



Habitats Regulations Assessment

Table 1: Proposed plan or project details

Title of project	South Bank Quay - Phase 1 and 2
Case reference	MLA/2020/00506 and MLA/2020/00507
Applicant name	South Tees Development Corporation
Type of licensable activity/ies	Section 66 (7) of the Marine and Coastal Access Act 2009: To construct, alter or improve any works within the UK marine licensing area either— (a) in or over the sea, or (b) on or under the seabed. Section 66 (9) of the Marine and Coastal Access Act 2009: To carry out any form of dredging within the UK marine licensing area (whether or not involving the removal of any material from the sea or seabed).
Location of works	See Annex 1. – Insert map(s) showing the location of the activity/ies in relation to the Natura 2000 site(s) (N2K). Several maps of varying scales may be necessary to show the required detail.
Description of proposed project	The proposed scheme comprises demolition, capital dredging, offshore disposal of dredged material, placement of rock in the berth pocket and construction and operation of a new quay (to be set back into the riverbank). The construction phase of the proposed scheme would comprise the following main elements:

	• Demolition of the dilapidated wharf, three jetties downstream of the wharf (including the conveyor at the extreme downstream end jetty), a live electrical substation and pipework which previously abstracted water from the Tees estuary associated with the pumping station. • Construction of a new solid piled quay structure up to 30m wide and 1,230m in length (with an approximate 1,050m of usable quay for berthing), set back into the riverbank. Although the useable surface of the quay itself would be up to 30m wide, the overall footprint of the quay would be up to 50m wide due to the proposals to construct an anchor structure further inland of the quay deck. The exact alignment of the quay is currently undefined and, therefore, for the purposes of the assessment, a maximum quay envelope of 1,300m x 75m has been defined and assessed. • Excavation and re-use of approximately 275,000m³ of soils behind the proposed quay wall to install tie rods to the anchor wall. Excavation and re-use of a further approximately 1,140,000m³ of soils in front of the proposed quay wall to create the berth pocket. • Capital dredging of approximately 1,800,000m³ of marine sediments with offshore disposal into the Tees Bay C disposal site. It is proposed that dredging is undertaken using a trailing suction hopper dredger (TSHD) and a backhoe dredger. • Installation of approximately 200,000m³ of rock within the berth pocket to form a rock blanket. See section 3 of the environmental report for further detail.
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Table 2: Need for a Habitats Regulations Assessment (HRA)

2.1 - Is the proposal directly connected with, or necessary to the management of a NSN site for the purpose of conserving the	No. The proposals are not directly connected with, or necessary to the management of a N2K.
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habitats or species for which the site is designated?	
2.2 - Is it necessary to carry out a HRA?	Yes
For the reasons given in section 2.1 and 2.2, this proposal is considered to require HRA.	

Table 3: Details of NSN site identified

Name of NSN site: Teesmouth and Cleveland Coast Special Protection Area (SPA) - UK9006061
Is a licensable activity taking place within or near a NSN site: Yes - Yes (within)
Conservation advice package used: https://designatedsites.naturalengland.org.uk/Marine/MarineSiteDetail.aspx?SiteCode=UK9006061&SiteName=teesmouth&countyCode=&responsiblePerson=&SeaArea=&IFCAArea=
Date conservation advice was last accessed: 20 November 2020
Conservation objective(s): https://designatedsites.naturalengland.org.uk/Marine/MarineSiteDetail.aspx?SiteCode=UK9006061&SiteName=teesmouth&countyCode=&responsiblePerson=&SeaArea=&IFCAArea=#hlco

Table 5: Details of NSN site identified

Name of NSN site: Teesmouth and Cleveland Coast RAMSAR.
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Is a licensable activity taking place within or near a NSN site: Yes (within)
Conservation advice package used: http://jncc.defra.gov.uk/pdf/RIS/UK11068.pdf
Date conservation advice was last accessed: 20 November 2020
Conservation objective(s): http://jncc.defra.gov.uk/pdf/RIS/UK11068.pdf

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Likely Significant Effect (LSE)

- In formulating the LSE alone and in-combination assessments, Natural England's Conservation Advice Packages, as outlined in Table 3, have been consulted and the following principles apply:
 - The Advice on Operations (AoO) category of marine activities used is Ports and Harbours (Construction)
 - Construction of port and harbour structures/capital dredging.
- Where available, the 'Advice on Operations' (AoO) matrix to determine pressures associated with the proposed activities that may potentially harm the qualifying habitat features and/ or species of the sites has been used.
- No AoO was available for the RAMSAR This Ramsar site overlaps with the [Teesmouth and Cleveland Coast SPA](#) NSN site. Conservation Advice packages for overlapping NSN Site designations are, in most cases, sufficient to support the management of the Ramsar interests. As such, the Conservation Advice package for [Teesmouth and Cleveland Coast SPA](#) NSN site has been used. Any Ramsar qualifying features deemed by the MMO to not be covered by the overlapping Conservation Advice package is listed below and considered using best available knowledge
- Low risk pressures, unless there is evidence or site-specific factors that increase the risk, or uncertainty on the level of pressure on a receptor, this pressure generally does not occur at a level of concern and should not require consideration as part of the assessment.
- Features deemed sensitive to pressures (medium and high risk) for both direct and indirect pathways are taken forward into the LSE assessment.
- The individual pressure/ feature interactions categorised as 'Not Sensitive' at the benchmark are not taken forward into the LSE assessment. The MMO considers that the impacts on these features as a result of the activities will be less than the benchmarks specified for these pressure/ feature interactions.
- Features deemed sensitive to pressures (medium and high risk) for both direct and indirect pathways are taken forward into the LSE assessment.
- Pressure/ feature interactions categorised as either 'Insufficient Evidence' or 'Not Assessed' have been taken forward into the LSE assessment in accordance with the precautionary principle.

Table 6: Part 1 – Alone

Teesmouth and Cleveland Coast SPA/ RAMSAR: Construction of port and harbour structures/Capital Dredging			
Pressure	Qualifying feature or species (include sub-features and supporting habitats)	LSE	Justification
Above water noise disturbance Visual disturbance Barrier to species movement Introduction of light Water flow (tidal current changes) including sediment transport.	Bird Species • Ruff • Avocet • Knot	No	Ruff and avocet use habitats away from the main estuary channel, such as RSPB Saltholme or Greenabella Marsh, so are unlikely to be impacted by the proposed development. Knot are almost exclusively confined to coastal habitats, away from the main estuary channel. No likely significant effect concluded.
Above Water Noise Visual disturbance	Bird Species: • Little Tern (B) • Redshank (NB) • Sandwich Tern (NB) SPA: • Common Tern (B) Waterbird assemblage (NB) • Wigeon • Gadwall • Shoveler • Lapwing • Sanderling • Herring gull • Black-headed gull	Yes.	The Tees estuary is a busy commercial port, with a number of sources of existing noise disturbance including regular maintenance dredging, movements of large commercial vessels and land-side activities from the various industrial operators on both sides of the river. However, there is likely to be visual and noise disturbance to waterbirds from dredging activities. Above-water noise generated by percussive piling (terrestrial) during the construction phase has the potential to disturb SPA, SSSI and Ramsar site bird features as well as the excavation (creation of depressions and berths activities. As such the likelihood of a significant affect cannot be ruled out and so this will be considered further at appropriate assessment. Screened into appropriate assessment.

Abrasion/disturbance of the substrate on the surface of the seabed	Supporting habitat: • Salicornia and other annuals colonising mud and sand • Atlantic salt meadows • Intertidal rock • Intertidal biogenic reef: mussel beds • Intertidal mixed sediments • Intertidal mud • Intertidal sand and muddy sand	No	A site check with a ~1km buffer using MAGIC maps indicates that there are the following features: • Intertidal mud • Saltmarsh No other supporting habitats were identified. The proposed dredge footprint is within close proximity to the North Tees mudflat, is a Priority Habitat and is within the Teesmouth and Cleveland SPA/Ramsar. However, based on the assumed side slopes to be created as part of the proposed dredge, no direct or indirect impact to this area of habitat is predicted. In addition, due to the distance to the intertidal mud there should be no direct impact. Therefore, these features will not be considered further. No likely significant effect concluded.
Barrier to species movement	Bird Species. • Little Tern (B) • Redshank (NB) SPA: • Common Tern (B) Waterbird assemblage (NB) • Wigeon • Gadwall • Shoveler • Lapwing • Sanderling • Herring gull • Black-headed gull	Yes	The Tees estuary is a busy commercial port, with a number of sources of existing disturbance including regular maintenance dredging, movements of large commercial vessels and land-side activities from the various industrial operators on both sides of the river. According to Natural England's AoO, barrier to species movement refers to obstructions to species movement caused by physical barrier or prolonged exposure to noise, light, visual disturbance or changes in water quality. The works will introduce noise. According to the same AoO visual disturbance is caused by vessels, vehicles and people movement can create visual stimuli which can evoke a disturbance response. These works will involve the use of a vessel. This, along with disturbance caused by physical presence of construction workers and associated machinery, cannot be ruled out at this stage and will be considered further at appropriate assessment. Screened into appropriate assessment.

	Supporting habitat: • Salicornia and other annuals colonising mud and sand • Atlantic salt meadows • Intertidal biogenic reef: mussel beds • Water column	No	A site check with a ~1km buffer using MAGIC maps indicates that there are the following features: • Saltmarsh (~990 metres away on the other side of a land barrier – no pathway) • Water Column. No other supporting habitats were identified. Due to the presence of a land barrier there should be no pathway for potential impacts to the saltmarsh. Therefore, this feature will not be considered further. With regard to water column – The Tees estuary is a busy commercial port, with a number of sources of existing disturbance including regular maintenance dredging, movements of large commercial vessels and land-side activities from the various industrial operators on both sides of the river. Given this existing context, the temporary (approximately 10 weeks) and highly localised disturbance caused by the proposed scheme would not be significant. Therefore, this feature will not be considered further for this pressure. No Likely Significant Effect concluded.
Changes in suspended solids (water clarity)	Bird Species. • Little Tern (B) • Sandwich Tern (NB) SPA: • Common Tern (B) Waterbird assemblage (NB) • Wigeon • Gadwall • Shoveler • Lapwing • Sanderling • Herring gull • Black-headed gull	Yes	Tern foraging may be inhibited by a decrease in water clarity caused by the proposed dredge. The occurrence of almost daily maintenance dredging throughout the estuary suggests that exposure to such effects is high and habituation may be likely. It is predicted that the impact to tern foraging ability from increased suspended sediments during dredging represents a very localised, temporary and short-term disturbance, with any suspended sediment likely to rapidly settle back on the bed following completion of the dredge. The works will involve the excavation (creation of depressions and berths activities. This may lead to an increase in siltation and turbidity over the course of the development and any effect may be significant. As such the likelihood of a significant affect cannot be ruled out and so this will be considered further at appropriate assessment. This will be discussed at appropriate assessment. Screened into appropriate assessment.

	Supporting habitat: • Salicornia and other annuals colonising mud and sand • Atlantic salt meadows • Intertidal rock • Intertidal mixed sediments • Intertidal mud • Intertidal sand and muddy sand • Water Column	No	A site check with a ~1km buffer using MAGIC maps indicates that there are the following features: • Intertidal mud • Saltmarsh • Water column No other supporting habitats were identified. Due to the presence of a land barrier there should be no pathway for potential impacts to the saltmarsh. Therefore, this feature will not be considered further. With regard to water column and intertidal mud - it is envisaged that the effects of the proposed scheme may increase suspended sediments (water clarity). However, any changes will be localised and are unlikely to be sufficient to cause alteration of baseline sediment transport patterns. The magnitude of changes in water clarity is likely to be negligible and not sufficient to cause far-field effects on the baseline conditions. Furthermore, the dredging footprint in the main channel does not overlap with the intertidal habitat available at this site or any other intertidal areas along the river, therefore there is likely to be little direct impact on supporting habitat. Therefore, these features will not be considered further for this pressure. No Likely Significant Effect concluded.
Emergence regime changes – including tidal level change considerations	Bird Species. • Little Tern (B) • Redshank (NB) • Sandwich Tern (NB) SPA: • Common Tern (B) Waterbird assemblage (NB) • Wigeon • Gadwall	No	It is envisaged that the effects of the proposed scheme on hydrodynamics and waves is likely to be highly localised and very small in magnitude. In respect of both tidal currents and waves, the baseline conditions are very modest and any small magnitude changes will not cause significantly different effects compared with the present situation. Any localised and small magnitude changes in baseline tidal currents or waves are unlikely to be sufficient to cause alteration of baseline sediment transport patterns, except for the principal effect of a likely small increase in potential for marine silt and sand deposition locally within the newly-deepened berthing pocket, requiring ongoing maintenance dredging (but no change in the

	• Shoveler • Lapwing • Sanderling • Herring gull • Black-headed gull		overall maintenance dredging strategy for the Tees estuary as a whole). The magnitude of changes in hydrodynamics and waves is likely to be negligible and not sufficient to cause far-field effects on the baseline sediment transport process or morphological function of the wider estuary. Therefore, these features will not be considered further for this pressure. No Likely Significant Effect concluded.
	Supporting habitat: • Salicornia and other annuals colonising mud and sand • Atlantic salt meadows • Intertidal rock • Intertidal biogenic reef: mussel beds • Intertidal mixed sediments • Intertidal mud • Intertidal sand and muddy sand • Water column		A site check with a ~1km buffer using MAGIC maps indicates that there are the following features: • Intertidal mud (~980 metres away on the other side of the river) • Saltmarsh (~990 metres away on the other side of a land barrier – no pathway) • Water column No other supporting habitats were identified. Due to the presence of a land barrier there should be no pathway for potential impacts to the saltmarsh. Therefore, this feature will not be considered further. With regard to water column and intertidal mud - The magnitude of changes in hydrodynamics and waves is likely to be negligible and not sufficient to cause far-field effects on the baseline sediment transport process or morphological function of the wider estuary. Furthermore, the dredging footprint in the main channel does not overlap with the intertidal habitat available at this site or any other intertidal areas along the river, therefore there is likely to be little direct impact on supporting habitat. No Likely Significant Effect concluded.
Habitat structure changes – removal of substratum (extraction)	Supporting habitat: • Salicornia and other annuals colonising mud and sand • Atlantic salt meadows • Intertidal rock • Intertidal biogenic reef: mussel beds • Intertidal mixed sediments	No	A site check with a ~1km buffer using MAGIC maps indicates that there are the following features: • Intertidal mud • Saltmarsh • Water column

	• Intertidal mud • Intertidal sand and muddy sand • Water column		No other supporting habitats were identified. Due to the presence of a land barrier and the distance of the feature from the activities there should be direct impact for potential impacts to the saltmarsh or intertidal mud. Therefore, these features will not be considered further. With regard to water column –maintenance dredging routinely occurs in this highly modified/commercial port meaning that the area will be habituated to fluctuating sediment levels. The application reports that the area has previously been dredged to this depth. The area will recover through normal estuarine processes. No Likely Significant Effect concluded.
Introduction of light	Bird Species. • Little Tern (B) • Redshank (NB) • Sandwich Tern (NB) SPA: • Common Tern (B) Waterbird assemblage (NB) • Wigeon • Gadwall • Shoveler • Lapwing • Sanderling • Herring gull • Black-headed gull	Yes	It is inevitable that the proposed construction works would result in the creation of disturbance to birds due to lighting (if required). The works are temporary (approximately five months), within a highly localised part of the estuary and are similar in nature to ongoing activities within the area. The site of works is within the designated site and the activities will introduce light, as such the likelihood of a significant affect cannot be ruled out and so this will be considered further at appropriate assessment. Screened into appropriate assessment.
	Supporting habitat: • Salicornia and other annuals colonising mud and sand • Atlantic salt meadows	No	A site check with a ~1km buffer using MAGIC maps indicates that there are the following features: • Intertidal mud • Saltmarsh

	• Intertidal rock • Intertidal biogenic reef: mussel beds • Intertidal mixed sediments • Intertidal mud • Intertidal sand and muddy sand • Water column		• Water column No other supporting habitats were identified. Due to the presence of a land barrier and the distance of the feature from the activities there should be no pathway for potential impacts to the saltmarsh or intertidal mud. Therefore, these features will not be considered further. With regard to water column - the proposed construction works would result in the creation of disturbance due to lighting (if required). However, given that the works are temporary (approximately five months), within a highly localised part of the estuary and are similar in nature to ongoing activities within the, no significant impact would occur. The proposed scheme is not intended to increase the import or export of product through the facility. Therefore, these features will not be considered further for this pressure. No Likely Significant Effect concluded.
Penetration and/or disturbance of the substratum below the surface of the seabed – including abrasion	Supporting habitat: • Salicornia and other annuals colonising mud and sand • Atlantic salt meadows • Intertidal rock • Intertidal biogenic reef: mussel beds • Intertidal mixed sediments • Intertidal mud • Intertidal sand and muddy sand	No	A site check with a ~1km buffer using MAGIC maps indicates that there are the following features: • Intertidal mud • Saltmarsh • Water column No other supporting habitats were identified. Due to the presence of a land barrier and the distance of the feature from the activities there should be no pathway for potential impacts to the saltmarsh or intertidal mud. Therefore, these features will not be considered further. With regard to the water column – any disturbance will be localised and are unlikely to be sufficient to cause alteration of baseline sediment transport patterns, except for the principal effect of a likely small increase in potential for marine silt and sand deposition locally within the newly-deepened berthing pocket, requiring ongoing maintenance dredging (but no change in the overall maintenance dredging strategy for the Tees estuary as a whole).

			The magnitude of changes in hydrodynamics and waves is likely to be negligible and not sufficient to cause far-field effects on the baseline sediment transport process or morphological function of the wider estuary. Therefore, this feature will not be considered further for this pressure. No Likely Significant Effect concluded.
Physical change (to another seabed type)	Supporting habitat: • Intertidal rock	No	A site check with a ~1km buffer using MAGIC maps did not identify this feature. Therefore, this feature will not be considered further for this pressure. No Likely Significant Effect concluded.
Physical change (to another sediment type)	Supporting habitat: • Salicornia and other annuals colonising mud and sand • Atlantic salt meadows • Intertidal biogenic reef: mussel beds • Intertidal mixed sediments • Intertidal mud • Intertidal sand and muddy sand	No	A site check with a ~1km buffer using MAGIC maps indicates that there are the following features: • Intertidal mud • Saltmarsh No other supporting habitats were identified. Due to the presence of a land barrier and the distance of the feature from the activities there should be no pathway for potential impacts to the saltmarsh or intertidal mud. Therefore, these features will not be considered further. No Likely Significant Effect concluded.
Physical loss (to land or freshwater habitat)	Supporting habitat: • Salicornia and other annuals colonising mud and sand • Atlantic salt meadows • Intertidal rock • Intertidal biogenic reef: mussel beds • Intertidal mixed sediments • Intertidal mud • Intertidal sand and muddy sand • Water column	No	A site check with a ~1km buffer using MAGIC maps indicates that there are the following features: • Intertidal mud • Saltmarsh • Water column No other supporting habitats were identified. Due to the presence of a land barrier and the distance of the feature from the activities there should be no pathway for potential impacts to the saltmarsh or intertidal mud. Therefore, these features will not be considered further.

			With regard to water column- the capital dredge will cause a temporary loss of marine sediment. The construction activities should not cause a physical loss as it is to remove/replace existing structures. There should be no physical loss to land or freshwater habitat. Therefore, this feature will not be considered further for this pressure. No Likely Significant Effect concluded.
Removal of non-target species	Bird Species. • Little Tern (B) • Redshank (NB) • Sandwich Tern (NB) SPA: • Common Tern (B) Waterbird assemblage (NB) • Wigeon • Gadwall • Shoveler • Lapwing • Sanderling • Herring gull • Black-headed gull	No	There is a potential for the construction/dredge to impact prey species of these bird species. Maintenance dredging is routinely conducted at this highly modified/commercial port. Any disruption will be temporary (5 months) during the activities and will not be significant compared to the baseline conditions. Therefore, these features will not be considered further for this pressure. No Likely Significant Effect concluded.
	Supporting habitat: • Atlantic salt meadows • Intertidal rock • Intertidal biogenic reef: mussel beds • Intertidal mixed sediments • Intertidal mud • Intertidal sand and muddy sand • Water column	No	A site check with a ~1km buffer using MAGIC maps indicates that there are the following features: • Intertidal mud • Saltmarsh • Water column No other supporting habitats were identified. Due to the presence of a land barrier and the distance of the feature from the activities there should be no pathway for potential impacts to the saltmarsh or intertidal mud. Therefore, these features will not be considered further.

			No Likely Significant Effect concluded.
Smothering and siltation rate changes (Heavy)	Supporting habitat: • Salicornia and other annuals colonising mud and sand • Atlantic salt meadows • Intertidal rock • Intertidal biogenic reef: mussel beds • Intertidal mixed sediments • Intertidal mud • Intertidal sand and muddy sand	No	A site check with a ~1km buffer using MAGIC maps indicates that there are the following features: • Intertidal mud • Saltmarsh No other supporting habitats were identified. Due to the presence of a land barrier there should be no pathway for potential impacts to the saltmarsh. Therefore, this feature will not be considered further. With regard to intertidal mud – the activities are likely to cause a small increase in potential for marine silt and sand deposition locally within the newly-deepened berthing pocket, requiring ongoing maintenance dredging (but no change in the overall maintenance dredging strategy for the Tees estuary as a whole). The magnitude of changes is negligible and not sufficient to cause far-field effects on the baseline sediment transport process, morphological function of the wider estuary, or to the intertidal mud. Therefore, this feature will not be considered further. No Likely Significant Effect concluded.
Smothering and siltation rate changes (Light)	Supporting habitat: • Intertidal rock • Intertidal biogenic reef: mussel beds • Intertidal mixed sediments • Intertidal mud • Intertidal sand and muddy sand	No	As above. No Likely Significant Effect concluded.
Underwater noise changes	Bird Species. • Little Tern (B) • Sandwich Tern (NB) SPA: • Common Tern (B) Waterbird assemblage • Wigeon	No	The Tees estuary is a busy commercial port, with a number of sources of existing noise disturbance including regular maintenance dredging, movements of large commercial vessels and land-side activities from the various industrial operators on both sides of the river. Given this existing context, the temporary (approximately 10 weeks) and highly localised disturbance to birds caused by the proposed scheme would not be significant. Therefore, these features will not be considered further for this pressure.

	• Gadwall • Shoveler • Lapwing • Sanderling • Herring gull • Black-headed gull		No Likely Significant Effect concluded.
	Supporting habitat: • Intertidal rock • Water column	No	A site check with a ~1km buffer using MAGIC maps indicates that there are the following features: • Water column No other supporting habitats were identified. The Tees estuary is a busy commercial port, with a number of sources of existing disturbance including regular maintenance dredging, movements of large commercial vessels and land-side activities from the various industrial operators on both sides of the river. Given this existing context, the temporary (approximately five months) and any localised disturbance caused by the proposed scheme would not be significant. Therefore, these features will not be considered further for this pressure. No Likely Significant Effect concluded.
Vibration	Supporting habitat: • Salicornia and other annuals colonising mud and sand • Atlantic salt meadows • Water column		A site check with a ~1km buffer using MAGIC maps indicates that there are the following features: • Saltmarsh • Water column No other supporting habitats were identified. Due to the presence of a land barrier there should be no pathway for potential impacts to the saltmarsh. Therefore, this feature will not be considered further. With regard to the water column - it is possible that vibration may be caused due to the presence of construction plant etc. However, given that the works are temporary (approximately five months), within a highly localised part of the estuary and are similar in nature to ongoing activities within the estuary (i.e. maintenance dredging

			which is undertaken almost daily), no significant impact would occur. Therefore, this pressure will not be considered further. No Likely Significant Effect concluded.
Visual disturbance	Bird Species. • Little Tern (B) • Redshank (NB) SPA: • Common Tern (B) Waterbird assemblage (NB) • Wigeon • Gadwall • Shoveler • Lapwing • Sanderling • Herring gull • Black-headed gull	Yes	It is inevitable that the proposed construction works would result in the creation of visual disturbance to birds due to the presence of construction plant, lighting (if required) and personnel. As site of works is within the designated site and the activities will generate noise, particularly through the excavation (creation of depressions and berths activities. As such the likelihood of a significant affect cannot be ruled out and so this will be considered further at appropriate assessment. Screened into appropriate assessment.
	Supporting habitat: • Water column	No	A site check with a ~1km buffer using MAGIC maps indicates that there are the following features: • Water column The proposed activities could result in the creation of visual disturbance due to the presence of construction plant, lighting (if required) and personnel. However, given that the works are within a highly localised part of the estuary and are similar in nature to ongoing activities within the estuary (i.e. maintenance dredging which is undertaken almost daily), no significant impact would occur. Therefore, this pressure will not be considered further for this pressure. No Likely Significant Effect concluded.

Water flow (tidal current) changes, including sediment transport considerations	Bird Species. • Little Tern (B) • Sandwich Tern (NB) SPA: • Common Tern (B) Waterbird assemblage (NB) • Wigeon • Gadwall • Shoveler • Lapwing • Sanderling • Herring gull • Black-headed gull	Yes	Tern foraging may be inhibited by a reduction in water quality caused by the proposed dredge. The occurrence of almost daily maintenance dredging throughout the estuary suggests that exposure to such effects is high and habituation may be likely. It is predicted that the impact to tern foraging ability from increased suspended sediments during dredging represents a very localised, temporary and short-term disturbance, with any suspended sediment likely to rapidly settle back on the bed following completion of the dredge. No effect on overall population level or status is predicted to occur, and it is therefore concluded that no significant impacts would occur. The works will involve the excavation (creation of depressions and berths activities. This may lead to an increase in siltation and turbidity over the course of the development and any effect may be significant. As such the likelihood of a significant affect cannot be ruled out and so this will be considered further at appropriate assessment. This will be discussed at appropriate assessment. Screened into appropriate assessment.
	Supporting habitat: • Intertidal rock • Intertidal biogenic reef: mussel beds • Intertidal mixed sediments • Intertidal mud • Intertidal sand and muddy sand • Water column	No	A site check with a ~1km buffer using MAGIC maps indicates that there are the following features: • Intertidal mud • Water column No other supporting habitats were identified. With regard to water column - It is envisaged that the effects of the proposed scheme on hydrodynamics and waves is likely to be highly localised and very small in magnitude. In respect of both tidal currents and waves, the baseline conditions are very modest and any small magnitude changes will not cause significantly different effects compared with the present situation. Any localised and small magnitude changes in baseline tidal currents or waves are unlikely to be sufficient to cause alteration of baseline sediment transport patterns, except for the principal effect of a likely small increase in potential for marine silt and sand

			deposition locally within the newly-deepened berthing pocket, requiring ongoing maintenance dredging (but no change in the overall maintenance dredging strategy for the Tees estuary as a whole). The magnitude of changes in hydrodynamics and waves is likely to be negligible and not sufficient to cause far-field effects on the baseline sediment transport process or morphological function of the wider estuary. No Likely Significant Effect concluded.
Wave exposure changes	Supporting habitat: • Intertidal rock • Intertidal biogenic reef: mussel beds • Intertidal sand and muddy sand • Water column	No	As above. No Likely Significant Effect concluded.

Part 2 – In-combination.

Table 7: Projects considered for in-combination assessment

Name of N2K site: Teesmouth and Cleveland Coast SPA		
Name of plan or project	Type of plan or project with compatible pressures	Other plan or project taking place within or near an N2K site?
L/2017/00012/3 - Able Seaton Port Holding basin and Channel. TERRC Basin (including Grounding Bed, Quay 7,8,9 and Terrc Basin)	Capital/Maintenance dredging (expires 01/03/2026) Compatible pressures: Above water noise Barrier to species movement Visual disturbance	Yes – within the pSPA/partially within the SPA. The relevant compatible pressures have been taken through to AA alone so are not considered further here.
L/2019/00220 - Inter Terminals	Jetty 1 upgrade - License expires 31/12/2022 Compatible pressures: Above water noise Barrier to species movement Visual disturbance	The proposed works to Jetty 1 are highly localised and the construction works are short-term. The relevant compatible pressures have been taken through to AA alone so are not considered further here.

MLA/2020/00073	Alternative use of dredged material Compatible pressures: Changes in suspended sediment (water clarity) The MMO do consider an in-combination effect is likely as the dredged sediment will be reused as part of this project.	This is in conjunction with this application, as dredge material from this application (if suitable) will be used for the reclamation). This project is the Site 4 activity submitted with this application. Licence application submitted for determination, partially within the site of works. The relevant compatible pressures are not considered further here.
Anglo American Harbour Facilities	PDT is proposing to undertake a programme of works within and adjacent to the existing approach channel into Victoria Harbour, located to the immediate south of Hartlepool Headland. Compatible pressures: Underwater noise Barrier to species movement Visual disturbance	Should the proposed Anglo-American Harbour facilities scheme coincides with the proposed scheme, in-combination effects to the interest features of the SPA / Ramsar site could occur. The relevant compatible pressures have been taken through to AA alone so are not considered further here.
Anglo American Materials Handling Facility	Construction and operation of facilities to process, transfer and handle for export the material. Compatible pressures: Noise disturbance Barrier to species movement Visual disturbance	Should the Anglo-American Materials Handling Facility scheme coincide with the proposed scheme, in-combination effects to the interest features of the SPA / Ramsar site could occur. The relevant compatible pressures have been taken through to AA alone so are not considered further here.
Dogger Bank C (formerly known as Teesside A) and Sofia offshore wind farms (export cable and landfall)	Export cable and landfall Compatible pressures: Underwater noise Reduction in water quality	The Dogger Bank Teesside A & Sofia scheme is located within the coastal waters of Tees Bay. A trench of approximately 2.2km long required for export cable burial overlaps with the SPA / Ramsar site. The relevant compatible pressures have been taken through to AA alone so are not considered further here.
Hartlepool Approach Channel	Capital dredge to deepen, realign, widen and extend the length of the approach channel. In addition to the proposed dredge (and	Should the Hartlepool channel scheme coincide with the proposed scheme, in-combination effects to the interest

	associated disposal of dredged material), PDT is proposing to construct an underwater retaining wall, immediately adjacent to the Middleton Breakwater, which is located at the mouth of Victoria Harbour. The underwater retaining wall is required to avoid the risk of Middleton Breakwater being undermined following the proposed dredge. Compatible pressures: Underwater and airborne noise Reduction in water quality Barriers to species movement	features of the SPA / Ramsar site could occur. The relevant compatible pressures have been taken through to AA alone so are not considered further here.
Tees navigational channel deepening	The Tees Channel Dredge project involves a proposed deepening of the Tees navigation channel, the turning circle and Tees Dock. Compatible pressures: Underwater noise Reduction in water quality	Given the frequency, duration and long-term nature of maintenance dredging within the Tees, this activity is represented in the baseline conditions. However, the deepening could coincide with the capital dredging activity required for the proposed scheme (albeit within a different part of the estuary). The relevant compatible pressures have been taken through to AA alone so are not considered further here.
Northern Gateway Container Terminal	The NGCT scheme comprises capital dredging up to 4.8 million m3 of sediment from the riverbed, realignment of the approach channel, disposal of dredged material offshore, construction of a new container terminal facility and construction of various landside elements (buildings, rail terminal, road access, lighting, drainage and a pumping station). Compatible pressures: Underwater and airborne noise Reduction in water quality Visual disturbance	Should the NGCT scheme coincide with the proposed scheme, in-combination effects to the interest features of the SPA / Ramsar site could occur. The relevant compatible pressures have been taken through to AA alone so are not considered further here.
New cinema development	Demolition of existing cinema and replacement with a new cinema including external terraces, landscaping and temporary sea wall. Compatible pressures:	Although the proposed schemes are geographically separate (approximately 7km east), there is potential for effects arising from both schemes to result in combination effects on the same receptors. The relevant compatible

	Above water noise Barrier to species movement Visual disturbance	pressures have been taken through to AA alone so are not considered further here.
South Industrial Zone development	Outline planning application for demolition of existing structures on site and the development of up to 418,000sqm (gross) of general industry (Use Class B2) and storage or distribution facilities (Use Class B8) with office accommodation (Use Class B1), HGV and car parking and associated infrastructure works. Compatible pressures: Barrier to species movement Visual disturbance	The South Industrial scheme is Immediately adjacent (inland) to the scheme footprint. LSE could not be ruled out due to loss of habitat suitable to support SPA / Ramsar species, disturbance due to construction related pollution, noise and visual disturbance during construction and risk of pollution during operation. In addition, areas of woodland, scrub, grassland, open mosaic habitat and wetland habitats all provide suitable foraging habitat for wintering birds; such habitat would be lost due to the proposed scheme. In-combination effects on the SPA / Ramsar site cannot therefore be ruled out.
Northern Gateway Container Terminal Habitat Creation Scheme	A habitat creation scheme has been developed to compensate for loss of BAP habitat and as a result of a consultation with the EA. The scheme will entail creating an extension to the existing mudflat by depositing a retaining structure and infilling with dredged material from within the river cell.	The scheme details are currently at the outline stage, however the planned area is 100m upstream of the proposed dredge area. Should this scheme coincide with the dredging detailed in phase 2 of the works there may be a cumulative impact from suspended sediment. In-combination effects on the SPA / Ramsar site cannot therefore be ruled out without mitigation. This would include the need to ensure dredging activities do not take place at the same time as the restoration works

Likely Significant Effect Conclusion

The MMO: Has decided to carry out an appropriate assessment because significant effects alone and in combination could not be screened out.

The application contains mitigation that cannot be considered at LSE stage, and so this will be discussed at appropriate assessment. This is specific relation to above water noise, barrier to species movement, visual disturbance water flow (tidal current) changes, including sediment transport considerations and changes in suspended sediments (water clarity).

Name of MMO officer: Fern Skeldon

Job Title: Marine licensing case manager

Date: 14 July 2021

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Appropriate Assessment

Below is the MMO's assessment of those aspects of the project that it was not possible to rule out the likelihood of significant effects on the designated sites listed in table 3.

Part 1 – Alone

Name of designated site: Teesmouth and Cleveland Coast SPA				
Pressure	Qualifying feature or species (include sub-features and supporting habitats)	Adverse Effect on Integrity on qualifying feature of species?	Justification	After mitigation, can you conclude no adverse effect on site integrity?
Above water noise Barrier to species movement Visual disturbance	Sandwich tern, (Non-Breeding-passage) Common tern, (Breeding) Little tern, (Breeding) Common redshank, (Non-Breeding) Waterbird assemblage (Non-Breeding) • Wigeon • Gadwall • Shoveler • Lapwing • Sanderling • Herring gull • Black-headed gull	Yes	Above-water noise generated by above water percussive piling, demolition of the existing jetties, construction of the new quay and and dredging and disposal has the potential to disturb SPA, SSSI (as supporting habitat to designated sites) and Ramsar site bird features. The works are proposed to last up to 3 years and it is proposed that activities will take place 24 hours a day seven days a week.	Yes- Using shrouded piling the noise levels produced during construction (including during pile driving) are within the "acceptable" limits for redshank and knot at the nearest modelled receptor (i.e. the downstream section of the North Tees Mudflat). There may be some behavioural responses to impulsive piling noises, including non-flight responses such as head turning, scanning and movement away and/or flight with return, but these would be limited to an estimated forty minutes per day (assuming four rigs, with ten minutes of impact pile driving per day per rig), and there are suitable alternative, unaffected foraging locations within a short distance. Conditions will be on the licence that:

				- percussive piling should be limited to a maximum of 60 minutes each day - noise reduction piling should be used for all percussive piling, obtaining a minimum of 14 dB attenuation. - Percussive piling works avoid periods of freezing weather, during which SPA, Ramsar and SSSI birds are especially sensitive and have high energy requirements.
Introduction of light	Sandwich tern, (Non-Breeding-passage) Common tern, (Breeding) Little tern, (Breeding) Common redshank, (Non-Breeding) Waterbird assemblage (Non-Breeding) - Wigeon - Gadwall - Shoveler - Lapwing - Sanderling - Herring gull Black-headed gull	Yes	It is inevitable that the proposed construction works would result in the creation of disturbance to birds due to lighting (if required). However, given that the works are temporary (approximately five months), within a highly localised part of the estuary and are similar in nature to ongoing activities within the area, the impacts from the works would be minor. Further mitigation measure will result in no adverse effect on site integrity	Yes. Waterbirds may feed nocturnally and some may take advantage of artificial light sources to extend feeding opportunities in darkness (e.g. Dwyer et al., 2013). The area directly affected has little value to SPA / Ramsar site features. Birds that may otherwise be affected will have been displaced from the site during demolition of existing features and excavation of the intertidal area at South Bank. Areas considered to be of higher value, such as North Tees Mudflat, are sufficiently distant to avoid impacts on roosting or foraging behaviour. Mitigation measures include sympathetic placement and orientation of lighting to minimise light spill across the water. As such, the use of artificial lighting will not have any adverse effect on the distribution or extent of qualifying SPA / Ramsar site features either at North Tees Mudflat or on a wider SPA and Ramsar site level.

				Conditions will be on the licence that: Sympathetic placement or orientation of lighting to minimise light spill across the water
Changes in suspended sediment (water clarity) Water flow (tidal current) changes, including sediment transport considerations	Sandwich tern, (Non-Breeding-passage) Common tern, (Breeding) Little tern, (Breeding) Common redshank, (Non-Breeding) Waterbird assemblage (Non-Breeding) - Wigeon - Gadwall - Shoveler - Lapwing - Sanderling - Herring gull - Black-headed gull Intertidal sand and muddy sand Subtidal coarse sediment Subtidal mud Subtidal sand	Yes	The capital dredging of the river and excavation works of the dock will cause plumes of sediment to form. The plume effects arising from the river dredging are characterised by a short-lived localised increase in suspended sediment concentrations by the order of a few hundred mg/l at the point of dredging activity, followed by a general dispersion in spatial extent and reduction in concentration over the following hours. Since the dredging is a near-continuous operation, the plume effects will be observed throughout much of the approximately five-month period, but at varying extents depending on the dredging activities undertaken at any one time.	Yes- The applicant has proposed mitigation measures for the proposed scheme in the form of dredging along the axis of the river rather than across it to ensure that, at any one time, sediment plumes occupy only half of the river cross section, to prevent barriers to species movement. Conditions will be on the licence that: Dredging along the axis of the River Tees will be undertaken to ensure sediment plumes are only occurring in half of the river during capital dredging operations.

Part 2: In-combination

Name of N2K site: Teesmouth and Cleveland Coast SPA			
Name of plan or project	Type of plan or project with compatible pressures	Other plan or project taking place within or near an N2K site?	

L/2017/00012/3 - Able Seaton Port Holding basin and Channel. TERRC Basin (including Grounding Bed, Quay 7,8,9 and Terrc Basin)	Capital/Maintenance dredging (expires 01/03/2026) Compatible pressures: Above water noise Barrier to species movement Visual disturbance	Yes – within the SPA. The maintenance dredge covers the whole approach channel for the Port of Able in order for access to be maintained for commercial operations. Dredging in this area is longstanding. These works take place year-round.
MLA/2020/00073	Alternative use of dredged material Compatible pressures: Changes in suspended sediment (water clarity) The MMO do consider an in-combination effect is likely as the dredged sediment will be reused as part of this project.	This is in conjunction with this application, as dredge material from this application (if suitable) will be used for the reclamation). This project is the Site 4 activity submitted with this application. Licence application submitted for determination, partially within the site of works.
Anglo American Harbour Facilities	PD Ports is proposing to undertake a programme of works within and adjacent to the existing approach channel into Victoria Harbour, located to the immediate south of Hartlepool Headland.	Should the proposed Anglo-American Harbour facilities scheme coincide with the proposed scheme, in-combination effects to the interest features of the SPA / Ramsar site could occur in the form of underwater and airborne noise and water quality reductions, which have the potential to reduce the available foraging area for qualifying species.
Anglo American Materials Handling Facility	Construction and operation of facilities to process, transfer and handle for export the material. Compatible pressures: Above water noise Barrier to species movement Visual disturbance	Should the Anglo-American Materials Handling Facility scheme coincide with the proposed scheme, in-combination effects to the interest features of the SPA / Ramsar site could occur in the form of airborne noise and visual disturbance, which have the potential to reduce the available foraging area for qualifying species.
Dogger Bank C (formerly known as Teesside A) and Sofia offshore wind farms (export cable and landfall)	Export cable and landfall Compatible pressures:	The Dogger Bank Teesside A & Sofia scheme is located within the coastal waters of Tees Bay. A trench of approximately 2.2km long required for export cable burial

	Underwater noise Reduction in water quality	overlaps with the SPA / Ramsar site. Although this scheme has received consent, it is yet to be constructed, and therefore the potential exists during cable laying for in-combination impacts from underwater noise and reductions in water quality to affect prey species of qualifying features. A review of the Environmental Statement undertaken for the Dogger Bank scheme confirms that the zones of influence of these projects would not interact, and therefore, there is no pathway for cumulative impacts.
Hartlepool Approach Channel	PDT is proposing to deepen, realign, widen and extend the length of the approach channel, to allow Victoria Harbour to accept deeper drafted and larger beam vessels through a wider tidal window. In addition to the proposed dredge (and associated disposal of dredged material), PDT is proposing to construct an underwater retaining wall, immediately adjacent to the Middleton Breakwater, which is located at the mouth of Victoria Harbour. The underwater retaining wall is required to avoid the risk of Middleton Breakwater being undermined following the proposed dredge. Compatible pressures: Underwater and airborne noise Reduction in water quality	Should the Hartlepool channel scheme coincide with the proposed scheme, in-combination effects to the interest features of the SPA / Ramsar site could occur in the form of underwater and airborne noise and water quality reductions, which have the potential to reduce the available foraging area for qualifying species. The effects of capital dredging on subtidal habitat are considered to be temporary, with a return to baseline conditions expected upon completion. The Hartlepool approach channel would not result in the loss of intertidal as all works are located within the subtidal. There is therefore no pathway for in-combination effect on potential feeding grounds with the proposed scheme.
Northern Gateway Container Terminal (NGCT)	The NGCT scheme comprises capital dredging up to 4.8 million m3 of sediment from the riverbed, realignment of the approach channel, disposal of dredged material offshore, construction of a new container terminal facility and construction of various landside elements (buildings, rail terminal, road access, lighting, drainage and a pumping station). The NGCT scheme comprises capital dredging up to 4.8 million m3 of sediment from the riverbed, realignment of the approach channel, disposal of dredged material offshore, construction of a new container terminal facility	Should the NGCT scheme coincide with the proposed scheme, in-combination effects to the interest features of the SPA / Ramsar site could occur in the form of underwater and airborne noise, visual disturbance and water quality reductions, which have the potential to reduce the available foraging area for qualifying species.

	and construction of various landside elements (buildings, rail terminal, road access, lighting, drainage and a pumping station). Compatible pressures: Underwater and airborne noise Reduction in water quality Visual disturbance	
New cinema development	Demolition of existing cinema and replacement with a new cinema including external terraces, landscaping and temporary sea wall. Compatible pressures: Above water noise Barrier to species movement Visual disturbance	LSE could not be ruled out for redshank, knot, ringed plover, ruff and the waterbird assemblage during construction and operation. Although the proposed schemes are geographically separate (approximately 7km east), there is potential for effects arising from both schemes to result in combination effects on the same receptors.
South Industrial Zone development	Outline planning application for demolition of existing structures on site and the development of up to 418,000sqm (gross) of general industry (Use Class B2) and storage or distribution facilities (Use Class B8) with office accommodation (Use Class B1), HGV and car parking and associated infrastructure works. Compatible pressures: Barrier to species movement Visual disturbance	The South Industrial scheme is immediately adjacent (inland) to the scheme footprint. LSE could not be ruled out due to noise and visual disturbance during construction and risk of pollution during operation. In addition, areas of woodland, scrub, grassland, open mosaic habitat and wetland habitats all provide suitable foraging habitat for wintering birds.
Northern Gateway Container Terminal Habitat Creation Scheme	A habitat creation scheme has been developed to compensate for loss of BAP habitat and as a result of a consultation with the EA. The scheme will entail creating an extension to the existing mudflat by depositing a retaining structure and infilling with dredged material from within the river cell.	The scheme details are currently at the outline stage, however the planned area is 100m upstream of the proposed dredge area. Should this scheme coincide with the dredging detailed in phase 2 of the works there may be a cumulative impact from suspended sediment. In-combination effects on the SPA / Ramsar site cannot therefore be ruled out without mitigation.

		This would include the need to ensure dredging activities do not take place at the same time as the restoration works.
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Appropriate Assessment Conclusion

This is a record of the appropriate assessment required by regulation 63 of The Conservation of Habitats and Species Regulations 2017 and undertaken by the Marine Management Organisation in respect of the proposed project outlined in table 1.

The LSE alone assessment concluded that the proposed project would be likely to have a significant effect on the following NSN site:

- Teesmouth and Cleveland Coast SPA and Tees
- Cleveland Coast RAMSAR

An alone and in-combination appropriate assessment has been undertaken of the implications of the proposal in consideration of the applicable conservation objectives.

The MMO has concluded that the proposed project would not have an adverse effect on the integrity of the following site(s), either alone or in combination with the following NSN site:

- Teesmouth and Cleveland Coast SPA and Tees
- Cleveland Coast RAMSAR.

This conclusion is dependent on mitigation measures being secured by the following conditions being secured in a marine licence:

- Percussive piling should be limited to a maximum of 60 minutes each day
- Noise reduction piling shroud be used for all percussive piling, obtaining a minimum of 14 dB attenuation.
- Percussive piling works avoid periods of freezing weather, during which SPA, Ramsar and SSSI birds are especially sensitive and have high energy requirements.
- Dredging along the axis of the River Tees will be undertaken to ensure sediment plumes are only occurring in half of the river during capital dredging operations.
- Sympathetic placement or orientation of lighting to minimise light spill across the water

- A program of dredging works to be submitted in advance of Phase 2 dredging activities to reduce the in-combination impacts to the North Tees mud flat

The MMO has deferred to the land based HRA undertaken by the Local Planning Authority (Redcar and Cleveland Council) on impacts of piling.

Natural England were consulted on the appropriate assessment [date(s)] and to which the MMO has had regard. The conclusions of this appropriate assessment [are/are not] in accordance with the advice and recommendations of Natural England.

Name of MMO officer: Fern Skeldon

Job Title: Marine Licensing Case Manager

Date: 14 July 2021

Annex 1

Full location information (including site coordinates) is available on the MMO's Public Register. A map detailing the proposed project site(s) is below.

