



Inch Cape
OFFSHORE LIMITED

Inch Cape Offshore Transmission Works

Additional Landfall Works

**Screening Request
& Supporting Information**

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Acronyms & Abbreviations

Acronym	Term
CSO	Combined Sewer Overflow
EIA	Environmental Impact Assessment
EIAR	Environmental Impact Assessment Report
ELC	East Lothian Council
ES	Environmental Statement
ICOL	Inch Cape Offshore Limited
MHWS	Mean High Water Springs
MLWS	Mean Low Water Springs
OfTI	Offshore Transmission Infrastructure
OfTW	Offshore Transmission Works
PAC	Pre-application Consultation
SLVIA	Seascape, Landscape and Visual Impact Assessment

Glossary

Defined Term	Meaning
The 2010 Act	Marine (Scotland) Act 2010
The 2013 Application	The Environmental Statement, HRA Report and supporting documents submitted by the Company on 1 st July 2013 to construct and operate an offshore generating station and transmission works.
The 2018 Application	The EIA Report, HRA Report and supporting documents submitted by the Company on 15 August 2018 to construct and operate an offshore generating station and transmission works.
Inch Cape Offshore Transmission Infrastructure (OfTI)	Components of the Development which are permitted by the OfTI Marine Licence (06782/19/0).
Inch Cape Offshore Wind Farm	A component of the Development, comprising wind turbines and their foundations and substructures, and inter-array cables.
Offshore Export Cable	The subsea, buried or protected electricity cables running from the offshore wind farm substation to the landfall and transmitting the electricity generated to the onshore cables for transmission onwards to the onshore substation and the electrical grid connection.
Offshore Export Cable Corridor/ Export Cable Corridor	The area within which the Offshore Export Cables will be laid out with the Development Area and up to Mean High Water Springs.
Onshore Transmission Works (OnTW)	All works required for the onshore element of the Project, typically including the Onshore Substation, cable transition pits, cable jointing pits, underground electricity transmission cables connecting to the Onshore Substation and further underground cables required to facilitate connection to the national grid. This includes all permanent and temporary works required.

Executive Summary

Inch Cape Offshore Limited (ICOL) intends to apply for a marine licence under Part 4 of the Marine (Scotland) Act 2010 (“the 2010 Act”). The marine licence is required for the Proposed Seawall and Revetment Works and East Lothian Council (ELC) Outfall Diversion (the ‘Additional Landfall Works’) to facilitate the Export Cable installation for the Inch Cape Offshore Wind Farm.

Marine Scotland - Licensing Operations Team (MS-LOT) requested that ICOL seek a Screening Opinion under The Marine Works (Environmental Impact Assessment) (Scotland) Regulations 2017 (“2017 MW Regulations”) to determine if an Environmental Impact Assessment (EIA) was required in support of the application.

ICOL is of the understanding that the Additional Landfall Works constitute a change to an authorised project and therefore are capable of falling under Entry 13 of the Table in Schedule 2 of the Marine Works (Environmental Impact Assessment) (Scotland) Regulations 2017 (as amended).

Following review of the 2013 Environmental Statement (ES) and 2018 Environmental Impact Assessment Report (EIAR), and further consideration of environmental effects arising from the Additional Landfall Works, no significant impacts were identified to arise, and it is considered that no EIA is required pursuant to the applicable thresholds and criteria specified in Schedule 2 of the 2017 Regulations.

This document has been prepared by competent experts (Natural Power Consultants and CMS) to provide the supporting information to inform the request for a Screening Opinion for the marine licence application.

1 Introduction

1.1 Background

- 1 The Inch Cape Offshore Wind Farm (the Wind Farm) and Offshore Transmission Works (OfTW), hereafter referred to as the Development, is being developed by Inch Cape Offshore Limited (ICOL) (see Figure 1.1).

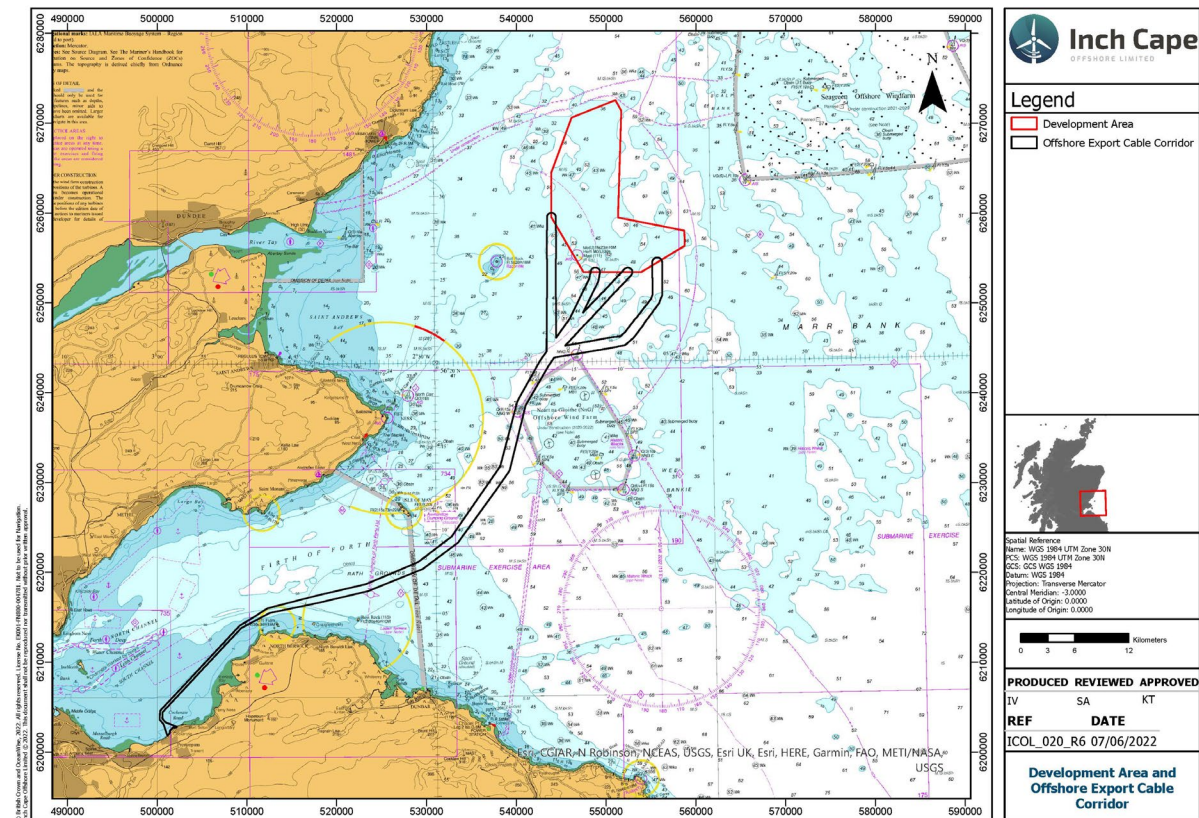


Figure 1.1: Inch Cape Offshore Development Area and Offshore Export Cable Corridor

- 2 In 2014, the Scottish Ministers granted ICOL Section 36 and Marine Licence consents for the construction and operation of an offshore wind farm and a marine licence for the construction and operation of offshore transmission works. The licences granted to ICOL in 2014 (along with those for other Forth and Tay projects, Seagreen Alpha and Bravo and Nearth na Gaoithe) were subject to a petition for judicial review in early 2015. A decision was made by the UK Supreme Court in November 2017 to uphold the Scottish Ministers' decisions to grant the offshore consents.
- 3 In 2018, ICOL submitted a new application with a revised design that would allow the development of a project that could utilise progressions in technology since the 2014 consent. Section 36¹ and

¹ Since the consent for the revised design was received, ICOL have successfully sought two variations to the Inch Cape Offshore Wind Farm Section 36 Consent and Marine Licence 06781/19/0. A separate variation application for these consents, to optimise wind farm efficiency and enable utilisation of the best available technological solution, has been submitted to Marine Scotland Licensing and Operations Team (MS-LOT) and is currently pending.

Marine Licence Consents for the revised design were granted by Scottish Ministers in 2019.

- 4 The revised Marine Licence (06782/19/0)² (dated 17th June 2019) ('the Licence') was granted for the offshore transmission infrastructure connecting the landfall location, located near Cockenzie, East Lothian, and the Inch Cape Offshore Wind Farm which is located approximately 15-22km off the Angus coastline, to the east of the Firth of Tay (the OfTW).

1.2 Intention to Apply for a New Marine Licence

- 5 ICOL is applying for a marine licence for additional works relating to the landfall cable installation methodology. Following further site investigations and detailed engineering design for the installation of the Offshore Export Cables, sections of the existing sea defence wall at Cockenzie are required to be temporarily removed and then reinstated on completion of the cable installation. In addition, an existing East Lothian Council (ELC) outfall pipe needs to be diverted to facilitate the installation of the Offshore Export Cables. These proposed works together comprise the 'Additional Landfall Works' and will occur within the 'Additional Landfall Works Area' (see Figure 1.2 and Table 1.1).

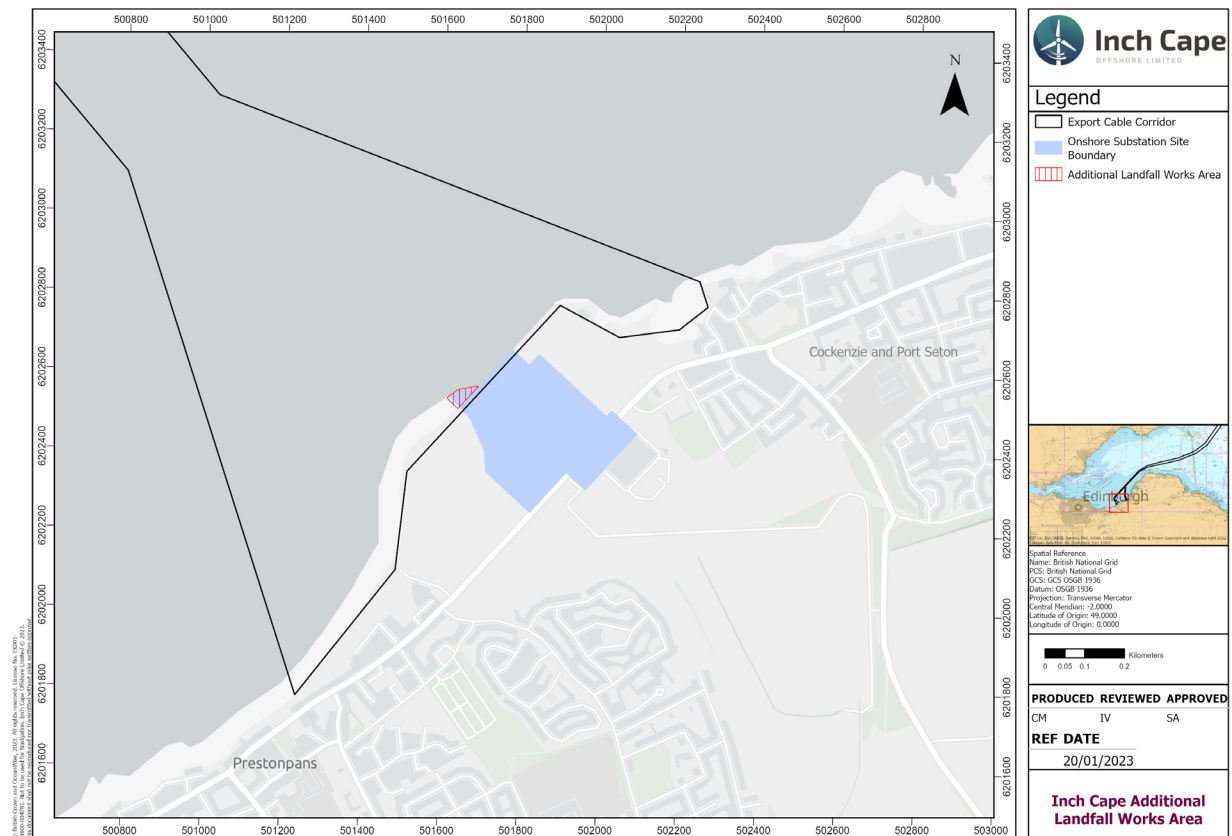


Figure 1.2: Inch Cape Offshore Wind Farm Landfall Location

² ICOL intends to request a variation to capture changes to temporary and permanent deposit quantities and revision of the Offshore Export Cable Corridor Coordinates to include the intended OSP location.

Table 1.1 Additional Landfall Works Area Coordinates

Latitude (Degrees, minutes, decimal minutes)	Longitude (Degrees, minutes, decimal minutes)	UTM30N X (Metres)	UTM30N Y (Metres)
55° 58.102' N	2° 58.463' W	501599.096	6202558.283
55° 58.071' N	2° 58.512' W	501547.808	6202501.663
55° 58.086' N	2° 58.539' W	501520.074	6202528.588
55° 58.089' N	2° 58.532' W	501526.886	6202534.637
55° 58.089' N	2° 58.531' W	501527.988	6202535.3
55° 58.090' N	2° 58.530' W	501528.764	6202536.164
55° 58.090' N	2° 58.529' W	501530.302	6202537.419
55° 58.091' N	2° 58.528' W	501531.558	6202538.159
55° 58.091' N	2° 58.527' W	501532.425	6202538.867
55° 58.091' N	2° 58.526' W	501533.33	6202539.236
55° 58.091' N	2° 58.526' W	501533.769	6202539.337
55° 58.092' N	2° 58.523' W	501537.039	6202541.384
55° 58.096' N	2° 58.515' W	501544.398	6202547.691
55° 58.096' N	2° 58.514' W	501545.74	6202548.26
55° 58.096' N	2° 58.513' W	501547.284	6202548.683
55° 58.096' N	2° 58.512' W	501548.133	6202548.745
55° 58.097' N	2° 58.507' W	501553.204	6202550.769
55° 58.099' N	2° 58.501' W	501559.524	6202552.86
55° 58.099' N	2° 58.500' W	501560.82	6202553.129
55° 58.099' N	2° 58.493' W	501567.4	6202553.446
55° 58.099' N	2° 58.491' W	501570.159	6202553.864
55° 58.101' N	2° 58.481' W	501579.864	6202557.005
55° 58.101' N	2° 58.481' W	501580.662	6202557.166
55° 58.101' N	2° 58.479' W	501582.162	6202557.188
55° 58.101' N	2° 58.478' W	501583.663	6202557.11
55° 58.101' N	2° 58.476' W	501585.709	6202557.389
55° 58.102' N	2° 58.466' W	501595.78	6202559.385
55° 58.102' N	2° 58.464' W	501597.58	6202559.411

- 6 Under the Marine (Scotland) Act 2010, a Marine Licence is required if a person or organisation intends to carry out marine construction works in the Scottish marine area, seaward of Mean High Water Springs (MHWS). Therefore, ICOL intends to apply for a new marine licence under Part 4 of the Marine (Scotland) Act 2010 ("the 2010 Act") for a marine licence for the Additional Landfall Works. In addition, Marine Scotland - Licensing Operations Team (MS-LOT) requested that ICOL seek a Screening Opinion under The Marine Works (Environmental Impact Assessment) (Scotland) Regulations 2017 ("2017 MW Regulations") to determine if an Environmental Impact Assessment (EIA) was required in support of the application.



- 7 The Additional Landfall Works requires Pre-Application Consultation (PAC) under The Marine Licensing (Pre-Application Consultation) (Scotland) Regulations 2013 (“the Regulations”). ICOL will consult with all required parties in line with the Regulations and a PAC report will accompany the Marine Licence application.
- 8 The required permissions for the works above MHWS are being sought from East Lothian Council (ELC) separately.

1.3 EIA Screening

- 9 ICOL considers that the Additional Landfall Works should be screened out for the purposes of EIA in terms of the Marine Works (Environmental Impact Assessment) (Scotland) Regulations 2017 (the Marine Works EIA Regulations).
- 10 Under the EIA Regulations, development will be considered EIA development if it either:
1. constitutes Schedule 1 Development; or
 2. constitutes Schedule 2 Development and is likely to have significant effects on the environment having regard to the factors set out in Schedule 3³.
- 11 ICOL is of the understanding that the Additional Landfall Works constitute a change to an authorised project and therefore are capable of falling under Entry 13 of the Table in Schedule 2 of the Marine Works (Environmental Impact Assessment) (Scotland) Regulations 2017 (as amended) (hereafter referred to as the 2017 Regulations).
- 12 Following review of the 2013 Environmental Statement (ES) and 2018 Environmental Impact Assessment Report (EIAR), and further consideration of environmental effects arising from the Additional Landfall Works, no significant impacts were identified to arise, and it is considered that no EIA is required pursuant to the applicable thresholds and criteria specified in Schedule 2 of the 2017 Regulations.
- 13 ICOL is requesting an EIA Screening Opinion under Regulation 10(1) of the 2017 Regulations.
- 14 ICOL propose that any significant potential impacts associated with the Additional Landfall Works are identified and mitigated within a concise environmental appraisal which will accompany the Marine Licence application.

1.4 Scope of this Document

- 15 This document has been produced to provide the supporting information to inform the request for a Screening Opinion for the marine licence, and contains the following:
- Description of the Additional Landfall Works (Section 2);
 - Screening for potential for significant effect (Section 3);

³ Namely, having regard to the characteristics of the works (e.g., the size and design of the works, cumulation with other existing works and/or approved works, the use of natural resources, in particular land, soil, water and biodiversity, etc.), the location of the works and characteristics of the potential impact (e.g. the magnitude and spatial extent of the impact, the nature of the impact, etc.).



- Further consideration of potential effects (Section 4);
- Summary and Conclusions (Section 5).

16 The Additional Landfall Works have been considered against whether it could result in significant effects on physical, environmental, and human receptors.

2 Description of the Additional Landfall Works

2.1 ELC Outfall Diversion

- 17 Prior to construction of the Export Cable trenches (works under the existing Marine Licence 06782/19/0), it is necessary to first divert the existing ELC outfall to clear the cable route. It is anticipated that a new short sea outfall can be installed parallel to the existing Scottish Water Combined Sewer Overflow (CSO) to the west of the landfall location and its flows diverted so that the existing outfall can be removed. The new outfall will provide the same performance as the existing and be constructed from pre-cast concrete for durability. Like the containment troughs, the outfall diversion works will be completed intertidally and require foreshore access by conventional plant such as excavators and dumpers.
- 18 The line of the outfall will be located onshore and a new chamber with silt trap/oil separator (as needed) will be installed to intercept the flows and allow the existing outfall to be grubbed out and removed. During this stage it may be necessary to use a flexible pipe to over pump the discharge to the sea: water could be discharged directly to sea, passed through a separator first, or discharged on the land and allowed to filter into the sea. The new outfall will be installed in a trench extending seaward from the Onshore Zone to the same distance as the existing outfall (approximately 35 m in front of the sea defence wall).
- 19 The outfall crossing coincides with the western end of the rock revetment and concrete crest wall. To install the outfall, it will be necessary to excavate a trench through the revetment and there is a risk that the actual breakout may widen, recognising the batter of the side slopes, such that a section of the western end of the sea defence wall needs to be taken down. The aim would be to limit this to 7m, to coincide with the original wall jointing and allow a robust rebuild.
- 20 Current temporary works proposals are to install a landward sea defence wall (above MHWS) in the onshore working zone to maintain the current crest level and sea defence for the site during the periods when the sections of the sea defence wall are removed. The temporary flood defences are intended to preserve the same level of protection provided by the sea wall and to protect the work site from damage during storm conditions.
- 21 The new outfall is anticipated to be a 1200 mm diameter concrete pipe to match the existing outfall. Options include placing the pipe directly into a shallow trench in the seabed and backfilling with mass concrete/rock armour. Alternatively, a precast concrete trough unit could be used, similar to the containment troughs but may be narrower (1.8 m x 1.8 m), placed into a trench in the seabed. The pipe would be installed into the precast trough unit and then backfilled with concrete. The displaced seabed materials and rock armour from trenching will be stored on site and then re-used to reinstate the beach profile so that the outfall is blended in.
- 22 The new outfall will be secured to the seabed to prevent uplift or displacement using drilled and grouted stainless-steel rods that connect to saddles on the pipe.
- 23 Consultation has been undertaken with the Scottish Environment Protection Agency (SEPA) in relation to the ELC outfall. SEPA have confirmed that as the ownership of the outfall lies with ELC, SEPA are content that the discharge permissions and limits lie with ELC. Therefore, no discharge licence is required from SEPA for the works. Ongoing discussion are being undertaken with ELC in relation to a formal application process.

2.2 Sea Defence Wall & Rock Revetment

- 24 The sea defence wall at the landfall section is approximately 50 m in length, 15 m of which is supported by the buried steel sheet-pile wall above MHWS, and the remaining 35 m is supported on the rock armour revetment at the western end of the site.
- 25 Three sections (slits) of the wall will be temporarily removed; two to allow the cable containment to cross from offshore to onshore and one to allow the rerouting of the ELC outfall (as described in Section 2.1). These narrow sections will then be rebuilt to reinstate the sea defence wall. The sequencing and temporary works for this construction stage are important to maintain the flood defence function when the cable containment passes the defence wall.
- 26 The temporary flood defence outlined in Section 2.1 will be part of the preparatory work and will extend to cover the extent of breakout.
- 27 Based on the width of the Export Cable containment troughs / U-Ducts described above, and the original wall construction jointing of approx. 7 m, it is anticipated that three sections up to 7 m wide will be broken down to allow the cable containment to cross through the sea defences and replaced by three precast letterbox sections. This will allow for the most robust rebuilding of the wall. As a result of the cable setting out requirements, one of these sections will be where the sea wall is supported by the buried steel sheet-pile wall and the other will be where it is supported by the revetment: this cannot be avoided.
- 28 For Export Cable 1, where the crossing coincides with the buried steel sheet-pile wall, it will be necessary to break out the concrete in front of the wall and cut a window through the steel piles. The temporary flood defence outlined above will be part of the preparatory work along with steel framing to maintain the stability of the buried steel sheet pile wall when it is cut through. Concrete breakout will be completed intertidally from the front of the wall and the other preparatory tasks from the onshore working zone.
- 29 For Export Cable 2, where the crossing coincides with the rock revetment and concrete crest wall, it will be necessary to break out the crest wall and excavate a trench through the revetment. The temporary flood defence outlined above will be part of the preparatory work and will extend to cover the extent of the trench into the onshore working area. Whilst the works will target a 7 m wide slit through the defences, as noted above, there is a risk that the actual breakout may widen to around 10 m, recognising the batter of the side slopes. This could mean that during this stage in construction the remaining western end of the sea defence wall is around 10 m in length. Care will be taken to prop and support this section, but the condition of the wall is poor, and it may be necessary for the Contractor, to eliminate safety hazards on site, to remove this residual section of wall. If this is necessary, then the temporary site flood defence would be extended to compensate, and this section of wall would be rebuilt as the other breached sections.
- 30 See Figure 2.1 for technical details on landfall works.

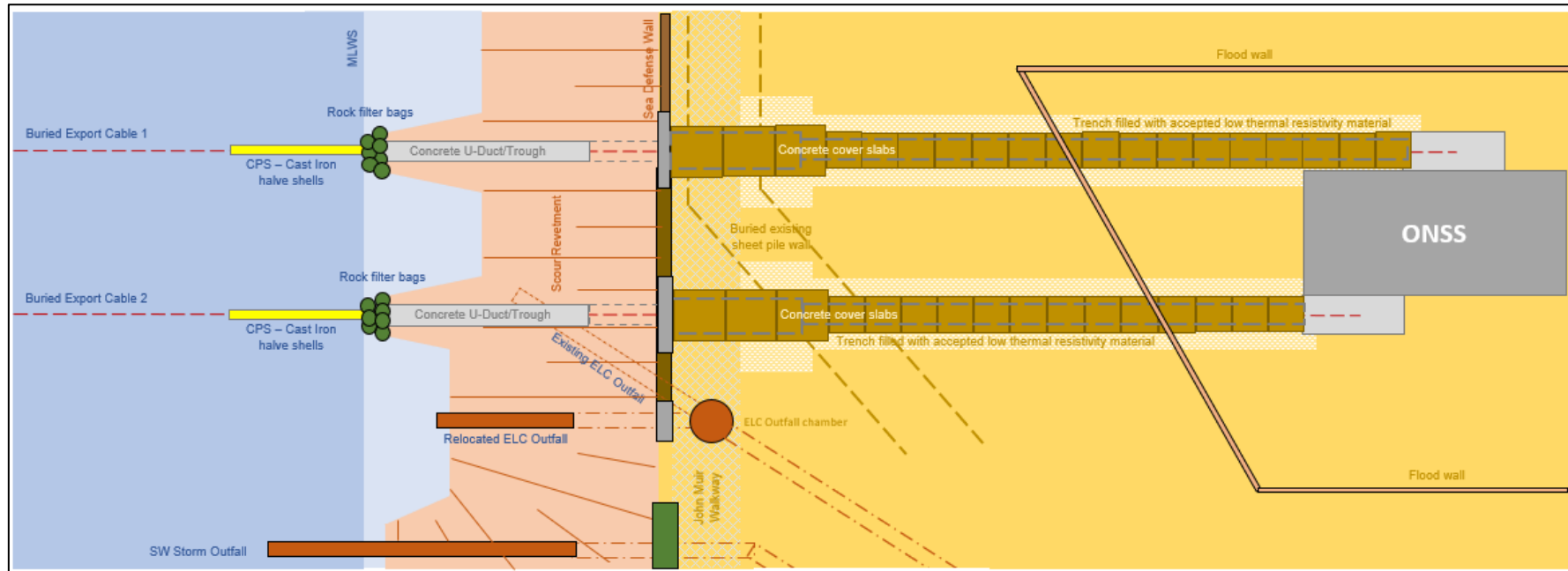


Figure 2.1: Indicative Sketch of Offshore and Onshore Transmission Works at landfall including Additional Landfall Works

Table 2.1: Key Parameters

Item	Details	Comments
ELC Outfall Diversion		
Pipe	<ul style="list-style-type: none"> 1200 mm diameter concrete pipe to match existing. 35 m length to match existing. Estimated 1.8 m concrete surround (300 mm either side of pipe). 	
Seawall & Rock Revetment		
Anticipated Method for installation & removal	<ul style="list-style-type: none"> Temporary flood defence wall installed behind the sea defence wall as necessary. Three narrow (approx. 7 m) sections of the concrete crest wall broken down and removed. Replaced with two precast letterboxes at the Export cable penetration locations and a standard wall section once the outfall is diverted. Rock armour revetment excavated to form trenches/routes for export cable containment. Export cable containment installed: concrete containment troughs / U-Duct units with stage 1 filling. Sea defence wall rebuilt as a reinforced concrete structure. Containment troughs passing through and temporary stoplogs used as necessary. Cable pulling operations completed. Cable containment stage 2 filling completed, containment troughs sealed and backfilled. Rock armour revetment reinstated to sea defence wall. 	<ul style="list-style-type: none"> Sea wall and beach reinstatement to be like for like. Works would be intertidal, extending down to MLWS. Containment troughs and fill materials lifted from onshore working area onto foreshore then picked & carried using smaller plant on the foreshore. Rock armour excavated using long reach excavators filling skips lifted by cranes located above MHWS.
Indicative Programme	<ul style="list-style-type: none"> Stage 1 construction May 2024 to Dec 2024. Stage 2 construction April 2025 to Aug 2025. 	<ul style="list-style-type: none"> Stage 1 construction include, install containment troughs, install backfill trenches, reconstruct sea defence wall, and stage 1 Powercrete. Stage 2 construction follows cable installation and includes stage 2 Powercrete, backfilling, placing rock armour, cutting off cofferdam piles, placing capping slabs.



Item	Details	Comments
Expected Plant	<ul style="list-style-type: none">• Crawler crane• Excavators• Dumpers• Concrete supply• Concrete pump truck• Powercrete mixing unit/plant• Water pump / separator	
Maximum Length of Sea Wall Removal/ Reinstatement	<ul style="list-style-type: none">• 21 m of the original 50 m section	Comprises approx. 3 x 7m sections. Risk that one section may become 10m wide bringing the maximum length of seawall to be removed and reinstated to 24m.
Expected working area (including access to the foreshore and ELC Diversion)	<ul style="list-style-type: none">• 50 m x 50 m for Foreshore trench pre-forming.• 30 m x 30 m temporary storage area• 50 m x 5 m (approx.) temporary access Road to Foreshore.	<ul style="list-style-type: none">• Maximum extent which includes crushed rock ramp onto foreshore and plant access round the troughs.• The temporary access road will be completely removed on completion of the works and the site will be restored to the pre-construction conditions as much as possible.• 50 m x 150 m for Onshore trench pre-forming (above MHWS, subject to separate planning consent).
Types & Quantities of deposited material below MHWS	<ul style="list-style-type: none">• 2 x 900 mm diameter HHD Ducts for Export Cables.• Cable containment trough: precast concrete approx. 5 m x 4.5 m x ~20 m long.• Powercrete backfill to cable containment (2x 450m³).• Recovered rock armour stone units.• Reconstructed concrete crest wall.	
Total combined working Area below MHWS	<ul style="list-style-type: none">• 3,500m²	Includes working area for ELC outfall diversion, sea defence wall, rock revetment works and access road to foreshore.

2.3 Deposits

31 Tables 2.2 and 2.3 outline the estimated deposits for the Additional Landfall Works.

Table 2.2: Permanent substance(s) or object(s) to be deposited below MHWS

Type of Deposit	Description/number	Quantity & Dimensions (metric)
Steel/Iron	Nominal reinforcement within the New Concrete Wall sections	No.
		Dimensions:
		Weight (Kg/tonnes)
		10.5 tonnes
Timber	Non anticipated.	No.
		Dimensions
		Weight (Kg/tonnes)
Concrete	Allowance for reconstructing sections of the sea defence wall taken down for the export cable crossing.	No.
		Dimensions
		42m ³
		Weight (Kg/tonnes)
Plastic/Synthetic	Geo membrane along path of the new outfall in the open-cut trench max 50 m x 3 m	105 tonnes
		Maximum:150 m ²
Clay (< 0.004 mm)	Non anticipated.	Volume (m3)
		Weight (kg/tonnes)
Silt ($0.004 \leq \text{Silt} < 0.063$ mm)	Non anticipated.	Volume (m3)
		Weight (kg/tonnes)
Sand ($0.063 \leq \text{Sand} < 2.0$ mm)	Non anticipated.	Volume (m3)
		Weight (kg/tonnes)
Gravel ($2.00 \leq \text{Gravel} < 64.0$ mm)	Base layer along path of the new outfall in the open-cut trench max 50m x 3m x 0.3m. Backfill assumed to be excavated material from previous outfall alignment.	Volume (45 m ³)
		Weight (100 tonnes)
Cobbles ($64.0 \leq \text{Cobbles} < 256.0$ mm)	Non anticipated.	Volume (m3)
		Weight (kg/tonnes)
Boulders (≥ 256.0 mm)	Reinstate rock armour revetment materials stored for reuse.	Volume (m ³)
		900 m ³
		Weight (kg/tonnes)
		1440 tonnes



Pipe	New outfall pipe	Length (50 m)
		External Diameter (1200 mm)
Cable	Non anticipated.	Length (m)
		External Diameter (cm/m)
Other (please describe below)		
Boulders (≥ 256.0 mm)	Excavate rock armour revetment materials store on site for reuse	Volume (m³) 900 m³
		Weight (kg/tonnes) 1440 tonnes
Concrete (disposal)	Allowance for disposal of sections of the sea defence wall taken down for the export cable crossing and the existing ELC outfall pipe.	No.
		Dimensions 100 m³
		Weight (Kg/tonnes) 240 tonnes

Table 2.3: Temporary substance(s) or object(s) to be deposited below MHWS

Type of Deposit	Description/number	Quantity & Dimensions (metric)
Steel/Iron	Allowance for steel props and temporary works. Removed on completion.	No.
		Dimensions
		Weight (Kg/tonnes) 50 tonnes
Timber	Allowance for timber props and temporary works. Removed on completion.	No.
		Dimensions
		Weight (Kg/tonnes) 50 tonnes
Concrete	Non anticipated.	No.
		Dimensions
		Weight (Kg/tonnes)
Plastic/Synthetic	Geo-membrane to facilitate access road to the foreshore (50 x 5 m)	250 m ²
		subject to ground condition survey
Clay (< 0.004 mm)	Non anticipated.	Volume (m ³)
		Weight (kg/tonnes)
Silt	Non anticipated.	Volume (m ³)

Type of Deposit	Description/number	Quantity & Dimensions (metric)
(0.004 ≤ Silt < 0.063 mm)		Weight (kg/tonnes)
Sand		Volume (m ³)
(0.063 ≤ Sand < 2.0 mm)	Non anticipated.	Weight (kg/tonnes)
Gravel		Volume (125 m ³)
(2.00 ≤ Gravel < 64.0 mm)	Crushed rock to facilitate access road to the foreshore (50m x 5 m x 0.5m)	Weight (275tonnes)
Cobbles		Volume (m ³)
(64.0 ≤ Cobbles < 256.0 mm)	Non anticipated.	Weight (kg/tonnes)
Boulders		Volume (m ³)
(≥ 256.0 mm)	Non anticipated.	Weight (kg/tonnes)
Pipe	Non anticipated.	Length (m)
		External Diameter (cm/m)
Cable	Non anticipated.	Length (m)
		External Diameter (cm/m)

2.4 Licensible Marine Activities

32 The following activities associated with the Additional Landfall Works are considered to be licensable under the Marine (Scotland) Act 2010:

- Creation of working areas in the intertidal zone;
- Temporary removal and storage of material in the intertidal zone;
- Temporary removal and reinstatement of sea wall; and
- Removal and installation of ELC outfall.

3 Review of Environmental Effects

33 This review and all subsequent assessments have been undertaken with particular regard to the environmental sensitivities of the geographical area that may be affected through a review of relevant designated sites, specifically those most proximal to the Additional Landfall Works (shortest straight-line distances provided) (see Figure 3.1):

- Outer Firth of Forth and St Andrews Bay Complex SPA (adjacent to Additional Landfall Works Area);
- Firth of Forth SPA (adjacent to Additional Landfall Works Area);
- Forth Islands SPA (13.0 km); and
- Firth of Tay and Eden Estuary SPA (42.8 km).

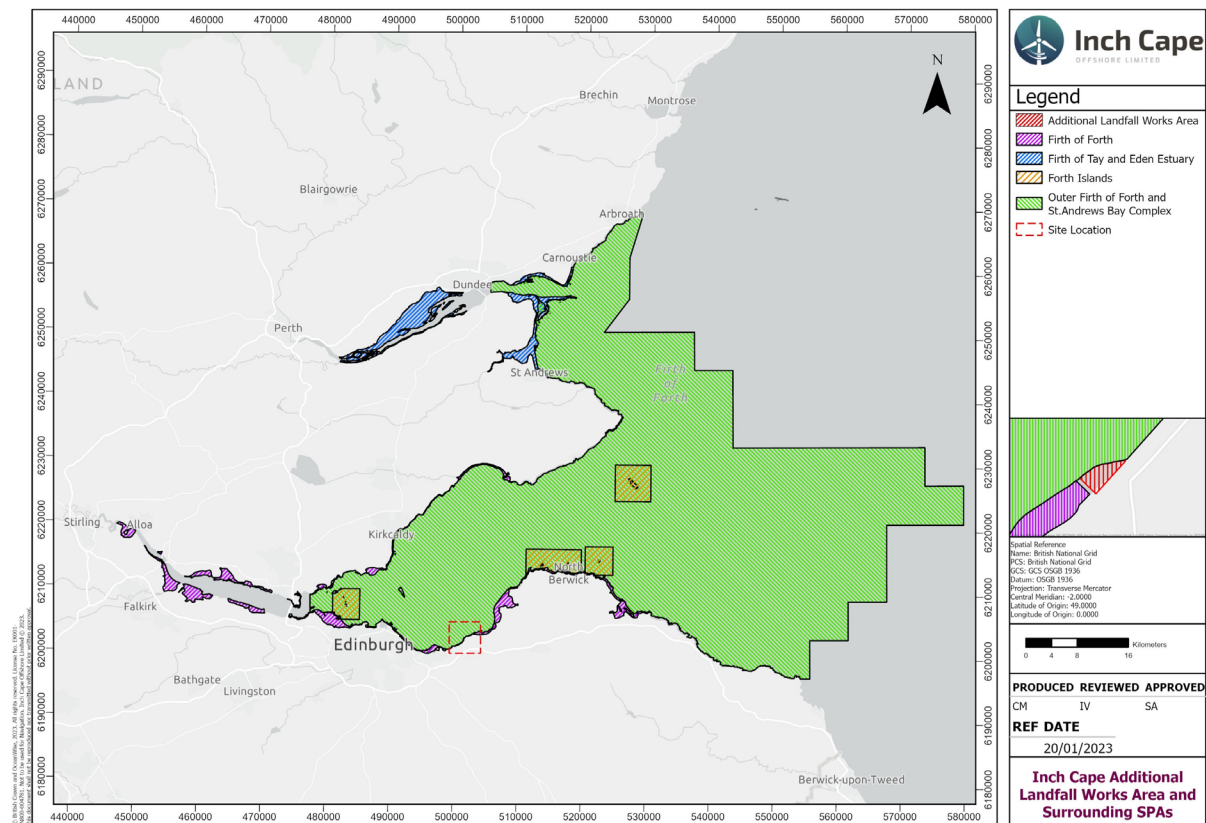


Figure 3.1: Additional Landfall Works and surrounding SPAs

34 Topics were considered not to require additional information or review where potential impacts of the Additional Landfall Works have no potential to lead to significant effects. Additional information is provided in Section 4, where required.

Table 3.1: Summary of Potential to Lead to Significant Effects and Identification of Further Consideration Requirements

Receptor	Requires Further Consideration?	Reasoning
Metocean and Coastal Processes	No	No change in seawall profile and the new outfall will be of equal length and dimensions therefore no effects on metocean and coastal processes. No further assessment required. No potential for significant effects to arise, and as such no requirement for EIA.
Benthic Ecology	Yes	Some minor disturbance on the intertidal area by construction plant may occur. Further assessment is presented in Section 4.1 below.
Natural Fish and Shellfish	No	All work will be undertaken intertidally or from the landward side of the Additional Landfall Works Area, with construction plant accessing from an onshore direction. As such no effects on fish and shellfish will arise. No further assessment required. No potential for significant adverse effects to arise, and as such no requirement for EIA.
Marine Mammals	No	All work will be undertaken intertidally or from the landward side of the Additional Landfall Works Area, with construction plant accessing from an onshore direction. As such no effects on Marine Mammals will arise. No further assessment required. No potential for significant adverse effects to arise, and as such no requirement for EIA.
Ornithology	Yes	Some minor disturbance on the intertidal area by construction plant may occur. Further assessment is presented in Section 4.2 below.
Seascape, Landscape and Visual Impact Assessment	No	No change to the profile of the seawall and no change to the profile of the outfall, other than very slight change in location. No further assessment required. No potential for significant effects to arise, and as such no requirement for EIA.
Cultural Heritage and Marine Archaeology	Yes	Some minor disturbance on the intertidal area by construction plant may occur. Further assessment is presented in Section 4.3 below.

Receptor	Requires Further Consideration?	Reasoning
Commercial Fish	No	<p>No change to the profile of the outfall, other than very slight change in location. All work will be undertaken intertidally or from the landward side of the Additional Landfall Works Area, with construction plant accessing from an onshore direction. As such no effects on commercial fisheries will arise. No further assessment required.</p> <p>No potential for significant adverse effects to arise, and as such no requirement for EIA.</p>
Shipping and Navigation	No	<p>All work will be undertaken intertidally or from the landward side of the Additional Landfall Works Area, with construction plant accessing from an onshore direction. No change to the profile of the outfall, other than very slight change in location which will be reported for updates of marine charts. The new outfall will be marked and/or lit as required.</p> <p>As such no effects on shipping or navigation will arise. No further assessment required.</p> <p>No potential for significant adverse effects to arise, and as such no requirement for EIA.</p>
Socio-Economics and Tourism	No	<p>No effects on socio-economic receptors. No potential for significant adverse effects to arise, and as such no requirement for EIA.</p>
Military and Civil Aviation	No	<p>No effects on military and civil aviation. No potential for significant adverse effects to arise, and as such no requirement for EIA.</p>
Other Human Considerations	No	<p>There may be very short periods of time during works when partial closure of beach areas is required to maintain the safety of all beach users.</p> <p>Such short term and partial closures are not predicted to result in any significant effects on other users as large areas of amenity beach areas will remain accessible. As such there is no requirement for EIA.</p> <p>The preparatory works flood defences will afford the same protection as the sea wall in maintaining the crest level and overall sea defence. This temporary flood defence will be in place prior to any removal of the seawall. There would therefore be no change in flood risk to the area. As such there is no requirement for EIA.</p>

4 Further Technical Considerations

35 Where identified as required in Table 3.1, further information and consideration of environmental effects arising from the Additional Landfall Works are provided in this section.

4.1 Benthic Ecology

4.1.1 Existing OfTW Assessment

36 The effects of the OfTW on the intertidal ecology of the area were determined to be between minor and minor/moderate (not significant) (Table 4.1).

Table 4.1: Assessment conclusions relevant to intertidal ecology from the Inch Cape Offshore Export Cable ES (2013)

Impact	Receptor	Pre-Mitigation Effect	Mitigation	Post-Mitigation Effect
Direct Temporary Disturbance of seabed habitats caused by Construction Activities;	LR.MLR.BF.PeIB, LR.HLR.MusB.Cht.Cht, LR.MLR.BF.FspiB, IR.MIR.KR.Ldig.Ldig, LR.LLR.F.Fspi.FS LS.Lsa.MuSa.Lan	Minor	N/A	Minor
Potential release of pollutants from construction plant				
Indirect impacts of temporary increases in Sediment Concentrations (SSC) from construction-based activities;				
Deposition of resuspended sediments leading to smothering;	LR.MLR.BF.PeIB, LR.HLR.MusB.Cht.Cht, LR.MLR.BF.FspiB, IR.MIR.KR.Ldig.Ldig, LR.LLR.F.Fspi.FS LS.Lsa.MuSa.Lan	Negligible/ Minor	N/A	Negligible/ Minor
Release of contaminants bound in sediments; and				
Secondary impacts of decreased primary production due to increased SSC of the water column.				
Introduction of NIS	LR.MLR.BF.PeIB, LR.HLR.MusB.Cht.Cht, LR.MLR.BF.FspiB, IR.MIR.KR.Ldig.Ldig, LR.LLR.F.Fspi.FS LS.Lsa.MuSa.Lan	Minor/ Moderate	N/A	Minor/ Moderate

4.1.2 Baseline

- 37 During baseline surveys undertaken for the OfTW, nine biotopes were observed along the intertidal area surveyed at Cockenzie (Table 4.2).

Table 4.2: Biotopes recorded at the Cockenzie Landfall

Biotope Code	Name
LS.LSa.St.Tal	Talitrids on the upper shore and strandline
LR.MLR.BF.PeIB	<i>Pelvetia 18analiculate</i> and barnacles on moderately exposed littoral fringe rock
LR.HLR.MusB.Cht.Cht	<i>Chthamalus spp.</i> On exposed upper eulittoral rock
LR.MLR.BF.FspiB	<i>Fucus spiralis</i> on exposed to moderately exposed upper eulittoral rock
LS.LCS.Sh.BarS	Barren littoral shingle
LR.FLR.Eph.BlitX	Barnacles and <i>Littorina spp.</i> On unstable eulittoral mixed substrata
LR.FLR.F.Fspi.X	<i>Fucus spiralis</i> on full salinity upper eulittoral mixed substrata
LS.Lsa.MuSa.Lan	<i>Lanice conchilega</i> in littoral sand
IR.MIR.KR.Ldig.Ldig	<i>Laminaria digitata</i> on moderately exposed sublittoral fringe bedrock

- 38 The surveyed area, which includes the Additional Landfall Works Area, could be divided into two distinct southern and northern areas. The southern half of the site was composed of mixed sediments, backed by soil composite. Below the strandline biotope (LS.Lsa.St.Tal), the mixed sediment was composed of sand and gravel, providing a habitat for limited fauna (LS.LCS.Sh.BarS). The gravel substrate below this supported a green algal community due to the numerous freshwater runoffs (LR.FLR.Eph.BlitX). The lower shore was covered by a fucoid community (LR.FLR.F.Fspi.X). On the extreme low shore, the kelp biotope of IR.MIR.KR.Ldig.Ldig was recorded with an area of sandy sediment characterised by the Sand Mason worm (LS.Lsa.MuSa.Lan).

- 39 The northern half of the intertidal area was characterised by hard substrata, ranging from cobbles to boulders and bedrock. A sea wall was also present, extending over 200 m into the surveyed area and beyond the northern limit of the survey area. Below the sea wall, narrow area of large boulders supported a fucoid community (LR.MLR.BF.PeIB) mixed with a sparse barnacle community (LR.HLR.MusB.Cht.Cht). The barnacle community extended down the shore but gave way to the fucoid, *Fucus spiralis* biotope (LR.MLR.BF.FspiB). On the extreme low shore and extending into

the infralittoral, the kelp biotope (IR.MIR.KR.Ldig.Ldig) was recorded on boulders and bedrock.

- 40 None of the biotopes recorded were designated as a protective feature for the surveyed area. The biotopes LR.MLR.BF.PelB, LR.HLR.MusB.Cht.Cht, LR.MLR.BF.FspiB, and IR.MIR.KR.Ldig.Ldig are listed under the EC Habitats Directive under the Annex I reef habitat type (JNCC, 2010). Additionally, LR.FLR.F.Fspi.X is a biotope classified as typical of the Annex I large shallow inlet and bay physiographic type. LS.Lsa.MuSa.Lan is listed under the Annex I mudflats and sandflats not covered by seawater at low tide habitat type.

4.1.3 Effect of the Additional Landfall Works

- 41 The effect of the Additional Landfall Works are:

- Temporary disturbance to habitats;
- Temporary increases in Suspended Sediment Concentrations (SSC) leading to decreased primary productivity and smothering;
- Potential accidental release of pollutants from construction plant; and
- Introduction of non-indigenous species (NIS).

- 42 The dismantling and rebuilding of the current seawall may result in the temporary disturbance to seabed habitats, particularly those at the top of the shore. This area contains a mosaic of bare rock, fucoids and sparse barnacles which are likely to recover after any disturbance.

- 43 There may be a temporary increase in SCC and associated smothering of habitats as areas of disturbed sediment are mobilised by tidal and wave activity. It is considered that such areas of disturbed sediment will be quickly restored to their pre-impacted state due to the nature of the shore which is considered moderately exposed. In addition, due to the location within the firth of forth, the habitats present are already considered to be reasonably tolerant to relatively high levels of SSC and as such only negligible effects are predicted in relation to reductions in primary productivity and smothering.

- 44 Biosecurity and standard pollution prevention measures will be in place to reduce any potential for pollution events or introduction of NIS as far as is reasonably practicable.

4.1.4 Conclusion and Screening Outcome

- 45 No significant effects will arise on the intertidal ecology of the area as a result of the Additional Landfall Works, which are considered to be lesser in scale and magnitude than those already consented (and assessed as not significant) for installation of the Inch Cape Offshore Export Cables.

4.2 Ornithology

4.2.1 Existing OfTW Assessment

- 46 The effects of construction of the consented Inch Cape Offshore Export Cable works near-shore to MHWS (including in the intertidal) on ornithology have been assessed and determined to be negligible (not significant) (Table 4.3).

Table 4.3: Assessment conclusions relevant to ornithology in the Inch Cape Offshore Export Cable ES (2013)

Impact	Receptor	Season	Residual Effects
Direct habitat loss during construction			
Direct disturbance during all phases	All ornithological receptors	All	Negligible
Indirect impacts on birds via prey			

4.2.2 Baseline

47 The Offshore Export Cable Corridor passes through the intertidal area of the Firth of Forth, passing near to the Firth of Forth SPA, Ramsar site and SSSI. This shoreline contains a variety of coastal and estuarine habitats which attract large numbers, and a wide variety, of over-winter and passage wetland birds (waders and waterfowl) to the area.

4.2.3 Effect of the Additional Landfall Works

48 The effect of the Additional Landfall Works on ornithology are:

- Direct Disturbance; and
- Indirect effects on bird communities via effects on prey species.

49 The Additional Works will be temporary in nature (at worst occurring intermittently in up to two breeding and non-breeding seasons) and will be localised. Given the available foraging areas in the wider Firth of Forth, the spatial extent of any impact represents a very slight change from baseline conditions. Disturbance is therefore predicted to represent effects which will lie within the limits of natural variation and as such will not lead to any significant effects.

50 During the Additional Landfall Works, indirect effects on bird communities through impacts on prey availability may occur. The impacts on prey species may result from temporary habitat disturbance, increase in SSC and deposition. The Additional Landfall Works are very localised, and any effects on benthic and intertidal communities are likely to be negligible (see above). It is considered that seabird communities would not be affected as impacts would not significantly extend beyond the area of works or be of sufficient scale to impact prey abundance or distribution.

4.2.4 Conclusion and Screening Outcome

51 No significant effects will arise on ornithological receptors as a result of the Additional Landfall Works, which are considered to be lesser in scale and magnitude than those already consented (and assessed as not significant) for the installation of the Inch Cape Offshore Export Cables.

4.3 Cultural Heritage and Marine Archaeology

4.3.1 Existing Assessment

52 The effects of construction of the consented Inch Cape Offshore Export Cable works on cultural heritage assets have been assessed and determined to be minor (not significant) after mitigation (Table 4.4).

Table 4.4: Assessment conclusions relevant to cultural heritage receptors in the Inch Cape Offshore Export Cable ES (2013)

Impact	Receptor	Pre-Mitigation Effects	Mitigation	Post-Mitigation Effects
Damage to or removal of heritage features resulting from direct physical impacts.	Known maritime features (A1), unconfirmed locations of shipwrecks (A3) and known intertidal heritage assets.	Major Adverse Significance	Implementation of Written Scheme of Investigation	Minor
Damage to or removal of features.	Unknown maritime, aviation and intertidal heritage features.	Major Adverse Significance	Reporting Protocols, programme of mitigation works.	Minor

4.3.2 Baseline

- 53 Baseline data on known cultural heritage receptors and assessment of the potential for unknown receptors has been made here only for assets falling partially or completely between the MHWS and MLWS.
- 54 There is a total of ten known cultural heritage assets within the intertidal element of the Offshore Export Cable Corridor study area (which includes the Additional Landfall Works Area). These include a small number of prehistoric finds including a worked flint and various pieces of Iron Age metalwork thought to relate to a hoard buried on the beach. There are three harbours within the intertidal zone, two of which are still in use. Although most of the physical remains of these harbours lies above the MHWS mark they are included here as they extend into the intertidal zone. All three were first constructed in the 16th/17th centuries. The two harbours still in use are the focus of the Cockenzie and Port Seton Conservation Areas Morrison's Haven is the site of a medieval harbour, built in the 16th century by the monks of Newbattle. It fell out of use during WWII and has since been largely covered by an area of mining spoil known locally as 'the cast' although a significant part of the structure appears to be intact within the spoil heap.
- 55 There are also several industrial archaeological features in the intertidal element of the Offshore Export Cable Corridor study area. These include rock-cut salt pans with associated remains of walls and a disused circular domed cement structure (which formerly served as a cap for an air shaft from Prestongrange Colliery).

4.3.3 Effect of the Additional Landfall Works

- 56 Potential effects from the Additional Landfall Works in the intertidal zone are:
- Direct damage to archaeological deposits and material; and
 - Disturbance or destruction of relationships between deposits and material and their wider

surroundings.

57 There are no known archaeological features within the intertidal element of the landfall but there is a potential for currently unknown archaeological features being identified. This stretch of East Lothian coastline has a high archaeological potential and has been extensively settled throughout human history. The intertidal archaeological sites in the wider area attest to a variety of activities, including salt panning, pottery manufacture, coal mining and related maritime activities such as fishing.

58 As such, it is considered that all mitigations in place for the installation of the Offshore Export Cables be implemented for any intertidal works required under this application. This will include:

- Implementation of a Written Scheme of Investigation; and
- Implementation of reporting protocols and development of an agreed programme of mitigation in the event of any removal requirements.

4.3.4 Conclusion and Screening Outcome

59 With mitigation, no significant effects will arise on cultural heritage receptors as a result of the Additional Landfall Works, which are considered to be lesser in scale and magnitude than those already consented (and assessed as not significant) for the installation of the Inch Cape Offshore Export Cables.

4.4 Cumulative Considerations

60 As the Additional Landfall Works are very localised in extent and will not result in any significant adverse effects on any receptor, it is considered that there is no potential for significant cumulative effects to arise.

61 The only other plan or project that is considered to act cumulatively is the installation of the Inch Cape Offshore Export Cables in the intertidal area as this work will be undertaken during the same timeframe and spatial location.

62 All effects of the installation of the Inch Cape Offshore Export Cable were considered to be not-significant, as are any effects that may result from the Additional Landfall Works. Cumulatively, it is also considered that all effects will be not significant, due to the short duration of works, and limited spatial scale over which both will act.

63 As no significant cumulative effects will arise, it is considered there is no requirement for EIA.

4.5 Habitats Regulation Assessment (HRA)

64 The European Sites in proximity to the proposed work are identified in Section 3. An assessment to consider the potential for Likely Significant Effect (LSE) on these sites will be undertaken as part of a Habitats Regulations Appraisal submitted alongside the Marine Licence application for the works.

65 Due to the temporary nature and small spatial scale of the works, which will result in only those receptors in the immediate vicinity of the works being affected, and on the basis that the work will represent a “like for like” scenario, it is not anticipated that any LSE will arise.



5 Summary and Conclusions

The Additional Landfall Works are relatively small scale, temporary and will take place within the existing consented Inch Cape Export Cable Corridor. Based on the above consideration of effects on all potential environmental receptors, it can be concluded that the Additional Landfall Works (as described in Section 2) will not result in any potential significant effects. As such, it can be concluded that an EIA is not required, and an application for a Marine Licence can be progressed with supporting environmental appraisal.