

# Net Zero Teesside Project

Planning Inspectorate Reference: EN010103

Land at and in the vicinity of the former Redcar Steel Works site, Redcar and in Stockton-on-Tees, Teesside

The Net Zero Teesside Order

Document Reference: 9.18 Further Information Regarding Applicants' Responses to Historic Environment FWQs

Planning Act 2008



Applicants: Net Zero Teesside Power Limited (NZN Power Ltd) & Net Zero North Sea Storage Limited (NZNS Storage Ltd)

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## GLOSSARY

Abbreviation	Description
AOD	Above ordnance datum
AS-	Additional Submissions
BAT	Best Available Techniques
BEIS	The Department for Business, Energy and Industrial Strategy
CCGT	Combined Cycle Gas Turbine
CCUS	Carbon Capture, Utilisation and Storage
CEMP	Construction and Environmental Management Plan
CTMP	Construction Traffic Management Plan
CO <sub>2</sub>	Carbon dioxide
CPO	Compulsory Purchase Order
dB	Decibels
DCO	Development Consent Order
dDCO	Draft Development Consent Order
EIA	Environmental Impact Assessment
EPC	Engineering, Procurement and Construction
ES	Environmental Statement
ETS	Emissions Trading Scheme
ExA	Examining Authority
FEED	Front end engineering and design
FRA	Flood Risk Assessment
Ha	Hectares
HDD	Horizontal Directional Drilling
HIA	Hydrogeological Impact Appraisal
HoT	Heads of Terms
kV	Kilovolts
MHWS	Mean High Water Springs
MLWS	Mean Low Water Springs
Mt	Million tonnes

NATS	National Air Traffic Services
NSIP	Nationally Significant Infrastructure Project
NWL	Northumbria Water Lagoon
NZT	The Net Zero Teesside Project
NZT Power	Net Zero Teesside Power Limited
NZNS Storage	Net Zero North Sea Storage Limited
OASIS	Online system for reporting archaeological investigations and limiting research outputs and archives.
PA 2008	Planning Act 2008
PCC	Power Capture and Compressor Site
PDA-	Procedural Deadline A
PINS	Planning Inspectorate
RCBC	Redcar and Cleveland Borough Council
RR	Relevant Representation
SBC	Stockton Borough Council
SEL	Sound Exposure Level
SPA	Special Protection Areas
SoCG	Statement of Common Ground
SoS	Secretary of State
STDC	South Tees Development Corporation
SuDS	Sustainable urban drainage systems
UXO	Unexploded Ordnance
WFD	Water Framework Directive
WSI	Written Scheme of Investigation

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## 1.0 INTRODUCTION

### 1.1 Overview

1.1.1 This document (Document Ref. 9.18) contains further responses to the Examining Authority's First Written Questions HE.1.1, HE.1.5 and HE.1.6. It has been prepared on behalf of Net Zero Teesside Power Limited and Net Zero North Sea Storage Limited (the 'Applicants'). It relates to the application (the 'Application') for a Development Consent Order (a 'DCO'), that has been submitted to the Secretary of State (the 'SoS') for Business, Energy and Industrial Strategy ('BEIS'), under Section 37 of 'The Planning Act 2008' (the 'PA 2008') for the Net Zero Teesside Project (the 'Proposed Development').

1.1.2 The Application was submitted to the SoS on 19 July 2021 and was accepted for Examination on 16 August 2021. A change request made by the Applicants in respect of the Application was accepted into the Examination by the Examining Authority on 6 May 2022.

### 1.2 Description of the Proposed Development

1.2.1 The Proposed Development will work by capturing CO<sub>2</sub> from a new the gas-fired power station in addition to a cluster of local industries on Teesside and transporting it via a CO<sub>2</sub> transport pipeline to the Endurance saline aquifer under the North Sea. The Proposed Development will initially capture and transport up to 4Mt of CO<sub>2</sub> per annum, although the CO<sub>2</sub> transport pipeline has the capacity to accommodate up to 10Mt of CO<sub>2</sub> per annum thereby allowing for future expansion.

1.2.2 The Proposed Development comprises the following elements:

- **Work Number ('Work No.') 1** – a Combined Cycle Gas Turbine electricity generating station with an electrical output of up to 860 megawatts and post-combustion carbon capture plant (the '**Low Carbon Electricity Generating Station**');
- **Work No. 2** – a natural gas supply connection and Above Ground Installations ('AGIs') (the '**Gas Connection Corridor**');
- **Work No. 3** – an electricity grid connection (the '**Electrical Connection**');
- **Work No. 4** – water supply connections (the '**Water Supply Connection Corridor**');
- **Work No. 5** – waste water disposal connections (the '**Water Discharge Connection Corridor**');
- **Work No. 6** – a CO<sub>2</sub> gathering network (including connections under the tidal River Tees) to collect and transport the captured CO<sub>2</sub> from industrial emitters (the industrial emitters using the gathering network will be responsible for consenting their own carbon capture plant and

connections to the gathering network) (the '**CO<sub>2</sub> Gathering Network Corridor**');

- **Work No. 7** – a high-pressure CO<sub>2</sub> compressor station to receive and compress the captured CO<sub>2</sub> from the Low Carbon Electricity Generating Station and the CO<sub>2</sub> Gathering Network before it is transported offshore (the '**HP Compressor Station**');
- **Work No. 8** – a dense phase CO<sub>2</sub> export pipeline for the onward transport of the captured and compressed CO<sub>2</sub> to the Endurance saline aquifer under the North Sea (the '**CO<sub>2</sub> Export Pipeline**');
- **Work No. 9** – temporary construction and laydown areas, including contractor compounds, construction staff welfare and vehicle parking for use during the construction phase of the Proposed Development (the '**Laydown Areas**'); and
- **Work No. 10** – access and highway improvement works (the '**Access and Highway Works**').

1.2.3 The electricity generating station, its post-combustion carbon capture plant and the CO<sub>2</sub> compressor station will be located on part of the South Tees Development Corporation ('STDC') Teesworks area (on part of the former Redcar Steel Works Site). The CO<sub>2</sub> export pipeline will also start in this location before heading offshore. The generating station connections and the CO<sub>2</sub> gathering network will require corridors of land within the administrative areas of both Redcar and Cleveland and Stockton-on-Tees Borough Councils, including crossings beneath the River Tees.

## 2.0 PURPOSE OF THIS DOCUMENT

2.1.1 This section contains the Applicants' response to the Examining Authority's First Written Question HE.1.1, which states:

*"ES Chapter 18 Archaeology and Cultural Heritage [APP-100] paragraph 18.3.13 refers to a number of sources used for the assessment including the results of previous archaeological and geotechnical investigations. Section 18.7 refers to a Written Scheme of Investigation (WSI) which will be approved by the local authority and this is set out in R14 of the dDCO [AS-135]"*.

*The question asks the Applicants to:*

- i) Indicate the location of the assessed previous investigations in relation to the Order Limits; and,*
- ii) Provide an outline of the WSI for both onshore and marine archaeology."*

2.1.2 As part of the Applicants' Responses to the Examining Authority's Written Questions (Document No. 9.7) [REP2-016], the Applicants responded to part (i) stating that an updated figure would be submitted at Deadline 3, and this were submitted as Document .3.123a Figure 18.4 Location of Previous Archaeological and Geotechnical Investigations [REP3-005].

2.1.3 The Applicants responded to part (ii) stating that based on the levels of made ground recorded, there would not be archaeological remains within made ground deposits and, as the Proposed Development will be constructed wholly within made ground deposits, therefore an onshore WSI for marine archaeology will not be required.

2.1.4 Section 5 of this document provides further information for this approach based on the underlying geology.

2.1.5 Appendix B of this document provides the marine archaeology WSI.

2.1.6 The document also provides further information in response to Question HE.1.5, which notes:

*"The Redcar blast furnace is identified on Figure 18-2 [APP-230]. The structure and associated steel works infrastructure is assessed in ES Chapter 18 paragraph 18.6.2 [APP-100]. Paragraphs 18.8.3 and 18.8.4 of the Cultural Heritage Baseline Report [APP338] state that 'Standing structures associated with Redcar blast furnace and ancillary buildings are present within the proposed Site boundary. The buildings are indicative of the region's industrial heritage and are of local and possibly regional interest', and that the structures are well-preserved and*

*provide a functional setting to the furnace structure as well as being a well-known landmark of value to the local community through their historical associations and contribution to local identity. The former steel works are noted in the Stage 2 consultation responses from Save our Steel Heritage Group dated 14.09.20 and Historic England dated 15.09.20 [APP-068]. Historic England identify the former steel works as a key heritage issue, and that it would be appropriate for consideration to be given to the retention of its key features as part of the Proposed Development and recording prior to demolition. RCBC's Climate Change group in their pre-application consultation response dated 18.09.20 refers to ensuring the heritage legacy of steel making, as well as the South Tees Area SPD, principle STDC8 – Preserving Heritage Assets.*

*Can the Applicants:*

- i) Identify the location of the blast furnace in relation to the Order Limits around the PCC Site;*
- ii) Confirm if the blast furnace and any other associated former steel works infrastructure are considered to be non-designated heritage assets;*
- iii) If considered to be non-designated heritage assets, provide an assessment of their significance or signpost where this can be found in the submitted documents;*
- iv) Provide an update on the timescales for demolition and clearance of the Redcar blast furnace and associated infrastructure; and*
- v) Confirm whether pre-demolition recording has taken place/ will take place as suggested by Historic England in their pre-application consultation response [APP-068].”*

2.1.7 As part of the Applicants' Responses to the Examining Authority's Written Questions (Document No. 9.7) [REP2-016], the Applicant responded to parts (i), (ii), (iv) and (v), however the applicant stated further information would be made available regarding part (iii).

2.1.8 Section 4 of this report provides the further information required.

2.1.9 This document provides further information on the response to HE.1.6, which states:

*“ES Figure 18-1 [APP-229] shows conservation areas at Coatham, Kirkleatham, Yearby, Wilton and Seaton Carew which are proximate to the PCC Site”.*

*[...] Could the Applicants :*



iii) *Provide and assessment of the effect of the Proposed Development on the setting of each of the conservation areas.”*

2.1.10 Section 5 of this document provides an assessment of the effects of the Proposed Development on each of the Coatham, Kirkleatham, Yearby, Wilton and Seaton Carew conservation areas.

## **3.0 HE.1.1 SCOPE OF THE ARCHAEOLOGICAL INVESTIGATIONS**

### **3.1 Overview of Terrestrial Investigation**

3.1.1 The submitted Cultural Heritage Baseline Report [APP-338] contained information relating to the extent of previous ground disturbance. The evidence available at the time of the production of the baseline report suggested a low potential for buried features of archaeological interest to be present within the Proposed Development site, as previous land uses are likely to have removed or significantly truncated subsurface remains. The Site is located on an alluvial plain on the south side of the Tees estuary and the baseline report suggested a potential for organic deposits or artefacts to be present within alluvium. However, the likelihood of encountering such deposits was assessed to be low.

### **3.2 Potential construction impacts of the Proposed Development**

3.2.1 Development design during the preparation of the ES resulted in the majority of connections being housed in existing above-ground pipeline racking, or installed using trenchless technologies, thereby avoiding impacts to buried archaeological remains. This was detailed in Section 18.6 of the Cultural Heritage chapter [APP-100] of the ES which concluded there would be no significant effects to heritage assets as a result of the construction of these components of the Proposed Development, and additional mitigation was not required.

3.2.2 The Cultural Heritage chapter [APP-100] of the ES acknowledged in Section 18.8 (Limitations or Difficulties) that ground conditions and the presence of made ground across the PCC Site precluded the use of traditional non-invasive archaeological evaluation methods. Section 18.7 stated that the scope of mitigation required would be agreed with the Archaeological Advisor to the Local Planning Authority.

### **3.3 Construction of the PCC**

3.3.1 The design of the Proposed Development is not yet finalised and will not be completed until the detailed design stage. However, the final design will be within the parameters assessed within Volume I, Chapter 4 Proposed Development [APP-086] of the submitted ES, which adopted a reasonable and appropriate worst-case option.

3.3.2 Chapter 4 [APP-086] of the submitted ES states that existing ground levels at the location of the proposed PCC Site are approximately 4 to 8 m Above Ordnance Datum (AOD). Ground elevations post-site clearance and remediation are anticipated to be raised to a maximum of 13 m AOD for the development platform.

3.3.3 Section 5.3 of Chapter 5 [APP-087] of the submitted ES details the construction methods to be used for the construction of the PCC. The scope of site preparation and remedial works within the proposed PCC

site comprises the turn-over of modern made-ground deposits to a depth of 2.5 m below current ground level; this includes removal of surface structures and removal and treatment of historic environmental contamination.

- 3.3.4 The material to be excavated during site preparation would comprise modern made-ground deposits only and the activity would not impact archaeological horizons. Further geotechnical information was gathered following the submission of the ES which confirmed the depths of made ground across the PCC Site.
- 3.3.5 The made ground material identified during the 2021 investigations principally comprised slag-dominant material (strata category d1 on Figures 1 and 2 in Appendix A), associated with the site's historic uses. The investigations demonstrated that the depths of made ground varied across the PCC, with an average thickness of 4.7 m across the Site.
- 3.3.6 The site preparation and remediation of the PCC site would therefore only impact made ground deposits and would not disturb the base of the made ground deposits across the majority of the Site. Once these deposits had been removed, the material would be replaced with either clean, reused excavation spoil or imported fill to form an appropriate development platform.
- 3.3.7 This construction activity would not impact buried archaeological remains and therefore mitigation, set out in a Written Scheme of Investigation detailing a programme of archaeological investigation and recording, is not required.

### 3.4 Unexpected archaeological discoveries

- 3.4.1 It is unlikely that archaeological discoveries will be encountered during construction activities. In response to Historic England's request, during consultation on the statement of common ground, that there should be a process for dealing with unexpected archaeological finds, the Applicants agree to update the Framework CEMP to require the Construction EMP to include procedures for the reporting, protection and management of unexpected terrestrial archaeological discoveries. The following has been recommended by Historic England and accepted by the Applicants:
- i. Any archaeological remains not previously identified which are revealed when carrying out the authorised development must be retained in situ and reported to the relevant planning authority, as soon as reasonably practicable from the date they are identified.
  - ii. No construction operations are to take place within 10 metres of the remains referred to in sub-paragraph (i) for a period of 14 days from the date of any notice served under sub-paragraph (i) unless otherwise agreed in writing by the relevant planning authority in consultation with any other body as required.

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- iii. If the relevant planning authority determines in writing that the archaeological remains referred to in sub-paragraph (i) require further investigation or mitigation, no construction operations are to take place within 10 metres of the remains until provision has been made for such mitigation or the further investigation and recording of the remains in accordance with details to be submitted in writing to, and approved in writing by, the relevant planning authority in consultation with any other body as required.
- 3.4.2 The adoption of this protocol will ensure the safeguarding of unexpected archaeological remains.
- 3.5 Overview of the Marine Written Scheme of Investigation**
- 3.5.1 The Written Scheme of Investigation for Marine Archaeology is presented in Appendix B to this response document. Appendix B contains an outline of the scope of work required to mitigate potential impacts for marine archaeology as a result of the construction of the Proposed Development.

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## 4.0 HE.1.5: ASSESSMENT OF THE HERITAGE SIGNIFICANCE OF THE BLAST FURNACE AND ASSOCIATED STEEL WORKS INFRASTRUCTURE

### 4.1 Historical overview

4.1.1 The following is a summary of information provided in a historic building recording report carried out at the Site in 2021.

4.1.2 The iron and steel industry were hugely influential in the history and industrial development of the North-East of England. During the early 1800s Middlesbrough was a small village with approximately 25 inhabitants. By 1840, this number had grown to over 5,000. The increase in population was due to the emergence and growth of the coal and shipping industries, which in turn led to the demand for support businesses such as potteries, brickworks and various crafts and tradespeople.

4.1.3 The discovery of significant seams of iron stone in the Cleveland Hills resulted in mining operations, and iron manufacture had become firmly established on Teesside by the mid-1800s, with blast furnaces producing more than one million tonnes of raw iron a year. In 1875, businessman Arthur Dorman and his business partner, Albert de Lande Long, were keen to improve their iron manufacturing business; they opened several steel furnaces, and steel began to replace iron as the country's principal structural material.

4.1.4 By the beginning of the First World War in 1914, Dorman Long was one of Britain's largest steel producers, producing 300,000 tonnes of steel plates a year and, prior to the outbreak of the Second World War, the company was producing 1.5 million tonnes a year, but the infrastructure was ageing and modernisation was needed. Post-war Government plans resulted in new iron and steel infrastructure being constructed in South Wales, Northamptonshire, Scotland and the North-East of England. The Dorman and Long operations were moved to a site at Lackenby at the mouth of the Tees and a rail link was created between the Cleveland and Redcar Works to create a vast, connected industrial area. The value of Teesside as a steel making area, with easily accessible land and sea transportation routes, resulted in it being chosen by the Government in 1973 as the site of a new steelmaking complex, which included a sinter plant, workshops, and two batteries of coke ovens. The lighting of the blast furnace in 1979 marked the completion of the project. However, an energy crisis in the 1970s and economic recession resulted in a drop in demand for steel. The industry was privatised in 1988 to form British Steel plc and production at the furnace continued until 2009 when competitive market conditions and a lack of Government intervention forced the site

to be mothballed. SSI purchased the steelworks in 2011 and reopened in 2012; however, by 2015 the site was forced to close for the last time.

## 4.2 Assessment of significance

- 4.2.1 As stated in Section 18.3 of the submitted Cultural Heritage chapter [APP-100], the significance of a heritage asset, as defined by Annex 2 of the National Planning Policy Framework (NPPF), is guided by its designated status, but is derived also from its heritage interest, which may be archaeological, architectural, artistic or historic. The criteria used for determining heritage significance follows that set out in Table 18-2 of the submitted Cultural Heritage chapter [APP-100] in the ES.
- 4.2.2 The history and development of the northeast of England is closely linked with the history of iron and steel making. The area has seen extensive demolition of steel and related industries, as these have been superseded by different technologies. However, the impact of the steel industry is still very visible and surviving infrastructure such as the blast furnace and related infrastructure, represent relatively well-preserved examples of their type.
- 4.2.3 The blast furnace, which is located outside of the Order Limits, is not a designated heritage asset and is not recorded on the local authority's Historic Environment Record. However, it is an asset that embodies the industrial heritage of the area. It is a well-known landmark which is indicative of the region's industrial heritage and is of value to the local community through its historical associations. The heritage significance of the asset, which is assessed to be medium, derives from its historical interest, its contribution to local identity, and its industrial archaeological interest. As the furnace is located outside of the Order Limits, it will not be physically impacted as a result of the Proposed Development.
- 4.2.4 Three ancillary structures associated with the blast furnace are present within the PCC Site and Order Limits, comprising the stock house (Plate 1) the area workshops (Plate 2), and a stores building.



Plate 1: The stock house. Image taken from TEP, 2021, Teesworks Industrial Zone, Historic Building Recording

- 4.2.5 The stock house is located within the PCC Site, to the east of the blast furnace, measuring approximately 39 m in height. During the site's operation, coke was transported through the site via a system of conveyors, to the bunkers of the stock house, from where it was sent to the blast furnace. The stock house comprises two blocks of bunkers containing coke and ferrous material; the structure received material via conveyors and distributed a controlled amount of material to the blast furnace via outgoing conveyors. A single-storey building on the north side of the stock house is a substation with basement (Plate 2) which houses switch boards and transformer pens.
- 4.2.6 The area workshops are located to the north of the stock house and east of the blast furnace. The workshops acted as the maintenance and repair facility for the entire site and comprise alphanumeric labelled bays which hosted a range of engineering services including a machine shop; blacksmiths; electrical repair; mobile tool garage and fabrication shop.



Plate 2: View of the area workshops with the stock house to the right of the view and the single-storey substation at the foot of the stock house

- 4.2.7 The stores building is located to the east of the stock house and blast furnace. This comprises a large, prefabricated structure, providing a large, open warehouse space, and containing single-storey brick structures housing toilets and offices.
- 4.2.8 These buildings are indicative of the region's industrial heritage and are of local historic interest for their relevance to the local community, some of whom may have worked there, or have relatives who worked there. They are also of industrial archaeological interest due to their association with the blast furnace. The heritage significance of these structures is assessed to be low in accordance with the criteria set out in Table 18-2 of the submitted Cultural Heritage chapter [APP-100].
- 4.2.9 The structures within the PCC Site have been recorded, in compliance with guidance published by Historic England, and the results published in accordance with the requirements of the National Planning Policy Framework. The recording was carried out by The Environment Partnership (TEP) on behalf of the Tees Combined Authority in advance of the wider site, around the Order Limits, being cleared in advance of redevelopment. The stock house, workshops and stores are assessed to be of low heritage value and were therefore included in a Level 2 survey of the site, comprising a descriptive and photographic record.
- 4.2.10 The historic building recording ensures the preservation by record of the site and buildings and has been disseminated for public access. The report has been submitted to Middlesbrough Historic Environment Record and the Online Access to the Index of Archaeological Investigations under reference **theenvir1-432386**.



## 5.0 HE.1.6: ASSESSMENT OF THE EFFECT OF THE PROPOSED DEVELOPMENT ON THE SETTING OF CONSERVATION AREAS.

### 5.1 Overview

5.1.1 A number of designated heritage assets, including conservation areas, were scoped out of the PEIR and ES as their distance from the Site boundary and location within built-up areas precluded the likelihood of significant effects as a result of the construction or operation of the Proposed Development.

5.1.2 The submitted Cultural Heritage Baseline [APP-338] described the setting of four conservation areas that are located within 5km of the built components of the Proposed Development (i.e., the PCC Site), comprising Kirkleatham, Yearby, Coatham and Wilton conservation areas. To address ExA Q HE.1.6, an assessment of the effects of the Proposed Development upon the characters and settings of the four conservation areas is provided below. In line with the ExA's request for further information, a fifth conservation area, Seaton Carew, located more than 5 km from the PCC Site, is also included in this assessment.

### 5.2 Coatham Conservation Area

#### Description and assessment of value (heritage significance)

5.2.1 Coatham Conservation Area is located approximately 1.7 km east of the proposed PCC Site. The area comprises the single-row settlement of East Coatham and the better-preserved parts of the mid-to late Victorian planned settlement, the layout of which reflects the settlement's medieval origins. The buildings principally comprise two storey Victorian and Edwardian houses with bay windows, boundary walls and gate piers which are a prominent characteristic of the streetscape. The value of the area, which is assessed as medium in accordance with the criteria set out in Table 18-2 of the submitted Cultural Heritage chapter [APP-100], is defined by the architectural and historical interest of its individual buildings and settlement form.

#### Impact assessment

5.2.2 The closest construction activity to the conservation area would comprise ground level activity associated with the Water Connection Corridors, located approximately 1.14km to the west, and the construction of the PCC which is approximately 1.8km west. The distance involved would preclude any changes to the character and setting of the conservation area arising from aural or visual intrusion and would result in no impact to the heritage value of the conservation area. The effect is assessed to be **neutral and not significant**.

5.2.3 There are no views of the Proposed Development Site from within the conservation area, due to the built-up nature of the area. The PCC Site is located approximately 1.8km from the western edge of the conservation area where views looking west along York Road, away from the conservation area, would include views of the PCC in the background. Views of industrial warehousing and infrastructure associated with the blast furnace frame the character of existing views out of the conservation area. The introduction of the PCC into this view would not be incongruous with this existing character, but would change the view from one that takes in multiple industrial components, to a view that is predominantly of one building. This change would not affect the ability to appreciate the architectural character of the conservation area, which is experienced from within the conservation area, and would not affect any key views. The impact is therefore assessed to be very low, resulting in a **minor adverse effect** which is **not significant**.

### 5.3 Kirkleatham Conservation Area

#### Description and assessment of value (heritage significance)

5.3.1 Kikleatham Conservation Area is located approximately 3.5km south-east of the proposed PCC Site. Key views and characteristics which contribute to the conservation area's importance are set out in Kirkleatham Conservation Area Appraisal . Kirkleatham contains five Grade I, six Grade II\* and 12 Grade II listed buildings which date to the 17th and 18th centuries and range in architectural style from Queen Anne through Baroque, Rococo and Palladian to Gothic.

5.3.2 An important component of Kirkleatham's character is its landscape setting, comprising wooded parkland, and open farmland to the south at Yearby, which once formed part of Kirkleatham Hall deer park. The character of the conservation area from within is quite enclosed due to the prominence of mature woodland and planting along its edges. This creates a secluded feeling to the area and internal views form an important part of this setting.

5.3.3 The Cultural Heritage Baseline [APP-338] assessed the heritage value of the conservation area as high, in accordance with the criteria set out in Table 18-2 of the submitted Cultural Heritage chapter [APP-100] due to the large number and grouping of listed buildings, the quality and historic integrity of the architecture, and the level of historical importance and intact historical context of the area.

#### Impact assessment

5.3.4 The closest construction activity to the conservation area would comprise ground level activity associated with the Water Connection Corridors, located approximately 2.25km to the north-east. The distance involved would preclude any changes to the character and setting of the

conservation area arising from aural or visual intrusion and would result in no impact to the heritage value of the conservation area. The effect is assessed to be **neutral and not significant**.

- 5.3.5 The walkover survey conducted as part of the baseline assessment confirmed that due to the prominence of mature woodland and planting, there would be no changes to the character of the conservation area as a result of views of the operational development. It is assessed there would be no impact to the conservation area as a result of the operational development. The effect is assessed to be **neutral and not significant**.

#### 5.4 Yearby Conservation Area

##### Description and assessment of value (heritage significance)

- 5.4.1 Yearby Conservation Area is located approximately 4.7km south-east of the proposed PCC Site.
- 5.4.2 The layout of Yearby is based on a typical medieval form; comprising two rows of houses arranged either side of a principal through road. The buildings within the village consist of single and 2-storey 18th-century cottages and farm buildings. The setting of Yearby is defined by the arable landscape it sits within, however the landscape has changed significantly and the former medieval layout of burgage plots and small strip fields have been replaced by large enclosed fields as a consequence of 18th and 19th-century enclosure and modern farming practices.
- 5.4.3 Views within the conservation area are framed by the linear layout of the buildings, although long-range views out over the surrounding fields and the Eston Hills beyond are possible to the south, from the southern edge of the area. Views to the north and north-east, towards the Proposed Development Site, are precluded by mature planting which frames the northern edges of the village. The conservation area derives its value from the historical legibility of its planned form, and from its buildings which demonstrate local distinctiveness and character. The conservation area is assessed to be of medium value in accordance with the criteria set out in Table 18-2 of the submitted Cultural Heritage chapter [APP-100].

##### Impact assessment

- 5.4.4 The closest construction activity to the conservation area would comprise ground level activity associated with the Water Connection Corridors, located approximately 3.6km to the north-east. The distance involved would preclude any changes to the character and setting of the conservation area arising from aural or visual intrusion and would result in no impact to the heritage value of the conservation area. The effect is assessed to be **neutral and not significant**.
- 5.4.5 The walkover survey conducted confirmed that the mature planting along the northern edge of the conservation area would prevent views of the

operational development. It is assessed there would be no impact to the conservation area and the effect is assessed to be **neutral and not significant**.

## 5.5 Wilton Conservation Area

### Description and assessment of value (heritage significance)

- 5.5.1 Wilton Conservation Area is located approximately 4.9km south of the proposed PCC Site.
- 5.5.2 Wilton is situated on a north-facing slope just below the steep escarpment of Eston Hills. The approach to the village is from the north up a densely wooded lane which leads through the village to Wilton Castle which is listed Grade II. The Church of St Cuthbert is listed Grade II\* and is located at the end of a small drive which is set back from the main approach road. The setting of the church is defined by its position within an enclosed graveyard which is surrounded by mature deciduous and evergreen trees. A double avenue of pollarded, mature deciduous trees planted in the late 19th century line a disused west carriage drive to the Castle.
- 5.5.3 The avenue runs for half a mile towards Lazenby and is identified in the conservation area appraisal as the most important single landscape feature within the designated area. The conservation area derives its value, which is medium, in accordance with the criteria set out in Table 18-2 of the submitted Cultural Heritage chapter [APP-100], from the quality of its buildings, which demonstrate Romanesque and Gothic architectural styles.

### Impact assessment

- 5.5.4 The closest construction activity to the conservation area would comprise ground level activity near Tees Dock Road, associated with the Electrical Connection Corridor, located approximately 3.13km to the north-east. The distance involved would preclude any changes to the character and setting of the conservation area arising from aural or visual intrusion and would result in no impact to the heritage significance of the conservation area. The effect is assessed to be **neutral and not significant**.
- 5.5.5 The conservation area appraisal for Wilton identifies one of the area's significant views as being from the castle forecourt to the south, across open parkland towards the mature trees which screen the A174 carriageway. It is also noted that the visually dramatic Wilton Chemical Works complex forms a component of this view. Views of the PCC may be visible in the background of views of the Wilton Chemical Works and would be seen as part of an industrial complex rather than a separate or noticeably new component. The introduction of the operational PCC into

this view would not represent a noticeable change and would not affect the character or heritage significance of the conservation area. It is assessed there would be no impact from the operational Development, and the effect is assessed to be **neutral and not significant**.

## 5.6 Seaton Carew Conservation Area

### Description and assessment of value (heritage significance)

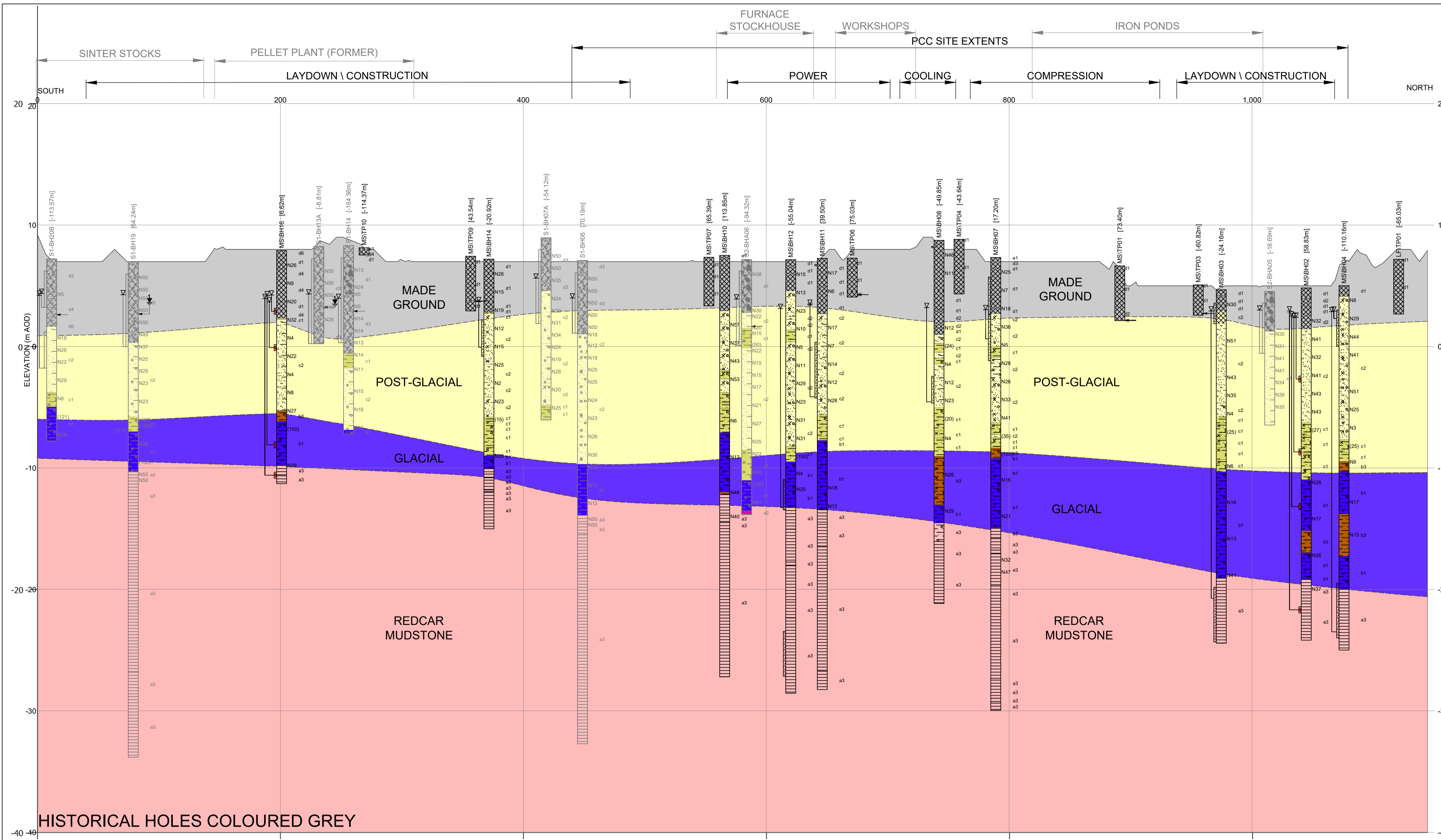
- 5.6.1 Seaton Carew Conservation Area is located approximately 5.6 km north-west of the proposed PCC Site. The conservation area encompasses buildings that face onto The Cliff and The Front and which comprise, predominantly, 19<sup>th</sup> and early 20<sup>th</sup> century two and three-storey rendered buildings, set in terraces; many with long front gardens set behind boundary walls with gate piers.
- 5.6.2 The central part of the conservation area has buildings on either side of The Front with shops at ground level. Views here are dominated by the colourful buildings on both sides, many of which are in neutral tones but several that are coloured in bright blues and pinks, and which evoke the spirit of the seaside holiday destination. The northern and southern parts of the conservation area are characterised by coherent rows of two and three-storey buildings, some with open vistas of sea front, and designed public spaces. These areas provide extensive views across the North Sea and of the Headland to the north and the Cleveland Hills to the south.
- 5.6.3 The value of the conservation area, which is assessed to be medium, derives from the historic interest of its development from a fishing village into a seaside resort, and from the architectural interest of its buildings which are of varied design but are unified by their restricted scale and range of materials. However, many of the buildings appear to be in a poor state of repair which does detract from the value of the area.

### Impact assessment

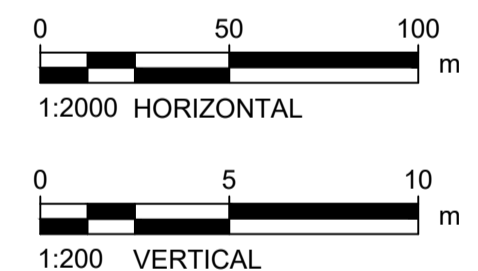
- 5.6.4 On a clear day, the industrial buildings and structures within and around the Proposed Development Site are visible; seen against the backdrop of the Cleveland Hills. Views of the PCC would be visible alongside existing structures within the wider industrial complex. The introduction of the operational PCC into this view would not represent a noticeable change to these views and would not affect the character or heritage significance of the conservation area. It is assessed there would be no impact from the Proposed Development, and the effect is assessed to be **neutral and not significant**.

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## APPENDIX A – FIGURES



**GEOLOGICAL SECTION A-A'**  
 (SOUTH - NORTH)  
 SCALE H1:2000 V1:200



- GEOLOGICAL UNIT LEGEND**
- SUPERFICIAL SOILS**
- d7 MADE GROUND (MISCELLANEOUS)
  - d6 MADE GROUND (TOPSOIL)
  - d4 MADE GROUND (COHESIVE)
  - d3 MADE GROUND (GRANULAR)
  - d1 MADE GROUND (SLAG-DOMINANT MATERIAL)
  - c2 ESTUARINE - SAND
  - c1 ESTUARINE - CLAY & SILT
  - b3 LACUSTRINE DEPOSITS
- BEDROCK**
- a3 REDCAR MUDSTONE
  - a2 PENARTH GROUP
  - a1 MERCIA MUDSTONE
- GEOLOGICAL STRATA HATCH**
- MADE GROUND - COHESIVE
  - MADE GROUND - GRANULAR
  - MADE GROUND - SLAG DOMINANT
  - OTHER MADE GROUND
  - CLAY
  - SILT
  - SAND
  - GRAVEL
  - MUDSTONE
  - CLAYEY
  - SILTY
  - SANDY
  - GRAVELLY
- GEOLOGICAL SECTION KEY**
- S1-BH20A [11.3M] HOLE ID AND PERPENDICULAR DISTANCE FROM SECTION LINE
  - WATER STRIKE AND RISE LEVEL
  - RESPONSE ZONE, PIEZO TIP AND MAXIMUM WATER LEVEL MONITORED
  - VIBRATING WIRE PIEZOMETER TIP
  - SPT N VALUE



- GROUND INVESTIGATION DATA FROM THE FOLLOWING FACTUAL REPORTS:
  - ALLIED EXPLORATION & GEOTECHNICS LTD - THE FORMER SSI STEELWORKS, REDCAR - GROUND INVESTIGATION CONTRACT - PRIORITY AREAS WITHIN SSI LANDHOLDINGS CONTRACT 1 AND CONTRACT 2 (AREA A), FINAL FACTUAL REPORT, CONTRACT NO. 4153 & 4154 (AREA A), SOUTH TEES SITE COMPANY, JUNE 2018.
  - CH2M HILL - SSI REDCAR - SSI 1, FACTUAL REPORT - INITIAL TRIAL PITTING, SOUTH TEES SITE COMPANY LTD, NOVEMBER 2017.
  - CH2M HILL - SSI REDCAR - SSI 2, FACTUAL REPORT - INITIAL TRIAL PITTING, SOUTH TEES SITE COMPANY LTD, NOVEMBER 2017.
  - ALLIED EXPLORATION & GEOTECHNICS LTD - PRELIMINARY ONSHORE GROUND INVESTIGATION FOR NZT, CONTRACT 4339, PRELIMINARY FINAL FACTUAL REPORT, SEPTEMBER 2021.
- FOR EXPLORATORY HOLE AND SECTIONLINE LOCATIONS SEE DRAWING 60657467-ACM-GIR-DRG-008.
- FOR GEOLOGICAL SECTIONS B-B' & C-C' REFER TO DRAWING 60657467-ACM-GIR-DRG-010 & 011.
- GROUNDWATER DATA UPTO AUGUST 2021 PRESENTED.
- EXISTING GROUND SURFACE DERIVED FROM ENVIRONMENT AGENCY LIDAR DATA 2020. MODIFICATIONS TO THE GROUND ELEVATION SINCE THE LIDAR WAS ACQUIRED WILL NOT BE REPRESENTED.

ISSUE/REVISION		
NO	DATE	DESCRIPTION
P01	2021-10-28	FIRST ISSUE
I/R	DATE	DESCRIPTION

**CLIENT**  
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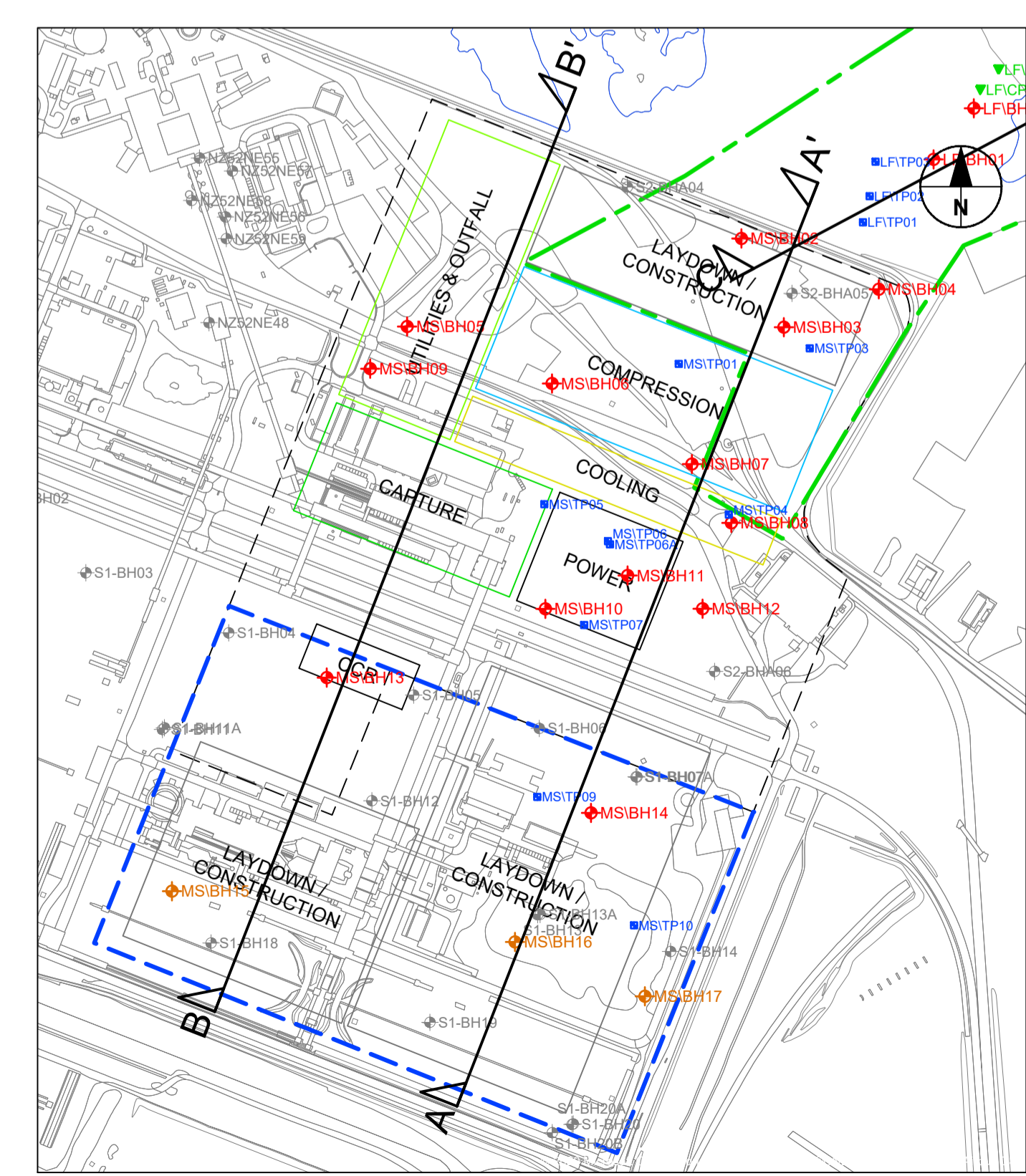
**PROJECT**  
 NET ZERO  
 TEESSIDE

**SHEET TITLE**  
 PCC SITE  
 GEOLOGICAL SECTION A-A'

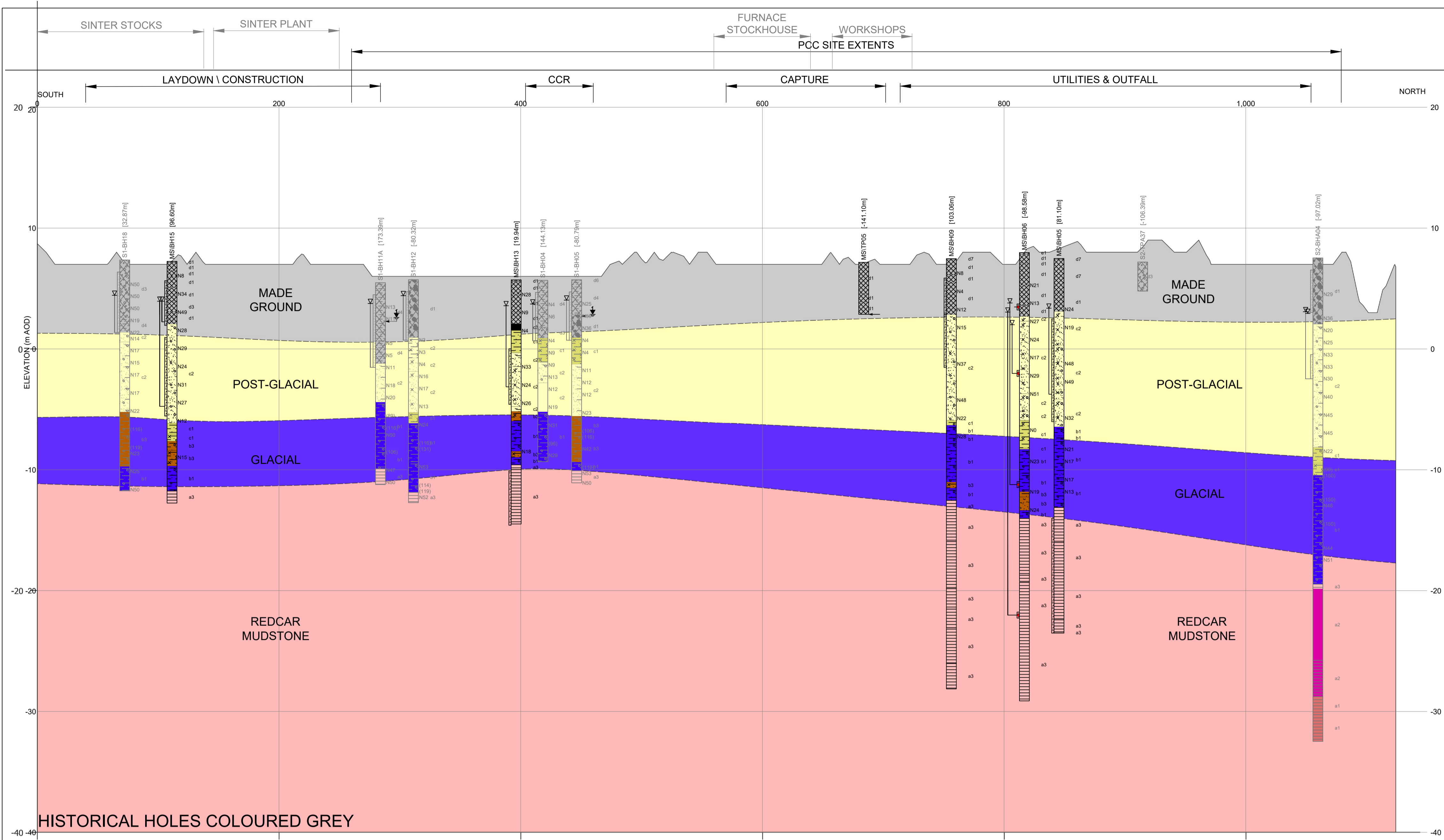
**CONSULTANT**  
**AECOM**  
 One Trinity Gardens  
 Newcastle upon Tyne

**SHEET NUMBER**  
 60657467-ACM-GIR-DRG-009

- SITE KEY**
- POWER, CAPTURE & COMPRESSOR (PCC) SITE
  - FUTURE EXPANSION AREA
  - CO2 TRANSPORT CORRIDOR



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**GEOLOGICAL UNIT LEGEND**

**SUPERFICIAL SOILS**

- d7 MADE GROUND (MISCELLANEOUS)
- d6 MADE GROUND (TOPSOIL)
- d4 MADE GROUND (COHESIVE)
- d3 MADE GROUND (GRANULAR)
- d1 MADE GROUND (SLAG-DOMINANT MATERIAL)
- c2 ESTUARINE - SAND
- c1 ESTUARINE - CLAY & SILT
- b3 LACUSTRINE DEPOSITS
- b1 GLACIAL TILL

**BEDROCK**

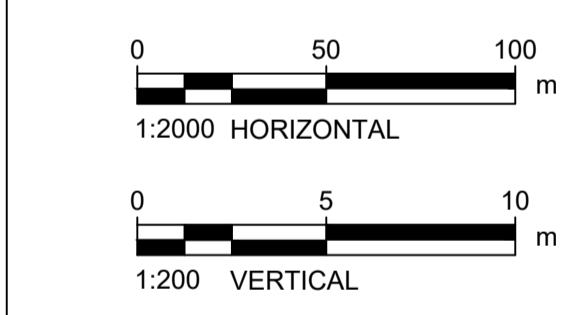
- JURASSIC
- a3 REDCAR MUDSTONE
- TRIASSIC
- a2 PENARTH GROUP
- a1 MERCIA MUDSTONE

**GEOLOGICAL STRATA HATCH**

- MADE GROUND - COHESIVE
- MADE GROUND - GRANULAR
- MADE GROUND - SLAG DOMINANT
- OTHER MADE GROUND
- CLAY
- SILT
- SAND
- GRAVEL
- MUDSTONE
- CLAYEY
- SILTY
- SANDY
- GRAVELLY

**GEOLOGICAL SECTION KEY**

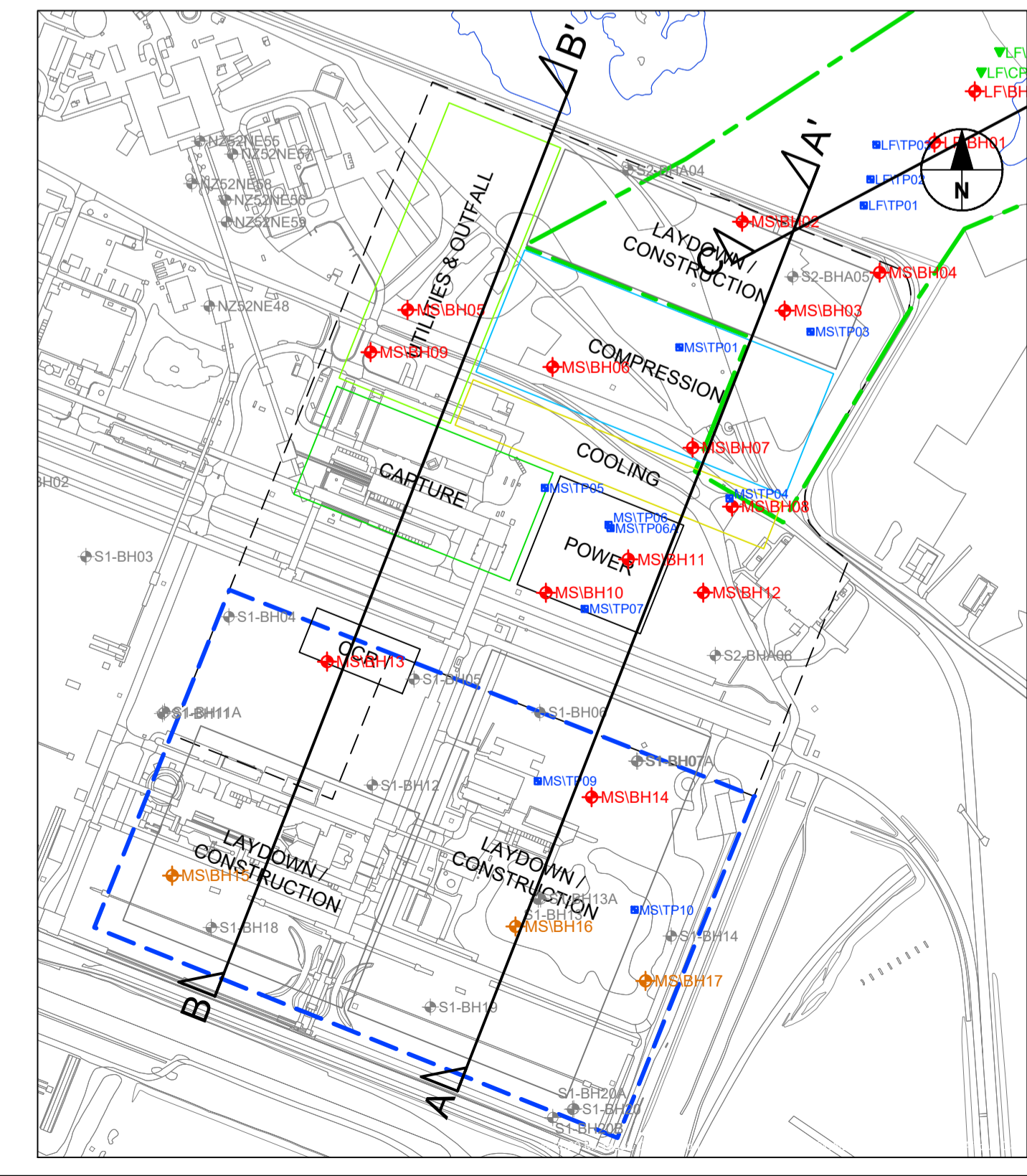
- S1-BH20A [11.3M] HOLE ID AND PERPENDICULAR DISTANCE FROM SECTION LINE
- WATER STRIKE AND RISE LEVEL
- RESPONSE ZONE, PIEZO TIP AND MAXIMUM WATER LEVEL MONITORED
- VIBRATING WIRE PIEZOMETER TIP
- N9 SPT N VALUE



**GEOLOGICAL SECTION B-B'**  
 (SOUTH - NORTH)  
 SCALE H1:2000 V1:200

**SITE KEY**

- POWER, CAPTURE & COMPRESSOR (PCC) SITE
- FUTURE EXPANSION AREA
- CO2 TRANSPORT CORRIDOR



- GROUND INVESTIGATION DATA FROM THE FOLLOWING FACTUAL REPORTS:
  - ALLIED EXPLORATION & GEOTECHNICS LTD - THE FORMER SSI STEELWORKS, REDCAR - GROUND INVESTIGATION CONTRACT - PRIORITY AREAS WITHIN SSI LANDHOLDINGS CONTRACT 1 AND CONTRACT 2 (AREA A), FINAL FACTUAL REPORT, CONTRACT NO. 4153 & 4154 (AREA A), SOUTH TEES SITE COMPANY, JUNE 2018.
  - CH2M HILL - SSI REDCAR - SSI 1, FACTUAL REPORT - INITIAL TRIAL PITTING, SOUTH TEES SITE COMPANY LTD, NOVEMBER 2017.
  - CH2M HILL - SSI REDCAR - SSI 2, FACTUAL REPORT - INITIAL TRIAL PITTING, SOUTH TEES SITE COMPANY LTD, NOVEMBER 2017.
  - ALLIED EXPLORATION & GEOTECHNICS LTD - PRELIMINARY ONSHORE GROUND INVESTIGATION FOR NZT, CONTRACT 4339, PRELIMINARY FINAL FACTUAL REPORT, SEPTEMBER 2021.
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- GROUNDWATER DATA UPTO AUGUST 2021 PRESENTED.
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ISSUE/REVISION		
I/R	DATE	DESCRIPTION
P01	2021-10-28	FIRST ISSUE

**CLIENT**  
 bp

**PROJECT**  
 NET ZERO  
 TEESSIDE

**SHEET TITLE**  
 PCC SITE  
 GEOLOGICAL SECTION B-B'

**CONSULTANT**  
**AECOM**  
 One Trinity Gardens

**SHEET NUMBER**  
 60657467-ACM-GIR-DRG-010

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## APPENDIX B – WRITTEN SCHEME OF INVESTIGATION FOR MARINE ARCHAEOLOGY

### B.1. Written Scheme of Investigation for Marine Archaeology

This appendix contains an outline of the scope of work required to mitigate potential impacts to marine archaeology as a result on the construction of the Proposed Development.

The design of the Proposed Development is not yet finalised and will not be completed until the detailed design stage. As such, the location of areas requiring marine archaeological mitigation cannot be detailed at this stage, but a methodology setting out the broad principles and methodology of the mitigation is outlined, in accordance with the information requested by the ExA.

The information in this outline WSI will be confirmed in a Site Specific WSI once the detailed design of the Proposed Development has been agreed. The Site Specific WSI will be prepared by a qualified and competent Archaeological Contractor, appointed by the Applicants, and submitted to and approved by the MMO, following consultation and agreement with Historic England.

#### Site of proposed marine archaeological investigation

The scope of marine archaeological investigation will focus on the site of the launch/ receiver point for the construction of a replacement water outfall, which is located approximately 1 km offshore. The outfall exit would be located at the end of the HDD tunnel, the approximate location of which is shown on Figure 1 (section B.8 Figures of this Appendix). A pocket would be dredged for the outfall head, which would then be secured within the dredge pocket by pin piling. A quantity of rock armour (approximately 100m<sup>2</sup>) would be deposited around the outfall head as scour protection.

All of these activities have the potential to impact marine archaeological assets, either by truncation and removal of features and deposits through dredging, or compaction and crushing of assets through the deposition of rock armour.

#### Known marine archaeological assets

There are no known wrecks, including protected wrecks, obstructions or aircraft remains recorded within the Order Limits in the vicinity of the HDD outfall. This is based on Historic Environment Record data and UKHO data gathered as part of the baseline study, and the results of geophysical survey carried out for Tees Offshore Windfarm. However, the geophysical survey extended only partially into the Order Limits and the majority of the Site within the Order Limits has not been subject to

archaeological investigation. The lack of data may be due to the lack of investigation results rather than a true absence of assets.

There is one asset related to palaeolandscapes within the Order Limits, comprising a palaeochannel (Redcar and Cleveland Borough Council Historic Environment Record 6396, Figure 2 of Section B8, identified as the pink polygon) which is potentially contemporary with the early Holocene Hartlepool and Redcar submerged forests and peat beds. The channel is approximately 300 m wide and has been mapped for approximately 4 km from the shoreline, following a similar alignment to the current course of the River Tees. This known marine heritage asset is of regional importance as set out in the North East Regional Research Framework , and is therefore of medium value.

### **Potential marine archaeological assets**

Palaeochannels are rarely found in isolation, generally part of a larger complex of an extinct river system. As such, the palaeochannel located within the Study Area is likely to be part of a wider fluvial system and there is potential for palaeolandscape evidence to extend into the Site.

Bathymetric surveys and side-scan sonar, as part of the Pelorus geophysical survey undertaken in advance of the Teesside Offshore Wind Farm, identified 82 anomalies that could not be confirmed as being of anthropogenic interest, and therefore may be natural . These could represent palaeochannels and palaeolandscape evidence that may extend into the Site.

## B.2. Scope of work

To mitigate impacts to the known and potential marine archaeological resource, a programme of marine geophysical survey and geoarchaeological assessment is proposed.

The following methodology sets out the broad framework for the proposed survey and the scope and standards required. The Archaeological Contractor will set out their proposed detailed methodology in their Site Specific WSI.

### Marine geophysical survey assessment scope

It is anticipated that the marine geophysical survey assessment will comprise the assessment of existing geophysical survey data carried out by the Applicants for the Proposed Development. If there is an opportunity to carry out additional marine geophysical survey, or if additional marine geophysical survey is required in order to inform the marine archaeological mitigation response, the survey will be carried out by a survey company with appropriate archaeological expertise and including geophysicists with appropriate archaeological expertise onboard.

### Archaeological interpretation of marine geophysical survey data and reporting

Raw survey data, together with factual reports and track plots, will be made available in digital formats by the Applicants to the Archaeological Contractor. The interpretation of data will include:

- the examination of side-scan, magnetometer, sub-bottom and multibeam data within areas that will be subject to scheme impacts in order to identify as yet unknown wrecks and archaeological remains; and
- the assessment of sub-bottom data in order to plot the general trend of the sub-surface sediments with archaeological potential.

The interpretive data will be presented in an illustrated archaeological report.

### Marine geoarchaeological assessment scope

It is anticipated that geoarchaeological samples will be obtained during marine geotechnical surveys carried out in advance of the installation of the outfall.

The assessment of this data may provide further information relating to palaeolandscapes and palaeoenvironments and will mitigate/ offset impacts to potential submerged prehistoric archaeology.

## Sampling and reporting

The proposed environmental sampling strategies and methods, including the methods for processing, assessing and/or analysing samples, will be set out by the Archaeological Contractor in the Site Specific WSI. For geoarchaeological samples derived from geotechnical sampling programmes, the Applicants will ensure that samples are made available for geoarchaeological recording and sub-sampling, in accordance with the Site Specific WSI, prior to any processes that may render the sample ineffective, such as poor storage.

The Applicants, their Principal Construction Contractor and the Archaeological Contractor will consult to ensure that the relevant samples are retained and stored appropriately for future geoarchaeological assessment and analysis. The geoarchaeological assessment will comprise, as a minimum:

- Archaeological observation, recording and assessment of geotechnical cores;
- Archaeological review of geotechnical borehole logs
- Sub-sampling of core material; and
- Laboratory assessment and analysis of samples and sub-samples.

The results of the assessment will be compiled as a Geoarchaeological Assessment Report which will represent the agreed scope of assessment and analysis and include a broad chronological framework for the completed analysis.

## General objectives

The general objectives of the geophysical survey are:

- To investigate the archaeological potential of the Order Limits;
- To assess the presence / absence of potential archaeological anomalies;
- To determine the significance of archaeological and geoarchaeological remains and place them within a local, regional and/ or national context;
- To preserve archaeological remains by record to offset impacts arising from the construction of the Proposed Development.

### B.3. Methodology

All survey work will be carried out in accordance with this outline WSI and current good practice and guidance.

#### Site Specific WSI

The Archaeological Contractor will be required to prepare a Site Specific WSI which will comply with archaeological best practice and guidance published for offshore development. This guidance includes, but is not limited to:

- The Protocol for Archaeological Discoveries: Offshore Renewables Projects. The Crown Estate 2014;
- Model Clauses for Archaeological Written Schemes of Investigation: Offshore Renewables Projects. Guidance issued by The Crown Estate;
- COWRIE Guidance for Assessment of Cumulative Impacts on the Historic Environment from Offshore Renewable Energy 2008; and
- Joint Nautical Archaeology Policy Committee (JNAPC) Code for Practice for Seabed Development 2006.

The appointed Archaeological Contractor will prepare a Site Specific WSI on behalf of the Applicants. The Site Specific WSI will include, as a minimum:

- Summary of the planning background and the DCO requirement the scope of work is fulfilling;
- Summary of the proposed construction activity;
- Roles and responsibilities of Archaeological Contractor, Principal Construction Contractor (if applicable) and Applicants;
- Illustrations showing the spatial extent and detailed location of investigation(s)
- Summary of archaeological baseline for the site and an appropriate study area;
- Objectives and research aims;
- Methodology, to include:
  - Fieldwork methodologies
  - Recording systems;
  - Finds policy and discard policy
  - Conservation proposals
  - Environmental sampling policy

- Initial processing of finds and environmental samples
- Reporting stages, including a timetable for interim, post-excavation and publication
- Monitoring arrangements;
- Proposed staffing, including any sub-contractors and/ or specialists;
- Health and safety, including current guidance regarding Covid-19 control measures and
- Insurance details.

### **Protocol for archaeological discoveries**

The Site Specific WSI will contain a methodology for the treatment of unexpected discoveries. This will accord with the methodology presented in the Framework Construction Environmental Management Plan (CEMP) and a proposed methodology is provided in this outline WSI.

Unexpected archaeological discoveries that come to light during the course of the investigations will be addressed by the implementation of the Protocol for Archaeological Discoveries (PAD), using guidance published by Wessex Archaeology on behalf of the Crown Estate.

The protocol requires all discoveries of archaeological material to be reported by the Construction Contractor, in accordance with an agreed communication plan, to the Nominated Contact within their organisation, who will inform Implementation Service (IS) who will then, in turn, inform the relevant Archaeological Curator. If the find constitutes 'wreck' within the terms of the Merchant Shipping Act (1995) then the IS will also make a report to the Receiver of Wreck. Full contact details for all relevant parties will be included in the Protocol.

Staff on all survey and construction vessels will be informed of the Protocol, details of the find types that may be of archaeological interest, and the potential importance of any archaeological material encountered. Hard copies of the Protocol will be made available for use on board construction vessels and tool-box talks will be provided.

### **Monitoring and progress reports**

The Site Specific WSI will include the agreed methods for the monitoring of the archaeological works by the Archaeological Curator. This may include verbal progress reports upon request, and/ or weekly written progress reports. Provision for completing a daily site diary, which will capture the scope of work carried out that day, samples taken, artefacts recorded etc., will also be included.

### Completion of fieldwork

The Archaeological Contractor shall prepare and submit a Completion Statement to the Applicants within one working day of completing the survey.

An OASIS entry shall be completed at the end of the fieldwork, irrespective of whether a formal report is required. The Archaeological Contractor will complete the online form at [REDACTED] within one month following completion of the fieldwork. Archaeological Contractors are advised to contact OASIS (oasis@ads.ahds.ac.uk) for technical advice.

## B.4. Deliverables

Each phase of archaeological investigation will require an archaeological report to be produced. Combining the results of surveys into a single report would be permissible following agreement with the relevant Archaeological Curator.

Upon completion of each stage of investigation, an interim report will be produced within 10 days of completion. This would summarise the result and quantify the records, samples and artefacts recovered during the investigation.

A final report will be submitted within four weeks of the completion of the fieldwork. The final report should report on the location, extent and significance of archaeological, palaeoenvironmental and/or geoarchaeological features and/or anomalies recorded as part of the investigation. The final report should follow current good practice and guidance, and should, as a minimum, include the following:

- Title page;
- List of contents, figures, tables, etc;
- Non-technical summary;
- Introduction;
- 10 Figure National Grid Reference;
- Archaeological and historical background;
- Aims and Objectives;
- Methodology, including:
  - Survey methods used;
  - date(s) of fieldwork;
  - grid location;
  - geophysical instruments used (if applicable to that stage of investigation);
  - sampling intervals;
  - equipment configurations;
  - method(s) of data capture;
  - method(s) of data processing; and
  - methods of data presentation;



- Results and Interpretation - with reference to known HER and/ or UKHO and CITiZAN data;
- Deposit model (if applicable to that stage of investigation);
- Discussion, with reference to known HER data where applicable;
- Recommendations for analysis/ scientific dating/ further work;
- Conclusion;
- References to all primary and secondary sources consulted;
- OASIS reference number; and
- Statement of Indemnity.

The final report should be presented in Word format and any digital images in gif format.

A draft report should be submitted to the Applicants for comment and review prior to the finalisation of the report.

#### **Archive deposition for archaeological geophysical survey**

Relevant reference numbers will be obtained from the HER in advance of the fieldwork. These project identifiers will be cited in the project report and on other project paperwork.

The marine geophysical survey project is expected to be archived with the Archaeology Data Service (ADS) as an entire project archive, along with other portions of the project as relevant (geoarchaeological assessment). The exact nature of the archive will depend on further discussions between the Archaeological Contractor and the ADS.

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## B.5. General project requirements

### Resources and programme

Experienced and qualified archaeologists shall undertake the archaeological works. All staff will be suitably qualified and experienced professionals and hold valid Construction Skills Certification Scheme (CSCS) cards, proof of which is to be provided to the Applicants upon request (refer to Section 7).

The archaeological works will be undertaken in accordance with an approved programme. Proposed changes to the agreed programme will only be accepted with the agreement of the Applicants.

### Confidentiality and publicity

The archaeological works may attract the interest of the public and the press. All communication will be directed to the Applicants.

The Archaeological Contractor will not disseminate information or images associated with the project for publicity or information purposes without the prior written consent of the Applicants.

### Copyright

The Archaeological Contractor shall assign copyright in all reports, documentation and images produced as part of this project to the Applicants. The Archaeological Contractor shall retain the right to be identified as the author or originator of the material. This applies to all aspects of the project. It is the responsibility of the Archaeological Contractor to obtain such rights from sub-contracted specialists.

The Archaeological Contractor may apply in writing to use or disseminate any of the project archive or documentation (including images). Such permission will not be unreasonably withheld.

## **B.6. Insurances, health and safety**

The Archaeological Contractor will provide the Applicants with details of their public and professional indemnity insurance cover.

The Archaeological Contractor will have their own Health and Safety policies compiled using national guidelines, which conform to all relevant Health and Safety legislation and best practice. A copy of the Archaeological Contractor's Health and Safety policy will be submitted to the Applicants prior to the start of the survey.

The Archaeological Contractor shall prepare a Risk Assessment(s) and a project specific Health and Safety Plan and submit these to the Applicants prior to starting on site. The Archaeological Contractor will not be permitted to start on site until the Applicants have confirmed that the Risk Assessment is acceptable for the proposed works. If amendments are required to the Risk Assessment during the works, the Applicants and any other relevant party must be provided with the revised document at the earliest opportunity.

All staff involved in the archaeological investigation should be Construction Skills Certification Scheme (CSCS) qualified to a minimum standard as an 'Archaeological Technician' (for Construction Related Occupation card), 'Professionally Qualified Person' (through accreditation with ClfA) or 'Academically Qualified Person' (through an archaeology degree) and hold a valid CSCS card.

All equipment that is used in the course of the investigations must be 'fit for purpose' and be maintained in a sound working condition that complies with all relevant Health and Safety regulations and recommendations.

The Archaeological Contractor will assure the provision and maintenance of adequate, suitable and sufficient welfare and sanitary facilities at appropriate locations for the duration of the works.

If the Archaeological Contractor is appointed by the Applicants Principal Construction Contractor, then the Archaeological Contractor will comply with the Health and Safety policies and site Rules implemented by the Principal Construction Contractor. These roles and responsibilities will be confirmed with the Applicants and set out in the Site Specific WSI.

### **COVID-19 / other pandemics or high consequence infectious diseases**

The Health and Safety policies, Risk Assessments and project-specific Health and Safety Plan compiled by the Archaeological Contractor will address undertaking fieldwork during the Coronavirus COVID-19 pandemic or any prevailing pandemic / high consequence infectious diseases (HCID) outbreak. All work should be undertaken in line with current government advice, which, at the time of writing includes the Site

Operating Procedures (Construction Leadership Council, 2021 and any subsequent updates).

The Archaeological Contractor's Risk Assessment and Health and Safety Plan shall address COVID-19 or other prevailing pandemic / HCID specific hazard controls; travel, site, welfare and accommodation; PPE and hygiene provisions; mental health and effects on people the site workers live with; and reporting procedures for site workers to raise any issues or concerns. They shall take account of changes to emergency procedures, factoring in, for example, increased emergency service response times and potential closures of A&E departments. Toolbox talks will adhere to social distancing.

The Risk Assessment and Health and Safety Plan will be clearly communicated to site workers with sufficient time prior to travel or commencement of work. All site personnel will familiarise themselves with site-specific COVID-19 or other prevailing pandemic / HCID mitigation measures. Signatures will be required to record that all site workers have attended appropriate site briefings and understood COVID-19 or other prevailing pandemic / HCID procedures. Site workers must be aware that COVID-19 or other prevailing pandemic / HCID controls (e.g., maintaining social distancing and hygiene standards) will take precedence until further notice. Site workers must adhere to the COVID-19 or other prevailing pandemic / HCID measures, controls and restrictions.

If tasks are identified that cannot be compliant with COVID-19 or other prevailing pandemic / HCID procedures, then work must not take place until further mitigation is put in place to remain compliant.

COVID-19 or other prevailing pandemic / HCID procedures will be under constant review as the situation evolves. The Archaeological Contractor will ensure that Risk Assessments are updated to reflect any changes to government advice be issued prior to the commencement of or during the archaeological works.

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## B.7.references

Construction Leadership Council (2021). Site Operating Procedures.

COWRIE (2008). Guidance for Assessment of Cumulative Impacts on the Historic Environment from Offshore Renewable Energy.

Entec (2004). EDF Energy (Northern Offshore Wind) Ltd: Teesside Offshore Wind Farm Environmental Statement.

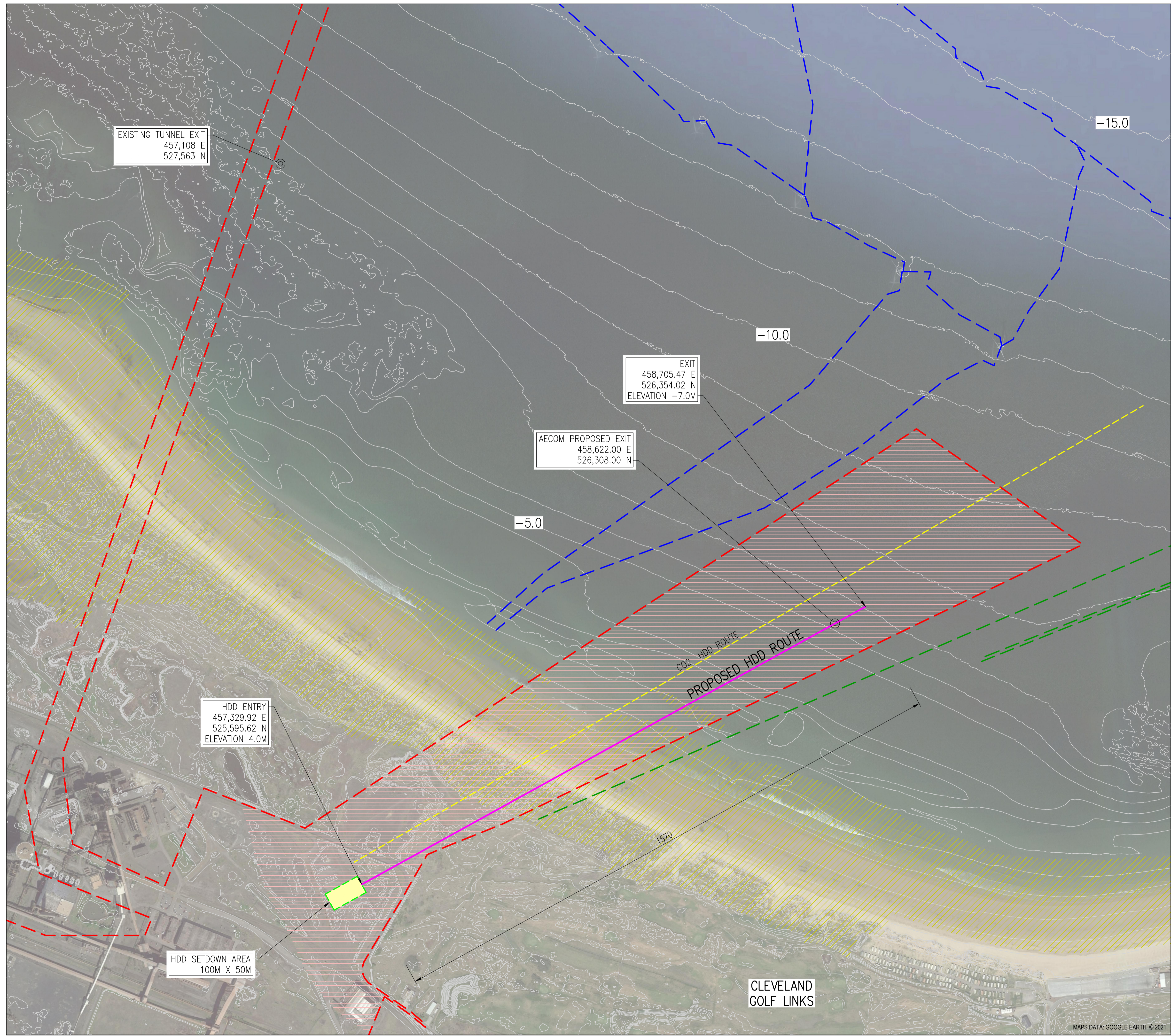
Joint Nautical Archaeology Policy Committee (JNAPC) (2006). Code for Practice for Seabed Development.

Petts, D. and Gerrard, C. (2006). Shared Visions: The North-East Regional Research Framework for the Historic Environment. Durham: Durham County Council.

The Crown Estate (2010). Model Clauses for Archaeological Written Schemes of Investigation: Offshore Renewables Projects. Wessex Archaeology.

The Crown Estate (2014). Protocol for Archaeological Discoveries: Offshore Renewables Projects. Wessex Archaeology.

## B.8. – Figure



EXISTING TUNNEL EXIT  
457,108 E  
527,563 N

EXIT  
458,705.47 E  
526,354.02 N  
ELEVATION -7.0M

AECOM PROPOSED EXIT  
458,622.00 E  
526,308.00 N

HDD ENTRY  
457,329.92 E  
525,595.62 N  
ELEVATION 4.0M

HDD SETDOWN AREA  
100M X 50M

-15.0

-10.0

-5.0

15.0

CLEVELAND  
GOLF LINKS



NOTES :-

1. ALL DIMENSIONS SHOWN IN METERS.
2. ALL ELEVATIONS ARE RELATIVE TO MSL (NEWLYN).
3. DCO ZONE INDICATIVE ONLY.

LEGEND :-

- DCO AREA
- RAMSAR AREA OF SPECIAL INTEREST
- HDD ROUTE
- CO2 HDD ROUTE
- ORCA CABLES
- UKCS PIPELINE LINEAR

GEOIDETIC INFORMATION:  
OSGB 1936 / BRITISH NATIONAL GRID EPSG CODE: 27700 VERTICAL DATUM: NEWLYN (MSL)

DOCUMENT No.	DOCUMENT TITLE
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REFERENCE DOCUMENTS

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REV	DATE	REVISION	BY	CHK	ENG	PM	CLIENT
B	26.05.22	ISSUED FOR INFORMATION	BCA	JKE	TWH	RDO	
A	19.05.22	ISSUED FOR INFORMATION	BCA	JKE	TWH	RDO	

















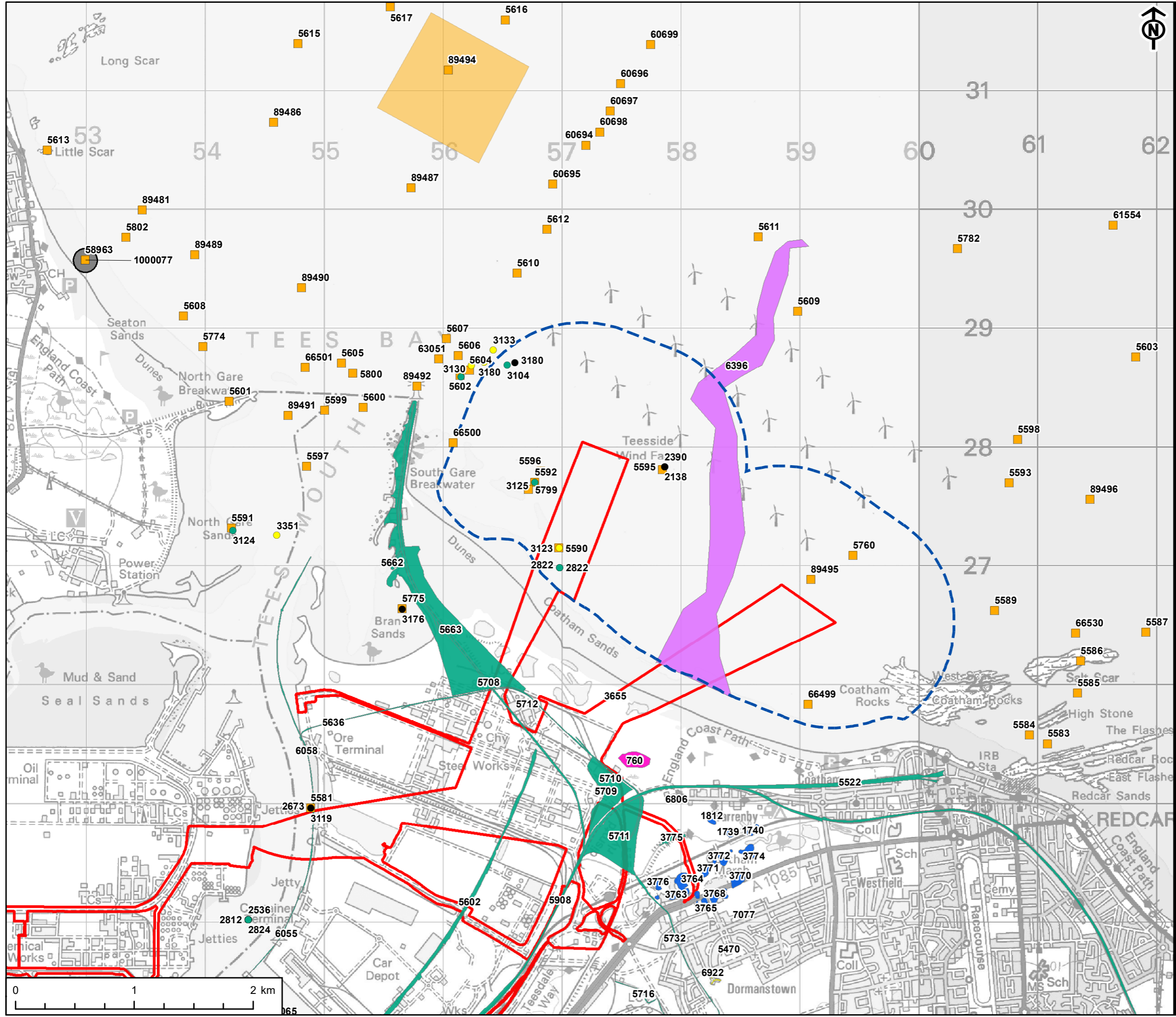
PROJECT	BP NET ZERO TEESIDE	CONCEPT DRAWING - NOT FOR CONSTRUCTION -
CLIENT		

TITLE  
PROPOSED HDD ROUTE (OUTFALL)

DRAWN	B.CAULFIELD	DATE	18.05.22	PROJECT No.	OP219084	SCALE	1:5,000 (A1)	SHEET	01
CHECKED	T.WHELAN	DATE	18.05.22	CAD REF.					
ENG.	R.DOYLE	DATE	18.05.22	DRAWING NUMBER	OP219084-01-DWG-SK-001				
CLT. APP.		DATE		REV.	B				

KEY

-  Site Boundary
-  1km Study Area
-  UKHO Wrecks and Obstructions - Point
-  UKHO Wrecks and Obstructions - Polygon
-  Protected Wreck
- Maritime Heritage Assets - Point
  -  Post-Medieval
  -  Modern
  -  Unknown
- Maritime Heritage Assets - Polygon
  -  Prehistoric
  -  Medieval
  -  Post-Medieval
  -  World War I
  -  World War II
  -  Modern

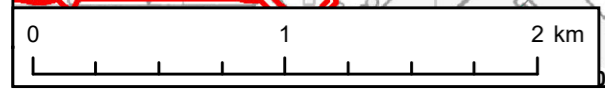


TITLE  
 FIGURE 19-1  
 LOCATION OF MARINE HERITAGE  
 ASSETS IN THE 1KM STUDY AREA

REFERENCE  
 NZT\_210512\_ES\_19-1\_v2

SHEET NUMBER  
 1 of 1

DATE  
 12/05/2021



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