



**Marine
Management
Organisation**

The Marine and Coastal Access Act (MCAA) (2009): Section 126

Marine Conservation Zone (MCZ) Screening Opinion

This Screening Opinion should be read in conjunction with the guidance in [DN18.1, published online](#) and in the [Conservation Advice Packages](#).

Table 1. MMOs decision-making process with regards to the MCZ Screening Opinion for the project listed below.

Title of project	Withernsea Long Sea Outfall Replacement
Applicant name	Yorkshire Water Services Ltd
Applicant address	Livingstone House Chadwick Street Leeds LS10 1LJ
Type of licensable activity/ies	Construction of new works
Case reference	MLA/2019/00066
Location of works	Withernsea Long reach Sea Outfall (Withernsea, East Riding of Yorkshire)



Description of project

Construction of a new long reach sea outfall (LSO) on the Holderness Coast in the East Riding of Yorkshire, to discharge treated wastewater (in compliance with the EA discharge consent) from Withernsea and its surrounding catchment. Works required for the construction of the new LSO will be undertaken during the summer months (1st April to 30th September) due to the requirement to avoid poor weather conditions and are expected to take approximately five months. It is intended that the decommissioning of the existing LSO would also be undertaken within this period, however, due to the requirement for this to occur once the new LSO is fully commissioned, this may occur in winter months. The LSO will be installed in a single length, using the float and flood method. These aspects will be installed by a dive team. The intertidal section of the LSO is proposed to be constructed using trenchless techniques, by creating a hole for the LSO pipe to be installed through with either a Tunnel Boring Machine (TBM) for micro-tunnelling or a Drilling Rig for HDD construction techniques. The exact method will be confirmed once a contractor has been procured. It is not possible to refine this further until that point, but the worst-case scenario has been assessed. The tunnel or bore will cover a length of approximately 100m of the foreshore, gradually reducing in depth, until it is approximately 4m beneath the surface, in the mid- to lower foreshore zone. At this point, a temporary cofferdam and reception pit may be required to create a reception pit to allow recovery of the TBM or drill pipe on the foreshore and to connect to the marine section of the LSO.

Programme (activity and approximate duration):

Subtidal works

- Offshore trench dredging – 5 weeks
- Pipe connection (3 sections) and transportation to site – 1 week
- Survey of trench and maintenance where required – 5 days
- Pipe installation – 2 days
- Diffuser installation – 2 days
- Backfill offshore trench – 5 weeks
- Diffuser dome installation – 1 day
- Scour protection installation – 5 days
- Marker buoy installation – 1 day
- Decommissioning of existing LSO (removal of diffuser dome, diffuser, scour protection and cap end of LSO – 1 week

Intertidal works

- Construct access to beach – 4 weeks
- Construct cofferdam and reception pit – 5 weeks
- Tunnel from 100-year erosion line to cofferdam on foreshore – 8 weeks
- Remove TBM, cofferdam and access – 3 weeks
- Decommissioning of existing LSO (removal of rock bags and removal of exposed pipeline and chamber on foreshore) – 2 weeks



	Applicant's preferred methodology for dredging is by backhoe, however if the nature of the seabed requires it (i.e. consolidated clays), applicant proposes use of a cutter suction dredger. A cutter suction dredger is a stationary dredger, equipped with a rotating cutter head. Clay would be extracted by means of dredge pumps, broken into smaller fragments, and discharged either side of the trench.	
Is a licensable activity taking place within or near an area being put forward for or already designated as an MCZ?	Yes, the works are located within the Holderness Inshore MCZ, designated for intertidal sand and muddy sand, and intertidal coarse sediments.	
MCZ site name	Holderness Inshore MCZ	
<i>Protected feature</i>	<i>Type of feature</i>	<i>Conservation objective</i>
Intertidal sand and muddy sand	Seabed habitat	Maintain at favourable condition
High energy circalittoral rock	Seabed habitat	Maintain at favourable condition
Subtidal coarse sediment	Seabed habitat	Maintain at favourable condition
Subtidal mixed sediments	Seabed habitat	Maintain at favourable condition
Subtidal mud	Seabed habitat	Maintain at favourable condition
Subtidal sand	Seabed habitat	Maintain at favourable condition
Moderate energy circalittoral rock	Seabed habitat	Maintain at favourable condition
Spurn Head (subtidal geological feature)	Seabed habitat	Maintain at favourable condition
Is a licensable activity capable of affecting (other than insignificantly) the protected features of an MCZ or any ecological or geomorphological process on which the conservation of any protected feature of an MCZ is (wholly or in part) dependant?		
Consider hazard – pathway – receptors to identify how a licensable activity may interact with features of the MCZ. You should also refer to Advice on Marine operations Guidance and supporting excel documents.		
Protected feature	Hazard	Potential exposure to hazard and mechanism of effect/impact if known

<p>Intertidal sand and muddy sand (See Annex for location of this feature on the site)</p>	<p>Abrasion/disturbance of the substrate on the surface of the seabed</p> <p>Penetration and/or disturbance of the substratum below the surface of the seabed, including abrasion</p> <p>Habitat structure changes - removal of substratum (extraction)</p>	<p>The excavation of a 130m trench within the intertidal zone and dredging for the installation of the pipeline for the Long reach Sea Outfall (LSO) as well as the removal of a section of pipeline during decommissioning within the intertidal zone is going to subject the seabed to direct abrasion and disturbance. The construction of a cofferdam approximately 30m long and approximately 6m wide is using sheet piles is also going to result in abrasion/penetration of the substratum.</p> <p>However, details within the Environmental Statement (ES) would suggest to the MMO that the risk to habitats and species within the MCZ is low. For instance:</p> <ul style="list-style-type: none"> • While there will be a direct, but short term and temporary impact on the intertidal habitat as a result of trenching works, sidelaying and use of the cofferdam associated with the installation of the new LSO these will not have an adverse impact on this feature or its conservation objectives as it is not considered to be present within the works area. The reinstatement of the material will enable the recovery of the intertidal zone following completion of the works. • The installation and decommissioning of the new and old structure will not result in any significant sediment changes, and the placement of scour protection will not cover a significantly larger area than the current structures. • The works will not be carried out on any MCZ designated habitats therefore they will not be changed or disturbed.
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	<p>Changes in suspended solids (water clarity)</p>	<p>The dredging and excavation (creation of depressions and channels by moving soil) will cause sediment to become suspended, reducing the water clarity. However, the material will be localised and will either settle quickly or disperse on the currents. It will be diluted by the waterbody, so it is only a short term impact that is localised to the project site. Furthermore, the Holderness Coast is naturally a very turbid region and any sediment suspended as a result of these works is not expected to be significant above background levels.</p> <p>However, details within the ES would suggest to the MMO that the risk to habitats and species within the MCZ is low. For instance:</p> <ul style="list-style-type: none"> • A small sediment plume will occur during dredging, however due to the coarse, mixed nature of the sediment it is expected that the sediment will rapidly resettle in close proximity to the dredge area. The dredged sediment will not be brought to the surface of the water column, but will be side cast at depth which will minimise the potential for resuspension.
	<p>Physical change (to another sediment type)</p>	<p>There will be no material deposited during this project that would result in a change in sediment type. There will be sediment disturbed when the excavations takes place to create channels and also the dredging and excavation will move material to create the depths necessary for the laying down the pipes. The area of intertidal that will be temporarily smothered by the sidecast material is expected to be the same as the trenched area.</p>
	<p>Physical loss (to land or freshwater habitat)</p>	<p>Construction – temporary habitat loss and disturbance to Intertidal sand and muddy sand features. Effects are expected to be short term and of limited spatial extent. The reinstatement of the material after laying the pipes will enable the recovery of the intertidal zone following completion of the works.</p> <p>Operation – habitat loss due to new outfall structure and placement of scour protection. Due to the small scale of habitat affected in the context of the extent of the habitat in the Holderness Inshore MCZ, the effect is predicted to be of minor significance.</p>

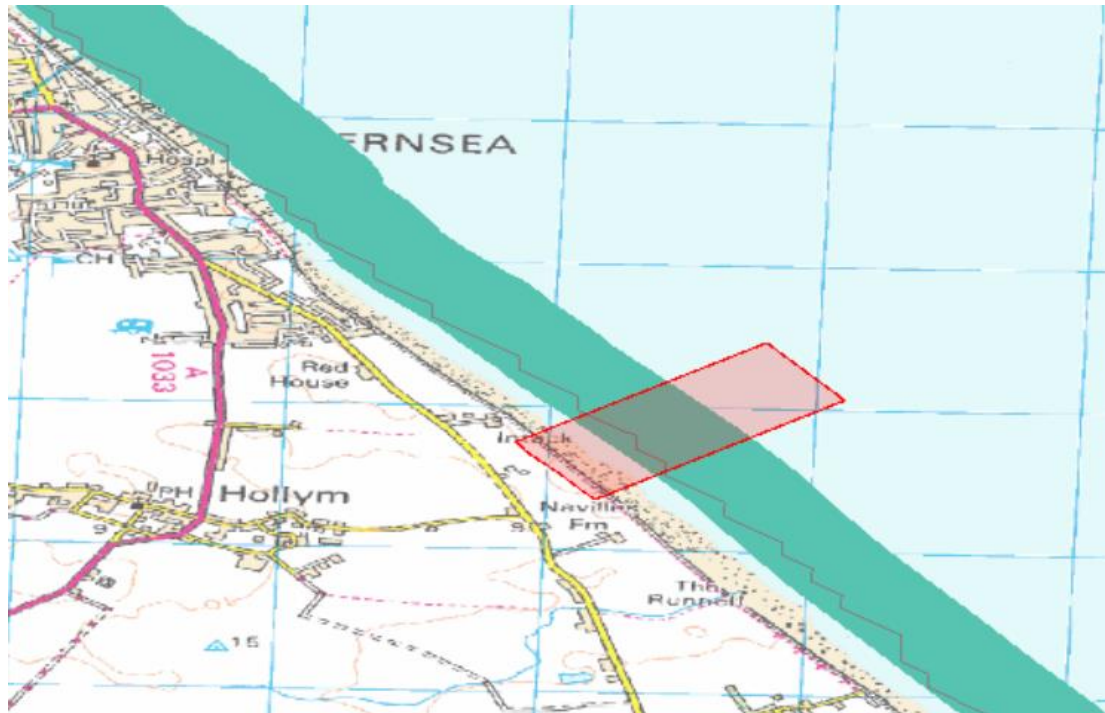
	<p>Smothering and siltation rate changes (Heavy)</p> <p>Smothering and siltation rate changes (Light)</p>	<p>Dredging will create a small sediment plume which could lead to indirect impacts on the designated features. Prolonged changes in turbidity may influence the amount of light reaching the seabed, affecting the primary production and nutrient levels of the habitat's associated species. These changes could cause smothering and siltation. Changes in turbidity may also have a range of biological effects on different species within the habitat, e.g. affecting their abilities to feed or breathe.</p> <p>Mitigation proposed:</p> <ul style="list-style-type: none"> • Dredging will be undertaken at high tide and small sediment plume will occur during dredging, however due to the coarse, mixed nature of the sediment it is expected that the sediment will rapidly resettle in close proximity to the dredge area. The dredged sediment will not be brought to the surface of the water column, but will be side cast at depth which will minimise the potential for resuspension. • Construction and decommissioning work will take place during low tide windows. This will significantly reduce the risk of sediment suspension during construction.
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Subtidal coarse sediment	Physical change (to another sediment type)	<p>There will be no material deposited during this project that would result in a change in sediment type. There will be sediment disturbed when the excavations takes place to create channels and also the dredging and excavation will move material to create the depths necessary for the laying down the pipes. The area of intertidal that will be temporarily smothered by the sidecast material is expected to be the same as the trenched area.</p>
Subtidal mixed sediments		
Subtidal mud		
Subtidal sand	Smothering and siltation rate changes (Heavy)	<p>Dredging will create a small sediment plume which could lead to indirect impacts on the designated features. Prolonged changes in turbidity may influence the amount of light reaching the seabed, affecting the primary production and nutrient levels of the habitat's associated species. These changes could cause smothering and siltation. Changes in turbidity may also have a range of biological effects on different species within the habitat, e.g. affecting their abilities to feed or breathe.</p>
	Smothering and siltation rate changes (Light)	
	Physical loss (to land or freshwater habitat)	<p>Mitigation proposed:</p> <p>Dredging will be undertaken at high tide and small sediment plume will occur during dredging, however due to the coarse, mixed nature of the sediment it is expected that the sediment will rapidly resettle in close proximity to the dredge area. The dredged sediment will not be brought to the surface of the water column, but will be side cast at depth which will minimise the potential for resuspension.</p> <ul style="list-style-type: none"> • Construction and decommissioning work will take place during low tide windows. This will significantly reduce the risk of sediment suspension during construction. <p>Construction – temporary habitat loss and disturbance to subtidal sand, mud, mixed sediments and mixed coarse sediments features. Effects are expected to be short term and of limited spatial extent. Rapid recovery of faunal communities is expected following completion of construction.</p> <p>Operation – habitat loss due to new outfall structure and placement of scour protection. Due to the small scale of habitat affected in the context of the extent of the habitat in the Holderness Inshore MCZ, the effect is predicted to be of minor significance.</p>

Is an activity capable of affecting (other than insignificantly) either:	(i) the protected features of an MCZ?	No.	
	(ii) any ecological or geomorphological process on which the conservation of any protected feature of an MCZ is (wholly or in part) dependant?	No.	
Conclusion		<p>The MMO has determined that the proposed activity is not deemed to be capable of affecting either (i) the protected features of the MCZ; or (ii) any ecological or geomorphological process on which the conservation of any protected feature of the above proposed MCZ is (wholly or in part) dependant.</p> <p>Based on the assessments undertaken it is concluded that the construction, decommissioning and operation of the proposed outfall, will not significantly affect the protected features of the Holderness Inshore MCZ.</p> <p>It is also concluded that these activities will not affect the ecological or geomorphological processes on which the conservation of the protected features of the Holderness Inshore MCZ are dependent. I foresee no likely impact associated with these activities.</p> <p>Advice will be sort from Natural England to further inform this assessment.</p>	
Name of officer	Emmanuel Mulenga	Date	10 April 2019

Annex

(Spirit: Location of Intertidal sand and muddy sand shaded green)



(MAGiC: Location of Intertidal sand and mud indicated in yellow)

