

LONG ACRES ENVIRONMENTAL STATEMENT

VOLUME 2: CHAPTER K
BELOW GROUND HERITAGE

Long Acres, South Tees

Volume 2: Environmental Statement (December 2020)

Chapter K: Below Ground Heritage

December 2020

**Prospect Archaeology Ltd
Prospect House
Garden Lane
Sherburn-in-Elmet
Leeds
North Yorkshire
LS25 6AT**

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K1.0 Introduction

K1.1 This Chapter of the Environmental Statement ('ES') has been prepared by Prospect on behalf of the applicant, South Tees Development Corporation ('STDC'). It assesses the proposed development described in Chapter B and it considers the effects of the proposed development on below ground heritage assets.

K1.2 The baseline situation is considered before the likely environmental effects of the development are identified, both during construction and operational phases of the development. Mitigation measures to reduce any adverse environmental effects are identified as appropriate, before the residual environmental effects are assessed.

K1.3 This Chapter is supported by the following technical appendices:

- 1 Appendix K.1: Long Acres, Redcar Desk-Based Heritage Assessment;
- 2 Appendix K.2: Correspondence between Nansi Rosenberg and Neil Cookson (NEAR) 10th - 12th November 2020; and,
- 3 Appendix K.3: Designated and Non-Designated Heritage Assets Plan.

About the Author

K1.4 Nansi Rosenberg BA (Hons), MA, MCIFA is the primary author of this report. As Managing Director and Principal Consultant of Prospect Archaeology since 2010, and working as a heritage professional since 1991, Nansi has extensive knowledge and experience of archaeological and built heritage issues across the United Kingdom. Nansi holds a BA(Hons) in Archaeology from the University of Durham and an MA (Distinction) in Archaeology and Heritage from the University of Leicester. She is a full Member of the Chartered Institute for Archaeologists with specialist competence in Project Management.

K2.0 **Policy Context**

Ancient Monuments and Archaeological Areas Act 1979 (AMAAA)

- K2.1 The Act is the primary legislation protecting archaeological remains within the United Kingdom. It identifies as a duty of the Secretary of State the need to compile and maintain a schedule of ancient monuments of national importance, to allow for their preservation, so far as possible, in their current (at the time of scheduling) state.
- K2.2 A statement setting out current Government policy on the identification, protection, conservation and investigation of nationally important (both scheduled and nationally important non-scheduled) ancient monuments was published in October 2013 (DCMS 2013).
- K2.3 Where works to scheduled monuments are proposed for development-related purposes, the Secretary of State has particular regard to the following principles:
- 1 Only in wholly exceptional cases will consent be granted for works could result in substantial harm to, or loss of, the significance of a Scheduled Monument; and
 - 2 In cases that would lead to less than substantial harm to the significance of a Scheduled Monument the harm will be weighed against the public benefits of the proposal (DCMS 2013, para 20).
- K2.4 This legislative position is directly reflected in the National Planning Policy Framework (NPPF) which states that “*Where a proposed development will lead to substantial harm to (or total loss of significance of) a designated heritage asset, local planning authorities should refuse consent, unless it can be demonstrated that the substantial harm or total loss is necessary to achieve substantial public benefits that outweigh that harm or loss...*” (NPPF, para 195), and “*Where a development proposal will lead to less than substantial harm to the significance of a designated heritage asset, this harm should be weighed against the public benefits of the proposal including, where appropriate, securing its optimum viable use*” (NPPF, para 196).
- K2.5 Where consent is granted for works that could result in harm to, or loss of, the significance of a Scheduled Monument, conditions are expected to be imposed that provide for recording of information that adds to our understanding of the significance of that monument. Those conditions are likely to be designed to ensure that:
- the project design seeks to further the objectives of relevant international or national research frameworks;
 - use is made of appropriately skilled teams with the resources to fully implement the project design to relevant professional standards (such as those published by the Institute for Archaeologists);
 - the project design provides for the full analysis, publication and dissemination of the results, including the deposition of reports in the relevant Historic Environment Record (HER), to a set timetable; and
 - provision is made in the project design for the conservation and deposition of the site archive with a local museum or other public depository willing to receive it (DCMS 2013, para 21).

Planning (Listed Buildings and Conservation Areas) Act 1990

- K2.6 Section 66 of the Planning (Listed Buildings and Conservation Areas) Act (1990) highlights the importance of built heritage and Listed Buildings within the planning system. With regard to the

Local Planning Authority's (LPA) duty regarding listed buildings in the planning process, it states that:

"In considering whether to grant planning permission for development which affects a listed building or its setting, the local planning authority or, as the case may be, the Secretary of State shall have special regard to the desirability of preserving the building or its setting or any features of special architectural or historic interest which it possesses".

K2.7 In addition, Section 72 of the Act emphasises the value of Conservation Areas in built heritage planning. In relation to the duties and powers of the LPA, it provides that:

"With respect to any buildings or other land in a conservation area, special attention shall be paid to the desirability of preserving or enhancing the character or appearance of that area".

The National Planning Policy Framework (NPPF) 2019

K2.8 This replaces all previous Planning Policy Guidance notes (PPGs) and Planning Policy Statements (PPSs) and revises the NPPF 2012.

K2.9 Section 16 provides policy on 'Conserving and enhancing the historic environment'. Planning decisions have to be made from a position of knowledge and understanding with respect to the historic environment. Paragraph 189 states:

"In determining applications, local planning authorities should require an applicant to describe the significance of any heritage assets affected, including any contribution made by their setting. The level of detail should be proportionate to the assets' importance and no more than is sufficient to understand the potential impacts of the proposal on their significance. As a minimum the relevant historic environment record should have been consulted and the heritage assets assessed using appropriate expertise where necessary. Where a site on which development is proposed includes or has the potential to include heritage assets with archaeological interest, local planning authorities should require developers to submit an appropriate desk-based assessment and, where necessary, a field evaluation".

K2.10 In paragraph 192, it is made clear that a balance must be sought, on the one hand sustaining and enhancing the significance of heritage assets and the positive contribution that they can make to communities, and on the other in considering the positive contribution that a new development could make to local character and distinctiveness.

K2.11 The impact on a heritage asset should be assessed in terms of the significance of that asset; the greater the significance, the greater weight should be given in that assessment. Any harm to, or loss of, the significance of a designated asset should require clear and convincing justification. Where substantial harm or loss is predicted, approval should be given only in exceptional circumstances for Grade II listed buildings, parks or gardens. For heritage assets of higher importance (Grade II* & I listed buildings and parks & gardens, scheduled monuments, protected wreck sites, battlefields and World Heritage Sites) approval for proposed developments that cause substantial harm should be 'wholly exceptional' (para 194). In all cases the harm must be weighed against the public benefit (para 195).

K2.12 As a footnote to para 194 the NPPF states that:

"Non-designated heritage assets of archaeological interest, which are demonstrably of equivalent significance to scheduled monuments, should be considered subject to the policies for designated heritage assets."

- K2.13 As is reflected in the DCMS 2013 statement on Government policy, it is made clear that undesignated heritage assets of national importance should be afforded the same consideration as designated assets of equivalent significance:
- “The effect of an application on the significance of a non-designated heritage asset should be taken into account in determining the application. In weighing applications that affect directly or indirectly non-designated heritage assets, a balanced judgement will be required having regard to the scale of any harm or loss and the significance of the heritage asset” (para 197);”*
- K2.14 In addition, para 187 states that:
- “Local planning authorities should maintain or have access to a historic environment record. This should contain up-to-date evidence about the historic environment in their area and be used to:*
- a *assess the significance of heritage assets and the contribution they make to their environment; and*
 - b *predict the likelihood that currently unidentified heritage assets, particularly sites of historic and archaeological interest, will be discovered in the future. This replaces all previous Planning Policy Guidance notes (PPGs) and Planning Policy Statements (PPSs).”*
- K2.15 Among the core planning principles, provision is made to “conserve heritage assets in a manner appropriate to their significance, so that they can be enjoyed for their contribution to the quality of life of this and future generations” (CLG 2012, para 17).
- K2.16 Section 12 provides policy on ‘Conserving and enhancing the historic environment’. Planning decisions have to be made from a position of knowledge and understanding with respect to the historic environment. Paragraph 128 states: *“In determining applications, local planning authorities should require an applicant to describe the significance of any heritage assets affected, including any contribution made by their setting. The level of detail should be proportionate to the assets’ importance and no more than is sufficient to understand the potential impacts of the proposal on their significance. As a minimum the relevant historic environment record should have been consulted and the heritage assets assessed using appropriate expertise where necessary. Where a site on which development is proposed includes or has the potential to include heritage assets with archaeological interest, local planning authorities should require developers to submit an appropriate desk-based assessment and, where necessary, a field evaluation”.*
- K2.17 In paragraph 131, it is made clear that a balance must be sought, on the one hand sustaining and enhancing the significance of heritage assets and the positive contribution that they can make to communities, and on the other in considering the positive contribution that a new development could make to local character and distinctiveness.
- K2.18 The impact on a heritage asset should be assessed in terms of the significance of that asset; the greater the significance, the greater weight should be given in that assessment. A distinction is made between ‘substantial’ and ‘less than substantial’ harm. Where substantial harm or loss to is predicted, approval should be given only in exceptional circumstances for Grade II listed buildings, parks or gardens. For heritage assets of higher importance (Grade II* & I listed buildings and parks & gardens, scheduled monuments, protected wreck sites, battlefields and World Heritage Sites) approval for proposed developments that cause substantial harm should be ‘wholly exceptional’ (para 132). In all cases the harm must be weighed against the public benefit (paras 133 & 134).

K2.19 As is reflected in the DCMS 2013 statement on Government policy, it is made clear that undesignated heritage assets of national importance should be afforded the same consideration as designated assets of equivalent significance:

“The effect of an application on the significance of a non-designated heritage asset should be taken into account in determining the application. In weighing applications that affect directly or indirectly non-designated heritage assets, a balanced judgement will be required having regard to the scale of any harm or loss and the significance of the heritage asset” (para 135);

“Non-designated heritage assets of archaeological interest that are demonstrably of equivalent significance to scheduled monuments, should be considered subject to the policies for designated heritage assets” (para 139).

National Planning Practice Guidance (2014)

- The National Planning Practice Guidance (NPPG) was published by the Department for Communities and Local Government in March 2014 and provides guidance for planners and communities which will help deliver high quality development and sustainable growth in England. In terms of heritage, guidance entitled ‘Conserving and enhancing the historic environment’ sets out information with respect to the following:
- the recognition of the appropriate conservation of heritage assets forming one of the ‘Core Planning Principles’ that underpin the planning system;
- what the main legislative framework for planning and the historic environment is (Planning (Listed Buildings and Conservation Areas) Act 1990; Ancient Monuments and Archaeological Areas Act 1979; and Protection of Wrecks Act 1973);
- a definition of ‘significance’;
- why significance is important in decision-taking;
- the considerations of designated and non-designated assets;
- the identification of non-designated heritage assets; and
- the considerations for when applications for planning permission are required to consult or notify English Heritage.

Non-Statutory Guidance

K2.20 English Heritage Conservation Principles Policies and Guidance (EH 2008) defines the setting of historic assets as: -

“...the surroundings in which a place is experienced, its local context, embracing present and past relationships to the adjacent landscape...”

K2.21 EH draws a distinction between ‘setting’ and ‘context’ (paragraphs 76 and 77) and the document makes it clear that whereas ‘setting’ involves a localised area, ‘context’ is a wider concept involving *“any relationship between a place and other places, relevant to the values of that place”*.

- Heritage values are considered under four main headings
- Evidential Value derives from the potential for a place to yield evidence about past human activity
- Historical Value derives from the ways in which past, people and events can be connected through a place to the present
- Aesthetic value derives from the ways in which people draw sensory and intellectual stimulation from a place.
- Communal value derives from the meanings of a place for the people who relate to it.

Local Policy Guidance

K2.22

The Redcar & Cleveland Local Plan (Adopted 2018) contains policies relating to the Historic Environment. There are no Conservation Areas or Designated Heritage Assets that would be affected by this proposal. Policy HE3 'Archaeological Sites and Monuments' is relevant, however. It states:

Development that would adversely affect archaeological sites or monuments that are designated heritage assets or their settings, or archaeological sites of equivalent significance will only be approved in the most exceptional circumstances and in accordance with this policy and other heritage policies in this plan.

Development that may affect a known or possible archaeological site, whether designated or non-designated, will require the results of a desk-based assessment to be submitted as part of the planning application. An archaeological evaluation may also be required to identify the most appropriate course of action.

Development that affects a site where archaeology exists or where there is evidence that archaeological remains may exist will only be permitted if:

- a *The harm or loss of significance is necessary to achieve public benefits that outweigh that harm or loss. Harm or loss may be avoided by preservation in situ or refusal: or*
- b *Where in situ preservation is not required, appropriate satisfactory provision is in place for archaeological investigation, recording and reporting to take place before, or where necessary during, development. Where archaeological investigation, recording and reporting has taken place it will be necessary to publish the findings within an agreed timetable.*

K3.0 **Assessment Methodology & Significance Criteria**

Assessment Methodology

- K3.1 Built heritage has been scoped out of this Environmental Assessment. There are five designated heritage assets within 1000m of the site boundary and none are intervisible with the site, nor do they have significant shared views. Their designation does not rely on their settings in respect of the site and they would suffer neither direct nor indirect impacts from development of this site. These built heritage assets are briefly discussed in the Baseline Conditions section below and in Appendix K.1.
- K3.2 Buried heritage (archaeology) has been considered through desk-based assessment and a site visit on 25th November 2020. A full list of referenced sources is provided, and references are given. Staff at RCBC gave advice and information about known archaeological sites of interest in the vicinity of the study area, and where relevant, these were further investigated. It was not possible to view original archive material due to the Covid-19 health and safety restrictions. Additional sources consulted included:
- information available on a variety of internet sites including, The National Archives (<http://discovery.nationalarchives.gov.uk/>) and the Archaeology Data Service (<http://ads.ahds.ac.uk/>); the Heritage Gateway (www.heritagegateway.org.uk); and data from Pastscape (www.pastscape.org.uk) as well as the National Archives Discovery Catalogue. A full list of sites accessed can be found in the Bibliography section;
 - cartographic sources held by the Ordnance Survey and Promap (www.promap.co.uk); and
 - A site visit undertaken by Nansi Rosenberg.
- K3.3 The historical development of the site has been established through reference to these sources and is described in the Baseline Conditions section of this report.
- K3.4 The sensitive receptors identified through assessment of the known and potential heritage assets for which effects are assessed are identified in Table K3.1. The archaeological significance attributed to each receptor is based on the significance criteria identified in Table K3.2

Table K3.1 Sensitive Receptors

Sensitive Receptor	Archaeological Significance
Coatham Iron Works blast furnace bases	Medium
Redcar Iron Works blast furnace bases	Medium
Other elements of 19 th century iron works	Low
Duck Decoy	Low
World War II defensive structures	Low
Medieval salterns	Medium

Significance Criteria

- K3.5 Each area of archaeological potential has been assessed for its archaeological significance in geographical terms (i.e. the archaeological receptors value/sensitivity) as shown at Table K3.2, although it should be noted that there is no statutory definition for these classifications.

Table K3.2 Archaeological Significance (Sensitivity)

Archaeological Significance	Factors for assessing value of archaeological assets
International (Very High)	World Heritage Sites (including nominated sites). Assets of acknowledged international importance. Assets that can contribute significantly to acknowledged international research objectives.
National (High)	Scheduled Monuments (including proposed sites), Listed Buildings Grade I and II*(some Grade II) Undesignated assets of schedulable quality and importance. Assets that can contribute significantly to acknowledged national research objectives.
Regional (Medium)	Designated or undesignated assets that contribute to regional research objectives.
Local (Low)	Designated and undesignated assets of local importance. Assets compromised by poor preservation and/or poor survival of contextual associations. Assets of limited value, but with potential to contribute to local research objectives.
Negligible	Assets with very little or no surviving archaeological interest.
Unknown	The importance of the resource has not been ascertained.

Impact Assessment

K3.6 This assessment uses the baseline data to describe the survival and extent of archaeological receptors that may be affected by the development proposals. The assessment has paid careful attention to the attribution of levels of significance to both potential archaeological receptors and to potential effects arising from the development.

Magnitude of Change

K3.7 The determination of magnitude of change is based on the level of impact and the current state of survival/condition of the asset, as shown in Tables K3.3 and K3.4 below.

Table K3.3 Factors in the Assessment of the Magnitude of Impact - Heritage

Magnitude	Assessment criteria
Substantial	Change to most or all key archaeological materials, such that the resource is totally altered. Comprehensive changes to setting.
Moderate	Changes to many key archaeological materials, such that the resource is clearly modified. Considerable changes to setting that affect the character of the asset.
Minor	Changes to key archaeological materials, such that the asset is slightly altered. Slight changes to setting.
Negligible	Very minor changes to archaeological materials or setting.
Neutral	No change.

K3.8 There are a number of variables in determining magnitude of change. These include the sensitivity or vulnerability of a site to change (for example, depth of alluvium, or the presence of made ground), the nature of past development or management effects, and the differing nature of proposed development processes such as piling and topsoil stripping.

Significance of Effects

K3.9 This section sets out the method used in the EIA for assessing the potential significance of environmental effects for each receptor. The significance of potential environmental effects is determined by two variables:

- The value and/or sensitivity of the receptor (Archaeological Significance); and
- The magnitude of change.

Table K3.4 Significance of Effects Matrix

Magnitude of Change		No Change	Negligible	Minor	Moderate	Substantial	No Change
Archaeological Significance	Very High	Neutral	Moderate	Substantial	Substantial	Substantial	Very High
	High	Neutral	Minor	Moderate	Substantial	Substantial	High
	Medium	Neutral	Negligible	Minor	Moderate	Substantial	Medium
	Low	Neutral	Negligible	Negligible	Minor	Moderate	Low
	Negligible	Neutral	Negligible	Negligible	Negligible	Minor	Negligible

K3.10 The significance of the environmental effect is assessed using the matrix shown in Table K3.4. The Significance of the archaeological resource/receptor is correlated against the magnitude of the change on that resource/receptor in order to determine whether the overall significance of the effect on the receptor will be Neutral, Negligible, Minor, Moderate or Substantial. Moderate and Substantial Effects are considered significant in EIA terms and are identified in bold.

K3.11 Depending on the nature of the change, the significance of the effect on the environment can range from Adverse to Beneficial and be of a defined duration. For instance, the loss of archaeological remains is always classed as Adverse, while the interpretation of an extant archaeological feature might be seen as Beneficial. Tables K.3.4 and K3.5 provide a general guideline as to how the significance of environmental effects are defined.

K3.12 The assessment is then repeated once the proposals to mitigate the change have been put in place.

Table K3.5 Significance of Impact

Impact Assessment	Definition
Substantial Adverse	The development fails to satisfy the subject environmental objective and results in a major deterioration of the environmental context
Moderate Adverse	The development partly satisfies the subject environmental objective but fails to contribute to the environmental context
Minor Adverse	The development partly satisfies the subject environmental objective but fails to fully contribute to the environmental context
Negligible/neutral	The development satisfies the subject environmental objective but neither contributes to nor detracts from the environmental context

Impact Assessment	Definition
Minor Beneficial	The development satisfies the subject environmental objective and contributes to the environmental context
Moderate Beneficial	The development satisfies the subject environmental objective and contributes to the environmental context
Substantial Beneficial	The development satisfies the subject environmental objective and results in a major contribution to the environmental context

Consultation

K3.13 Neil Cookson of North East Regional Research Ltd (NEAR) has been consulted as advisor to RCBC. The areas of primary archaeological interest have been agreed (see Appendix K2).

Assumptions and Limitations

K3.14 It has not been possible to view original archive material due to Covid-19 restrictions. The baseline data is based on that provided by Redcar & Cleveland Historic Environment Record (HER), the National Heritage List for England (NHL), and the author’s personal research in the Prospect Archaeology library and internet sources.

K4.0 **Baseline Conditions**

Existing Conditions

K4.1 The assessment of existing conditions has been based on a 'study area' extending 1000m from the boundary of the site in respect of designated heritage assets and 500m in respect of undesignated heritage assets. This enables the significance of existing and potential archaeological features to be considered in their local, regional and national contexts.

K4.2 The source of the monuments (shown at Appendix K3 and listed in Tables K.4.1 & K4.2) noted below are from the Redcar & Cleveland Historic Environment Record (HER) and the National Heritage List for England (NHLE) and have the prefixes HER and NHL respectively. Where a heritage asset lies within the site it is identified in **bold**. Additional information on the historic development of the site and surrounding area has been collated from historic mapping, online resources, and the personal library of the author. Known and suspected archaeological remains are summarised and discussed in the following sections.

Designated Heritage Assets

K4.3 There are five designations within the study area (see Table K4.1 and Appendix K3), although none within the site itself. Two of the designated assets lie within the Dormanstown settlement and three are to the east at Marsh Farmhouse. None of the assets relies on the sites' setting for its significance, however the proposed development will in any event retain the existing layout immediately adjacent to Marsh Farmhouse and its associated buildings and there would therefore be no impact on any designated heritage asset.

Table K4.1 Designated heritage assets within 1km of the Site

NHL ref no.	Name / description	Designation
1139619	Garden Wall south of Marsh Farmhouse	LB II
1139620	Barn and Stable circa 10 metres north west of Marsh Farmhouse	LB II
1159837	Westfield House	LB II
1160308	Marsh Farmhouse and Farm Cottage	LB II
1310859	1-20, Dormans Crescent	LB II

Undesignated Heritage Assets

Table K4.2 Undesignated Heritage Assets within 1km of the site

HER no.	Name / description	Date / Period
239	Spear	Medieval
257	Barracks	1930s
350	St Sepulchre's Chapel	Medieval
355	West Coatham deserted settlement	Medieval
1739	Meggeson Hill saltern	Medieval
1812	Skelling Hill saltern	Medieval
3751	West Coatham Marsh saltern	Medieval
3752	West Coatham Marsh saltern	Medieval
3753	West Coatham Marsh saltern	Medieval
3754	West Coatham Marsh saltern	Medieval
3755	West Coatham Marsh saltern	Medieval

HER no.	Name / description	Date / Period
3756	West Coatham Marsh saltern	Medieval
3757	West Coatham Marsh saltern	Medieval
3758	West Coatham Marsh saltern	Medieval
3759	West Coatham Marsh saltern	Medieval
3760	East Coatham Odd Hill saltern	Medieval
3761	West Coatham Odd Hill saltern	Medieval
3762	Little South Coat Hill saltern	Medieval
3763	Bennyson Hill saltern	Medieval
3764	Walnar Hill saltern	Medieval
3765	Capon Hill saltern	Medieval
3766	Geo. Jackson Butt saltern	Medieval
3767	Thrush Hill saltern	Medieval
3768	Salt House hill saltern	Medieval
3769	Walk Hill saltern	Medieval
3770	Ken'l Hill saltern	Medieval
3771	Lug Hill saltern	Medieval
3772	White Hill saltern	Medieval
3773	Comm Batt saltern	Medieval
3774	South Coat Hill saltern	Medieval
3775	Coatham Duck Decoy	19 th century
3776	Great Souk Hill saltern	Medieval
3777	Grey Stone saltern	Medieval
3778	Coatham Marsh excavation	Medieval
4024	Anti-tank traps	WWII
4670	St Sepulchre Cemetery	Medieval
4671	Warrenby village	19 th century
5708	Tramway	19 th century
5709	Coatham Iron Works	19 th century
5710	Reservoir	19 th century
5711	Redcar Iron Works	19 th century
5712	Tramway	19 th century
5716	The Mill Race	19 th century
5732	Old Tramway	19 th century
8072	Anti-tank ditch	WWII
8090	Anti-tank block	WWII
8122	Anti-tank block	WWII
8123	Anti-tank block	WWII
8126	Anti-tank block	WWII
8127	Anti-tank block	WWII
8128	Anti-tank block	WWII
8135	Anti-tank ditch	WWII
8157	Anti-tank horizontal rail	WWII
8158	Anti-tank horizontal rail	WWII
8159	Anti-tank horizontal rail	WWII

HER no.	Name / description	Date / Period
8172	Anti-tank horizontal rail	WWII
8191	Anti-tank vertical rail	WWII
8240	Minefield	WWII
8241	Minefield	WWII

Pre-Industrial Periods (10,000BC - 1750AD)

- K4.4 Whilst there is no evidence for prehistoric or Roman activity within the study area, a number of records within the study area attest to a human presence during the medieval period. The site falls within the parish of Kirkleatham which was split into four manors in the Domesday Book of 1086. All of the pre-Conquest lords recorded have Scandinavian names, indicative of the heavy presence of Viking descendants amongst the rulers of Northumbria, and particularly in coastal regions.
- K4.5 An early medieval spear head was reportedly found in a slag heap on the site of an old blast furnace in the 1930s. It would seem likely that this weapon, which retained some evidence of the shaft within its socket, had come from elsewhere and does not provide specific evidence of an early medieval presence within the study area (HER 239). It is notable through the that location provided in the HER does not match the description of the site of an 'old blast furnace'. This would suggest the find came from within the current site where there are two sets of 19th century blast furnaces.
- K4.6 A hill marked 'Camps' on the first edition Ordnance Survey map to the south of the site has been linked to a medieval stronghold for the Anglo-Scandinavian lords holding out against the Norman invasion and it is feasible that the spear (HER 239) is related to that activity. The historical account of William capturing the fort was written by the Norman monk, Orderic Vitalis, but it is far from clear that the stronghold referred to is the same as this one (Refs 1 & 15). It seems likely however that any fortified place could have provided occasional refuge for those working the salt pans in the marshes.
- K4.7 St Sepulchre's Chapel is identified at East Coatham in documentary records from 1470 onwards (HER 350). It is variously referred to as dedicated to St. 'Sulpitius', 'Syplyus', 'Sepulchres', 'Cyprion' or 'Sulphron in those records. During the 19th century it was ruinous and is no longer visible. However, human remains have been found in the area (HER4670), north-east of Marsh Farmhouse in a hollow in the sandbanks.
- K4.8 The sandbanks to the south of the site were used for salt production during the medieval period. Huge numbers of salterns (also called salt hills) are recorded in the HER and on the early Ordnance Survey maps, spread across the landscape to the south with two falling within the southern boundary of the site (HERs 3751, 3752, 3753, 3754, 3755, 3756, 3757, 3758, **3759**, **3760**, 3761, 3762, 3763, 3764, 3765, 3766, 3767, 3768, 3769, 3770, 1739, 1812, 3771, 3772, 3773, 3774, 3776 & 3777). Some were partially excavated in the early 20th century (HER 3778). None are now extant as surface features.
- K4.9 The deserted medieval village of West Coatham is visible as a small settlement on the 1775 Jeffrey's Map of Yorkshire, late 19th century and early 20th century Ordnance Survey maps, latterly being labelled as Middle Farm and East Farm. The Lord McGowan Bridge on the A1085 trunk road cut through the northern part of Middle Farm from the mid-20th century and by the 1970s no trace of the farms was left on historic maps as the area provided rail access to the Wilton Works to the south (HER 355).

K4.10 The Jeffrey's Map of Yorkshire provides an overview of the area as open land with small farmsteads scattered between the larger settlements of East Cotham, Redcar and Kirkleatham. It is likely to reflect the landscape of the medieval and post-medieval periods. East Cotham was an important fishing port and, as outlined above, produced considerable quantities of salt.

Post-Medieval - Modern Periods (1750 - present)

K4.11 Marsh House Farm (HER 4669), its barn and stables (HER 6805) and an associated wall (HER 6806) are all believed to be late 18th century in construction, possibly using some stone from the medieval St Sepulchre's Chapel. All are Grade II listed buildings and are primarily in brick with clay pantile roofs on the house and outbuildings.

K4.12 A rabbit warren shown on the sands to the north on first edition Ordnance Survey (HER 626) may have been managed by the occupants of Marsh Farmhouse although the construction of the North-Eastern Railway Darlington Branch (HER 5908) separated the warren from the farm. Similarly, a duck decoy pond (**HER 3775**) marked on the first edition Ordnance Survey map and fed by the Fleet watercourse, is believed to pre-date the construction of the railway in 1850. It comprised a lake and series of trenches, called pipes, designed to have a net over the top, into which the ducks would be encouraged by trained dogs. They were a common landscape feature from the late 17th century into the 18th century (Ref 21) although the HER records it as a 19th century feature. Both rabbit warren and duck decoy show that the landowners were attempting to maximise the income from otherwise unvaluable land.

K4.13 The iron works at Coatham (**HER 5709**) and Redcar (**HER 5711**) were constructed in 1873 and 1874 respectively. Coatham comprised two blast furnaces, Redcar Iron Works had four blast furnaces. Both were linked via extensive tramways (**HER 5708, 5712 & 5732**) to the wharves on the South Gare Breakwater and across Bran Sand to the Tees, as well as linking into the main rail network. A reservoir is also present at Coatham (**HER5710**).

K4.14 Robson, Maynard and Co established the Redcar Iron Works with just two blast furnaces, adding 2 additional furnaces shortly after the first two started blowing in 1874. The company was dissolved and re-established in 1880 as Walker, Maynard & Co (Ref 11). In 1916 the company was acquired by Dorman, Long & Co, the dominant firm on Teesside, who then constructed the Redcar Iron & Steel Works.

K4.15 Coatham Iron Works was constructed by the firm Downey & Co, a partnership between Alfred Christian Downey and C F H Bolckow. In c.1876 they took over the Lackenby Ironworks. In 1892 the firm collapsed and Bolckow, who was managing director at this time, was bankrupted. The Redcar and Coatham Works were combined as a single entity trading as the Redcar Iron & Steel Works.

K4.16 Warrenby village was constructed in the 1870s to house the local steelworkers. It comprises a single street with houses either side and a chapel. It was named after the rabbit warren in the sands.

K4.17 The Mill Race (HER 5716) is a drainage channel shown on 19th century maps, wriggling its way to the coast. It passes between Middle Farm and East Farm and would therefore have served the medieval settlement of West Coatham.

K4.18 A gun battery, called the Pasley battery, was built to the north of the site after the First World War, with a single counter bombardment 9.2-inch gun. The gun remained in place until after the Second World War when it was removed (HER 760). Located nearby was the former barracks for the soldiers manning the battery which has also since been removed (HER 257).

K4.19 During the Second World War, the area was heavily defended as an important industrial centre. The final group of HER entries within the study area relate to these defences and comprise a mixture of anti-tank ditches (HER **8072** & 8135), blocks (HER **8090**, **8122**, 8123, 8126, 8127 & **8128**), horizontal rails (HER 8157-8159) and an anti-tank vertical rail (HER 8191). Two minefields are also present to the north of the site (HER 8240 & 8241). All these features were designed to protect the steelworks in the event of an invasion and all the minefields, blocks and rails have since been removed. The ditches may survive as infilled archaeological features or as open ditches. A row of 23 concrete blocks many linked by a steel cable was designed as an anti-tank trap, blocking a small valley up from the coast. This feature was identified as surviving in 1998 and is still present on site now (**HER 4024**).

Map regression

- K4.20 Ordnance Survey 1857 1:10,560 - shows the duck decoy close to the eastern boundary and the railway curving through the northern part of the site with 'The Fleet Electric Telegraph' running alongside the railway. That part of the site that lay beyond the railway is sand and rocks, the land to the south is marshland cut by numerous creeks and drainage channels. Marsh House is present to the east and the salterns and 'Camp' are visible across the area to the south.
- K4.21 Ordnance Survey 1894 1:2,500 - Redcar and Coatham Iron Works have both been constructed and are linked to the mainline railway via multiple rail lines. Tramways also link the works to jetties on South Gare and across Bran Sand to the Redcar Jetty. The reservoir to the north of Coatham Iron Works has also been built just north of the site boundary, and two reservoirs are marked to the east of Redcar Iron Works. Elements of the duck decoy are still visible. A row of terraced houses is located at Tod Point to the west of the Coatham Iron Works.
- K4.22 Ordnance Survey 1914-15 1:2,500 - further rail lines have been added to the Coatham Iron Works and a 'Slag Wool Works and Brick Kilns are also identified at Coatham. At Redcar Iron Works there are two Slag Wool Works and a Slag Brick Works.
- K4.23 Ordnance Survey 1929 1:2,500 - The Redcar and Coatham Iron Works have undergone massive expansion and are jointly labelled the Redcar Iron & Steelworks. Much of the expansion is along South Gare to the northwest of the Coatham blast furnaces but expansion at the Redcar blast furnaces includes multiple additional rail lines and travelling cranes.
- K4.24 Ordnance Survey 1938 1:10,560 - the site is largely unchanged.
- K4.25 Ordnance Survey 1954 1:1,250 - the Redcar blast furnaces appear to have been rebuilt and the Coatham ones are no longer present, the area now being covered by rail lines.
- K4.26 Ordnance Survey 1973 1:1,250 - the majority of the Redcar site has been cleared with only a few relatively small buildings shown as surviving, labelled 'South Teesside Works, Redcar'.
- K4.27 Ordnance Survey 1982 -1992 1:10,000 - all buildings within the site have been cleared. The Steel House has been constructed to the south.

Site Visit & LiDAR

- K4.28 A site visit was made on 25th November 2020. No evidence of the Coatham Iron Works was identified on site. Three of the Redcar Iron Works blast furnace bases appear to survive as upstanding features.
- K4.29 The Fleet watercourse, which fed the duck decoy, survives as an extant watercourse but the earthworks of the duck decoy have partly been buried beneath a spoil heap.

Future Baseline

K4.30 No alterations to the baseline conditions relating to below ground heritage are anticipated.

K5.0 Potential Effects

Embedded Mitigation

K5.1 There are no embedded mitigation measures relating to below ground heritage.

Major Hazards and Accidents

K5.2 The potential for major hazards and accidents has been considered and is not considered relevant to this chapter. All archaeological work would be undertaken in accordance with the constraints of the ground preparation programme and would follow site established health and safety procedures and a separately prepared Risk Assessment and Method Statement (RAMS). This would require approval by RCBC before any archaeological work is commenced and would be reviewed regularly throughout the programme of archaeological work.

Phasing

K5.3 All archaeological remains are expected to be removed during the site preparation works and there would be no further impacts during subsequent phases of development. All archaeological mitigation would therefore need to be undertaken in advance of or during the site preparation/construction phase.

During Construction

K5.4 It is assumed that all archaeological remains would be removed through remediation and/or creation of development platforms. The potential effects for all sensitive receptors would range between **Moderate Adverse** and **Substantial Adverse**, which would be significant in EIA terms. This conclusion is based on an understanding of archaeological sensitivity and the magnitude of change for each receptor. This is shown for each receptor in Table K5.1 below.

During Operation

K5.5 Following the construction works, it is anticipated that no further effects would occur during the operational stage of the proposed development, as the below ground heritage assets would have been removed.

Table K5.1 Potential Effects

Heritage Asset	Archaeological Significance	Magnitude of change during construction	Magnitude of change during operation	Unmitigated Impact (construction only)
Coatham Iron Works blast furnace bases	Medium	Substantial	Not applicable	Substantial Adverse
Redcar Iron Works blast furnace bases	Medium	Substantial	Not applicable	Substantial Adverse
Other elements of 19th century iron works	Low	Substantial	Not applicable	Moderate Adverse
Duck Decoy	Low	Moderate	Not applicable	Minor Adverse
World War II defensive structures	Low	Moderate	Not applicable	Minor Adverse

Heritage Asset	Archaeological Significance	Magnitude of change during construction	Magnitude of change during operation	Unmitigated Impact (construction only)
Medieval salterns	Medium	Moderate	Not applicable	Moderate Adverse

K6.0 **Mitigation and Monitoring**

K6.1 As there is no potential for preservation in situ, the only mitigation possible is preservation by record.

During Construction

K6.2 A programme of evaluation will be undertaken to identify any remains of 19th century iron works, medieval salt working, the duck decoy and World War II defensive structures. This should initially involve monitoring of site investigation test pits and where required, be followed by archaeological evaluation in the form of trial trenches.

K6.3 The Redcar blast furnace bases should be inspected, and a methodology drawn up for cleaning and recording. Should elements of the Coatham blast furnace bases, the duck decoy or the medieval salterns be found to survive on site, a programme of targeted excavation and recording would ensure preservation by record of the site type.

K6.4 The World War II defensive features should be recorded where upstanding and where buried, could be adequately recorded in an evaluation without the need for further excavation.

K6.5 A programme of archaeological monitoring (watching brief) should also be undertaken during remediation and, potentially, ground preparation work to allow identification and recording of other elements of the 19th century iron works.

During Operation

K6.6 No mitigation or monitoring is required during the operational phase of the development.

K7.0 Residual Effects

During Construction

K7.1 All archaeological remains would be preserved by record. Whilst the loss of the heritage asset is considered an adverse impact, the addition to historical and archaeological understanding offsets the negative effect, to have a residual effect that is between Negligible and Minor Adverse. This is not considered significant in EIA terms. Table K7.1 below looks at the sensitive receptors in detail.

During Operation

K7.2 There are no further effects during the operational phase of the proposed development.

Table K7.1 Potential Residual Effects

Heritage Asset	Significance	Magnitude of change	Mitigated Impact
During Construction			
Coatham Iron Works blast furnace bases	Medium	Minor	Minor Adverse
Redcar Iron Works blast furnace bases	Medium	Minor	Minor Adverse
Other elements of 19 th century iron works	Low	Minor	Negligible
Duck Decoy	Low	Minor	Negligible
World War II defensive structures	Low	Minor	Negligible
Medieval salterns	Medium	Minor	Minor Adverse
During Operation - No Significant Effects			

K8.0 Summary & Conclusions

- K8.1 Six areas of below ground archaeological potential have been identified. These comprise the remains of the Redcar and Coatham 19th century blast furnaces, other elements of the 19th century iron works, medieval salterns, a post-medieval duck decoy and World War II defensive features.
- K8.2 In each case, the potential survival of significant archaeology should be established through monitoring and review of site investigations and, where necessary, archaeological evaluation.
- K8.3 The proposed development would remove all elements of the archaeological record.
- K8.4 Mitigation measures comprising evaluation excavation and monitoring of test pits to confirm presence/absence of archaeological remains and to establish their nature, state of preservation and significance, followed by a programme of targeted cleaning, excavation and recording of significant archaeological features and deposits would ensure impacts are no greater than Minor Adverse which is not significant in EIA terms. A summary is shown in Table K8.1 below.

Table K8.1 Summary of Effects

Receptor	Impact	Potential Effects (taking account of embedded mitigation)	Additional Mitigation and Monitoring	Residual Effects
During Construction				
Coatham Iron Works blast furnace bases	Remediation and preparation of site levels would remove all evidence	Substantial Adverse	Archaeological evaluation, excavation and recording	Minor Adverse
Redcar Iron Works blast furnace bases	Remediation and preparation of site levels would remove all evidence	Substantial Adverse	Archaeological cleaning, excavation and recording	Minor Adverse
Other elements of 19 th century iron works	Remediation and preparation of site levels would remove all evidence	Moderate Adverse	Monitoring during remediation / ground preparation and recording as appropriate	Negligible
Duck Decoy	Remediation and preparation of site levels would remove all evidence	Minor Adverse	Archaeological evaluation, excavation and recording	Negligible
World War II defensive structures	Remediation and preparation of site levels would remove all evidence	Minor Adverse	Archaeological evaluation and recording	Negligible
Medieval salterns	Remediation and preparation of site levels would remove all evidence	Moderate Adverse	Archaeological evaluation and recording	Minor Adverse

Receptor	Impact	Potential Effects (taking account of embedded mitigation)	Additional Mitigation and Monitoring	Residual Effects
During Operation - no significant effects				

K9.o Abbreviations & Definitions

- 1 ES - Environmental Statement
- 2 STDC - South Tees Development Corporation
- 3 AMAAA - Ancient Monuments and Archaeological Areas Act 1979
- 4 NPPF - National Planning Policy Framework 2019
- 5 RCBC - Redcar & Cleveland Borough Council
- 6 NEAR - North East Archaeological Research Ltd
- 7 HER - Redcar & Cleveland Historic Environment Record
- 8 NHLE - National Heritage List for England

K10.0

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