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Steel House Park and Ride Facility Ecological Impact Assessment

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INCA
Industry Nature Conservation Association

Contents

Version	Revision	Prepared by	Checked by	Date
1.0	A	Graham Megson	Ian Bond	01/09/2022

1. Introduction

1.1 This document has been prepared by INCA on behalf of Teesworks to support a planning application for a project entitled: Steel House Park and Ride Facility.

1.2 This report assesses the likely ecological impact of the proposed development, considering embedded mitigation and other mitigation measures, to determine residual effects. It proposes compensatory measures to ensure no net loss of biodiversity.

1.3 This report has been written with reference to the Chartered Institute of Ecology and Environmental Management (CIEEM) guidelines for Ecological Impact Assessment (EcIA) [i].

The assessment process involves:

- Identifying and characterising impacts;
- Incorporating measures to avoid and mitigate (reduce) these impacts;
- Assessing the significance of any residual effects after mitigation;
- Identifying appropriate compensation measures to offset significant residual effects; and
- Identifying opportunities for ecological enhancement.

1.4 Impacts are actions that result in changes, either positive or negative, to ecological features. Effects are the outcomes for those features. The impacts of the proposed development are identified within this assessment and defined in terms of their effects on ecological features.

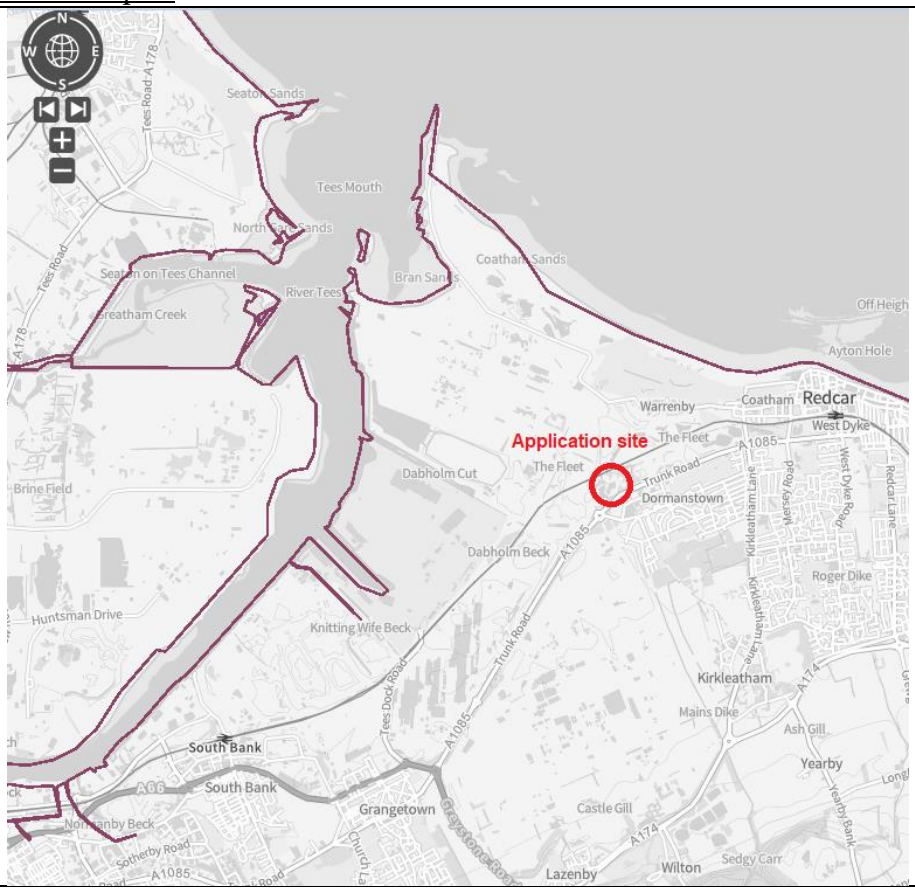
2. Project title and description

2.1 The title of this Teesmouth project is Steel House Park and Ride Facility.

2.2 The project involves the creation of a Park and Ride facility with associated infrastructure on land close to the building known as Steel House.

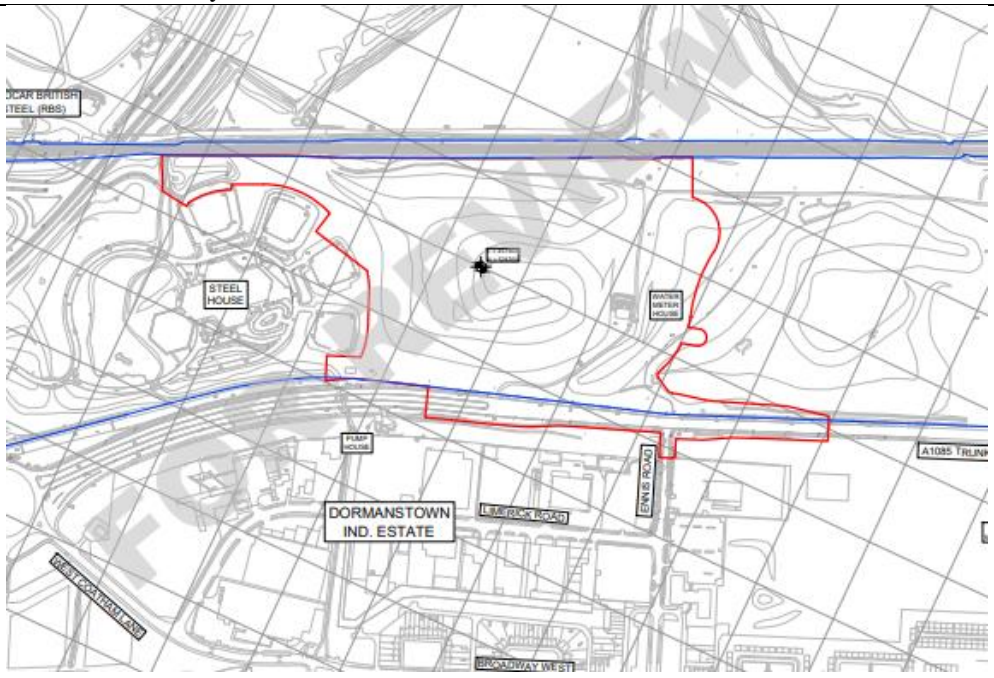
2.3 The site is in the borough of Redcar and Cleveland and is on industrial land north-west of Dormanstown (Figure 1), at Ordnance Survey grid reference NZ 580-243. It is part of the much larger Teesworks site, for which there is a master plan. The site covers approx. 14.16 Ha. The site lies at the south-east end of the Teesworks area and includes the western fringe of Coatham Marsh Nature Reserve. Parts of the Coatham Marsh nature reserve are included in the Teesmouth and Cleveland Coast (T&CC) Special Protection Area (SPA), Ramsar site and SSSI. The Local Planning Authority (LPA) is Redcar and Cleveland Borough Council.

Figure 1. Site location plan



2.4 The red line boundary for the development site covers a roughly rectangular area to the east of Steel House, including a length of the A1085, required for access works (Figure 2).

Figure 2. Red line boundary



3. Scope of the assessment

3.1 This assessment covers all Valued Ecological Receptors (VERs) that are found in the Teesside area, and which have the potential to be present on the site or else be affected by the development.

3.2 In assessing the impacts of a proposal the geographical extent over which those impacts on VERs might potentially be significant needs to be considered; this is referred to as the Zone of Influence (ZOI). The ZOI varies depending on specific factors such as the ecology of the receptor, the sensitivity of the receptor to the potential impacts of the proposed development and potential pathways to the receptor. The conservation importance of the receptor also influences the extent of the ZOI, for example, the ZOI over which potential impacts on internationally designated sites are considered would be much greater than that of widespread habitats and species. For the purposes of this assessment, the following ZOIs have been used:

- internationally designated sites - 10km from the closest site perimeter;
- nationally designated sites – 5km from the closest site perimeter;
- locally designated sites and Priority Habitats – 2km from the closest site perimeter;
- protected species and Priority Species – The ZOI is dependent in part on the dispersal ability of the species, i.e., its potential to reach the site from its closest breeding population, therefore the ZOI is considered individually for each species in terms of its proximity to the site; and
- widespread species and habitats – site only.

3.3 This assessment has been undertaken on the basis that all the habitats on the site that were assessed under a previous application (ref: R/2022/0494/FFM) for the site, as being lost, have been removed. It further assumes that all additional habitats that are within the red line boundary for this application but outside the red line boundary for the above application, will be removed, except for 0.42ha of broad-leaved woodland, which will be retained.

4. Legislative and Planning context

Legislation

4.1 The following legislation applies:

- The Conservation of Habitats and Species Regulations 2017 [ii] ((as amended by The Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019 and hereafter referred to as 'Habitats Regulations');
- Wildlife and Countryside Act (WCA) 1981 (as amended) [iii];
- Natural Environment and Rural Communities (NERC) Act 2006 [iv] and;
- The Environment Act 2021 [v]

4.2 The Environment Act 2021 includes a provision that Biodiversity Net Gain (BNG) should be made a condition of the grant of planning permission. This will require developers to provide evidence of a minimum of 10% BNG. This will be demonstrated using a Biodiversity Metric 3.1 developed by Defra with BNG expected to become mandatory in 2023 [xiii].

4.3 A Teesworks Environment and Biodiversity Strategy has been developed by Teesworks to demonstrate their commitment to delivering habitat and biodiversity enhancements which aligns with the national approach to biodiversity, in line with the Environment Act 2021. The Teesworks Environment and Biodiversity Strategy has identified habitat creation and enhancement schemes within and beyond the Teesworks area that can contribute towards BNG and provide a means of compensating habitat loss occurring from the development.

Planning Policy

4.4 The following planning policies are relevant to this assessment:

- Redcar and Cleveland Borough Council (RCBC) Local Plan (statutory policy) [vi];
- National Planning Policy Framework (NPPF) [vii]; and
- South Tees Area SPD 2018 (non-statutory policy/ material planning consideration) [viii].

5. Desk study results

5.1 The desk study is based principally on data collected by INCA, which has carried out ecological surveys across almost all the industrial land in the wider South Tees area over a 20-year period, including the entirety of the Teesworks area. INCA has accumulated a significant number of species records.

5.2 Additional information on wildlife that is relevant to this assessment and is in the public domain has also been utilised.

Internationally designated sites

5.3 There are two internationally designated sites within a 10km radius of the site; the T&CC SPA and the T&CC Ramsar site. SPAs are designated under the EU Wild Birds Directive. Ramsar sites are wetlands of international importance designated under the Ramsar Convention on Wetlands but which are afforded the same level of protection in policy terms in respect of new development as European sites. The T&CC Ramsar site shares the same boundary as the T&CC SPA except where the SPA includes a marine component. The intertidal element of the T&CC SPA is also classed as a European Marine Site and shares its interest features with the SPA. The closest part of the T&CC SPA/ Ramsar to the application site is 75m away on Coatham Marsh. Coatham Marsh is important for its wetland habitats supporting non-breeding waterbirds.

Teesmouth and Cleveland Coast SPA

5.4 The T&CC SPA was first classified in 1995 for its numbers of European importance of breeding Little Tern *Sternula albifrons,* passage Sandwich Tern *Thalasseus sandvicensis*, wintering Red Knot *Calidris canutus* and passage Common Redshank *Tringa totanus,* as well as an assemblage of over 20,000 waterbirds.

5.5 In 2020 the SPA was further extended to include at sea foraging areas for breeding Little Tern and breeding and foraging areas for Common Tern *Sterna hirundo*, the latter being proposed as a new qualifying feature in the light of recent increases in the size of the breeding population within the site. The extension includes additional areas of terrestrial habitats such as wet grassland, saltmarsh, deep and shallow pools and intertidal areas important for other foraging and roosting waterbirds which were existing features of the SPA. Non-breeding Ruff *Calidris pugnax* and breeding Pied Avocet *Recurvirostra avosetta* have also been added as new qualifying features of the SPA.

5.6 The boundary of the SPA extension covers an area from Castle Eden Dene-mouth in the north to Marske-by-the Sea in the south and includes the River Tees up to the Tees Barrage resulting in a revised SPA area of 12,226.28 ha. This increases the area of the existing SPA (1,251.50 ha) by 10,974.78 ha. The seaward boundary has been drawn to include waters out to around 3.5km from Crimdon Dene, to include the areas of greatest importance to the little terns at that colony, and out to around 6km offshore further south to include the areas of greatest importance to the common terns at the RSPB Saltholme colony.

At its closest, the SPA is 75m from the application site (Figure 3).

Figure 3. Closest boundary of the T&CC SPA/ Ramsar.

Teesmouth and Cleveland Coast Ramsar

5.7 The existing T&CC Ramsar boundary has also been extended, as with the SPA, to include the additional terrestrial wet grassland, saltmarsh, deep and shallow pools and intertidal areas for breeding and non-breeding waterbirds. Historically the Teesmouth SPA and Ramsar have effectively shared the same boundary and interest features however the Ramsar extension will only cover those terrestrial extension areas of the SPA down to Mean Low Water and will not extend outside of the SPA extension. Although not a qualifying feature the Ramsar site citation recognises that the site supports a rich assemblage of invertebrates, including the following seven Red Data Book species: *Pherbellia grisescens, Thereva valida, Longitarsus nigerrimus, Dryops nitidulus, Macroplea mutica, Philonthus dimidiatipennis* and *Trichohydnobius suturalis.*

Nationally Designated Sites

5.8 There are two nationally designated sites within a 5km radius of the proposed development site; T&CC Site of Special Scientific Interest (SSSI) and Teesmouth National Nature Reserve (NNR). The NNR is a sub-set of the SSSI and comprises two parts; the intertidal mudflats at Seal Sands and the dunes and grazing marshes around North Gare. As it is a part of the SSSI with the same interest features then it is not described or assessed separately.

5.9 The T&CC SSSI is an amalgamation and rationalisation of the seven SSSIs which were formerly present in the Teesmouth area. It extends the original SSSIs geographically to underpin the non-marine elements of the extension to the T&CC SPA and Ramsar and includes some additional, areas that are outside of the SPA as well as adding new interest features. The T&CC SSSI was confirmed by Natural England in January 2019. The interest features of the SSSI and their relation to the site are shown in Table 1.

Table 1. Interest features of the T&CC SSSI

Qualifying feature	**Principal locations with respect to Application site**	**Distance to Application site (km)**
Jurassic Geology	Redcar Rocks	2.4 NE
Quaternary Geology	Seaton Carew	9.2 NW
Saltmarsh	Confined almost entirely to the Greatham Creek area north of the Tees. There is a very small amount at Bran Sands	7.4W Greatham Creek 3.7 W Bran Sands
Sand Dunes	Coatham – South Gare to Coatham Common, Seaton Dunes in Hartlepool.	1.1 NNE Coatham Dunes 5.2 NW Seaton Dunes
Harbour Seal	Present in the estuary and river. Hauls	5.2 W Haul-out

	out on Seal Sands and Greatham Creek. There are no haul out locations south of the Tees	
Breeding Birds	Present on all areas of suitable wetland habitat. South of the Tees, Coatham Marsh and South Gare are the key areas.	75m NE Coatham Marsh 3.9 NW South Gare
Non -breeding Birds	Present on intertidal, freshwater and marine areas. Coatham Marsh is the closest site holding significant numbers.	75m NE
Invertebrate Assemblage	Coatham Dunes is of particular importance	1.1 NNE

5.10 The T&CC SSSI is an extensive mosaic of coastal and freshwater habitats centred on the Tees Estuary, including sand dunes, saltmarsh, mudflats, rocky and sandy shore, saline lagoons, grazing marshes, reedbeds and freshwater wetlands. These habitats support rich assemblages of invertebrates, breeding seals and large numbers of breeding and non-breeding seabirds and waterbirds. The site is of special interest for the following nationally important features that occur within and are supported by the wider habitat mosaic:

Jurassic geology

5.11 The foreshore between Redcar Rocks and Coatham Rocks provides exposures of parts of the Lower Jurassic succession that are otherwise unexposed in the Cleveland Basin. These complement the younger Lower Jurassic successions exposed further south in Robin Hood's Bay and are sedimentologically distinct from rocks of the same age to the south of the Market Weighton Axis. The sequence of ammonite assemblages that occur here indicates that the succession is very complete and may provide a key for the comparison of other Hettangian and Sinemurian successions in the Northwest European Province.

Quaternary geology

5.12 Tees Bay includes a feature known as the 'submerged forest' which has been well studied on the foreshore at Hartlepool between Carr House Sands and just north of Newburn Bridge but which is also exposed south of Teesmouth on the foreshore at Redcar. On the Hartlepool foreshore there is complex of peats, estuarine and marine sediments deposited during the Holocene, which overlie glacial deposits from the last Ice Age. Within the peats there are tree stumps and branches. This sequence is also rich in fossils and contains archaeological evidence from the Mesolithic to the Romano-British periods. The palaeo-environmental records at Hartlepool indicate changes in sedimentation due to fluctuations in relative sea level during the mid-Holocene, from approximately 7,000 to 3,000 years BP. The location of Hartlepool on the fulcrum between areas of crustal uplift to the north and subsidence to the south makes these sediments crucial in interpreting Holocene sea-level change.

Saltmarsh

5.13 The Tees Estuary supports the largest area of saltmarsh between Lindisfarne and the Humber Estuary. Its saltmarshes show a succession of vegetation types, from pioneer marshes of Glasswort *Salicornia* species and Annual Sea-blite *Suaeda maritima*, through Common Saltmarsh-grass *Puccinellia maritima* communities, to stands dominated by Common Couch *Elytrigia repens* and its hybrid with Sea Couch *Elytrigia atherica, Elytrigia x drucei*, at the limit of tidal influence. The Common Saltmarsh-grass communities are diverse and Sea Aster *Aster tripolium*, Common Sea-lavender *Limonium vulgare* and Thrift *Armeria maritima* provide a colourful late summer display.

Sand dunes

5.14 The SSSI supports an extensive complex of dunes flanking both side of the Tees Estuary. It is the largest dune complex between Druridge Bay (Northumberland) and Spurn Point (East Yorkshire). There are two main dune systems: Seaton Dunes to the north of the Tees, and Coatham Dunes to the south. The dunes support a large area of semi-natural vegetation including the typical succession from strandline vegetation, occasionally including Sea Sandwort *Honckenya peploides* and Sea Rocket *Cakile maritima*, through foredunes of Sand Couch *Elytrigia juncea* and mobile dunes dominated by both Marram *Ammophila arenaria* and Lyme-grass *Leymus arenarius*, to fixed dune grassland with diverse swards, where herbs such as Common Bird's-foot trefoil *Lotus corniculatus*, Lady's Bedstraw *Galium verum*, Fairy Flax *Linum catharticum* and Common Restharrow *Ononis repens* form a prominent component. The fixed dunes also support a number of scarce and threatened species,

including Purple Milkvetch *Astragalus danicus*. There are several damp depressions in both dunes ('slacks'), which support a range of wetter vegetation types. A particularly prominent feature of some of the slacks are large and colourful stands of Marsh Orchids *Dactylorhiza* species and their hybrids. Some of the slacks show affinities with saltmarsh vegetation, with salt-tolerant species such as Saltmarsh Rush *Juncus gerardii*, Sea Plantain *Plantago maritima* and Sea Milkwort *Glaux maritima*. More consistently wet slacks support swamp communities. The dunes also show transitions to wetter habitats and saltmarsh.

Harbour seal

5.15 Harbour Seals *Phoca vitulina* (also known as Common Seal) have lived at the mouth of the River Tees for centuries but were lost from the estuary for much of the 20th Century, principally due to pollution. They recolonised the estuary in the 1980s and have subsequently established a regular breeding colony which is the only pupping site in north-east England. Harbour seals are present in the estuary and the tidal Tees throughout the year, with regular haul outs at Greatham Creek and Seal Sands. Pupping tends to occur in June and July on the intertidal mud of Seal Sands.

Breeding birds

5.16 The SSSI supports nationally important numbers of three breeding species: Pied Avocet, Little Tern and Common Tern. All three species nest within the SSSI. Little Terns currently favour the beach at Seaton Carew for breeding.The extensive sand dunes, saltmarshes and wetlands across the site support a diverse assemblage of breeding birds. This includes several scarce and declining species, such as Shoveler *Spatula clypeata,* Pochard *Aythya ferina*, Ringed Plover *Charadrius hiaticula* and Little Ringed Plover *Charadrius dubius*.

Non-breeding birds

5.17 The extensive areas of open water, grazing marsh and intertidal habitats within the site provide safe feeding and roosting opportunities for large numbers of waterbirds throughout the year. The SSSI is of special interest for its non-breeding populations of ten species (Shelduck *Tadorna tadorna*, Shoveler, Gadwall *Mareca strepera,* Ringed Plover, Red Knot *Calidris canutus*, Ruff, Sanderling *Calidris alba*, Purple Sandpiper *Calidris maritima*, Common Redshank, Sandwich Tern) and an assemblage of over 20,000 non-breeding waterbirds. The assemblage comprises a wide variety of waterbirds, including (in addition to the species that are reasons for notification in their own right), large numbers of Wigeon *Mareca penelope,* Lapwing *Vanellus vanellus*, Black-headed Gull *Chroicocephalus ridibundus* and Herring Gull *Larus argentatus*. Shoveler, Gadwall and Ruff are predominantly associated with the extensive freshwater wetlands of the site, while Ringed Plover, Red Knot, Sanderling, Purple Sandpiper and Sandwich Tern mostly use the open coast. Common Redshank are widespread across the site, but the greatest foraging concentrations occur, along with the largest numbers of Shelduck, on the intertidal mud of Seal Sands and Greatham Creek. Seal Sands and Bran Sands are also regularly used by Ringed Plover and Red Knot.

Invertebrate assemblage

5.18 The extensive complex of sand dunes within the SSSI supports a nationally important invertebrate assemblage, including at least 14 threatened species. The assemblage is diverse and makes use of a wide range of niches, with a strong dependency on open but consolidated sand exposures within which to nest and hunt, as well as on flower-rich swards for nectar and pollen gathering. The assemblage does not include a high number of rarities but is a good example of its type in the north of its range. As such, species such as the Tephritid Fly *Acanthiophilus helianthi*, whose larvae feed within the capitula of Carline Thistle *Carlina vulgaris*, occur towards the northern edge of their British range. The Grayling Butterfly *Hipparchia semele* is found here and remains a scarce species on this north-eastern coastal strip.

Locally designated sites

5.19 Local Wildlife Sites are designated by each local authority but are selected by a working group of the Tees Valley Local Nature Partnership, using version 7 of the site selection guidelines. There are two Local Wildlife Sites (LWS) within 2km of the site boundary:

- Eston Pumping Station LWS is 1km west of the closest part of the site. Eston Pumping Station is designated for its mosaic of habitats including Urban Grassland (a form of brownfield habitat).

- Coatham Marsh LWS partially overlaps the application site. The boundaries of the LWS are more extensive than those of the SPA and SSSI designations which are also on Coatham Marsh. In addition to the interest features which it shares with the SPA and SSSI, the LWS is also designated for Urban Grassland, Reedbeds and Vascular Plants. Although it has not been included in the citation of Coatham Marsh LWS, Harvest Mouse is also present, which is a further qualifying feature.

An area of 1.38 Ha of Coatham Marsh LWS is proposed to be destroyed

Protected species

Great Crested Newt *Triturus cristatus* (GCN)
5.20 There is potential breeding habitat for GCN within 500m of the site, at Steel House Lake. This lake supports newt-eating fish and newt-eating birds such as Little Grebe *Tachybaptus ruficollis* and Grey Heron *Ardea cinerea* and is assessed as unlikely to support GCN. There is suitable terrestrial habitats within the site itself. GCN is absent in the surrounding area - INCA carried out GCN surveys of all of the waterbodies on the Teesworks area in 2007 and four ponds at Teesport in 2005. All proved to be negative for GCN. More recently, INCA has undertaken environmental DNA surveys for GCN at Long Acres and The Foundry on the Teesworks area, in 2019 and 2021 respectively, and at various waterbodies at the nearby Wilton Industrial Complex and Lazenby village over the period 2018-2020. All these eDNA surveys have proved negative for GCN. There is an unconfirmed record of GCN from a pond on the golf course at Coatham, approximately800m to the north of the site. This record was from 1988 and the pond where it was recorded no longer exists. The negative eDNA result from 2019 was from a pond within 200m of the unconfirmed 1988 record so it is unlikely on that basis that a population exists in this area.

5.21 The closest current records of GCN to the site are from Errington Woods and Lovell Hill Ponds which are both approximately 6km away to the south-east and south respectively. There are records from the 1980s from Wilton Lake however this was surveyed in 2013 along with a further nine water bodies between Marske and the Wilton Industrial Complex for the Forewind Dogger Bank wind turbine proposal, all of which proved negative for GCN.

Bats
5.22 There have been no bat surveys of the site itself. Three species of bat, Common Pipistrelle *Pipistrellus pipistrellus*, Daubenton's Bat *Myotis daubentonii* and Noctule *Nyctalus noctula,* are known to forage over the adjacent Coatham Marsh. There is suitable foraging habitat for Common Pipistrelle on the site itself and for Daubenton's Bat over Steel House Lake, so both would be expected to be present in those locations.

Reptiles
5.23 The only native reptile species which is found in the surrounding areas is Common Lizard *Zootoca vivipara*. It occurs in the coastal dunes from South Gare to Coatham Common and on the northern end of the Teesworks area. About 40 common lizards were translocated from the Long Acres Teesworks site to Coatham Marsh (approximately 300m east of the application site) in 2021. In 2021, INCA carried out a reptile survey of the application site which proved negative.

Otter
5.24 Otter *Lutra lutra* is present on most suitable waterbodies and watercourses in the Teesside area. It has been recorded from Coatham Marsh and Locke Park (Redcar) and is known to have bred on Coatham Marsh. A juvenile Otter was found as a road casualty on the A1085, outside of Steel House in 2020. There is suitable habitat for Otter on Steel House Lake and the species is considered likely to be present there as part of a much wider territory. However, it is unlikely to occur on the application site due to a lack of open water.

Water Vole
5.25 There is potentially suitable habitat for Water Vole *Arvicola amphibius* at Steel House Lake however the species is assessed as no longer present in the Redcar area. INCA has carried out Water Vole surveys of various water courses on the former Steelworks and Wilton sites over the past decade, all of which have proved negative. The closest record of the species within the past decade has been of

occasional presence on Spencer Beck at Normanby, approximately 6km south-west of the site. Water Vole is assessed as not occurring on the application site.

Birds

5.26 No breeding bird surveys have been carried out, however casual bird records were made during Common Lizard surveys in spring 2021 and a nesting birds check was carried out by INCA in May 2022. The application site has no suitable habitat for T&CC bird species and the two are not functionally linked. The application site supports breeding Dunnock *Prunella modularis* (Red Listed, Birds of Conservation Concern). Whitethroat *Sylvia communis*, Blackcap *Sylvia atricapilla*, Chiffchaff *Phylloscopus collybita* Blackbird *Turdus merula* and Wren *Troglodytes troglodytes* breed on the site. The habitat on the site supports non-breeding species such as Song Thrush, Blackbird, Redwing *Turdus iliacus* and Fieldfare *Turdus pilaris.*

5.27 Adjacent to the application site, Steel House Lake and its marginal vegetation support part of the same assemblage of breeding birds of wetlands that form an interest feature of the SSSI. Little Grebe has been recorded as breeding there in 2019. Mute Swan *Cygnus olor*, is present and likely breeds. Steel House Lake has the potential to support significant numbers of waterfowl. More than 60 Gadwall, along with small numbers of other duck species were counted during a site visit in September 2020. A communal roost of Jackdaws *Corvus monedula*, numbering approx. 1,000 birds has been recorded in the woodland around Steel House. Both the waterfowl associated with the lake and the Jackdaw roost are of Local importance.

Priority and other notable species

European Hedgehog *Erinaceous europaeus*

5.28 European Hedgehog has been recorded within the site itself.

Brown hare *Lepus europaeus*

5.29 The industrial sites on Teesside are thought to support some of the largest populations of Brown Hare in north-east England due to the combination of extensive grassland areas and lack of disturbance. Brown Hare has been recorded on the site.

Harvest Mouse *Micromys minutus*

5.30 Harvest Mouse occurs on the adjacent Coatham Marsh, with post-breeding nests found in Common Reed *Phragmites australis* at the eastern end in 2012. While there is suitable habitat for the species on the site in the form of rank grassland, there have been no records in the last ten years and the population is assessed as very small. It is assessed that Harvest Mouse is unlikely to be adversely affected.

Common toad *Bufo bufo*

5.31 Common toad has been recorded as breeding in most ponds in the Teesworks area and is likely to breed in Steel House Lake. During the Common Lizard surveys (2021) several Common Toads were translocated off the application site.

Dingy skipper butterfly *Erynnis tages*

5.32 Dingy Skipper is present on the application site, having been recorded in May 2021.

Other butterflies and moths

5.33 Grayling Butterfly *(Hipparchia Semele)*, Wall Butterfly *Lasiommata megera*, Small Heath Butterfly *Coenonympha pamphilus* and Cinnabar Moth *Tyria jacobaeae* all occur across much of the Teesworks site, South Gare, Coatham Dunes and Coatham Marsh and it is assessed that all occur on the application site. Brown Argus *Aricis agestis* was recorded on the August site visit. This is a new colonist to the borough, likely to become more common.

European Eel *Anguilla anguilla*

5.34 European Eels are present in Coatham Marsh and are assessed as using The Fleet watercourse and Steel House Lake. It is assessed as not occurring on the application site.

Invasive Non-Native Species (INNS)

5.35 There are no records of Invasive Non-Native Species (INNS) on the application site.

6. Habitat survey

Survey details

6.1 Habitat surveys have been undertaken by INCA in May 2019, June 2020, May 2022, and August 2022, using the Joint Nature Conservancy Council Phase 1 Habitats Survey Handbook [ix], habitat condition criteria devised by INCA to categorise local industrial site habitats and the UK Habitat Classification System [x]. The purpose of those surveys was to define the nature of the habitats present and to assess the condition of each habitat so that a biodiversity metric could be applied. The 2019 and 2020 surveys were carried out by Ian Bond, who is an Ecologist with INCA with over 20 years' experience of working in an ecological discipline on Teesside. The 2022 surveys were carried out by Mark Morris (INCA) (May) and Graham Megson (Associate Ecologist with INCA) (August).

6.2 All surveys were carried out at a suitable time of year to assess the habitats on site, and it was possible to access all areas of the site. Therefore, it is considered that there were no significant limitations on the accuracy of the habitat surveys. In accordance with DEFRA requirements, a desk study has been undertaken using historic aerial imagery and previous ecological reports, to assess whether habitats on site have significantly changed since January 2020, so that sites which may have been purposely degraded or 'de-risked' ahead of a planning application submission are not rewarded for doing so. This application was preceded by an application to remove an area of mounds and create an access road, in anticipation of further development. Compensation for habitats lost in the planning approval for the preceding application has been secured via a planning condition, meaning that for this assessment, the classification of bare ground is appropriate. An additional area (which was outside the preceding application red line boundary) has been included.

7. Habitat survey results

7.1 Each habitat type is described below and assigned a UK Habitat Classification System category. A site habitats map forms Figure 4.

Habitat 1. UK Habitats Classification w1g, Other Woodland, Broadleaved

The blocks of woodland to the east of Steel House and along the A1085 Trunk Road were planted as amenity planting and have matured. Approximately 75% of the canopy is native broad-leaved trees with a large component of White Poplar *Populus alba* or Poplar hybrids. As it is plantation woodland its structure is even aged and there is little shrub layer. There are no significant woodland indicator plants on the ground floor and there is minimal deadwood habitat. There is some natural regeneration, but this is mostly poplars and Blackthorn *Prunus spinosa* spreading beyond the limits of the original plantation. Other species include Field Maple *Acer campestre*, Hawthorn *Crataegus monogyna* and Sallow *Salix caprea*.

Habitat 2. UK Habitat Classification (g3c), Other neutral grassland

The main vegetation habitat on the application site is species-poor grassland. These areas are dominated by False Oat Grass *Arrhenatherum elatius,* Cocksfoot *Dactylis glomerata* and Meadow Grasses (*Poa sp.*). Self-generating trees (notably Whitebeam *Sorbus aria*) and scrub including Sea Buckthorn *Hippophae rhamnoides*, Dog Rose *Rosa canina*, Burnet Rose *Rosa pimpinllefolia* and Bramble *Rubus fruticosus* are becoming established.

Some grassland areas on slopes (free-draining and with shallow soil) contain a higher proportion of herb species including Wild Carrot *Daucus carota*, Black Knapweed *Centaurea nigra*, Black Medick *Lupulina medicago* and Tufted Vetch *Vicia cracca* (all 'frequent'). Bird's-foot Trefoil *Lotus corniculatus*, Red Clover *Trifolium pratense,* Yarrow *Achillea millefolium* and Restharrow *Ononis repens* are all 'occasional'. A small area has a more open sward consisting predominantly of Red Fescue *Festuca rubra*. Other species found include
Hare's-foot Clover *Trifolium arvense* and Storksbill *Erodium cicutarium*. Plant species diversity overall was assessed as being low.

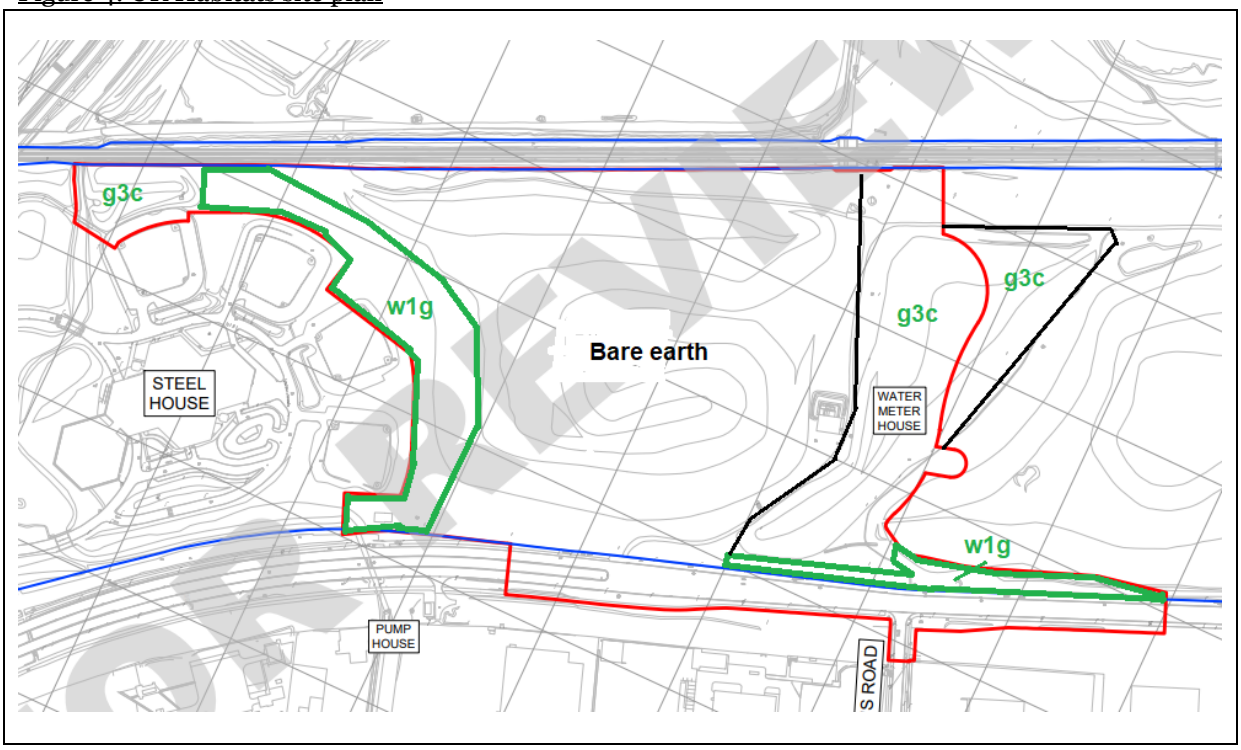
One area is dominated by non-native Golden Rod *Solidago virgaurea* and is more rank, with Stinging Nettle *Urtica dioica*, Hogweed *Heracleum sphondylium*, docks and thistles as well as frequent hedge bindweed *Calystegia sepium*.

There is a small patch of Japanese Knotweed *Reynoutria japonica* at NZ 58235-24257 and two species of *Cotoneaster* occur. These species are on the Schedule 9 list of non-native species which pose a conservation threat to native biodiversity (Section 14 of the W&C Act 1981 (as amended)).

Habitat 4. Bare earth

An area of bare earth has been created by the removal of several grassy mounds as part of an earlier planning approval. The destroyed habitat has been accounted for via a condition of the earlier decision and is, therefore, assessed here as bare earth. Areas of road and path (sealed surfaces) have not been included.

Figure 4. UK Habitats site plan



8. Assessment of baseline ecology

Each VER assessed as likely to be adversely affected is 'screened in' (blue text) and must be mitigated or compensated for (section 9).

Nationally designated sites

8.1 European designated Sites are screened in. A Habitats Regulations Assessment (HRA) has been completed for the proposed development, as set out under Regulation 63 of the Habitats Regulations.

8.2 Stage 1 of a HRA involved screening to identify the potential for impacts to have likely significant effects (LSE). The following LSE were identified at Stage 1:

- Watercourse pollution from mobilised pollutants disturbed during construction, and from day-to-day fuel-based pollutions from vehicles; and
- Dust from earthworks and construction activities.

8.3 The HRA Stage 2 assessment (Appropriate Assessment) considered the LSE identified at Stage 1 and assessed whether these would cause Adverse Effect On the Integrity (AEOI) of European Site(s).

8.4 The HRA Stage 2 Appropriate Assessment concluded that, 'the proposed development will not cause AEOI of the T&CC SPA and Ramsar site, either alone or in combination with other plans or projects, provided that mitigation measures are delivered'. The mitigation measures are for a Construction and Environmental Management Plan (CEMP) and a Sustainable Urban Drainage Scheme (SUDS) to be conditioned.

8.5 The T&CC SSSI includes some interest features and areas that are in addition to those of the T&CC SPA/ Ramsar site. The additional biological interest features that are within the 5km ZOI are saltmarsh, sand dunes, the assemblage of breeding birds associated with wetlands and the invertebrate assemblage associated with sand dunes. The habitats could be impacted by dust and pollution and the SSSI is screened in.

8.6 Emissions to air have been identified by Natural England as having the potential for an adverse effect on the T&CC SSSI. This is in terms of an increase in Nitrous Oxides (NOx) which would lead to eutrophication of certain habitats leading to increased vegetation growth. The principal emissions to air from the proposed development would be dust and particulates generated by ground works during the construction phase. The Park and Ride Facility is not for recreational visitors and the use of vehicles will be within the expected day to day range currently experienced on the nearby roads system. There will be no dog walking areas and so no nutrient inputs from dogs. It is assessed that there will be no significant increase in NOx.

8.7 The closest breeding bird assemblage utilises the wetlands on Coatham Marsh (75m to the east of the application site). Breeding birds are assessed as unlikely to be adversely affected as there will be no additional disturbance (see HRA stage 1).

Locally Designated Sites

8.8 No pathways have been identified between the site and the interest features of the Eston Pumping Station LWS and there will be no adverse impacts on it. Coatham Marsh LWS will be adversely impacted by direct habitat loss. One locally designated site (Coatham Marsh) is screened in.

Species

Great Crested Newt

8.9 GCN is assessed as absent from the surrounding area, following extensive survey effort, and it is therefore considered to be absent from the site, with no realistic potential for it to colonise. GCN is screened out.

Bats

8.10 The development would result in the loss of some foraging habitat for Common Pipistrelles bats. The amount of habitat suitable for bats on the site is small compared to the area of suitable habitat around Steel House Lake and Coatham Marsh. The small adverse impact on the local bat population is assessed as acceptable. The trees to be removed are 'young mature' age with no (potential roost) cavities and no artificial boxes in them. It is assessed that there is minimal likelihood of these trees supporting roosting bats. Bats are screened out.

Reptiles

8.11 A survey in 2021 found no evidence of reptiles, therefore they are assessed as absent from the site. Reptiles are screened out.

Otter
8.12 Otter does not occur on the application site due to a lack of waterbodies. It is assessed that this species will not be affected. Otter is screened out.

Water Vole
8.13 Water vole has not been recorded on the Teesworks site or Coatham Marsh for several years. It is assessed that this species will not be affected. Water vole is screened out.

Breeding birds
8.14 The development would result in the loss of a several breeding bird territories including some Red Listed and Amber Listed Birds of Conservation Concern (BoCC). Breeding birds are screened in.

Non-breeding birds
8.15 It is assessed that non-breeding birds will not be affected, and non-breeding birds are screened out.

European hedgehog
8.16 The population of European Hedgehog is assessed as likely to be adversely impacted. European Hedgehog is screened in.

Brown hare
8.17 The population of Brown Hare is assessed as likely to be adversely impacted. Brown hare is screened in.

Harvest Mouse
8.18 Harvest Mouse is assessed as unlikely to be harmed and is screened out.

Common toad
8.19 The population of Common Toad is assessed as likely to be adversely impacted. Common Toad is screened in.

Dingy skipper butterfly
8.20 The population of Dingy Skipper is assessed as likely to be adversely impacted. Dingy skipper is screened in.

Other butterflies and moths
8.21 The populations of Grayling butterfly, Wall butterfly, Small Heath butterfly and Cinnabar Moth are likely to be adversely affected. These species are screened in.

European Eel
8.22 It is assessed that European Eel will not be affected. European Eel is screened out.

Invasive Non-Native Species (INNS)
8.23 INNS are screened in due to the presence of a patch of Japanese Knotweed and two Cotoneasters (not identified to species).

Habitats
8.24 The Defra Biodiversity Metric 3.1 has been applied to the habitats on the application site. Two types of habitat will be lost (Table 2). Habitats are screened in. A total of 20.24 BDUs will be lost through this development.

Table 2. Habitat losses

UK Habitat type	**Code**	**Area**	**BDU**
Other neutral grassland	G3c	3.98	19.28
Other woodland-broadleaved	W1g	0.14	0.96
Bare earth	-	9.52	0
Total		**14.16**	**20.24**

Constraints
8.25 Several VERs are screened in and adverse effects on them require mitigating (Table 3).

Table 3. Constraints needing action

Valued Ecological Receptor	**Section giving mitigation measure**
T&CC SPA and Ramsar site	9.3
T&CC SSSI	9.3
Coatham Marsh LWS (2 Ha loss)	9.10
Breeding birds	9.4 and 9.9
European hedgehog	9.9
Brown hare	9.9
Common toad	9.9
Dingy skipper butterfly	9.9
Grayling butterfly, Wall butterfly, Small Heath butterfly and Cinnabar Moth	9.9
Japanese knotweed and Cotoneaster sp.	9.5
Biodiversity Units	9.8

9. Recommendations

9.1 Constraints must be dealt with. To mitigate against the identified constraints, measures which follow wildlife legislation and planning guidance are recommended, based on the planning mitigation hierarchy of avoidance, mitigation and compensation. These measures should be conditioned in the planning approval. Measures are in blue font.

Avoidance
9.2 No avoidance measures are needed.

Mitigation
9.3 Two mitigation measures are a requirement of the HRA (for the SPA and Ramsar sites) to ensure that there are no adverse impacts and that planning consent is lawful. They will also ensure that there is no harm to the SSSI.
A Construction and Environment Management Plan (CEMP) approved by the Local Planning Authority will be secured by an appropriately worded planning condition attached to any grant of planning consent. With regards to ecology the CEMP will include the following measures:

- Mitigation to prevent pollution entering the watercourse
- Mitigation to control construction related dust

A Sustainable Urban Drainage Scheme (SUDS)

9.4 Removal of trees, scrub, wetland habitat or grassland that could support nesting birds should be undertaken outside of nesting season (March to August inclusive), unless the habitats are first checked by a suitably qualified ecologist, who confirms in writing to the LPA that no nesting birds are present. This is a legal requirement, and a bird nesting condition or informative should be attached to any grant of planning consent.

9.5 Invasive Non-Native Species should be dug up and disposed of responsibly at a licensed waste disposal site. This measure should be secured by a planning condition.

Compensation
9.6 Compensation refers to the process by which any residual effects (after avoidance and mitigation measures) will be addressed. Compensation measures should be such that there will be no significant harm to biodiversity resulting from development.

9.7 Teesworks has prepared an Environment and Biodiversity Strategy to guide future decisions by Teesworks as to the delivery of habitat enhancement schemes to off-set biodiversity loss resulting from development and regeneration activities. This Strategy is an iterative process which quantifies all the Biodiversity Units (BDU) (equivalent to BNG Habitat Units) which will be lost because of development across the entire Teesworks area. It then calculates the number of BDUs that can be created in the Teesworks area and apportions these as compensation for each development as appropriate. The strategy also identifies any local, off-site habitat creation and enhancement opportunities, primarily in the Tees estuary.

9.8 Habitat creation on-site will take place in the form of the landscaping plan submitted with the application. This will involve the creation and management of 0.9ha of amenity grassland, a total of 1.36ha of broad-leaved trees and a further 0.2ha of street trees. Together these have been calculated as providing 8.76 BDUs of habitat.

The net loss of BDUs attributable to this application is therefore 11.48 BDUs. Compensation for 11.48 BDUs BDUs will therefore be provided in an appropriate timeframe, managed for a minimum period of 30 years and with a monitoring and reporting requirement, to be secured by a planning condition.

9.9 Compensation for several Priority Species, delivered in an appropriate timeframe, to be secured by a planning condition.

9.10 Compensation for the loss of 1.38 Ha of Local Wildlife Site to be agreed between Teesworks, the LPA and the Tees Valley Wildlife Trust (who manage the site), to be secured by a planning condition.

Monitoring
9.11 The Teesworks Environment and Biodiversity Strategy will include a management plan to provide BDUs (through habitat creation or habitat uplift). The management plan will include a monitoring schedule, which will identify any measures that have not been achieved, or are failing to achieve their objectives, triggering remedial measures. The Environment Act references a minimum 30 years for management.

Residual effects
9.12 With the mitigation and compensation measures conditioned, there will be no residual effects.

10. Conclusion

10.1 With the recommended measures detailed above, the proposed development can be delivered with no overall significant harm to designated sites, Priority Habitats and Priority Species and with no biodiversity loss on the application site. A proposed on-site Landscaping Scheme may supplement biodiversity enhancement.

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11. References

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