



# Preliminary Environmental Information Report

## Volume III - Appendices

### Appendix 12C: Preliminary Ecological Appraisal Report

The Infrastructure Planning (Environmental Impact Assessment) Regulations 2017 (as amended)



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# 12C. Preliminary Ecological Appraisal Report

## 12.1 Introduction

- 12.1.3 This report describes the approach and findings of the Preliminary Ecological Appraisal (PEA) undertaken in support of the ecological impact assessment (EcIA) of the Proposed Development. The terms of reference used to describe the Proposed Development in this report are consistent with those defined within the main chapters of the Preliminary Environmental Information (PEI) Report (Volume I).
- 12.1.4 The purpose of the PEA was to define the high level baseline terrestrial, freshwater (and as far as reasonable and practicable) marine ecological conditions associated within the potential zone of influence of the Proposed Development (based on the study areas defined later in this report), and to determine the need for further survey work to inform the subsequent EcIA. As such, it supports the EcIAs provided as Chapter 12: Terrestrial Ecology and Nature Conservation, Chapter 13: Aquatic Ecology, Chapter 14: Marine Ecology and Nature Conservation and Chapter 15: Ornithology (PEI Report, Volume I). The PEA report provides a record of the initial work undertaken, the findings of these studies, and clarifies which ecological features are and are not relevant to the impact assessment of the Proposed Development.
- 12.1.5 The approach applied when undertaking this PEA accords with current best practice guidelines for PEA published by the Chartered Institute of Ecology and Environmental Management (CIEEM, 2017). The PEA addresses relevant wildlife legislation and planning policy as summarised in the next section of this report.
- 12.1.6 In order to deliver the PEA, a desk study and an extended Phase 1 Habitat survey were undertaken by appropriately experienced ecologists, to identify ecological features within land required for construction, operation and decommissioning of the Proposed Development and its wider potential zone of influence. The potential zones of influence relevant to different ecological features is considered and defined within the Methods section of this PEA report when defining the desk study and field survey areas to be applied.
- 12.1.7 The objectives of this PEA report are to:
- identify statutory and non-statutory biodiversity and nature conservation designations within the potential zone of influence of the Proposed Development;
  - identify and categorise (where possible and accessible) all habitats present within the land required for the Proposed Development, and adjacent areas where there might be potential for direct or indirect effects;

- carry out an appraisal of the potential of the habitats recorded (where possible and accessible) to support protected or notable species of fauna and flora;
- identify requirements for follow-up habitat and species surveys to fully define the ecological baseline;
- provide an evaluation of the relative nature conservation value of the identified nature conservation designations, habitats and species to inform the EclA, where possible based on available information; and
- provide figures showing the locations of the identified ecological features.

12.1.8 The following figures are provided to support this PEA:

- Figure 12C.1 – Phase 1 Habitat Map
- Figure 12C.2 – Statutory and Non-statutory Nature Conservation Designations
- Figure 12C.3 – Watercourses and Ponds within 250 m of the Proposed Development
- Figure 12C.4 – Priority Habitats Map

## 12.2 Wildlife Legislation and Planning Policy

12.2.3 A summary of potentially relevant legislation, planning policy and related guidance is provided within this section of the PEA report. A fuller account is provided as the standalone Appendices 12A: Legislation and Planning Policy (terrestrial ecology) (PEI Report Volume III) and should be referred to when reading this PEA report.

### Wildlife Legislation

12.2.4 The relevant wildlife legislation relating to terrestrial, freshwater and marine biodiversity and nature conservation in England is as follows:

- The Conservation of Habitats and Species Regulations 2017 (as amended) (the Habitats Regulations);
- Wildlife and Countryside Act 1981 (as amended) (the WCA);
- The Hedgerow Regulations 1997;
- Countryside and Rights of Way (CROW) Act 2000 (as amended);
- Natural Environment and Rural Communities (NERC) Act 2006 (as amended);
- Protection of Badgers Act 1992 (as amended);
- Animal Welfare Act 2006.
- Eels (England and Wales) Regulations 2009 (as amended);
- Salmon & Freshwater Fisheries Act 1975 (as amended);
- Environmental Protection Act 1990; and

- The Water Environment (Water Framework Directive) (England and Wales) Regulations 2017.

## National Planning Policy

12.2.5 The Government's policy for delivery of major energy infrastructure is set out in the following relevant National Policy Statements (NPS):

- Overarching NPS for Energy (EN-1);
- Fossil Fuel Electricity Generating Infrastructure (EN-2);
- Gas Supply Infrastructure and Gas and Oil Pipelines (EN-4); and
- Electrical Networks Infrastructure (EN-5).

12.2.6 The policies set out in the National Planning Policy Framework (NPPF) (February 2019, updated 10 June 2019) are also important and relevant matters. The NPPF sets out the Government's planning policies for England and how these are to be applied, and identifies overarching objectives, including environmental (such as protecting and enhancing our natural environment and improving biodiversity). It introduces additional considerations including definitions of and requirements in relation to irreplaceable habitats which must be addressed in the development design and assessment process.

## Local Planning Policy

12.2.7 The Proposed Development includes infrastructure located both in the Boroughs of Redcar and Cleveland, and Stockton-on-Tees. Therefore, the following planning policies are potentially relevant to the Proposed Development:

- Local Spatial Strategy Policy LS4 of the Redcar and Cleveland Local Plan adopted May 2018. The South Tees Spatial Strategy requires measures to protect European sites, to safeguard and improve sites of biodiversity interest particularly along the River Tees and the estuary, and to encourage integrated habitat creation and management;
- Natural Environment Policies N2 and N4 of the Redcar and Cleveland Local Plan adopted May 2018. These require the protection and enhancement of the borough's green infrastructure network and green wedges, and biodiversity and geological resources, including avoidance of adverse impacts to internationally and nationally statutory nature conservation designations;
- Sustainable Development Policies SD1 and SD8 of the Stockton-on-Tees Local Plan adopted January 2019 which set out requirements for the conservation and enhancement of the natural environment, including designations, green infrastructure, priority habitats, ecological networks, woodland and priority species;
- Economic Growth Policy EG4 of the Stockton-on-Tees Local Plan adopted January 2019, which identifies the areas available for

development, including Seal Sands, and the need to recognise the importance of bird species associated with the Teesmouth and Cleveland SPA and Ramsar site when considering development proposals.

- Natural Environment Policy ENV5, ENV6 and ENV7 of the Stockton-on-Tees Local Plan adopted January 2019 which set out requirements for the protection and enhancement of biodiversity, including maximising biodiversity gains within identified Biodiversity Opportunity Areas (BOAs) in the River Tees Corridor and Teesmouth, and minimising adverse effects of ground, air, water noise and light pollution; and
- Development Principle STDC7 of the Redcar and Cleveland South Tees Area Supplementary Planning Document (SPD) adopted May 2018 sets out expectations for natural environment protection and enhancement, including the requirement to comply with Redcar and Cleveland Local Plan Policy N4 (see above).

12.2.8 These planning policies have been considered when assessing potential ecological constraints and opportunities identified by the desk study and field surveys, and when assessing requirements for further survey, design options and ecological mitigation, as described in Section 12.5. For more information on the wording of each specific policy refer Appendix 12A: Legislation and Planning Policy Relevant to Terrestrial Ecology (PEI Report Volume III) as well as the source planning policy documents.

12.2.9 Additional guidance of potential relevance to the Proposed Development and/ or for interpretation of the above planning policy is given in the following documents:

- Biodiversity 2020: A strategy for England's wildlife and ecosystem services (Department for Environment, Food and Rural Affairs (Defra), 2011);
- Planning Practice Guidance: Natural Environment (Ministry of Housing, Communities and Local Government, 2019);
- Standing Advice issued by Natural England and Department for Environment, Food and Rural Affairs: Protected species: how to review planning applications (2016);
- Supplementary Planning Document 1: Sustainable Design Guide (Stockton-on-Tees Borough Council, 2011);
- Tees Valley Green Infrastructure Strategy (Tees Valley Joint Strategy Unit, 2008);
- Redcar and Cleveland's Green Space Strategy 2006-2016 (Redcar and Cleveland Partnership, 2006);
- The Tees Lowlands National Character Area (NCA) Profile (Natural England, 2013);
- A Biodiversity Audit of the North East (Brodin, 2001); and

- Priority Habitats and Species in the Tees Valley (Tees Valley Nature Partnership, 2012).

## 12.3 Methods

### Desk Study

- 12.3.3 A desk study was carried out to identify nature conservation designations, protected and notable habitats and species potentially relevant to the Proposed Development.
- 12.3.4 A stratified approach was taken when defining the desk study area, based on the precautionary approach to calculating a Zone of Influence (Zoi) of potential development on different ecological receptors; and an understanding of the maximum distances typically considered by statutory consultees. Accordingly, the desk study identified any international and national statutory nature conservation designations within 15 km of the Site to meet data needs for the assessment of potential air quality effects from operation of the Proposed Development; other statutory and non-statutory nature conservation designations within 2 km of the Site, again consistent with data needs for air quality assessment; and protected and notable habitats and species<sup>1</sup> within 1 km of the Site.
- 12.3.5 The desk study was carried out using the data sources detailed in Table 12C-1.

**Table 12C-1: Desk Study Data Sources**

Data Source	Accessed/ Received	Data Obtained
Multi-Agency Geographic Information for the Countryside (MAGIC) website <a href="https://magic.defra.gov.uk/">https://magic.defra.gov.uk/</a>	January 2020	<ul style="list-style-type: none"> <li>• International and national statutory designations within 15 km of the proposed CCGT power station (due to requirements for air quality impact assessment) or otherwise within an Impact Risk Zone (IRZ) identified by Natural England and relevant to the wider Proposed Development (i.e. within an IRZ for 'infrastructure development');</li> <li>• Local statutory designations within 2 km; and</li> <li>• Ancient woodlands and notable habitats within 1 km.</li> </ul>
Joint Nature Conservation Committee (JNCC) Website (UK Protected Sites) <a href="http://jncc.defra.gov.uk/">http://jncc.defra.gov.uk/</a>	January 2020	<ul style="list-style-type: none"> <li>• Citations for Internationally Designated Sites, Special Protection Areas (SPA), Special Areas of Conservation (SAC) and Ramsar Sites.</li> </ul>
Natural England Website <a href="https://designatedsites.natur">https://designatedsites.natur</a>	January 2020	<ul style="list-style-type: none"> <li>• Citations for Nationally Designated Sites of Special Scientific Interest (SSSI), National Nature</li> </ul>

<sup>1</sup> Protected and notable habitats and species include those listed under Schedules 1, 5 and 8 of the WCA; Schedules 2, 4 and 5 of the Habitats Regulations; species and habitats of principal importance for nature conservation in England listed under section 41 (s41) of the NERC Act; and other species that are Nationally Rare, Nationally Scarce or listed in national or local Red Data Lists and Biodiversity Action Plans. Records of non-native controlled weed species were also collated, such species are listed under Schedule 9 of the Wildlife and Countryside Act 1981 (as amended).



Data Source	Accessed/ Received	Data Obtained
alengland.org.uk/SiteSearch.aspx		Reserves (NNR) and details on Local Nature Reserves (LNR)
Environmental Records and Information Centre (ERIC) North-East	March 2018, updated July 2019	<ul style="list-style-type: none"> <li>• Non-statutory designations within 2 km;</li> <li>• Protected and notable species records within 1 km (records for the last 10 years only); and</li> <li>• Priority habitats within 1 km.</li> </ul>
Ordnance Survey 1:25,000 Pathfinder maps and aerial photography	January 2020	<ul style="list-style-type: none"> <li>• Information on habitats and habitat connections (based on aerial photography) relevant to interpretation of planning policy and assessment of potential protected and notable species constraints.</li> </ul>
Tees Valley Nature Partnership Website	January 2020	<ul style="list-style-type: none"> <li>• General information on Local Biodiversity Action Plan Priority Habitats and Species.</li> </ul>
Industry Nature Conservation Association (INCA)	September 2019, April 2020	<ul style="list-style-type: none"> <li>• Records of notable species.</li> <li>• Advice on relevant protected species e.g. local status of great crested newt (<i>Triturus cristatus</i>).</li> <li>• Reports of previous surveys undertaken on and adjacent to the land required for the Proposed Development.</li> </ul>
Environmental Statement for Dogger Bank Teesside A / Sofia Offshore Wind Farm	April 2020	<ul style="list-style-type: none"> <li>• Records of notable species extracted from the Peak Ecology Ltd (2014) report (ES Chapter 25, Appendix A1, online at <a href="https://infrastructure.planninginspectorate.gov.uk/">https://infrastructure.planninginspectorate.gov.uk/</a>)</li> </ul>

## Field Survey

### Phase 1 Habitat Survey

- 12.3.6 Phase 1 Habitat survey data was collated for the Proposed Development from field survey (where land access agreements could be reached), review of current aerial photography, and (where current and reliable) third party data sources (primarily data collected by Industry Nature Conservation Association (INCA) in 2016 and 2017) (Figure 12C.1).
- 12.3.7 Phase 1 Habitat survey (Joint Nature Conservation Committee, 2010) is a standard method of environmental audit. It involves categorising, mapping and describing different habitat types and habitat features within a survey area. The standard Phase 1 Habitat survey method can be “extended” to record target notes on protected, notable and invasive species. The information gained from the survey can be used to determine the likely ecological value of a site, and to direct any more specific survey work which may need to be carried out prior to the submission of a planning application. Where field survey data has not been obtained directly by AECOM then it has been necessary to adopt a precautionary evidence-based approach to identification of potential constraints and requirements for further survey to inform EclA.



12.3.8 The following areas of land required by the Proposed Development were surveyed by suitably experienced AECOM ecologists as detailed below:

- The PCC and adjacent land were surveyed on the 21<sup>st</sup> and 22<sup>nd</sup> February 2018, with botanical data topped up on 19<sup>th</sup> May 2018; and
- Land within the connection corridors was surveyed (as the scheme evolved and land access permission was granted) on the 21<sup>st</sup> and 22<sup>nd</sup> February 2018, 23<sup>rd</sup> and 24<sup>th</sup> May 2019 and 15<sup>th</sup> July 2019.

12.3.9 The field survey area applied during the AECOM surveys comprised all land to a maximum distance of 50 m from the red line for the Proposed Development, where safely accessible and land access permission had been granted.

12.3.10 Typical and notable plant species were recorded for different habitat types and reflect the conditions at the time of survey. Where third party data has been used to map habitats then use has also been made of any associated botanical information, but in some cases this was not available. In all cases, the Phase 1 Habitat survey datasets were not intended to be a detailed inventory of the plant species present as this is not required for the purposes of Phase 1 Habitat survey. If further detailed botanical survey is considered appropriate, then this is advised as a follow-up to the Phase 1 Habitat survey.

#### Appraisal of potential suitability of habitats to support protected and notable species

12.3.11 The Phase 1 Habitat survey was 'extended' to include an appraisal of the potential suitability of the habitats present to support protected and notable species of plants or animals (as defined in footnote 1). Field signs, habitat features with potential to support protected or notable species and any sightings or auditory evidence were recorded when encountered, but no detailed protected species surveys were carried out for the purposes of this PEA, other than those described in the bullet points below.

12.3.12 Specific surveys were undertaken for the following protected or notable species as part of the PEA:

- Badger – where present, the results will be reported subsequently in a standalone confidential appendix;
- Barn owl nest sites - where present, the results will be reported subsequently in a standalone confidential appendix;
- Invasive non-native plant species listed on Schedule 9 of the WCA – these were recorded as encountered and the results are provided in this PEA report.

12.3.13 Table 12C-5 of this report clarifies any further requirements for species surveys based on the information gathered for this PEA report

#### Great Crested Newt eDNA Survey

12.3.14 An opportunity was taken during habitat surveys of the Main Site to undertake eDNA surveys for great crested newt at ponds within the habitat survey area. These eDNA surveys were carried out on 18<sup>th</sup> May 2018.

- 12.3.15 Water samples were taken from four ponds (Ponds 1, 2, 3 and 4, Figure 12C. 3) in accordance with established methods (Briggs *et al.*, 2014) and were sent to Nature Metrics Ltd for eDNA analysis. Samples were collected by a suitably qualified ecologist holding a Natural England GCN survey licence.
- 12.3.16 The results of the survey are summarised in Table 12C-5. Subsequently it was confirmed by INCA (email from Ian Bond 24<sup>th</sup> March 2020) that there are no known occurrences of great crested newt in the South Tees area of Redcar and Cleveland and that it is well established that great crested newt surveys are not required to support planning applications in the South Tees area. No further consideration is given to this species in relation to the components of the Proposed Development located within Redcar and Cleveland.
- 12.3.17 Requirements for great crested newt surveys to the north of the Tees in Stockton-on-Tees are considered further in the PEA report, but no surveys were undertaken in time to permit inclusion of results in this report.

### Desk Study and Field Survey Limitations

- 12.3.18 The aim of a desk study was to help characterise the baseline context of the Site and provide valuable background information that would not be captured by a single site survey alone. Information obtained from a desk study is dependent upon people and organisations having made and submitted records for the area of interest. As such, a lack of records for particular habitats or species does not necessarily mean that those habitats or species do not occur in the study area. Likewise, the presence of records for particular habitats and species does not automatically mean that these still occur within the area of interest or are relevant in the context of the proposed development.
- 12.3.19 During the AECOM field survey, restrictions on access to private land limited the ability of surveyors to view some areas and to identify with confidence the habitats and habitat characteristics in others. Some areas were obscured by buildings or infrastructure and/or could not be approached closely. Habitats in inaccessible areas were identified using third party data, or where this was not available from ground-based observations using binoculars and/or a combination of aerial photographs and information extracted from the MAGIC website. Such an approach is consistent with published methods (JNCC, 2010) or is otherwise generally sufficient to allow a precautionary assessment of likely constraints and ongoing survey needs. Any limitations arising from this are identified and a precautionary approach is taken when interpreting the available data.

### Evaluation of Ecological Features

- 12.3.20 The value of habitats and designated sites identified within this PEA has been defined with reference to the following geographic scale:
- International (generally this is within a European context, reflecting the general availability of good data to allow cross-comparison);

- National (Great Britain, but considering the potential for certain ecological features to be more notable (of higher value) in an England context relative to Great Britain as a whole);
- Regional (North East, Yorkshire and the Humber)
- County (North Riding of Yorkshire, County Durham);
- Borough (Redcar and Cleveland, Stockton-On-Tees);
- Local (ecological features that do not meet criteria for valuation at a borough or higher level, but that have sufficient value at the site level to merit retention or mitigation); and
- Negligible (common and widespread ecological features that have very low value at the site level and which do not require retention or mitigation at the relevant location to otherwise maintain a favourable nature conservation status, or to deliver wider relevant biodiversity objectives).

12.3.21 This has been undertaken to inform the EclA presented in Chapters 12 to 15 of the PEI Report (Volume I). Further information on the approach to the evaluation of ecological features is provided in Appendix 12B: Ecological Impact Assessment Methods (PEI Report, Volume III).

12.3.22 Species have not been valued using this approach as the data contained within this PEA Report does not permit this. Such valuations will be provided later once all necessary species surveys have been completed.

## 12.4 Results

### Nature Conservation Designations

#### Statutory Designations

12.4.3 Table 12C-2 summarises the statutory nature conservation designations identified by the desk study that are of potential relevance to the Proposed Development. All international and national statutory nature conservation designations within 15 km of the proposed PCC Site are of potential relevance due to requirements for good practice air quality impact assessment, for all other statutory designations the criteria for relevant are either (a) the designation is 2 km from the Proposed Development, or (b) it is within an IRZ identified by Natural England for 'infrastructure developments'.

12.4.4 Based on these criteria, the following are potentially relevant to the EclA for the Proposed Development:

- Six international statutory designations, including two crossed by infrastructure for the Proposed Development;
- Six national statutory designations, including one crossed by infrastructure for the Proposed Development; and
- Four local statutory designations, including one crossed by infrastructure for the Proposed Development.

12.4.5 The locations of these designations are shown on Figure 12C.2.

**Table 12C-2: Statutory Nature Conservation Designations**

Designation	Reason(s) for Designation/Qualifying Features	Within 15 km (international and national designations) or 2 km (LNR) of PCC	Within 2 km of other proposed infrastructure and/or overlap with the IRZ for the designation concerned
<b>International statutory designations (refer to Figure 12C.2)</b>			
Teesmouth and Cleveland Coast SPA (as extended in 2020)	<p>Designated for numbers of marine and shore birds.</p> <ul style="list-style-type: none"> <li>Breeding population of: <ul style="list-style-type: none"> <li>little tern (<i>Sterna albifrons</i>): 40 pairs, 1.7% of UK population;</li> </ul> </li> <li>Concentrations of: <ul style="list-style-type: none"> <li>sandwich tern (<i>Sterna sandvicensis</i>): 1900 birds, 6.8% of UK pop.;</li> <li>redshank (<i>Tringa totanus</i>): 1648 birds, 1.1% of UK pop.;</li> </ul> </li> <li>Wintering assemblage of: <ul style="list-style-type: none"> <li>shoveler (<i>Anas clypeata</i>);</li> <li>Teal (<i>Anas crecca</i>);</li> <li>knot (<i>Calidris canutus</i>): 5509 birds, 1.6% of pop.;</li> <li>cormorant (<i>Phalacrocorax carbo</i>);</li> <li>shelduck (<i>Tadorna tadorna</i>).</li> </ul> </li> <li>Population on non-breeding Ruff (<i>Calidris pugnax</i>)</li> </ul>	Immediately north	Crossed by the CO <sub>2</sub> Gathering Network, CO <sub>2</sub> Export Pipeline, Electrical Connection Corridor and Water Connection Corridors
Teesmouth and Cleveland Coast Ramsar (as extended in 2020)	<p>Designated for its internationally important numbers of breeding and wintering waterfowl.</p> <p>It is also designated for its peak counts in spring/autumn of redshank (<i>Tringa tetanus</i>) and its winter counts of red knot (<i>Calidris canutus islandica</i>).</p>	Immediately north	Crossed by the CO <sub>2</sub> Gathering Network, CO <sub>2</sub> Export Corridor, Electrical Connection Corridor and Water Connection Corridor
Northumbria Coast Ramsar	The site supports internationally important wintering populations of turnstone ( <i>Arenaria interpres</i> ) and purple sandpiper ( <i>Calidris maritima</i> ).	13 km north-west	Not relevant
North York Moors SPA	<p>Designated for its high numbers of breeding:</p> <ul style="list-style-type: none"> <li>golden plover (<i>Pluvialis apricaria</i>): 526 breeding pairs (2.3% of national breeding population);</li> <li>merlin (<i>Falco columbarius</i>): 35 breeding pairs (2.7% of national breeding population).</li> </ul>	11 km south-east	Not relevant
North York Moors SAC	<p>Designated for habitats including:</p> <ul style="list-style-type: none"> <li>Northern Atlantic wet heaths with <i>Erica tetralix</i>;</li> <li>European dry heaths; and</li> <li>Blanket bogs.</li> </ul>	11 km south-east	Not relevant

Designation	Reason(s) for Designation/Qualifying Features	Within 15 km (international and national designations) or 2 km (LNR) of PCC	Within 2 km of other proposed infrastructure and/or overlap with the IRZ for the designation concerned
Durham Coast SAC	Designated for its vegetated sea cliffs of the Atlantic and Batlic coasts.	15 km north west	Not relevant
<b>National statutory designations (refer to Figure 12C.2)</b>			
Teesmouth and Cleveland Coast SSSI	Nationally important for the following biodiversity features: <ul style="list-style-type: none"> <li>• sand dunes;</li> <li>• saltmarshes;</li> <li>• breeding harbour seals (<i>Phoca vitulina</i>);</li> <li>• breeding avocet (<i>Recurvirostra avosetta</i>), little tern and common tern (<i>Sterna hirundo</i>);</li> <li>• a diverse assemblage of breeding birds of sand dunes, saltmarsh and lowland open waters and their margins;</li> <li>• non-breeding shelduck, shoveler, gadwall (<i>Mareca strepera</i>), ringed plover (<i>Charadrius hiaticula</i>), knot, ruff (<i>Calidris pugnax</i>), sanderling (<i>Calidris alba</i>), purple sandpiper (<i>Calidris maritima</i>), redshank and Sandwich tern;</li> <li>• an assemblage of more than 20,000 waterbirds during the non-breeding season; and</li> <li>• a diverse assemblage of invertebrates associated with sand dunes.</li> </ul>	Immediately north	Crossed by the CO <sub>2</sub> Gathering Network, CO <sub>2</sub> Export Pipeline, Electrical Connection Corridor and Water Connection Corridors
Teesmouth National Nature Reserve (NNR)	Nationally important for the following biodiversity features: <ul style="list-style-type: none"> <li>• waterbird assemblage (&gt;20,000 birds);</li> <li>• s41 breeding birds: waders, grey partridge (<i>Perdix perdix</i>), skylark (<i>Alauda arvensis</i>), linnet (<i>Carduelis cannabina</i>) and reed bunting (<i>Emberiza schoeniculus</i>);</li> <li>• other birds: knot and redshank (non-breeding), little tern (breeding), ringed plover (spring), sandwich tern (post-breeding) and shelduck (winter);</li> <li>• harbour seal;</li> <li>• invertebrate assemblages;</li> <li>• lyme grass moth (<i>Photedes elymi</i>);</li> <li>• saltmarsh plant assemblage;</li> <li>• sand dune plant assemblage.</li> </ul>	2.8 km west	430 m north of Gas Connection Corridor and CO <sub>2</sub> Gathering Network. 600 m west of Water Connection Corridors.

Designation	Reason(s) for Designation/Qualifying Features	Within 15 km (international and national designations) or 2 km (LNR) of PCC	Within 2 km of other proposed infrastructure and/or overlap with the IRZ for the designation concerned
Saltburn Gill SSSI	Designated for its mixed deciduous woodland supporting a diverse ground flora.	10.4 km south-east	Not relevant
North York Moors SSSI	Nationally important for its mire, blanket bog, dry upland heath, wet upland heath and moorland habitats. Internationally important for its breeding bird populations, particularly merlin ( <i>Falco columbarius</i> ) and golden plover ( <i>Pluvialis apricaria</i> ).	11.9 km south-east	Not relevant
Lovell Hill Pools SSSI	Designated for its outstanding assemblage of dragonflies and damselflies.	6 km south-east	2.1 km south-east of Electrical Connection Corridor.
Durham Coast SSSI	Designated for its considerable biological, geological and physiographic interest. It contains most of the paramaritime Magnesian Limestone vegetation in Britain. The site also contains a species-rich dune system which supports nationally important numbers of wintering shore birds and breeding little terns.	12.7 km north-west	Not relevant
<b>Local statutory designations (refer to figure 12C.2)</b>			
Eston Moor LNR	Designation applies to land supporting lowland heathland with birch woodland, scrub, wetland and acid grassland.	Not relevant	860 m south of Electrical Connection Corridor
Seaton Dunes and Common LNR	Designation applies to land within the largest and most diverse sand dune system in north-east England.	Not relevant	2.3 km west of Water Abstraction and Discharge Corridors.
Charlton's Pond LNR	Designation applies to land supporting wetland, amenity grassland and woodland habitats.	Not relevant	730 m west of CO <sub>2</sub> Gathering Network.
Cowpen Bewley Woodland Country Park LNR	Designation applies to former agricultural, landfill and brickworks land now supporting grassland and freshwater habitats.	Not relevant	1.2 km north of CO <sub>2</sub> Gathering Network.

### Non-statutory Designations

**12.4.6** Table 12C-3 summarises the 11 non-statutory nature conservation designations identified by the desk study that are of potential relevance to the Proposed Development. The locations of these designations are shown on Figure 12C.2.

**12.4.7** Based on the relative distance from the Proposed Development only Eston Pumping Station LWS and Coatham Marsh LWS have potential to be affected and therefore require impact assessment.



**Table 12C-3: Sites with Non-Statutory Designations for Nature Conservation**

Designation	Reason(s) for Designation	Within 2 km of PCC	Within 2 km of other proposed infrastructure
Eston Pumping Station LWS	Designated for its mosaic of habitats and borderline neutral urban grasslands.	Within site, 1.2 km south from PCC	Within the red line boundary for Connection Corridors but avoided by Proposed Development (no direct effects).
Coatham Marsh LWS	Saltmarsh, coastal grasslands, flushes, seepages and springs.	Partially within Freshwater Connection Corridor	220 m east of CO <sub>2</sub> Gathering Network, Natural Gas Connection Corridor and Electrical Connection Corridor.
Teesaurus Park LWS	Areas of herb-rich grassland with kidney vetch ( <i>Anthyllis vulneraria</i> ), vipers bugloss ( <i>Echium vulgare</i> ) and tansy ( <i>Tanacetum vulgare</i> ).	Not relevant	800 m south of CO <sub>2</sub> Gathering Network and laydown area.
Greatham Creek North Bank LWS	Saltmarsh habitat, dominated by saltmarsh grass, ( <i>Puccinellia</i> sp.) with a glasswort, ( <i>Salicornia</i> sp).	Not relevant	940 m north of Gas Connection Corridor and CO <sub>2</sub> Gathering Network.
Greatham North West LWS	The LWS is within the Teesmouth and Cleveland Coast SPA/SSSI/Ramsar.  Saltmarsh vegetation in tidal creeks, notably reflexed saltmarsh-grass ( <i>Puccinellia distans</i> ), <i>Salicornia</i> sp, lesser sea-spurry ( <i>Spergularia marina</i> ) and sea milkwort ( <i>Glaux maritima</i> ).  The area supports 3.7% of total SPA bird numbers and important site for breeding lapwing.	Not relevant	1.5 km north of Natural Gas Connection Corridor and CO <sub>2</sub> Gathering Network.
Greenabella Marsh LWS	The LWS is partially within the Teesmouth and Cleveland Coast SPA/SSSI/Ramsar.  The site is designated for its population of water voles.	Not relevant	1.1 km north of natural Gas Connection Corridor and CO <sub>2</sub> Gathering Network.
Wilton Woods Complex LWS	Ancient woodland (semi-natural and replanted).	Not relevant	340 m east of Electrical Connection Corridor, Natural Gas Connection Corridor and CO <sub>2</sub> Gathering Network.
Cowpen Bewley Woodland Park	Country park comprising new woodland, grassland, ponds and lakes. The site	Not relevant	1.2 km north of CO <sub>2</sub> Gathering Network.

Designation	Reason(s) for Designation	Within 2 km of PCC	Within 2 km of other proposed infrastructure
LWS	supports Great Crested Newt.		
Zinc Works Field LWS	Supports an important number of passerine birds and in particular at times has held >0.5% of the population of ring ouzel ( <i>Turdus torquatus</i> ).	Not relevant	1.4 km west of Water Abstraction and Discharge Corridors
Phillips Tank Farm LWS	The LWS is partially within the Teesmouth and Cleveland Coast SPA/SSSI/Ramsar.  Designated for its population of great crested newts and dingy skipper.	Not relevant	1.8 km north west of CO <sub>2</sub> Gathering Network
Eston Moor LWS	Designated for its lowland heath and basin mire.	Not relevant	860 m south of CO <sub>2</sub> Gathering Network.

## Habitats

12.4.8 The habitats within and adjacent to the red line for the Proposed Development are described below. Supporting target notes are provided in Annex A, the habitats are mapped on Figure 12C.1, and illustrative photographs are provided in Annex B. These habitats have been identified through field survey by AECOM and, where survey access was not available to some land, use of third-party data provided by INCA and review of current Google Earth imagery.

12.4.9 The Proposed Development includes infrastructure located in the boroughs of Redcar and Cleveland, and Stockton-on-Tees, with the project requirements and relevant habitat conditions in each borough being different. Accordingly, for purposes of clarity and to assist impact assessment later, the habitat account is presented below by borough. Relevant habitats below the mean high-water line of the River Tees, which forms the boundary between the two boroughs, are beyond the scope of the habitat surveys for this PEA report and are defined later in Chapter 14: Marine Ecology and Nature Conservation (PEI Report, Volume I) and its supporting appendices (PEI Report Volume III).

### Habitats in the Borough of Redcar and Cleveland

#### Broad-leaved woodland

12.4.10 Woodland is very localised within the land required for the Proposed Development and mainly restricted to land near Lazenby, Wilton and Dormanstown. These woodlands are mainly of plantation origin and include screening plantations around the Wilton Complex. Where accessible, these woodlands were found to be sycamore (*Acer pseudoplatanus*), hybrid black poplar (*Populus x canadensis* agg.), ash (*Fraxinus excelsior*) and aspen (*Populus tremula*) with some also containing willows (*Salix* spp.), wild cherry (*Prunus avium*), birch (*Betula* spp.) and hornbeam (*Carpinus betulus*) (TN54, TN61, Annex A).



- 12.4.11 All these woodlands are mature and the semi-natural woodlands are encompassed by the s41 lowland mixed deciduous woodland habitat. All are all therefore assessed as having borough nature conservation value.

#### Scrub

- 12.4.12 Dense stands of scrub are widely distributed over the land required for construction of the Proposed Development. These stands are of variable composition and in some cases, for example within the PCC, include deliberate plantings (Photographs 39 & 40, Annex B). Scattered scrub occurs in areas of unmanaged grassland (TN32, TN62, TN50, Annex A. Photograph 39, 40 and 61, Annex B).
- 12.4.13 Typical constituent species include sea-buckthorn (*Hippophae rhamnoides*), brambles (*Rubus fruticosus* agg.), hawthorn, gorse (*Ulex europaeus*) and willows. Species-poor stands of dense brambles are frequently along watercourses, railway lines and the existing network of gas pipelines (TN8, TN15, Annex 1).
- 12.4.14 Scrub habitats are of recent secondary origin and readily substituted. They are therefore assessed as having local nature conservation value.

#### Hedgerows

- 12.4.15 Native hedgerows are largely restricted to the farmed landscape around Lazenby and Kirkleatham. These hedgerows are of variable condition with some intact and well-maintained, and others very gappy ('defunct'). The hedgerows that could be surveyed are species-poor and dominated by hawthorn (TN84, TN87, Annex A, photograph 57 Annex B). Native hedgerows, regardless of condition or species composition, are a s41 priority habitat.
- 12.4.16 As the habitat is relatively scarce in Redcar and Cleveland, but common regionally and nationally, it is assessed as having borough nature conservation value.

#### Sand dunes

- 12.4.17 This broad habitat type occurs to the north and west of the PCC in the areas known as Coatham Sands and Bran Sands. Sand dunes are a priority habitat under s41 of the NERC Act and are also considered an 'irreplaceable habitat' in accordance with definitions and requirements within the NPPF.
- 12.4.18 The sand dune system (TN9, Annex A, photographs 14 to 16, Annex B, Figure 12C.1) is within, and one of the reasons for designation of, Teesmouth and Cleveland Coast SSSI. Therefore, it is assessed as having national nature conservation value.
- 12.4.19 This sand dune system comprises a matrix of the following component habitats: open dune, dune grassland, dune scrub and dune slack. The habitats have been influenced by historic deposition of lime-rich slag from the steel works within the dune system, and these deposits contribute to the botanical interest of the dune system but are not a specific reason for designation of the SSSI.

12.4.20 There is an additional area of grassland (TN72 Annex A, Figure 12C.1), that is best regarded as dune grassland due to its location and botanical composition, located immediately south of Bran Sands outside the boundary of the SSSI. This grassland is of secondary origin, and like parts of the SSSI has established over deposits of lime-rich slag.

12.4.21 This species-rich grassland has established over undulating ground. The tops of the mounds and ridges are dominated by marram grass (*Ammophila arenaria*) and lyme grass (*Leymus arenarius*). Between the ridges the grassland contains a high abundance of bird's-foot trefoil (*Lotus corniculatus*), soft brome (*Bromus hordeaceus* ssp. *hordeaceus*), common retharrow (*Ononis repens*), lesser hawkbit (*Leontodon saxatilis*), carline thistle (*Carlina vulgaris*) and common mouse-ear-hawkweed (*Hieracium pilosella*). Other species include buck's-horn plantain (*Plantago coronopus*), carline thistle (*Carlina vulgaris*), yellow-wort (*Blackstonia perfoliata*), common centaury (*Centaureum erythraea*), hare's-foot clover (*Trifolium arvense*), wild strawberry (*Fragaria vesca*) and pyramidal orchid (*Anacamptis pyramidalis*) (TN70-TN72, Annex A).

12.4.22 This grassland is of potential LWS quality (county value) but as it will be retained in its entirety no further assessment is required to investigate this further.

#### *Semi-improved grassland*

12.4.23 Semi-improved neutral grassland, generally unmanaged and therefore relatively rank and often species-poor (photograph 60, Annex B), is the most widespread habitat type within the land required for the Proposed Development.

12.4.24 Species composition varies, with the more species-diverse grasslands in the vicinity of the PCC supporting herb species such as birds-foot trefoil, kidney-vetch (*Anthyllis vulneraria* ssp. *vulneraria*), wild carrot (*Daucus carota* subsp. *carota*), yarrow (*Achillea millefolium*), common knapweed (*Centaurea nigra* agg.) (TN70, Annex A). The most species-poor grasslands are generally dominated by false-oat grass (*Arrhenatherum elatius*).

12.4.25 Where the underlying substrates prevent dominance rank grasses then the sward can be more diverse, especially where it occurs in matrix with ephemeral/ short perennial vegetation. In such instances the grassland habitats contribute to a wider resource of habitat 'open mosaic habitats on previously developed land' (OMH), a composite habitat type listed in s41 of the NERC Act. Known or anticipated (based on third party datasets, particularly the MAGIC website) occurrences of this composite habitat are mapped on Figure 12C.4. It is the more species-diverse grasslands that are of highest potential ecological value, including for invertebrate species such as dingy skipper and grayling butterflies.

12.4.26 Most of the grassland resource is relatively species-poor and lacks favourable management, so is assessed as having local nature conservation value. More diverse examples and/or those contributing to OMH are assessed as having borough nature conservation value.

### Improved Grassland

- 12.4.27 Fields of improved agricultural grassland are present in the area between Lazenby and Kirkleatham. They are mostly grazed but some are unmanaged and have a tall sward. Perennial rye-grass (*Lolium perenne*) typically dominates, but ruderal herbs such as creeping thistle (*Cirsium arvense*) and stinging nettle (*Urtica dioica*) can be locally frequent.
- 12.4.28 Improved grassland also occurs in other locations where they are not managed for agricultural e.g. as grassland of sown origin along road verges.
- 12.4.29 Habitats of this type are species-poor and readily substituted. They are therefore assessed as having negligible nature conservation value.

### Ephemeral/short perennial

- 12.4.30 Ephemeral/short perennial vegetation (TN42 and TN72, Annex A photographs 6 and 25, Annex B;) is of scattered occurrence within the land required for the Proposed Development. However, it is mainly found on mineral-based substrates on previously developed land to the south-east of the PCC and within the Wilton Complex. As this habitat is closely associated with current and former industrial land use it is possible that it has been overlooked elsewhere due to restrictions on land access.
- 12.4.31 Ephemeral/short perennial vegetation typically occurs in matrix with, and gradations towards, semi-improved grasslands and scrub habitats. Such habitat matrices are likely to meet the definition of OMH, a s41 habitat. Known or anticipated (based on third party datasets, particularly the MAGIC website) occurrences of this composite habitat are mapped on Figure 12C.4.
- 12.4.32 Typical ephemeral and other species of this habitat, and the wider OMH that this vegetation contributes to, are identified in Annex A (refer to data for Target Notes 4 and 5).
- 12.4.33 Localised stands of ephemeral/ short perennial vegetation are readily substituted and of negligible nature conservation value, however where they contribute to OMH they will be of borough nature conservation value.

### Cultivated land

- 12.4.34 Arable farmland is relatively uncommon in association with the Site. Land under arable cultivation is restricted to the area around Lazenby (south and west of the Wilton Complex) and west of Kirkleatham (TN17 and TN52, Annex A, Photograph 45 and 48, Annex B).
- 12.4.35 No arable field margins were found that are likely to be covered by the s41 priority habitat of the same name.
- 12.4.36 Amenity grassland also falls within this habitat type and is present in association with housing estates and industrial estates e.g. at Grangetown and Kirkleatham. Such grassland is species-poor and regularly mown (TN43, TN44, TN63 Annex A, Photograph 48, Annex B).
- 12.4.37 Habitats of cultivated land are species-poor and readily substituted. They are therefore assessed as having negligible nature conservation value.

### Watercourses

12.4.38 The River Tees, which marks the boundary between Redcar and Cleveland and Stockton-on-Tees, is the largest watercourse associated with the Site. The estuary of the river is adjacent to and crossed by the Site. The banks of the Tees Estuary are largely engineered and dominated by built infrastructure for the associated docks and industry.

12.4.39 Locally, the margins of the Tees Estuary have areas of intertidal mudflat habitat, a priority habitat under s41 of the NERC Act. These mudflats are considered to be of international importance for the bird assemblage they support (i.e. the assemblage of Teesmouth and Cleveland SPA and Ramsar site). No areas of saltmarsh (also a priority habitat) have been identified from this part of the estuary.

12.4.40 The proposed Site boundary coincides with five additional watercourses (see TN12, TN16 TN19, TN28 Annex A and Figure 12C.3 for the locations of these), as follows:

- Dabholm Gut;
- Main's Dyke/The Mill Race;
- The Fleet;
- Kettle Beck; and
- Kinkerdale Beck.

12.4.41 These watercourses have all been affected to some degree by realignment, dredging and culverting. The Fleet is at its most natural immediately downstream of Coatham Marsh LWS but at this location has been extensively colonised by the invasive non-native floating pennywort (*Hydrocotyle ranunculoides*). The Dabholm Gut within the land required for the Proposed Development is a heavily modified (re-aligned) tidal creek of the Tees Estuary with additional areas of intertidal mudflat habitat.

12.4.42 With the exception of Dabholm Gut and given the location and land management context of these watercourses, they are not considered to be examples of priority habitats under s41 of the NERC Act. However, they do represent habitats covered by the Tees Valley LBAP.

12.4.43 The relative nature conservation value of these watercourses cannot be determined at present using the data obtained for this PEA report. This will be reviewed, as relevant, once further aquatic ecology survey work has been undertaken.

### Standing water

12.4.44 Desk-based studies have identified approximately 52 semi-natural ponds within the land required for the Proposed Development (see Figure 12C.3 for the locations of these). These include:

- Eight ponds within the sand dune system at Coatham Sands (part of Teesmouth and Cleveland Coast SSSI, SPA and Ramsar site); and
- Four ponds (Ponds 1 to 4, Figure 12C.3) within or adjacent to the PCC Site.

- 12.4.45 Ponds 1 to 4 were appraised in detail in 2018 due to their associated with the PCC Site. Descriptions of these ponds are provided as Target Notes 18,23,27 and 29 (Annex A).
- 12.4.46 Other ponds may be relevant to the Proposed Development. Where access was possible during the PEA further information was collected and is provided in the target notes (Annex A). However, in many cases these waterbodies have not been inspected at close quarters or in an appropriate survey season for appraising standing water habitats. These waterbodies will be surveyed further and reported later, as appropriate, in Chapter 13: Aquatic Ecology (PEI Report, Volume I).
- 12.4.47 Some of the ponds present may qualify as a s41 priority habitats, but this cannot be determined at present using the data obtained for this PEA report. This will be reviewed, as relevant, once further aquatic ecology survey work has been undertaken.

#### Habitats in the Borough of Stockton-on-Tees

##### Broad-leaved woodland

- 12.4.48 Within the land required for the Proposed Development woodland is mainly restricted to small stands of secondary woodland dominated by silver birch (*Betula pendula*) with an understorey of hawthorn (*Crataegus monogyna*) and willows within disused areas of the Seal Sands industrial complex.
- 12.4.49 There is also a small stand of plantation broad-leaved woodland at the electricity substation at Saltholme.
- 12.4.50 The semi-natural woodlands are all of recent origin and, while acknowledging they are encompassed by the s41 lowland mixed deciduous woodland habitat, need to be assessed in this context. They are of local nature conservation value. The plantation woodland is of the same nature conservation value.

##### Scrub

- 12.4.51 Dense stands of scrub occur in association with areas of grassland in the Seal Sands industrial complex. Birch species are colonising this scrub resulting in a transition towards secondary birch woodland. Typical scrub species include hawthorn, willows, brambles and dog-roses (*Rosa* spp.)(TN41 and TN42 Annex A).
- 12.4.52 Scattered scrub is also widely distributed and is of similar composition.
- 12.4.53 Scrub habitats are of recent secondary origin and readily substituted. They are therefore assessed as having local nature conservation value.

##### Semi-improved grassland

- 12.4.54 Semi-improved neutral grassland, generally unmanaged and therefore relatively rank and often species-poor, is the most widespread habitat type within the land required for the Proposed Development in Stockton-on-Tees.
- 12.4.55 Such grasslands are particularly extensive within the Seal Sands industrial complex and are of likely of secondary origin over previously developed land (TN24 Annex A).



- 12.4.56 Where the underlying substrates prevent dominance rank grasses then the sward can be more diverse, especially where it occurs in matrix with ephemeral/ short perennial vegetation. In such instances the grassland habitats contribute to a wider resource of OMH, a composite habitat type listed in s41 of the NERC Act. Known or anticipated (based on third party datasets, particularly the MAGIC website) occurrences of this composite habitat are mapped on Figure 12C.4. It is the more species-diverse grasslands that are of highest potential ecological value, including for invertebrate species such as dingy skipper and grayling butterflies.
- 12.4.57 At Saltholme, to the north and south of the A1185 and with only limited overlap with the land required for the Proposed Development, the semi-improved grasslands (e.g. Target Note 24 and 35, Annex A; photographs 17-19, Annex B) have a saline influence and are part of a coastal and floodplain grazing marsh system, a s41 priority habitat. These grasslands are used for raising livestock (sheep, cattle and locally horses). Some fields show evidence of agricultural improvement and are relatively species-poor. It is emphasised that botanical diversity does not influence the quality of the grassland as a s41 habitat. Coastal and floodplain grazing marsh is defined by its hydrological and topographical characteristics rather than botanical interest. The majority of sites have low botanical grassland interest, but nevertheless important for birds.
- 12.4.58 Habitats of the above grassland types are assessed as having local to borough nature conservation value.

#### *Improved Grassland*

- 12.4.59 Fields of improved agricultural grassland are present in the area between Billingham and Saltholme, where they are generally managed for livestock (TN40, Annex A). Elsewhere improved grasslands occur along the margins of roads. These grasslands are of comparable composition to the improved grasslands described for Redcar and Cleveland.
- 12.4.60 Habitats of this type are species-poor and readily substituted. They are therefore assessed as having negligible nature conservation value.

#### *Ephemeral/short perennial*

- 12.4.61 Ephemeral/short perennial vegetation (Photographs 25, Annex B; Target Notes 2, 7, 24, 72, 76, 93 and 94, Annex A) is of scattered occurrence within the land required for the Proposed Development in association with mineral-based substrates on previously developed or disturbed land within the Seal Sands industrial complex. As this habitat is closely associated with current and former industrial land use it is possible that it has been over-looked elsewhere due to restrictions on land access.
- 12.4.62 Ephemeral/short perennial vegetation typically occurs in matrix with, and gradations towards, semi-improved grasslands and scrub habitats. Such habitat matrices are likely to meet the definition for the s41 habitat 'open mosaic habitats on previously developed land' (OMH) and known or anticipated (based on third party datasets, particularly the MAGIC website) occurrences of this composite habitat are mapped on Figure 12C.4.

12.4.63 Localised stands of ephemeral/ short perennial vegetation are readily substituted and of negligible nature conservation value, however where they contribute to OMH they will be of borough nature conservation value.

#### Watercourses

12.4.64 In addition to the River Tees, see above, the red line for the Proposed Development coincides with two additional watercourses (see Figure 12C.3 for the locations of these), as follows:

- Belasis Beck; and
- Holme Fleet.

12.4.65 Given the location and context of these watercourses they are not considered to be examples of priority habitats under s41 of the NERC Act. However, they do represent habitats covered by the Tees Valley LBAP, and are flow through and are closely associated with a large area of coastal and floodplain grazing marsh habitat. This latter habitat is of a type covered by s41 of the NERC Act.

12.4.66 The relative nature conservation value of these watercourses cannot be determined at present using the data obtained for this PEA report. This will be reviewed, as relevant, once further aquatic ecology survey work has been undertaken.

#### Standing water

12.4.67 Desk-based studies have identified approximately 25 semi-natural waterbodies (ponds and lakes) within the land required for the Proposed Development (see Figure 12C.3 for the locations of these).

12.4.68 Where access was possible during the PEA further information was collected and is provided in the target notes (Annex A). However, in most cases these waterbodies have not been inspected at close quarters or in an appropriate survey season for appraising standing water habitats. These waterbodies will be surveyed further and reported later, as appropriate, in Chapter 13: Aquatic Ecology (PEI Report, Volume I).

12.4.69 Some of the ponds present may qualify as a s41 priority habitats, but this cannot be determined at present using the data obtained for this PEA report. This will be reviewed, as relevant, once further aquatic ecology survey work has been undertaken.

#### Marshy Grassland

12.4.70 A small section of marshy grassland was observed next to a ditch and pond at the edge of a field adjacent to Cowpen Bewley Road (TN 39, Annex A). This patch of grassland looks to have almost permanently wet ground with dominant soft rush (*Juncus effusus*). This example of the habitat is comprised with common plant species that are present due to local conditions of impeded drainage. It is assessed to be of negligible value.

## Notable Habitats

12.4.71 A summary of the most notable habitats recorded, these being those listed being NERC Act s41 priority habitats and NPPF irreplaceable habitats, present in association with the Site is provided below as Table 12C-4.

**Table 12C-4: Notable Habitats within the Proposed Site boundary**

s41 Priority Habitat	Named as irreplaceable in NPPF	Subject to legally protection (e.g. via designation)	Redcar and Cleveland	Stockton-on-Tees	Nature conservation value
Coastal and floodplain grazing marsh	x	✓	x	✓	Borough (except where designated)
Hedgerow	x	x	✓	x	Borough
Lowland mixed deciduous woodland	x	x	✓	✓	Borough
Mudflats	x	✓	✓	✓	International – fundamental to the integrity of the Teesmouth and Cleveland Coast SPA and Ramsar
OMH	x	x	✓	✓	Borough
Ponds	x	✓	tbc	tbc	tbc
Sand dunes	✓	✓	✓	x	National – fundamental to the integrity of the Teesmouth and Cleveland Coast SSSI

## Protected and Notable Species

12.4.72 Table 12C-5 identifies which species are of potential relevance to the Proposed Development based on information gathered through a combination of desk study and field survey, consideration of their relative legal and conservation status, and their likelihood of presence in the zone of influence of the Proposed Development.



**Table 12C-5: Protected and Notable Species Relevant or Potentially Relevant to the Proposed Development**

Species	Relevant status	Desk study records	PEA surveys indicate potential for presence	Desk study records or suitable habitat in zone of influence?		Potentially relevant to the Proposed Development	Comments
				Redcar and Cleveland	Stockton-on-Tees		
Badger ( <i>Meles meles</i> )	Protected	✓	✓	✓	✓	✓	If further surveys identify that badger is relevant to the Proposed Development then this will be reported in a standalone confidential appendix to accompany the ES for the Proposed Development.
Barn owl ( <i>Tyto alba</i> )	Protected	✓	✓	✓	✓	✓	Structures identified in potential ZOI suitable for use for breeding or roosting. Roosting in one structure confirmed by AECOM, see Appendix - 15D Baseline Ornithology Report.
Bats	Protected, s41, LBAP	✓	✓	✓	✓	✓	There are records of the following species: common pipistrelle ( <i>Pipistrellus pipistrellus</i> ), including a roost at Kirkleatham, soprano pipistrelle ( <i>Pipistrellus pygmaeus</i> ) and noctule ( <i>Nyctalus noctula</i> ).
Birds: other breeding	Protected, s41, LBAP	✓	✓	✓	✓	✓	There are a variety of habitats suitable for use by a diverse range of bird species during the breeding season. There is potential for conflicts with the WCA if works are timed for the breeding season, but this will be small-scale and avoidable.

Species	Relevant status	Desk study records	PEA surveys indicate potential for presence	Desk study records or suitable habitat in zone of influence?		Potentially relevant to the Proposed Development	Comments
				Redcar and Cleveland	Stockton-on-Tees		
Birds: Teesmouth and Cleveland Coast SSSI, SPA, Ramsar species	Protected, s41, LBAP, Designated interest features	✓	✓	✓	✓	✓	The Proposed Development is located within these designations but also affects habitats that may be of functional importance for maintenance of the ornithological interest of these designations.
Brown hare ( <i>Lepus europaeus</i> )	s41, LBAP	✓	✓	✓	✓	x	With implementation of good practice animal welfare measures there is nothing inherent to the Proposed Development that is likely to adversely affect the conservation status of brown hare given the species wide distribution and favourable status in the Tees Valley (Tees Valley Nature Partnership, 2012).
Common lizard ( <i>Zootoca vivipara</i> )	Protected, s41, LBAP	✓	✓	✓	✓	✓	Rare in the Tees Valley and focussed in former industrial areas and along the coast e.g. at Coatham Sands (Tees Valley Nature Partnership, 2012), within the land required at Seal Sands, and in the vicinity of the PCC site.
Common seal ( <i>Phoca vitulina</i> )	Designated feature of Teesmouth & Cleveland Coast	✓	✓	✓	✓	✓	Breeding population of approximately 1,000 individuals using the Tees Estuary and associated coastal habitats.

Species	Relevant status	Desk study records	PEA surveys indicate potential for presence	Desk study records or suitable habitat in zone of influence?		Potentially relevant to the Proposed Development	Comments
				Redcar and Cleveland	Stockton-on-Tees		
SSSI, s41, LBAP							
Common toad ( <i>Bufo bufo</i> )	s41	✓	✓	✓	✓	x	May breed in ponds within the ZOI. If pond loss is required, this could impact the species at a local (site) level. But no substantive pond or terrestrial habitat loss is anticipated. Common toad can be expected to occur widely wherever suitable ponds and other waterbodies occur e.g. throughout the extensive landscape of coastal and floodplain grazing marsh to the north of the River Tees. Given this, further assessment is considered disproportionate given the relatively favourable conservation status of the species and its level of legal protection.
Dingy skipper ( <i>Erynnis tages</i> )	s41, LBAP	✓	✓	✓	✓	✓	This species was recorded by AECOM during the PEA at the PCC. The desk study indicates colonies are focussed on brownfield sites of the Tees Estuary, including Seal Sands, South Gare, and Coatham dunes.
Fish	Protected, including s41 and LBAP species	x	✓	✓	✓	✓	The Proposed Development is not likely to adversely affect the conservation status of any fish species of freshwater and estuarine

Species	Relevant status	Desk study records	PEA surveys indicate potential for presence	Desk study records or suitable habitat in zone of influence?		Potentially relevant to the Proposed Development	Comments
				Redcar and Cleveland	Stockton-on-Tees		
							habitats, but regard will still be needed to meet legal obligations.
Grayling ( <i>Hipparchia semele</i> )	s41, LBAP	✓	✓	✓	✓	✓	The desk study indicates this species is associated with former industrial sites of the Tees estuary. Key sites are considered to include Seal Sands and the Coatham sand dune system.
Great crested newt ( <i>Triturus cristatus</i> )	Protected, s41, LBAP	✓	✓	x	✓	✓	eDNA surveys by AECOM of 4 ponds near the PCC did not detect this species. INCA subsequently advised AECOM that there are no records in the ZOI of the Proposed Development in Redcar and Cleveland. There are desk study records for Stockton-on-Tees, the closest of which is at Cowpen more than 1 km north of the Site. There are potentially suitable waterbodies in the Seal Sands area that need further assessment.
Harvest mouse ( <i>Micromys minutus</i> )	s41, LBAP	✓	✓	✓	✓	x	The desk study indicates records for Saltholme and Coatham Marsh LWS, where all suitable wetland habitats will be avoided by the Proposed Development.

Species	Relevant status	Desk study records	PEA surveys indicate potential for presence	Desk study records or suitable habitat in zone of influence?		Potentially relevant to the Proposed Development	Comments
				Redcar and Cleveland	Stockton-on-Tees		
Hedgehog ( <i>Erinaceus europaeus</i> )	s41	✓	✓	✓	✓	x	With implementation of good practice animal welfare measures there is nothing inherent to the Proposed Development that is likely to adversely affect the conservation status of hedgehog wide distribution of suitable habitat.
Invertebrates: assemblage within Teesmouth and Cleveland Coast SSSI.	Designated feature of Teesmouth & Cleveland Coast SSSI	✓	✓	✓	x	✓	The sand dune system at Coatham Sands supports a notable assemblage as described on the citation.
Invertebrates: general.	Including s41 and LBAP species	✓	✓	✓	✓	✓	Numerous records returned by the desk study and likely to occur in higher quality habitats in the ZOI. Potential for notable assemblages. It should be noted that many s41 invertebrates are from a list of 'research only' species and their listing does not always indicate a specific nature conservation concern or priority.
Otter ( <i>Lutra lutra</i> )	Protected, s41	✓	✓	✓	✓	✓	Potential presence along watercourses and in coastal habitats.
Proliferous pink ( <i>Petrorhagia</i> )	Nationally Rare,	✓	✓	✓	x	✓	Present in the sand dune system of Coatham Sands within Teesmouth

Species	Relevant status	Desk study records	PEA surveys indicate potential for presence	Desk study records or suitable habitat in zone of influence?		Potentially relevant to the Proposed Development	Comments
				Redcar and Cleveland	Stockton-on-Tees		
<i>prolifera</i> )	Endangered						and Cleveland Coast SSSI
Purple milk-vetch ( <i>Astragalus danicus</i> )	Endangered, s41, LBAP	✓	✓	✓	x	✓	Present in the sand dune system of Coatham Sands within Teesmouth and Cleveland Coast SSSI.
Rush-leaved fescue ( <i>Festuca arenaria</i> )	Nationally Scarce	✓	✓	✓	x	✓	Present in the sand dune system of Coatham Sands within Teesmouth and Cleveland Coast SSSI.
Small heath ( <i>Coenonympha pamphilus</i> )	s41	✓	✓	✓	✓	✓	The desk study indicates this species is associated with former industrial sites of the Tees Valley, including Seal Sands.
Stiff saltmarsh-grass ( <i>Puccinellia rupestris</i> )	Nationally Scarce	✓	✓	✓	x	✓	Several records in the vicinity of the Site, including Dabholme Gut and north of the Wilton Works.
Wall ( <i>Lasiommata megera</i> )	s41	✓	✓	✓	✓	✓	The desk study indicates this species is associated with former industrial sites of the Tees Valley, including Seal Sands.
Water vole ( <i>Arvicola amphibius</i> )	Protected, s41, LBAP	✓	✓	✓	✓	✓	Potential presence along watercourses and in wetland habitats.

### Invasive Non-native Plant Species

12.4.73 Five invasive non-native (“controlled”) plant species listed on Schedule 9 of the WCA have been identified through desk study and field survey, as summarised in Table 12C-6. These species may represent legal constraints to the Proposed Development.

**Table 12C-6: Records of Invasive Non-native Plant Species**

Species	Comment
Floating pennywort ( <i>Hydrocotyle ranunculoides</i> )	Various INCA reports indicate this species is widely establishing along The Fleet. AECOM observed large stands in The Fleet downstream of Coatham Marsh LWS.
Giant hogweed ( <i>Heracleum mantegazzianum</i> )	AECOM recorded this species within the PCC Site. There is also a desk study record for Eston Pumping Station LWS which is located within the red line for the Proposed Development.
Himalayan balsam ( <i>Impatiens glandulifera</i> )	Recorded by AECOM near Kirkleatham, it may also occur on the banks of watercourses elsewhere.
Japanese rose ( <i>Rosa rugosa</i> )	AECOM recorded this species within the PCC Site and within Coatham Dunes. There are scattered field and desk study records from elsewhere, some of which may be ornamental plantings.
Nuttall’s waterweed ( <i>Elodea nuttallii</i> )	AECOM recorded this species from Pond 4 (Figure 12C.3).

## 12.5 Potential Biodiversity and Nature Conservation Constraints

12.5.3 A review of relevant constraints and any requirements for further survey to address these is provided below

### Constraints and Requirements for Further Survey: Designations

12.5.4 Table 12C-2 and 12C-3 identify the 16 statutory and 11 non-statutory nature conservation designations that are potential constraints to the Proposed Development. Of these, the following designations overlap with the land required for the construction, operation and decommissioning of the Proposed Development:

- Teesmouth and Cleveland Coast SPA –surveys are ongoing in relation to potential impacts and effects on ornithological interest features;
- Teesmouth and Cleveland Coast Ramsar site –surveys are ongoing for birds, as per the SPA (above);
- Teesmouth and Cleveland Coast SSSI – the Site crosses an area of sand dune habitat within the SSSI, including associated wetland and standing water habitats. Further habitat and botanical surveys in the appropriate survey seasons are ongoing to inform the assessment of potential impacts and effects on these habitats. In addition, terrestrial and aquatic invertebrate surveys are ongoing to determine potential impacts and effects on the invertebrate assemblage for which the SSSI is designated. Potential impacts and effects on the designated intertidal and marine habitats and species are assessed within

Chapter 14: Marine Ecology and Nature Conservation (PEI Report, Volume I) and supporting appendices, including an Intertidal Benthic Survey and Assessment (PEI Report, Volume III). Any additional survey requirements for designated intertidal and marine habitats will be determined on a case by case basis by a marine ecology specialist and reported in the final ES, if required;

- Eston Pumping Station LWS – this designation is located within the proposed Site boundary, however there would be no habitat loss from the LWS as no works are required within the boundary of the LWS. Given this, no surveys of the LWS are considered necessary to understand and make a robust assessment of potential impacts and effects from the Proposed Development.

12.5.5 All other designations are located outside the land required for the construction, operation and decommissioning of the Proposed Development, and therefore will not be directly affected. These designations remain relevant to the assessment of potential indirect impacts and effects of the Proposed Development (primarily in relation to potential air quality impacts and effects). No detailed habitat surveys are currently considered necessary within these designations to permit robust impact assessment, but some species surveys are likely to be necessary where there is potential for the land required by the Proposed Development to be of functional importance for the maintenance of the designated species interest features of these designations. Particularly, in relation to ornithological interest features of the relevant statutory nature conservation designations.

### Constraints and Requirements for Further Survey: Habitats

#### *Redcar and Cleveland*

- 12.5.6 Re-use of an existing industrial site for the PCC reduces the need for new permanent land-take from semi-natural habitats. Habitats of potential botanical interest that may be affected during construction of the PCC have been surveyed by an experienced botanist and the results are provided in this PEA Report. No further terrestrial habitat surveys are therefore required at the PCC.
- 12.5.7 Further terrestrial and freshwater habitat surveys within the sand dune system at Coatham Sands are required, as detailed above under designations. This is ongoing and will be reported in the final ES.
- 12.5.8 With the exception of ongoing work to address any residual gaps in Phase 1 terrestrial habitat survey coverage as land access becomes available, no further habitat surveys are required in Redcar and Cleveland to support robust impact assessment. No other terrestrial habitats of relatively high botanical importance are likely to be adversely affected during construction of the Proposed Development.
- 12.5.9 Requirements for freshwater and marine habitat survey will be reviewed by relevant specialists and is beyond the scope of this PEA Report. Further information on the approach taken is provided in Chapter 13: Aquatic Ecology, Chapter 14: Marine Ecology and Nature Conservation (PEI Report, Volume I) and their associated appendices (PEI Report, Volume III).



### Stockton-on-Tees

- 12.5.10 There is potential for terrestrial habitats in the Seal Sands industrial complex to have botanical interest and this could be affected by temporary land take requirements for construction of Connection Corridors. Further surveys are planned to investigate this.
- 12.5.11 Elsewhere, with the exception of ongoing work to address any residual gaps in Phase 1 terrestrial habitat survey coverage as land access becomes available, no further habitat surveys are required in Stockton-on-Tees to support robust impact assessment. No other terrestrial habitats of relatively high botanical importance are likely to be adversely affected during construction of the Proposed Development.
- 12.5.12 Requirements for freshwater and marine habitat survey will be reviewed by relevant specialists and is beyond the scope of this PEA Report. Further information on the approach taken will be provided in Chapter 13: Aquatic Ecology, Chapter 14: Marine Ecology and Nature Conservation (PEI Report, Volume I) and their associated appendices (PEI Report, Volume III).

### Constraints and Requirements for Further Survey: Species

- 12.5.13 A number of protected or notable species have been identified as potentially present within land required for construction and operation of the Proposed Development, based on the review provided above in Table 12C-5.
- 12.5.14 Table 12C-7 summarises the species scoped into the EcIA for the Proposed Development provided as Chapter 12: Terrestrial Ecology and Nature Conservation (PEI Report, Volume I) (in some cases only for purposes of demonstrating legal compliance), and any requirements for further survey to inform the EcIA. Cross-references to the relevant ES Chapters that will provide the survey methods and results are also provided in the table.

**Table 12C-7: Requirements for Further Survey to Address Potentially Relevant Species (as first identified in Table 12C-5)**

Species	Further survey needed to inform impact assessment	Redcar and Cleveland	Stockton-on-Tees	To be reported in ES chapter
Aquatic invertebrates	Yes – survey work ongoing	✓	✓	13
Badger	Yes – survey work ongoing	✓	✓	12
Barn owl	Yes – survey work ongoing	✓	✓	15
Bats	Yes – activity surveys ongoing, building surveys complete	✓	x	12
Birds	Yes – survey work ongoing	✓	✓	15
Botanical	Yes – survey work ongoing at Coatham Sands and Seal Sands	✓	✓	12

Species	Further survey needed to inform impact assessment	Redcar and Cleveland	Stockton-on-Tees	To be reported in ES chapter
Common lizard	Yes – survey work complete for PCC, ongoing for Coatham Sands	✓	x	12
Common seal	Survey requirements considered in Chapter 14	tbc	tbc	14
Common toad	No – assume presence	✓	✓	12
Fish	Yes – survey work ongoing	✓	✓	13
Great crested newt	Yes – survey work ongoing	x	✓	12
Invasive plant species	Yes – survey work ongoing	✓	✓	12, 13
Otter	Yes – survey work ongoing	✓	✓	12
Terrestrial invertebrates, including notable butterfly species	Yes – survey work completed for PCC, ongoing at Coatham Sands and Seal Sands	✓	✓	12
Water vole	Yes – surveys complete	✓	x	12

## 12.6 References

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# Figures

## Figure 12C-1: Phase 1 Habitat Map





**Figure 12C-2 International and National Statutory Designated Sites and Non Statutory Designated Sites**



**Figure 12C-3 Locations of Waterbodies within 250m of Proposed Development**



## Figure 12C-4 Priority Habitats





## Annex A Target Notes

- 12.6.3 **TN1** Area of rough grassland, likely seeded at some point, with patches of stony bare earth, and short perennial vegetation with mounds of rubble, some of which have become vegetated. Rubble piles offer potential reptile refuges.
- 12.6.4 **TN2** Area of bare earth and industrial waste materials and tipped slag from steel processing. Some areas have become vegetated with scrub composed of sea buckthorn, bramble scrub and Buddleia, some patches of rough grass (cocks-foot, creeping bent and red fescue) and short perennial /ephemeral species.
- 12.6.5 **TN3** Large industrial sheds of metal construction. Land to the south east of building short open turf over a free draining stony substrate. Red fescue dominant, kidney vetch, bird's-foot trefoil, cock's-foot, buck's-horn plantain, common mouse-ear hawkweed (*Pilosella officinarum*), field woodrush (*Luzula campestris*).
- 12.6.6 **TN4** An area of grassland set amongst the steel works buildings and infrastructure. Seeded in past (but no more recent than 1980's), one third grass dominated and the remainder with a good contribution from herbs. Site staff report recording bee orchid here.
- 12.6.7 **TN5** Previously seeded grassland, on stony soil substrate but with a sward taller than the other seeded areas. Larger community of tall herbs than the other SSI Plots, including cow parsley, black knapweed, teasel and mugwort. Birds-foot trefoil is frequently found. Also with areas of scrub composed of hawthorn, blackthorn, bramble and sea buckthorn, primarily on mounds of earth. Scrub also includes Schedule 9 invasive species Japanese Rose (*Rosa rugosa*) and giant hogweed (*Heracleum mantegazzianum*).
- 12.6.8 **TN6** Fleet River. This section of river was recently dredged and vegetation on banks cut back in order to speed flow however the river is still slow flowing here. Mostly free from vegetation within the channel the banks are dominated by rough semi-improved grassland and thistle and bramble scrub. Common bulrush is present in areas where dredging has not taken place.
- 12.6.9 **TN7** An area of abandoned hard standing, previously car parking which has developed into an area of short perennial/ ephemeral vegetation dominated by biting stonecrop with birds-foot trefoil. About half the plot is taken by rough grassland with tall and ruderal herbs, common ragwort, rosebay willowherb, smooth meadow-grass, red fescue and sheep's fescue cock's-foot, ribwort plantain and occasional common toadflax. Grassland areas also include scattered sea buckthorn and hawthorn scrub.
- 12.6.10 **TN8** Dominated by rough grassland with scattered scrub. The plot includes substantial earthworks related to previous steelworks processes, these have been undisturbed for some time and have become well vegetated. Grassland areas of cocks-foot, red fescue, couch grass, smooth meadow grass include common and greater knapweed, wild carrot, ribwort plantain

and hogweed. Scattered scrub is composed of hawthorn, dog rose (*Rosa canina*), bramble, elder (*Alnus glutinosa*) and goat willow (*Salix caprea*),

- 12.6.11 **TN9** Coatham Dunes. Area of sand dunes, dune grassland and lagoons formed on top of and around the tipped slag and waste from the steel works. The area adjacent to the site is dominated by marram grass with large areas of lyme grass (*Elymus arenarius*).
- 12.6.12 **TN10** Steel House. Built in the late 1970s the location includes a brick built hexagonal, flat-roofed office building, associated car parking and landscaped grounds which include a large pond formed from the unnamed watercourse which runs into the site close-by and then empties into the Fleet. The building has been boarded up securely and has only negligible potential for bats. Amenity shrub and tree planting includes non-native field maple (*Acer campestre* var. *leiocarpum*), Italian alder (*Alnus cordata*), hawthorn and large-sepal hawthorn and sea-buckthorn, osier (*Salix viminalis*), crack willow (*Salix x fragilis*) and Swedish whitebeam (*Sorbus intermedia*).
- 12.6.13 **TN11** Coatham Marsh Nature Reserve. Managed by Tees-Valley Wildlife Trust this reserve includes areas of salt marsh and reed bed, often dominated by common club-rush. The reserve includes areas not directly affected by industry as well as earth mounds and lakes created by the extraction of soil for during industrial activity. The Fleet River is broad and slow as it runs through the reserve.
- 12.6.14 **TN12** The Fleet River and Mill Race meet here. Both are located within deep channels. Both had been recently dredged and held few aquatic or emergent plant species. The corridors display nutrient enrichment and were species poor. Corridors dominated by rank grasses and herbs.
- 12.6.15 **TN13** Wooden built fishing huts.
- 12.6.16 **TN14** Coatham Dunes, this area has established over historic deposits of calcareous slag tipped. The area is dominated by marram (*Ammophila arenaria*) and lyme grass (*Elymus arenaria*) and includes sections of open sand, exposed rubble on the ground and vertical faces, dune slacks and lagoons.
- 12.6.17 **TN15** Sea-buckthorn and hawthorn scrub are scattered across the dunes with stands sometimes becoming more dense.
- 12.6.18 **TN16** The Fleet River in Coatham Marsh (photograph 35), this section is broad and slow flowing and supports large stands of floating pennywort (*Hydrocotyle ranunculoides*) and water crowfoot.
- 12.6.19 **TN17** Arable fields. They are bordered by the A1053 with a broad grass and scrub embankment to the east and a semi-mature strip of woodland to the west (as well as the substation itself), beyond which lies housing estates. The fields boundaries are marked by hawthorn dominated hedgerows, which also represent the only examples of this habitat type across the survey area.
- 12.6.20 **TN18** Pond 1, created as a wildlife pond. There was no open water visible during the Phase 1 survey, the pond area being dominated by bulrush,

common reed, sea club-rush (*Bolboschoenus maritimus*) and yellow iris (*Iris pseudacorus*). Much of the banks of the pond are dominated by bramble.

- 12.6.21 **TN19** Knitting Wife Beck, 200 metres of exposed watercourse. The beck is culverted at both ends of this section. The banks are dominated with bramble scrub and the channel supports common bulrush. The exposed section of beck runs through an area of rough grassland and scrub close to the A66 roundabout.
- 12.6.22 **TN20** Allotment, some well-maintained plots but with about 50% of the site overgrown and unmanaged.
- 12.6.23 **TN21** A large area of coal ash and spoil mounds. Site appears to be worked and constantly disturbed so supports no vegetation.
- 12.6.24 **TN22** Flood water attenuation pond, banks are dominated by rough grassland and bramble scrub and the pool supports good stands of lesser bulrush.
- 12.6.25 **TN23** Pond 2 an oblong waterbody that supports sea club rush (*Bolboschoenus maritimus*), spike rush (*Eleocharis palustris*), water-crowfoot (*Ranunculus aquatilis* agg.), bittersweet (*Solanum dulcamara*) and bulrush.
- 12.6.26 **TN24** Example of poor grassland and ephemeral habitats on brownfield areas.
- 12.6.27 **TN25** Area of coastal grazing marsh associated with Greatham Creek, Cowpen Marsh and Saltholme.
- 12.6.28 **TN26** Areas of birch (*Betula* sp.) scrub and developing woodland, set amongst grassland along the Gas connection route.
- 12.6.29 **TN27** Pond 3, an ornamental wildlife/ fish pond which supports stands of common reed and lesser bulrush as well as sea club-rush, reed sweet-grass (*Glyceria maxima*) and yellow iris within the water.
- 12.6.30 **TN28** Dabholm Gut, carrying the Fleet River to the Tees. Tidal section of river that includes areas of exposed mudflat during low tides.
- 12.6.31 **TN29** Pond 4 a constructed online pond located within landscaped grounds Banks have grassland and plantation woodland. The pond supports yellow iris, marsh marigold (*Caltha palustris*) at the margins. Also recorded within the water was Nuttall's waterweed (*Elodea nuttallii*), a species listed on Schedule 9 of the Wildlife and Countryside Act as an invasive non-native species.
- 12.6.32 **TN30** Inundation pond close to Saltholme substation. It is unclear how long this area retains water for, no aquatic plants were recorded within the water during the survey, vegetation was common with the surrounding grazing marsh (salt-marsh grasses and rushes) areas but it is likely to be linked to the tidal flooding of the surrounding areas.
- 12.6.33 **TN31** Dense scrub on north side of raised railway embankment. Dominated by bramble with some occasional small willow and silver birch trees scattered. Unable to see beyond railway embankment.

- 12.6.34 **TN32** Field of rough grassland adjacent to gas pipe network heading north-east. Ungrazed with a tall sward and low species diversity. Cock's-foot and false oat grass dominant with creeping thistle, dandelion, soft brome, ribwort plantain and cow parsley also present and occasional.
- 12.6.35 **TN33** Gas pipe network and hard standing ground north of railway lines. Gas pipes rise to bridge over railway heading south.
- 12.6.36 **TN34** Dense scrub composed of bramble and small willow running adjacent and directly north of the gas pipe network. Unable to view beyond scrub.
- 12.6.37 **TN35** Heavily grazed pasture fields containing horses. Sward very short and composed of perennial rye-grass, creeping thistle, daisy, dandelion, broad-leaved dock, stinging nettle and ribwort plantain. Two large hybrid black poplar trees also present with negligible BRP.
- 12.6.38 **TN36** Stands of scattered bramble scrub in field of improved grassland. Area to the east is grazed by horses and little scrub is present.
- 12.6.39 **TN37** Large field of grazed, improved grassland. Cattle present in field. Species diversity is low with perennial rye-grass dominant and rough meadow grass abundant and creeping thistle and stinging nettle frequent. The same habitat is also present in fields north and south of pipelines on the other side of Cowpen Bewley Road which are also grazed by cattle.
- 12.6.40 **TN38** Ditch of standing water running through fields on both sides of Cowpen Bewley Road. Pond and ditch edges densely vegetated by a pond-sedge species. Ditch expands into pond on east side of road.
- 12.6.41 **TN39** Small patch of marsh grassland adjacent to ditch and gas pipelines in field west of Cowpen Bewley Road. Area dominated by soft rush. There is also a small pond present in this field adjacent to the pipelines.
- 12.6.42 **TN40** Improved grassland north of gas pipelines. Dominated by perennial rye-grass with creeping thistle and stinging nettle frequent. Sward short but not currently grazed.
- 12.6.43 **TN41** Dense bramble scrub running along both sides of railway track.
- 12.6.44 **TN42** Electricity substation. There is an area of scattered scrub mixed with neutral semi-improved grassland to the west of the substation. This mosaic of habitats looks suitable for reptiles.
- 12.6.45 **TN43** Small patch of mown amenity grassland between houses and the A1046. There are some ornamental trees and shrubs including *Cotoneaster* sp., *Prunus* sp.
- 12.6.46 **TN44** Small public park with mown amenity grassland inside and surrounding.
- 12.6.47 **TN45** Series of parkland trees approximately 5m tall adjacent to road. Mostly Norway maple (*Acer platanooides*) but also rowan (*Sorbus aucuparia*), whitebeam (*Sorbus aria*) and wild cherry (*Prunus avium*).

- 12.6.48 **TN46** Section of mature broad-leaved woodland running adjacent to railway line on north side and road. Ash and sycamore abundant with frequent common lime (*Tilia x cordata*) and field maple and occasional sycamore, silver birch and wild cherry.
- 12.6.49 **TN47** old run-down garage buildings in break in woodland, adjacent to railway line. Made from brick with wooden cladding and with multiple broken windows and gaps which could be used by bats and nesting birds. Full BRP assessment required.
- 12.6.50 **TN48** Row of 10 hybrid black poplars adjacent to houses and road. All trees likely planted and approximately 10-15m tall. The south-eastern tree has crack in branch approximately 5m high facing east – low bat roost potential.
- 12.6.51 **TN49** Small Schedule 9 Japanese rose bush at base of hybrid black poplar tree. This may have been planted as it is in an ornamental area.
- 12.6.52 **TN50** Small section of unmown park grassland which is more species rich than the surrounding amenity grassland. Tall fescue and cock's-foot abundant. Hogweed, cow parsley, hedge bindweed (*Calystegia sepium*), purple toadflax (*Linaria purpurea*), curled dock (*Rumex crispus*) and cleavers frequent. Stinging nettle, smooth meadow grass (*Poa pratensis*), ribwort plantain, soft brome and small stands of bramble occasional.
- 12.6.53 **TN51** Large field of unmown improved grassland. This field has a very low species diversity and a tall sward with perennial rye-grass dominant.
- 12.6.54 **TN52** Arable farmland. There are narrow strips of species-poor neutral semi-improved grassland at the margins of the fields composed of cock's-foot, stinging nettle and cleavers.
- 12.6.55 **TN53** Narrow ditch with standing water adjacent to road on south side. Water is present in the ditch but very shallow and covered with algae. The ditch banks have small trees, shrubs and scattered bramble and hawthorn scrub. The banks are unmown neutral semi-improved and contain cock's-foot, daisy, ribwort plantain, bird's-foot trefoil, smooth sow-thistle (*Sonchus oleraceus*), colt's-foot, tufted vetch (*Vicia cracca*), common ragwort, red clover and common field speedwell (*Veronica persica*), all of which are frequent.
- 12.6.56 **TN54** Broad-leaved woodland. Trees approximately 20m tall and dominated by sycamore with frequent ash. Unable to access for the purposes of determining BRP.
- 12.6.57 **TN55** Area of hardstanding.
- 12.6.58 **TN56** Fenced-off section of species-poor grassland with low, coppiced stems of an unknown shrub/tree. Cock's-foot grass abundant in field and margins abundant with field horsetail (*Equisetum arvense*).
- 12.6.59 **TN57** Roundabout grassland sown with an ornamental wildflower mix. Cornflower, oxeye daisy, common poppy, marigold and corn marigold present and in flower.



- 12.6.60 **TN58** Clearing in broad-leaved woodland belt for gas pipe system network with hard ground underneath.
- 12.6.61 **TN59** Large coal mounds on hardstanding adjacent to gas pipe network.
- 12.6.62 **TN60** Patches of common reed and scattered scrub in association with grassland.
- 12.6.63 **TN61** Screen of broad-leaved woodland adjacent to road. Trees are approximately 10m tall and dominated by sycamore with frequent hybrid black poplar and occasional hornbeam (*Carpinus betulus*) and elder.
- 12.6.64 **TN62** Roadside verge that is likely managed but not mown recently. Red fescue and annual meadow grass dominant with frequent bird's-foot trefoil, daisy, dandelion, cock's-foot, ribwort plantain, black medick, perennial ryegrass, white clover, smooth meadow grass. Also present was occasional colt's-foot, creeping cinquefoil (*Potentilla reptans*), meadow buttercup, mouse-ear hawkweed, oxeye daisy, yarrow, field horsetail and red clover.
- 12.6.65 **TN63** Football pitch.
- 12.6.66 **TN64** 60% dense bramble scrub but with 40% tall ruderal composed of broad-leaved willowherb, hogweed and stinging nettle.
- 12.6.67 **TN65** Large artificial reservoir that is fenced off and managed by SembCorp Utilities. Reservoir used by waterfowl such as moorhen.
- 12.6.68 **TN66** Stand of Schedule 9 Japanese rose growing at edge of woodland.
- 12.6.69 **TN67** Large stand of reeds in woodland clearing. Possible pond or swamp here but unable to access during survey to confirm.
- 12.6.70 **TN68** Intertidal sand beach with lagoons present at low tide. Oystercatcher (*Haematopus ostralegus*), black-headed gull (*Chroicocephalus ridibundus*), redshank (*Tringa totanus*), knot (*Calidris canutus*), ringed plover (*Charadrius hiaticula*) and common tern (*Sterna hirundo*) were observed feeding along the coast during the survey.
- 12.6.71 **TN69** Small stand of Schedule 9 Japanese rose growing on beach amongst rubble.
- 12.6.72 **TN70** Small section of neutral semi-improved grassland growing adjacent to beach and dune grassland (TN71). False oat grass and cock's-foot dominant with abundant common restharrow, frequent common ragwort, rosebay willowherb (*Chamerion angustifolium*), kidney vetch (*Anthyllis vulneraria*), ribwort plantain and wild carrot (*Daucus carota*). tansy (*Tanacetum vulgare*), viper's-bugloss (*Echium vulgare*), wormwood (*Artemisia absinthium*) and pyramidal orchid were also present and rare in this area.
- 12.6.73 **TN71** Strip of tall dune grassland. The grassland is dominated by coastal grass species such as couch grass, Lyme grass and frequent marram grass. The grassland is quite species rich with frequent colt's-foot and perennial sow-thistle, occasional common restharrow, carline thistle, and common toadflax (*Linaria vulgaris*). Also present was rare narrow-leaved ragwort (*Senecio inaequidens*), biting stonecrop, soft brome, soapwort (*Saponaria*



*officinalis*) and pyramidal orchid. This high-quality grassland looks unmanaged and was frequented by abundant butterflies and bees during the survey. High potential for reptiles.

**12.6.74 TN72** Mapped as calcareous grassland but is in fact a mosaic of calcareous grassland (30% of area), dense and scattered bramble scrub (15%), tall ruderal (25%), short ephemeral (15%) and bare ground (15%) between the sandy shore to the north and private industrial land to the south. Bird's-foot trefoil, common ragwort, common restharrow, soft brome and annual meadow-grass all abundant in the grassland. Also present was frequent carline thistle, mouse-ear hawkweed, hare's-foot clover (*Trifolium arvense*), wild strawberry (*Fragaria vesca*), buck's-horn plantain (*Plantago coronopus*), common centaury and occasional yellow-wort, lesser hawkbit, common vetch (*Vicia sativa*) and red clover. The grassland had a short open sward with few grass species present. The areas of tall ruderal were dominated by rosebay willowherb and creeping thistle and the ephemeral areas likewise by biting stonecrop. The entire area is characterised by uneven ground with spoil mounds and ridges, hollows and bunds. The mounds and ridges were predominantly covered by couch and marram grass. The area as a whole is highly diverse in terms of both botanical richness and topographical variation, the key habitat feature being a diverse grassland that shows virtually no obvious signs of improvement. During the survey a significant amount of invertebrate activity was observed, including dragonflies, grasshoppers, crickets, butterflies and bees. There is a very high potential for reptiles in this area due to the mosaic nature of the habitats and the presence of scrub, bare ground and bits of scrap metal and wood. The nesting bird potential is also high. Target notes 73 – 78 describe the key individual elements of the habitat mosaic.

**12.6.75 TN73** Large stand of Japanese rose.

**12.6.76 TN74** an example of the tall ruderal habitat that occurs within the wider habitat mosaic. Dominated by rosebay willowherb and with abundant common ragwort and frequent spear thistle.

**12.6.77 TN75** Large patch of dense bramble scrub growing next to earth mound.

**12.6.78 TN76** an example of the short ephemeral habitat that occurs within the wider mosaic. Biting stonecrop dominant and wild strawberry abundant.

**12.6.79 TN77** Large pond dominated by common reed. There are a few scrubby islands in the pond. The pond edge is dominated by ribbed melilot.

**12.6.80 TN78** An open area of the pond (TN77) that is clear of reeds. This area had multiple dragonflies.

**12.6.81 TN79** Expanse of rough grassland. False-oat grass was dominant with abundant cock's-foot, frequent wild carrot, red clover, soapwort and occasional creeping thistle, common vetch, creeping cinquefoil and smooth tare (*Vicia tetrasperma*). There are patches of scattered scrub throughout the grassland and as the grassland moves towards the coast it becomes much more dominated by couch, Lyme and marram grasses. Multiple small

mammal tunnels were found within the grass litter layer and consequently this grassland would be classified as a Type 1 feeding habitat for barn owls.

- 12.6.82 **TN80** Large industrial area near the beach at Bran Sands. Contains coal spoil heaps and ground.
- 12.6.83 **TN81** Narrow ditch with steep heavily vegetated banks. Schedule 9 Himalayan balsam (*Impatiens glandulifera*) is frequent along both sides of the ditch. The banks are dominated by false-oat grass with abundant stinging nettle, great willowherb and frequent pendulous sedge and meadowsweet (*Filipendula ulmaria*). Sycamore and hawthorn trees overhang above the ditch.
- 12.6.84 **TN82** Strip of semi-improved neutral grassland growing between a ditch and the public right of way. The grass is tall, rank and looks unmanaged. False-oat grass is dominant with cock's-foot, cleavers, broad-leaved dock and hedge bindweed frequent and stinging nettle occasional.
- 12.6.85 **TN83** Line of mature trees adjacent to the public right of way and ditch. Sycamore and hawthorn abundant with some oak and ash trees also present. Most trees mature with some dead and covered with multiple woodpecker holes meaning a moderate to high bat roosting potential.
- 12.6.86 **TN84** Mature species-poor hedgerows along the boundaries of and throughout the arable fields near Kirkleatham. The hedges are dominated by hawthorn with some elder also present. The hedges are 2-3m tall and 1.5-2m wide. Some of the hedges are gappy and others defunct, with quite large gaps.
- 12.6.87 **TN85** Improved grassland managed as horse pasture.
- 12.6.88 **TN86** Fenced-off field of 60% semi-improved neutral grassland with 40% tall ruderal. The area looks unmanaged.
- 12.6.89 **TN87** Tall, parallel hedges running alongside public right of way towards north of Lazenby. The hedges are 3-4m tall, 2m wide, unmanaged and species-poor. Hawthorn is the dominant woody species with elder and an apple (*Malus* sp.) also present.
- 12.6.90 **TN88** Small pond in horse paddock that is overgrown with reeds and with narrow ditch running off.
- 12.6.91 **TN89** Broad-leaved plantation woodland situated between Lazenby and large arable fields. Trees mature and well established with ash and sycamore dominant and frequent birch, rowan, blackthorn and occasional Scot's pine (*Pinus sylvestris*). The understorey and ground layer contains red campion (*Silene dioica*), wood avens (*Geum urbanum*), stinging nettle and holly (*Ilex aquifolium*).
- 12.6.92 **TN90** Recently cut hay meadow of neutral semi-improved grassland. In the uncut margins of the field cock's-foot is dominant with false-oat grass abundant and frequent viper's bugloss and lady's bedstraw (*Galium verum*), yarrow and goat's-beard (*Tragopogon pratensis* agg.).

**12.6.93 TN91** Neutral semi-improved grassland with scattered scrub and bare ground between arable fields around Lazenby and private industrial land. The grassland is quite species-rich and patchy with dominant false-oat grass and frequent cock's-foot, red fescue, hare's foot clover and soft brome. Hedge bedstraw (*Galium mollugo*), red clover, yellow wort, dark mullein (*Verbascum nigrum*), black medick and colt's-foot were also present and occasional.

**12.6.94 TN92** Allotment gardens.

**12.6.95 TN93** Private land beyond railway line made up of large spoil heaps which are being colonised by neutral semi-improved grassland, short ephemeral and scattered scrub. The area looks unmanaged and the industrial buildings in the area look abandoned. The spoil heaps have early coloniser plant species with large patches of bare ground. The entire area has good potential for reptiles due to the mosaic of habitats and railway lines.

**12.6.96 TN94** An area of short ephemeral with scattered scrub between railway line and semi-improved neutral grassland in private land.

## Annex B Photographs



Photograph 1. Open semi-improved grassland habitat over thin soils in PCC



Photograph 2. View of grassland from southern edge of PCC







Photograph 3. Northern area of PCC



Photograph 4. View north from PCC towards Coatham Sands





**Photograph 5. Pond 3, located near PCC**



**Photograph 6. View over OMH ephemeral / short perennial, rough grassland and scattered scrub, looking towards Steel House**



**Photograph 7. View from over rough grassland with some ephemeral and road embankment, in proximity to PCC**



**Photograph 8. Rough grassland in vicinity of PCC**





Photograph 9. The Fleet



Photograph 10. The Fleet River with a stand of floating pennywort





**Photograph 11. View towards PCC, over The Fleet**



**Photograph 12. Pond 4 at Steel House**





**Photograph 13. Watercourse leaving Pond 4 and feeding into The Fleet**



**Photograph 14. View east over Coatham Sands from Gare Road**



**Photograph 15. Looking along Gare Road over Coatham Dunes**



**Photograph 16. View over Coatham Sands southeast towards PCC**





**Photograph 17. Rough grassland around Saltholme Substation**



**Photograph 18. Inundation area in pasture at Saltholme Substation**





**Photograph 19. View east over possible Gas Connection Corridor from Saltholme Substation.**



**Photograph 20. View southwest towards Pond 1 and the PCC**





**Photograph 21. Example of rough grassland amongst industrial buildings and infrastructure**



**Photograph 22. An existing Gas Connection Corridor with adjacent semi-improved grassland, Billingham**



**Photograph 23. Rough grassland with scrub and birch woods in the distance within the Seal Sands industrial complex**



**Photograph 24. Example of rough grasslands typical of the proposed Gas Connection Corridors**





**Photograph 25. Gas Connection Corridor, rough grassland and short perennial habitats (OMH) amongst industrial buildings and infrastructure**



## Photograph 26. Dabholme Gut





**Photograph 27. View northeast, towards PCC along a proposed Electricity Connection Corridor, existing above ground pipelines can be seen on the right of picture**



**Photograph 30. Area of rough grassland and scrub close to A66 roundabout**





**Photograph 31. Unnamed water course close to A66 roundabout**



**Photograph 32. Lackenby Substation.**



**Photograph 34. Land northwest of Lackenby substation, showing woodlands and residential estate**





**Photograph 35. The Fleet River at Coatham Marsh, looking downstream over dominant floating pennywort**



**Photograph 36. Coatham Marsh**





**Photograph 37. Coatham Marsh grassland**



**Photograph 38. View towards PCC from Coatham Marsh.**





**Photograph 39. Scrub habitat and grassland in vicinity of PCC**



**Photograph 40. Scrub habitats and giant hogweed in vicinity of PCC**





Photograph 41. Dense scrub established along the railway



Photograph 42. Small pond in improved grassland field with cattle





**Photograph 43. Bramble scrub adjacent to disused railway**



**Photograph 45. Public park with amenity grassland north of A1046**





**Photograph 46. Arable field with rough grassland margin west of Kirkleatham**



**Photograph 47. Semi-improved grassland roadside verge of Trunk Road**





**Photograph 48. Amenity grassland playing field south of cul-de-sacs in Lazenby.**



**Photograph 49. Large reservoir west of Lazenby**



**Photograph 50. Beach and intertidal habitat at Bran Sands**





**Photograph 51. Mosaic of grassland, scrub, bare ground and ruderal habitats on land south of Bran Sands**



**Photograph 52. Species-rich grassland south of Bran Sands**





**Photograph 53. Mosaic of habitats on land south of Bran Sands**



**Photograph 54. Large stand of Schedule 9 Japanese rose on shoreline near Bran Sands.**





**Photograph 55. Example of bare ground and ephemeral vegetation on land adjacent to Bran Sands**



**Photograph 56. Open section of large pond on land south of Bran Sands.**





**Photograph 57. Public track with grassy strips and hedgerows with trees running alongside arable fields west of Kirkleatham**



**Photograph 59. Pond dense with reeds within horse-grazed pasture at Lazenby**





**Photograph 60. Field of neutral poor semi-improved grassland recently cut for hay north of plantation woodland at Lazenby.**



**Photograph 61. Mosaic of grassland, bare ground and scattered scrub near Lazenby.**

## Annex C Results of Botanical Survey

- 12.6.97 The following botanical survey data are presented for habitats within and adjacent to the PCC, as this is the location where most permanent habitat losses for the Proposed Development will occur. Early indicative designs for the Proposed Development included options to install pipeline crossings of the River Fleet through the lower banks or across the upper banks. On this basis the species lists for the River Fleet banks are presented separately for upper and lower bank zones that broadly reflect the differences in physical profile and species richness of the banks across their vertical profiles.
- 12.6.98 Relative species abundances are given using the DAFOR (Dominant, Abundant, Frequent, Occasional, Rare) scale. Although there is no formally agreed quantitative equivalent for these broad categories, they are widely regarded as being equivalent to the following cover scores: Dominant  $\geq$  75%; Abundant = 51-75%; Frequent = 26-50%; Occasional = 11-25%; and Rare = 1-10%. Scores preceded by an L indicate an additional cover assessment of “Localised” or “Local”, which indicates that coverage of a species is clustered rather than even within the survey area.



Plant Species	Common Name	Target Note 1	Target Note 4	Target Note 5	Target Note 7	Target Note 8	Target Note 3
<i>Achillea millefolium</i>	Yarrow		F	LA	O	F	
<i>Agrostis stolonifera</i>	Creeping bent	LA					
<i>Alliaria petiolata</i>	Garlic-mustard				R	R	
<i>Anisantha sterilis</i>	Barren brome		R				
<i>Anthriscus sylvestris</i>	Cow parsley			R			
<i>Anthyllis vulneraria</i> ssp. <i>vulneraria</i>	Kidney-vetch		F	A			A-F
<i>Arenaria serpyllifolia</i> agg.	Thyme-leaved sandwort agg.		R	LO		LO	
<i>Arrhenatherum elatius</i>	False oat-grass			F			
<i>Artemisia vulgaris</i>	Mugwort		LO	LO			
<i>Bellis perennis</i>	Daisy			O		LO	
<i>Buddleja davidii</i>	Butterfly-bush	R					
<i>Carduus nutans</i>	Musk thistle			R			
<i>Carex flacca</i>	Glaucous sedge			O			
<i>Carex pendula</i>	Pendulous sedge			LO			
<i>Carlina vulgaris</i>	Carline thistle				O	LO	LO
<i>Catapodium rigidum</i>	Fern-grass		LO	R			
<i>Centaurea nigra</i> agg.	Common knapweed			LF	R	F	
<i>Centaurea scabiosa</i>	Greater knapweed			O		R	
<i>Centranthus ruber</i>	Red valerian	R			R		
<i>Cerastium fontanum</i>	Common mouse-ear		R	O	O		O
<i>Cerastium semidecandrum</i>	Little mouse-ear		LF	O		R	
<i>Chamerion angustifolium</i>	Rosebay willowherb			O	LF		O
<i>Cirsium arvense</i>	Creeping thistle			O			
<i>Cirsium vulgare</i>	Spear thistle	R		R			
<i>Crataegus monogyna</i>	Hawthorn			LA	O	O	

Plant Species	Common Name	Target Note 1	Target Note 4	Target Note 5	Target Note 7	Target Note 8	Target Note 3
<i>Crepis biennis</i>	Rough hawk's-beard	R	O	O	R		O
<i>Dactylis glomerata</i>	Cock's-foot	F	F	A	A	A	F
<i>Daucus carota</i> subsp. <i>carota</i>	Wild carrot			A	O	A	O
<i>Diplotaxis tenuifolia</i>	Wild rocket	O				R	
<i>Dipsacus fullonum</i>	Teasel			LO			
<i>Echium vulgare</i>	Viper's bugloss	F		O		LO	
<i>Elytrigia repens</i>	Couch					F	
<i>Erigeron acris</i>	Blue fleabane				R		R
<i>Erodium cicutarium</i>	Common stork's-bill		LO	O	R		R
<i>Erophila verna</i>	Common whitlow-grass		LO	LO	LO		
<i>Festuca ovina</i>	Sheep's fescue			LF	R	R	
<i>Festuca rubra</i>	Red fescue	LA	D	A-D	A-D	A-D	A-D
<i>Fragaria vesca</i>	Wild strawberry						O
<i>Galium album</i>	Hedge bedstraw			LA			
<i>Geranium molle</i>	Dove's-foot crane's-bill			R			
<i>Geranium pyrenaicum</i>	Hedge crane's-bill			R			
<i>Geranium robertianum</i>	Herb-Robert	R					
<i>Heracleum mantegazzianum</i>	Giant hogweed			LF			
<i>Heracleum sphondylium</i>	Hogweed					O	
<i>Hieracium</i> agg.	Hawkweed agg.			R	LO		
<i>Hippophae rhamnoides</i>	Sea buckthorn	R		LA	LO		
<i>Hypochaeris radicata</i> ssp. <i>radicata</i>	Cat's-ear	O			O	O	
<i>Iris germanica</i>	Bearded iris					LO	
<i>Lactuca virosa</i>	Great lettuce	O					
<i>Lamium album</i>	White dead-nettle				R		
<i>Lathyrus pratensis</i>	Meadow vetchling			F			
<i>Leucanthemum vulgare</i>	Oxeye daisy		O	LF			

Plant Species	Common Name	Target Note 1	Target Note 4	Target Note 5	Target Note 7	Target Note 8	Target Note 3
<i>Leymus arenarius</i>	Lyme grass					R	
<i>Linaria vulgaris</i>	Common toadflax		LO	R	O		
<i>Linum catharticum</i>	Fairy flax						LO
<i>Lotus corniculatus</i>	Common bird's-foot trefoil	A	LO	LF	O	LO	F
<i>Luzula campestris</i>	Field woodrush						O
<i>Malus pumila</i>	Apple					R	
<i>Medicago lupulina</i>	Black medick			O			
<i>Melilotus</i> sp.	Melilot sp.			O			
<i>Ononis repens</i>	Common restharrow	O		O	F	O	O
<i>Pastinaca sativa</i>	Wild parsnip			A			
<i>Peltigera</i> sp.	Dog lichen			R		LO	
<i>Pilosella officinarum</i>	Common mouse-ear-hawkweed	O	O	R	LA	LO	O
<i>Plantago coronopus</i>	Buck's-horn plantain		O	F	LF	LO	F
<i>Plantago lanceolata</i>	Ribwort plantain	F	A	A	O	F	
<i>Plantago maritima</i>	Sea plantain						R
<i>Poa pratensis</i>	Smooth meadow-grass				LF	O	
<i>Potentilla anserina</i>	Silverweed			R			
<i>Potentilla reptans</i>	Creeping cinquefoil		LO				
<i>Prunus spinosa</i>	Blackthorn			LA			
<i>Reseda lutea</i>	Weld					R	
<i>Reseda luteola</i>	Wild mignonette		R				
<i>Rosa canina</i> agg.	Dog rose agg.					O	
<i>Rosa rugosa</i>	Japanese rose			R			
<i>Rosa spinosissima</i>	Burnet rose				LO		
<i>Rubus armeniacus</i>	Himalayan giant bramble			LF			
<i>Rubus fruticosus</i> agg.	Brambles	LF		LO		LA	R



Plant Species	Common Name	Target Note 1	Target Note 4	Target Note 5	Target Note 7	Target Note 8	Target Note 3
<i>Salix caprea</i>	Goat willow					LO	
<i>Sambucus nigra</i>	Elder					R	
<i>Saxifraga tridactylites</i>	Rue-leaved saxifrage			LF			
<i>Sedum acre</i>	Biting stonecrop		LF	F	R	LO	O
<i>Senecio erucifolius</i>	Hoary ragwort		R	O			
<i>Senecio inaequidens</i>	Narrow-leaved ragwort	O					
<i>Senecio jacobaea</i>	Common ragwort			R	O		O
<i>Senecio squalidus</i>	Oxford ragwort		R	O			
<i>Senecio vulgaris</i> ssp. <i>vulgaris</i>	Groundsel					R	
<i>Silene dioica</i>	Red campion			R			
<i>Silene vulgaris</i>	Bladder campion					LO	
<i>Sonchus asper</i> ssp. <i>asper</i>	Prickly sow-thistle		R				
<i>Stellaria pallida</i>	Lesser chickweed			R			
<i>Taraxacum</i> agg.	Dandelions			R			O
<i>Trifolium arvense</i>	Hare's-foot clover		R				
<i>Trifolium dubium</i>	Lesser trefoil		O				
<i>Trifolium medium</i>	Zigzag clover			LF			
<i>Trifolium pratense</i>	Red clover			O			
<i>Trifolium repens</i>	White clover			F			
<i>Tussilago farfara</i>	Colt's-foot	O		O			
<i>Ulex europaeus</i>	European gorse			R			
<i>Veronica chamaedrys</i>	Germander speedwell			O			
<i>Vicia sativa</i> ssp. <i>segetalis</i>	Common vetch			O		O	O
<i>Vicia sepium</i>	Bush vetch				R		

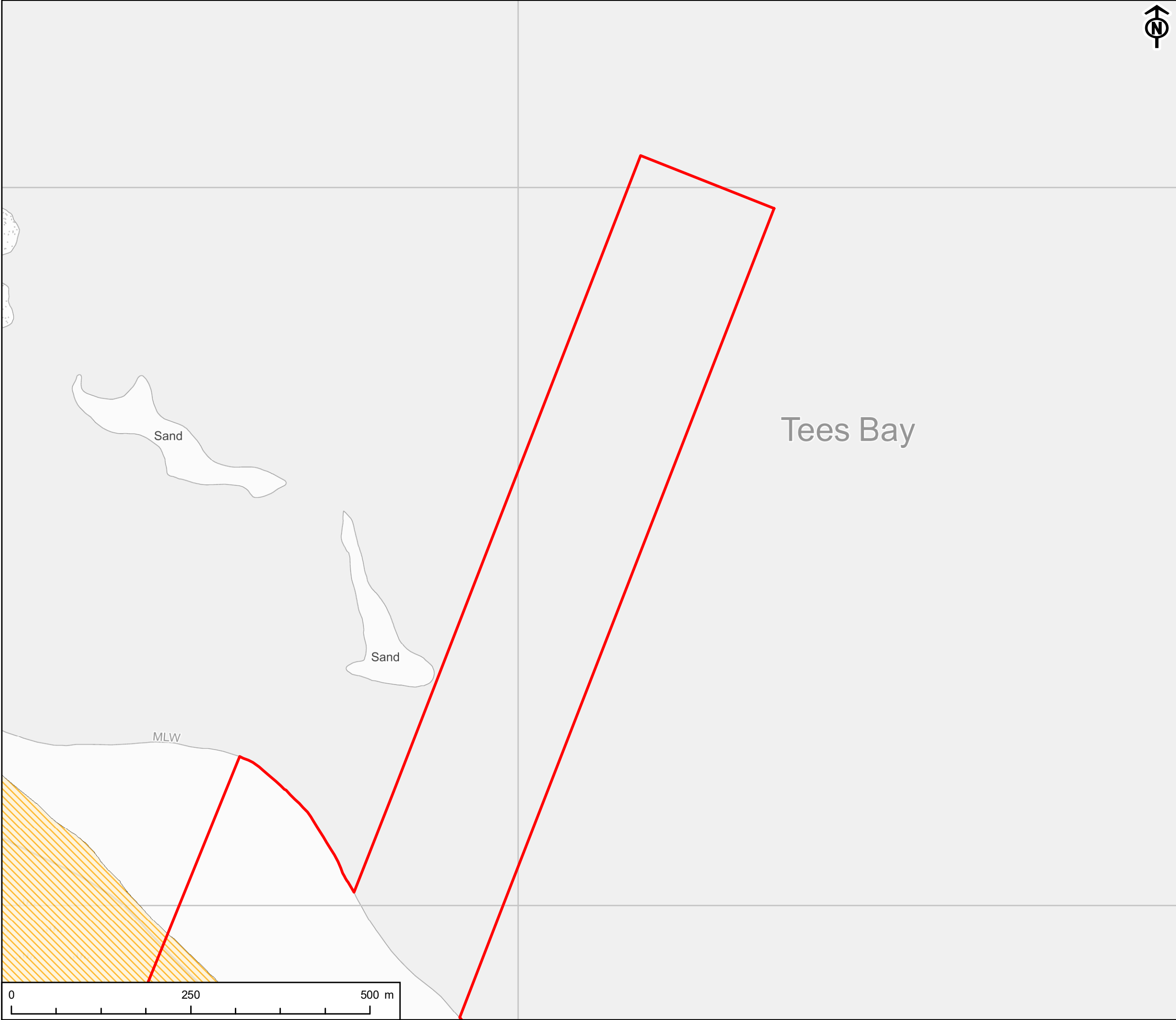
Plant Species	Common Name	Pond 1	Pond 2	Pond 3	Pond 4	Fleet River Corridor – Upper Bank and Margins	Fleet River Corridor – Lower Bank	Fleet River
<i>Acer campestre</i> var. <i>leiocarpum</i>	Field maple (non-native)				O			
<i>Achillea millefolium</i>	Yarrow					O		
<i>Agrostis stolonifera</i>	Creeping bent		LA				F	F
<i>Alnus cordata</i>	Italian alder				R			
<i>Alnus glutinosa</i>	Alder			O				
<i>Alopecurus pratensis</i>	Meadow foxtail			O				
<i>Angelica sylvestris</i>	Wild angelica				R			
<i>Anthoxanthum odoratum</i>	Sweet vernal-grass			O				
<i>Anthyllis vulneraria</i> ssp. <i>vulneraria</i>	Kidney-vetch					R		
<i>Bolboschoenus maritimus</i>	Sea club-rush	A	LA	F				A
<i>Bromus hordeaceus</i> ssp. <i>Hordeaceus</i>	Soft brome					O		
<i>Caltha palustris</i>	Marsh marigold				O			R
<i>Calystegia sepium</i>	Hedge bindweed						LA	
<i>Cardamine pratensis</i>	Cuckoo-flower	LF		LF				
<i>Carex otrubae</i>	False fox-sedge	O		O				
<i>Cerastium tomentosum</i>	Snow-in-summer					LF		
<i>Chamerion angustifolium</i>	Rosebay willowherb					O		
<i>Cirsium arvense</i>	Creeping thistle						LA	
<i>Crataegus monogyna</i>	Hawthorn				O	LO		
<i>Crataegus rhipidophylla</i>	Large-sepalled hawthorn				R			
<i>Crepis biennis</i>	Rough hawk's-beard					R		
<i>Dactylis glomerata</i>	Cock's-foot					A		
<i>Digitalis purpurea</i>	Foxglove					R		
<i>Diploxaxis tenuifolia</i>	Wild rocket					R		
<i>Eleocharis palustris</i>	Spike-rush		LA					

Plant Species	Common Name	Pond 1	Pond 2	Pond 3	Pond 4	Fleet River Corridor – Upper Bank and Margins	Fleet River Corridor – Lower Bank	Fleet River
<i>Elodea nuttallii</i>	Nuttall's waterweed				F			
<i>Elytrigia repens</i>	Couch						A	
<i>Epilobium hirsutum</i>	Greater willowherb						A	O
<i>Eupatorium cannabinum</i>	Hemp-agrimony					R		
<i>Festuca rubra</i>	Red fescue					D		
<i>Filipendula ulmaria</i>	Meadowsweet	LA					F	
<i>Galium aparine</i>	Cleavers						LO	
<i>Glyceria maxima</i>	Reed sweet-grass			F			F	F
<i>Heracleum sphondylium</i>	Hogweed						O	
<i>Hippophae rhamnoides</i>	Sea buckthorn				O			
<i>Hypericum tetrapterum</i>	Square-stalked St John's-wort			O				
<i>Iris pseudacorus</i>	Yellow iris	O		F	A			
<i>Lathyrus pratensis</i>	Meadow vetchling					O		
<i>Lemna</i> sp.	Duckweed							A
<i>Leucanthemum vulgare</i>	Oxeye daisy	LA						
<i>Ligustrum ovalifolium 'Aureum'</i>	Garden privet			LO				
<i>Lythrum salicaria</i>	Purple loosestrife	A						
<i>Myriophyllum spicatum</i>	Spiked milfoil			R				
<i>Ononis repens</i>	Common restharrow					O		
<i>Origanum vulgare</i>	Wild marjoram	LA						
<i>Phalaris arundinacea</i>	Reed canary-grass						LA	O
<i>Phragmites australis</i>	Common reed	LD		F				
<i>Pilosella officinarum</i>	Common mouse-ear-hawkweed					LO		
<i>Poa pratensis</i>	Smooth meadow-grass					A		
<i>Poa trivialis</i>	Rough meadow-grass						F	

Plant Species	Common Name	Pond 1	Pond 2	Pond 3	Pond 4	Fleet River Corridor – Upper Bank and Margins	Fleet River Corridor – Lower Bank	Fleet River
<i>Potentilla anserina</i>	Silverweed			O				
<i>Potentilla reptans</i>	Creeping cinquefoil						O	
<i>Primula veris</i>	Cowslip	LF						
<i>Primula vulgaris</i>	Primrose	O						
<i>Pulicaria dysenterica</i>	Common fleabane			LF				
<i>Ranunculus aquatilis</i> agg.	Water-crowfoot agg.		LO					
<i>Rosa canina</i> agg.	Dog-rose agg.					LO		
<i>Rosa rugosa</i>	Japanese rose				O			
<i>Rumex crispus</i>	Curled dock						LO	
<i>Salix cinerea</i> ssp. <i>oleifolia</i>	Grey willow			O				
<i>Salix viminalis</i>	Osier				O			
<i>Salix x fragilis</i>	Crack willow				F			
<i>Sambucus nigra</i>	Elder					R		
<i>Scrophularia auriculata</i>	Water figwort						R	
<i>Sedum album</i>	White stonecrop					LF		
<i>Senecio vulgaris</i> ssp. <i>vulgaris</i>	Groundsel						R	
<i>Silene dioica</i>	Red campion	O						
<i>Silene flos-cuculi</i>	Ragged-Robin			R				
<i>Solanum dulcamara</i>	Bittersweet		LF					
<i>Sonchus arvensis</i>	Perennial sow-thistle						LO	
<i>Sorbus intermedia</i>	Swedish whitebeam				O	R		
<i>Trifolium repens</i>	White clover					F		
<i>Tussilago farfara</i>	Colt's-foot						LO	
<i>Typha angustifolia</i>	Lesser bulrush			LA				
<i>Typha latifolia</i>	Bulrush	A	LA				LD	F
<i>Urtica dioica</i> ssp. <i>dioica</i>	Common nettle	LA					LF	



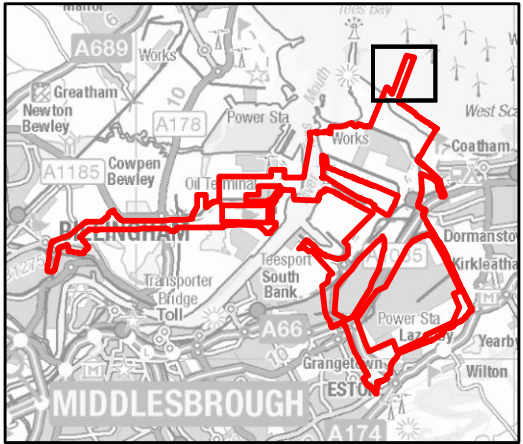
Plant Species	Common Name	Pond 1	Pond 2	Pond 3	Pond 4	Fleet River Corridor – Upper Bank and Margins	Fleet River Corridor – Lower Bank	Fleet River
<i>Vicia sepium</i>	Bush vetch					0		



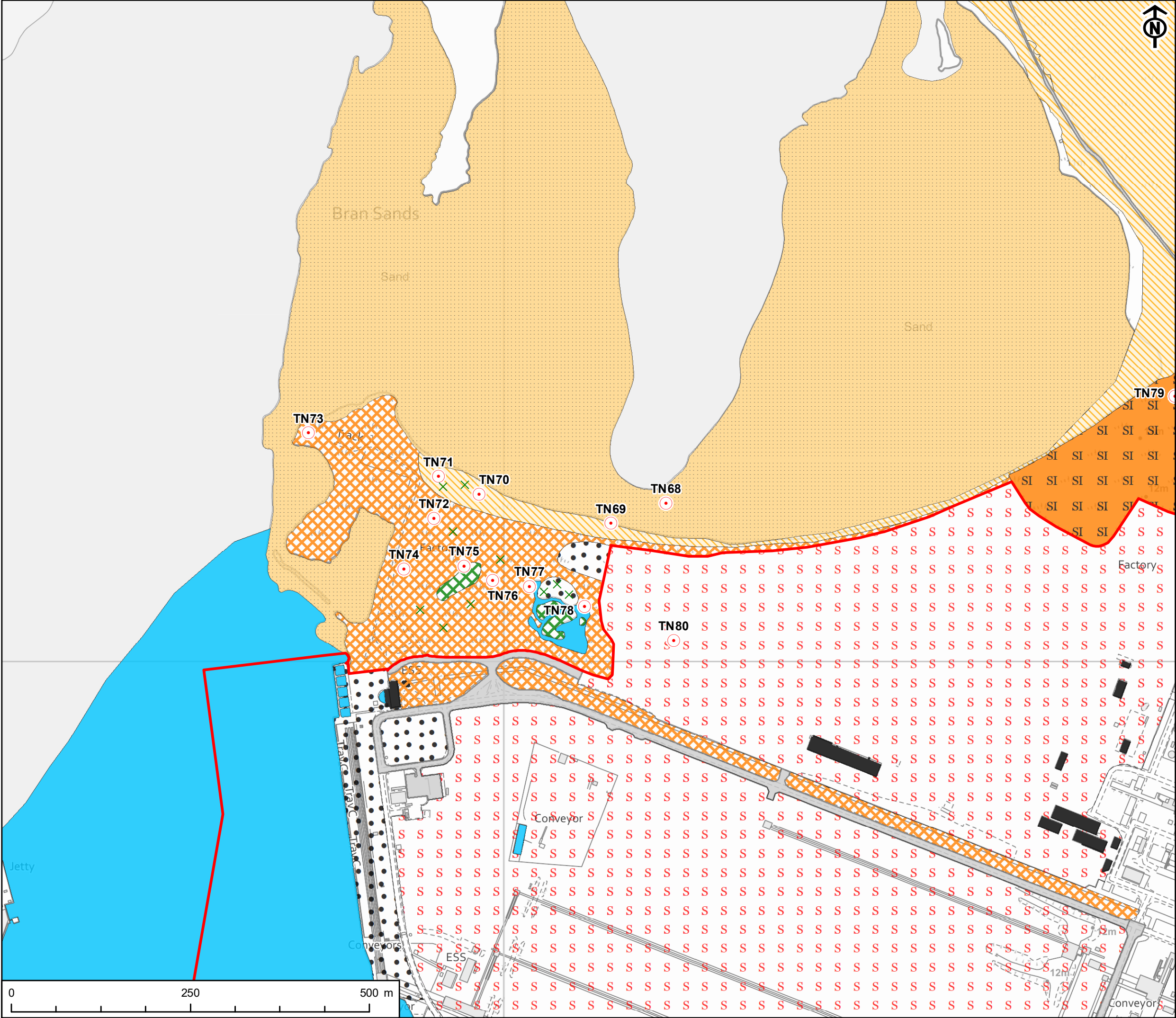
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PROJECT
NET ZERO TEESSIDE
CLIENT
NZT POWER AND NZNS STORAGE
KEY
<div><div></div>Site Boundary</div>
<div><div></div>Dune grassland</div>



TITLE
FIGURE 12C-1 PHASE 1 HABITAT MAP
REFERENCE
NZT_200610_PEA_S_12C-1_v2
SHEET NUMBER
1 of 24
DATE
10/06/2020

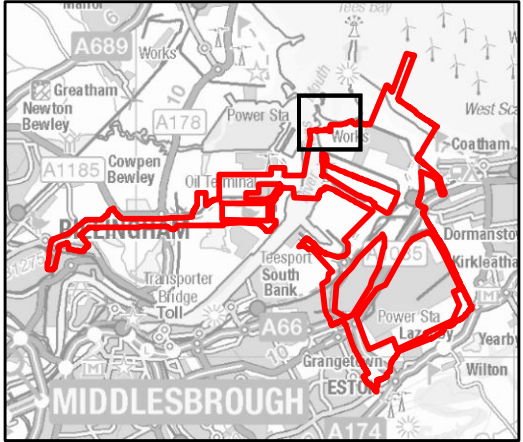


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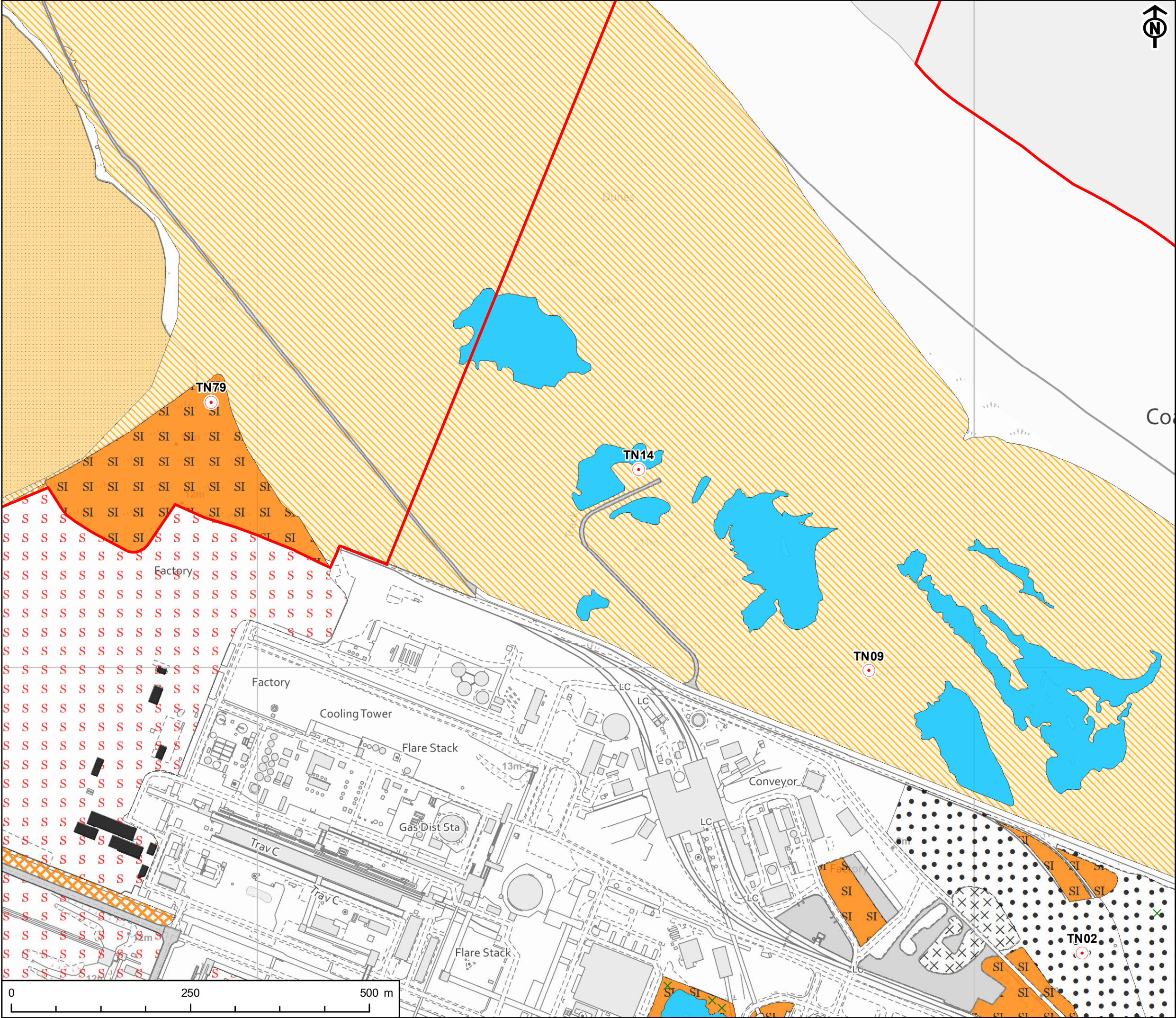
PROJECT
NET ZERO TEESSIDE
CLIENT
NZT POWER AND NZNS STORAGE
KEY

- Site Boundary
- Target note
- Scrub - scattered
- Bare ground
- Buildings
- Calcareous grassland - unimproved
- Dune grassland
- Hardstanding
- Intertidal - mud/sand
- Neutral grassland - semi-improved
- Running water
- Scrub - dense/continuous
- Spoil
- Standing water



TITLE
FIGURE 12C-1 PHASE 1 HABITAT MAP
REFERENCE
NZT_200610_PEA_S_12C-1_v2
SHEET NUMBER
2 of 24
DATE
10/06/2020





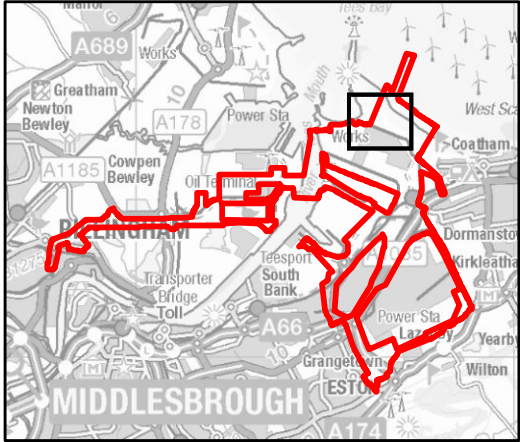
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PROJECT  
NET ZERO TEESSIDE

CLIENT  
NZT POWER AND NZNS STORAGE

KEY

- Site Boundary
- Target note
- Scrub - scattered
- Bare ground
- Buildings
- Calcareous grassland - unimproved
- Cultivated/disturbed land - ephemeral/short perennial
- Dune grassland
- Hardstanding
- Intertidal - mud/sand
- Neutral grassland - semi-improved
- Spoil
- Standing water



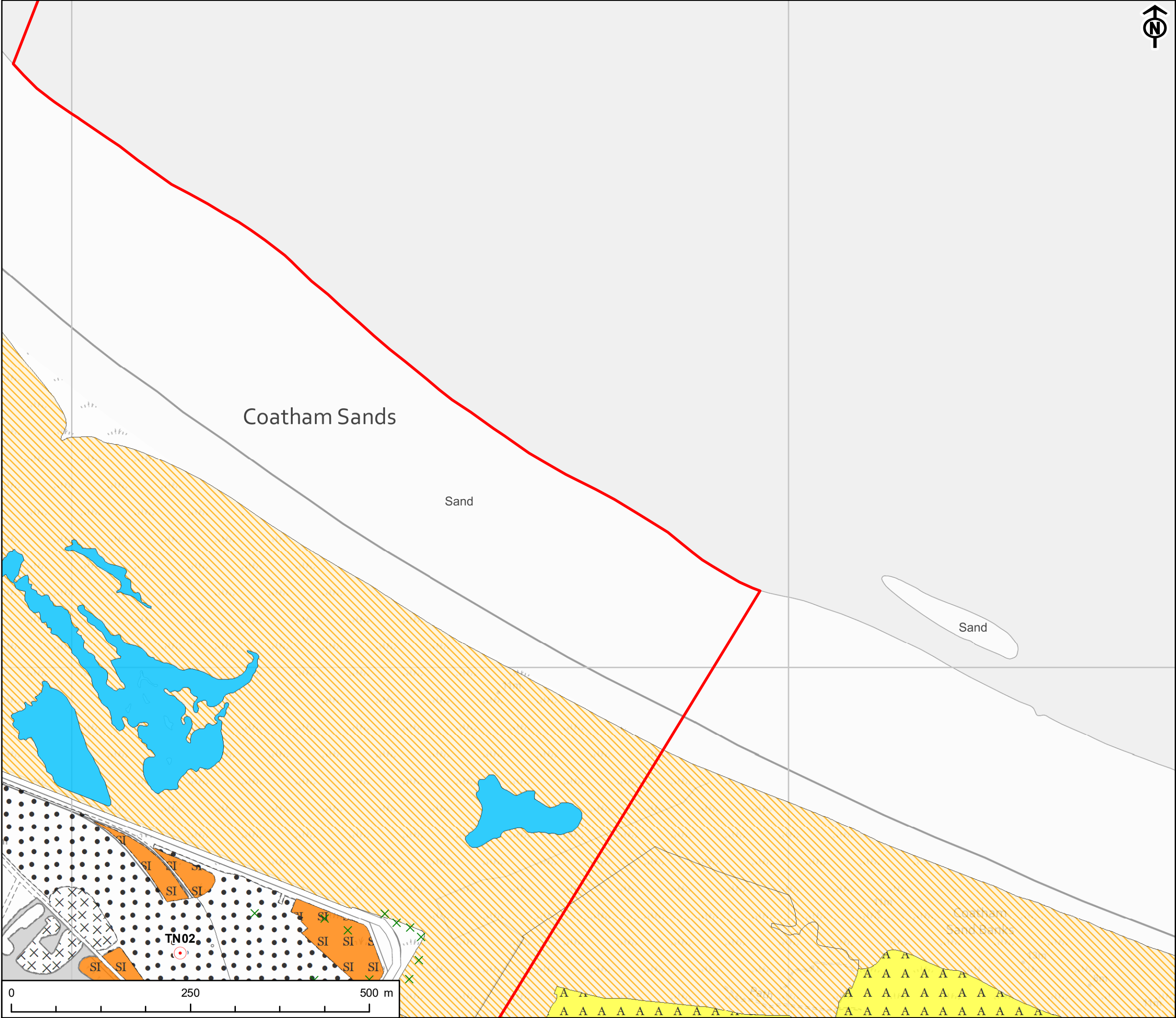
TITLE  
FIGURE 12C-1  
PHASE 1 HABITAT MAP

REFERENCE  
NZT\_200610\_PEA\_S\_12C-1\_v2


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PROJECT

NET ZERO TEESSIDE

CLIENT

NZT POWER AND NZNS STORAGE

KEY

Site Boundary

Target note

Scrub - scattered

Bare ground

A

Cultivated/disturbed land - amenity grassland

X

Cultivated/disturbed land - ephemeral/short perennial

Dune grassland

Hardstanding

Neutral grassland - semi-improved

Standing water

TITLE

FIGURE 12C-1  
PHASE 1 HABITAT MAP

REFERENCE

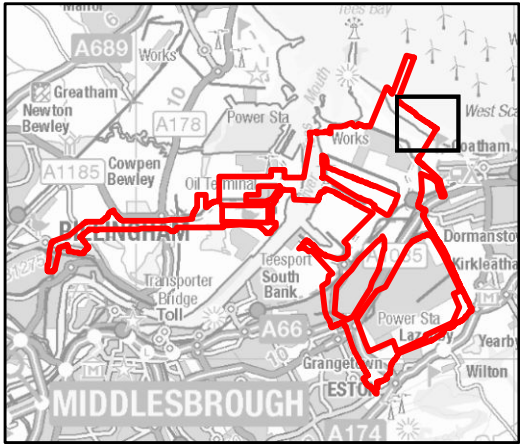
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SHEET NUMBER

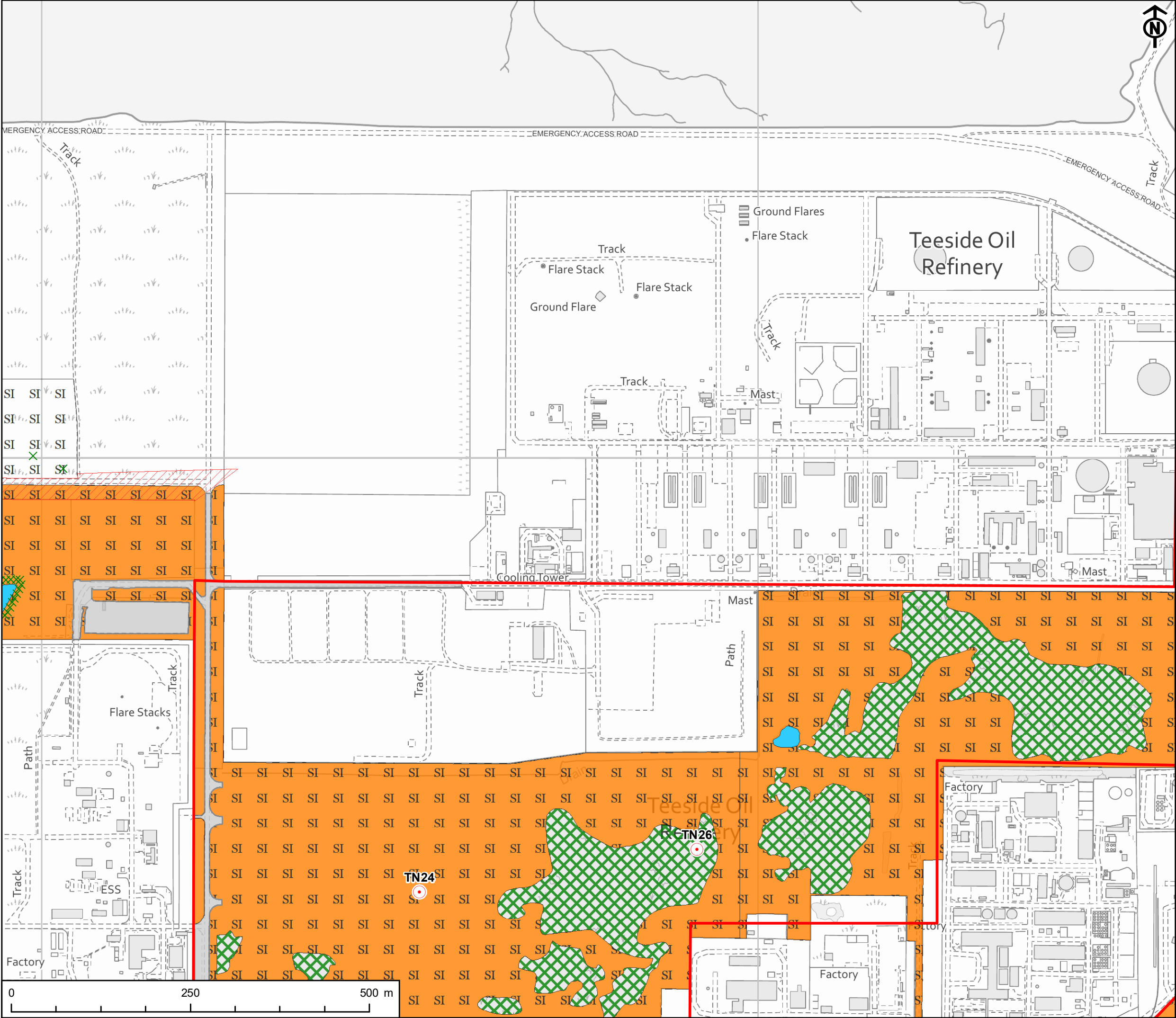
4 of 24

DATE

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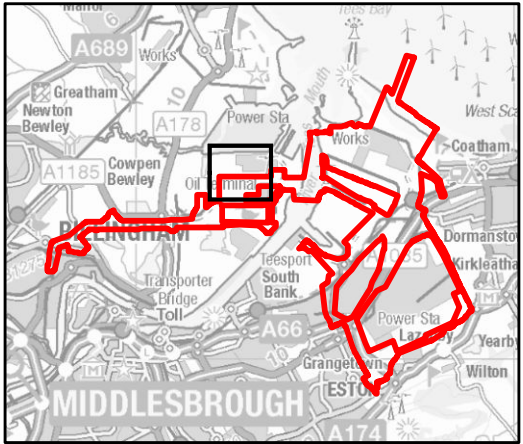


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PROJECT  
NET ZERO TEESSIDE

CLIENT  
NZT POWER AND NZNS STORAGE

- KEY
- Site Boundary
  - Target note
  - Scrub - scattered
  - No Access
  - Hardstanding
  - Neutral grassland - semi-improved
  - Poor semi-improved grassland
  - Scrub - dense/continuous
  - Standing water



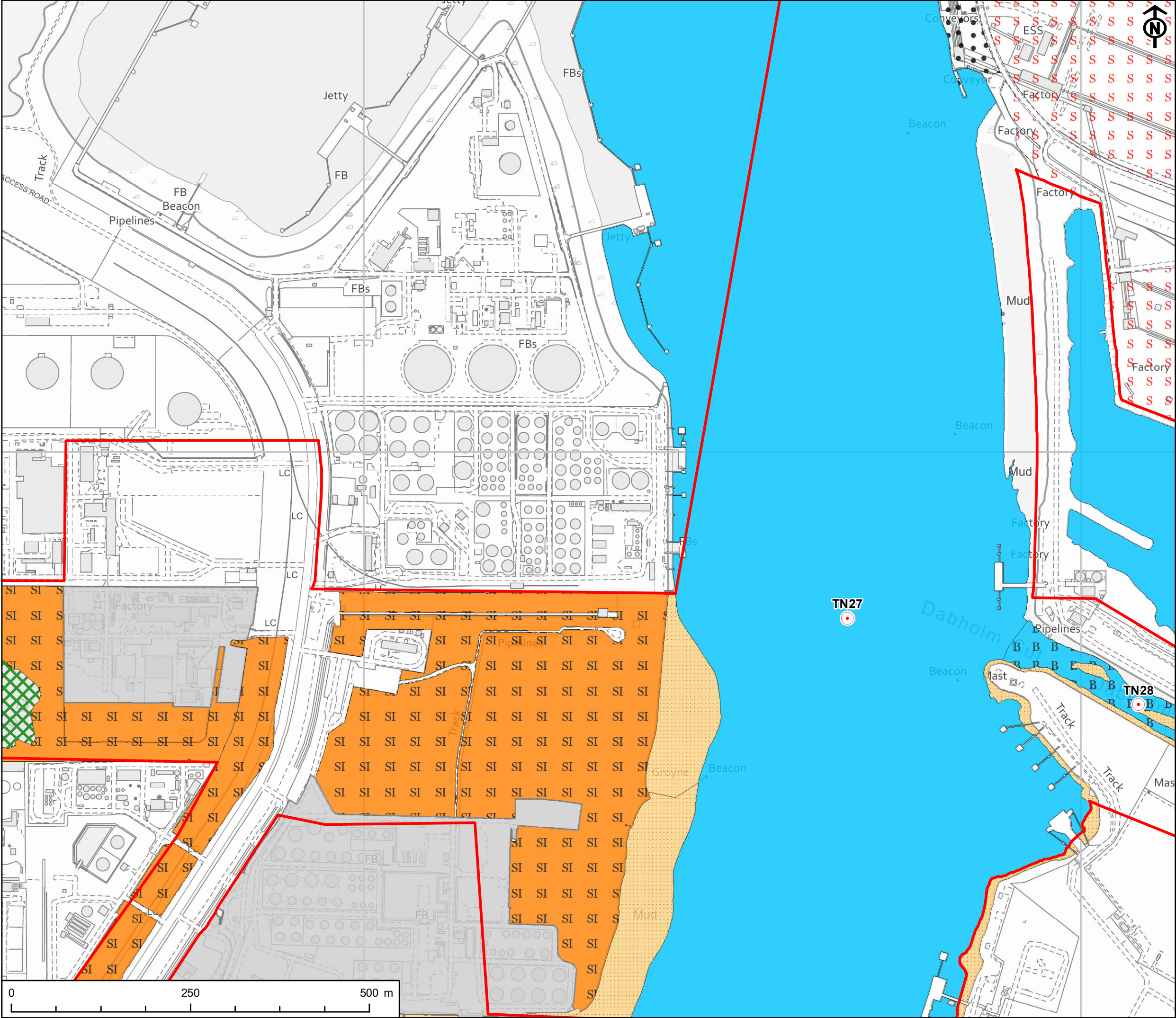
TITLE  
FIGURE 12C-1  
PHASE 1 HABITAT MAP

REFERENCE  
NZT\_200610\_PEA\_S\_12C-1\_v2

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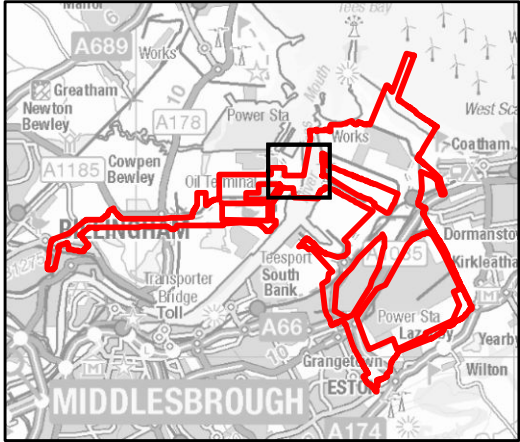
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PROJECT  
NET ZERO TEESIDE

CLIENT  
NZT POWER AND NZNS STORAGE

KEY

- Site Boundary
- Target note
- Bare ground
- Hardstanding
- Intertidal - mud/sand
- Neutral grassland - semi-improved
- Running water
- Running water - brackish
- Scrub - dense/continuous
- Spoil
- Standing water



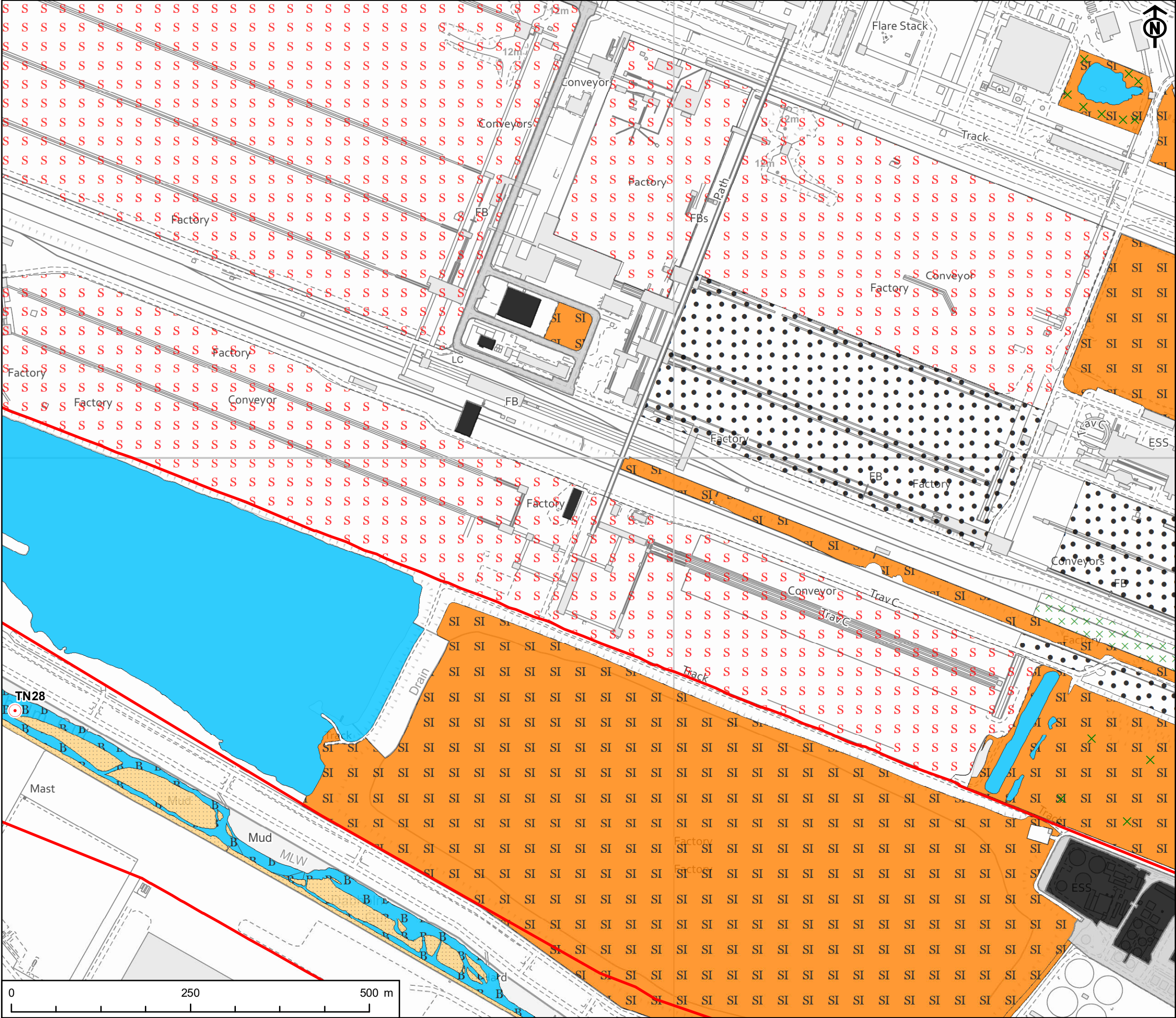
TITLE  
FIGURE 12C-1  
PHASE 1 HABITAT MAP

REFERENCE  
NZT\_200610\_PEA\_S\_12C-1\_v2

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DATE  
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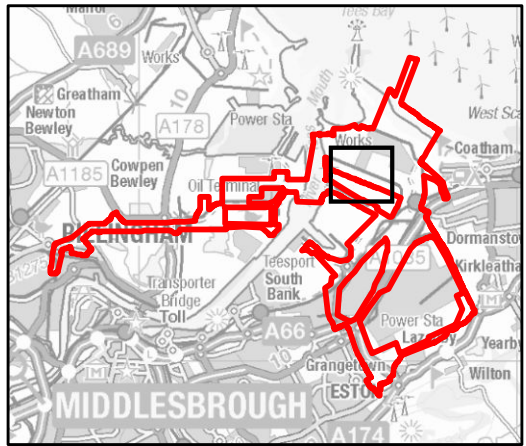
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PROJECT  
NET ZERO TEESIDE

CLIENT  
NZT POWER AND NZNS STORAGE

KEY

- Site Boundary
- Target note
- Scrub - scattered
- Bare ground
- Buildings
- Hardstanding
- Intertidal - mud/sand
- Neutral grassland - semi-improved
- Running water - brackish
- Scrub - scattered
- Spoil
- Standing water



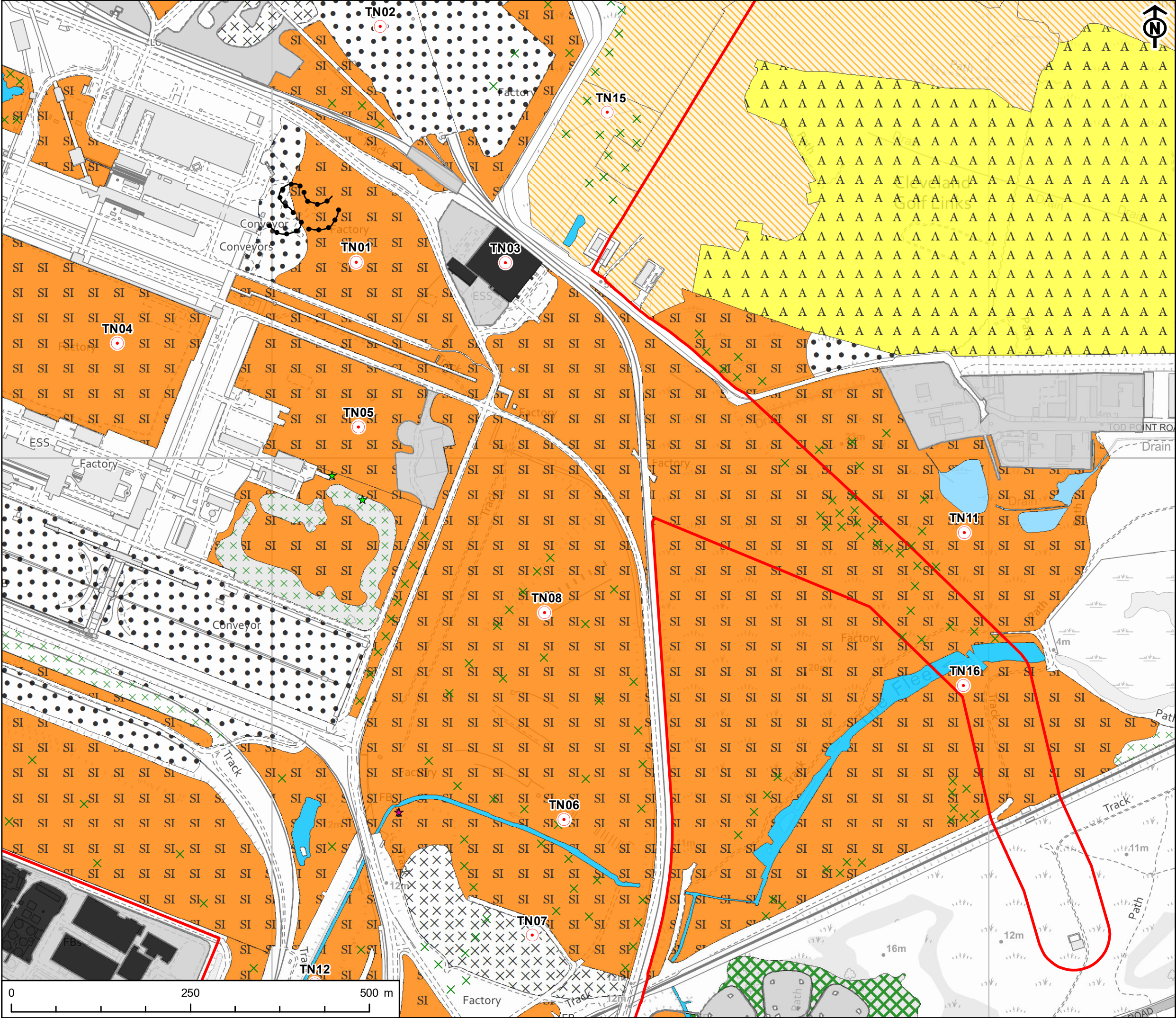
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FIGURE 12C-1  
PHASE 1 HABITAT MAP

REFERENCE  
NZT\_200610\_PEA\_S\_12C-1\_v2

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DATE  
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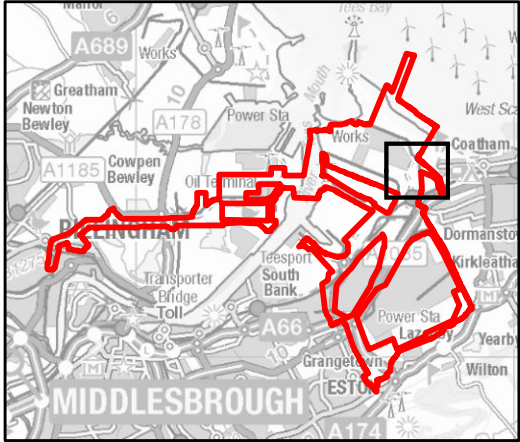


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PROJECT  
NET ZERO TEESSIDE

CLIENT  
NZT POWER AND NZNS STORAGE

- KEY
- Site Boundary
  - Target note
  - Scrub - scattered
  - Roost
  - Invasive\_Species
  - Earth bank
  - Bare ground
  - Buildings
  - Cultivated/disturbed land - amenity grassland
  - Cultivated/disturbed land - ephemeral/short perennial
  - Dune grassland
  - Hardstanding
  - Neutral grassland - semi-improved
  - Running water
  - Scrub - dense/continuous
  - Scrub - scattered
  - Standing water
  - Swamp



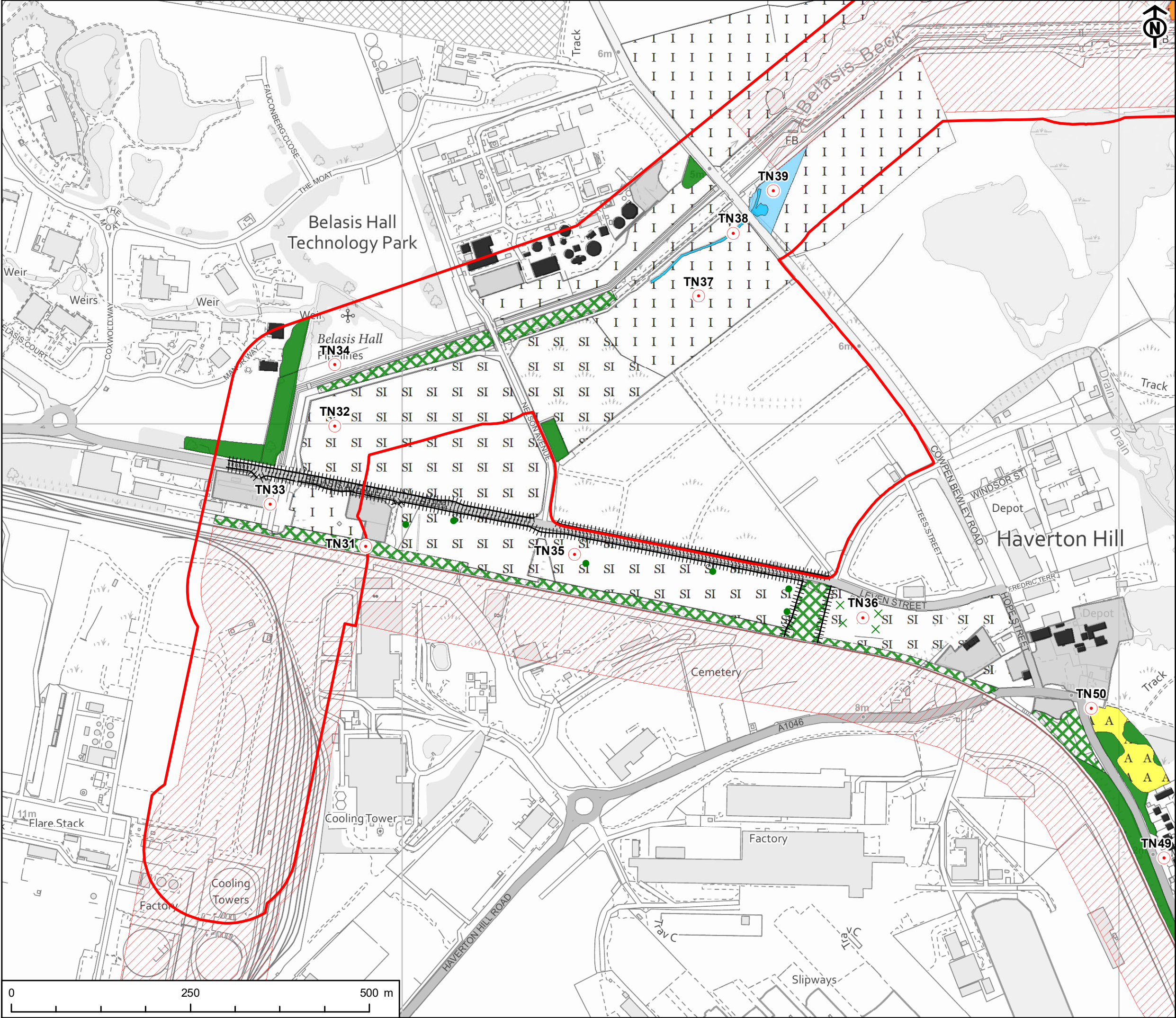
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FIGURE 12C-1  
PHASE 1 HABITAT MAP

REFERENCE  
NZT\_200610\_PEA\_S\_12C-1\_v2

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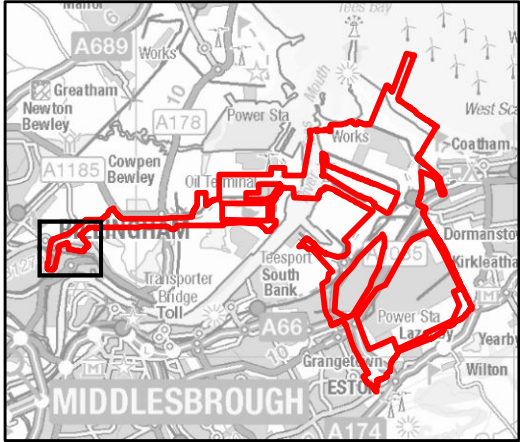


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PROJECT  
NET ZERO TEESSIDE

CLIENT  
NZT POWER AND NZNS STORAGE

- KEY
- Site Boundary
  - Target note
  - Broadleaved parkland/scattered tree
  - Scrub - scattered
  - Fence
  - No Access
  - Broadleaved woodland - semi-natural
  - Buildings
  - Cultivated/disturbed land - amenity grassland
  - Hardstanding
  - Improved grassland
  - Neutral grassland - semi-improved
  - Poor semi-improved grassland
  - Scrub - dense/continuous
  - Standing water
  - Swamp



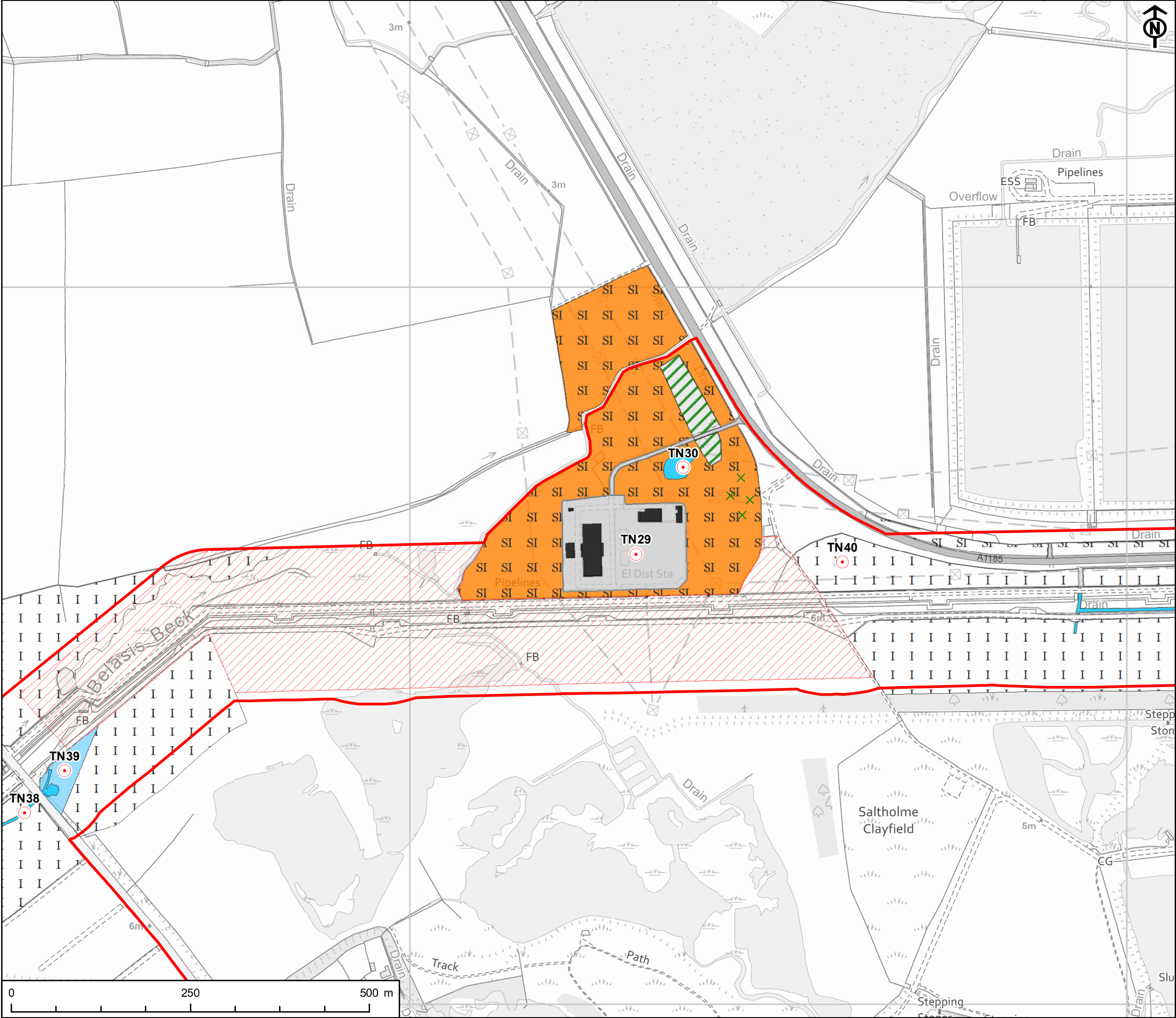
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FIGURE 12C-1  
PHASE 1 HABITAT MAP

REFERENCE  
NZT\_200610\_PEA\_S\_12C-1\_v2

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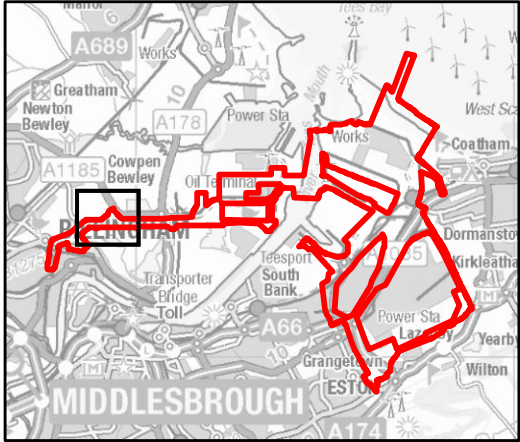


PROJECT  
NET ZERO TEESSIDE

CLIENT  
NZN POWER AND NZNS STORAGE

KEY

- Site Boundary
- Target note
- Scrub - scattered
- No Access
- Broadleaved woodland - plantation
- Buildings
- Hardstanding
- Improved grassland
- Neutral grassland - semi-improved
- Poor semi-improved grassland
- Running water
- Standing water
- Swamp



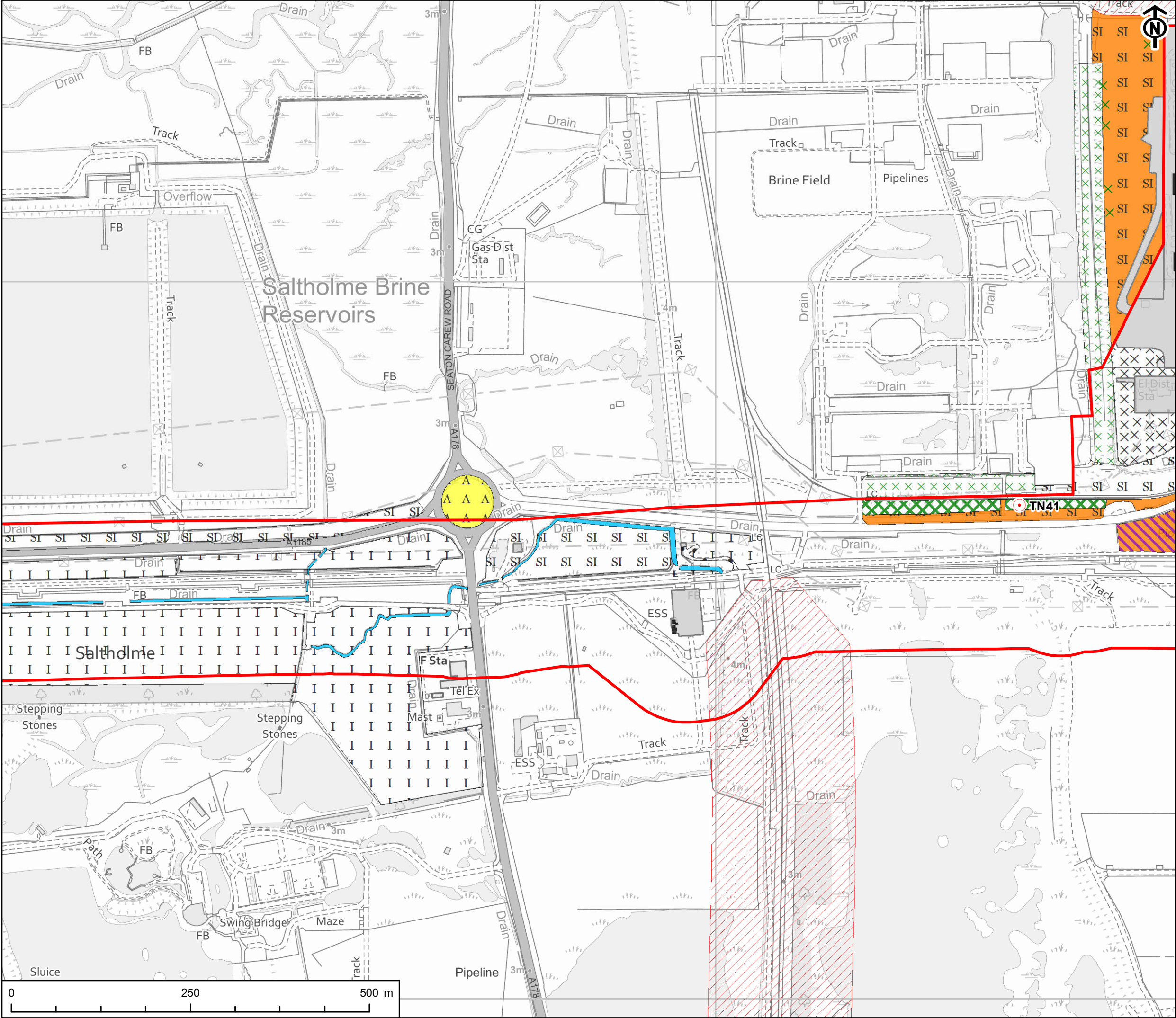
TITLE  
FIGURE 12C-1  
PHASE 1 HABITAT MAP

REFERENCE  
NZN\_200610\_PEA\_S\_12C-1\_v2

SHEET NUMBER  
10 of 24

DATE  
10/06/2020

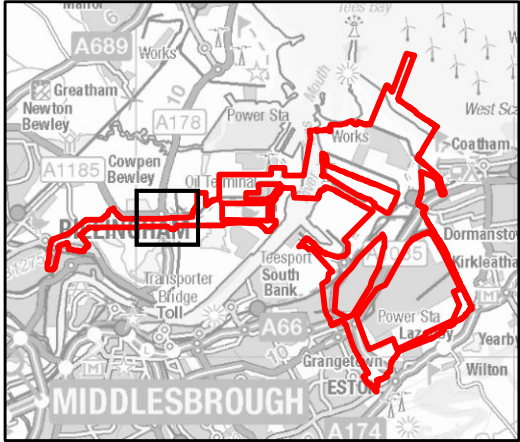




PROJECT  
NET ZERO TEESSIDE

CLIENT  
NZT POWER AND NZNS STORAGE

- KEY
- Site Boundary
  - Target note
  - Scrub - scattered
  - No Access
  - Bare ground
  - Buildings
  - Cultivated/disturbed land - amenity grassland
  - Cultivated/disturbed land - ephemeral/short perennial
  - Hardstanding
  - Improved grassland
  - Marsh/marshy grassland
  - Neutral grassland - semi-improved
  - Poor semi-improved grassland
  - Running water
  - Scrub - dense/continuous
  - Scrub - scattered



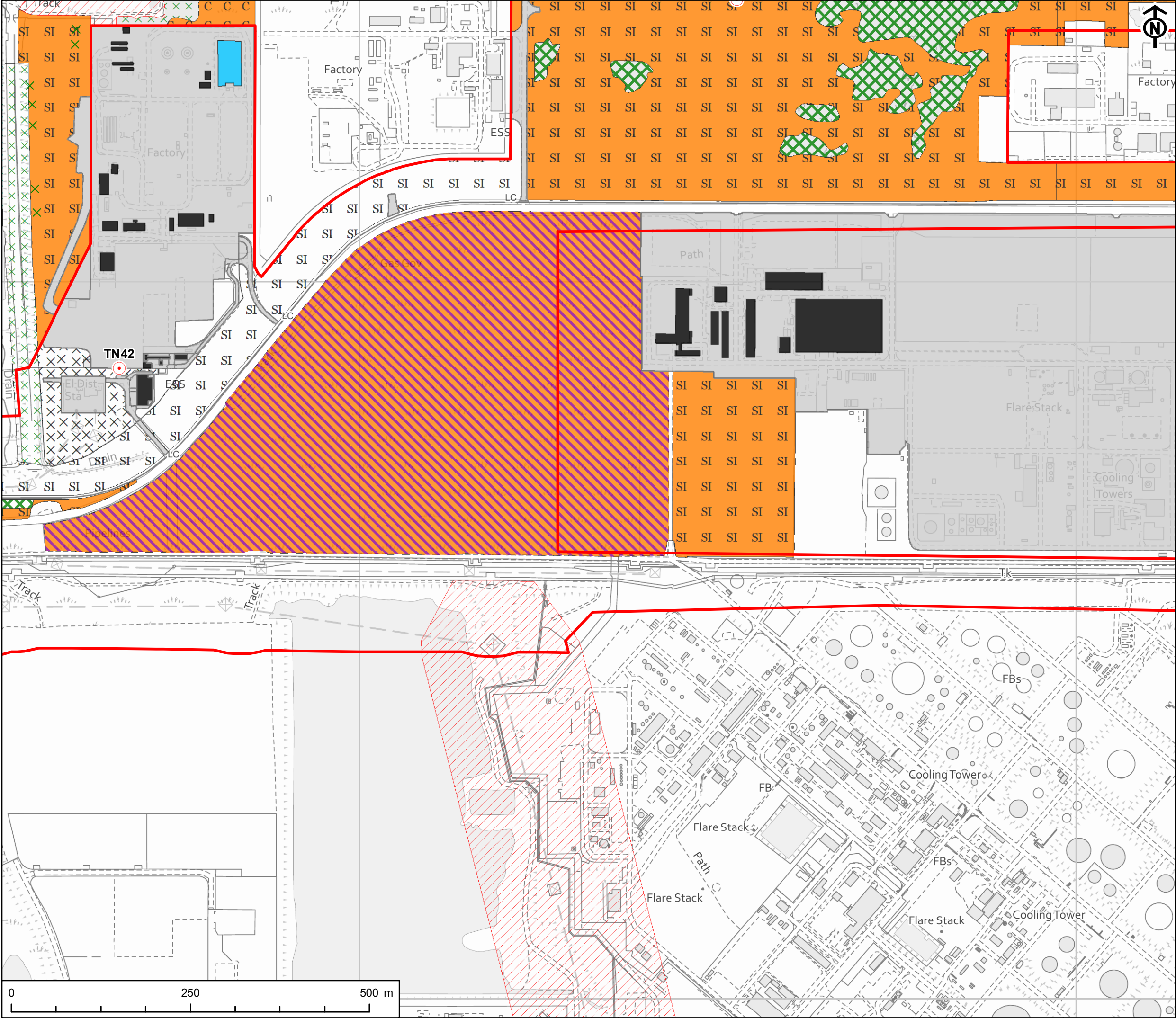
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FIGURE 12C-1  
PHASE 1 HABITAT MAP

REFERENCE  
NZT\_200610\_PEA\_S\_12C-1\_v2

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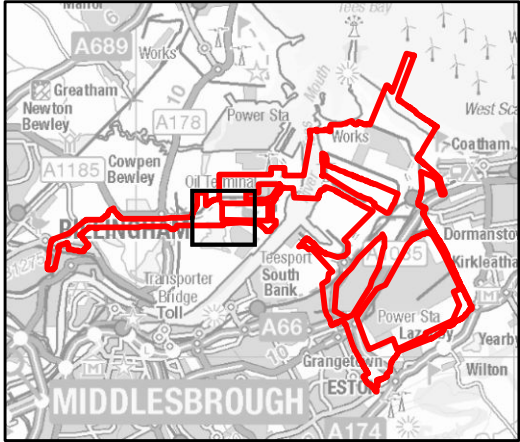
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PROJECT  
NET ZERO TEESIDE

CLIENT  
NZT POWER AND NZNS STORAGE

KEY

- Site Boundary
- Target note
- Scrub - scattered
- No Access
- Buildings
- Coastal grassland
- Cultivated/disturbed land - ephemeral/short perennial
- Hardstanding
- Marsh/marshy grassland
- Neutral grassland - semi-improved
- Poor semi-improved grassland
- Scrub - dense/continuous
- Scrub - scattered
- Standing water



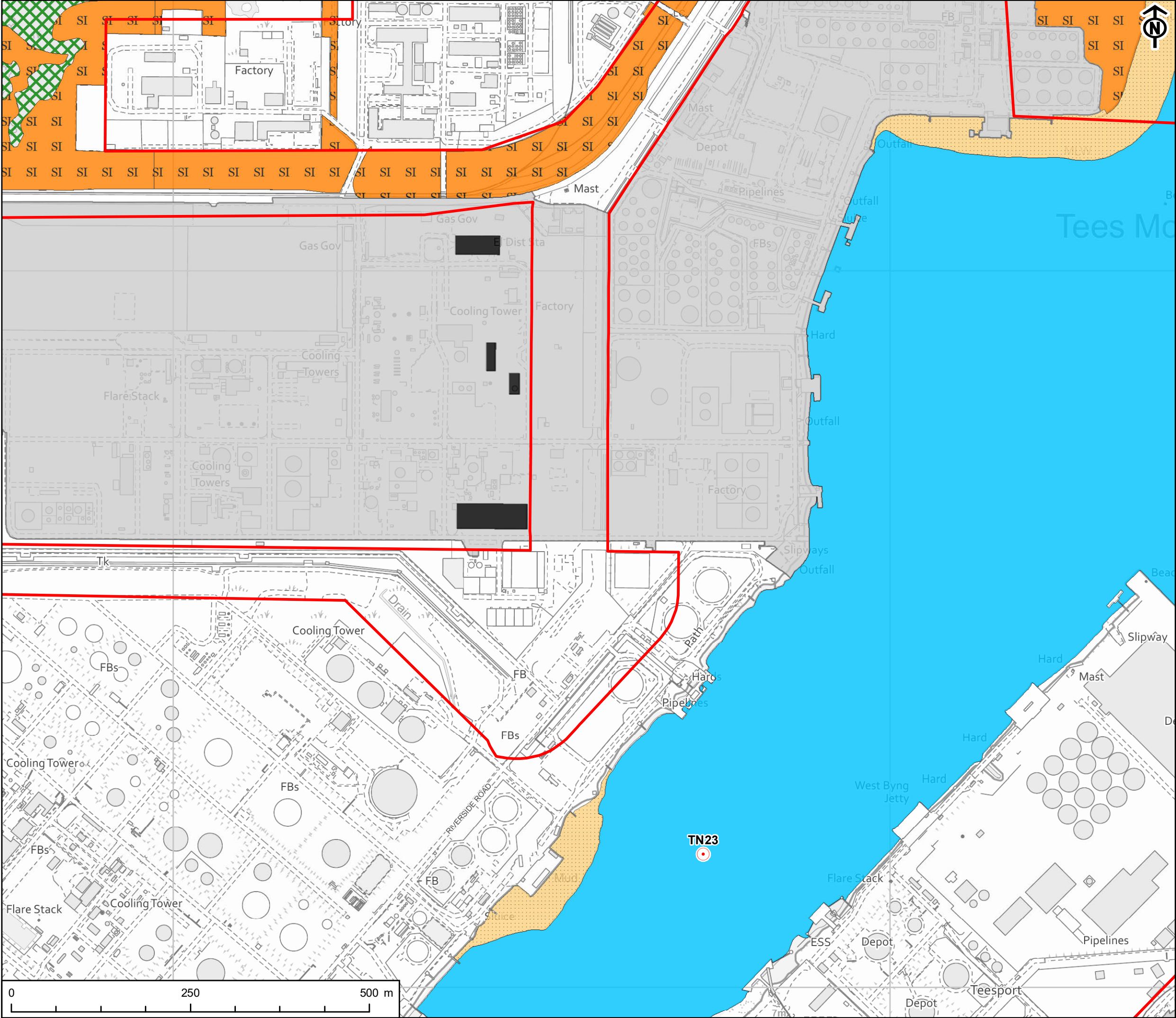
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FIGURE 12C-1  
PHASE 1 HABITAT MAP

REFERENCE  
NZT\_200610\_PEA\_S\_12C-1\_v2

SHEET NUMBER  
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DATE  
10/06/2020

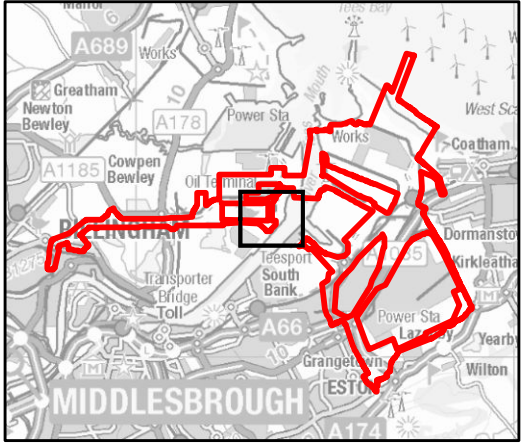




PROJECT  
NET ZERO TEESSIDE

CLIENT  
NZT POWER AND NZNS STORAGE

- KEY
- Site Boundary
  - Target note
  - Buildings
  - Hardstanding
  - Intertidal - mud/sand
  - Neutral grassland - semi-improved
  - Running water
  - Scrub - dense/continuous



TITLE  
FIGURE 12C-1  
PHASE 1 HABITAT MAP

REFERENCE  
NZT\_200610\_PEA\_S\_12C-1\_v2

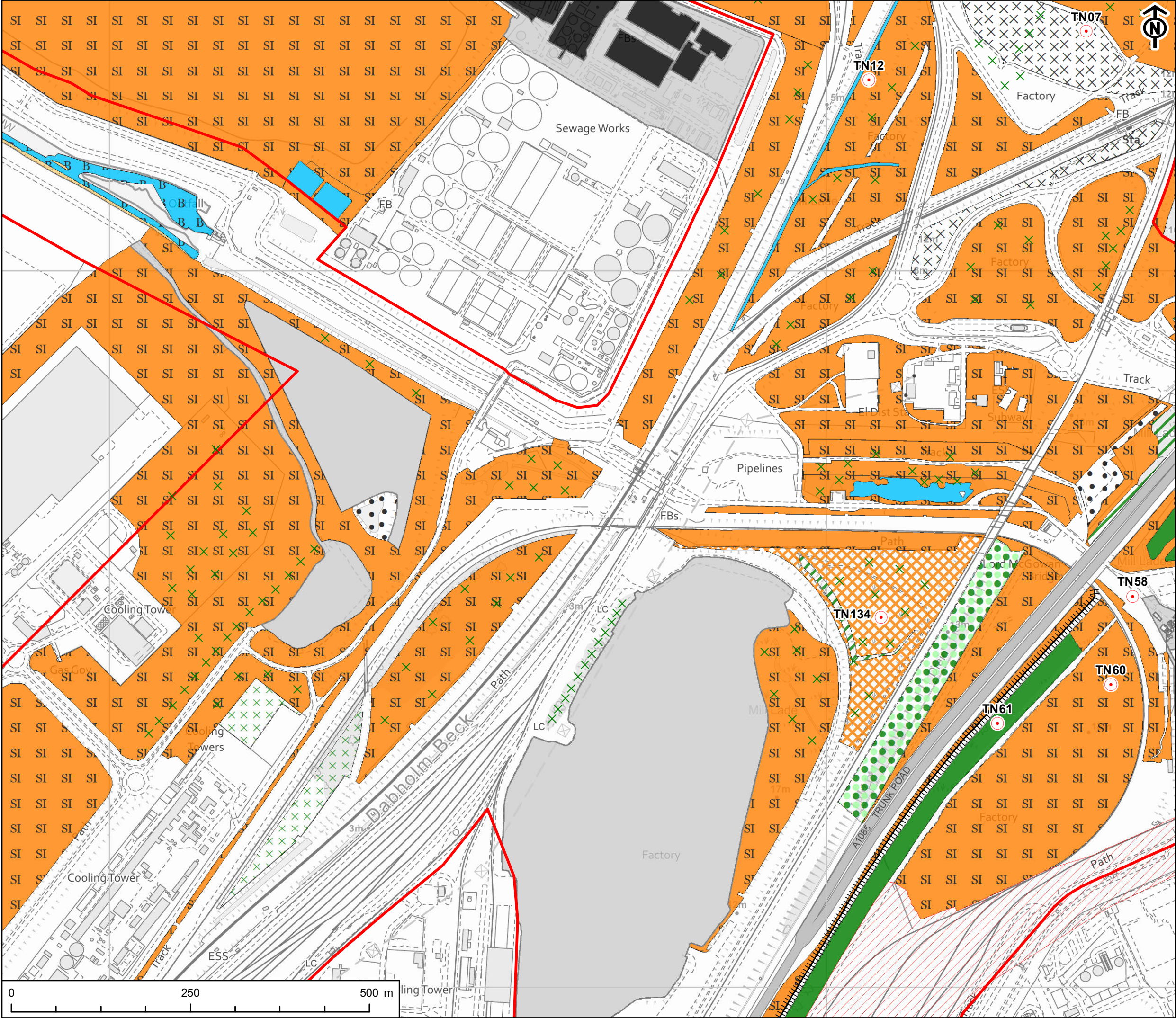
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DATE  
10/06/2020







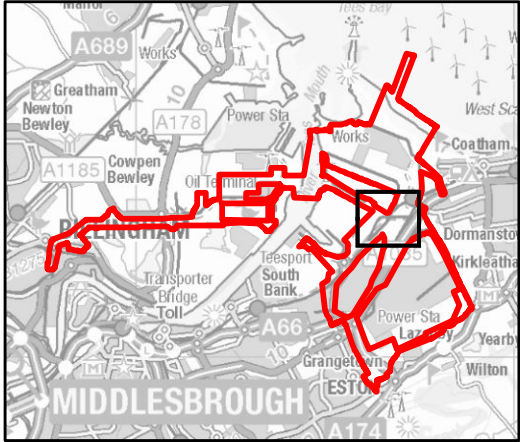


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PROJECT  
NET ZERO TEESIDE

CLIENT  
NZT POWER AND NZNS STORAGE

- KEY
- Site Boundary
  - Target note
  - Scrub - scattered
  - Fence
  - No Access
  - Bare ground
  - Broadleaved woodland - plantation
  - Broadleaved woodland - semi-natural
  - Buildings
  - Calcareous grassland - unimproved
  - Cultivated/disturbed land - ephemeral/short perennial
  - Hardstanding
  - Intertidal - mud/sand
  - Mixed parkland/scattered trees
  - Neutral grassland - semi-improved
  - Running water
  - Running water - brackish
  - Scrub - dense/continuous
  - Scrub - scattered
  - Spoil
  - Standing water



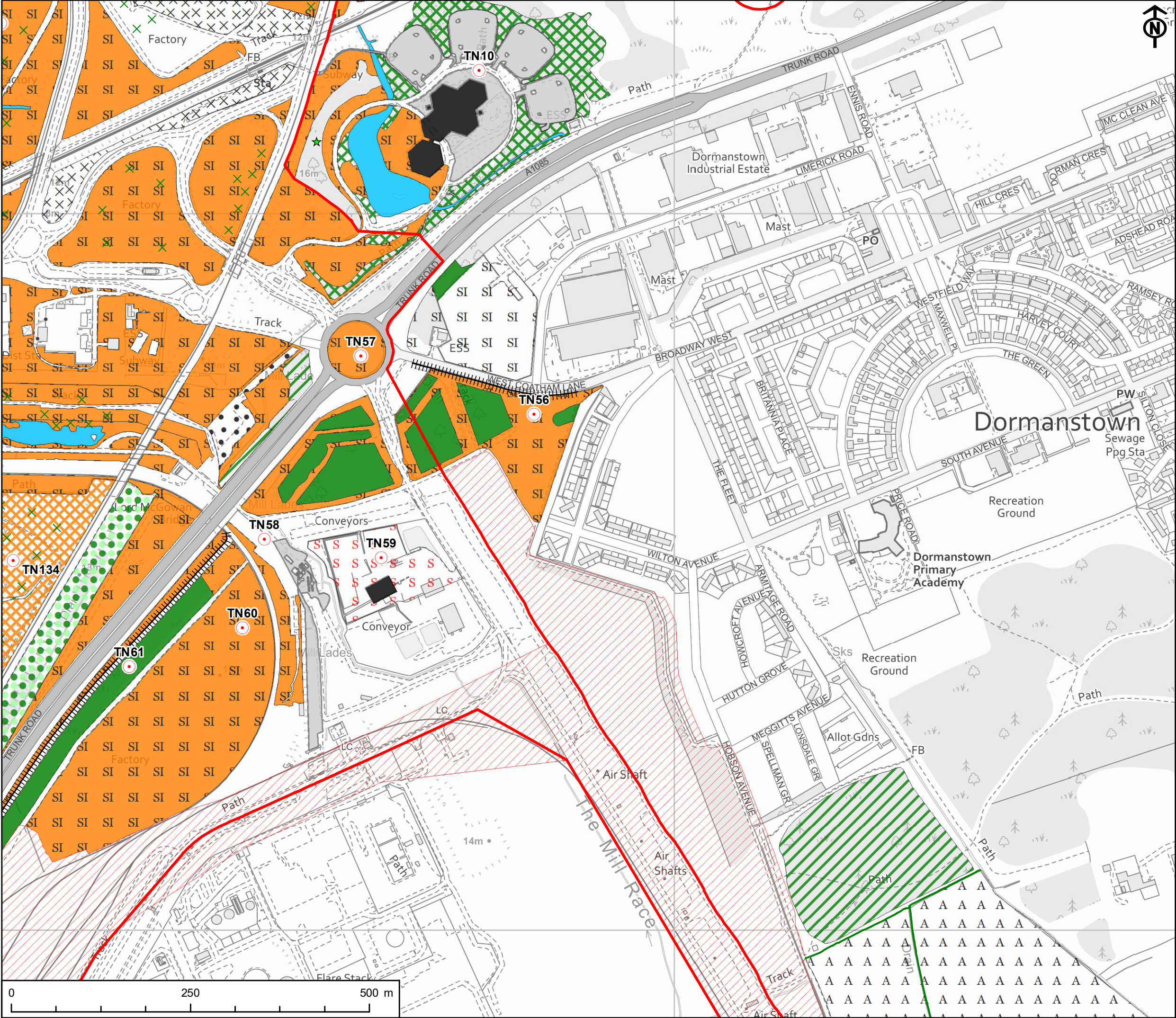
TITLE  
FIGURE 12C-1  
PHASE 1 HABITAT MAP

REFERENCE  
NZT\_200610\_PEA\_S\_12C-1\_v2

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DATE  
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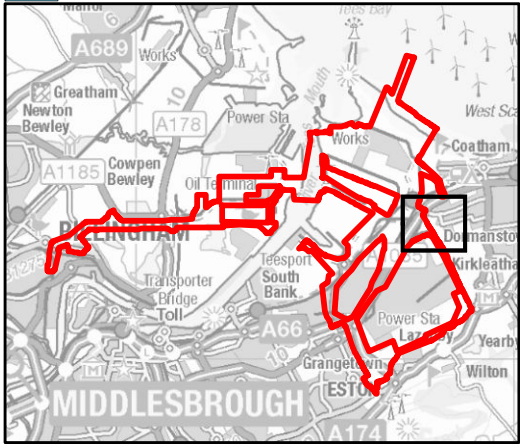


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PROJECT  
NET ZERO TEESSIDE

CLIENT  
NZT POWER AND NZNS STORAGE

- KEY
- Site Boundary
  - Target note
  - Scrub - scattered
  - Invasive\_Species
  - Fence
  - Intact hedge - species-poor
  - No Access
  - Bare ground
  - Broadleaved woodland - plantation
  - Broadleaved woodland - semi-natural
  - Buildings
  - Calcareous grassland - unimproved
  - Cultivated/disturbed land - arable
  - Cultivated/disturbed land - ephemeral/short perennial
  - Hardstanding
  - Mixed parkland/scattered trees
  - Neutral grassland - semi-improved
  - Poor semi-improved grassland
  - Running water
  - Scrub - dense/continuous
  - Spoil
  - Standing water



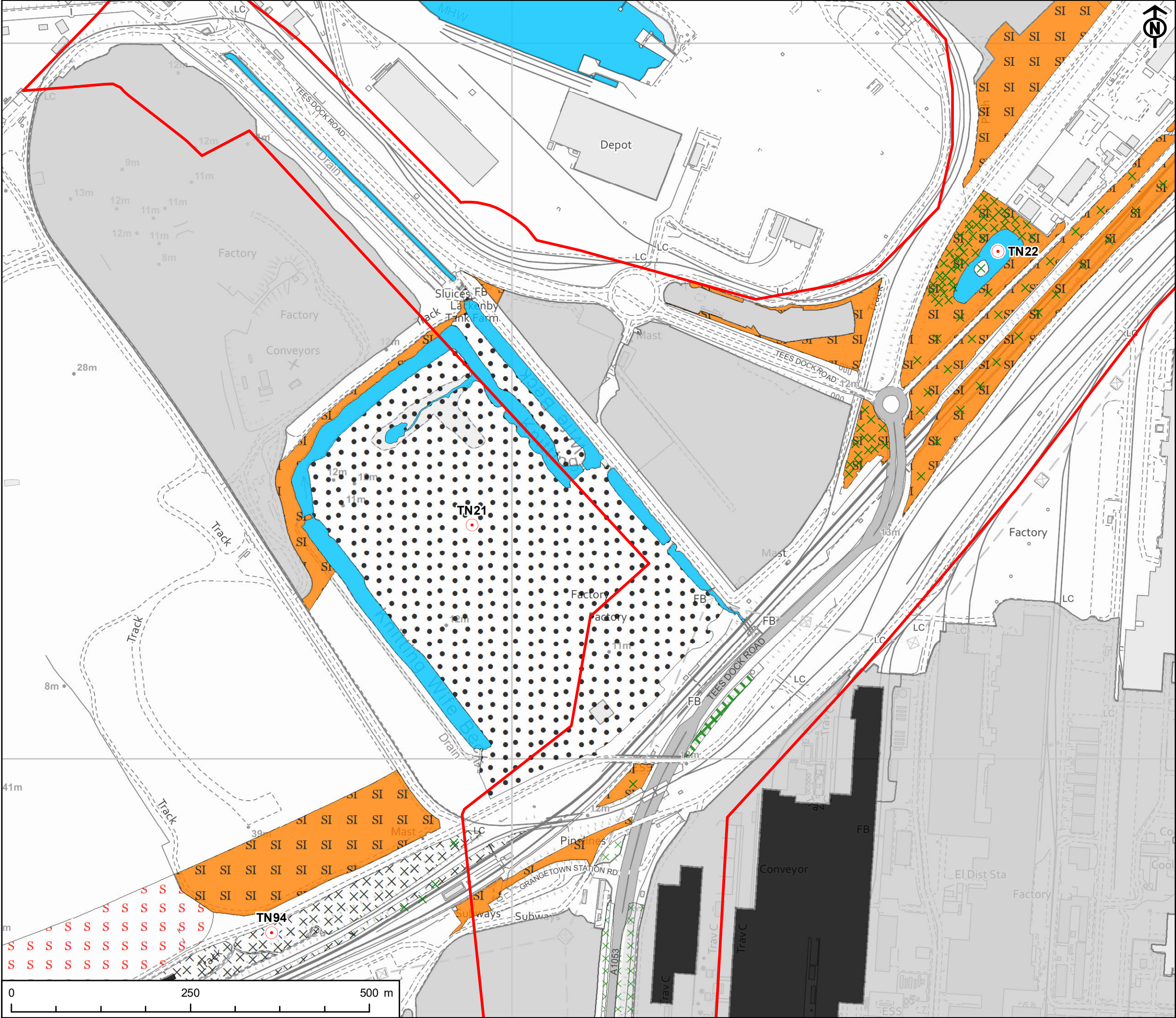
TITLE  
FIGURE 12C-1  
PHASE 1 HABITAT MAP

REFERENCE  
NZT\_200610\_PEA\_S\_12C-1\_v2

SHEET NUMBER  
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DATE  
10/06/2020



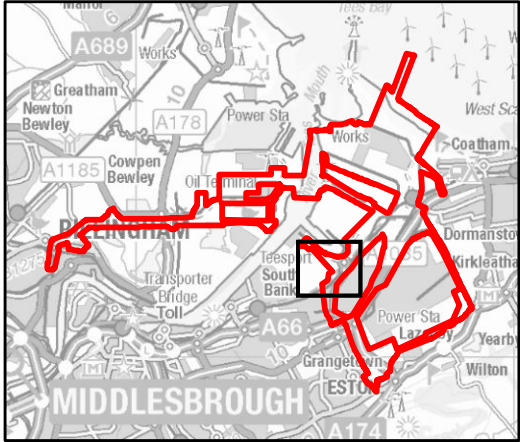


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PROJECT  
NET ZERO TEESSIDE

CLIENT  
NZT POWER AND NZNS STORAGE

- KEY
- Site Boundary
  - Target note
  - Scrub - scattered
  - Bare ground
  - Buildings
  - Cultivated/disturbed land - ephemeral/short perennial
  - Hardstanding
  - Neutral grassland - semi-improved
  - Running water
  - Scrub - dense/continuous
  - Scrub - scattered
  - Spoil
  - Standing water



TITLE  
FIGURE 12C-1  
PHASE 1 HABITAT MAP

REFERENCE  
NZT\_200610\_PEA\_S\_12C-1\_v2

SHEET NUMBER  
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DATE  
10/06/2020



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PROJECT

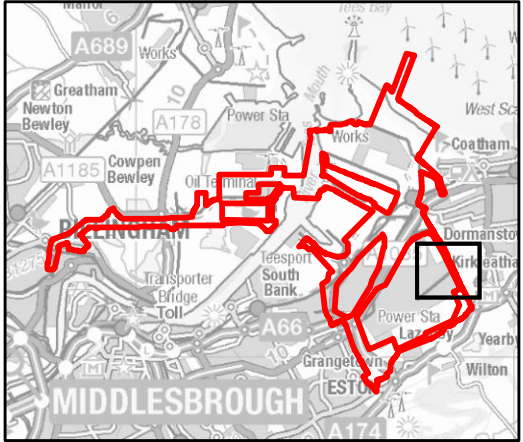
NET ZERO TEESIDE

CLIENT

NZT POWER AND NZNS STORAGE

KEY

- Site Boundary
- Target note
- Defunct hedge - species-poor
- Intact hedge - species-poor
- No Access
- Broadleaved woodland - plantation
- Broadleaved woodland - semi-natural
- Cultivated/disturbed land - arable



TITLE

FIGURE 12C-1

PHASE 1 HABITAT MAP

REFERENCE

NZT\_200610\_PEA\_S\_12C-1\_v2

SHEET NUMBER

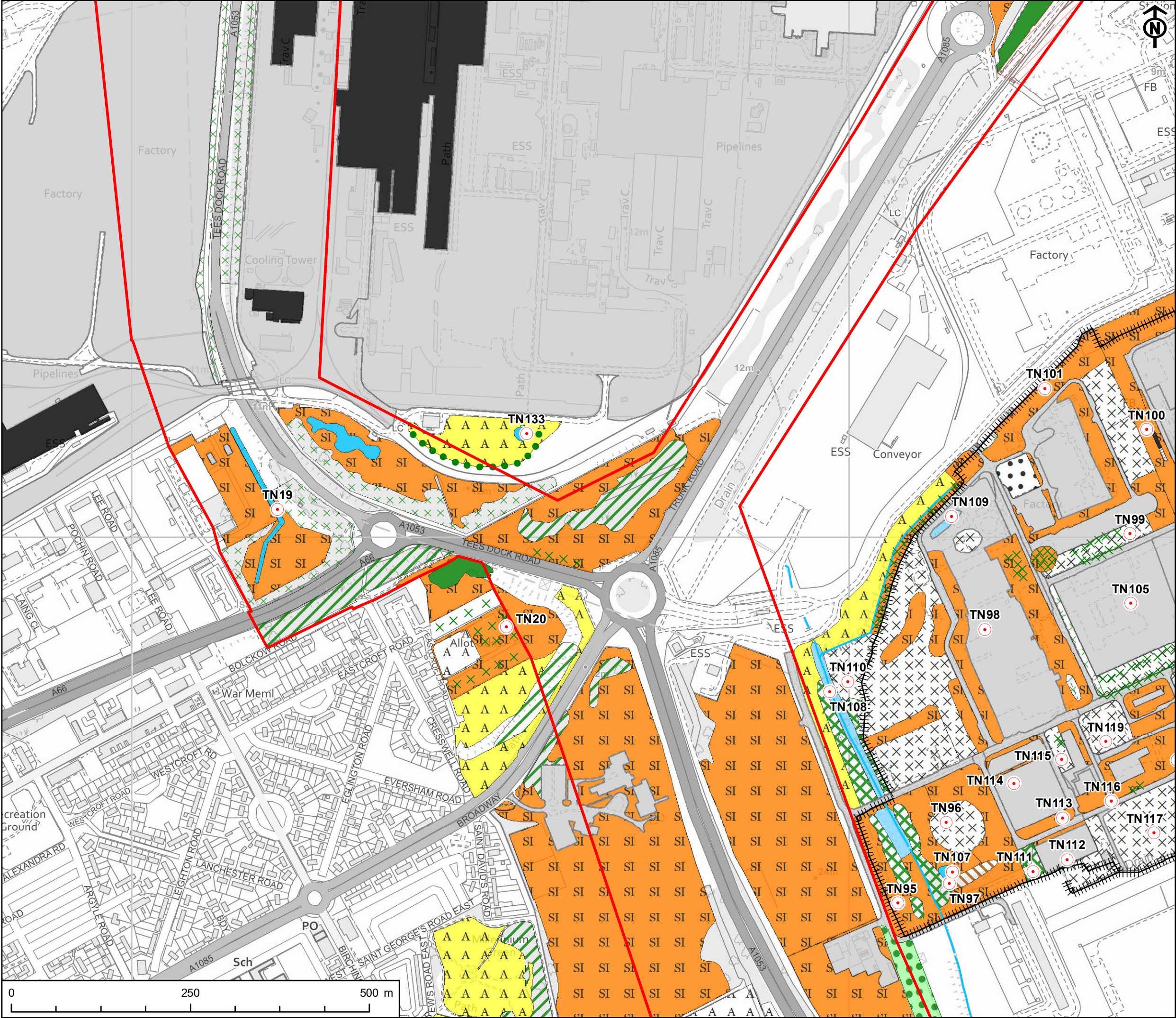
19 of 24

DATE

10/06/2020

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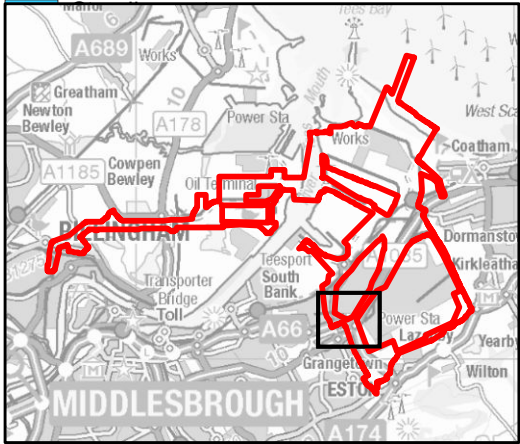




PROJECT  
NET ZERO TEESSIDE

CLIENT  
NZT POWER AND NZNS STORAGE

- KEY
- Site Boundary
  - Target note
  - Scrub - scattered
  - Broadleaved parkland/scattered trees
  - Fence
  - Running water
  - No Access
  - Bare ground
  - Broadleaved woodland - plantation
  - Broadleaved woodland - semi-natural
  - Buildings
  - Cultivated/disturbed land - amenity grassland
  - Cultivated/disturbed land - arable
  - Cultivated/disturbed land - ephemeral/short perennial
  - Hardstanding
  - Mixed woodland - semi-natural
  - Neutral grassland - semi-improved
  - Other tall herb and fern - ruderal
  - Running water
  - Scrub - dense/continuous
  - Scrub - scattered



TITLE  
FIGURE 12C-1  
PHASE 1 HABITAT MAP

REFERENCE  
NZT\_200610\_PEA\_S\_12C-1\_v2

SHEET NUMBER  
20 of 24

DATE  
10/06/2020

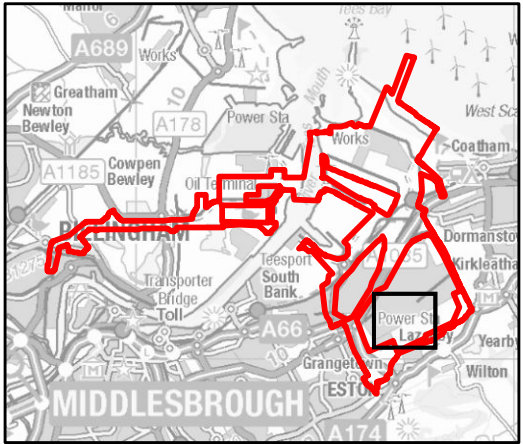




PROJECT  
NET ZERO TEESSIDE

CLIENT  
NZT POWER AND NZNS STORAGE

- KEY
- Site Boundary
  - Target note
  - Scrub - scattered
  - Broadleaved parkland/scattered trees
  - Defunct hedge - species-poor
  - Fence
  - No Access
  - Bare ground
  - Broadleaved woodland - semi-natural
  - Buildings
  - Cultivated/disturbed land - amenity grassland
  - Cultivated/disturbed land - arable
  - Cultivated/disturbed land - ephemeral/short perennial
  - Hardstanding
  - Improved grassland
  - Neutral grassland - semi-improved
  - Scrub - dense/continuous
  - Scrub - scattered
  - Standing water



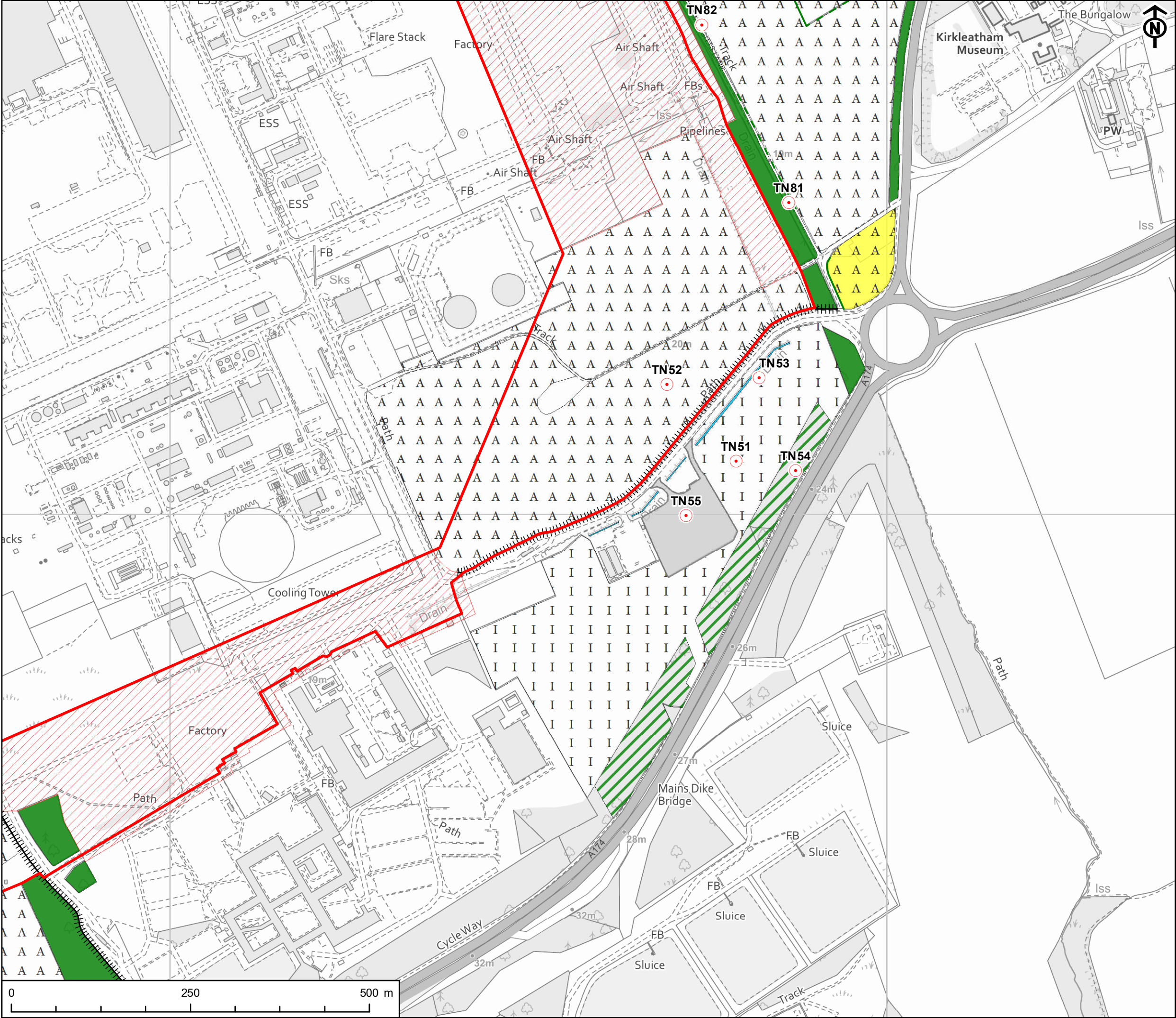
TITLE  
FIGURE 12C-1  
PHASE 1 HABITAT MAP

REFERENCE  
NZT\_200610\_PEA\_S\_12C-1\_v2

SHEET NUMBER  
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DATE  
10/06/2020



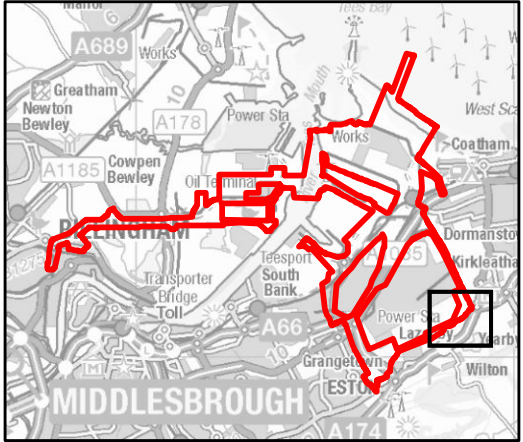


PROJECT  
NET ZERO TEESIDE

CLIENT  
NZT POWER AND NZNS STORAGE

KEY

- Site Boundary
- Target note
- Defunct hedge - species-poor
- Fence
- Intact hedge - species-poor
- No Access
- Broadleaved woodland - plantation
- Broadleaved woodland - semi-natural
- Cultivated/disturbed land - amenity grassland
- Cultivated/disturbed land - arable
- Hardstanding
- Improved grassland
- Running water



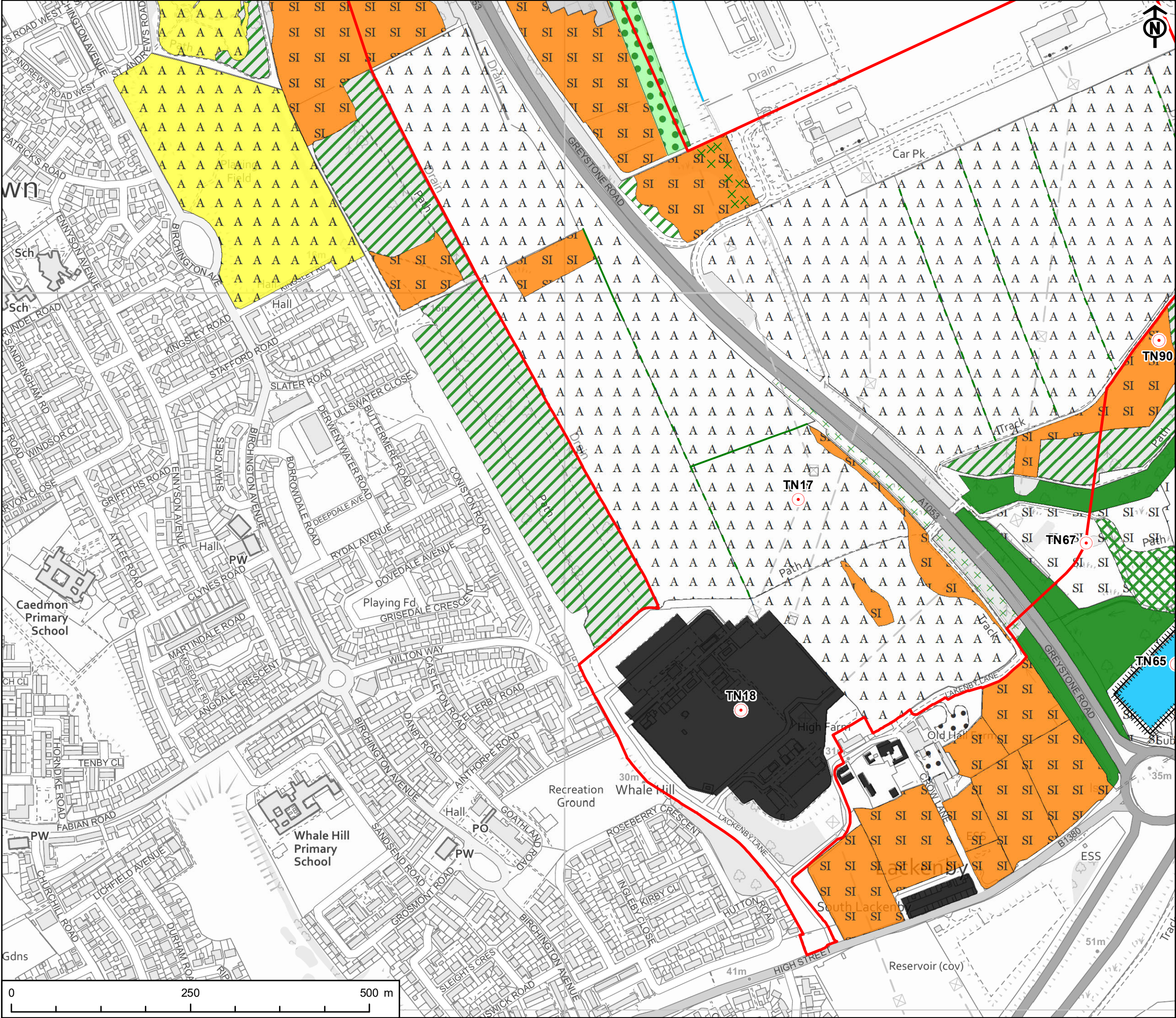
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FIGURE 12C-1  
PHASE 1 HABITAT MAP

REFERENCE  
NZT\_200610\_PEA\_S\_12C-1\_v2

SHEET NUMBER  
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DATE  
10/06/2020





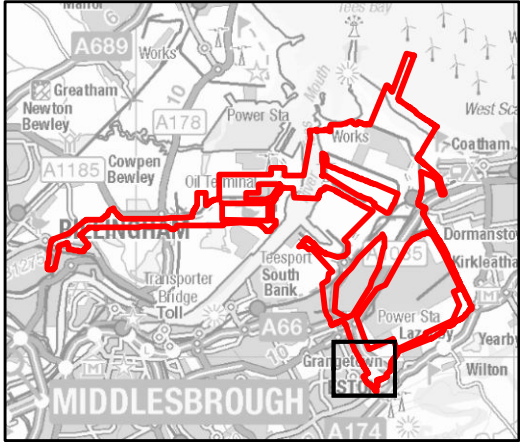
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PROJECT  
NET ZERO TEESIDE

CLIENT  
NZT POWER AND NZNS STORAGE

KEY

- Site Boundary
- Target note
- Scrub - scattered
- Defunct hedge - species-poor
- Fence
- Intact hedge - species-poor
- Running water
- Bare ground
- Broadleaved woodland - plantation
- Broadleaved woodland - semi-natural
- Buildings
- Cultivated/disturbed land - amenity grassland
- Cultivated/disturbed land - arable
- Hardstanding
- Improved grassland
- Mixed woodland - semi-natural
- Neutral grassland - semi-improved
- Poor semi-improved grassland
- Scrub - dense/continuous
- Scrub - scattered
- Standing water



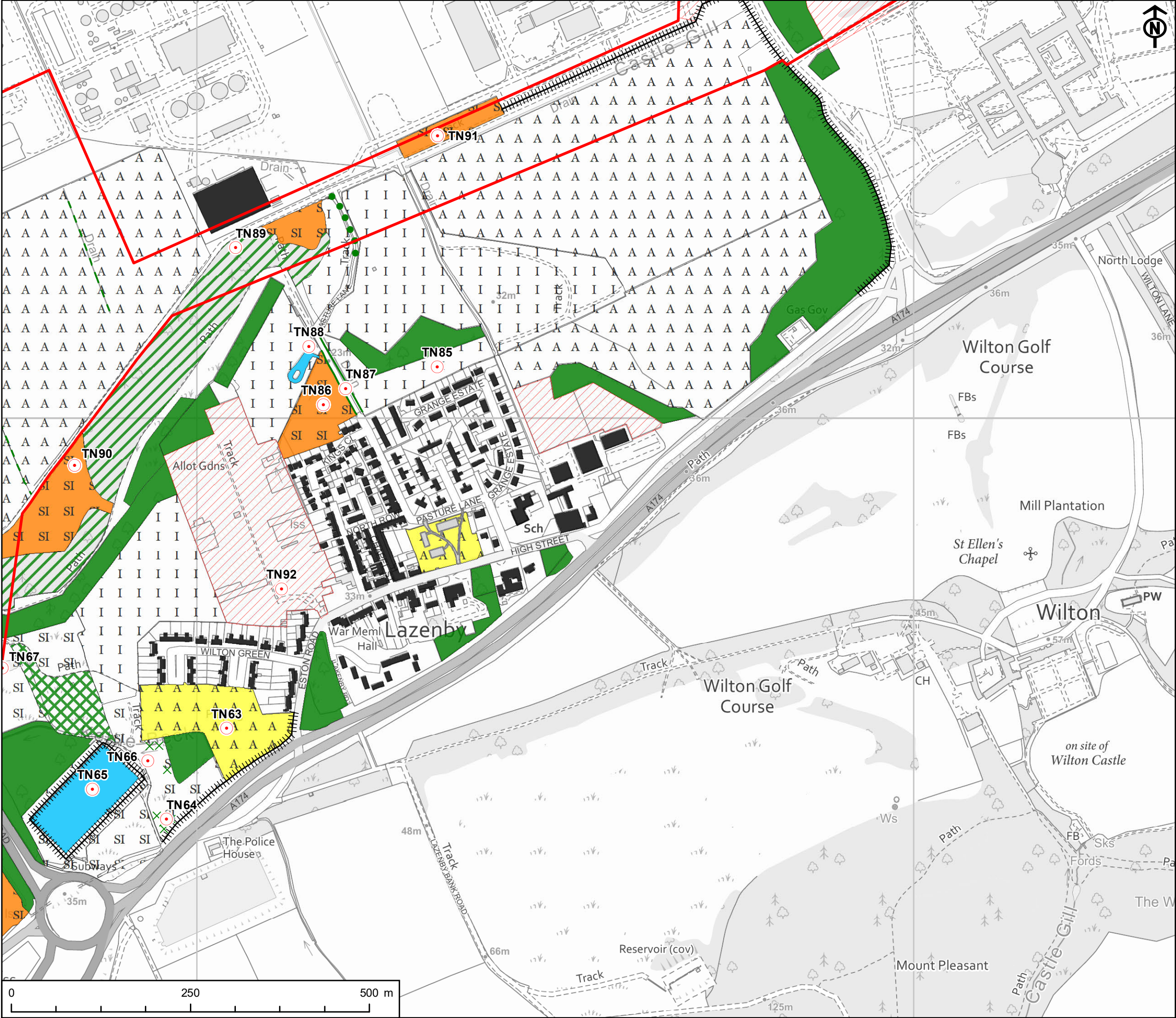
TITLE  
FIGURE 12C-1  
PHASE 1 HABITAT MAP

REFERENCE  
NZT\_200610\_PEA\_S\_12C-1\_v2

SHEET NUMBER  
23 of 24

DATE  
10/06/2020

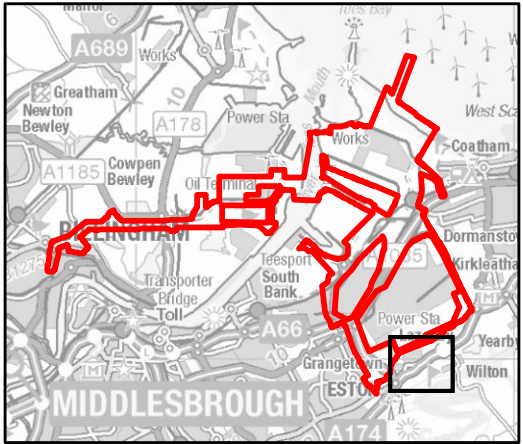




PROJECT  
NET ZERO TEESSIDE

CLIENT  
NZT POWER AND NZNS STORAGE

- KEY
- Site Boundary
  - Target note
  - Scrub - scattered
  - Broadleaved parkland/scattered trees
  - Defunct hedge - species-poor
  - Fence
  - Intact hedge - species-poor
  - No Access
  - Broadleaved woodland - plantation
  - Broadleaved woodland - semi-natural
  - Buildings
  - Cultivated/disturbed land - amenity grassland
  - Cultivated/disturbed land - arable
  - Hardstanding
  - Improved grassland
  - Neutral grassland - semi-improved
  - Poor semi-improved grassland
  - Scrub - dense/continuous
  - Standing water



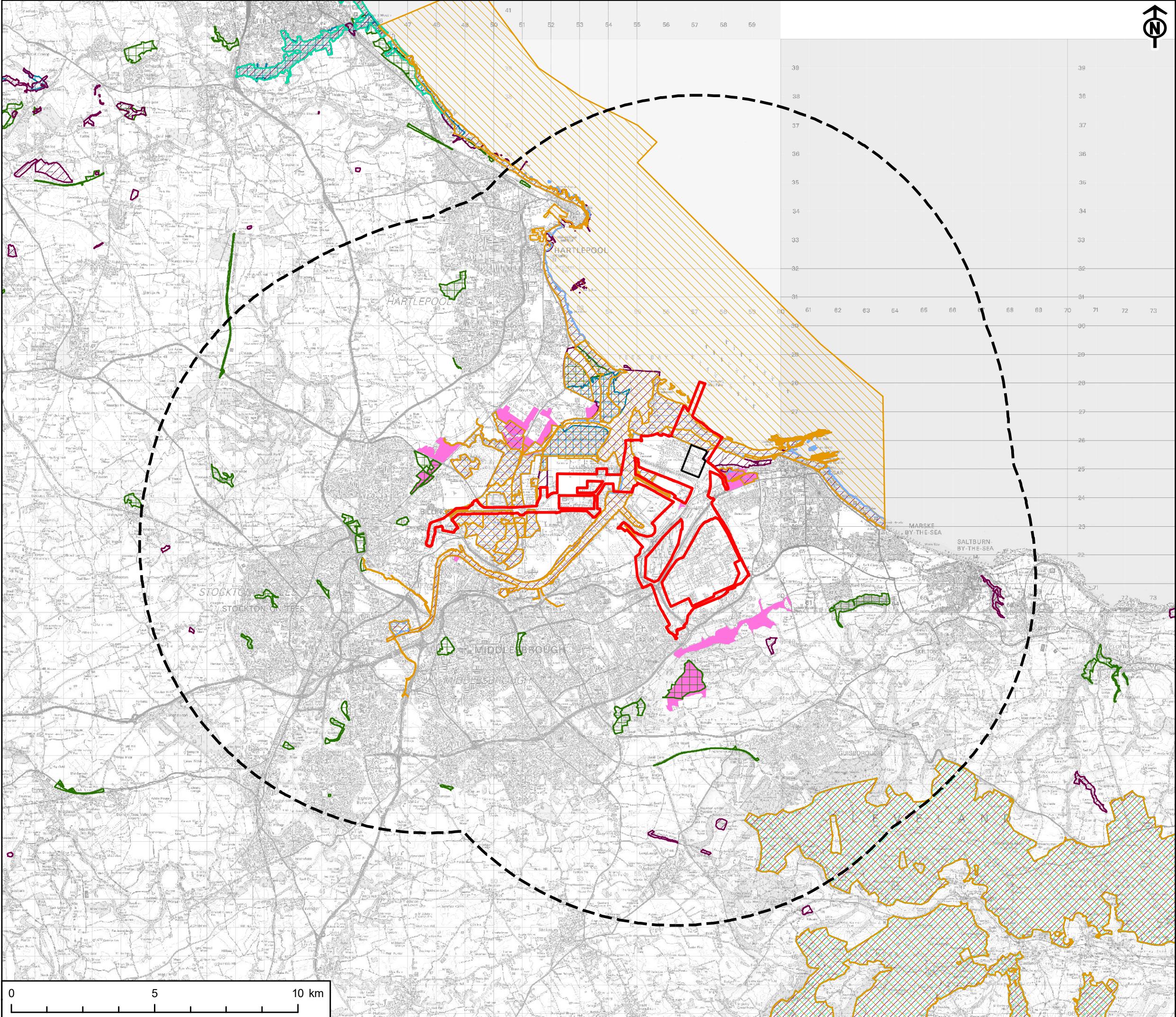
TITLE  
FIGURE 12C-1  
PHASE 1 HABITAT MAP

REFERENCE  
NZT\_200610\_PEA\_S\_12C-1\_v2

SHEET NUMBER  
24 of 24

DATE  
10/06/2020





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PROJECT

NET ZERO TEESSIDE

CLIENT

NZT POWER AND NZNS STORAGE

KEY

 Site Boundary

 Power, Capture and Compressor Site

 10km Search Area

 Special Protection Area

 Special Areas of Conservation

 Ramsar

 National Nature Reserve

 Local Nature Reserve

 Site of Special Scientific Interest

 Local Wildlife Site

TITLE

FIGURE 12C-2  
STATUTORY AND NON-STATUTORY NATURE  
CONSERVATION DESIGNATIONS

REFERENCE

NZT\_200619\_PEA\_S\_12C-2\_v4

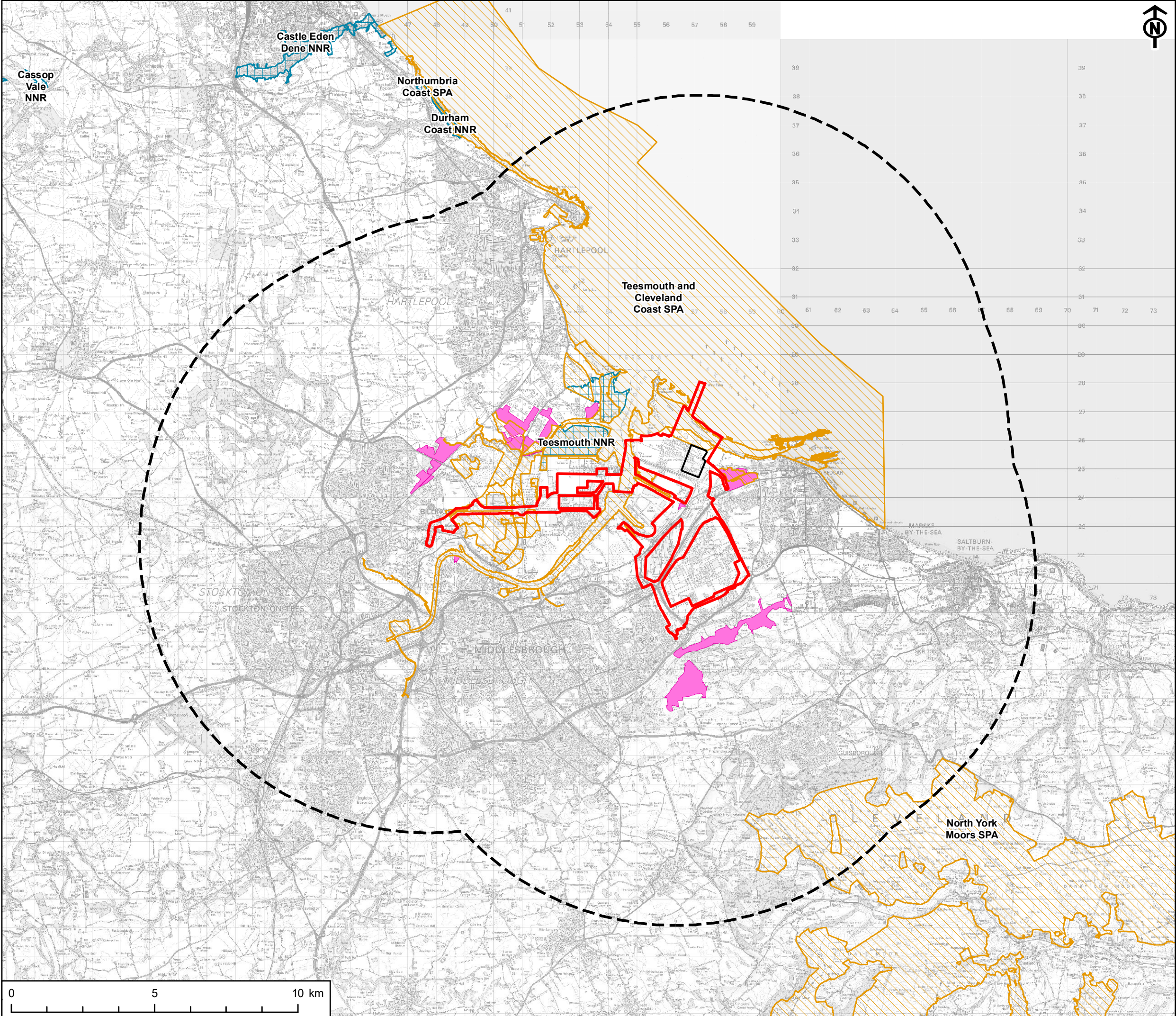
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DATE

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PROJECT

NET ZERO TEESSIDE

CLIENT

NZT POWER AND NZNS STORAGE

KEY

Site Boundary

Power, Capture and Compressor Site

10km Search Area

Special Protection Area

National Nature Reserve

Local Wildlife Site

TITLE

FIGURE 12C-2  
STATUTORY AND NON-STATUTORY NATURE  
CONSERVATION DESIGNATIONS  
SPA, NNR, LWS

REFERENCE

NZT\_200619\_PEA\_S\_12C-2\_v4

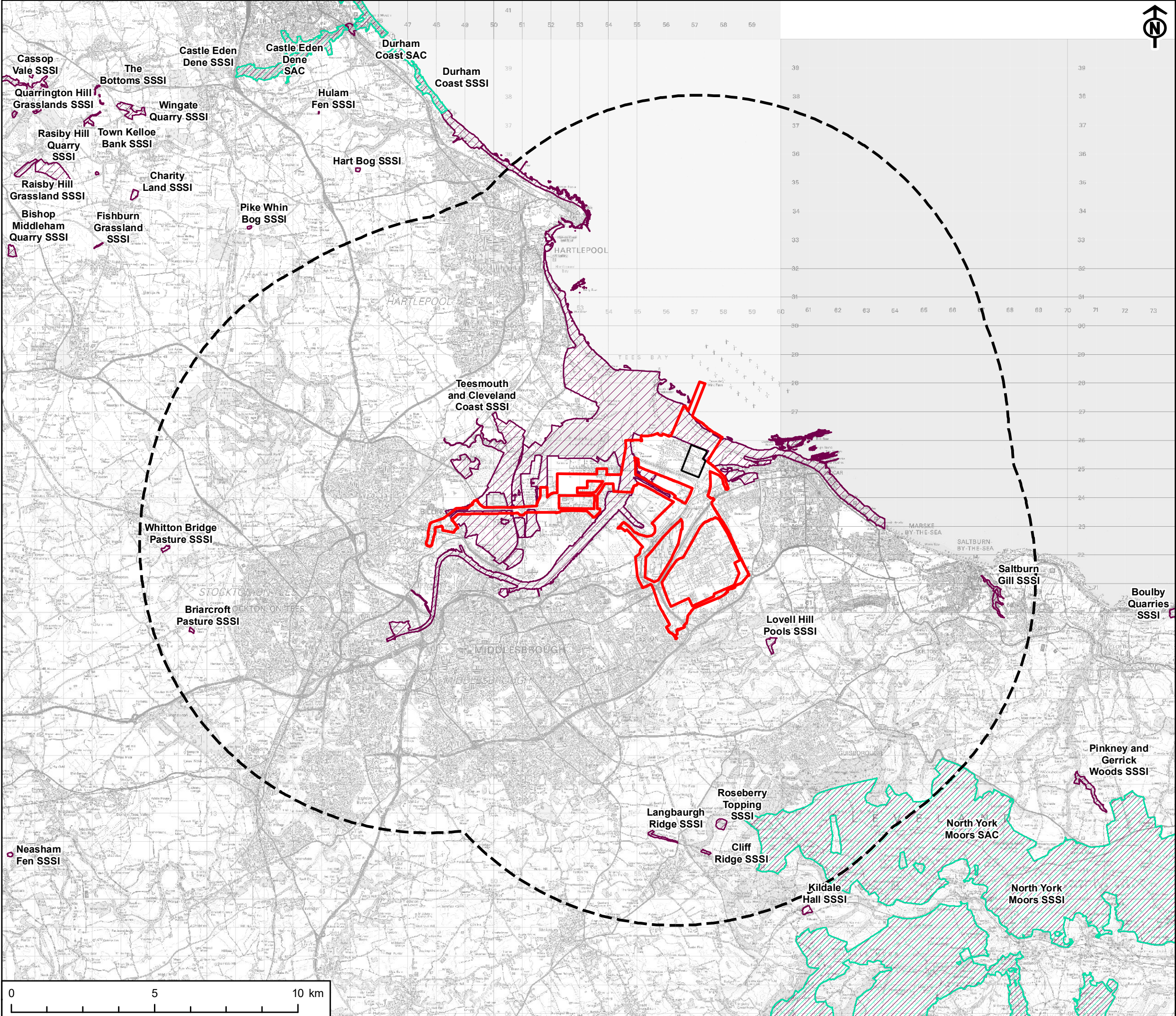
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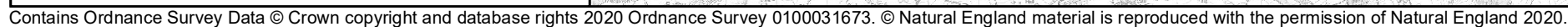


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PROJECT	
NET ZERO TEESSIDE	
CLIENT	
NZT POWER AND NZNS STORAGE	
KEY	
	Site Boundary
	Power, Capture and Compressor Site
	10km Search Area
	Special Area of Conservation
	Site of Special Scientific Interest
TITLE	
FIGURE 12C-2 STATUTORY AND NON-STATUTORY NATURE CONSERVATION DESIGNATIONS SAC, SSSI	
REFERENCE	
NZT_200619_PEA_S_12C-2_v4	
SHEET NUMBER	DATE
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**AECOM**

CLIENT  
NZE POWER AND NZNS STORAGE

**KEY**

-  Site Boundary
-  Power, Capture and Compressor Site
-  10km Search Area
-  Ramsar
-  Local Nature Reserve

REFERENCE

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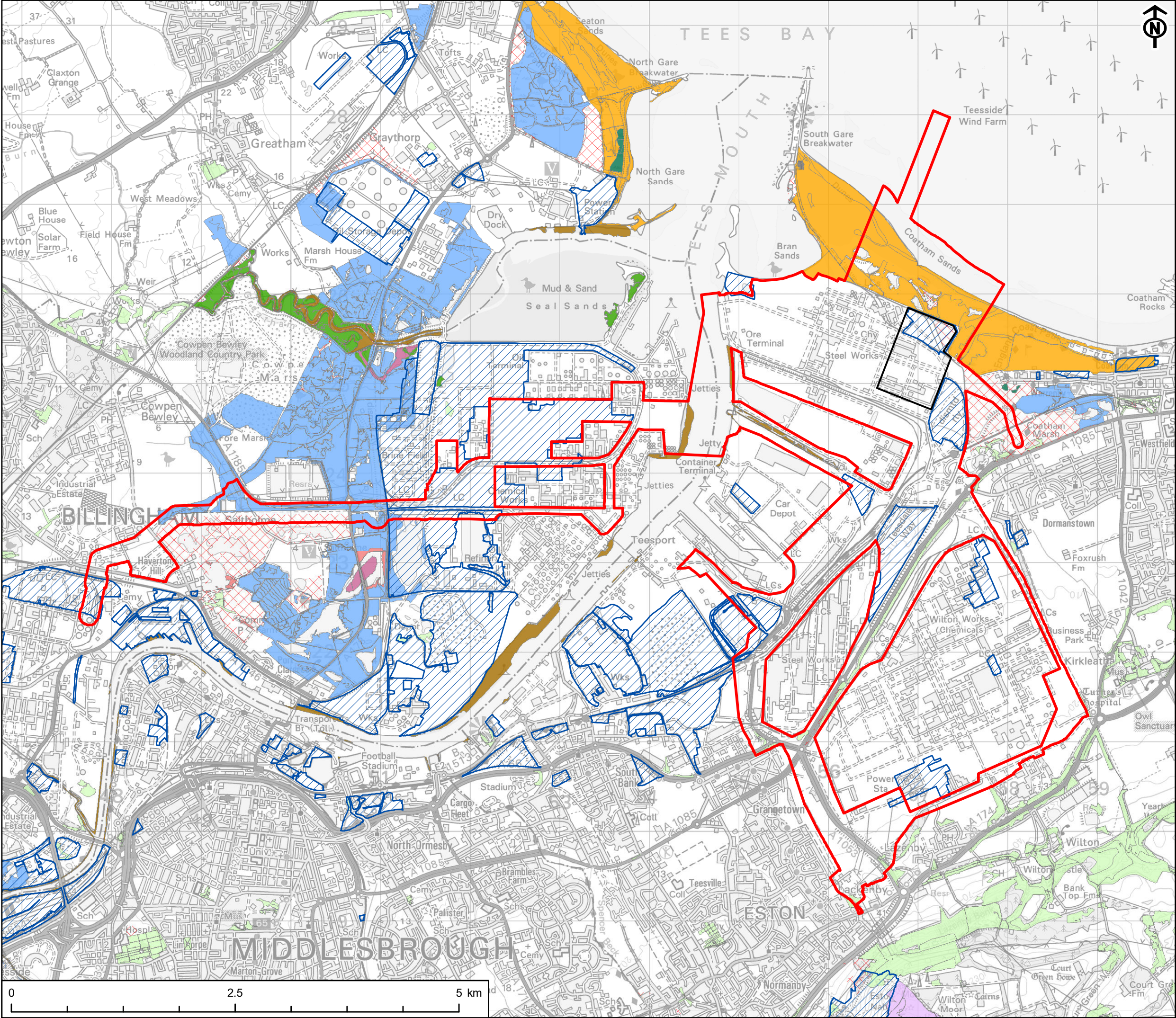
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PROJECT  
NET ZERO TEESIDE

CLIENT  
NZT POWER AND NZNS STORAGE

- KEY
- Site Boundary
  - Power, Capture and Compressor Site
  - Open Mosaic Habitat (Draft)
- Priority Habitat Inventory
- Coastal and floodplain grazing marsh
  - Coastal saltmarsh
  - Coastal sand dunes
  - Deciduous woodland
  - Lowland fens
  - Lowland heathland
  - Mudflats
  - Reedbeds
  - Saline lagoons
  - No main habitat but additional habitats present

TITLE  
FIGURE 12C-4  
PRIORITY HABITATS

REFERENCE  
NZT\_200618\_PEA\_S\_12C-4\_v3

SHEET NUMBER  
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18/06/2020