VPI Immingham OCGT Project

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The Immingham Open Cycle Gas Turbine Order

Land to the north of and in the vicinity of the VPI Immingham Power Station, Rosper Road, South Killingholme, Lincolnshire, DN40 3DZ

Environmental Statement Volume III Appendix 9H: Framework Biodiversity Enhancement Management Plan

The Planning Act 2008

The Infrastructure Planning (Applications: Prescribed Forms and Procedure) Regulations 2009 - Regulation 5(2)(q)

Applicant: VPI Immingham B Ltd

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GLOSSARY

Abbreviation	Description
BEMP	Biodiversity Enhancement and Management Plan
CEMP	Construction Environmental Management Plan
CHP	Combined Heat and Power
DCO	Development Consent Order
eDNA	environmental DNA
ES	Environmental Statement
GCN	Great Crested Newts
kV	kilovolts
LBAP	Local Biodiversity Action Plan
LWS	Local Wildlife Site
MW	megawatts
NERC	Natural Environment and Rural Communities
NLC	North Lincolnshire Council
NPPF	National Planning Policy Framework
NPS	National Policy Statement
NSIP	Nationally Significant Infrastructure Project
OCGT	Open Cycle Gas Turbine
OMH	Open Mosaic Habitat
PEA	Preliminary Ecological Appraisal
PINS	The Planning Inspectorate
RDB	Red Data Book
SoS	Secretary of State
SPA	Special Protection Area
TLOR	Total Lindsey Oil Refinery
WCA	Wildlife and Countryside Act

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1.0 INTRODUCTION

1.1 Introduction

Overview

1.1.1 This document presents a Framework Biodiversity Enhancement and Management Plan (BEMP) for the Proposed Development. The final BEMP will be produced for the Proposed Development following the appointment of the contractor, and this is secured by a requirement of the draft Development Consent Order (DCO).

1.1.2 This document forms part of the application (the 'Application') for a 'DCO' submitted by VPI Immingham B Ltd ('VPIB' or the 'Applicant') to the Secretary of State (the 'SoS') for Business, Energy and Industrial Strategy under section 37 of the Planning Act 2008' (the 'PA 2008').

1.1.3 The Applicant is seeking development consent for the construction, operation and maintenance of a proposed gas-fired electricity generating station with a gross output capacity of up to 299 megawatts ('MW'), including electrical and gas supply connections, and other associated development (the 'Proposed Development'). The Proposed Development is located primarily on land (the 'Site') to the north of the existing VPI Immingham Power Station, Rosper Road, South Killingholme, North Lincolnshire, DN40 3DZ.

1.1.4 A DCO is required for the Proposed Development as it falls within the definition and thresholds for a 'Nationally Significant Infrastructure Project' (a 'NSIP') under section 14(1)(a) and sections 15(1) and 15(2) of the PA 2008. The DCO, if made by the SoS, would be known as the 'VPI Immingham OCGT Order' (the 'Order').

VPI Immingham LLP and VPIB

1.1.5 VPI Immingham LLP ('VPI LLP') owns and operates the existing VPI Immingham Combined Heat and Power (CHP) Station (the Existing VPI CHP Plant Site), one of the largest combined heat and power plants in Europe, capable of generating 1,240 MW (about 2.5% of UK peak electricity demand) and up to 930 tonnes of steam per hour (hereafter referred to as the 'Existing VPI CHP Plant'). The steam is used by nearby oil refineries to turn crude oil into products, such as gasoline. The land comprising the Existing VPI CHP Plant is hereafter referred to as the 'Existing VPI CHP Plant Site'.

1.1.6 VPI LLP is a wholly owned subsidiary of the Vitol Group ('Vitol'), founded in 1966 in Rotterdam, the Netherlands. Since then Vitol has grown significantly to become a major participant in world commodity markets and is now the world's largest independent energy trader.

1.1.7 VPIB has been formed as a separate entity for the purposes of developing and operating the Proposed Development.

The Site

1.1.8 The Site is primarily located on land immediately to the north of the Existing VPI CHP Plant Site, as previously stated. Immingham Dock is located approximately 1.5 km to the south east of the Site at its closest point. The Humber ports facility is located

approximately 500 m north and the Humber Refinery is located approximately 500 m to the south.

1.1.9 The villages of South Killingholme and North Killingholme are located approximately 1.4 km and 1.6 km to the west of the Site respectively, and the town of Immingham is located approximately 1.8 km to the south east. The nearest residential property comprises a single house off Marsh Lane, located approximately 325 m to the east of the Site.

1.1.10 The Site comprises the following main parts:

- OCGT Power Station Site;
- Access Site;
- Temporary Construction and Laydown Site;
- Gas Connection Site;
- Electrical Connection Site; and
- Utilities and Services Connections Site.

1.1.11 The Site is located entirely within the boundary of the administrative area of North Lincolnshire Council ('NLC'), a unitary authority. The different parts of the Site are illustrated in the Works Plans (Application Document Ref: 4.3).

1.1.12 The Site has been selected by the Applicant for the Proposed Development, as opposed to other potentially available sites, for the following reasons:

- It comprises primarily previously developed or disturbed land;
- It is situated in an industrial setting with few immediate receptors and is not particularly sensitive from an environmental perspective;
- It is primarily located adjacent to the Existing VPI CHP Plant, which provides visual screening and synergies in terms of the existing workforce, and utilities and services;
- It benefits from excellent grid connections (gas and electricity) on the Existing VPI CHP Plant Site; and
- It benefits from existing highway accesses onto Rosper Road, with the latter providing a direct connection (via a short section of Humber Road) to the Strategic Highway Network (A160) a short distance to the south of the Site.

1.1.13 A more detailed description of the Site is provided in Environmental Statement ('ES') Volume 1 Chapter 3 'Description of the Site' (Application Document Ref: 6.2.3).

The Proposed Development

1.1.14 The main components of the Proposed Development are summarised below, as set out in the draft DCO (Application Document Ref: 2.1):

- Work No. 1 – an OCGT power station (the 'OCGT Power Station') with a gross electrical output capacity of up to 299 MW;
- Work No. 2 – access works (the 'Access'), comprising access to the OCGT Power Station Site and access to Work Nos. 3, 4, 5 and 6;

- Work No. 3 – temporary construction and laydown area ('Temporary Construction and Laydown') comprising hard standing, laydown and open storage areas, contractor compounds and staff welfare facilities, vehicle parking, roadways and haul routes, security fencing and gates, gatehouses, external lighting and lighting columns;
- Work No. 4 – gas supply connection works (the 'Gas Connection') comprising an underground and/or overground gas pipeline of up to 600 mm (nominal internal diameter) and approximately 800 m in length for the transport of natural gas from the Existing Gas Pipeline to Work No. 1;
- Work No. 5 – an electrical connection (the 'Electrical Connection') of up to 400 kilovolts (kV) and associated controls systems; and
- Work No 6 – utilities and services connections (the 'Utilities and Services Connections').

1.1.15 It is anticipated that subject to the DCO having been made by the SoS and a final investment decision by VPIB, construction work on the Proposed Development would commence in early 2021. The overall construction programme is expected to last approximately 21 months and is anticipated to be completed in late 2022, with the Proposed Development entering commercial operation later that year or early the following year.

1.2 Purpose of this Document

1.2.1 This document provides the likely structure of the final BEMP, preliminary information and calculations relevant to the final BEMP, and indicates what additional information might be included under each sub-section within the final BEMP.

1.2.2 The final BEMP will detail the measures proposed to mitigate the effects of the Proposed Development on biodiversity features, and to enhance the biodiversity and green infrastructure value of the Site, to secure compliance with relevant national and local planning policies and the wider aspiration of achieving biodiversity net gain in the development of new infrastructure projects.

1.2.3 The Proposed Development has been designed, as far as is practicable, to avoid or reduce effects on landscape and biodiversity features through development design and impact avoidance. These include measures to avoid impacts on protected species to ensure compliance with legislation (see Chapter 9: Ecology (Environmental Statement (ES) Volume I, Application Document Ref. 6.2).

1.2.4 The ecological impact assessment identified moderate (significant) adverse effects (without mitigation) due to the loss of Open Mosaic Habitat (OMH) and the terrestrial invertebrate assemblage it supports, as well as the loss of semi-improved neutral grassland. Habitat restoration and enhancement is therefore required to compensate for habitat losses in order to meet local and national planning policy objectives relating to the delivery of no net loss and, where possible, net gain of biodiversity.

1.2.5 This Framework BEMP is structured as follows:

- Section 2 summarises relevant legislation and planning policy;
- Section 3 describes the existing landscape and biodiversity features and the potential impacts and effects of the Proposed Development;

- Section 4 outlines the requirements for impact avoidance, both during advanced works and during the construction phase;
- Section 5 describes the proposals for biodiversity enhancement and the measures required for their effective management and maintenance. The areas of the Site to which the different proposals would be applied are illustrated in Figure 2; and
- Section 6 describes the roles and responsibilities of all parties involved in the delivery of the enhancement and management proposals.

2.0 LEGISLATION AND PLANNING POLICY

2.1 Overview

2.1.1 Relevant legislation and planning policy applicable to the ecology features of the Proposed Development is listed in this section. Further detail on the relevant legislation and policy can be found in Chapter 9: Ecology (ES Volume I, Application Document Ref. 6.2).

2.2 Legislation

2.2.1 The following legislation has been considered in preparing this Framework BEMP and will be considered in the preparation of the final BEMP:

- Conservation of Habitats and Species Regulations 2017 (as amended) (the Habitats Regulations);
- Wildlife and Countryside Act (WCA) 1981 (as amended);
- Countryside & Rights of Way Act 2000 (as amended);
- Natural Environment and Rural Communities (NERC) Act 2006 (as amended); and
- Animal Welfare Act 2006.

2.3 Planning Policy

2.3.1 Relevant national planning policy that has been considered in relation to biodiversity impact avoidance and enhancement is as follows:

- Overarching National Policy Statement (NPS) for Energy (EN-1);
- NPS for Fossil Fuel Electricity Generating Infrastructure (EN-2);
- NPS for Oil and Gas Supply and Storage (EN-4);
- NPS for Electricity Networks (EN-5); and
- National Planning Policy Framework (NPPF);

NPS EN-1

2.3.2 NPS EN-1 includes the following in relation to biodiversity mitigation and enhancement:

- Paragraph 4.5.1, dealing more generally with sustainability and good design, acknowledges that the nature of much energy infrastructure development will often limit the extent to which it can contribute to the enhancement of the quality of the area.
- Paragraph 5.3.4 states that the applicant should show how the project has taken advantage of opportunities to conserve and enhance biodiversity.
- Paragraph 5.3.18 states that the applicant should include appropriate mitigation measures as an integral part of the proposed development. In particular, the applicant should demonstrate, amongst other things, that opportunities will be taken to enhance existing habitats and, where practicable, to create new habitats of value within the site landscaping proposals.

NPPF

2.3.3 The NPPF includes the following:

- Paragraph 170 states that planning policies and decisions should contribute to and enhance the natural and local environment by, amongst other things, minimising impacts on and providing net gains for biodiversity, including by establishing coherent ecological networks that are more resilient to current and future pressures.
- Paragraph 174 states that to protect and enhance biodiversity and geodiversity, plans should, amongst other things identify and pursue opportunities for securing measurable net gains for biodiversity.
- Paragraph 175 states that when determining planning applications, local planning authorities should, amongst other things, apply the following principle:

  "development whose primary objective is to conserve or enhance biodiversity should be supported; while opportunities to incorporate biodiversity improvements in and around developments should be encouraged, especially where this can secure measurable net gains for biodiversity."

2.3.4 Local planning policy relevant to ecology and nature conservation is set out in the North Lincolnshire Core Strategy, part of the North Lincolnshire Local Development Framework. This was adopted in June 2011 and sets out a long-term vision for managing growth and development in the area up to 2026. Policies CS5, CS16, CS17 relate to the protection of biodiversity resources, the maintenance of wildlife networks and green corridors, and ensuring ecological enhancement through good design. The North Lincolnshire Local Plan (adopted May 2003) also includes some relevant saved policies. Please refer to ES Volume I, Chapter 5 for more detail in respect of planning policy (Application Document Ref: 6.2).

2.4 Other Guidance

2.4.1 Other guidance that provides relevant context includes:

- UK Post - 2010 Biodiversity Framework;
- Biodiversity 2020 – A strategy for England's wildlife and ecosystem services; and
- Local Biodiversity Action Plan (LBAP) for Lincolnshire.

2.5 DEFRA Pilot Biodiversity Offsetting Metric

2.5.1 In April 2012, Defra published a pilot biodiversity offsetting metric (Defra, 2012) to provide an objective method for comparing losses and gains in biodiversity through development. A defined methodology is used to quantify the value of the habitats to be lost in terms of 'biodiversity units'. This defines the requirement for biodiversity unit gain through habitat creation or restoration, in order to fully compensate for the loss and achieve no net loss, or where possible, net gain of biodiversity. The required compensation may be provided either within the development boundary, or through off-site habitat creation or restoration works.

2.5.2 Local and national guidance on biodiversity offsetting has been used to calculate the biodiversity losses and gains as a result of the Proposed Development as described in Section 5 of this Plan.

3.0 EXISTING BIODIVERSITY FEATURES AND DEVELOPMENT IMPACT

3.1 Existing Biodiversity Features

Habitats

3.1.1 The habitats associated with the Proposed Development are summarised below. A more complete description is to be found within Chapter 9: Ecology (ES Volume I, Application Document Ref. 6.2). Results of the Phase 1 Habitat survey, including a Phase 1 Habitat map, are provided in the Preliminary Ecological Appraisal (PEA) Report (Appendix 9A: Preliminary Ecological Appraisal Report, ES Volume III).

3.1.2 The Proposed Development is set in a landscape dominated by the industrial areas of the Total Lindsey Oil Refinery (TLOR) and the Existing VPI Immingham CHP Plant, which are to the west and south of the OCGT Power Station Site respectively. The habitats are described in three areas of the Proposed Development as follows:

- OCGT Power Station Site. This is the area to be occupied by the main structures associated with the Proposed Development, and covers approximately 2.7 ha of undeveloped land between the Existing VPI CHP Plant to the south, and Rosper Road to the east. Immediately to the north are a private car park and a number of single storey structures associated with TLOR; and
- Temporary Construction and Laydown area comprising three areas of land for temporary construction laydown for the Proposed Development. Specifically:
  - An area of land to the east of the Existing VPI CHP Plant Site;
  - An area of land to the north and west of the OCGT Power Station Site currently used for vehicle parking by TLOR; and
  - An area of existing car park to the north of the OCGT Power Station Site

  These areas consist of bare and made ground.

3.1.3 There are also areas of the Site within the curtilage of the Existing VPI CHP Plant Site – these are hardstanding subject to ongoing industrial use and have not been subject to ecological surveys as a result.

3.1.4 The OCGT Power Station Site is dominated by a mosaic of semi-improved neutral grassland and dense scrub that had colonised the previously disturbed ground used for the storage of material cleared from the relatively recently constructed TLOR car park, which lies to the immediate north. Consequently the habitat is undulating with vegetated mounds of rubble/ spoil. The grassland was typified by a rank unmanaged grass dominated sward with locally abundant tufted hair-grass (*Deschampsia cespitosa*) indicating where ground has impeded drainage during the winter. The grassland was species poor and forb species included locally frequent teasel (*Dipsacus fullonum*), colt's-foot (*Tussilago farfara*) and creeping thistle (*Cirsium arvense*), with occasional fleabane (*Pulicaria dysenterica*) and wild carrot (*Daucus carota*).

3.1.5 Scattered willow (*Salix* spp.) and bramble (*Rubus fruticosus* agg.) dominated scrub was also present, mainly associated with the tall herb areas.

3.1.6 There were four standing waterbodies within the Proposed Development boundary (Ponds 1, 2, 4 and 5). Ponds 1 and 2 were seasonal ponded areas adjacent to Rosper Road, in

the brownfield land in the eastern part of the Site. These ponds supported vegetation that indicated they held water for much of the year, although the spring and summer surveys confirmed that they are ephemeral in nature and had dried out completely by around late May/ early June 2018. Pond 1 supported a high emergent cover of common spike rush (*Eleocharis sp*.) with frequent greater reedmace/ bulrush (*Typha latifolia*) and grey club-rush (*Schoenoplectus tabernaemontani*) whereas Pond 2 was dominated by bulrush. Following a site visit in February 2018, it appeared that the separate 'ponds' identified in early autumn and reported in the PEA combine to form a large area of shallow ponded water throughout the winter and early spring months, covering most of the eastern part of this area where drainage is impeded.

3.1.7 Pond 4 is a seasonal ponded area that had developed on an area of impeded drainage in the central portion of the brownfield land. Pond 5 has developed in an abandoned archaeological trial trench in this area. These pools supported no aquatic or marginal vegetation, and were found to be dry by early summer.

3.1.8 A substantial drainage ditch runs along the southern edge of the OCGT Power Station Site (between the OCGT Power Station Site and the Existing VPI CHP Plant Site to the south), and drains surface water from within TLOR. An outfall into the ditch from the TLOR is present to the west of the Site. A surface water drainage ditch is also present alongside Rosper Road along the eastern boundary of the OCGT Power Station Site, but was found to be entirely dry at the time of surveying and does not appear to regularly hold water.

3.1.9 The habitat assemblage within the OCGT Power Station Site is considered to represent an example of the OMHs on Previously Developed Land, a priority habitat type for nature conservation in England listed under S41 of the NERC Act, 2006. OMH is not a discrete habitat that can be mapped for the purposes of Phase 1 Habitat survey, but instead is a matrix derived from a variety of different habitat types and associated habitat and land-use features and characteristics, and edaphic conditions. A detailed botanical survey of the OMH was undertaken in summer 2018, and confirmed that the habitat did not meet the criteria for county Local Wildlife Site (LWS) selection (Appendix 9G: Botanical Survey, ES Volume III).

Protected/Notable Species

3.1.10 The findings of the evaluation of protected and notable species conducted as part of the Ecological Impact Assessment (EcIA) for the Proposed Development are summarised below. A more complete description is to be found within Chapter 9: Ecology (ES Volume I, Application Document Ref. 6.2). Further details can be found in the relevant referenced Appendix (Application Document Ref. 6.4).

3.1.11 The wintering bird survey of the OCGT Power Station Site (Appendix 9C: Wintering Bird Surveys, ES Volume III) and the brownfield land to the west (between the OCGT Power Station Site and TLOR) recorded only common wintering passerine species. The only waterfowl species that were recorded were snipe (*Gallinago gallinago*) and woodcock (*Scolopax rusticola*), which do not form part of the Humber Estuary Special Protection Area (SPA)/ Ramsar assemblage.

3.1.12 The undulating topography and tall vegetation within the OCGT Power Station Site means that it is unsuitable to support aggregations of feeding and roosting/ loafing waders at high tide because there is insufficient 'scanning distance'. Flocks of waders and wildfowl prefer

open and shorter-sward habitat over which they can easily identify and thus escape from predators such as foxes and birds of prey.

3.1.13 The breeding bird surveys (Appendix 9D: Breeding Bird Surveys, ES Volume III) recorded a total of 22 bird species were recorded within the Site, of which 15 species were considered to be probably/ possibly breeding (single territories recorded for each species). Three of these species were species of Principal Importance for nature conservation in England listed under S41 of the NERC Act, 2006: dunnock (*Prunella modularis*), linnet (*Linaria cannabina*) and reed bunting (*Emberiza schoeniclus*). Linnet is also Red List species, and dunnock and reed bunting are also Amber List species. The remaining species were Green List species: blackbird (*Turdus merula*), blackcap (*Sylvia atricapilla*), carrion crow (*Corvus corone*), chaffinch (*Fringilla coelebs*), goldfinch (*Carduelis carduelis*), great tit (*Parus major*), robin (*Erithacus rubecula*), lesser whitethroat (*Sylvia currucla*), wren (*Troglodytes troglodytes*), whitethroat (*Sylvia communis*), red-legged partridge (*Alectoris rufa*) and magpie (*Pica pica*).

3.1.14 These are all common and widespread species, and with the exception of dunnock, reed bunting and linnet, breeding numbers are not recorded to be declining in the UK. The small number of birds and limited diversity of species recorded reflected the relatively small size of the Site. Habitats within the Site also offered relatively limited breeding opportunities, with large areas of bare/ recently cleared ground. Breeding records were largely confined to the scattered areas of scrub, with reed bunting recorded in the wetland area in the east of the Site (associated with Ponds 1 and 2), and the ground nesting species red-legged partridge nesting in the tall grassed sward area towards the centre of the OCGT Power Station Site.

3.1.15 The four waterbodies present within the Site boundary (Ponds 1, 2, 4 and 5), and one identified within 250 m of the Site boundary (Pond 6) were subject to environmental DNA (eDNA) surveys to establish the presence/absence of Great Crested Newts (GCN). An additional pond (Pond 3) within 250m of the Site boundary was surveyed by other means as eDNA sampling was not possible due to access restrictions. All eDNA surveys returned a negative result and no GCN has been identified either on the Site or within 250m of the Site boundary.

3.1.1 Further details on the GCN survey and water body habitat suitability appraisal are provided in Appendix 9B: Great Crested Newt Surveys (ES Volume III). The pond locations are shown in Figure 3 of Appendix 9A: Preliminary Ecological Appraisal (ES Volume III).

3.1.2 The habitats within the Site boundary were appraised as being of potential suitability for grass snake (*Natrix natrix*) and common lizard (*Zootoca vivipara*) in the PEA. However, presence/ absence surveys undertaken in spring and summer 2018 did not record any reptiles. Survey results are presented in (Appendix 9F: Reptile Survey ES Volume III).

3.1.3 The surface water drainage ditch to the south of the Site was heavily shaded and provided poor quality foraging habitat for otter (*Lutra lutra*). Given that this species is known to be present in the wider area and Humber Estuary, its occasional presence on passage cannot be ruled out, although the ditch offered poor foraging and was poorly connected to the wider ditch network and Humber Estuary due to extensive culverting.

3.1.4 The surface water drainage ditch to the south of the Site was heavily shaded, supports virtually no aquatic or marginal plant species and provides poor quality habitat for water vole (*Arvicola amphibius*). The ditch is poorly connected to the wider ditch network, and is

a rather isolated stretch located between extensive culverted sections beneath TLOR and Rosper Road respectively. However, given that this species is known to be present on ditches in the wider local area, they may be present and cannot be ruled out.

3.1.5 Ten 'key species' of terrestrial invertebrates were recorded within the Proposed Development area. These were species of principal importance for nature conservation in England listed under S41 of the NERC Act, 2006, Red Data Book (RDB), or those whose conservation status was listed as Nationally Rare, Notable, Threatened or Near Threatened. Survey results are presented in (Appendix 9E: Terrestrial Invertebrates, ES Volume III).

3.1.6 No brown hares (Lepus europaeus) were observed on the Site during the course of other ecological surveys and no evidence of badger (Meles meles) was identified within the Site boundary.

3.2 Impacts on Biodiversity Features

3.2.1 Construction of the Proposed Development would result in the permanent and irreversible loss of approximately 1.0ha ha of OMH, and approximately 0.26 ha of semi-improved neutral grassland.

3.2.2 These habitat types readily establish on former development land, or land which has otherwise been disturbed. They are a naturally transitional habitat, and in the absence of management or further disturbance, it is reasonable to assume that over time it would eventually succeed to scrubland and thus decline in botanical value.

3.2.3 Construction and operation of the Proposed Development has the potential, in the absence of mitigation, to adversely affect all protected/notable species identified as present or potentially present in the vicinity of the Site through direct impacts (killing/injury), disturbance, habitat loss and habitat severance.

4.0 IMPACT AVOIDANCE REQUIREMENTS

4.1 Overview

4.1.1 The impact avoidance measures outlined below would be implemented, as relevant and appropriate, prior to and during construction phase, the purpose being to minimise the impact of works on biodiversity features.

4.1.2 These measures would be applied in order to meet legislative requirements for protected species or as part of standard construction environmental best practice. The implementation of these measures has been taken into account when assessing the likely impacts and effects of the Proposed Development on landscape and biodiversity features in Chapter 9: Ecology (Volume I of the ES: Application Document Ref. 6.2).

4.2 Additional Survey

4.2.1 A precautionary pre-construction survey of the drainage ditch will be undertaken for water vole at least 3 months prior to the commencement of works. No other additional survey works have been identified as required. Should it be required, mitigation will involve the displacement of water voles (at an appropriate time of year) from the affected section of bank, and micro-siting of the outfall to minimise impacts on existing burrows.

4.3 Precautionary Working Methods

4.3.1 The following precautionary working methods would be employed to minimise potential adverse effects on protected/notable species prior to and during construction:

- All clearance of suitable vegetation during site preparation would be undertaken outside the breeding bird season (typically March-August inclusive for most species). If this is not possible, an ecologist would check the working area for nests before works commence. If nests were discovered, exclusion zones would be imposed between the works and nest(s), and vegetation clearance works suspended within the area until any young had fledged;
- Precautionary measures would be implemented to prevent trapping wildlife in construction excavations, with any excavations deeper than 1 m covered or fenced overnight; and
- Construction temporary lighting would be arranged so that glare is minimised outside the construction site.

4.3.2 These measures would be controlled and implemented through the Construction Environmental Management Plan (CEMP) that would be developed by the contractor. This would be secured by a requirement imposed on the DCO. A Framework CEMP is included with the Application (Appendix 4A, ES Volume III).

4.4 Habitat Restoration

4.4.1 Habitats that would be temporarily lost or damaged during construction, mainly comprising seeded semi-improved neutral grassland and scrub, would be fully reinstated on at least a like-for-like basis on completion of construction works.

4.4.2 Some habitats lost during construction would be restored and managed with the aim of increasing their biodiversity value in the long term. These are included within the habitat enhancement proposals detailed in Section 5.

4.4.3 The temporary loss and subsequent restoration of habitats is taken into account within the biodiversity offsetting calculations, together with proposals for additional enhancement. Biodiversity offsetting calculations are summarised in Table 9H.1 below …

5.0 HABITAT CREATION AND ENHANCEMENT

5.1 Approach

5.1.1 The area of OMH/semi-improved neutral grassland to be permanently lost has been estimated based on the indicative layouts presented in ES Volumes I and II (Application Document Refs. 6.2 & 6.3). This has been used as the basis for the calculation which is considered to represent a worst case based on the largest land take currently envisaged. This process will be repeated in the final BEMP, once a contractor has been appointed and a final design produced.

5.1.2 It is acknowledged that due to there not being a final design there is some uncertainty to the calculation in relation to the temporary and permanent land take. However, the Applicant is committed to providing net gain, and should the final design reduce the available area on site or result in no net gain, off-site alternatives will be identified, in consultation with Natural England, for example support for offsetting proposals or management agreements on third party land or other mitigation schemes. This will be detailed in the final BEMP.

5.2 Enhancement Measures

5.2.1 Though not all of the area of OMH to be lost is of high biodiversity value, it is the intention of the Applicant to create areas of higher nature conservation value across the undeveloped part of the OCGT Power Station Site. This will include creation and management of areas of species-rich wildflower grassland in undeveloped areas of the Site.

5.2.2 Opportunities will also be taken to improve the nature conservation value of retained areas of OMH, notably through restricting succession to homogenous stands of vegetation such as large areas of bramble. The following enhancements are assumed within the biodiversity net gain calculations:

- The proposed discharge attenuation pond to be created will be in "moderate" condition in 5 years;
- The existing OMH habitat will be enhanced to "moderate" condition from “poor condition” in 5 years;
- The existing semi-improved grassland habitat enhanced to "good" condition in 5 years;
- Semi-improved grassland to be created will be in "good" condition in 5 years; and
- The existing swamp habitat enhanced to "moderate" condition in 5 years

5.2.3 In addition, the following habitat enhancements are proposed to meet the requirements of the NPPF:

- Creation of log pile refuges in undeveloped parts of the Site (in the southern parts of the OCGT Power Station Site close to the ditch corridor) to create ecological niches for terrestrial invertebrates;
- Installation of bird nest boxes on suitable structures and buildings;
- Installation of invertebrate habitat boxes, such as solitary bee bricks; and

- Planting of native species of trees and berry-bearing shrubs to provide invertebrate habitat and nesting opportunities for breeding birds, and sources of food for overwintering and passage birds.

5.2.4 The final BEMP will be prepared and agreed with the local planning authority prior to the commencement of works, which will be in accordance with this Framework BEMP. The final BEMP will include details on:

- The location and planting specifications for habitat mitigation and enhancement;
- The location and construction specifications for log pile refuges and bird nest boxes;
- Long-term management of the habitats;
- Post-construction protected species monitoring (if required); and
- Timetables and responsibilities for undertaking the above tasks.

5.3 Habitat Creation Principles Supporting Delivery of Biodiversity Enhancement

5.3.1 Where new native habitats are to be created, or new native planting undertaken, the following principles would apply:

- All seed mixes and planting stock would be ordered as early as possible to ensure that supply can be met without risk of substitution;
- All seed mixes and tree and shrub stock would be sourced from a specialist producer of British native plants who can source-identify all stock (i.e. not a non-specialist nursery that buys in stock or an agricultural/general merchant that buys stock from diverse sources, including non-British sources);
- Native trees and shrubs would be sourced from a supplier which follows the Forestry Commission's Voluntary Identification Scheme for British Native Trees and Shrubs (Ref 27);
- Grassland wildflower mixtures would be approved by the Department for Environment, Food and Rural Affairs (Defra) under the Seed (Registration, Licensing and Enforcement) (England) Regulations 2002; and
- Terms of supply would include a condition that no part of the order shall be substituted with stock of alternative species or origin and that any change must be mutually agreed.

5.3.2 The above requirements would be incorporated into contractor specifications and contracts, as appropriate, to deliver genuinely native plantings in accordance with the biodiversity objectives of this Plan.

5.4 Biodiversity Net Gain

5.4.1 The results of the biodiversity net gain calculations are summarised in Table 9H-1. Based on the reference scenario (the PEA – see Appendix 9A, ES Volume II) the baseline number of biodiversity units is 14.5. During construction 7.2 biodiversity units are predicted to be lost. The proposed habitat enhancement of retained habitats yield 2.8 biodiversity units and 5.4 arise from newly created semi-improved grassland and standing water habitat. Overall this results in a net gain in one biodiversity unit (15.5) relative to the baseline reference scenario. The full calculations and the rationale behind them, including

assigning habitat type, distinctiveness and condition, and applying risk multipliers, are included in Annex 9H.1

5.4.2 In line with best practice guidance (Baker et al 2019), a conservative approach has been used within the calculations to account for uncertainties regarding timeframes and impacts prior to the detailed design stage. For example, in calculating the biodiversity value of existing habitats to be lost, it has been assumed that all habitats within the OCGT Power Station Site on which plant is to be installed, excluding enhancement areas, would either be lost or damaged, based on indicative plant layouts. In addition, when estimating the time lag for like-for-like restoration of habitats, it has been assumed that this would take place at the end of the construction phase; however, in many cases habitat restoration would be completed sooner than this, where elements of the Proposed Development are completed in a shorter timeframe.

5.4.3 When estimating the time taken for habitats in enhancement areas (outside construction areas) to reach target condition, it has been assumed that habitat management works would commence towards the end of construction, with the intention that improvements in biodiversity value can be achieved as soon as possible.

5.4.4 Protected species are not included within the Defra offsetting metric, because there is an existing legal process in place to mitigate impacts.

Table 9H.1 Summary of Biodiversity Offsetting Calculations

Habitat Type	Baseline Area (ha) / Length (Km)	Baseline Biodiversity units	Habitats retained Area (ha)/ Length (Km)	Biodiversity units	Habitats lost Area (ha) / Length (Km)	Biodiversity units	Habitats Enhanced Area (ha) / Length (Km)	Biodiversity units	Habitats created Area (ha) / Length (Km)	Biodiversity units
Bare ground	1.93	0.0	1.93	0.0	0.00	0.0	0.0	0.0	0.0	0.0
Buildings	0.12	0.0	0.12	0.0	0.00	0.0	0.0	0.0	1.0	0.0
Cultivated/ disturbed land - ephemeral/short perennial	1.73	3.5	0.69	1.4	1.04	-2.1	0.7	1.1	0.0	0.0
Hardstanding	3.44	0.0	3.4	0.0	0.01	0.0	0.0	0.0	0.0	0.0
Neutral grassland - semi-improved	0.70	5.6	0.44	3.5	0.26	-2.1	0.4	1.5	0.8	5.1
Other tall herb and fern - ruderal	0.48	2.9	0.00	0.0	0.48	-2.9	0.0	0.0	0.0	0.0
Scrub - dense/ continuous	0.32	1.9	0.32	1.9	0.00	0.0	0.0	0.0	0.0	0.0

Standing water	0.02	0.2	0.00	0.0	0.02	-0.2	0.0	0.0	0.1	0.4
Swamp	0.04	0.3	0.04	0.3	0.00	0.0	0.0	0.1	0.0	0.0
Dry ditch	0.01	0.0	0.01	0.0	0.00	0.0	0.0	0.0	0.0	0.0
Fence	0.02	0.0	0.02	0.0	0.00	0.0	0.0	0.0	0.0	0.0
Wet Ditch	0.02	0.3	0.02	0.3	0.00	0.0	0.0	0.0	0.0	0.0
Subtotal biodiversity units		**14.5**		**7.3**		**-7.2**		**2.8**		**5.4**

5.4.5 The biodiversity offsetting metrics demonstrate that with the implementation of the proposed restoration and enhancement measures, there would be no net loss of biodiversity, and a small net gain, as a result of the Proposed Development.

6.0 ROLES AND RESPONSIBILITIES

6.1 The Applicant and/or the Appointed Main Contractor

6.1.1 The Applicant and/or appointed main contractor would be responsible for:

- Correct instruction of all parties contributing to delivery of the final approved Biodiversity Management and Enhancement Plan (including but not restricted to the Applicant's staff and their appointed ecologists, landscape architects, landscape contractors, construction contractors and management organisations);
- Compliance with the final BEMP, relevant legislation and any relevant planning commitments;
- Keeping the appointed ecologist informed of work activities that require support and supervision, so that it is clear when attendance at Site is required;
- Enacting/enforcing recommendations made by the ecologist, or otherwise agreeing an appropriate alternative course of action, if it is subsequently determined that previous advice is not practicable or is out of date; and
- Keeping a record of measures taken to deliver the requirements of the final BEMP, to provide an auditable record of compliance.

6.2 The Appointed Ecologist

6.2.1 The appointed ecologist would be responsible for:

- Advising the Applicant and/or appointed main contractor on ecological matters and requirements for compliance with relevant legislation and protected species licences, providing support as instructed, and monitoring compliance with the final approved Biodiversity Management and Enhancement Plan; and
- Providing the Applicant and/or appointed main contractor with survey reports and other written evidence required in accordance with the agreed scope of work and contractual obligations.

7.0 REFERENCES

Baker, J. Hoskins, R. Butterworth, T (2019). Biodiversity Net Gain. Good Practice Principles for Development. A Practical Guide,

CIEEM, IEMA, CIRIA Department of Energy and Climate Change (2011) *National Policy Statement for Energy (EN-1).*

Department of Energy and Climate Change (2011) *National Policy Statement for Fossil Fuel Electricity Generating Infrastructure (EN-2)*

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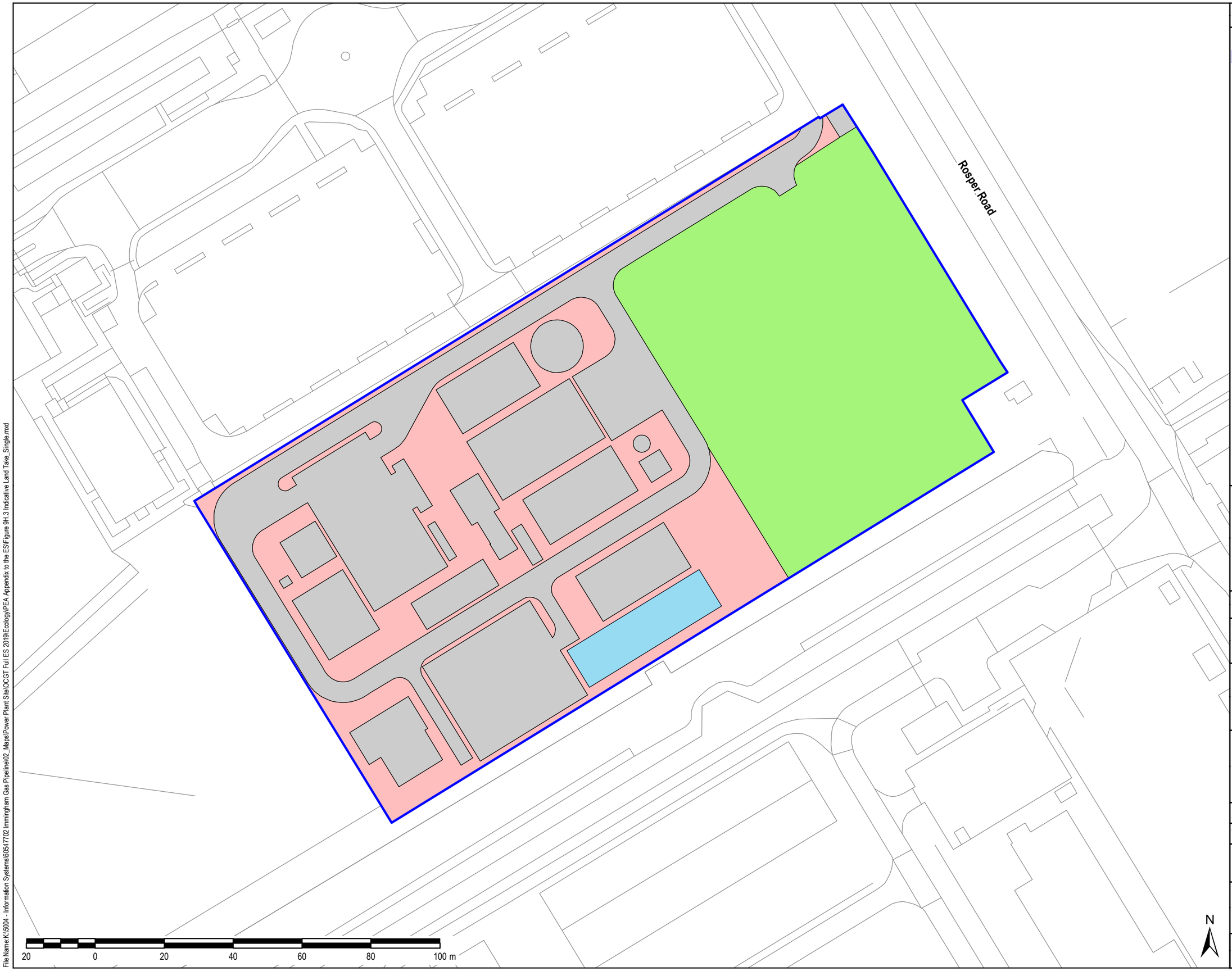
Department of Energy and Climate Change (2011) *National Policy Statement for Electricity Networks Infrastructure (EN-5)*

https://www.gov.uk/government/publications/national-planning-policy-framework--2, Department for Communities and Local Government (2019) *National Planning Policy Framework.*

North Lincolnshire Council (2011) *North Lincolnshire Local Development Framework - Core Strategy Adopted June 2011.*

Lincolnshire Biodiversity Partnership (2011). *Lincolnshire Biodiversity Action Plan*.

FIGURE 9H.1 INDICATIVE LAND TAKE



File Name:K:\5004 - Information Systems\60547702 Immingham Gas Pipeline\02_Maps\Power Plant Site\OCGT Full ES 2019\Ecology\PEA Appendix to the ES\Figure 9H.3 Indicative Land Take_Single.mxd

THIS DRAWING IS TO BE USED ONLY FOR THE PURPOSE OF ISSUE THAT IT WAS ISSUED FOR AND IS SUBJECT TO AMENDMENT

LEGEND

- Extent of Indicative Land Take

Land Take

- Attenuation Pond
- No Land Take
- Permanent Land Take
- Temporary Land Take

Purpose of Issue

APPENDIX 9H

Client

VPI IMMINGHAM B LTD

Project Title

THE VPI IMMINGHAM OCGT PROJECT

Drawing Title

INDICATIVE LAND TAKE
FIGURE 9H.1

Drawn	Checked	Approved	Date
JW	BB	MS	08/04/2019

AECOM Internal Project No.	Scale @ A3
60547702	1:1,000

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6.4.17	

ANNEX 9H.1 BIODIVERSITY OFFSETTING CALCS

Annex 9H.1 Table 1: Summary

Habitat Type	Baseline Area (ha) / Length (Km)	Baseline Biodiversity units	Habitats retained Area (ha) / Length (Km)	Biodiversity units	Habitats lost Area (ha) / Length (Km)	Biodiversity units	Habitats Enhanced Area (ha) / Length (Km)	Biodiversity units	Habitats created Area (ha) / Length (Km)	Biodiversity units
Bare ground	1.93	0.0	1.93	0.0	0.00	0.0	0.0	0.0	0.0	0.0
Buildings	0.12	0.0	0.12	0.0	0.00	0.0	0.0	0.0	1.0	0.0
Cultivated/disturbed land - ephemeral/short perennial	1.73	3.5	0.69	1.4	1.04	-2.1	0.7	1.1	0.0	0.0
Hardstanding	3.44	0.0	3.4	0.0	0.01	0.0	0.0	0.0	0.0	0.0
Neutral grassland - semi-improved	0.70	5.6	0.44	3.5	0.26	-2.1	0.4	1.5	0.8	5.1
Other tall herb and fern - ruderal	0.48	2.9	0.00	0.0	0.48	-2.9	0.0	0.0	0.0	0.0
Scrub - dense/continuous	0.32	1.9	0.32	1.9	0.00	0.0	0.0	0.0	0.0	0.0
Standing water	0.02	0.2	0.00	0.0	0.02	-0.2	0.0	0.0	0.1	0.4
Swamp	0.04	0.3	0.04	0.3	0.00	0.0	0.0	0.1	0.0	0.0
Dry ditch	0.01	0.0	0.01	0.0	0.00	0.0	0.0	0.0	0.0	0.0
Fence	0.02	0.0	0.02	0.0	0.00	0.0	0.0	0.0	0.0	0.0
Wet Ditch	0.02	0.3	0.02	0.3	0.00	0.0	0.0	0.0	0.0	0.0
Totals		**14.5**		**7.3**		**-7.2**		**2.8**		**5.4**

Annex 9H.1 Table 2: Baseline Reference Scenario

JNCC code	Habitat Type	Area (ha) / Length (Km)	Current Condition	Distinctive-ness Score	Condition Score	Baseline Biodiversity Units
J4	Bare ground	1.93	Poor	0.0	1.0	0.0
J3.6	Buildings	0.12	Poor	0.0	1.0	0.0
J1.3	Cultivated/disturbed land - ephemeral/short perennial	1.73	Poor	2.0	1.0	3.5
J5	Hardstanding	3.44	Poor	0.0	1.0	0.0
B2.1	Neutral grassland - semi-improved	0.70	Moderate	4.0	2.0	5.6
C3.2	Other tall herb and fern - ruderal	0.48	Moderate	3.0	2.0	2.9
A2.1	Scrub - dense/continuous	0.32	Moderate	3.0	2.0	1.9
G1	Standing water	0.02	Moderate	6.0	2.0	0.2
F1	Swamp	0.04	Poor	6.0	1.0	0.3
J2.6	Dry ditch	0.01	Poor	2.0	1.0	0.0
J2.4	Fence	0.02	Poor	0.0	1.0	0.0
G2	Wet Ditch	0.02	Moderate	6.0	2.0	0.3
					Total:	**14.5**

Annex 9H.1 Table 3: Habitat retained and habitat loss

JNCC code	Habitat	Area (ha) / Length (km) retained	Current Condition	Distinctive-ness Score	Condition Score	Biodiversity units Retained	Area (ha) / Length (km) lost	Current Condition	Distinctive-ness Score	Condition Score	Biodiversity units Lost
J4	Bare ground	1.93	Poor	0.0	1.0	0.0	0.00	Poor	0.0	1.0	***0.0***
J3.6	Buildings	0.12	Poor	0.0	1.0	0.0	0.00	Poor	0.0	1.0	***0.0***
J1.3	Cultivated/disturbed land - ephemeral/short perennial	0.69	Poor	2.0	1.0	1.4	1.04	Poor	2.0	1.0	***-2.1***
J5	Hardstanding	3.4	Poor	0.0	1.0	0.0	0.01	Poor	0.0	1.0	***0.0***
B2.1	Neutral grassland - semi-improved	0.44	Moderate	4.0	2.0	3.5	0.26	Moderate	4.0	2.0	***-2.1***
C3.2	Other tall herb and fern - ruderal	0.00	Moderate	3.0	2.0	0.0	0.48	Moderate	3.0	2.0	***-2.9***
A2.1	Scrub - dense/continuous	0.32	Moderate	3.0	2.0	1.9	0.00	Moderate	3.0	2.0	***0.0***
G1	Standing water	0.00	Moderate	6.0	2.0	0.0	0.02	Moderate	6.0	2.0	***-0.2***
F1	Swamp	0.04	Poor	6.0	1.0	0.3	0.00	Poor	6.0	1.0	***0.0***
J2.6	Dry ditch	0.01	Poor	2.0	1.0	0.0	0.00	Poor	2.0	1.0	***0.0***
J2.4	Fence	0.02	Poor	0.0	1.0	0.0	0.00	Poor	0.0	1.0	***0.0***
G2	Wet Ditch	0.02	Moderate	6.0	2.0	0.3	0.00	Moderate	6.0	2.0	***0.0***
					SUBTOTAL	**7.3**				**SUBTOTAL**	***-7.2***

Annex 9H.1 Table 4: Habitat enhanced

JNCC code	Habitat	Area (ha) / Length (km)	Baseline Condition	Target Condition	Time to Target	Location	Distinctive-ness Score	Baseline Condition Score	Target Condition Score	Time Score	Difficulty Score	Location Score	Biodiversity units Enhanced
J4	Bare ground	0.0	0.0	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
J3.6	Buildings	0.0	0.0	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
J1.3	Cultivated/disturbed land - ephemeral/short perennial	0.7	Poor	Moderate	5 years	Onsite	2.0	1.0	2.0	1.2	1.0	1.0	1.1
J5	Hardstanding	0.0	0.0	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
B2.1	Neutral grassland - semi-improved	0.4	Moderate	Good	5 years	Onsite	4.0	2.0	3.0	1.2	1.0	1.0	1.5
C3.2	Other tall herb and fern - ruderal	0.0	0.0	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
A2.1	Scrub - dense/continuous	0.0	0.0	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
G1	Standing water	0.0	0.0	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
F1	Swamp	0.0	Poor	Moderate	5 years	Onsite	6.0	1.0	2.0	1.2	1.5	1.0	0.1
J2.6	Dry ditch	0.0	0.0	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
J2.4	Fence	0.0	0.0	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
G2	Wet Ditch	0.0	0.0	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
												SUBTOTAL	**2.8**

Annex 9H.1 Table 5: Habitat created

JNCC code	Habitat	Area (ha) / Length (km)	Target Condition	Time to Target	Location	Distinctive-ness Score	Condition Score	Time Score	Difficulty Score	Location Score	Biodiversity units Created
J4	Bare ground	0.0	0.00	0.00	0.00	0.0	0.0	0.0	0.0	0.0	0.0
J3.6	Buildings	1.0	Poor	5 years	Onsite	0.0	1.0	1.2	1.0	1.0	0.0
J1.3	Cultivated/disturbed land - ephemeral/short perennial	0.0	0.00	0.00	0.00	0.0	0.0	0.0	0.0	0.0	0.0
J5	Hardstanding	0.0	0.00	0.00	0.00	0.0	0.0	0.0	0.0	0.0	0.0
B2.1	Neutral grassland - semi-improved	0.8	Good	5 years	Onsite	4.0	3.0	1.2	1.5	1.0	5.1
C3.2	Other tall herb and fern - ruderal	0.0	0.00	0.00	0.00	0.0	0.0	0.0	0.0	0.0	0.0
A2.1	Scrub - dense/continuous	0.0	0.00	0.00	0.00	0.0	0.0	0.0	0.0	0.0	0.0
G1	Standing water	0.1	Moderate	5 years	Onsite	6.0	2.0	1.2	1.5	1.0	0.4
F1	Swamp	0.0	0.00	0.00	0.00	0.0	0.0	0.0	0.0	0.0	0.0
J2.6	Dry ditch	0.0	0.00	0.00	0.00	0.0	0.0	0.0	0.0	0.0	0.0
J2.4	Fence	0.0	0.00	0.00	0.00	0.0	0.0	0.0	0.0	0.0	0.0
G2	Wet Ditch	0.0	0.00	0.00	0.00	0.0	0.0	0.0	0.0	0.0	0.0
										SUBTOTAL	**5.4**