

South Tees Development  
Corporation

**Metals Recovery Site**

Ecological Impact Assessment and  
Biodiversity Net Gain Assessment

Issue | 14 August 2020

This report takes into account the particular instructions and requirements of our client.

It is not intended for and should not be relied upon by any third party and no responsibility is undertaken to any third party.

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## Executive Summary

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Ove Arup and Partners Ltd (Arup) have been commissioned by South Tees Development Corporation (STDC) to complete an Ecological Impact Assessment (EcIA) in connection with a planning application for the proposed remediation of Metals Recovery Site located within the land zone known as the South Industrial Zone (SIZ). The proposed development site is approximately 22.3ha and has until recently been fully active.

A desk study identified all internationally and nationally designated sites within 20km, non-statutory designated sites within 2km and protected and notable species within or immediately adjacent to the proposed development site. Updated habitat surveys of select areas of the SIZ site were completed on 3 June 2020 and 16 June 2020 by INCA to update historic field survey data. A further survey was conducted on 11 August 2020 to assess habitats specifically within the proposed development site boundary.

The proposed development site does not have any designated nature conservation sites within or immediately adjacent to the red line boundary, however, the Teesmouth and Cleveland Coast Special Protection Area (SPA), Ramsar and Site of Special Scientific Interest (SSSI) is located within 1.3km of the proposed development site, and hydrologically connected to the proposed development site via the Lackenby Channel.

Due to the potential for an impact to an internationally important site, Stages 1 and 2 of a Habitats Regulations Assessment (HRA) have been completed. The Appropriate Assessment concluded that with implementation of a Construction Environmental Management Plan (CEMP) to manage pollution of the watercourse, there will be no adverse effects on the Teesmouth and Cleveland Coast SPA and Ramsar as a result of the proposed development. This conclusion also applies to the Teesmouth and Cleveland Coast SSSI.

The proposed development site contains neutral grassland, sparsely vegetated land and artificial sealed and unsealed surfaces, none of which are Habitats of Principal Importance (HoPI) for nature conservation. The habitats within the proposed development site are likely to be too degraded and small to support important populations of protected or notable species. There are no significant effects anticipated to populations of breeding and wintering birds, otter, marine mammal migratory fish populations present in the River Tees, brown hare and hedgehog. With the avoidance of breeding bird season (March to August inclusive) or screening of the Lackenby Channel, there will be no significant adverse effects to breeding shelduck (*Tadorna tadorna*).

Following the implementation of mitigation (avoidance of breeding bird season or screening), no significant residual effects upon ecological features are anticipated from the construction of the proposed development site.

It is therefore recommended that:

- Construction and site clearance is avoided during breeding bird season, or Lackenby Channel is screened from construction activities to mitigate impacts to shelduck;
- Pollution prevention across the proposed development site is managed through implementation of a CEMP; and
- To ensure legal compliance, the proposed development will need to ensure measures to avoid disturbing breeding birds are implemented.

If non-native invasive plant species are recorded on site (none are currently known), measures to control the spread of these plants will also need to be implemented to ensure legal compliance.

### **Biodiversity Net Gain Assessment**

Although no habitats within the proposed development site are 'important' in the EcIA context, the collective loss of them is important, and is considered in the Biodiversity Net Gain (BNG) assessment.

In terms of the BNG assessment, without mitigation, the proposed development is likely to result in a biodiversity loss of 4.10 biodiversity units. Off-site compensation may be necessary in order to achieve a BNG.

The Environment and Biodiversity Strategy will seek to identify opportunities for compensation in the STDC area and beyond, for a range of measures, including compensation for the loss of 4.10 biodiversity units, in line with an agreed biodiversity metric, with suitable habitat monitoring and maintenance plans put in place.

# 1 Introduction

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Ove Arup and Partners Ltd (Arup) have been commissioned by South Tees Development Corporation (STDC) to complete an Ecological Impact Assessment (EcIA) in connection with a planning application for the proposed remediation of the Metals Recovery Site located within the land zone known as the South Industrial Zone (SIZ)<sup>1</sup> (hereafter referred to as the ‘proposed development’). The proposed development site is approximately 22.3ha and is centred at National Grid Reference (NGR) NZ 54574 22716.

The red line boundary for the proposed development is illustrated in Appendix A.

Ecological surveys of the proposed development site have been completed in order to inform this assessment. The surveys used to inform the overall baseline ecological conditions of the proposed development site are detailed in Section 4.3.

The aim of this document is to:

- Identify and describe all likely significant ecological effects associated with the proposed development;
- Identify the baseline biodiversity value of the proposed development site in line with the current Natural England Biodiversity Net Gain (BNG) metric;
- Identify a compensation strategy to address any likely significant ecological effects;
- Provide an assessment of the significance of any residual effects; and
- Set out the requirements for post-construction monitoring.

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<sup>1</sup> South Tees Development Corporation (November 2019) South Tees Regeneration Master Plan. <https://www.southteesdc.com/wp-content/uploads/2020/01/South-Tees-Master-Plan-Nov-19.2.pdf> Accessed 07 August 2020.

## 2 Proposed Development Description

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### 2.1 Proposed Development Site Overview

The proposed development site is located within the STDC land zone known as the SIZ<sup>2</sup>. The proposed development site is located adjacent to the PD Ports, Teesport and is situated north of the area known as The Slems (a wetland area in the south-eastern corner of the SIZ). The proposed development site is separated from the River Tees by PD Ports but is adjacent to the Lackenby Channel which outflows into the River Tees.

The proposed development site makes up an area referred to as the ‘Landfill Zone’ within the STDC Master Plan<sup>1</sup> and historically was an area leased by former Sahaviriya Steel Industries (SSI) from Tata Steel, now in STDC ownership, that has previously been leased to Harsco who have been engaged in recycling materials from iron and steelmaking for recovery of metals.

The proposed development site has until recently been fully active and is used to process materials from the former Basic Oxygen Steelmaking (BOS) Plant at Lackenby (as part of the Integrated Iron and Steelworks operation). This work consists of sorting and grading of by-product slag material for use as a construction material. This involves the crushing and screening of the raw by-product material, removal of ferrous elements for recovery and reuse elsewhere, and then sorting and sizing of the aggregate for onward sale.

### 2.2 Proposed Development

The construction works described in this assessment are the remediation of the proposed development site. The description of the proposed development works is as follows:

*“Engineering options associated with ground remediation and preparation of the land for development.”*

Relevant components of the proposed development construction include:

- Turnover and replacement of shallow made ground to an approximate depth of 2m below ground level;
  - Materials that have been excavated and require remediation of contaminants will be segregated and treated to make suitable for re-use. Treatment of these materials will take place within a designated area of the proposed development site;
- If materials such as scrap metals or highly contaminated soils are found and can not be treated, these will be removed from the proposed development site and taken to a licensed treatment facility;

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<sup>2</sup> Arup on behalf of STDC (July2020) South Industrial Zone, South Tees. Environmental Statement. Chapter D: Biodiversity and Ecology.

- Removal of any obstructions and existing vegetation within the proposed development site;
- Re-engineering materials to form a development platform; and
- Installation of thin capping layer to prevent dust generation.

These elements of construction are likely to lead to:

- Generation of some dust, which will be controlled by standard environmental management control methods (e.g. wheel washing and road brushing) to be defined within the Construction Environmental Management Plan (CEMP);
- Generation of noise and vibration, which will be temporary and avoided or minimised through implementation of the CEMP. The CEMP would include restrictions and targets for specific work activities, including monitoring. If required, appropriate mitigation measures to deal with any noise and vibration impacts would be put in place around the proposed development site;
- Any groundwater recovered from excavations will be treated as required and disposed of under duty of care and using best practice guidelines;
- Emissions from on-site plant and construction vehicles, which would have a minor adverse, temporary effect on the environment and require no mitigation other than standard best practice for construction sites; and
- A low risk of leachates or the escape of products/by-products that may constitute a contaminant in the environment, to be managed through best practice construction management techniques in line with the CEMP.

The proposed development site red line boundary is provided in Appendix A.

Appendix B outlines the location of the proposed development site in relation to the wider STDC site.



## 3 Legislation, Planning Policy and Guidance

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Details on the relevance of this legislation, planning policy and guidance is given in Appendix C.

### 3.1 Legislation

Legislation relevant to this assessment comprises:

- The Conservation of Habitats and Species Regulations 2017<sup>3</sup>;
- Wildlife and Countryside Act (WCA) 1981 (as amended)<sup>4</sup>; and
- Natural Environment and Rural Communities (NERC) Act 2006<sup>5</sup>.

In addition to this legislation, the Environment Bill 2019-2021<sup>6</sup> is currently going through Parliament. The Bill is due to make provision about targets, plans and policies for improving the natural environment. Specifically, Section 6, part 88 and Schedule 15 of the current draft make provision for biodiversity gain to be a condition of planning permission in England. There is likely to be a duty on developers to submit a biodiversity gain plan to a local planning authority, which should include [amongst other elements], BNG calculations and evidence of a 10% net gain in biodiversity.

Biodiversity net gain is not yet mandated through adoption of the Environment Bill, however, it is in line with the current aspirations of the Environment and Biodiversity Strategy being developed by STDC, where achievable subject to detailed investigations of on and off-site opportunity for habitat enhancement schemes.

Until the Environment Bill is enacted and reflected in national policy, full weight should be given to the policies of the Redcar and Cleveland Local Plan, 2018<sup>7</sup>.

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<sup>3</sup> The National Archives: The Conservation of Habitats and Species Regulations 2017.  
<http://www.legislation.gov.uk/ukxi/2017/1012/contents/made> Accessed 07 August 2020.

<sup>4</sup> The National Archives: Wildlife and Countryside Act 1981  
<http://www.legislation.gov.uk/ukpga/1981/69/contents> Accessed 07 August 2020.

<sup>5</sup> National Archives: Natural Environment and Rural Communities Act 2006.  
<http://www.legislation.gov.uk/ukpga/2006/16/contents> Accessed 07 August 2020.

<sup>6</sup> DEFRA (2020) Environment Bill 009 2019-21.  
<https://publications.parliament.uk/pa/bills/cbill/58-01/0009/20009.pdf/>. Accessed 07 August 2020.

<sup>7</sup> Redcar and Cleveland Borough Council [RCBC] (May 2018) Local Plan Adopted May 2018.  
<https://www.redcar-cleveland.gov.uk/resident/planning-and-building/strategic%20planning/Documents/Local%20Plan%20Adopted%20May%202018.pdf>  
Accessed 07 August 2020.

## 3.2 Planning Policy

Statutory and non-statutory planning policies relevant to this assessment comprise:

- Redcar and Cleveland Borough Council (RCBC) Local Plan (statutory policy)<sup>7</sup>;
- South Tees Supplementary Planning Document (SPD), 2018 (non-statutory policy / material planning consideration); and
- National Planning Policy Framework (NPPF)<sup>8</sup> (non-statutory policy / material planning consideration).

## 3.3 Guidance

Guidance relevant to this assessment comprises:

- South Tees Regeneration Masterplan<sup>1</sup>;
- South Tees Area Supplementary Planning Document (SPD)<sup>9</sup>;
- Birds of Conservation Concern (BoCC)<sup>10</sup>; and
- Tees Valley Local Biodiversity Species List<sup>11</sup>.

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<sup>8</sup> Department for Communities and Local Government (2012) National Planning Policy Framework. <https://www.gov.uk/government/publications/national-planning-policy-framework--2> Accessed 07 August 2020.

<sup>9</sup> RCBC (2018) South Tees Area SPD. <https://www.redcar-cleveland.gov.uk/resident/planning-and-building/local-plan/Pages/South-Tees-Area-SPD.aspx> Accessed 07 August 2020.

<sup>10</sup> Eaton M.A., Aebischer N.J., Brown A.F., Hearn R.D., Lock L., Musgrove A.J., Noble D.G., Stroud D.A. and Gregory R.D. (2015) Birds of Conservation Concern 4: The population status of birds in the United Kingdom, Channel Islands and Isle of Man. *British Birds* 108, 708–746.

<sup>11</sup> Tees Valley Nature Partnership (2018) Tees Valley Local Biodiversity Species. <https://teesvalleynaturepartnership.org.uk/wp-content/uploads/2019/05/TV-Local-Biodiversity-species-list.pdf> Accessed 07 August 2020.

## 4 Methodology

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This section sets out the ecological features to be considered in this assessment. It sets out the methods and resources to be used and establishes the zone of influence (ZoI) for surveys and assessments.

It is important to consider the effects on the baseline ecological conditions in the context of the proposals, which are to create development opportunities on previously developed land through its remediation, clearance of below ground remnants and filling of voids. It is not an application for final development, rather it will facilitate final development schemes to come forward in due course.

### 4.1 Scope of the Assessment

The following features were considered as part of the assessment:

- Designated sites, including statutory and non-statutory designated sites;
- Legally protected species<sup>12</sup>;
- Habitats of principal importance (HoPI) for conservation of biodiversity<sup>13</sup>; and
- Species of principal importance (SoPI) for conservation of biodiversity<sup>13</sup>.

The ZoI for a project is the area over which ecological features may be subject to significant effects as a result of the proposed project and associated activities.

For the purposes of this assessment, the features considered and their ZoI were:

- Internationally important designated sites within 20km of the proposed development site<sup>14</sup>;
- Sites of Special Scientific Interest (SSSI) and National Nature Reserves (NNR) within 2km of the proposed development site;
- Non-statutory designated sites, such as Local Nature Reserves (LNR) and Local Wildlife Sites (LWS) within 2km of the proposed development site; and
- Legally protected species, HoPI and SoPI within the proposed development site or immediately adjacent.

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<sup>12</sup> As protected under the Conservation of Habitats and Species Regulations 2017 or the Wildlife and Countryside Act 1981 (as amended).

<sup>13</sup> As listed on Schedule 41 of the NERC Act 2006.

<sup>14</sup> European designated sites within 20km of the proposed development site are assessed within the Habitats Regulations Assessment (HRA).

## 4.2 Desk Study

In July 2020 an Environmental Statement (ES) was completed for the SIZ site<sup>15</sup>. In May 2020, a desk study was completed for the SIZ ES which includes the area covered by the proposed development site red line boundary. Natural England's (NE) designated sites database website<sup>16</sup> was consulted to identify statutory designated sites and records of legally protected or notable species within 2km of the SIZ site and details of non-statutory designated sites within 2km, were requested from the Environmental Records Information Centre North East (ERIC NE).

The desk study included the review of historic Phase 1 Habitat surveys of the proposed development site which were completed in 2011 and 2019 by the Industry Nature Conservation Association (INCA).

Wetland Bird Survey (WeBS) data<sup>17</sup> was obtained from the British Trust for Ornithology (BTO). WeBS data was provided for two areas of the River Tees and associated riverbanks upstream and downstream of the SIZ site. WeBS data does not cover the extent of the proposed development site. Data was obtained for the closest two WeBS sites to the SIZ site: "Tees Estuary opposite Smiths Dock and Hargreaves Quarry" (800m west of proposed development site and adjacent to the SIZ site); and "Bran Sands South" (approximately 1km north of the proposed development site).

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<sup>15</sup> Arup on behalf of STDC (July2020) South Industrial Zone, South Tees. Environmental Statement. Chapter D: Biodiversity and Ecology.

<sup>16</sup> Natural England. Designated Sites View. Accessed at <https://designatedsites.naturalengland.org.uk/> Accessed 07 August 2020.

<sup>17</sup> British Trust for Ornithology. Wetland Bird Survey Data. Available: <https://www.bto.org/our-science/projects/wetland-bird-survey/data> Accessed 07 August 2020.

## 4.3 Field Study

### 4.3.1 Habitat Survey

Updated habitat surveys of select areas of the SIZ site were completed on 3 June 2020 and 16 June 2020 by INCA to update historic field survey data. A further survey was conducted on 11 August 2020 to assess habitats specifically within the proposed development site boundary. The primary purpose of this was to ensure any habitat data recorded during 2011 was updated to reflect the baseline conditions. Habitats were classified using the UK Habitat Classification (UKHab) system<sup>18</sup>, where possible, to assist in undertaking BNG calculations<sup>19</sup> using NE Biodiversity Metric 2.0 (BM2.0)<sup>20 21</sup>. These surveys followed standard methods described in Chartered Institute of Ecology and Environmental Management (CIEEM) Preliminary Ecological Appraisal (PEA) guidance<sup>22</sup> and, where required, also referred to the phase 1 habitat survey methodology<sup>23</sup>.

The condition and ecological connectivity of these habitats, as per the requirements for BM2.0, were also assessed.

A UKHab colour-coded habitats map was produced to visualise baseline habitats present within the proposed development site based on the surveys completed for the SIZ site. This map is provided in Appendix A.

### 4.3.2 Breeding Bird Surveys

Breeding bird surveys (BBS) of the SIZ site were completed in May and June 2020 by INCA. Three surveys were completed between 6 May and 9 June 2020. Each survey was split across two mornings, covering different areas of the SIZ site. These BBS did not cover the habitats within the proposed development site due to the active nature of the proposed development site and lack of habitats suitable for breeding birds. The BBS covered habitats adjacent to the proposed development site within the wider SIZ site and The Slems.

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<sup>18</sup> UK Habitat Classification Working Group (2018) UK Habitat Classification User Manual. Available: <https://ecountability.co.uk/ukhabworkinggroup-ukhab/> Accessed 8 June 2020.

<sup>19</sup> Natural England (2019) The Biodiversity Metric 2.0: Auditing and accounting for biodiversity value. Calculation tool: Short guide.

<sup>20</sup> Crosher I.A., Gold S.B, Heaver M.D., Heydon M.A., Moore L.D, Panks S.A, Scott S.C., Stone D.A. & White N.A. (2019) The Biodiversity Metric 2.0: Auditing and accounting for biodiversity value. User guide (Beta version, July 2019). Natural England.

<sup>21</sup> Baker J. *et al.* (2016) Biodiversity Net Gain: Good practice principles for development. CIRIA CIEEM & IEMA.

<sup>22</sup> Chartered Institute for Ecology and Environmental Management [CIEEM] (2017) Guidelines for Preliminary Ecological Appraisal (2nd edn.). CIEEM, Winchester.

<sup>23</sup> Joint Nature Conservation Committee [JNCC] (2010) 'Handbook for Phase 1 Habitat Survey. A technique for environmental audit'. Revised re-print. JNCC, Peterborough.

The BBS methodology was based on guidance provided within the BTO Common Bird Census methodology<sup>24</sup>. Following the completion of the BBS surveys, all data was transferred to a master map and a territory analysis was undertaken. When the same species was recorded in the same vicinity on two or more visits, this was taken to constitute a breeding territory. Where there was evidence of positive breeding activity (such as adults entering/leaving a nest site, adults occupying a nest, etc.) this was also recorded as a confirmed breeding territory for that species.

## 4.4 Ecological Impact Assessment

This EcIA has been undertaken in accordance with the CIEEM best practice guidance<sup>25</sup>.

The impact assessment process involves:

1. Identifying and characterising impacts (see 4.4.1);
2. Incorporating measures to avoid and mitigate (reduce) these impacts;
3. Assessing the significance of any residual effects after mitigation (see 4.4.2 and 0);
4. Identifying appropriate compensation measures to offset significant residual effects; and
5. Identifying opportunities for ecological enhancement.

Cumulative impacts and effects are also considered (see 4.4.4).

### 4.4.1 Characterising Impacts

Impacts are actions resulting in changes to an ecological feature. Both positive and negative impacts of the proposed development are identified within this assessment, and described with reference to their extent, magnitude, duration, timing, frequency and reversibility.

### 4.4.2 Significance of Effects

Effects are the outcomes to an ecological feature, resulting from an impact.

The assessment will determine the significance of any potential effects on the important ecological features identified within their respective ZoIs. For the purpose of this EcIA, a significant effect is defined as ‘*an effect that either supports or undermines biodiversity conservation objectives for ‘important ecological features’ or for biodiversity in general*’<sup>25</sup>.

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<sup>24</sup> Marchant, JH (1983) BTO Common Bird Census Instructions. British Trust for Ornithology, Tring.

<sup>25</sup> Chartered Institute of Ecology and Environmental Management (CIEEM) (2018) *Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater, Coastal and Marine*. CIEEM, Winchester.

Significance of effects has been determined by assessing the impacts of the proposed development on the structure and function of habitats and ecosystems, and the conservation status of habitats and species (including extent, abundance and distribution).

### 4.4.3 Geographic Terms of Reference

Effects can be considered significant at a wide range of scales. The levels of geographical importance used in this assessment comprise:

- International and European – Statutory sites designated or classified under international conventions or European legislation. Sites supporting a species or species' assemblage important in an international context;
- National – Statutory sites designated under national legislation, for example SSSIs. Sites supporting a species or species' assemblage important in a national context;
- Regional – Statutory designated Local Nature Reserves (LNRs), non-statutory designated sites such as Sites of Nature Conservation Importance (SNCI). Sites supporting a population of a species or species' assemblage important in a regional context;
- Metropolitan, County, vice-county or other local authority-wide area – Non-statutory designated sites given lower than county importance for nature conservation. Sites supporting a population of a species or species' assemblage important in a metropolitan, County, vice-county or other local authority-wide context;
- Local – Sites that have no formal designation but contain species or habitats that are important to the ecological integrity of the local area; or
- Negligible – No effect on species or habitats present are anticipated.

### 4.4.4 Cumulative Impacts and Effects

Cumulative effects can result from individually insignificant but collectively significant actions taking place over a period of time or concentrated in a location.

A cumulative impact assessment has been undertaken which considers whether impacts from any of the developments described in Section 6.3 will collectively result in a significant effect.

Developments included in the cumulative impact assessment comprise the following types of future development within the same ZoI:

- Proposals for which consent has been applied which are awaiting determination in any regulatory process;
- Projects which have been granted consent, but which have not yet been started or which have been started but are not yet completed (i.e. under construction);
- Proposals which have been refused permission, but which are subject to appeal and the appeal is undetermined; and
- To the extent that their details are in the public domain, proposed projects that will be implemented by a public body but for which no consent is needed from a competent authority.

## 4.5 Biodiversity Net Gain Assessment

All semi-natural habitats have an ecological value, and collectively the total value of habitats classed in EcIA terms as ‘not important’, is important. The BNG assessment enables a valuation of all semi-natural habitats within the proposed development site.

This provides a baseline from which the achievement of true BNG can be measured.

The BNG baseline calculations were undertaken using the NE BM2.0 to inform approximate habitat areas required for future developments to mitigate and compensate for the loss of semi-natural habitats as a result of the proposed development remediation works, aiming to achieve a biodiversity net gain. The BNG assessment can be found in Section 8.

To provide some clarity and separation between the two assessment methodologies applied in this report, further details of the BM2.0 methodology, including clarifications on habitat classifications<sup>26</sup>, Tees Valley adaptations of condition criteria, the connectivity tool are provided in Appendix E.

## 4.6 Consultation

A steering group was established to discuss the wider Environment and Biodiversity Strategy for the South Tees Regeneration Master Plan<sup>1</sup>. The first of these meetings was held on 12 March 2020 and was attended by representatives from STDC, Faithful and Gould (F+G), INCA, NE, RCBC, Environment Agency, Arup and Lichfields. This planning application was not discussed at the meeting, however principles of the wider strategy, which are relevant to the planning application, were discussed.

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<sup>26</sup> Crosher I.A., Gold S.B, Heaver M.D., Heydon M.A., Moore L.D, Panks S.A, Scott S.C., Stone D.A. & White N.A. (2019) The Biodiversity Metric 2.0: Auditing and accounting for biodiversity value. Technical supplement (Beta version, July 2019). Natural England.



A meeting was held between Arup, Lichfield and Natural England on 25<sup>th</sup> June 2020 to discuss the specific ecological detail of the SIZ planning application which includes the proposed development site. In this meeting the high-level detail of the scope of this ecological assessment was presented, along with an overview of the surveys undertaken and the data collected to inform the baseline of the assessment.

In addition, several specific areas were discussed including the likely reliance upon the South Tees Regeneration Masterplan Environment and Biodiversity Strategy to deliver the compensation required for any significant residual effects and the precautionary approach taken to the assessment of specific ecological features such as wintering birds, invertebrates and habitats. Discussions were also had as to how any direct mitigation necessary to protect the qualifying features of the Teesmouth and Cleveland Coast SSSI, SPA, and Ramsar sites would be secured through the grant of planning permission and suitable conditions thereon.

Consultation has been sought with RCBC regarding the SIZ application however, at the time of writing, no response has been received.

## **4.7 Assumptions and Limitations**

### **4.7.1 Ecological Surveys**

Ecological surveys that form the basis of this assessment are limited by factors which affect the presence of plants and animals such as the time of year, migration patterns and behaviour. The absence of evidence of any particular species should not be taken as conclusive proof that the species is not present or that it will not be present in the future. However, professional judgement allows for the likely presence of these species to be predicted with sufficient certainty as to not significantly limit the validity of these findings.

Some areas of the SIZ could not be accessed during habitat surveys or BBS, due to constraints in accessing certain active industrial sections. This includes the proposed development site. Any such areas were observed from a distance through binoculars.

Three BBS have been undertaken of the SIZ site, and all BBS undertaken have focussed on key areas of habitat rather than the entire SIZ site. Although best practice guidelines do not state the minimum number of BBS to be undertaken, industry standard would be a minimum of four BBS. In consideration of this limitation, territory mapping of bird species recorded during the BBS within the SIZ site has taken a precautionary approach to assume presence of breeding birds where recorded in close proximity across two BBS.

No wintering bird surveys (WBS) of the SIZ site and thus the proposed development site have been undertaken due to the timescales of both planning applications submission deadlines. In lieu of WBS data, WeBS data has been acquired. However, WeBS data provided by the BTO does not provide data for within the proposed development site, and only provides data for a short overlap of the SIZ boundary. There is therefore a lack of understanding of the wintering bird assemblage anticipated within the proposed development site. As a result, a precautionary approach has been taken to the assessment of wintering birds.

#### **4.7.2 Mitigation and Compensation Approach**

It is not possible for direct mitigation to be identified for the loss of habitat value (excluding any protected species) given the nature of the works proposed and the purpose of the application proposals. Instead, to address any potential significant residual adverse effects identified in this EcIA, STDC is committed to delivering compensation in due course through the Environment and Biodiversity Strategy. The Environment and Biodiversity Strategy will seek to identify opportunities for compensation in the STDC area and beyond, for a range of measures.

## 5 Baseline Ecological Conditions

The ecological baseline conditions described in this section, are those conditions existing in the absence of proposed activities.

### 5.1 Designated Sites

The desk study identified eight internationally important designated sites within 20km of the proposed development site. The closest of these sites is Teesmouth and Cleveland Coast SPA, which is 250m from the proposed development site. The Teesmouth and Cleveland Coast Ramsar is approximately 1.3km north-west of the proposed development site<sup>27</sup>. The Teesmouth and Cleveland Coast SPA and Ramsar sites cover an expansive area from Crimdon Dene (north of Hartlepool), to east of Redcar. A significant marine area extending away from Teesmouth, and the full course of the River Tees up to the Tees Barrage is designated under the SPA.

Further internationally important designated sites within 20km of the proposed development site are: North York Moors SAC and SPA; Durham Coast SAC; Northumbria Coast SPA and Ramsar and Castle Eden Dene SAC.

The desk study identified one statutory designated site within 2km of the proposed development site. This is the Teesmouth and Cleveland Coast SSSI, which is a nationally important designated site within the same extent as the Teesmouth and Cleveland Coast SPA

Table 1: Internationally important designated sites within 20km, and statutory designated sites within 2km of the proposed development site. Specific designating features of each designated site are presented in bold.

Site Name	Designation	Approximate Distance and Direction from the Proposed Development Site	Reason for Designation
Teesmouth and Cleveland Coast	SPA	Within 250m of the proposed development site. Located to the north-east at the PD Ports Tees Dock and to the north-west (River Tees).	The extensions to the Teesmouth and Cleveland Coast SPA were formally classified on 16 January 2020. The formal designation and boundaries of the extension have not been released but are detailed in the Consultation Report. Site supports internationally important population of <b>breeding little tern</b> ( <i>Sterna albifrons</i> ), <b>common tern</b> ( <i>Sterna hirundo</i> ), and <b>pieb avocet</b> ( <i>Recurvirostra avosetta</i> ).

<sup>27</sup> Ramsar sites do not typically include watercourses or marine areas, and therefore only overlap with the terrestrial habitat designated under the corresponding SPA site.

Site Name	Designation	Approximate Distance and Direction from the Proposed Development Site	Reason for Designation
			<p>Site supports internationally important population of <b>non-breeding sandwich tern</b> (<i>Thalasseus sandvicensis</i>), <b>ruff</b> (<i>Calidris pugnax</i>), <b>red knot</b> (<i>Calidris canutus</i>) and <b>common redshank</b> (<i>Tringa totanus</i>).</p> <p>Site supports an <b>internationally important seabird assemblage</b>, regularly used by more than 20,000 wintering waterbirds.</p>
Teesmouth and Cleveland Coast	Ramsar	1.3km north-west	<p>The extensions to the Teesmouth and Cleveland Coast Ramsar were formally classified on 16 January 2020. The formal designation and boundaries of the extension have not been released but are detailed in the Consultation Report.</p> <p>Wetland of international importance. Designated under Ramsar criterion 5<sup>28</sup> for assemblages of <b>international important numbers of waterbirds</b> and Criterion 6 for regularly supporting 1% of the individuals in a population of more than one species of waterbird.</p> <p>The site is also designated for peak counts of <b>common redshank</b> in spring and autumn, and wintering <b>red knot</b>.</p>
Teesmouth and Cleveland Coast	SSSI	Within 250m of the proposed development site. Located to the north-east at the PD Ports Tees Dock and to the north-west (River Tees).	<p>Teesmouth and Cleveland Coast SSSI was formally adopted on 18 April 2019, expanding the previous extent of the same SSSI, and absorbing seven SSSIs previously present within the region.</p> <p>Site incorporates a mosaic of coastal and freshwater habitats,</p>

<sup>28</sup> Ramsar Convention of Wetlands (1971) The Ramsar Sites Criteria.  
[https://www.ramsar.org/sites/default/files/documents/library/ramsarsites\\_criteria\\_eng.pdf](https://www.ramsar.org/sites/default/files/documents/library/ramsarsites_criteria_eng.pdf)  
Accessed 07 August 2020.

Site Name	Designation	Approximate Distance and Direction from the Proposed Development Site	Reason for Designation
			<p>with the following designating features:</p> <ul style="list-style-type: none"> <li><b>i. Jurassic geology;</b></li> <li><b>ii. Quaternary geology;</b></li> <li><b>iii. Sand dunes;</b></li> <li><b>iv. Saltmarshes;</b></li> <li><b>v. Breeding harbour seals (<i>Phoca vitulina</i>);</b></li> <li><b>vi. A diverse assemblage of breeding birds of sand dunes, saltmarsh and lowland open waters and their margins;</b></li> <li><b>vii. Non-breeding shelduck (<i>Tadorna tadorna</i>), shoveler (<i>Spatula clypeata</i>), gadwall (<i>Mareca strepera</i>), ringed plover (<i>Charadrius hiaticula</i>), red knot, ruff, sanderling (<i>Calidris alba</i>), purple sandpiper (<i>Calidris maritima</i>), common redshank, and sandwich tern;</b></li> <li><b>viii. An assemblage of more than 20,000 waterbirds during the non-breeding season; and</b></li> </ul> <p><b>A diverse assemblage of invertebrates associated with sand dunes.</b></p>
North York Moors	SAC	10.3km south	<p>Site supports the Annex I habitats:</p> <p><b>Northern Atlantic wet heaths with cross-leaved heath (<i>Erica tetralix</i>); and European dry heaths.</b></p> <p>Site supports the Annex I habitat but is not a primary reason for selection of the site: Blanket bogs.</p>
North York Moors	SPA	10.3km south	<p>Site supports internationally important population of <b>breeding merlin (<i>Falco columbarius</i>)</b>, and</p>

Site Name	Designation	Approximate Distance and Direction from the Proposed Development Site	Reason for Designation
			<b>golden plover</b> ( <i>Pluvialis apricaria</i> ).
Durham Coast	SAC	15.7km north	Site supports the Annex I habitat: <b>Vegetated sea cliffs of the Atlantic and Baltic Coasts.</b>
Northumbria Coast	SPA	15.7km north	Site supports internationally important population of <b>breeding Arctic tern</b> ( <i>Sterna paradisaea</i> ) and <b>little tern</b> . Site supports internationally important population of <b>non-breeding purple sandpiper</b> and <b>turnstone</b> ( <i>Arenaria interpres</i> ).
Northumbria Coast	Ramsar	15.7km north	Site supports internationally important population of <b>breeding little tern</b> . Site supports internationally important population of <b>non-breeding purple sandpiper and turnstone</b> .
Castle Eden Dene	SAC	19.3km north-west	Site supports the Annex I habitat: <b>Semi-natural dry grasslands and scrubland facies on calcareous substrates (<i>Festuco-Brometalia</i>).</b>

The desk study did not identify any non-statutory designated sites within 2km of the proposed development site.

Given the distance between various designated sites and the proposed development site, and the lack of any potential impact pathways between the proposed development site and these designated sites, the following designated sites are **scoped out of this assessment**:

- North York Moors SAC;
- North York Moors SPA;
- Durham Coast SAC;
- Northumbria Coast SPA;
- Northumbria Coast Ramsar; and
- Castle Eden Dene SAC.

Therefore, the following designated sites remain **scoped into this assessment**:

- Teesmouth and Cleveland Coast SPA;
- Teesmouth and Cleveland Coast Ramsar; and
- Teesmouth and Cleveland Coast SSSI.

Locations of the designated sites scoped into assessment in relation to the proposed development site are shown in Appendix D.

Due to their designation status, Teesmouth and Cleveland Coast SPA and Ramsar sites are of **international** importance.

NE provides guidance on SSSI Impact Risk Zones that have been developed to guide planners on whether a development has the potential to adversely impact a SSSI<sup>29</sup>. The proposed development site is located within the impact risk zone for Teesmouth and Cleveland Coast SSSI. This assessment will therefore consider the proposed development site to be within the ZoI for the Teesmouth and Cleveland Coast SSSI. The Teesmouth and Cleveland Coast SSSI is of **national** importance.

## 5.2 Habitats

Habitats within the proposed development site were mapped in accordance with UKHab guidance<sup>18</sup>. The UKHab habitat map is provided in Appendix A. Each habitat recorded on the proposed development site is described below, with the respective UKHab code<sup>18</sup> provided in brackets.

### 5.2.1 Neutral Grassland (g3c)

Neutral grassland is located along the north-western boundary of the proposed development site. Neutral grassland is generally species-poor, with grass species growing with an open sward. The grassland is dominated by red fescue (*Festuca rubra*), with occasional common knapweed (*Centaurea nigra*), golden melilot (*Melilotus latissimus*), wild parsnip (*Pastinaca sativa*) and ribwort plantain (*Plantago lanceolata*). Bramble (*Rubus fruticosus* agg.) scrub was also present within the neutral grassland.

Neutral grassland is not a HoPI<sup>13</sup> and within the proposed development site features relatively common floral species. **Neutral grassland is therefore scoped out of this assessment.**

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<sup>29</sup> Natural England. SSSI Impact Risk Zones (England). Available: <https://data.gov.uk/dataset/5ae2af0c-1363-4d40-9d1a-e5a1381449f8/ssi-impact-risk-zones> Accessed 07 August 2020.

## 5.2.2 Sparsely Vegetated Land – Ruderal/Ephemeral (17)

Under the UKHab Classification Habitats Definitions, this habitat would be classified as “other inland rock and scree (UK Hab code: s1d)” however, this habitat would score a high distinctiveness level and is not considered suitable for the habitat present within the proposed development site. Within the BM2.0 there is a “Sparsely Vegetated Land- Ruderal/Ephemeral”, classification which is defined in the BM2.0 Technical Supplement<sup>26</sup> as: “*The short lived transitory habitat of low growing early successional plants of open ground such as arable landscapes, derelict urban sites, quarries and railway ballasts. This will get replaced by more stable vegetation unless disturbance of soil continues. Reasonably variable in biodiversity value dependent on species present, do often provide important pollen and nectar sources along with open ground for insects.*” This habitat description is considered to be more appropriate for the type of habitat recorded on the proposed development site.

These habitats are not considered to qualify as the HoPI type “Open Mosaic Habitats on Previously Developed Land<sup>30</sup>” on the basis that the substrate has been compacted to varying degrees and therefore does not form a loose substrate.

The area of sparsely vegetated land along the north-eastern boundary of the proposed development site was dominated by red valerian (*Centranthus ruber*), with occasional narrow leaved ragwort (*Senecio inaequidens*) and a mix of grass species. The area is no more than 50% vegetated and contains garden escape species.

Sparsely Vegetated Land – Ruderal/Ephemeral is not a HoPI<sup>13</sup> and within the proposed development site features relatively common species. **Sparsely Vegetated Land is therefore scoped out of this assessment.**

## 5.2.3 Artificial, Unvegetated Land with Unsealed Surfaces (u1c)

The north-east and south-western corners of the proposed development site consist of artificial but unsealed surfaces.

Due to this habitat generally being of negligible value for ecological features and the lack of status afforded to this habitat, artificial, unvegetated land with unsealed surfaces are **scoped out of this assessment.**

## 5.2.4 Developed Land with Sealed Surface (u1b)

The proposed development site is dominated by developed land currently being worked and processed. Some buildings are present, however these are limited to sealed and open-sided metal structures of negligible value for ecological features.

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<sup>30</sup> JNCC (2011) UK Biodiversity Action Plan: Priority Habitat Descriptions – Open Mosaic Habitats on Previously Development Land. Available at <http://data.jncc.gov.uk/data/2728792c-c8c6-4b8c-9ccd-a908cb0f1432/UKBAP-PriorityHabitatDescriptions-Rev-2011.pdf>. Accessed 13 May 2020.



Developed land with sealed surfaces are **scoped out of this assessment**.

## 5.3 Protected and Notable Species

Use of the proposed development site and any nearby features of ecological interest by protected and notable species has been informed by the review of desk study information and the results of surveys of the proposed development site undertaken by INCA.

### 5.3.1 Invasive Non-Native Species

Invasive non-native species (INNS) are often associated with disturbed habitats, such as those present within the proposed development site. Despite this, no known INNS are present within the proposed development site.

Small stands of Japanese knotweed (*Reynoutria japonica*) were recorded within the SIZ site, however the nearest stand is approximately 1.3km south-west of the proposed development site

### 5.3.2 Notable Flora

No protected or notable plant species were recorded within desk study data, or during habitat surveys of the proposed development site. Notable flora are **scoped out of this assessment**.

### 5.3.3 Invertebrates

The desk study has shown historical records of a number of notable invertebrates within the last 10 years within 2km of the proposed development site. This includes small heath (*Coenonympha pamphilus*), dingy skipper (*Erynnis tages*) and grayling (*Hipparchia semele*) butterflies.

No habitats within the proposed development site are considered suitable to support an invertebrate population. Invertebrates are **scoped out of this assessment**.

### 5.3.4 Birds

The desk study identified records of several notable bird species within 2km of the proposed development site within the last 10 years, including several species which are designating features of the adjacent Teesmouth and Cleveland Coast SSSI, SPA, and Ramsar sites. These include:

- Common redshank – SSSI, SPA, and Ramsar feature (non-breeding);
- Common tern – SSSI, SPA, and Ramsar feature (breeding);
- Ruff – SSSI, SPA, and Ramsar feature (non-breeding);
- Gadwall – SSSI feature (non-breeding);
- Ringed plover – SSSI feature (non-breeding);

- Shelduck – SSSI feature (non-breeding);
- Shoveler – SSSI feature (non-breeding); and
- Further waterbird species that contribute to the waterbird assemblages of the SSSI, SPA, and Ramsar sites.

#### 5.3.4.1 Breeding Birds

The poor-quality neutral grassland may provide small areas of suitable habitat for common breeding passerines, but is unlikely to support a noteworthy breeding bird assemblage. The habitats are not considered large enough to support ground nesting birds. The proposed development site has until recently been fully active, which further reduces the suitability of the area for breeding birds.

In 2018, a small area of standing water was recorded within the proposed development site, however this area of water was considered to be temporary and only present due to high volumes of rain. No habitats suitable for breeding waterbirds are present with the proposed development site, however there are opportunities for breeding waterbirds within the ZoI of the proposed scheme, in association with open water and wetland habitats in The Slems, to the south of the proposed development site.

No designating species of the Teesmouth and Cleveland Coast SPA and Ramsar sites were recorded breeding within the wider SIZ site, either in the desk study data or the BBS surveys. A number of breeding waterbird species that would contribute towards the Teesmouth and Cleveland Coast SSSI, SPA, and Ramsar waterbird assemblages were recorded within the wider SIZ site, primarily within The Slems, which is within the ZoI of the proposed development. Only low numbers of breeding bird pairs were recorded for these species, and the numbers are not considered to be substantial in the context of the total Teesmouth and Cleveland Coast SSSI breeding waterbird assemblage.

Of the named designating features of the Teesmouth and Cleveland Coast SSSI, shelduck have been recorded breeding within the wider SIZ site. Up to four confirmed breeding pairs were present within the SIZ site during surveys in 2020, three of these being present within the Cleveland Channel and Lackenby Channel. The Lackenby Channel runs along the north-eastern boundary of the proposed development site and is within the ZoI of the proposed development. There are approximately 15,000 pairs of shelduck within the UK annually. No up to date information regarding the Teesmouth and Cleveland Coast SSSI could be sourced, however WeBS data showed 458 shelduck individuals were estimated to utilise the Tees Estuary in 2018/2019. It is also understood that five confirmed breeding pairs of shelduck were recorded in the Tees Valley in 2018, rearing 42 young<sup>31</sup>. The presence of four breeding pairs of shelduck within the wider SIZ is not considered to be important in relation to the national breeding population, but is considered to be of importance, in the Tees Estuary, in the context of the Teesmouth and Cleveland Coast SSSI.

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<sup>31</sup> Pers. comm. with Mike Leaky, INCA as part of the SIZ application.

Due to the presence of breeding shelduck within the Lackenby Channel, which is within the ZoI of the proposed development, shelduck are considered as an individual feature within this assessment due to any additional mitigation or compensation that may be required in relation to this species. Shelduck have been **scoped into this assessment and are considered to be up to county importance.**

The breeding bird assemblage **has been scoped into this assessment and is considered to be of county importance.**

#### 5.3.4.2 Wintering Birds

No suitable habitats are present within the proposed development site to support wintering waterbird species. In 2018, a small area of standing water was recorded within the proposed development site, however this area of water was considered to be temporary and only present due to high volumes of rain.

Wetland habitats which could support wintering waterbird species outside of the proposed development site, but within the zone of influence, are found to the south of the proposed development site in the area referred to as The Slems.

Anecdotally<sup>32</sup>, common redshank (a designating feature of the Teesmouth and Cleveland Coast SSSI, SPA, and Ramsar) are reported to utilise The Slems, specifically within the open water features and intertidal mud habitats. It is likely other wintering bird species that contribute towards the SPA and Ramsar wintering waterbird assemblage are present within The Slems, albeit in relatively low abundance due to the relatively small amount of suitable habitat.

Based on desk study data, a review of the extent of wetland habitats available for wintering birds around The Slems, and following a precautionary approach, it is considered that the wintering bird assemblage within the zone of influence of the proposed development site are **scoped into this assessment and up to county importance.**

Common redshank have also been recorded within the River Tees and along its riverbanks both upstream and downstream of the proposed development site. As common redshank are a specific feature of the Teesmouth and Cleveland Coast SPA and Ramsar, this feature is further assessed within the HRA.

#### 5.3.5 Bats

No bats were identified within the desk study.

Buildings and structures within the proposed development site are limited to sealed and open sided metal structures of negligible value for roosting bats.

No mature trees are present within the proposed development site, or its zone of influence. The young trees present are unsuitable for roosting bats, as these

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<sup>32</sup> Pers. comm. with INCA ecologist.

specimens have not yet developed cavities or features which may be used for roosting.

The proposed development site offers no suitable habitat to support foraging and commuting bats. This is due to the active nature of the proposed development site and lack of habitats that would support invertebrates.

Bats are **scoped out of this assessment**.

### 5.3.6 Badger

The desk study has shown no historical records of badger (*Meles meles*) within the proposed development site and the surrounding area. It is unlikely that the proposed development site supports badger as it is dominated by unsuitable habitats and surrounded by urban and industrial areas and main roads which would prevent badger colonising the proposed development site from elsewhere. The habitat within the proposed development site would not support sett building and would not provide a significant foraging resource for this species.

Due to the likely absence of badger from the locality, and the low value of the proposed development for the species, badger are **scoped out of this assessment**.

### 5.3.7 Otter

The desk study shows otter (*Lutra lutra*) to be present within the adjacent River Tees. Otter are known to be present throughout the River Tees habitat corridor, utilising terrestrial wetland areas between Teesmouth and the Tees Barrage.

It is considered unlikely that otter would utilise the proposed development site specifically, due to the lack of suitable wetland habitat present and active nature of the proposed development site.

As there is potential for otter to be present within the ZoI of the proposed development site due to the Lackenby Channel being adjacent to the proposed development site, possible effects upon otter **are scoped into this assessment**. It is considered that the local otter population is of **local** importance.

### 5.3.8 Amphibians

The desk study has shown low numbers of amphibians within 2km of the proposed development site. The closest is a record relating to common toad (*Bufo bufo*) present within the Grangetown Prairie site approximately 1.2km south of the proposed development site. There are no records of great crested newt (*Triturus cristatus*) within 2km of the proposed development site.

There are no suitable habitats for amphibians within the proposed development site. Any water that collects within the proposed development site is considered to be very temporary, in poor quality and isolated. The open water features within the SIZ site and The Slems are considered to be isolated and of too poor quality to support amphibian species

Due to the likely absence of amphibian species within the proposed development site, the ZOI and the lack of potential for colonisation, amphibians are **scoped out of this assessment**.

### 5.3.9 Reptiles

There are no desk study records of reptiles within 2km of the proposed development site.

No habitats within the proposed development site are considered suitable for reptiles due to limited areas for commuting, foraging and hibernating. The proposed development site has until recently been fully active and the areas of neutral grassland are of poor quality.

Common lizard (*Zootoca vivipara*) have anecdotally<sup>33</sup> been recorded within the wider STDC site, however there are no records of reptile within the proposed development site. It is likely that reptile populations present within the wider STDC site are constrained to the north-eastern section in close association with Coatham Marsh. However, no detailed reptile surveys have been completed.

Due to the likely absence of reptile species within the proposed development site, reptiles are **scoped out of this assessment**.

### 5.3.10 Marine Mammals

The River Tees supports the foraging efforts of harbour seal and grey seal (*Halichoerus grypus*). The proposed development site itself does not contain any watercourses that would support marine mammals, and therefore does not support such species.

There is potential for marine mammal species to be present within the ZoI of the proposed development site, due to the proximity of the proposed development site to the Lackenby Channel which is hydrologically connected to the River Tees.

Marine mammals are **therefore scoped into this assessment are considered to be of local importance**.

### 5.3.11 Migratory Fish

The River Tees supports the migration of salmon (*Salmo salar*) and brown trout (*Salmo trutta*). The proposed development site itself does not contain any watercourses that would support migratory fish, and therefore does not support such species.

There is potential for migratory fish species to be present within the ZoI of the proposed development site, due to the proximity of the proposed development site to the Lackenby Channel, which is hydrologically connected to the River Tees.

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<sup>33</sup> Pers. comm. with INCA ecologist.

Migratory fish are **therefore scoped into this assessment are considered to be of local importance.**

### 5.3.12 Other Mammals

#### Water vole

There are no waterbodies or watercourses present within the proposed development site that would be suitable for water vole (*Arvicola amphibius*). The Lackenby Channel watercourse does not feature any suitable burrowing habitat for water vole.

Due to the likely absence of water vole within the proposed development site and the ZOI, **water vole are scoped out of this assessment.**

#### Brown Hare

Brown hare (*Lepus europaeus*) are present within the wider SIZ site, with the nearest hare recorded within The Slems, approximately 500m south of the proposed development site. The neutral grassland habitats on the boundaries of the proposed development site would provide some foraging for brown hare, however these are degraded and of poor quality and will make up a very small portion of the territory of the species. The Open Mosaic Habitat (OMH) and grassland habitats within the wider SIZ site provide more suitable habitats to support a sizeable population of brown hare, however these areas are outside of the ZOI for the proposed development.

Brown hare are a SoPI<sup>13</sup>, and are also listed as a priority species on the Tees Valley Local Biodiversity Species list<sup>11</sup>. Due to the mobile nature of brown hare, there is the potential for brown hare to be within the ZoI of the proposed development site.

**Brown hare are therefore scoped into this assessment and are considered to up to county importance** due to the potential size of the population present within the adjacent SIZ site.

#### Hedgehog

Hedgehog (*Erinaceus europaeus*) may be present within the neutral grassland along the edges of the proposed development site, as the species is established in urban areas. The areas of habitat are likely to support only a very small number of hedgehog and would be a small part of a larger area used for foraging and commuting.

Hedgehog are a SoPI<sup>13</sup>, and are also listed as a priority species on the Tees Valley Local Biodiversity Species list<sup>11</sup>.

**Hedgehog are therefore scoped into this assessment and are considered to be of local importance.**

## 5.4 Summary of Baseline

Table 2 provides a summary table listing all of the relevant features scoped into this EcIA and their geographical level of importance.

Table 2: Geographic levels of importance of each ecological feature scoped into this assessment

Feature	Geographical Level of Importance	Justification
<b>Designated Sites</b>		
Teesmouth and Cleveland Coast SPA	International	The proposed development site is within 250m of the Teesmouth and Cleveland Coast SPA, which is present to the north-west (River Tees) and to the east (PD Ports Tees Dock). Potential for loss and/or disturbance of habitats from pollution from within the proposed development site that support foraging and commuting activities, and/or roosting of the qualifying features. The risk of noise/visual disturbance of small numbers of qualifying species utilising the SPA site for foraging and commuting activities, and/or roosting.
Teesmouth and Cleveland Coast Ramsar	International	The proposed development site is within 1.3km of the Teesmouth and Cleveland Coast Ramsar, which is present to the north-west (River Tees). Potential for loss and/or disturbance of habitats from pollution from within the proposed development site that support foraging and commuting activities, and/or roosting of the qualifying features. The risk of noise/visual disturbance of small numbers of qualifying species utilising the Ramsar site for foraging and commuting activities, and/or roosting.
Teesmouth and Cleveland Coast SSSI	National	The proposed development site is within 250m of the Teesmouth and Cleveland Coast SPA, which is present to the north-west (River Tees) and to the east (PD Ports Tees Dock). Potential for loss and/or disturbance of habitats from pollution from within the proposed development site that support foraging and commuting activities, and/or roosting of the qualifying features. The risk of noise/visual disturbance of small numbers of qualifying species utilising the SSSI site for foraging and commuting activities, and/or roosting.
<b>Species</b>		
Breeding Birds	County	The breeding bird assemblage of the proposed development site is considered to be relatively common, however small areas of suboptimal habitat may support breeding



Feature	Geographical Level of Importance	Justification
		opportunities for small numbers of passerines.
Shelduck	County	Shelduck are a designating feature of the adjacent Teesmouth and Cleveland Coast SSSI. Up to four breeding pairs are present within habitats in the ZoI of the proposed development site, specifically the Lackenby Channel.
Wintering Birds	County	Potential that wintering birds would utilise wetland habitats in the ZoI of the proposed development site, specifically The Slems.
Otter	Local	Otter are present within the River Tees, however the proposed development site would not support the species. Otter are scoped in due to potential impacts to Lackenby Channel which is connected to the River Tees.
Marine Mammals	Local	Marine mammals, including harbour seal (a designating feature of the Teesmouth and Cleveland Coast SSSI) utilise the River Tees for foraging. The proposed development site does not support marine mammals, however marine mammals are scoped in due to potential impacts to Lackenby Channel which is connected to the River Tees.
Migratory Fish	Local	Salmon and brown trout utilise the River Tees for migration. The proposed development site does not support migratory fish species, however migratory fish are scoped in due to potential impacts to Lackenby Channel which is connected to the River Tees.
Brown Hare	County	Brown hare is a SoPI. An abundance of brown hare are associated with the SIZ habitat and may utilise the suboptimal grassland habitats within the proposed development site.
Hedgehog	Local	Hedgehog are a SoPI and have the potential to use suboptimal habitats within the proposed development site.

## 5.5 Future Baseline

There is potential for the baseline ecological conditions to change in the period between when this assessment has been made and the commencement of site preparation works.

If the proposed development does not commence within two years, pre-construction checks for some taxa may be required. For example, the condition of structures within, or immediately adjacent to the proposed development site may



deteriorate (in structural terms) and provide greater value and more opportunities for roosting bats.

## 6 Assessment of Impacts, Effects and Mitigation

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This section of the assessment involves identifying and characterising impacts, incorporating measures to avoid and mitigate these impacts, and assessing the significance of any residual effects after mitigation.

### 6.1 Avoidance

At the time of compiling this assessment, the proposed development does not include any measures to avoid potential impacts on ecological features. In order to represent the worse-case scenario currently presented by the proposed development, it is assumed that proposed development would cause complete loss of all habitats and ecological features within the red line boundary of the proposed development site.

### 6.2 Assessment of Impacts, Effects and Mitigation

This section identifies and describes all of the potential construction impacts of the proposed development on each feature from the baseline ecological conditions scoped into this part of the EcIA (Table 2).

It is not possible for direct mitigation to be identified for the loss of habitat value (excluding any protected species) given the nature of the works proposed and the purpose of the application proposals. STDC is committed to delivering compensation in due course through the Environment & Biodiversity Strategy. The Environment & Biodiversity Strategy will seek to identify opportunities for compensation in the STDC area and beyond, for a range of measures.

#### 6.2.1 Teesmouth and Cleveland Coast SPA and Ramsar

The Teesmouth and Cleveland Coast SPA is within 250m of the proposed development site, with the Ramsar site located 1.3km north-west. The proposed development site is separated from the River Tees by PD Ports but is adjacent to Lackenby Channel which outflows into the River Tees.

Due to the potential for an impact to an internationally important site and its qualifying features, a Habitats Regulations Assessment (HRA) has been completed as required under Regulation 63 of the Habitats Regulations<sup>3</sup>.

The HRA of the proposed development site contains both Stage 1 and Stage 2 of the HRA process and, therefore, discusses appropriate mitigation measures to ensure the proposed development works would not give rise to an adverse effect on the integrity of the Teesmouth and Cleveland Coast SPA and Ramsar.

The HRA Stage 1 assessment identified the following potential impacts to the Teesmouth and Cleveland Coast SPA and Ramsar sites:

- a) During construction, the risk of loss and/or disturbance of habitats from pollution from within the proposed development site (impacting on the SPA

and Ramsar) that support foraging and commuting activities, and/or roosting of the qualifying features; and

- b) During construction, the risk of noise/visual disturbance of small numbers of qualifying species utilising the SPA/Ramsar site for foraging and commuting activities, and/or roosting.

The HRA Stage 2 assessment (Appropriate Assessment) concluded that, at the current time, and in consideration of the current construction components of the proposed development, it is deemed that there will be no adverse effects on the Teesmouth and Cleveland Coast SPA and Ramsar sites, as a result of the proposed development. Other than mitigation measures outlined below in relation to the Teesmouth and Cleveland Coast SSSI, no other specific mitigation is required.

The potential impact to these designated sites and their qualifying features will therefore not be further assessed in this EcIA and reference should, instead, be made to the HRA.

## 6.2.2 Teesmouth and Cleveland Coast SSSI

The Teesmouth and Cleveland Coast SSSI is within 250m of the proposed development site.

There is potential for indirect damage or disturbance to this designated site from pollution such as dust as well as noise and/or visual disturbance either to the habitats within the designated site or to their designating features, as a result of the proposed development.

The following mitigation will be incorporated in order to prevent significant effects as a result of construction of the proposed development:

- Construction of the proposed development will abide by a Construction Environmental Management Plan (CEMP), which will outline measures to prevent sediment, dust, surface water run-off, or any other substance relating to construction from entering the River Tees. The CEMP will be reviewed by a Suitably Qualified Ecologist (SQE);
- Contaminated liquids or sediments produced as a result of construction, i.e. through disturbance of known contaminated land, will be directed away from the Lackenby Channel. Measures to ensure contaminated substances do not reach the River Tees will be outlined within the CEMP; and
- Any lighting of the construction area is to be directed away from the Lackenby Channel or utilise directional shielding measures to prevent light-spill onto the river.

## 6.2.3 Breeding Birds

The clearance and remediation of the proposed development site has the potential to cause noise and visual disturbance to any breeding birds present within the ZOI of the proposed development site.

As the proposed development site has until recently been fully active, it is highly likely that any breeding birds within the ZOI are habituated to the noise and movements within the proposed development site. The construction works within the proposed development site will be temporary in nature and any loud noises above the current baseline will be short and temporary in nature.

As a result, there will be **no significant adverse effect** on the county important breeding bird assemblage.

In addition, to ensure legal compliance the following mitigation has been considered:

- Any removal of trees, scrub or areas of grassland that may support nesting bird species has the potential to damage or destroy active nests. Where possible, vegetation should be removed outside of the nesting bird season (March to August inclusive). If vegetation removal has to be conducted within the breeding bird season (March to August, inclusive), a nesting bird check must be completed by an SQE immediately prior to vegetation works commencing. If birds are found to be nesting, the area will be vacated and the birds left until they have fledged. This is to be detailed within the CEMP.

#### 6.2.4 Shelduck

Noise and visual disturbance from remediation of the proposed development site has the potential to disturb breeding shelduck on the Lackenby Channel. As detailed within the 'Waterbird Disturbance Mitigation Toolkit'<sup>34</sup>, shelduck are considered to be:...

*“a wary species and are highly sensitive to visual disturbance. Typically they approach construction works no closer than 300m and are affected by visual disturbance up to 500m away from a source. However, [shelduck] are subject to a high degree of habituation and further exposure to sounds of the same or greater level can lead to no response to stimuli.”*

It is considered highly likely that shelduck breeding within the Lackenby Channel have become habituated to the visual disturbance from the ongoing works within the proposed development site and surrounding PD Ports.

However, due to the county level importance of these breeding shelduck within the Tees Estuary and sensitive nature of the species to visual disturbance it is considered, **that in the absence of mitigation, there is the potential for a significant adverse effect to breeding shelduck at up to the county level.**

The following actions are proposed to mitigate the significant adverse effect to breeding shelduck:

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<sup>34</sup> N Cutts K Hemingway & J Spencer. Waterbird Disturbance Mitigation Tool Kit: Informing Estuarine Planning & Construction Projects. Version 3.2, March 2013 Copyright University of Hull.

- Avoid undertaking construction works within 300m from the Lackenby Channel during the breeding bird season, considered to be from March to August (inclusive);
- If avoidance is not possible, screening should be erected along the north-eastern boundary of the proposed development site to reduce the visual and noise impacts upon the Lackenby Channel. Screening would involve the use of opaque barriers, which would also prevent site operatives from unnecessary access to Lackenby Channel; or
- If screening is not possible; a SQE should undertake surveys at the earliest possible stage and throughout construction to determine if breeding shelduck are disturbed from the construction works. If shelduck are found to be disturbed however, the SQE will be required to propose suitable mitigation immediately, which may ultimately involve screening.

**Following the implementation of mitigation, there will be no significant adverse effect on the county important breeding shelduck population.**

## 6.2.5 Wintering Birds

The direct loss of the habitats within the proposed development site from construction will not result in a significant effect to wintering birds. The habitats within the proposed development site provide no benefit to wintering birds with limited to no suitable foraging or loafing habitat available.

Noise and visual disturbance from remediation of the proposed development site has the potential to disturb wintering birds known to be present at The Slems, located immediately adjacent to the proposed development site. The wintering birds at The Slems are highly likely to be habituated to high levels of noise and visual disturbance, as the proposed development site has until recently been fully active with large machinery undertaking material processing.

There is also the potential for dust and pollution to negatively impact the habitats utilised by wintering birds. The remediation works of the proposed development site will be temporary in nature and include design specifications (capping layer) to reduce dust from the remediation works.

However, due to the sensitive nature of wetland habitats and some wintering bird species, in the absence of mitigation, **there is the potential for a significant adverse effect from dust on the wintering bird population at up to the county level.**

The following actions are required to mitigate the possible significant adverse effect to wintering birds:

- During construction, a CEMP will be implemented which will outline measures to prevent sediment, dust, surface water run-off, or any other substance relating to construction from impacting wintering birds within The Slems and the River Tees through the Lackenby Channel. This document will be reviewed by an SQE.

**Following the implementation of mitigation, there will be no significant adverse effect on the county important wintering bird population.**

### 6.2.6 Otter

Construction works has the potential to impact otter within the River Tees through the hydrological connection of the Lackenby Channel. However, due to the small nature of the proposed development site, size of the River Tees and mobile nature of otter, any potential pollution is highly likely to be small in nature, temporary and become diluted prior to and once reaching the River Tees.

**As a result, the proposed development will not result in a significant adverse effect on the locally important otter population.**

To ensure the best water quality, best practice guidelines for pollution control will be outlined and implemented through a CEMP. This will outline measures to prevent sediment, dust, surface water run-off, or any other substance relating to construction from entering The Slems and the River Tees through the Lackenby Channel. This document will be reviewed by an SQE.

### 6.2.7 Marine Mammals

Construction works has the potential to impact marine mammals within the River Tees through the hydrological connection of the Lackenby Channel. However, due to the small nature of the proposed development site, size of the River Tees and mobile nature of marine mammals, any potential pollution is highly likely to be small in nature, temporary and become diluted prior to and once reaching the River Tees.

**As a result, the proposed development will not result in a significant adverse effect on the locally important marine mammal population.**

To ensure the best water quality, best practice guidelines for pollution control will be outlined and implemented through a CEMP. This will outline measures to prevent sediment, dust, surface water run-off, or any other substance relating to construction from entering The Slems and the River Tees through the Lackenby Channel. This document will be reviewed by an SQE.

### 6.2.8 Migratory Fish

Construction works has the potential to impact migratory fish within the River Tees through the hydrological connection of the Lackenby Channel. However, due to the small nature of the proposed development site, size of the River Tees and mobile nature of fish, any potential pollution is highly likely to be small in nature, temporary and become diluted prior to and once reaching the River Tees.

**As a result, the proposed development will not result in a significant adverse effect on the locally important migratory fish population.**

To ensure the best water quality, best practice guidelines for pollution control will be outlined and implemented through a CEMP. This will outline measures to

prevent sediment, dust, surface water run-off, or any other substance relating to construction from entering The Slems and the River Tees through the Lackenby Channel. This document will be reviewed by an SQE.

### 6.2.9 Brown Hare

The construction works will result in the loss of small areas of poor-quality neutral grassland and this has the potential to reduce the foraging habitat for brown hare within the proposed development site.

Due to the small and degraded nature of these grassland habitats, active nature of the proposed development site and large habitat requirements of brown hare, the loss of these habitats is highly unlikely to affect the population of brown hare within the proposed development site and the ZoI significantly.

**As a result, the proposed development site will not result in a significant adverse effect on the county important brown hare population.**

Due to the mobile nature of brown hare, as a precaution, deep trenches and excavations dug across the proposed development site should be covered overnight or be left with a plank or similar material with a slope no more than 45°, in order to allow brown hare, hedgehog and other small mammals to exit trenches or excavations if they fall in. This will be detailed in the CEMP.

### 6.2.10 Hedgehog

The construction works will result in the loss of small areas of poor-quality neutral grassland that may be utilised by hedgehog for foraging and commuting.

Due to the small and degraded nature of these grassland habitats and active nature of the proposed development site, the loss of these habitats is highly unlikely to affect the population of hedgehog within the proposed development site and the ZoI.

**As a result, the proposed development site will not result in a significant adverse effect on the local important hedgehog population.**

Due to the mobile nature of hedgehog, as a precaution the following should be noted:

- Any hedgehog found within the works areas will be moved away to a safe and sheltered location. This process will be described in a CEMP and reviewed by an SQE. Assistance will be sought for any injured hedgehog found during the works; and
- As a precaution, deep trenches and excavations dug across the proposed development site will be covered overnight or be left with a plank or similar material with a slope no more than 45°, in order to allow hedgehog and small mammals to exit trenches or excavations if they fall in. This will also be detailed in the CEMP.

## 6.3 Assessment of Cumulative Impacts and Effects

The following developments have been considered within the cumulative impact assessment.

1. Land at South Tees Development Corporation East of Smiths Dock Road and West of Tees Dock Road South Bank (R/2020/0357/OOM);
2. Grangetown Prairie, Land East of John Boyle Road and West of Tees Dock Road, Grangetown (R20190700M);
3. Land at Former South Bank Works, Grangetown Prairie, British Steel and Warrenby Area (R20190427FFM);
4. Land at Low Grange Farm, South Bank (R2014037200M);
5. Port Blyth Biomass Power Station (DCO. 1873);
6. Land North of Kirkleatham Business Park and West of Kirkleatham Lane, Redcar (R20160663OOM);
7. Land North of Kirkleatham Business Park and West of Kirkleatham Lane, Redcar (R20190485RMM);
8. Dogger Bank Wind Farm (DCO. 5192);
9. Teesside Combined Cycle Power Plant (CCPP) (DCO. 2019);
10. Land at Wilton International Complex, Redcar (R20170876FFM);
11. Land at Teesport, Grangetown (R2006043300);
12. York Potash Port and Materials Handling Facilities (DCO. 772);
13. York Potash, Land at Wilton International Complex, Redcar (R2017090600M);
14. (R2018.0139VC)
15. The York Potash Project (R20140627FFM);
16. Lianhetech Seal Sands (192161FUL);
17. Land to the South of Tofts Road, West Graythorp, Hartlepool (H20190275);  
and
18. Regent Cinema, Newcomen Terrace, Redcar (R20200075F3M).

### 6.3.1 Brown Hare

There is the potential for cumulative impacts to the brown hare populations located within the STDC site due to the cumulative loss of foraging habitats. Given that the boundary of the proposed development site sits wholly within the SIZ application boundary, the cumulative impacts on brown hare have already been addressed in the SIZ application.



## 6.4 Summary of Impacts, Mitigation and Residual Effects

Table 3 provides a summary of the impacts, any mitigation proposed within the proposed development and the significance of any residual effects for each feature scoped into this assessment following the enactment of mitigation.

Table 3: Summary of impacts, mitigation proposed and significance of any residual effects.

Feature	Impact	Characterisation of Unmitigated Impact on the Feature	Effect without Mitigation	Mitigation	Significance of Residual Effects
Teesmouth and Cleveland Coast SPA and Ramsar	Site clearance and remediation works could result in pollution (sediment, oil, dust) entering the River Tees due to its hydrological connection with the Lackenby Channel.	Loss and/or disturbance of habitats from pollution from within the proposed development site that support foraging and commuting activities, and/or roosting of the qualifying features	Significant adverse effect	Direction of sediments and contaminated liquids away from Lackenby Channel during construction. Employment of CEMP during construction which will prescribe measures to prevent sediment and dust entering the River Tees through the Lackenby Channel	No significant adverse effect
Teesmouth and Cleveland Coast SSSI	Site clearance and remediation works could result in pollution (sediment, oil, dust) to enter the riverine environment due to the hydrological connection of the Lackenby Channel.	Loss and/or disturbance of habitats from pollution from within the proposed development site that support foraging and commuting activities, and/or roosting of the qualifying features	Significant adverse effect	Direction of sediments and contaminated liquids away from River Tees during construction and operation. Employment of CEMP which will describe measures to prevent sediment and dust entering the River Tees.	No significant adverse effect
Breeding Birds	Loss of breeding and foraging habitats of passerine species.	Loss of small areas of scrub and poor-quality grassland supporting limited number of species.	No significant adverse effect	No mitigation proposed. No habitat enhancement or creation will occur in order to reinstate supporting habitats.	No significant adverse effect
	Potential harm to breeding birds and/or destruction of nests	Unmitigated removal of trees, and grasslands results in potential impact upon small number of nesting birds, and/or cause damage/destruction of a nest, and/or cause harm/destruction to young and/or eggs.	No significant adverse effect	To ensure legal compliance, vegetation clearance should ideally be undertaken outside the breeding season (March to August inclusive). If this is not possible, a nesting bird check by SQE immediately prior to vegetation removal works will be undertaken.	No significant adverse effect

<b>Feature</b>	<b>Impact</b>	<b>Characterisation of Unmitigated Impact on the Feature</b>	<b>Effect without Mitigation</b>	<b>Mitigation</b>	<b>Significance of Residual Effects</b>
Shelduck	Loss and disturbance of breeding and foraging habitats.	No suitable habitats present within the proposed development site that support breeding shelduck. Potential visual disturbance to Lackenby which supports breeding shelduck	Significant adverse effect to population of county importance	Avoidance of construction during breeding bird season (March to August inclusive). If this cannot be done, screening of proposed development site from Lackenby Channel. If screening cannot be undertaken, a SQE will monitor disturbance levels of shelduck and may implement mitigation (such as screening) if shelduck appear to be disturbed.	No significant adverse effect following the implementation of mitigation.
	Potential harm to breeding birds and/or destruction of nests	Unmitigated removal of grassland habitat impact upon nesting shelduck (unlikely) and/or cause damage/destruction of a nest, and/or cause harm/destruction to young and/or eggs.	No significant adverse effect	To ensure legal compliance, vegetation clearance undertaken outside the breeding season (March to August inclusive). If this is not possible, a nesting bird check by SQE immediately prior to vegetation removal works.  Employment of CEMP during construction which will describe measures to prevent sediment and dust entering the Lackenby Chanel	No significant adverse effect
Wintering Birds	Loss and disturbance to foraging habitats of passerine and waterbird species from construction related pollution such as dust	Impact to wetland habitats adjacent to the proposed development that support wintering birds resulting in the loss of foraging resources.	Significant adverse effect to county level population	Employment of CEMP during construction which will describe measures to prevent sediment and dust entering The Slems and Lackenby Channel. .	No significant adverse effect following the implementation of mitigation.
Otter	Loss of foraging, breeding, commuting habitat of otter within River Tees.	Potential pollution to be small in nature, temporary and become diluted prior to and once reaching the River Tees.	No significant adverse effect to local level population	To ensure the best water quality, best practice guidelines for pollution control will be outlined and implemented through a CEMP which will describe measures to prevent sediment and dust entering the River Tees through the Lackenby Channel	No significant adverse effect

<b>Feature</b>	<b>Impact</b>	<b>Characterisation of Unmitigated Impact on the Feature</b>	<b>Effect without Mitigation</b>	<b>Mitigation</b>	<b>Significance of Residual Effects</b>
Marine Mammals	Loss of feeding and/or breeding habitat of marine mammals and potential hard of species.	Potential pollution to be small in nature, temporary and become diluted prior to and once reaching the River Tees.	No significant adverse effect to local level population	To ensure the best water quality, best practice guidelines for pollution control will be outlined and implemented through a CEMP which will describe measures to prevent sediment and dust entering the River Tees through the Lackenby Channel	No significant adverse effect
Migratory Fish	Potential harm of species as a result of construction-related pollution events	Potential pollution to be small in nature, temporary and become diluted prior to and once reaching the River Tees.	No significant adverse effect to local level population	To ensure the best water quality, best practice guidelines for pollution control will be outlined and implemented through a CEMP which will describe measures to prevent sediment and dust entering the River Tees through the Lackenby Channel	No significant adverse effect
Brown Hare	Loss of foraging and breeding resource for brown hare	Loss of small areas of degraded grassland that likely make up small part of much larger territory.	No significant adverse effect to county level population	Cover trenches overnight or include escape measure in dug trenches and excavations.	No significant adverse effect
Hedgehog	Loss of foraging and commuting habitat for hedghog	Loss of small areas of degraded grassland that likely make up small part or larger better-quality habitat	No significant adverse effect to local level population	Cover trenches overnight or include escape measure in dug trenches and excavations.	No significant adverse effect

## 7 Compensation, Enhancement and Monitoring

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### 7.1 Compensation

Compensation describes measures implemented to reduce any residual effects resulting in the loss of, or permanent damage to, ecological features despite mitigation. In BNG terms, compensation could be described as achieving ‘**No Net Loss**’ in biodiversity.

Due to the active nature of the proposed development site and therefore the lack of habitats suitable to support protected and/or notable species, no significant residual effects in EcIA terms remain following the implementation of mitigation.

However, due to the loss of habitats within the proposed development site, compensation will be required in order to achieve ‘No Net Loss’ in biodiversity.

Compensation for any habitats that are to be lost due to the proposed development, should be undertaken with the aim to provide habitats with the same or greater ecological function and/or diversity to the habitat that is lost.

Extent and location of compensatory habitat creation and enhancements must be agreed with NE and RCBC. It is anticipated that such discussions will take place as part of the wider consultation in relation to the South Tees Regeneration Masterplan Environment & Biodiversity Strategy.

### 7.2 Enhancement

Enhancement is the provision of new benefits for biodiversity that are additional to those provided as part of mitigation or compensation measures. Enhancement could be described as ‘**Biodiversity Net Gain**’.

It is important that development is sustainable and that projects produce a net gain for biodiversity and nature conservation. National planning policy<sup>5</sup> requires the inclusion of measures to enhance biodiversity within development proposals.

Offsite compensation may be necessary to achieve a BNG for this proposed development. The approach for this will be detailed in the forthcoming South Tees Regeneration Masterplan Environment & Biodiversity Strategy, which will coordinate the offsite compensation approach for all developments in the wider STDC site.

### 7.3 Monitoring

A targeted, long-term ecological monitoring and maintenance plan will be produced by an SQE, in collaboration with RCBC. This plan will identify any created or enhanced habitats installed as compensation for habitat loss or as enhancement features, describe a monitoring methodology to be implemented for

the duration of the plan, identify the timescales for monitoring, and describe the methods for maintenance.

Monitoring will be undertaken by an SQE, and will include, but is not limited to, the following:

- Monitoring of all compensatory habitat creation and enhancement provided, in order to ascertain successful establishment of compensatory habitats, and prescribe corrective actions to ensure target habitat condition; and
- Monitoring of all compensatory measures for protected and notable species provided. This may include species-specific surveys to ensure uptake of compensatory measures by target protected and notable species.

The approach for monitoring will be detailed in the forthcoming South Tees Regeneration Masterplan Environment & Biodiversity Strategy. Once operational, a monitoring report should be produced at specified intervals and shared with the RCBC.

## 8 Biodiversity Net Gain Assessment

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Policy N4 of the RCBC Local Plan states that “wherever possible developments should provide 'net gains' in the value of biodiversity”<sup>7</sup>. This is also reflected within Paragraph 170(d) of national planning policy, which states that “Planning policies and decisions should contribute to and enhance the natural and local environment by... minimising impacts on and providing net gains for biodiversity, including by establishing coherent ecological networks that are more resilient to current and future pressures.”<sup>5</sup>

Emerging legislation<sup>35</sup>, and the forthcoming South Tees Regeneration Masterplan Environment and Biodiversity Strategy, state that a 10% net gain of biodiversity must be achieved.

All semi-natural habitats have an ecological value, and collectively the total value of habitats classed in EcIA terms as ‘not important’, is important. The BNG assessment enables a valuation of all semi-natural habitats within the proposed development site.

This provides a baseline from which the achievement of true BNG can be measured.

The BNG baseline calculations were undertaken using the NE BM2.0 to inform approximate habitat areas required for future developments to mitigate and compensate for the loss of semi-natural habitats as a result of the proposed development, aiming to achieve a biodiversity net gain.

To provide further clarity, further details of the BM2.0 methodology, including clarifications on habitat classifications, Tees Valley adaptations of condition criteria and the connectivity tool are provided in Appendix E.

### 8.1 Calculation of Biodiversity Units

Table provides the baseline summary of the BNG assessment of the proposed development site for habitat areas.

The ‘Suggestion Action’ column in Table refers to the required compensatory action that would be required to compensate for the loss of each respective habitat present within the proposed development site, under BM2.0 guidance<sup>20 21</sup>.

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<sup>35</sup> The Environment Bill is a piece of emerging legislation which details the ‘provision for biodiversity gain to be a condition of planning permission in England’ within Section 88 of the Bill. The Bill is pending Royal Assent and is therefore not yet adopted legislation at the time of issue of this report. The Bill is therefore also subject to change.

Table 4: Total valuation of habitats – summary of Biodiversity Net Gain Assessment: Habitats Baseline\*.

Habitat Type (UK HAB)	Reference Code	Area (ha)	Distinctiveness	Condition	Connectivity	Strategic Significance	Total Habitat Units	Suggested Action to Address Habitat Losses
Grassland - Other neutral grassland	1	0.65	Medium	Fairly Poor	Low	Area/compensation not in local strategy/ no local strategy	3.90	Same broad habitat or a higher distinctiveness habitat required
Sparsely Vegetated Land-Ruderal Ephemeral	2	0.05	Low	Poor	Low	Location ecologically desirable but not in local strategy	0.11	Same distinctiveness or better habitat required
Urban - Artificial unvegetated, unsealed surface	3	1.1	V.Low	N/A - Other	Low	Area/compensation not in local strategy/ no local strategy	0.00	Compensation not required
Urban - Developed land; sealed surface	4	20.55	V.Low	N/A - Other	Low	Area/compensation not in local strategy/ no local strategy	0.00	Compensation not required
Grassland - Other neutral grassland	5	0.023	Medium	Poor	Low	Area/compensation not in local strategy/ no local strategy	0.09	Same broad habitat or a higher distinctiveness habitat required
<b>Total</b>	-	<b>22.37</b>	-	-	-	-	<b>4.10</b>	-

\*Note: Habitat names may differ from those described in this document based on the habitat name attributed to each habitat in BM2.0. 'Ref. Code' refers to unique individual parcels of land entered into the BM2.0.



## 8.2 Summary

As the entire proposed development site will likely be lost as a result of the proposed construction works, it has been assumed that all habitats within the proposed development site will be removed. Therefore, without mitigation, **the proposed development is likely to result in a biodiversity loss of 4.10 biodiversity units.**

Offsite compensation is likely to be required to achieve BNG. The approach for this will be detailed in the forthcoming South Tees Regeneration Masterplan Environment and Biodiversity Strategy, which will coordinate the offsite (within the Masterplan boundary, or within the wider Tees Valley) compensation approach for all developments in the wider STDC site.

## 9 Conclusions and Recommendations

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### 9.1 Conclusions

This assessment has considered potential impacts upon ecological features as a result of the proposed development, including potential effects from construction of the proposed development.

**Following the implementation of mitigation, no significant residual effects upon ecological features are anticipated.**

Defra's BM2.0 was utilised to assess the anticipated loss and gain of biodiversity units associated within the proposed development. It is anticipated that without off-site compensation a **biodiversity net loss** will result from the proposed development, due to the lack of any habitat being retained or enhanced on site.

### 9.2 Recommendations

#### 9.2.1 Ensure Legal Compliance

Construction of the proposed development will be managed through implementation of a CEMP, primarily to prevent pollution of the Lackenby Channel and surrounding habitats within the wider SIZ site and The Slems and therefore the River Tees, and to ensure legal compliance with respect to nesting birds.

##### 9.2.1.1 Breeding Birds

###### **Shelduck**

The following mitigation will be incorporated in order to prevent significant effects to breeding shelduck as a result of construction of the proposed development:

- Avoid undertaking construction works within 300m from the Lackenby Channel during the breeding bird season, considered to be from March to August (inclusive);
- If avoidance is not possible, screening should be erected along the north-eastern boundary of the proposed development site to reduce the visual and noise impacts upon the Lackenby Channel. Screening would involve the use of opaque barriers, which would also prevent site operatives from unnecessary access to Lackenby Channel; or
- If screening is not possible; a SQE should undertake surveys at the earliest possible stage and throughout construction to determine if breeding shelduck are disturbed from the construction works. If shelduck are found to be disturbed the SQE will be required to propose suitable mitigation immediately, which may involve screening.

### **Other Breeding Birds (including shelduck)**

All wild birds in the UK are protected under the WCA 1981 (as amended). In order to remain legally compliant, any removal of vegetation (e.g. grassland) in order to facilitate the construction of the proposed development should be completed outside of the breeding bird season (March to August, inclusive).

If vegetation removal must occur within this season, a nesting bird check must be completed by a SQE immediately prior to vegetation clearance works. If nesting birds are identified, the SQE will set up an appropriate buffer zone and all works in this area must cease until the chicks have fledged the nest.

#### **9.2.1.2 Wintering Birds**

The following actions are required to mitigate the significant adverse effect to wintering birds:

- During construction, a CEMP will be implemented which will outline measures to prevent sediment, dust, surface water run-off, or any other substance relating to construction from impacting wintering birds within The Slems and the River Tees through the Lackenby Channel. This document will be reviewed by an SQE.

#### **9.2.1.3 Invasive Plant Species**

It is an offence under the WCA 1981 (as amended) to cause the spread of invasive plant species listed on Schedule 9, into the wild. Although no invasive species have been recorded within the proposed development site, due to its disturbed nature, there is the potential for invasive species to be present or to colonise the area. If invasive species are found control or removal of these species must be undertaken in order to remain legally compliant.

All occurrences of invasive species must be controlled on-site or removed and disposed of off-site as a controlled waste. Construction of the proposed development should be undertaken following best practice guidelines, where plant material is cleaned by using such tools as a tyre wash to ensure there is no introduction of or spread of invasive species. Tool-box talks should also be given to all relevant construction staff to ensure the spread of all invasive species is controlled. Finally, when landscaping is undertaken, only native species should be planted.

### **9.2.2 Ensure No Net Loss in Biodiversity, and Provide 10% Biodiversity Net Gain**

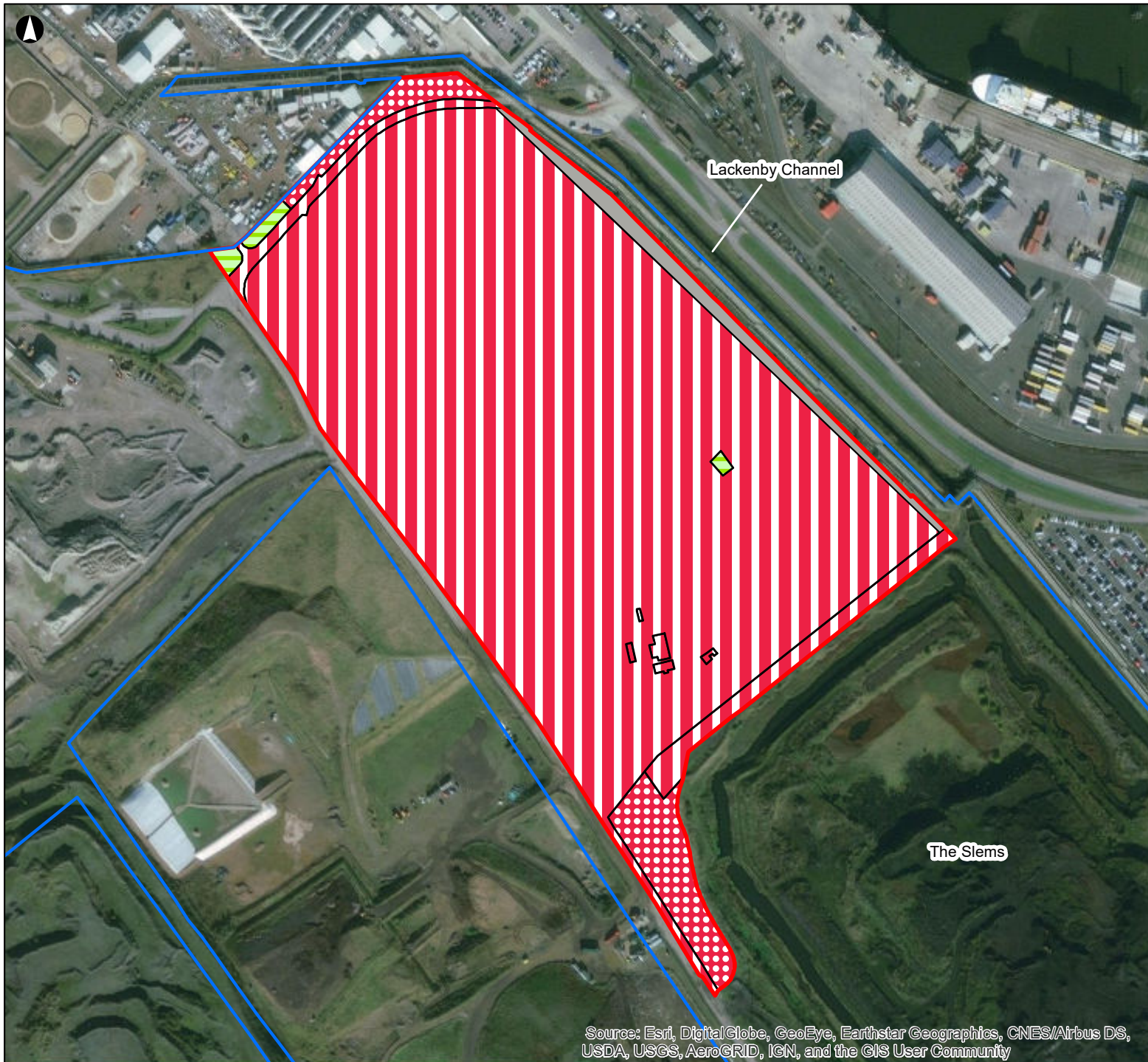
To ensure no net loss in the overall biodiversity value of the site, habitats would need to be created that equate to a total value of 4.10 biodiversity units. To ensure a 10% BNG, habitats would need to be created that equate to a total value of 4.51 biodiversity units.

Off-site compensation may be necessary to achieve a BNG. The approach for this will be detailed in the forthcoming STDC Environment & Biodiversity Strategy, which will coordinate the off-site compensation approach for all developments in the wider STDC site.

Compensation for any habitats that are to be lost due to the proposed development, should be undertaken with the aim to provide habitats with the same or greater ecological function and/or diversity to the habitat that is lost.

## Appendix A

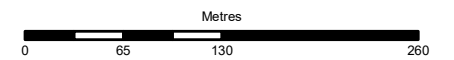
Red Line Boundary and UK  
Habitat Classification Survey  
Map of Proposed Development  
Site



**Legend**

- Metals Recovery Site Boundary
- South Industrial Zone Boundary
- 17 - Sparsely Vegetated Land – Ruderal/Ephemeral
- g3c - neutral grassland
- u1b - Developed land sealed surface
- u1c - Urban Artificial unvegetated, unsealed surface

Coordinate System: British National Grid



Rev	Date	By	Chkd	Appd
14-08-2020	NM	JAB	FM	

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Client

**South Tees Development Corporation**

Project Title

**Metals Recovery Site**

Drawing Title

**Red Line Boundary and UK Habitat Classification Survey Map**

Scale at A4

**1:5,000**

Role

**Ecology**

Suitability

**Information**

Arup Job No <b>276320-00</b>	Rev <b>Issue</b>
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Name

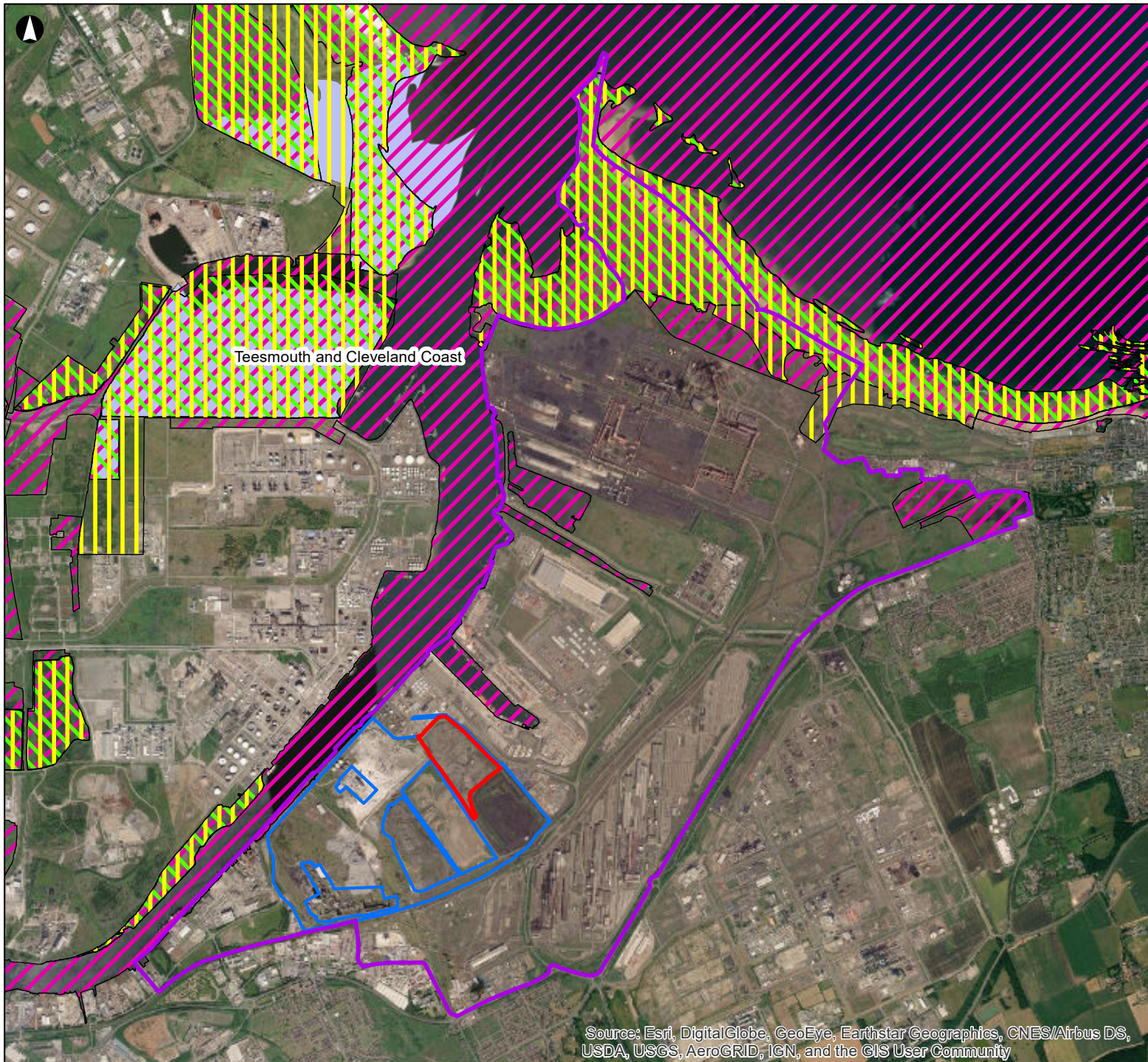
**Appendix A**

Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

## **Appendix B**

### **Metals Recovery Site Location**





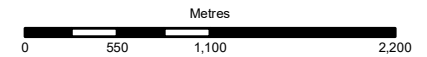
Teesmouth and Cleveland Coast

Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

**Legend**

-  Metals Recovery Site Boundary
-  South Industrial Zone Boundary
-  STDC Boundary
-  Ramsar
-  Sites of Special Scientific Interest
-  Teesmouth & Cleveland SPA
-  National Nature Reserves

Coordinate System: British National Grid



Rev	Date	By	Chkd	Appd
13-08-2020		NM	JAB	FM

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**South Tees Development Corporation**

Project Title  
**Metals Recovery Site**

Drawing Title  
**Metals Recovery Site Location Plan**

Scale at A4  
**1:45,000**

Role  
**Ecology**

Suitability  
**Information**

Arup Job No <b>276320-00</b>	Rev <b>Issue</b>
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Name  
**Appendix B**



## Appendix C

### Legislation, Planning Policy and Guidance

## C1 Legislation

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### C1.1 The Conservation of Habitats and Species Regulations 2017

The Conservation of Habitats and Species Regulations 2017<sup>3</sup> consolidated all the various amendments made to The Conservation of Habitats and Species Regulations 2010 and the Conservation (Natural Habitats, &c.) Regulations 1994 in respect of England and Wales. The 1994 Regulations transposed Council Directive 92/43/EEC on the conservation of natural habitats and of wild fauna and flora (EC Habitats Directive) into national law.

The Regulations are the British response to the Council Directive issued by the European Community (EC) (which is now the European Union (EU)).

Regulation 63 of The Conservation of Habitats and Species Regulations 2017 (hereby referred to as the ‘Habitats Regulations’) requires a competent authority to make an ‘appropriate assessment’ of the implications of a plan or project on a European designated site in view of its conservation objectives, before deciding to undertake or give consent for a plan or project which: (a) is likely to have a significant effect on a European site (either alone or in combination with other plans or project); and, (b) is not directly connected with or necessary to the management of that site. In light of the conclusions of the assessment, the competent authority may proceed with or consent to the plan or project only after having ascertained that it would not adversely affect the integrity of the European site.

The Regulations offer protection to a number of ‘European Protected Species’ (EPS), listed in Schedule 2 of the Regulations. The Regulations make it an offence [amongst others] to deliberately capture, injure, kill or disturb these species, or to damage or destroy a breeding site or resting place of such an animal.

The Regulations in relation to EPS have been amended and consolidated with key changes including the removal of most of the defences from Regulation 42 and Regulation 45, including the removal of the ‘incidental result of an otherwise lawful operation’ defence, and the increase in the threshold for the offence of ‘deliberately disturbing an EPS’.

Proposals that will affect EPS may require a licence from Natural England to allow an otherwise unlawful act. The species protection provisions of the Habitats Directive, as implemented by the Conservation of Habitats and Species Regulations 2017, contain three ‘derogation tests’ which must be applied by Natural England when deciding whether to grant a licence to a person carrying out an activity which would harm an EPS.

## C1.2 Wildlife and Countryside Act 1981 (as amended) and The Conservation of Habitats and Species Regulations 2017

The WCA<sup>4</sup> is the primary legislation covering endangered species in England and sets out the framework for the designation of Sites of Special Scientific Interest (SSSI). It confers differing levels of protection on species themselves, their habitats, or both, depending on their conservation status.

Species offered protection by the Act are listed in a series of schedules. These schedules are subject to a rolling review on a five-yearly basis. Protected species are listed under Schedule 1 (birds), Schedules 5 and 6 (animals other than birds and invertebrates) and Schedule 8 (plants).

The WCA makes it an offence (with exception to species listed in Schedule 2) to intentionally kill, injure, or take any wild bird, take, damage or destroy the nest of any wild bird while that nest is in use or being built or take or destroy an egg of any wild bird. Special penalties are available for offences related to birds listed on Schedule 1, for which there are additional offences of disturbing these birds at their nests, or their dependent young.

The WCA makes it an offence to plant or otherwise cause to grow any plant species listed on Schedule 9 of the Act. This includes the invasive non-native species Small-leaved cotoneaster.

## C1.3 Natural Environment and Rural Communities (NERC) Act 2006

The NERC Act 2006<sup>5</sup>, is designed to help achieve a rich and diverse natural environment and thriving rural communities. Under Section 40 there is a duty to conserve biodiversity; specifically, Subsection (1) states “*The public authority must, in exercising its functions, have regard, so far as is consistent with the proper exercise of those functions, to the purpose of conserving biodiversity.*”

Section 41 of the Act requires the Secretary of State to publish a list of habitats and species which are of principal importance for the conservation of biodiversity in England. The Section 41 referenced list is used to guide decision-makers such as public bodies, including local and regional authorities, in implementing their duty under Section 40 of the NERC Act 2006.

Habitats and species of principal importance in England include the habitats and species in England that were identified as requiring action in the now succeeded UK Biodiversity Action Plan (UK BAP) and continue to be regarded as conservation priorities in the subsequent UK Post-2010 Biodiversity Framework<sup>36</sup>.

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<sup>36</sup> JNCC (July 2012) UK Post-2010 Biodiversity Framework. <https://jncc.gov.uk/our-work/uk-post-2010-biodiversity-framework/>. Accessed 21 May 2020.

## C2 Planning Policy

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### C2.1 National Planning Policy Framework (NPPF)

The original National Planning Policy Framework (NPPF)<sup>8</sup> was published in March 2012, with an updated version published in February 2019. The policies in the original Framework took immediate effect, and previous planning guidance in PPGs and PPSs has been revoked and replaced by the NPPF. Therefore, the NPPF is non-statutory though is a material consideration in all planning decisions from March 2012.

The updated version of the NPPF took effect immediately for development management decisions as of February 2019. NPPF refers the responsibilities of the local authorities to conserve the natural environment with respect to the use of the ‘Circular 6/2005: Biodiversity and Geological Conservation – Statutory Obligation and their Impact within the Planning System’ as guidance in this process.

All public bodies including local planning authorities are required to consider habitats and species of principal importance and Priority Species / Habitats within local Biodiversity Action Plans when considering a planning application.

Paragraph 170 of the NPPF states: *“Planning policies and decisions should contribute to and enhance the natural and local environment by minimising impacts on and providing net gains for biodiversity, including by establishing coherent ecological networks that are more resilient to current and future pressures.”*

Paragraph 174 of the NPPF states: *“To protect and enhance biodiversity and geodiversity, plans should promote the conservation, restoration and enhancement of priority habitats, ecological networks and the protection and recovery of priority species; and identify and pursue opportunities for securing measurable net gains for biodiversity.”*

Developments should therefore propose net gains in biodiversity in order for planning permission to be granted under NPPF policy.

### C2.2 Redcar and Cleveland Local Plan

The Local Plan<sup>7</sup> came into effect in May 2018 and sets out the overall development strategy and vision for the Council’s area. The plan outlines how to achieve the strategy for the period up to 2032. It replaces in full the Core Strategy and Development Policies Development Plan Document (2007) and saved Local Plan policies (1999) as the statutory planning policy for the area.

The Local Plan will support, under Policy N4: “*high quality schemes that enhance nature conservation and management, preserve the character of the natural environment and maximise opportunities for biodiversity and geological conservation, particularly in or adjacent to, Biodiversity Opportunity Areas in the wider Tees Corridor, Teesmouth, East Cleveland and Middlesbrough Beck Valleys areas*”.

Policy N4 also seeks to: “*protect and preserve local, national and international priority species and habitats and promote their restoration, re-creation and recovery*”.

The Local Plan recognises the need for early consideration of biodiversity in the design stage, and that: “*areas of biodiversity on brownfield land should be retained and enhanced alongside any remediation of contamination, where possible*”.

As stated in the NPPF, the Local Plan also states support for net gains in the value of biodiversity through new developments. Where, as a last resort, compensation must be provided this should be local and representative to the area of loss.

The Local Plan supports: “*maximising the role of green infrastructure in mitigating and adapting to climate change, providing solutions for such issues as air quality, flood risk, coastal change and loss of habitats.*”

The Local Plan, when adopted, was independently assessed and found to be in conformity with national policy. In respect of biodiversity net gains, it seeks net gains in certain circumstances, as per the highlighted text below. Policy N4 (Biodiversity and Geological Conservation) states:

*‘Biodiversity and geodiversity should be considered at an early stage in the development process, with appropriate protection and enhancement measures incorporated into the design of development proposals, recognising wider ecosystem services and providing net gains **wherever possible**. Detrimental impacts of development on biodiversity and geodiversity, whether individual or cumulative, should be avoided. Where this is not possible mitigation, or lastly compensation, must be provided as appropriate. Proposals will be considered in accordance with the status of biodiversity and geodiversity sites within the hierarchy’*

The South Tees Area SPD (Appendix C3.2) is also aspirational in its desire for biodiversity net gains, with Development Principle STDC7 (Natural Environmental Protection and Enhancement) stating: ‘*...Net environmental gains should be provided **where appropriate and viable**, in accordance with Policies N2 and N4’.*

## C3 Guidance

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### C3.1 South Tees Regeneration Masterplan

The South Tees Development Corporation was established in 2017 and in November 2019 published its masterplan for the site. The masterplan supports the South Tees Supplementary Planning Document (SPD), which was formally adopted in 2018 following completion of statutory consultation.

The masterplan provides a framework for regenerating the area and provides a detailed overview of the existing conditions and future aspirations for the area. There are 10 core principles of the masterplan and principle 8 has particular relevance to the Environment and Biodiversity Strategy:

- Principle 8 – *deliver redevelopment in a way that reduces pollution, contributes to habitat protection and long-term sustainability, and that encourages biodiversity.*

While this principle is focused on environment and biodiversity, this strategy will be informed by all the core principles of the masterplan.

### C3.2 South Tees Area Supplementary Planning Document

The purpose of the SPD is to define a spatial strategy and set of requirements for development proposed within the STDC area<sup>9</sup>. In doing so a clear vision has been defined to address heavy industry legacy effects on the environment, improve existing infrastructure and to drive the transformation of the area into a new industrial park.

The SPD aims to “*identify those key opportunities to protect, enhance and manage assets of ecological and heritage importance that will further enhance the South Tees Area*”.

The South Tees Area will be regenerated through a single vision. This vision has been set out through ten key objectives. Objective 8 intends to “*Deliver redevelopment in a way that provides long term sustainability, reduces pollution, manages the water environment, protects the historic environment, contributes to habitat protection, safeguards biodiversity and enhances green infrastructure, open space and landscape character*”.

The objectives are achieved through ‘Development Principles’. Principle STDC7 focuses on the enhancement and protection of the natural environment. Therefore, all development proposals must be in accordance with the requirements of STDC7 and to respond to their environmental context specifically to protect, and where possible enhance, biodiversity and geodiversity interests.

STDC 7 outlines the need for a coordinated approach to environmental protection and enhancement, with open spaces being used as connectors rather than barriers to development. STDC7 goes on to state: “...*Net environmental gains should be provided where appropriate and viable, in accordance with Policies N2 and N4*’

### C3.3 Birds of Conservation Concern

Commonly referred to as the UK Red List for birds, this is the fourth review of the status of birds in the UK, Channel Islands and Isle of Man, and updates the last assessment in 2009. Using standardised criteria, 244 species with breeding, passage or wintering populations in the UK were assessed by experts and assigned to the Red, Amber or Green lists of conservation concern.

The assessment is based on the most up-to-date evidence available and criteria include conservation status at global and European levels and within the UK: historical decline, trends in population and range, rarity, localised distribution and international importance.

### C3.4 Tees Valley Local Biodiversity Species List

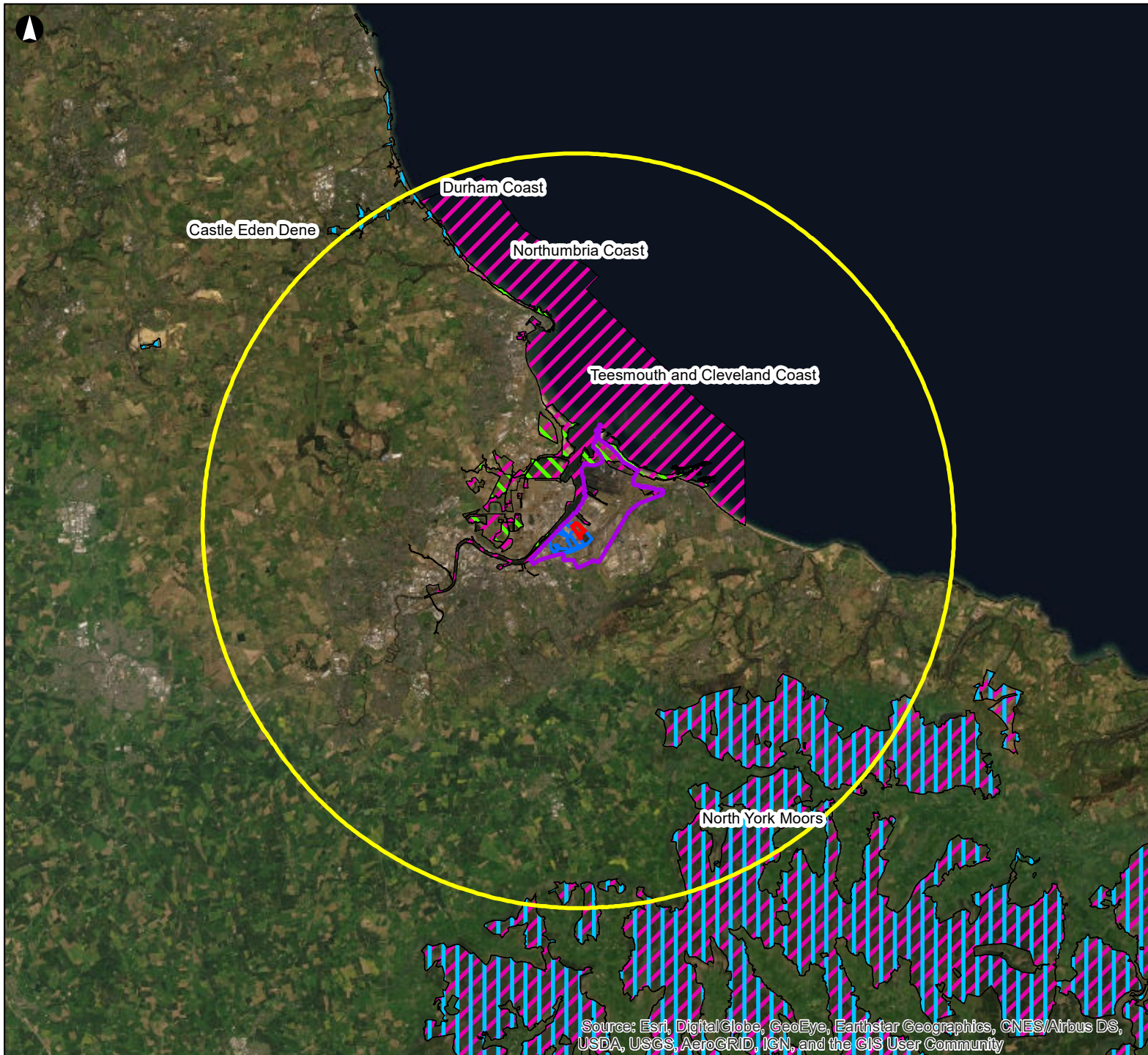
Although the Tees Valley Biodiversity Action Plan (BAP) no longer exists as a plan, the Natural Assets Working Group of the Tees Valley Nature Partnership still maintains a critical element of the BAP in the form of the Tees Valley local biodiversity species list.

This includes species which may be present or adjacent to the proposed development site, namely brown hare, a number of bird species (e.g shelduck), marine mammals and migratory fish species.

## Appendix D

### Internationally Important Sites under Consideration





### Legend

- Metals Recovery Site Boundary
- South Industrial Zone Boundary
- STDC Boundary
- 20km Buffer
- Special Areas of Conservation
- Ramsar
- Special Protection Areas

Coordinate System: British National Grid

Metres

0

3,850

7,700

15,400

Rev	13-08-2020	NM	JAB	FM
Rev	Date	By	Chkd	Appd

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Client

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Project Title

**Metals Recovery Site**

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Drawing Title

**Internationally Designated Sites under Consideration**

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Scale at A4

**1:300,000**

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Role

**Ecology**

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Suitability

**Information**

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Arup Job No <b>276320-00</b>	Rev <b>Issue</b>
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Name

**Appendix D**

Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

## Appendix E

### Biodiversity Net Gain Methodology

## E1 Biodiversity Net Gain – Habitat Areas

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### E1.1 Introduction

The Biodiversity Net Gain (BNG) calculations, using the Natural England Biodiversity Metric 2.0 (BM2.0), are being undertaken to inform approximate habitat areas required to mitigate and compensate for the loss of semi-natural habitats as a result of the proposed development, and enhance habitats to achieve biodiversity net gain.

BM2.0 provides developers, planners, land managers and others with a tool to help limit damage to nature in the first place and to help it thrive.

### E1.2 Principles of the Biodiversity Metric

BM2.0 uses habitat features as a proxy measure for capturing the value and importance of nature. It uses a simple calculation that takes into account the importance of these features for nature: their size, ecological condition, location and proximity to nearby ‘connecting’ features. BM2.0 enables assessments to be made of the present and forecast future biodiversity value of a site.

The metric accounts within it for some of the risks associated whenever new habitat is created or existing habitat is enhanced, including the difficulty of creating or restoring a habitat, and the temporal risk (i.e. the time a new habitat takes to establish).

In calculation terms, the change in biodiversity units is determined by subtracting the number of pre-intervention biodiversity units (i.e. those originally existing on-site and off-site) from the number of post-intervention units (i.e. those projected to be provided).

BM2.0 includes additional supplementary modules for habitats that are not well described by their area. These are linear habitats, for which habitat length is often a more meaningful measure of their extent than area, broadly apply to hedgerows and lines of trees, and rivers and streams. These parts of the metric are calculated differently and have their own discrete biodiversity unit types. It is an important rule of the metric that the biodiversity units calculated through the core habitat area-based metric and each of the linear units are unique and cannot be summed or converted.

It is worth noting that BM2.0 does not include species explicitly. Instead, BM2.0 uses broad habitat categories as a proxy for the biodiversity ‘value’ of the species communities that make up different habitats. The metric does not change existing levels of species protection and the processes linked to protection regimes are outside the scope of the metric.

## E1.3 Methodology

Available baseline information has been used to calculate the number of 'biodiversity units' generated by the habitats present within the proposed development site.

Based on the assumption that all habitats within the proposed development site could be lost to the development, calculations have been made to determine approximate habitat areas required to mitigate and compensate for the loss of semi-natural habitats, and to achieve biodiversity net gain.

### E1.3.1 Habitat Definitions

#### E1.3.1.1 Ruderal/Ephemeral (17), Artificial Unvegetated / Unsealed Surface (u1c) and Open Mosaic Habitats on Previously Developed Land (u1a)

Habitats would be classed as Open Mosaic Habitats (OMH) only where they meet **all** the descriptors set out in the definition of OMH, as stated in the BM2.0 Technical Guidance.

The two descriptors of OMH that are particularly relevant to the classification of habitats at the proposed development site are:

1. Known history of disturbance at the site or evidence that soil has been removed or severely modified by previous use(s) of the site; and
2. The site contains unvegetated, **loose** bare substrate.

While land within the wider STDC site has been altered from its natural state by the addition of industrial spoil, principally in the form of blast furnace slag (but in some cases crushed building materials), this material has been added for the purpose of forming areas of flat, hardstanding as a base for industrial operations. The nature of this material, being porous, alkaline and low nutrient makes it conducive to colonisation by a diverse and slightly specialised flora, whilst retaining some bare ground, but its structure does not meet the description of OMH. In many cases this material has been in situ for decades and in places has developed a very thin layer of soil so that the surface may be loose but with certain exceptions this is merely a dressing on top of hardstanding and is not disturbed.

In these calculations such habitats are considered to fit with the Phase 1 Habitat classification as 'ephemeral/ short perennial', which equates to the 'ruderal/ephemeral' category of the UK Habitat Classification and receives a distinctiveness score of 'low (2).

Where an area is effectively unvegetated but is not sealed, then this is classed as 'artificial unvegetated; unsealed surface' habitat, in line with the UK Habitat Classification, which defines this category as 'land cleared for development, infrastructure, construction or other purpose, currently unvegetated, but the soil surface is not sealed with impervious materials'. **INCA have interpreted**



**‘unvegetated’ to be defined as areas where the total vegetation cover including bryophytes and lichens is <10%.**

### **E1.3.2 Condition**

The BM2.0 technical supplement defines the condition assessment criteria for each habitat type.

For certain habitat types, some alternative site-specific condition criteria have been developed by INCA for Teesside, which are of relevance to the proposed development. These should provide a more detailed, and locally relevant condition assessment for certain habitats, as outlined below.

#### **E1.3.2.1 Ruderal/Ephemeral (17)**

The BM2.0 does not provide specific guidance on condition criteria for ruderal/ephemeral habitats, although it could be assumed that the condition assessment criteria for the urban habitat type are the most relevant

Condition depends principally on the diversity and coverage of typical herb species though, like for OMH, some scattered bare ground is a positive factor.

The following factors have been used to determine the condition:

- the number of early-successional plant species that typify this habitat;
- the percentage cover of early-successional herb species;
- the mixture of bare ground. Bare ground should be scattered. Where it occurs in blocks of >10% of the area it is a negative factor. Any blocks of bare ground of 0.25ha or larger should be recorded as a separate habitat; and
- The percentage cover of non-native, invasive plant species. (*N.B. except buddleia and red valerian. These can total up to 10% between them with anything above that being counted in the total invasive species cover*).

Table 5 indicates the typical ranges for each condition category but as there are various permutations then some professional judgement from INCA has been required in their use, to apply a single score.

Table 5: Typical Ranges for each Condition Category for Ruderal/Ephemeral Habitat on the proposed development site (INCA)

Condition	Score	No. species	% cover	Bare ground	Invasive species
Good	3	10 or more	75-90	10-20% unevenly distributed	<5%
Fairly Good	2.5	8 or more	65-90	10-20% unevenly distributed	<5%
Moderate	2	6 or more	50-90	10-40% unevenly distributed	<10%
Fairly Poor	1.5	4 or more	40-90	40-75%	<20%
Poor	1	Less than 4	10-25%	>75%	>20%

### E1.3.3 Connectivity

As detailed in the BM2.0 connectivity tool guidance<sup>37</sup>, the connectivity tool should be used only to calculate ecological connectivity for habitats with a ‘high’ or ‘very high’ distinctiveness value.

For all habitats scoring ‘medium’ or lower, the interim guidance as described in the BM2.0 user guide should be implemented. In the user guide, it states that any habitats with a distinctiveness value of medium or lower should be afforded a connectivity score of ‘low’.

In the case of this proposed development site no habitats have a distinctiveness value higher than ‘medium’, thus the connectivity tool was not used and all habitats were afforded a connectivity score of ‘low.’

### E1.3.4 Strategic Significance

The strategic significance of the habitats within the proposed development site was assessed on the priority habitats described within the Tees Valley Nature Partnership document<sup>11</sup>, and INCA’s wider understanding of habitats that are considered to be ecologically desirable in the wider South Tees area.

Although not a HoPI, the sparsely vegetated land within the proposed development site contained some of the same desirable species as within OMH and was therefore considered to be ecologically desirable in this location. All sparsely vegetated land was therefore given a strategic score of ‘Location ecologically desirable but not in local strategy (1.1).’

<sup>37</sup> Natural England (2019) Biodiversity Metric 2.0 – Connectivity Tool Guidance. Natural England Joint Publication JP029.

As the remainder of the habitats within the proposed development site are not considered to be a HoPI or locally important in the South Tees area, they have all been given a strategic significance score of 'Area/compensation not in local strategy/ no local strategy (1).'