the public of the work.	No impact
Land drainage and flood defence							
Effect on land drainage	No impact	None required	No impact	Implications for structural integrity of the existing seawalls	Minor beneficial	None required	Minor beneficial
Effect of the proposals on the standard of coastal defence	No impact	None required, however the design of the new seawall is to be confirmed by the Environment Agency	No impact	Implications for land drainage	Minor to moderate adverse	Not possible to mitigate, however monitoring of the outfall is proposed to determine whether the scheme has resulted in an adverse effect on its function. Maintenance will be carried out to ensure continued function if it is determined that the outfall has silted up due to decreased flows. Monitoring of the new culvert that would enter the eastern end of the site.	No impact