



FIVE
ESTUARIES
OFFSHORE WIND FARM

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OFFSHORE WIND FARM
ENVIRONMENTAL STATEMENT

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APPRAISAL PART 1

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FIVE ESTUARIES OFFSHORE WIND FARM

Preliminary Ecological Appraisal (Onshore)

Prepared for: GoBe Consultants (on behalf of Five
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DEFINITION OF ABBREVIATIONS AND ACRONYMS

Term	Definition
ASNW	Ancient semi-natural woodland
BNG	Biodiversity Net Gain
BTO	British Trust for Ornithology
CEnv	Chartered Environmentalist
CIEEM	Chartered Institute for Ecology and Environmental Management
DCO	Development Consent Order
DLL	District Level Licensing
EFC	Essex Field Club
EIA	Environmental Impact Assessment.
EPSL	European protected species licence
ES	Environmental Statement
EWT	Essex Wildlife Trust
GCN	Great crested newt
HAP	Habitat action plan
HSI	Habitat Suitability Index
IEF	Important Ecology Features
IUCN	International Union for the Conservation of Nature
JNCC	Joint Nature Conservation Committee
LNR	Local Nature Reserve
LoWS	Local Wildlife Site
MAGIC	Multi-agency Geographic Information Centre
MHWS	Mean High Water Springs
ML	Marine License
NEEBG	Northeast Essex Badger Group
NERC Act	Natural Environment and Rural Communities Act 2006
NNR	National Nature Reserve
NSIP	Nationally Significant Infrastructure Project
NVC	National Vegetation Classification Surveys
OEMP	Outline Ecological Management Plan
OWF	Offshore Wind Farm
PAWS	Plantation on Ancient Woodland Site
PEA	Preliminary Ecological Appraisal
PEIR	Preliminary Environmental Information Report.
PINS	The Planning Inspectorate
SAC	Special Area of Conservation
SPA	Special Protection Area
SSSI	Site of Special Scientific Interest
WTG	Wind Turbine Generators
VE	The Project, Five Estuaries Offshore Wind Farm

VE OWFL	Five Estuaries Offshore Windfarm Limited.
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1.0 Introduction

Five Estuaries Offshore Wind Farm (VE OWF) is a Nationally Significant Infrastructure Project (NSIP). An Environmental Impact Assessment (EIA) will be provided as part of a Development Consent Order (DCO) application under the Planning Act 2008 and also as part of a Marine Licence (ML) application under the Marine and Coastal Access Act 2009.

SLR Consulting was initially commissioned by GoBe Consultants, on behalf of Five Estuaries Offshore Wind Ltd, in August 2021¹ to undertake a Preliminary Ecological Appraisal (PEA)² of the areas that may be affected by construction and operation of the onshore aspects of the VE OWF project under consideration at that time, comprising options for the landfall location, cable corridor(s) and substation location(s) (hereafter referred to as “onshore infrastructure”).

This report presents detailed information and recommendations for the landfall, cable corridor and substation options currently under consideration as follows, shown on Drawing 1 and collectively referred to within this report as the “onshore infrastructure options”:

- A landfall area between Frinton on Sea and Holland on Sea within which a landfall location will be identified;
- The eastern cable corridor;
- W1 and W2 cable corridor options, which split from the eastern cable corridor just north of the landfall and re-join north of Thorpe Green;
- NW1 which splits from the eastern cable corridor just north of Thorpe Green and continues to the proposed substation area(s);
- Cable corridors, substation options and access requirements north of the A120; and.
- Summary baseline data for other areas included in the study are also presented.

Cable corridors and substation options considered in this report were provided to GoBe Consultants by Royal Haskoning DHV, on behalf of VE OWF Ltd, on 1 April 2022.

As the VE OWF project progresses, the emerging scheme design will continue to be refined and so the precise locations and final extent of the proposed scheme are subject to change. Therefore, the scheme details presented in this report may vary from those that are ultimately presented in the Preliminary Environmental Information Report (PEIR) and Environmental Statement (ES). Following refinement of the project design, a Red Line Boundary (VE OWF proposed Order Limits) will be defined for assessment in the PEIR and ES.

1.1 Background

An EIA Scoping Report was prepared in accordance with Regulation 10 of the Infrastructure Planning (Environmental Impact Assessment) Regulations 2017 and Regulation 6 of the Marine Works (Environmental Impact Assessment) Regulations 2007. The Scoping Report was submitted to the Planning Inspectorate (PINS) in October 2021. Within the Scoping Report, full details are provided as to the proposed approach for ecological survey and assessment; which as a first step includes PEA. The intention is to use the outcome of the PEA to capture the presence of, or potential for, important ecological features that may be affected by the proposed development and to scope the requirements for additional species or habitat specific survey. The Scoping Opinion, in response to the Scoping Report, was provided by PINS in November 2021. Comments made in the

¹ Further updates, including additional areas not included in the original commission, were commissioned in March 2022.

² CIEEM (2017) Guidelines for Preliminary Ecological Appraisal, Second Edition, December 2017.

Scoping Opinion have been taken into account within this report, where relevant. Both documents are available at the Planning Inspectorate website³; their content is not repeated here, and readers should refer to the original documents for details.

This PEA is informed by desk study and field survey. At the time of the initial surveys (July – October 2021), the preferred landfall, cable corridor and substation location had not been identified. Initial habitat survey was therefore undertaken across an area encompassing all scheme possibilities identified at the time. Further habitat survey was undertaken in March 2022 as a consequence of emerging design options extending beyond the initially surveyed areas. The complete habitat plan resulting from this is included at Appendix A. For reference purposes, Appendix A also includes the results from a previous desk study undertaken in April 2021 for an area of search under consideration at that time.

1.2 Study Area

In accordance with Table 19.5 in the Scoping Report, this PEA has been undertaken across the following areas:

- Habitats within the VE OWF onshore infrastructure options shown in Drawing 1, plus the surrounding 100 m (i.e., 100 m either side of the corridor and to all sides of any other infrastructure). The PEA includes all areas landward of Mean High Water Springs (MHWS), but also considers intertidal areas in respect of birds;
- The 100 m buffer (around the proposed onshore infrastructure options) is based upon the premise that indirect impacts (such as noise or dust deposition) to un-designated habitats and/or species (except those noted at the bullet points below) beyond 100 m are unlikely to be significant;
- Water courses and water bodies up to 250 m from the onshore infrastructure options (where these may be suitable for use by otter *Lutra lutra*, water vole *Arvicola amphibious* or great crested newt (GCN) *Triturus cristatus*);
- A 250 m up/downstream search area has been used for otter and water vole, since these are highly mobile, territorial species. It is therefore possible that effects from the proposed development, such as habitat loss, may impact populations of these species that occur outside of the scheme boundary. It is worth noting that potential hydrological impacts do not have such a bearing on this search area as a) they would be mitigated at source as part of good construction practice and b) both these species have a degree of tolerance to short term changes in water quality or flow, assuming adequate habitat remains present.
- The 250 m search area for GCN breeding ponds is based upon published guidance that states that the majority of adult GCN stay within 250 m of breeding ponds⁴ and that beyond 250 m impacts to GCN are normally low⁵;
- Desk study areas; Intertidal (where relating to birds) and onshore elements of nationally designated sites (Sites of Special Scientific Interest (SSSI), Local Nature Reserves (LNR)) and Local Wildlife Sites

³<https://infrastructure.planninginspectorate.gov.uk/projects/eastern/five-estuaries-offshore-wind-farm/?ipcsection=docs>

⁴ Langton, T.E.S., Beckett, C.L., and Foster, J.P. (2001), Great Crested Newt Conservation Handbook, Froglife, Halesworth.

⁵ Natural England Standing Advice available at <https://www.gov.uk/guidance/great-crested-newts-surveys-and-mitigation-for-development-projects>

(LoWS) within 2 km from the onshore infrastructure options and internationally designated sites (Special Areas of Conservation (SAC), Special Protection Areas (SPA) and Ramsar Sites) within 15 km;

The extended search area for designated sites is because even small adverse impacts to these may be significant. Many designated sites exist to protect mobile species, such as bats and birds, which could be affected whilst passing through the project site or suffer fragmentation/ barrier effects due to the size, location and nature of the project. Designated sites which support important aquatic habitats or species may also be affected through hydrological impacts at distance from source; and

- Section 41 Priority Habitats and species and protected or notable species within 2 km from the onshore infrastructure options.

Within this report the following terms are used:

- Study Area: This includes the 2 km zone around the onshore infrastructure options; and
- Survey Area: This includes the 100 m zone around the onshore infrastructure options.

Areas other than these, which have been included in the PEA (such as ponds within 250 m, or internationally designated sites within 10 km), are specifically described.

1.3 Details of the Project

VE OWF is a proposed extension to the operational Galloper Offshore Wind Farm (OWF) which consists of 56 wind turbine generators (WTGs). The VE OWF will comprise up to 79 WTGs situated within two array areas to the east of the operational Galloper OWF. The array areas will be located approximately 30 km off the coast of Suffolk, England.

Cables will connect the turbines to the offshore substation platforms and then export the power generated to shore. It is expected that there will be a number of inter-array cables, up to four export cables and up to two offshore substations platforms.

A landfall area has been identified between Holland-on Sea and Frinton-on-Sea on the Essex coast. The landfall point is yet to be determined but will be located within this area of coastline. A new VE onshore substation will be needed and will be constructed in an area to the north of the A120.

The VE cables will be installed underground between the landfall and the grid connection point north of the A120. A preferred corridor has not yet been determined with several corridors still under consideration at the time of writing. Potential substation land parcels and associated corridor options north of the A120 also remain under review at the time of writing.

A more detailed description of the project, several elements of which have yet to be finalised at this time, will be provided in the PEIR and ES in due course.

1.4 Purpose of this Report

This report presents the findings of the PEA. The report seeks to:

- establish baseline conditions and identify important ecological features present (or those that could be present), as far as is possible at this time;
- identify important ecological features that could be impacted by the project, where possible;
- provide initial suggestions for mitigation or compensation, where possible, (noting that at this stage all recommendations are preliminary, depending on results of further surveys or final project design);
- to establish requirements for more detailed surveys; and
- to identify potential opportunities for biodiversity enhancements as part of the project (these suggestions also remain preliminary, depending on results of further surveys or final project design).

1.5 Evidence of Technical Competence and Experience

This PEA has been authored by Emily Drinkwater, a Senior Ecologist at SLR Consulting with over 10 years' experience as a professional ecologist. She is an Associate member of the Chartered Institute of Ecology and Environmental Management (CIEEM) (ACIEEM). Emily has been involved in the habitat surveys and undertook the February 2022 desk study detailed within this report.

Surveyors from eCountability led the habitat survey. This included Bill Butcher, Graham Boswell and Lottie Leigh-Browne.

Bill Butcher is a Director of eCountability Ltd, a lead author of the UK Habitat Classification⁶, a full member of CIEEM with over 15 years' experience in ecological consultancy and 30 years' experience in habitat survey and biodiversity data management.

Graham Boswell is an experienced member of the eCountability habitat survey team, with over 30 years' experience in environmental education and ecological consultancy as GB Ecology and Environment, professionally trained as a UKHab surveyor.

Lottie Leigh-Browne is a Graduate Ecologist member of the eCountability habitat survey team, professionally trained as a UKHab surveyor.

Emily was assisted in report preparation by Jess Colebrook, a Principal Ecologist at SLR Consulting with over 21 years' experience as a professional ecologist. She is a Chartered Environmentalist (CEnv) and a full member of CIEEM (MCIEEM). Jess is leading the onshore ecological work necessary to inform the EIA for the project and also undertook the March 2022 update habitat survey.

Additional technical support and Quality Assurance review has been provided by Duncan Watson. Duncan is a Technical Director at SLR Consulting with over 24 years' professional ecological experience. He is also a Chartered Environmentalist (CEnv) and a full member of CIEEM (MCIEEM). Duncan was also involved with the scoping and consultation process.

⁶ Butcher, B., Carey, P., Edmonds, R., Norton, L. and Treweek, J. (2020) The UK Habitat Classification User Manual Version 1.1 at <http://www.ukhab.org/>

2.0 Methodology

2.1 Baseline Data Collection

2.1.1 Desk Study

A desk-based study has been undertaken to identify sources of pre-existing ecological data of relevance, that could inform the EIA. The desk-based study extended a variable amount from the onshore infrastructure options as follows: at least 15 km for internationally designated sites, at least 2 km for other designated sites (including non-statutory sites), protected or notable habitats and species. Table 2.1 lists the data sources that have been identified and indicates whether data were obtained for scoping (noting that the scoping report covered a significantly larger area than this PEA) and/or this PEA.

Table 2.1
Baseline Data Sources

Source	Summary	Date obtained for scoping	Date updated/obtained for PEA
Joint Nature Conservation Committee (JNCC). jncc.gov.uk website	Special Area of Conservation (SAC) and Special Protection Area (SPA) details.	21 July 2021.	10 February 2022.
Multi-agency Geographic Information Centre (MAGIC) website and Natural England's datasets at data.gov.uk	SACs, possible SACs and Impact Risk Zones, spatial extent and citation; SPAs and potential SPAs and Impact Risk Zones, spatial extent and citation; Ramsar Sites and proposed Ramsar Sites, spatial extent and citation; SSSIs and National Nature Reserves (NNR) and Impact Risk Zones, spatial extent, and citation; Local Nature Reserves (LNR), spatial extent; Ancient Woodland Inventory, spatial extent; Priority Habitat Inventory for grasslands, heathlands, wetland, woodland and other habitats, type and spatial extent; Habitat Network data; GCN Pond Surveys 2017 – 2019, location of GCN breeding ponds; GCN Survey Licence Returns, location of GCN breeding ponds; GCN Risk Zones (Essex); and Granted European Protected Species Licenses, location and species.	21 July 2021.	10 February 2022.

Source	Summary	Date obtained for scoping	Date updated/obtained for PEA
Essex Field Club (EFC).	LoWs, name and extent; and Protected and notable species records, location and date.	20 April 2021 (the results from this initial search, which covered a different search area to that which is now under consideration, are included at Appendix A for reference).	18 February 2022 (covering the onshore infrastructure options plus a 2km buffer).
Essex Wildlife Trust (EWT) Biological Records Centre.	Protected and Notable Species Records location and date, and Local Wildlife Sites, location and citation. Living landscapes in Essex (areas for which Essex Wildlife Trust are promoting enhancements for nature conservation). Habitat Actions Plans (HAPs) and Essex Biodiversity species (BAPs).	None obtained.	None obtained. Contacted on 08/02/2022. EWT confirmed that it no longer provides biological records and that LoWs data is now held by EFC.
https://www.buglife.org.uk/our-work/b-lines/	Buglife 'B-lines'-Pollinator corridors.	None obtained.	15 February 2022.
Tendring Council Local Plan Proposals Map and associated documentation.	Wetland and coastal bird data from specific count areas, species, and counts.	21 July 2021.	No update needed
Wetland Bird Survey Data held by the British Trust for Ornithology (BTO). WeBS Online. https://www.bto.org/our-science/projects/wetland-bird-survey/publications/webs-annual-report	Review of freely available wetland and coastal bird data from specific count areas, species, and counts.	None obtained.	15 February 2022.

Source	Summary	Date obtained for scoping	Date updated/ obtained for PEA
Northeast Essex Badger Group (NEEBG).	Badger Records not otherwise held by EFC.	None obtained.	Data enquiry sent on 14 February 2022; results awaited.
The Essex Birdwatching Society.	Recent Essex Bird Reports and other recent sightings data.	Brief review of recent records from https://www.ebws.org.uk/sightings/search/species-distribution?year=2022&species=hen%20harrier#main-content .	Update review of recent records, 14 February 2022.
Woodland Trust Ancient Tree Inventory.	Details of ancient and veteran trees, location, species, size.	None obtained.	16 February 2022.
Essex County Council Place Services.	Details for Special Roadside Verges	None obtained.	Enquiry sent via email on 8 February 2022. No response to date.
North Falls Offshore Wind Farm (OWF) Scoping Report, desk-based data searches and field survey data.	Summary of surveys undertaken in 2020 and 2021 including; Extended Phase 1 Survey, National Vegetation Classification (NVC), breeding birds, overwintering birds and invertebrates.	N/A.	Reviewed on 11 February 2022.
North Falls OWF Onshore Landfall Area: 2020/2021 Non-Breeding Bird Surveys MacArthur Green 21 May 2021.	Survey work undertaken each month from October 2020 to March 2021 for non-breeding birds within the potential landfall search area.	N/A	18 August 2021.

Source	Summary	Date obtained for scoping	Date updated/obtained for PEA
North Falls OWF Onshore Landfall Area: 2021 Breeding Bird Surveys MacArthur Green 7 September 2021.	Breeding bird surveys undertaken from April to July 2021 of the potential landfall area.	N/A	21 December 2021.
North Falls OWF Ornithology Desk Study: 2021-22 Non-breeding Season Surveys MacArthur Green 8 September 2021.	Desk study undertaken to supplement wintering bird surveys undertaken from October 2021 to March 2022.	N/A	21 December 2021.
North Falls OWF Holland Haven Marshes SSSI and adjacent land NVC survey Report (Frontier Ecology, October 2021).	NVC data for both terrestrial and aquatic species undertaken at Holland Haven Marshes SSSI (and a buffer of 50 m for terrestrial and 200m buffer for aquatic) in July and August 2021.	N/A	14 December 2021.

2.1.2 Field Surveys

The field survey comprised two main elements:

- mapping of habitats - habitats were mapped using UKHab v1.1⁶, as agreed at the scoping stage, to capture the presence of Section 41 and Annex 1 habitat types; and
- noting evidence of, or potential for, protected or notable species, or other important ecological features (such as veteran trees or invasive non-native species), such that specific follow up surveys can be scoped and undertaken thereafter.

Habitat Survey

Due to the iterative process of scheme design, the habitat survey extent is larger than the Survey Area to which this PEA relates. For completeness, all data gathered as part of the habitat survey are presented within this PEA but for clarity have been arranged as follows:

- Summary habitat descriptions for all habitat types present within the habitat survey extent are included at Section 3.3;
- A habitat plan for the entire habitat survey extent is included at Appendix A; and
- A habitat plan for Survey Area is included at Drawing 4.

Most of the area surveyed was not accessible for detailed field survey and was therefore surveyed through interpretation of aerial imagery and limited ground-truthing from public roads and rights of way. Some areas were accessible however and these areas were subject to full survey in the field. Drawing 2 shows the extent of the areas subject to detailed field survey and aerial interpretation/ limited ground-truthing within the Survey Area. Areas that were not subject to detailed field survey will be re-surveyed in 2022 (access permitting) – see Section 5.0.

The aerial images used in this process were the most recent commercially available OS Mastermap Aerial Imagery at 25 cm resolutions and are dated April 2020 (Supplied by Ordnance Survey). The minimum mapping unit used was 25 m² or 5 m length. However, due to the large extent of the survey area and early project stage, habitat boundaries were “snapped” to the nearest OS Mastermap topography vectors (boundaries within the Survey Area will be reviewed during 2022 as further field survey is undertaken and access to other land parcels is obtained).

Aerial photograph interpretation and a combination of OS Mastermap Topography and OS Vector Map Local datasets [March 2021] were used to identify the presence of waterbodies and watercourses within 250 m of the onshore infrastructure options (shown on Drawing 5). This method was used as small watercourses and ponds are often difficult to discern on aerial images; and although it remains fairly crude it is considered appropriate for PEA. Smaller field ditches and ponds within 250 m of the onshore infrastructure options will be ground truthed/ accurately mapped during 2022 where access is obtained (see Section 5.0).

Habitats were mapped to the highest level of the UKHab Primary Habitat Hierarchy possible, including mandatory secondary codes (10 – 41). This was governed by habitat type and levels of access; in most cases it was possible to map to Level 3, certain areas could only be mapped to Level 2 (e.g., grassland that was not viewable during ground-truthing), at others where access was possible habitats were mapped to Level 4 or Level 5 (where appropriate). Boundary fences were not mapped. Additional secondary codes or photographs were recorded where possible; these have been retained in a GIS and are not presented in this report but will form part of the final reporting and assessment for the habitats present.

Aerial photograph interpretation was undertaken in August 2021 and March 2022. It was conducted by SLR’s GIS team; James Kibble and Anne Altringham, who mapped the polygons/linear features and assigned the relevant codes. The August 2021 output was then checked and updated by Bill Butcher and Lottie Leigh-Browne at eCountability and the March 2022 output was checked by Jess Colebrook of SLR.

Field survey and ground- truthing was undertaken during the weeks commencing 09 and 16 August, 27 September and 04 October 2021. The surveys were undertaken by Emily Drinkwater from SLR and surveyors from Ecountability; Bill Butcher, Graham Boswell and Lottie Leigh-Browne. Additional ground truthing, from publicly accessible locations only, was undertaken by Jess Colebrook on 10 and 11 March 2022.

Protected Species Survey/Habitat Based Assessments

During the field surveys, additional notes were made in respect of signs of, or, habitat suitability for other important ecological features such as protected species (for example; identifying trees or structures with potential for use by bats or observations of owl boxes).

Details of these additional notes have been retained on a GIS database and are not presented in this report. However, pertinent findings that inform the scope of additional survey requirements have been included in Section 4 and are shown on Drawings 7 and 8.

2.1.3 Limitations

Desk Study

Desk study data are unlikely to be exhaustive, especially in respect of species, and are intended mainly to set a context for the study. It is therefore possible that important habitats or protected species not identified during the data search do in fact occur within the study area. Interpretation of maps and aerial photography has been conducted in good faith, using recent imagery, but it has not been possible to verify the accuracy of any statements relating to land use and habitat context outside of the areas that were subject to field survey.

Field Survey

The majority of the Survey Area was not accessible for field survey such that aerial photograph interpretation and where possible, limited ground-truthing from publicly accessible areas were used to determine habitat type and protected species habitat suitability. Most notably, this means that signs of protected species could not be sought for those areas and could also mean that Section 41 habitats or other ecologically important features are present but as yet undetected. Nevertheless, it is still considered possible to meet the purpose of this PEA report (as set out in Section 1.4) and it should be noted that “top up” survey will be completed as part of follow-on work in 2022 related to the onshore infrastructure options (see Section 5.0).

The bulk of the field survey was undertaken during late summer and early autumn (August, September and early October), and therefore could have missed spring and early summer flowering species that may have died back. Additional ground truthing was undertaken in March, but this could equally have missed later flowering species. Due to the majority of the survey area comprising arable farmland with low habitat diversity, plus other habitats that are readily identified at any time of year, this is not considered to be a significant constraint to the PEA.

The early spring and late summer/ early autumn timing of most of the PEA field survey is also suboptimal with regard to locating signs of protected or notable faunal species, due to the density and height of vegetation. It is therefore possible that evidence for species such as otter, badger or water vole may have been missed as a result. Nevertheless, it is considered that sufficient field survey and desk study information is available to undertake the PEA in respect of faunal species. In this regard, it is noted that the PEA is not intended to include detailed survey results for protected or notable faunal species but rather to determine the potential for them to occur and therefore highlight further survey requirements.

2.2 Determining Important Ecological Features

Ecological features can be important for a variety of reasons and the rationale used to identify them is explained below. Importance may relate, for example, to protected status, the quality or extent of the site or habitats therein; habitat and/ or species rarity; the extent to which such habitats and/ or species are threatened throughout their range, or to their rate of decline.

Important habitats are considered here to be those which:

- match descriptions of habitats listed on Annex 1 of the Habitats Directive, so far as it applies to the UK and as transposed by The Conservation of Habitats and Species Regulations 2017 (as amended);
- match descriptions of habitats of principal importance for biodiversity under Section 41 of Natural Environment and Rural Communities (NERC) Act 2006;
- match Local Wildlife Site Selection Criteria⁷;
- match descriptions of habitats with Habitat Action Plans (HAPs) contained within Local Biodiversity Action Plans⁸;
- comprise irreplaceable habitats; such as (but not limited to) ancient woodland and veteran trees⁹; and/or
- comprise a significant habitat resource for an important species (see below).

⁷ <https://www.essexwtreports.org.uk/sites/default/files/LOCALWILDLIFESITESELECTIONCRITERIA2016.pdf>

⁸ Essex Biodiversity Action Plan "A Wild Future for Essex" (1999) does not appear to have been updated in recent years and can be found here <https://www.braintree.gov.uk/downloads/file/2436/e47-the-essex-biodiversity-action-plan-1999>

⁹ Referenced in Natural England Standing Advice for ancient woodland and veteran trees (<https://www.gov.uk/guidance/ancient-woodland-ancient-trees-and-veteran-trees-advice-for-making-planning-decisions>)

Important species are considered here to be those which are:

- of European conservation importance (as listed on Annexes II, IV and V of the Habitats Directive or Annex 1 of the Birds Directive¹⁰) so far as it applies to the UK and as transposed by The Conservation of Habitats and Species Regulations 2017 (as amended);
- specially protected under the terms of the Wildlife and Countryside Act 1981 (as amended);
- of principal importance for biodiversity under Section 41 of the Natural Environment and Rural Communities (NERC) Act 2006;
- Red Listed using International Union for the Conservation of Nature (IUCN) criteria¹¹ (e.g. in one of the UK Species Status Project¹² reviews, in the Bird Species of Conservation Concern Red List¹³, or, where a more recent assessment of the taxonomic group has not yet been undertaken, listed in a Red Data Book);
- Which are listed as Near Threatened or Amber Listed (e.g., in one of the UK Species Status Project reviews or in the Bird Species of Conservation Concern Amber List¹⁰);
- which are listed as a Nationally Rare or Nationally Scarce species (e.g., in one of the Species Status Project reviews) or listed as a Nationally Notable species where a more recent assessment of the taxonomic group has not yet been undertaken; and/or
- endemic to a country or geographic location (it is appropriate to recognise endemic sub-species, phenotypes, or cultural behaviours of a population that are unique to a particular place; and
- which are listed within Local Biodiversity Action Plans⁸.

¹⁰ These pieces of legislation are based upon data that remains relevant to the UK, regardless of its non-EU status.

¹¹ IUCN (2012) IUCN Red List Categories and Criteria. Version 3.1. Second edition. IUCN, Gland.

IUCN (2012) Guidelines for Application of IUCN Red List Criteria at Regional and National Levels. Version 4.0. IUCN, Gland.

IUCN (2016) Guidelines for Appropriate Uses of IUCN Red List Data. Version 3.0. Adopted by the IUCN Red List Committee.

IUCN (2019) Guidelines for Using the IUCN Red List Categories and Criteria. Version 14. Prepared by the Standards and Petitions Subcommittee.

¹² The Species Status project is the successor to the JNCC's Species Status Assessment project, providing up-to-date assessments of the threat status of various taxa using the internationally accepted Red List guidelines (<http://jncc.defra.gov.uk/page-1773>)

¹³ The status of our bird populations: the fifth Birds of Conservation Concern in the United Kingdom, Channel Islands and Isle of Man and Second IUCN Red List assessment of extinction risk for Great Britain. *British Birds* 114, 723–747.

3.0 Results

3.1 General Context

The Study Area is situated on and close to the Essex coast within the Tendring District. The landfall area is situated between Holland-On-Sea and Frinton-On-Sea and the cable corridors currently under review continue northwest inland, crossing predominantly agricultural land.

The Holland Brook, sometimes called the Holland River, runs parallel to the west of the eastern cable corridor under consideration, and is crossed twice by W1 and W2, and once by NW1. Its source begins near Little Bentley, and it meets the sea at the proposed landfall area at Little Holland. The Tendring Brook is a tributary of the Holland Brook and bisects the eastern cable corridor and NW1 northeast of Tendring. Many smaller watercourses are also present within the Survey Area.

The Survey Area comprises two broadly distinct areas:

- Coastal Strip including Holland Haven Marshes SSSI: Low lying agricultural fields with areas of fen, scrub and hedgerows, Frinton Golf Course, and including the Holland Brook. A pedestrian footpath is present between these and the adjacent beach, which also includes man-made sea-defences and a small area of maritime cliffs and slopes;
- North of Holland Haven Marshes SSSI: habitats are predominantly agricultural in nature comprising various cereal crops, clover leys and pasture, intersected by hedgerows and tributaries of the Holland Brook, other water courses and land drains. Waterbodies (including several irrigation reservoirs) and small areas of woodland are occasional. Wide arable field margins are few with many fields cropping right up to the hedge base. The corridors occasionally pass residential dwellings, farm buildings and skirt around small villages/hamlets.

3.2 Designated Sites

There are five SPAs, five Ramsar sites and two SACs within 15 km of the onshore infrastructure options. In addition, there are five biological SSSIs, one NNR and one LNR within 2 km of the onshore infrastructure options (geological SSSIs are omitted from this PEA). Table 3.1 below and Drawing 3 provide an overview of statutory designated sites within the Study Area, and within 15 km in respect of SACs, SPAs and Ramsar sites.

Table 3.1 Statutory Designated Sites

Site name & Designation	Closest distance from the onshore infrastructure options (m)	Reason for Notification / Designation
Hamford Water SSSI NNR SAC SPA and Ramsar	277	Hamford Water is of international importance for breeding little tern <i>Sternula albifrons</i> and wintering dark-bellied brent geese <i>Branta bernicla</i> , wildfowl and waders, and of national importance for many other bird species. It also supports communities and species of coastal plants which are rare or extremely local in Britain, including Hog's Fennel <i>Peucedanum officinale</i> which elsewhere is found only in Kent. It is also one of only two localities for Fisher's estuarine moth <i>Gortyna borelii lunata</i> .

Site name & Designation	Closest distance from the onshore infrastructure options (m)	Reason for Notification / Designation
Stour and Orwell Estuaries SSSI SPA and Ramsar	1,812	The Stour Estuary is nationally important for 13 species of wintering waterfowl and three species on autumn passage. The estuary is also of national importance for coastal saltmarsh, sheltered muddy shores, two scarce marine invertebrates and a scarce vascular plant assemblage. The component SSSIs are the Stour Estuary SSSI, Orwell Estuary SSSI and Cattawade Marshes SSSI. The Stour Estuary includes an RSPB reserve.
Colne Estuary (Mid-Essex Coast Phase 2) SSSI NNR SPA and Ramsar, and part of Essex Estuaries SAC	5,673	The Colne Estuary is of international importance for wintering dark-bellied brent geese and black-tailed godwit <i>Limosa limosa</i> and of national importance for breeding little tern and five other species of wintering waders and wildfowl. The variety of habitats, which include mudflat, saltmarsh, grazing marsh, sand and shingle spits, disused gravel pits and reed beds, support outstanding assemblages of invertebrates and plants.
Essex Estuaries SAC	5,673	Essex Estuaries contains a very wide range of marine and estuarine sediment communities, including extensive saltmarsh, and intertidal mudflats and sandflats. The component SSSIs are the Blackwater Estuary SSSI, Colne Estuary SSSI, Crouch and Roach Estuaries SSSI, Dengie SSSI and Foulness SSSI.
Abberton Reservoir SPA Ramsar SSSI	10,769	It is the largest freshwater body in Essex with a water area of about 500 ha, and one of the most important reservoirs in Britain for wildfowl. About thirty thousand birds visit the reservoir annually including internationally important members of one species and nationally important members of twelve others.
Blackwater Estuary (Mid-Essex Coast Phase 4) SPA Ramsar SSSI NNR	13,187	The Blackwater Estuary is the largest estuary in Essex north of the Thames and, is one of the largest estuarine complexes in East Anglia. Its mudflats, fringed by saltmarsh on the upper shores, support internationally and nationally important numbers of overwintering waterfowl. Shingle and shell banks and offshore islands are also a feature of the tidal flats. The surrounding terrestrial habitats; the sea wall, ancient grazing marsh and its associated fleet and ditch systems, plus semi-improved grassland are also of high conservation interest. This rich mosaic of habitats supports an outstanding assemblage of nationally scarce plants and a nationally important assemblage of rare invertebrates.

Site name & Designation	Closest distance from the onshore infrastructure options (m)	Reason for Notification / Designation
Holland Haven Marshes SSSI LNR	0	The ditch network at Holland Haven Marshes represents an outstanding example of a freshwater to brackish water transition intimated by the aquatic plant communities, which include several nationally and locally scarce species. The adjoining grasslands are of botanical importance as well as acting as a buffer zone to the ditch system. Further interest is provided by the aquatic and terrestrial invertebrates and the birds which frequent the area, especially in winter. Includes Holland Haven LNR.
Weeleyhall Wood SSSI	512	Weeleyhall Wood is one of the largest ancient woods in the Tendring peninsula. It contains one of the best examples in Essex of base-poor springline alder woodland, a type of woodland which is rare in the county, as well as good examples of lowland hazel-pedunculate oak and some wet ash-maple woodland, and chestnut coppice-with-standards derived from these last two. The alder valleys support a rich ground flora. Additional interest is provided by two ponds and damp, grassy rides.
Cattawade Marshes SSSI	1,813	Cattawade Marshes lie at the head of the Stour Estuary, between freshwater and tidal channels of the River Stour. These grazing marshes with associated open water and fen habitats are of major importance for the diversity of their breeding bird community. The marshes are also of value as a complement to the adjacent Stour Estuary SSSI where breeding habitats for birds are relatively scarce.

A further 42 non-statutory LoWS occur within the 2 km Study Area, ten of which are within the Survey Area - Great Holland Pits, Upper Holland Brook, Lower Botany Farm, Beaumont Bridge Verge, Simon's Wood, Little Bromley Churchyard Tendring Grove, Thorpe Green Manning Grove and Far Thorpe Green. A full list of sites within the Study Area is provided at Appendix B. Further detail in respect of the reason for importance of these LoWS were not available from EFC, but any available details in respect of the sites within the buffer zone of the onshore infrastructure options will be obtained from other sources, where possible and used to inform the PEIR and ES.

3.3 Habitats

General descriptions for the various habitats encountered within the total habitat survey extent are provided below. Detailed descriptions have not been provided within this report, but will be presented for the preferred cable corridor, landfall and substation once full survey access has been obtained (where permitted) and further surveys have been completed (see Section 5.0). All data are stored in a GIS and can be made available upon request.

Refer to Drawing 4 (Habitat Plan) for locations of habitats within the 100 m Survey Area and Appendix A for a

plan showing the entire habitat survey extent. Ponds and watercourses within 250 m of the onshore infrastructure options are shown on Drawing 5 (Ponds and Watercourses).

3.3.1 Cropland – Arable and Horticulture

The overwhelming majority of the area surveyed supports cropland comprising cereal crops, non-cereal crops, temporary grass, and intensive orchards. The priority habitat Arable Field Margins was noted to occur just landward of Holland Haven Marshes, near to the Holland Brook and east of Little Bromley. This was not recorded elsewhere but given the limited amounts of access it could be present at other locations.

3.3.2 Neutral and Modified Grassland

Grassland is most extensive south of Great Holland at the landfall, surrounding Thorpe Green (halfway between the landfall and the A120) and in places adjacent to the Holland Brook. Grassland is difficult or impossible to robustly characterise from aerial imagery alone, nevertheless it has been ascertained from ground truthing that modified grassland and other neutral grassland occurs.

3.3.3 Hedgerows and Scrub

Hedgerows are widespread across the Survey Area though much more common south of Thorpe Green, compared to the Survey Area northward of it. It was possible to identify a proportion of the hedgerows as being Priority Habitat (h2a); it is considered likely that most additional hedgerows will also meet these criteria, which would be confirmed once full access is obtained (where permitted).

Small amounts of blackthorn *Prunus spinosa*, bramble *Rubus fruticosus*, hawthorn *Crataegus monogyna* and mixed scrub were also identified, typically at field margins. Scrub was most abundant south of Great Holland, as well as in a larger block north of Great Bromley and very rare across the remainder of the area studied.

3.3.4 Standing Open Water

Ponds and lakes are relatively frequent across the area surveyed and are often associated with the drainage and river network. The majority appeared to be of man-made origin, or have been modified, based upon the regular shape of the waterbody.

3.3.5 Rivers and Streams

The Holland Brook and its tributary the Tendring Brook (which meets the Holland Brook south of Tendring) are the largest water courses within the area surveyed. The Holland Brook has not yet been subject to detailed survey, but online sources¹⁴ indicate that it has been moderately physically modified, and that sluice gates, dam boards and weirs are present. Japanese knotweed has been recorded on the Brook in the past, as has American mink *Neovison vison* and crucian carp *Carassius carassius* (in the brackish, tidal parts).

Numerous small ditches and streams are present throughout the Survey Area.

3.3.6 Fen, Marsh and Swamp

Fen, marsh and swamp has been identified close to the landfall at Holland Haven Marshes, in the ditch/drain network north and south of Thorpe-le-Soken, associated with the Holland Brook and Tendring Brook and in the ditch/drain network north of Great Bromley. This includes an area of lowland fen priority habitat west of Great Holland and small areas of reedbed priority habitat in the agricultural fields just landward of Holland Haven Marshes.

¹⁴ <http://www.essexrivershub.org.uk/index.php/holland-brook-pressures>

3.3.7 Sparsely Vegetated Land

The coastal area at the landfall includes man-made coastal defences (mapped as urban, below), but also includes sparsely vegetated areas above high water, comprising sandy beaches and an area identified as the priority habitat maritime cliff and slope.

3.3.8 Urban

Urban areas mainly comprise coastal defences, roads, railways and small settlements. These comprise a very small proportion of the surveyed area and were not subject to detailed survey.

3.3.9 Woodland and Forest

Woodland is relatively scarce within the area in part as a result of the cable routing considerations VE OWF has aimed to deliberately avoid such areas. Access restrictions prevented field survey of many of the woodlands present, to the extent it was not possible to classify beyond UKHab level 3 Broadleaved Mixed and Yew woodland. However, stands of the priority habitat lowland mixed and deciduous woodland were identified south of Thorpe Cross, north of Thorpe Green and southeast of Tendring Green. In addition, wet woodland, also a Priority Habitat, was identified at Tendring and at Bentley Manor.

3.3.10 Additional Habitat Baseline Data

In July and August 2021 Wild Frontier Ecology Ltd¹⁵, on behalf of North Falls Offshore Wind Farm (NF OWF), conducted National Vegetation Classification Surveys (NVC) of Holland Haven Marshes SSSI and adjacent land. This consisted of terrestrial habitats inside the SSSI plus a buffer of 50m and aquatic habitats inside the SSSI plus a buffer extending to 200 m. The survey results recorded the following;

“A total of 32 NVC sub-communities were recorded from the site, with seven mesotrophic grassland communities, 11 swamp communities, four saltmarsh communities, four woodland/ scrub communities, five aquatic communities and an open vegetation community”.

“Although the majority of the SSSI footprint comprises habitats of lower conservation value (e.g. MG7c), the SSSI continues to hold habitats that are important in a national context, together with a number of species with elevated conservation status. There are minor extensions of ditch habitat outside the SSSI. The most important communities in this respect are:

- A3 *Spirodela polyrhiza* community;
- Saltmarsh communities SM24, SM16b and SM23;
- Mesotrophic grasslands MG5a, MG12a and MG13 and
- Swamp community S19a”.

3.3.11 Section 41 Habitats & Ancient Woodland

Whilst the majority of the area surveyed comprises agricultural cereal crops which are of limited ecological importance, the following habitats of Principal Importance (i.e., those included under Section 41 of the NERC Act (2006) many of which are also included on Annex 1 of the Habitats Directive) are confirmed to be present either through identification during habitat survey, in Natural England’s Priority Habitat Inventory dataset or in NVC surveys undertaken by Wild Frontier Ecology¹⁵. Drawing 7 identifies the locations of the following habitats within the Survey Area:

¹⁵ Wild Frontier Ecology Ltd (October 2021) Holland Haven Marshes SSSI and Adjacent Land, NVC Survey.

- Lowland mixed deciduous woodland – the largest blocks of woodland are considered likely to include this category¹⁶. The definition for this habitat type is:
“Lowland mixed deciduous woodland includes woodland growing on the full range of soil conditions, from very acidic to base-rich, and takes in most semi-natural woodland in southern and eastern England, and in parts of lowland Wales and Scotland”.
- Traditional orchard – a small area of traditional orchard is identified near to Thorpe le Soken. The definition for this habitat type is¹⁶:
“Habitat structure rather than vegetation type, topography or soils, is the defining feature of the habitat. Traditional orchards are structurally and ecologically similar to wood-pasture and parkland, with open grown trees set in herbaceous vegetation, but are generally distinguished from these priority habitat complexes by the following characteristics: the species composition of the trees, these being primarily in the family Rosaceae; the usually denser arrangement of the trees; the small scale of individual habitat patches; the wider dispersion and greater frequency of occurrence of habitat patches in the countryside. Traditional orchards include plantings for nuts, principally hazel nuts, but also walnuts.”
- Ancient Woodland - There are three blocks of ancient woodland (Ancient Semi-Natural Woodland ASNW), Plantations on Ancient Woodland Sites (PAWS)) within the Survey Area, at Simon’s Wood LoWS, Manning Grove LoWS and Tendring Grove LoWS. Additional stands occur in the wider Study Area. Ancient woodland is¹⁷
*“any area that has been wooded continuously since at least 1600AD. It includes:
ancient semi-natural woodland mainly made up of trees and shrubs native to the site, usually arising from natural regeneration;
plantations on ancient woodland sites - replanted with conifer or broadleaved trees that retain ancient woodland features, such as undisturbed soil, ground flora and fungi”*
- Hedgerows – most of the hedgerows within the Survey Area are likely to meet the Section 41 definition¹⁶ which states:
“A hedgerow is defined as any boundary line of trees or shrubs over 20m long and less than 5m wide, and where any gaps between the trees or shrub species are less than 20m wide. Any bank, wall, ditch or tree within 2m of the centre of the hedgerow is considered to be part of the hedgerow habitat, as is the herbaceous vegetation within 2m of the centre of the hedgerow. All hedgerows consisting predominantly (i.e., 80% or more cover) of at least one woody UK native species are covered by this priority habitat, where each UK country can define the list of woody species native to their respective country”.
- Coastal and Floodplain Grazing Marsh (including those that have been agriculturally improved) are largely restricted to Holland Haven Marshes SSSI in the south and lie either side of Holland Brook

¹⁶ Section 41 Habitat definitions align with the UK Biodiversity Action Plan Priority Habitat Descriptions published in 2008 and updated in 2011, available at <https://data.jncc.gov.uk/data/2728792c-c8c6-4b8c-9ccd-a908cb0f1432/UKBAP-PriorityHabitatDescriptions-Rev-2011.pdf>

¹⁷ Natural England and Forestry Commission ‘standing advice’ for ancient woodland, ancient trees and veteran trees available online at <https://www.gov.uk/guidance/ancient-woodland-ancient-trees-and-veteran-trees-advice-for-making-planning-decisions>

heading northwest, including areas within Great Holland Brook LoWS. The definition for this habitat type is¹⁶:

“Grazing marsh is defined as periodically inundated pasture, or meadow with ditches which maintain the water levels, containing standing brackish or fresh water. The ditches are especially rich in plants and invertebrates. Almost all areas are grazed, and some are cut for hay or silage. Sites may contain seasonal water-filled hollows and permanent ponds with emergent swamp communities, but not extensive areas of tall fen species like reeds; although they may abut with fen and reed swamp communities.”

- Lowland Meadows – Species-rich mesotrophic grassland communities identified by NVC surveys undertaken by Wild Frontier Ecology¹⁵ within the Holland Haven Marshes SSSI that are likely to meet the Section 41 definition by supporting Section 41 species¹⁶. The definition for this habitat type is:

“A wide-ranging approach is adopted in this plan to lowland grasslands treated as lowland meadows. They are taken to include most forms of unimproved neutral grassland across the enclosed lowland landscapes of the UK. In terms of National Vegetation Classification plant communities, they primarily embrace each type of Cynosurus cristatus - Centaurea nigra grassland, Alopecurus pratensis - Sanguisorba officinalis floodplain meadow and Cynosurus cristatus - Caltha palustris flood-pasture. The plan is not restricted to grasslands cut for hay, but also takes into account unimproved neutral pastures where livestock grazing is the main land use. On many farms in different parts of the UK, use of particular fields for grazing pasture and hay cropping changes over time, but the characteristic plant community may persist with subtle changes in floristic composition”.

- Lowland Heathland – within the Essex Wildlife Trust Great Holland Pits LoWS:

“Lowland heathland is described as a broadly open landscape on impoverished, acidic mineral and shallow peat soil, which is characterised by the presence of plants such as heathers and dwarf gorses.”

- Lowland Fens – Within Holland Haven Marshes SSSI and Frinton Golf Club at the landfall areas¹⁶;

“Fens are peatlands which receive water and nutrients from the soil, rock and ground water as well as from rainfall: they are minerotrophic. Two types of fen can broadly be distinguished: topogenous and soligenous. Topogenous fens are those where water movements in the peat or soil are generally vertical. They include basin fens and floodplain fen. Soligenous fens, where water movements are predominantly lateral, include mires associated with springs, rills and flushes in the uplands, valley mires, springs and flushes in the lowlands, trackways and ladder fens in blanket bogs and lags of raised bogs.”

- Reedbeds – Restricted to Holland Haven Marshes SSSI and Golf Course as well as in limited locations within the ditch/drain network elsewhere and are considered to meet the Section 41 description¹⁶;

“Reedbeds are wetlands dominated by stands of the common reed Phragmites australis, wherein the water table is at or above ground level for most of the year. They tend to incorporate areas of open

water and ditches, and small areas of wet grassland and carr woodland may be associated with them."

- Coastal Saltmarsh – Communities identified by NVC surveys undertaken by Wild Frontier Ecology within the Holland Haven Marshes SSSI that are likely to meet the Section 41 definition¹⁶;

"Coastal saltmarshes in the UK (also known as 'merse' in Scotland) comprise the upper, vegetated portions of intertidal mudflats, lying approximately between mean high water neap tides and mean high water spring tides."

- Arable Field Margins – This habitat was identified at a few accessible locations during the habitat survey; some may have been managed to specifically provide benefit to wildlife¹⁶. Given the large amount of arable land within the Survey Area, this priority habitat is considered also likely to be present in other locations:

"Arable field margins are herbaceous strips or blocks around arable fields that are managed specifically to provide benefits for wildlife. The arable field must be in a crop rotation which includes an arable crop, even if in certain years the field is in temporary grass, set-aside or fallow. Arable field margins are usually sited on the outer 2-12m margin of the arable field, although when planted as blocks they occasionally extend further into the field centre."

- Rivers – The Holland Brook and Tendring Brook are considered likely to meet the definition by virtue of supporting protected and/or Section 41 species such as otter and water vole, rather than for habitat type/quality *per se*;

"This habitat type includes a very wide range of types, encompassing all natural and near-natural running waters in the UK (i.e. with features and processes that resemble those in 'natural' systems). These range from torrential mountain streams to meandering lowland rivers."

- Ponds – most ponds in the area are likely to meet the Section 41 definition by supporting GCN and/or other Section 41 or Red Data Book species. The definition of this type of habitat is:

"Permanent and seasonal standing water bodies up to 2 ha in extent which meet one or more of the following criteria:

- *Habitats of international importance: Ponds that meet criteria under Annex I of the Habitats Directive.*
- *Species of high conservation importance: Ponds supporting Red Data Book species, UK BAP species, species fully protected under the Wildlife and Countryside Act Schedule 5 and 8, Habitats Directive Annex II species, a Nationally Scarce wetland plant species, or three Nationally Scarce aquatic invertebrate species.*
- *Exceptional assemblages of key biotic groups: Ponds supporting exceptional populations or numbers of key species. Based on (i) criteria specified in guidelines for the selection of biological SSSIs (currently amphibians and dragonflies only), and (ii) exceptionally rich sites for plants or invertebrates (i.e. supporting ≥30 wetland plant species or ≥50 aquatic macroinvertebrate species).*

- *Ponds of high ecological quality: Ponds classified in the top PSYM category (“high”) for ecological quality (i.e., having a PSYM score $\geq 75\%$). [PSYM (the Predictive SYstem for Multimetrics) is a method for assessing the biological quality of still waters in England and Wales; plant species and / or invertebrate families are surveyed using a standard method; the PSYM model makes predictions for the site based on environmental data and using a minimally impaired pond dataset; comparison of the prediction and observed data gives a % score for ponds quality].*
- *Other important ponds: Individual ponds or groups of ponds with a limited geographic distribution recognised as important because of their age, rarity of type or landscape context e.g., pingos, duneslack ponds, machair ponds.”*

3.3.12 Other Designations

The survey area falls within a linear pathway of the B-Lines network (see Drawing 6)¹⁸. The B-lines initiative programme, managed by Buglife, seeks to develop a national network of linear pathways across the UK, to provide a corridor of wildflower-rich habitat from the restoration of current habitats or the creation of new ones in order to help reverse pollinator declines.

Natural England Network Expansion Zones, Network Enhancement Zones 1 and 2 and Fragmentation Action Zones are located within the survey area¹⁹. These areas are intended to help identify areas for potential future habitat creation and restoration and are shown on Drawing 6.

3.4 Species

The following sections are based on a combination of desk study information, field survey data and an assessment of the likely value of the habitats present for each species or group of species. The records should not be seen as definitive; other species may be present, and some may no longer occur. Data have also been requested from other sources (see Table 2.1) and this report will be updated once the data are received.

3.4.1 Plants

The desk study data provided by the Essex Field Club (February 2022, refer to Appendix C) confirms that numerous notable, scarce and rare plant species occur within the Study Area; this includes two species; chamomile *Chamaemelum nobile* and annual knawel *Scleranthus annuus* listed on section 41 and numerous species listed on the Essex Red Data List²⁰. Very few records are from the Survey Area itself. The full Essex Field Club data is included at Appendix C.

Many of these species are confined to priority habitats, which are sparsely distributed in the Survey Area and are mostly within designated sites such as Holland Haven Marshes SSSI and the head waters of Hamford Water SSSI. The coastal habitats support the most notable or rare plant species, with wetland, woodland and other semi-natural habitats also supporting such species. A limited number of scarce plants are also associated with arable margin habitats. These species could be found away from the designated sites within the Survey Area. By definition, populations of these plants are likely to be very localised and probably occur mostly in areas where conservation actions are being undertaken to sustain their populations, on recently abandoned land and land recently set aside from agriculture.

¹⁸ <https://www.buglife.org.uk/our-work/b-lines/>

¹⁹ https://magic.defra.gov.uk/Metadata_for_magic/Habitat%20Network%20Mapping%20Guidance.pdf

²⁰ NB – “The Essex Red Data List dates from 2002 and only a small number of updates have been made since then. The information given may therefore be nearly 20 years old”.

In July and August 2021 Wild Frontier Ecology Ltd on behalf of North Falls OWF conducted an NVC survey of Holland Haven Marshes SSSI and adjacent land¹⁵. The survey recorded the following species of elevated conservation status²¹:

- Marram Grass *Ammophila arenaria*;
- Sea Fern Grass *Catapodium marinum*;
- Rock Samphire *Crithmum maritimum*;
- Water Horsetail *Equisetum fluviatile*;
- Downy Oat Grass *Helictotrichon pubescens*;
- Sea Barley *Hordeum marinum*;
- Fat Duckweed *Lemna gibba*;
- Dittander *Lepidium latifolium*;
- Tubular Water Dropwort *Oenanthe fistulosa*;
- Parsley Water Dropwort *Oenanthe lachenalia*;
- Corky-fruited Water Dropwort *Oenanthe pimpinelloides*;
- Hog's Fennel *Peucedanum officinale*;
- Small pondweed *Potamogeton berchtoldii/ pusillus*;
- Lesser Spearwort *Ranunculus flammula*;
- Yellow Rattle *Rhinanthus minor*;
- Grey Bulrush *Scirpus tabernaemontani*;
- Marsh Ragwort *Senecio aquaticus*;
- Pepper Saxifrage *Silaum silaus*;
- Greater Duckweed *Spirodela polyrhiza*;
- Strawberry Clover *Trifolium fragiferum*; and
- Sea Clover *Trifolium squamosum*.

The NVC survey also recorded the presence of non-native duckweed *Lemna minuta* in some of the ditches, and the non-native invasive New Zealand Pygmyweed *Crassula helmsii* in abundance along the ditch network.

The EFC data also provided records of invasive non-native species within the Study Area. This includes eleven listed on Schedule 9 of the Wildlife and Countryside Act 1981 (as amended); three-cornered garlic *Allium triquetrum*, water fern *Azolla filiculoides*, Hottentot-fig *Carpobrotus edulis*, New Zealand pigmyweed *Crassula helmsii*, Japanese Knotweed *Fallopia japonica*, giant-rhubarb *Gunnera tinctoria*, giant hogweed *Heracleum mantegazzianum*, Himalayan balsam *Impatiens glandulifera*, parrot's-feather *Myriophyllum aquaticum*, Rhododendron *Rhododendron ponticum* and Japanese rose *Rosa rugosa*.

During the habitat survey Japanese Rose *Rosa rugosa* and a species of cotoneaster *Cotoneaster spp.* were recorded within linear scrub at Grid Reference: TM 12668 29342 bordering arable fields. Five species of cotoneaster are listed on Schedule 9 of the Wildlife and Countryside Act 1981 (as amended). No other non-

²¹ Elevated conservation status in the report refers to: Red Data Book species, Essex Red Data Book species and species mentioned in the SSSI citation.

native invasive species were recorded during the habitat survey, although it is possible that additional species may be present in areas which were not accessible during the survey.

3.4.2 Invertebrates

Numerous notable, scarce and rare invertebrate species have been recorded from within and around the Survey Area (refer to Appendix C for the full list provided by EFC) and these are strongly associated with priority habitats and designated sites, especially coastal sites. For example, bees, moths and Odonata at Holland Haven Marshes SSSI and Hamford Water SSSI and moths and roman snail *Helix pomatia* at Great Holland Pits LoWS. Fisher's estuarine moth *Gortyna borelii lunata*, which is included in Schedule 2 of the Conservation of Habitats and Species Regulations 2017 (as amended) and Schedule 5 of the Wildlife & Countryside Act 1981 (as amended) in respect of section 9(4)(b) and (c) and (5) only), was recorded at the A120, close to the Tendring Brook, north of Thorpe le Soken and at Holland Haven Marshes SSSI. Records of other notable invertebrates including beetles and flies are also present around Thorpe le Soken.

Other places where such species have been recorded include roadsides, golf courses, parks and gardens. Unlike plants, the arable habitats are unlikely to support scarce or rare species of invertebrates.

3.4.3 Amphibians

GCN is protected through its inclusion in Schedule 5 of the Wildlife and Countryside Act (as amended) and in Schedule 2 of the Conservation of Habitats and Species Regulations 2017 (as amended), it is also a Section 41 species.

EFC returned records for GCN, smooth newt *Lissotriton vulgaris*, common frogs *Rana temporaria*, and common toad *Bufo bufo*. A single record of GCN was recorded within 250m of the onshore infrastructure options within Great Holland Pits LoWS.

The MAGIC website returned a positive GCN Survey Licence Return from a pond in Thorpe le Soken approximately 505m from the 100 m buffer.

Rough grassland, scrub, hedgerow, wetland and woodland habitats are suitable for use by this species group and are present across the Survey Area.

3.4.4 Reptiles

Four species of reptile have been recorded for the Study Area. These include:

- Adder *Vipera berus*;
- Slow worm *Anguis fragilis*;
- Grass snake *Natrix natrix* and
- Common lizard *Zootoca vivipara*.

All the above species are protected from intentional killing, injuring and sale under Schedule 5 of the Wildlife and Countryside Act 1981 (as amended) and are listed on Section 41.

Habitats that may be suitable for use by reptiles occur across the Survey Area and include rough grassland, field margins, hedgerows, scrub, woodland edges and wetlands, although the large arable fields within the Survey Area are not likely to support reptile species. The species records returned by EFC include a concentration of common lizard and slow worm at Thorpe le Soken and near Manningtree, with scattered records of common lizard, grass snake and adder across the wider Study Area. None of the records are from within the Survey Area.

3.4.5 Birds

The desk study data included records for a wide range of legally protected or otherwise notable bird species within the Study Area. These include 28 species that are protected through inclusion on Schedule 1 of the Wildlife and Countryside Act 1981 (as amended), 24 Section 41 species, 48 species listed under Annex 1 of the EU Birds Directive, 48 species red listed as 'Birds of Conservation Concern'²² and 83 species amber listed as 'Birds of Conservation Concern'²³.

Other relevant data sources were reviewed (see Table 2.1) and included records for a wide range of legally protected or otherwise notable bird species within the Study Area. These are discussed below.

Breeding Birds

Breeding bird survey was undertaken at the proposed landfall area and surroundings in 2021²⁴ and concluded that a relatively diverse assemblage of birds was present, with the richest assemblage within Holland Haven Marshes SSSI. The following legally protected or otherwise notable bird species were recorded breeding: avocet *Recurvirostra avoceta*, barn owl *Tyto alba*, Cetti's warbler *Cettia cetti*, corn bunting *Emberiza calandra*, grey partridge *Perdix perdix*, lapwing *Vanellus vanellus*, marsh harrier *Circus aeruginosus*, redshank *Tringa totanus*, yellow wagtail *Motacilla flava* and yellowhammer *Emberiza citrinella*. Whilst the Holland Haven Marshes SSSI citation mentions that ringed plover may breed there, none were recorded during the surveys.

The desk study information suggests that certain locations within the Study Area may be of more importance to breeding birds. The following sites produced records of legally protected or otherwise notable bird species during the breeding season²⁵:

- Holland Haven Marshes SSSI and Holland Haven LNR – skylark *Alauda arvensis*, meadow pipit *Anthus pratensis*, yellow wagtail, ringed plover *Charadrius hiaticula*, avocet, barn owl, Cetti's warbler, corn bunting, lapwing and redshank;
- Little Clacton – barn owl, grey partridge, yellow wagtail and yellowhammer;
- Holland Brook – barn owl, Cetti's warbler, lapwing and yellowhammer;
- Great Holland – Cetti's warbler, corn bunting, lapwing, marsh harrier and yellow wagtail;
- Frinton Golf Club – Cetti's warbler, corn bunting, yellow wagtail, yellowhammer and skylark;
- Hamford Water SPA Ramsar SSSI – little tern *Sternula albifrons*; and
- Stour and Orwell Estuaries SPA SSSI – avocet.

Based on the desk study data, survey data and an assessment of habitat potential during the habitat survey, seven species included on Schedule 1 of the Wildlife and Countryside Act 1981 (as amended) and/ or Annex 1 of the EC Birds Directive may breed within the survey area: avocet, kingfisher, barn owl, marsh harrier, hobby, quail and Cetti's warbler. Suitable habitat for barn owl (foraging and nesting habitat) is present throughout the Survey Area comprising different types of grassland for foraging and nesting opportunities within two pole mounted barn owl boxes (details below). Some buildings and mature trees may also provide nesting habitat. Suitable

²² Stanbury, A.J., Eaton, M.A., Aebischer, N.J., Balmer, D., Brown, A.F., Douse, A., Lindley, P., McCulloch, N., Noble, D.G. & Win, I. (2021) The status of our bird populations: the fifth Birds of Conservation Concern in the United Kingdom, Channel Islands and Isle of Man and Second IUCN Red List assessment of extinction risk for Great Britain. *British Birds* 114, 723–747.

²³ *NB – Some species will have more than one designation.

²⁴ Report by MacArthur Green: North Falls Offshore Wind Farm Onshore Landfall Area: 2021 Breeding Bird Surveys

²⁵ Records during the breeding season do not necessarily infer that breeding took place at the relevant site.

habitat for kingfisher within the survey area is limited to larger waterbodies and watercourses, namely the Holland Brook and Tendring Brook. Hobby typically nest in trees and open woodland close to wetland habitats, both of which occur within the Survey Area. Similarly, the survey area supports numerous opportunities for foraging and nesting Cetti's warbler in and around waterbodies and watercourses with associated scrub habitats. Quail is a ground nesting bird and there is abundant suitable nesting habitat present for it; it is most likely to nest within or adjacent to agricultural habitats amongst tall vegetation. The remaining species, avocet and marsh harrier, are only likely to be associated with the designated coastal sites.

During the ETG meeting in August 2021 the RSPB was noted to have particular concerns in respect of three other notable species including turtle dove *Streptopelia turtur*, corn bunting and nightingale *Luscinia megarhynchos* (see meeting minutes from onshore ecology ETG on 12 August 2021, final versions issued on 5 November 2021)). EFC returned records for turtle dove at Hamford Water, Holland Haven and Great Holland Pits LoWS, plus limited other locations elsewhere. This species typically nests in hedgerows and scrub, feeding upon seeds in agricultural fields. Corn buntings nest on the ground in cereal fields, set-aside, grass field margins or unimproved grassland; EFC returned records for this species from Great Holland, Holland Haven, Horsley Cross, Kirby Cross and Thorpe Cross. EFC returned two records for nightingale at Great Holland Pits and Holland Haven. This species typically nests at low level within dense scrub.

There is suitable habitat for all three of these species within the Survey Area.

Non-Breeding Birds

Non-breeding bird survey was undertaken at the proposed landfall area and surroundings in the winter of 2020/2021²⁶. It concluded that a reasonably large number of species were recorded, although distribution was not even, with areas around the wetland habitats within Holland Haven Marshes SSSI being favoured. In total, 52 species of wader, wildfowl, raptors and/or otherwise notable bird species were recorded. The findings are incorporated into the area summaries provided below.

The following sites produced records of legally protected or otherwise notable bird species during the non-breeding season:

- **Holland Haven Marshes SSSI and Holland Haven LNR** – Avocet, barn owl, bearded tit, black-tailed godwit, dark-bellied brent goose (the BTO WeBS Online data shows that Holland Haven Marshes SSSI regularly hosts >1000 wintering brent geese), Cetti's warbler, curlew, Dartford warbler, Dunlin, European white-fronted goose (*Albifrons*), firecrest, gadwall, great crested grebe, great white egret, green sandpiper, greylag goose, kingfisher, lapwing, little egret, little grebe, mallard, merlin, moorhen, oystercatcher, peregrine, pink-footed goose, pintail, purple sandpiper, redshank, spotted redshank, ruff, shag, shelduck, hen harrier, short-eared owl, shoveler, snipe, teal, tundra bean goose, turnstone, water rail, whimbrel, wigeon and wood sandpiper. 2020/21 surveys recorded notable counts of Brent geese, white-fronted geese, greylag geese, teal, wigeon, shoveler and shelduck. A notable wader assemblage was also present and included avocet, curlew, snipe, lapwing and purple sandpiper;
- **Little Clacton** – Barn Owl, Cetti's warbler, European white-front goose (*albifrons*), gadwall, greylag goose, little grebe, little owl, mallard, marsh harrier, moorhen, oystercatcher, peregrine, pintail, shelduck, teal, tufted duck, wigeon and woodcock. The 2020/21 surveys recorded notable numbers of white fronted geese, teal, pintail and wigeon in this area;

²⁶ Report by MacArthur Green: North Falls Offshore Wind Farm Onshore Landfall Area: 2020/21 Non-breeding Bird Surveys

- **Holland Brook** – Barn Owl, Cetti's warbler, gadwall, golden plover, great white egret, green sandpiper, greylag goose, little grebe, little owl, mallard, moorhen, oystercatcher, pintail, shelduck, shoveler, snipe, teal and wigeon. 2020/21 surveys at the landfall noted the area to be regularly used by teal, wigeon, pintail, gadwall, shelduck, shoveler and mallard, as well as Canada goose and greylag goose;
- **Thorpe-le-Soken** – brent geese;
- **Weeley** – golden plover;
- **Wix** – golden plover;
- **Great Holland** - Cetti's warbler, European white-fronted goose (*albifrons*), golden plover, greylag goose, lapwing, mallard, moorhen, shoveler, teal, water rail and wigeon. The 2020/21 surveys recorded relatively low diversity here, but with notable records of white fronted geese, greylag geese, lapwing and golden plover;
- **Frinton Golf Club** – Cetti's warbler, dark-bellied brent goose, corn bunting, curlew, golden plover, lapwing, little owl, mallard, moorhen, oystercatcher, peregrine, teal, wigeon and woodcock. The 2020/21 non-breeding bird survey recorded notable counts of Brent geese and lapwing at this location;
- **Hamford Water SPA** – avocet, dark-bellied brent goose, shelduck, teal, ringed plover, grey plover, black-tailed godwit, redshank, marsh harrier, hen harrier and merlin; and
- **Stour and Orwell Estuaries SPA** – dark-bellied brent goose, redshank, pintail, grey plover, knot, dunlin, and black-tailed godwit;

The results of an ornithological desk study for the area²⁷ concluded that the majority of habitats within the Survey Area are predominantly agricultural in nature and theoretically suitable for feeding and roosting wildfowl and waders in the winter months. It is likely that most individuals will utilise inland habitats that are closest to the nearby SPAs and Holland Haven Marshes SSSI. The literature review suggests that key species may range widely between feeding and roost sites during the non-breeding season, with values quoted of 5 km for brent geese, up to 10km for European white-fronted geese, and up to 10-12 km for lapwing and golden plover.

During the UK Habitat survey two pole mounted owl boxes were recorded between Thorpe Cross and Great Holland. It is not known whether the boxes were occupied.

²⁷ Report by MacArthur Green North Falls Offshore Wind Farm Ornithology Desk Study: 2021-22 Non-breeding Season Surveys (2021)

3.4.6 Mammals

Bats

EFC returned records for the following species within the Study Area;

- Common pipistrelle *Pipistrellus pipistrellus*;
- Soprano pipistrelle *P. pygmaeus*;
- Nathusius' pipistrelle *P. nathusii*;
- Pipistrelle sp.;
- Brown long-eared bat *Plecotus auritus*;
- Daubenton's bat *Myotis daubentonii*;
- *Myotis* sp.;
- Natterer's bat *Myotis nattereri*;
- Serotine *Eptesicus serotinus*;
- Noctule *Nyctalus noctula*;
- Leisler's bat *Nyctalus leisleri*;
- Barbastelle *Barbastella barbastellus*; and
- Bat sp.

While the majority of these species are relatively common and/or widespread, barbastelle, Leisler's bat, Nathusius pipistrelle and serotine are rare species²⁸. These species have been recorded at scattered locations around the Study Area.

The MAGIC website did not identify any European Protected Species Licences (EPSL) for bats with the 2 km Study Area. In the wider area, EPSL licences were identified for common pipistrelle, soprano pipistrelle, brown long-eared bat and Natterer's bat.

All bat species in the UK are protected through inclusion in Schedule 5 of the Wildlife and Countryside Act (as amended) and in Schedule 2 of the Conservation of Habitats and Species Regulations 2017 (as amended). Noctule, common pipistrelle, soprano pipistrelle, brown long-eared bat and barbastelle are also Section 41 Species.

The Survey Area includes numerous habitats that are suitable for use by commuting and foraging bats, such as hedgerows, woodland edges, watercourses and wetlands, although the large arable fields are unlikely to be of great value to commuting and foraging bats. Potential roost locations within the Survey Area include mature trees within hedgerows and woodlands, as well as occasional farm buildings (within the 100 m buffer, rather than the corridor itself).

Badger

EFC returned badger records from across the Study Area, though records are most abundant southeast of Tendring and between Ardreigh and Lawford in the north.

Badger receives protection under the Protection of Badgers Act 1992. Badger was not recorded in the Survey Area south during the UK Habitat Classification Surveys, although large parts of the Survey Area were not

²⁸ CIEEM Bat Mitigation Guidelines: A guide to impact assessment, mitigation and compensation for developments affecting bats Beta Version 1.0 June 2021

accessible. Woodland and hedgerows within the Survey Area are particularly suitable for sett digging, and the grassland fields for foraging. A request for data has been sent to the North East Essex Badger Group and these data will be used to inform the assessment once received.

Otter

Otter is fully protected through its inclusion in Schedule 5 of the Wildlife and Countryside Act 1981 (as amended) and in Schedule 2 of The Conservation of Habitats and Species Regulations 2017 (as amended), it is also a Section 41 species.

EFC returned records of otter within Holland Haven Marshes SSSI, northeast of Thorpe-le-Soken at Hamford Water SSSI, at Goose Green and at the River Stour, west of Manningtree.

In addition to the river and streams, otter may utilise the ditch and pond network present in the area, particularly during the amphibian breeding season when frog, toad and newt prey would be abundant.

Water Vole

Water vole is fully protected through its inclusion in Schedule 5 of the Wildlife and Countryside Act 1981 (as amended), it is also a Section 41 species.

EFC returned 19 records of water vole within the Study Area, all except two occur south and east of Tendring, two of which are within the Survey Area. One of these was at the Kirby Brook between Holland Haven Marshes SSSI and Frinton Golf Club. The other record was located further north between the Holland Brook and a large waterbody and could have come from either (the precision of the record does not enable distinction).

Water courses and ponds within the Survey Area, particularly those linked to the above-named areas are likely to be suitable for use by this species.

Dormouse

Dormouse is fully protected through its inclusion in Schedule 5 of the Wildlife and Countryside Act (as amended) and in Schedule 2 of the Conservation of Habitats and Species Regulations 2017 (as amended), it is also a Section 41 species.

EFC returned records for dormouse at Thorpe le Soken, Great Holland Pits LoWS, Weeley Heath, Beaumont and Little Bentley, indicating that the species occur within the Survey Area. Potentially suitable habitat for dormice includes well-linked hedgerow, scrub and woodlands that support food plants such as hazel *Corylus avellana* and bramble *Rubus fruticosus*. Within the Survey Area, these are most abundant east of Weeley Heath, around Thorpe le Soken and northward toward the A120. North of the A120 these habitats are less common.

Other Mammals

Three other Section 41 mammal species are noted to occur within the 2 km Study Area, based on the desk study data: hedgehog *Erinaceus europaeus*, brown hare *Lepus europaeus* and harvest mouse *Micromys europaeus*. The Survey Area includes numerous habitats that are suitable for use by hedgehog such as hedgerows, woodland edges, scrub and gardens. Suitable habitat for brown hare is also present across the Survey Area, including grassland for foraging and woodland and hedgerows for cover. Suitable habitat for harvest mouse includes areas of tall grassland, including agricultural fields under crop or lay, road verges, hedgerows and reed beds.

4.0 Confirmation of Important Ecological Features and Requirements for Further Survey

4.1 Infrastructure Options

The following sections provide additional detail in respect of important ecological features that may be affected by the onshore infrastructure options currently under consideration, as set out in Section 1, and outlines the scope of additional ecological surveys considered necessary to inform the EIA process. Readers should bear in mind that the recommendations are made based upon the best available data collected to date but may be subject to update and amendment as required, as additional ecological field survey data is gathered.

4.2 Important Ecological Features and Further Survey Requirements

The important ecological features (IEFs) identified to date that may be affected by the onshore infrastructure options are identified in Table 4.1 and many are shown on Drawings 7 and 8. A precautionary approach has been taken in respect of identification of IEFs at locations where field survey has not yet been undertaken. Since the following Level 3 habitats may include Priority Habitats, they have been taken forward as IEFs within this PEA:

- w1 – broadleaved, mixed and yew woodland
- h2 – hedgerow;
- f2 – fen, marsh and swamp;
- r1 and r2 – standing open water, rivers and streams; and
- s3 – supralittoral sediment.

Table 4.1 identifies where further survey is necessary in order to robustly evaluate potential ecological impacts of the project as part of the EIA, where no such information is needed, and where impacts have been scoped out. The scope proposed below will also be subject to continual iterative refinement, as data is gathered and/or in response to changes in the design of onshore infrastructure options. Unless stated otherwise, the survey scope applies to all the onshore infrastructure options currently under consideration.

It is worth noting here that it is recognised that the potential for air quality impacts upon designated sites may need to be assessed. However, this has not been considered here as construction traffic movement and routeing is currently being finalised and would inform the consideration of air quality impacts upon designated sites. Details of any such assessment will be provided separately at a later date.

Table 4.1
Important Ecological Features that may be Affected and Requirements for Further Survey

Important Ecological Feature	Reason for Importance	Further Survey Required
Hamford Water SSSI NNR SAC SPA and Ramsar	Statutory Designated Site	<p>Located 277 m downstream from the onshore infrastructure options and hydrologically linked to it. A tributary from the eastern inlet splits into two and joins the eastern corridor boundary in one area and crosses in another.</p> <p>Breeding bird survey is proposed and wintering bird survey has recently been completed (further details, including details of proposed survey areas, are provided below), which should inform an assessment of whether land within the survey area is functionally linked to the designated site for qualifying bird species. For Fisher’s estuarine moth (a feature of this site) see the invertebrate section below.</p>
Stour and Orwell Estuaries SSSI SPA and Ramsar	Statutory Designated Site	<p>Located 1,812 m from the onshore infrastructure options and hydrologically linked to it. Indirect impacts possible through being functionally linked to land used by designated site bird populations.</p> <p>Breeding bird survey is proposed and wintering bird survey has recently been completed (further details, including details of proposed survey areas, are provided below), which should inform an assessment of whether land within the survey area is functionally linked to the designated site for qualifying bird species.</p>
Colne Estuary (Mid-Essex Coast Phase 2) SSSI SPA and Ramsar, and part of Essex Estuaries SAC	Statutory Designated Site	<p>Located 5,673 m from the onshore infrastructure options and hydrologically linked to it. Indirect impacts possible through being functionally linked to land used by designated site bird populations.</p> <p>Breeding bird survey is proposed and wintering bird survey has recently been completed (further details, including details of proposed survey areas, are provided below), which should inform an assessment of whether land within the survey area is functionally linked to the designated site for qualifying bird species.</p>
Essex Estuaries SAC	Statutory Designated Site	<p>Located 5,673 m from the onshore infrastructure options and hydrologically linked to it. No further survey required, but potential indirect impacts to habitats will need to be considered within the EIA.</p>
Abberton Reservoir SPA Ramsar SSSI	Statutory Designated Site	<p>Located 10,769 m from the onshore infrastructure options and not hydrologically linked to it. Indirect impacts possible through being functionally linked to land used by designated site bird populations.</p>

Important Ecological Feature	Reason for Importance	Further Survey Required
		Breeding bird survey is proposed and wintering bird survey has recently been completed (further details, including details of proposed survey areas, are provided below), which should inform an assessment of whether land within the survey area is functionally linked to the designated site for qualifying bird species.
Blackwater Estuary (Mid-Essex Coast Phase 4) SPA Ramsar SSSI NNR	Statutory Designated Site	Located 13,187 m from the onshore infrastructure options and not hydrologically linked to it. Indirect impacts possible through being functionally linked to land used by designated site bird populations. Breeding bird survey is proposed and wintering bird survey has recently been completed (further details, including details of proposed survey areas, are provided below), which should inform an assessment of whether land within the survey area is functionally linked to the designated site for qualifying bird species.
Holland Haven Marshes SSSI LNR	Statutory Designated Site	Located within the landfall area and one of the cable corridors. Detailed habitat survey (NVC survey), invertebrate survey, breeding and wintering bird survey has been undertaken. Additional species-specific survey is not proposed. These have been scoped out as there is no potential for significant effect due to proposed use of Horizontal Directional Drilling (HDD) to avoid direct effects on the SSSI.
LoWS within c.100 m of the onshore infrastructure options, including:	LoWS	Habitat survey of areas within 100m of the onshore infrastructure options that were not accessible is proposed in 2022, once access is obtained (where permitted).

Important Ecological Feature	Reason for Importance	Further Survey Required
<ul style="list-style-type: none"> • Simon's Wood • Beaumont Bridge Verge • Great Holland Pits • Lower Botony Farm • Upper Holland Brook • Thorpe Green • Little Bromley Churchyard • Tendring Grove • Manning Grove • Far Thorpe Green 		
<p>All other LoWS listed at Appendix B</p>	<p>LoWS</p>	<p>Remaining LWS are all located >250 m from the onshore infrastructure options and are not hydrologically linked to it. No direct or indirect impacts are anticipated as a result of lack of potential impact pathways. It is therefore proposed to scope these sites out of further assessment.</p>
<p>Habitats</p>	<p>Section 41 Habitats (see section 3.3.11), plus areas that may meet Annex 1 definitions.</p>	<p>With the exception of Holland Haven Marshes SSSI (which has already been subject to detailed survey), habitat survey of all areas within 100m of the onshore infrastructure options that were not accessible in 2021 is proposed in 2022, once access is obtained (where permitted). All areas will be classified to UKHab level 4 (where applicable), plus mandatory codes (10 – 41) as a minimum. Section 41 habitats will be assessed to UKHab level 5 (where applicable), plus mandatory codes (10 – 41). Mapping would be undertaken based upon a 25m² minimum mapping unit (MMU). In addition to the habitat survey, all areas would also be subject to Condition Assessment²⁹ to enable later biodiversity loss/gain calculations to be made.</p>

²⁹ Undertaken in accordance with Defra Biodiversity Metric 3.0.

Important Ecological Feature	Reason for Importance	Further Survey Required
		<p>Hedgerow assessment will be undertaken at locations which may be breached, in order to ascertain if hedgerows meet the definition of “Important Hedgerow” under the wildlife and landscape criteria of the Hedgerow Regulations 1992. This assessment will be targeted, informed by a review undertaken during the habitat survey where species rich (more than five woody species noted) hedgerows will be identified, and detailed scrutinising of desk study data to determine if the hedge is likely to support important species defined in the Regulations.</p>
Plant species	Protected or notable species	<p>Habitat survey of all areas within 100 m of the onshore infrastructure options that were not accessible in 2021 is proposed in 2022, once access is obtained (where permitted). Protected or notable plant species will be recorded as seen during this survey.</p> <p>Detailed survey of areas that are known or suspected to support protected or notable plant species, and that may be significantly impacted, will be undertaken. Such surveys would comprise searching discrete areas of suitable habitat specifically looking for rare species, during the appropriate season (dependent on likely species).</p> <p>Based on information to date it is considered that the only locations that may warrant such effort are selected areas close to Hamford Water SSSI, Great Holland Pits LoWS and Priority Habitats, although this can only be confirmed following completion of the remaining habitat surveys.</p> <p>Invasive non-native plant species will be recorded during the habitat survey.</p>

Important Ecological Feature	Reason for Importance	Further Survey Required
Invertebrates	Protected or notable species	<p>Except for Fisher’s estuarine moth, additional survey for invertebrate species is not proposed for the purpose of EIA given that most habitat loss will only be temporary in nature and will only affect a relatively small proportion of most of the habitats affected. A survey for invertebrates within Holland Haven Marshes SSSI was undertaken on behalf of NF OWF in 2021 and the report has been requested to inform the assessment for VE OWFL (although it has not been provided to date). Away from Holland Haven Marshes SSSI, assessment of impacts to this species group will be via a precautionary habitat-based assessment, focussing on a) areas where permanent habitat loss is likely and b) areas that are known or suspected to support potentially important populations of rare/notable species.</p> <p>Based on data obtained to date, this is considered likely to include selected areas close to Hamford Water SSSI, Great Holland Pits LoWS and Priority Habitats, precise locations to be confirmed following completion of the remaining habitat surveys.</p> <p>Survey for the presence of hog’s fennel – the host plant of Fisher’s estuarine moth – will be undertaken during the period when the plant is most in evidence – July-August. They will be undertaken in areas of grassland and ditch habitats linked with or close to EFC records of the plant. If the host plant is found, then it shall be presumed for the purpose of EIA that Fisher’s Estuarine moth is present or could be present in future.</p>
GCN and common toad	Protected or notable species	<p>It is proposed to deviate slightly from “standard” survey effort, whilst following standard methods³⁰, given the known presence of GCN at ponds within 250m of the onshore infrastructure options.</p> <p>With the exception of brackish water bodies within Holland Haven Marshes SSSI which are unsuitable for use by GCN (it is a freshwater species), all ponds within 250m of the onshore infrastructure options will be subject to</p>

³⁰ Biggs, J., Ewald, N., Valentini, A., Gaboriaud, C., Griffiths, R.A., Foster, J., Wilkinson, J., Arnett, A., Williams, P. and Dunn, F. (2014). ‘Analytical and methodological development for improved surveillance of the Great Crested Newt’, in Appendix 5. Technical advice note for field and laboratory sampling of great crested newt (*Triturus cristatus*) environmental DNA.

Langton, T., Beckett, C. and Foster, J. (2001). ‘Great Crested Newt Conservation Handbook’, (Halesworth: Froglife).

Important Ecological Feature	Reason for Importance	Further Survey Required
		<p>Habitat Suitability Index (HSI) survey³¹; and presence/absence survey, unless existing desk study data confirms presence in one of the last five breeding seasons (i.e. 2017-2021). Presence will be assumed if GCN have been recorded within the last five years.</p> <p>All ponds that support GCN and that are within 250 m of permanent or 100 m of temporary habitat loss will be subject to population size class assessment unless desk study data confirms population size within the last three breeding seasons (i.e. 2019 – 2021). The population size will be assumed to remain as last recorded.</p> <p>Presence/ absence surveys using eDNA will be undertaken between mid-April and the end of June and population size class surveys, where required, will be undertaken between mid-March and mid-June.</p> <p>Refer to Drawing 8 for pond locations.</p> <p>This level of survey effort is considered sufficient to evaluate the ecological importance of any GCN population present for the purpose of EIA, to determine if an EPSL is likely to be required. The results will also help to inform the most appropriate licensing route; District Level Licensing (DLL) or standard EPSL.</p>
Reptiles	Protected or notable species	<p>The habitat survey completed to date has indicated that moderate or highly suitable reptile habitat in the form of hedgerows, scrub, woodland and grassland (except for modified grassland) occurs at many locations within the Survey Area.</p> <p>More detailed habitat suitability assessment will be undertaken at the above locations, as shown on Drawing 8, (with the exception of Holland Haven Marshes SSSI, see below) during the course of the detailed habitat survey, with presence/ absence survey undertaken at areas of moderate or highly suitable habitat where permanent habitat loss and/ or significant impacts to populations are possible. Presence/ absence survey would be undertaken in either April-May or September following standard methods³².</p>

³¹ Oldham R.S., Keeble J., Swan M.J.S. & Jeffcote M. (2000). Evaluating the suitability of habitat for the Great Crested Newt (*Triturus cristatus*). *Herpetological Journal* 10(4), 143-155.

³² Froglife (1999). Froglife Advice Sheet 10: reptile survey. Froglife, London.

Important Ecological Feature	Reason for Importance	Further Survey Required
		<p>Surveys for reptiles in areas that would only be subject to relatively small-scale temporary loss are not considered necessary provided Reasonable Avoidance Measures are employed during construction. Further details of proposed Reasonable Avoidance Measures will be provided in the PEIR and ES.</p> <p>Holland Haven Marshes SSSI has been scoped out of the above survey as there is no potential for significant effect due to proposed use of HDD to avoid direct effects on the SSSI.</p>
Breeding Birds	Protected or notable species	<p>As set out in the EIA Scoping Report, breeding bird surveys will be targeted at areas in which significant effects on protected or notable bird species are possible.</p> <p>Given the nature of the project most effects on breeding bird species will be temporary in nature (e.g. disturbance or temporary habitat loss), although given the potential width of the route within the corridor, temporary effects could affect relatively large areas.</p> <p>Significant effects are most likely in respect of: species listed on Schedule 1 of the Wildlife & Countryside Act 1981 (as amended) and/or Annex 1 of the EC Birds Directive; and other species of high conservation importance, e.g. breeding waders, turtle dove and corn bunting, for which relatively large-scale temporary effects could be significant. Surveys for these species, where suitable habitat is present, will therefore be required.</p> <p>Assuming that standard mitigation measures are employed during construction and habitats are quickly reinstated following construction, temporary effects on other farmland and woodland species, including several species which are regarded as notable but are still relatively widespread, are not likely to be significant. Detailed surveys for these species are therefore not considered necessary along much of the potential cable corridors (although such species would be recorded during surveys for other more sensitive species).</p> <p>Most of the Survey Area is potentially suitable for one or more of the species for which survey is required. Survey is therefore proposed for the full survey area, excluding the area at and near the landfall which was surveyed by MacArthur Green in 2021.</p>

Important Ecological Feature	Reason for Importance	Further Survey Required
		<p>Bird Survey Guidelines published online in 2021³³ adopt a default position that a minimum of six survey visits should be carried out during the breeding season, unless a robust justification can be made as to why fewer visits are required. In this case, given that most effects on breeding bird species will be temporary in nature and given also the very large scale of the survey area, four visits between early April and July are proposed. Survey methods will follow the methods set out by the 2021 Bird Survey Guidelines³³. All species encountered will be recorded although data analysis will specifically focus on species of conservation importance and/or species subject to special legal protection.</p> <p>Survey visits will be designed to meet specific requirements for the target species, where appropriate, for example at least two visits to areas of suitable habitat for turtle dove will take place between sunrise and 0900, as per the methodology used for the 2021 national turtle dove survey³⁴. In areas of suitable habitat for late breeding species (hobby and corn bunting) an additional visit will be undertaken in August. As part of the survey, all potentially suitable trees and potentially suitable structures within the Survey Area (where accessible) will be inspected at least once for evidence of the presence of barn owl following standard methods³⁵. All inspections of potential nest sites will only be undertaken by an ornithologist holding a Schedule 1 barn owl licence.</p>
Non-Breeding Birds	Protected or notable species	Surveys of wintering birds within and surrounding Holland Haven SSSI were carried out by MacArthur Green between October 2020 and March 2021 (on behalf of NF OWF but the report is available to VE OWF).

³³ <https://birdsurveyguidelines.org/> [last accessed 15 March 2022]

³⁴ <https://rbbp.org.uk/turtle-dove-2021/>

³⁵ Gilbert, G, Gibbons, D.W. & Evans, J. (1998) *Bird Monitoring Methods: A Manual of Key Techniques*. RSPB, Sandy.

Important Ecological Feature	Reason for Importance	Further Survey Required
		<p>Surveys of wintering birds using inter-tidal areas at the landfall, plus a 500m buffer, have recently been completed and will be reported separately in due course. Surveys took place twice per month, from September 2021 to March 2022 inclusive. On each survey date all waterbirds using intertidal areas are recorded through-the-tide, i.e. during six, hourly counts undertaken throughout the tidal cycle, either starting at low tide and finishing at high tide or vice versa.</p> <p>Surveys of wintering birds across inland parts of the Survey Area, excluding areas covered at the landfall in winter 2020-21, were undertaken by MacArthur Green during winter 2021-22 and will be reported in due course (surveys carried out on behalf of NF OWF but the report will be made available to VE OWFL).</p>
Bats	Protected or notable species	<p>Surveys will be undertaken in accordance with published good practice guidelines³⁶ unless otherwise stated.</p> <p>Activity survey will be undertaken at hedgerows, woodlands and/or riparian areas which may be removed, illuminated or breached.</p> <p>Based on the habitat survey findings to date, habitat within the Survey Area is considered to be of varying quality for use by foraging and commuting bats, and it is therefore proposed to subdivide the Survey Area into the following areas for the purpose of activity surveys (listed from south to north), based upon definitions provided Table 4.1 of survey guidelines³⁶. The survey effort proposed at each meets the recognised standard, but goes beyond in terms of automated detector installation such that almost half of potential breaches will be surveyed as described. For both transect and automated survey, full spectrum detectors would be used in order to enable more robust species identification using sound analysis software.</p> <p>Eastern Corridor:</p>

³⁶ Collins, J. (ed.) (2016) Bat Surveys for Professional Ecologists: Good Practice Guidelines (3rd edn). The Bat Conservation Trust, London.

Important Ecological Feature	Reason for Importance	Further Survey Required
		<ol style="list-style-type: none"> 1. North of Holland Haven Marshes SSSI to B1034 (south of Thorpe le Soken). Moderate potential. One transect defined. One survey visit per month (April – October) undertaken at dusk or dawn. Six automated bat detectors installed, data collected on five consecutive nights per month (April – October). 2. B1034 to B1035 (north around Thorpe le Soken to Golden Lane. High potential. One transect defined. One survey visit per month (April – October) undertaken at dusk or dawn. Four automated bat detectors installed, data collected on five consecutive nights per month (April – October). 3. Walton Road (NE of Thorpe le Soken) to the B1035 (NW of Thorpe Green) High potential. One transect defined. One survey visit per month (April – October) undertaken at dusk or dawn. Five automated bat detectors installed, data collected on five consecutive nights per month (April – October). 4. B1035 to west of Horsley Cross (ie just north of A120) Moderate potential. Two transects defined. One survey visit per month (April – October) undertaken at dusk or dawn. Ten automated bat detectors installed, data collected on five consecutive nights per month (April – October). <p>W1 & W2</p> <ol style="list-style-type: none"> 5. From southern divergence with eastern corridor, following W2 to hedgerow west of Thorpe le Soken. Moderate potential. One transect defined. One survey visit per month (April – October) undertaken at dusk or dawn. Five automated bat detectors installed, data collected on five consecutive nights per month (April – October). 6. From southern divergence with W2 to convergence with eastern corridor to the north. High potential. One transect defined. One survey visit per month (April – October) undertaken at dusk or dawn.

Important Ecological Feature	Reason for Importance	Further Survey Required
		<p>Six automated bat detectors installed, data collected on five consecutive nights per month (April – October).</p> <p>NW1</p> <p>7. From southern divergence from eastern corridor, to the A120. High potential. One transect defined. One survey visit per month (April – October) undertaken at dusk or dawn. Six automated bat detectors installed, data collected on five consecutive nights per month (April – October).</p> <p>North of A120</p> <p>8. B1035 west of Horsley Cross (ie just north of the A120), north westward to Bentley Road, then south back toward A120 (i.e., encompassing S27 zone and adjacent potential corridors). One transect defined. One survey visit per month (April – October) undertaken at dusk or dawn. Five automated bat detectors installed, data collected on five consecutive nights per month (April – October).</p> <p>9. Bentley Road westward, encompassing the onshore infrastructure options as far north as Ardleigh Road and south to Carringtons Road. One transect defined. One survey visit per month (April – October) undertaken at dusk or dawn. Five automated bat detectors installed, data collected on five consecutive nights per month (April – October).</p> <p>10. Infrastructure option area north of Ardleigh Road/Little Bromley Road. One transect defined. One survey visit per month (April – October) undertaken at dusk or dawn. Five automated bat detectors installed, data collected on five consecutive nights per month (April – October).</p> <p>Preliminary roost assessment to determine if trees have potential roost features (PRF) will be undertaken at trees within the onshore infrastructure options once access is available (where permitted). Based on habitat survey information and aerial photograph interpretation to date, trees and woodland that may support PRF within this area are shown on Drawing 8.</p>

Important Ecological Feature	Reason for Importance	Further Survey Required
		<p>Trees which could potentially be lost or damaged or disturbed by the project (excluding those able to be avoided via use of HDD) would be subject to more detailed PRF assessment; those with moderate or high potential to support bats would be subject to an at-height PRF inspection (where safe to do so) during the active season (May – September) to better determine the roost potential and gather evidence of roosting bats (if present).</p> <p>Further presence/absence surveys would be undertaken at trees which are still considered to have moderate or high potential to support bats following the at-height PRF inspection and which may be removed or damaged.</p> <p>In general, this would involve a total of two to three survey visits (depending on the level of roost potential) during May - September, each comprising the at-height PRF inspection (where safe to do so), and/or dusk emergence and/or dawn re-entry surveys using full spectrum bat detectors and potentially also thermal imaging or infra red cameras. Deviations from this may be necessary due to structural safety issues or difficult sight lines, in which case tree-specific alternative methods would be used.</p> <p>Confirmed roost trees would be subject to additional survey, as necessary, in order to characterise the roost(s) present.</p> <p>No buildings or structures are likely to be directly affected and survey for bats at buildings is therefore not currently proposed. This would be reviewed if plans change and works may affect buildings or structures with bat roost potential.</p>
Badger	Protected or notable species	<p>Survey of all areas (with the exception of Holland Haven Marshes SSSI) within at least 30m of the onshore infrastructure options that were not accessible in 2021 is proposed in 2022, in conjunction with the habitat survey, once access is obtained (where permitted). Survey will follow standard methods³⁷ and include a search for the presence of active badger setts and signs.</p>

³⁷ Scottish Natural Heritage (SNH) (2003). 'Best Practice Guidance - Badger Surveys', Inverness Badger Survey 2003, Commissioned Report No. 096.

Important Ecological Feature	Reason for Importance	Further Survey Required
		Holland Haven Marshes SSSI has been scoped out of the above survey as there is no potential for significant effect due to proposed use of HDD to avoid direct effects on the SSSI.
Otter	Protected or notable species	<p>With the exception of at Holland Haven Marshes SSSI otter survey will be carried out at all potentially suitable watercourses crossing the onshore infrastructure options, plus 250m up and downstream, as shown on Drawing 8. Survey methods will be informed by current references³⁸ and surveys will take place in conjunction with surveys for water vole (below).</p> <p>Holland Haven Marshes SSSI has been scoped out of the above survey as there is no potential for significant effect due to proposed use of HDD to avoid direct effects on the SSSI.</p>
Water Vole	Protected or notable species	<p>With the exception of at Holland Haven Marshes SSSI, water vole survey will be carried out at all potentially suitable watercourses crossing the onshore infrastructure options, plus 200m up and downstream as shown on Drawing 8. Surveys will be undertaken in accordance with standard methods³⁹, which require up to two visits, two months apart, between April and October.</p> <p>Holland Haven Marshes SSSI has been scoped out of the above survey as there is no potential for significant effect due to proposed use of HDD to avoid direct effects on the SSSI.</p>
Dormouse	Protected or notable species	Based on current information potential habitat for use by dormice includes hedgerows and to a lesser extent woodland which occurs throughout the Survey Area but with increasing fragmentation, diminishing quality and lack of records as the onshore infrastructure options progress seaward from Thorpe le Soken.

³⁸ Chanin, P. (2003). 'Ecology of the European Otter', in Conserving Natura 2000 Rivers, Ecology Series No. 10, (Peterborough: English Nature).

Chanin, P. (2003). 'Monitoring the Otter', in Conserving Natura 2000 Rivers, Monitoring Series No 10, (Peterborough: English Nature).

³⁹ Dean, M., Strachan, R., Gow, D. and Andrews, R. (2016). 'The Water Vole Mitigation Handbook', The Mammal Society Mitigation Guidance Series, Fiona Mathews and Paul Chanin (eds.), (London: The Mammal Society).

Important Ecological Feature	Reason for Importance	Further Survey Required
		<p>Dormouse survey would first comprise a habitat-based assessment of hedges and woodland within the Survey Area as shown on Drawing 8. Thereafter, nest tube survey would be undertaken at all hedgerows that may be breached (so excluding those able to be avoided via use of HDD) and which are potentially suitable for use by dormice.</p> <p>Dormouse survey would follow standard methods⁴⁰, with up to 25 nest tubes per hedgerow crossing; the number of tubes is driven primarily by the need to install them at c.10m spacing; if dormouse are present in the survey area then this quantity of tubes is considered sufficient to determine presence/ likely absence. Tubes would be installed in spring 2022 and checked monthly until November 2022 (up to eight visits in total) by a Natural England dormouse licence holder.</p> <p>Holland Haven Marshes SSSI has been scoped out of the above survey as there is no potential for significant effect due to proposed use of HDD to avoid direct effects on the SSSI.</p>
<p>Other Section 41 Mammal Species: hedgehog, brown hare and harvest mouse.</p>	<p>Protected or notable species</p>	<p>Detailed surveys are not proposed as part of onshore assessment given that most habitat loss will only be temporary in nature and will only affect a relatively small proportion of most of the habitats affected. Instead, habitat-based assessment will be undertaken for these species and used as a basis for impact assessment.</p>

4.3 Potential Requirements for Mitigation or Compensation Measures

A brief outline of the mitigation/ compensation requirements that have so far been identified is described below. It is limited to mitigation/ compensation that is likely to be required based on current data but does not include things which would be entirely dependent on the results of further surveys and project design, e.g. mitigation for loss of tree bat roosts. The final mitigation/compensation proposals will be subject to detailed, species and location-specific refinement, once all necessary data have been obtained, with full details provided in the PEIR and ES and Outline Ecological Management Plan (OEMP). At this stage it is envisaged that general points are likely to include:

⁴⁰ Bright, P.W., Morris, P.A. and Mitchell-Jones, A. (2006). 'Dormouse Conservation Handbook 2nd Edition', (Peterborough: English Nature).

- Use of HDD to avoid damage to Holland Haven Marshes SSSI at the landfall and most important Priority Habitats, including woodland, hedgerows and watercourses along the corridor;
- compensation for loss of Section 41 habitats; to include reinstatement and/ or planting/ creation of equivalent habitat type, quality and extent (within Habitat Network enhancement/ Expansion/ Fragmentation Action Zones, shown on Drawing 6, if possible), as appropriate;
- mitigation/compensation for temporary loss of other habitat – to include reinstatement and other measures as described above;
- mitigation to minimise impacts to important species through careful alignment, scheduling and/or deterrence and/ or exclusion measures, with translocation as necessary (under licence, if appropriate). Details will depend on the results of further surveys and the detailed design; and
- “dead hedge” blocking of hedgerow breaches during construction and/or whilst replacement hedges establish afterward, to minimise barrier effects to bats, dormice and other mobile species, and to enable continued use as a foraging/sheltering resource by dormice, reptiles and breeding birds.

4.4 Potential Opportunities for Biodiversity Enhancements

Further design work for the preferred onshore infrastructure options is ongoing and so detailed development plans are not available at this time and a number of surveys have not yet been undertaken. Therefore, the recommendations listed below to provide nature conservation enhancements and biodiversity net gain (BNG), as required under relevant planning policy, are necessarily generic at this stage. The list below is not exhaustive and may change depending on the detailed design of the project, the results of further survey work and land ownership constraints. It is also possible that enhancements may be provided elsewhere within the local area, outside the proposed Order Limits. Full details will be provided in the PEIR, ES and OEMP.

- Planting new species-rich hedgerows, or gap-planting existing hedgerows, with a specific focus on providing habitat for notable species which may be present in the relevant areas, e.g., planting that is rich in dormouse food plants;
- Pond and wetland creation and maintenance for use by amphibians, reptiles and water vole;
- New woodland creation and maintenance, to link and/or fortify the existing habitat network, i.e., within Habitat Network Areas if possible;
- Creation and maintenance of sheltered wildflower meadows and glades, including dry stony areas for use by invertebrates and nesting/foraging bird species;
- Creation of reptile and amphibian refugia at field boundaries;
- Installation of bird and bat boxes at appropriate trees/woodland;
- Creation and management of habitats to benefit notable bird species, such as turtle dove, in conjunction with other local initiatives, where possible;
- Installation of artificial holts and/or water vole platforms adjacent to watercourses;
- Ecological improvements to water courses, such as removal of man-made elements or artificial barriers, where practical; and
- Conducting biodiversity improvement works to existing woodland and/or in respect of increasing populations of hog’s fennel for use by Fishers estuarine moth, where possible.

The Environment Act 2021 requires that developers in England must demonstrate a net biodiversity gain of at least 10% to obtain planning consent. Mandatory BNG requirements for NSIPs are unlikely to be in place prior to the submission of the DCO application for VE. However, the updated NPSs may be in place by the time of

submission and the updated EN-1 is likely to require provision of BNG and assessment of BNG provision using a metric⁴¹. In addition, both ECC and NE have requested the provision of BNG and its assessment using the Defra Metric and the adjacent NFOW project has committed to the inclusion of a BNG assessment. On the basis of the above, provision of BNG and submission of a detailed BNG assessment using a metric are proposed.

⁴¹ Department for Business, Energy and Industrial Strategy. 2021. Draft Overarching National Policy Statement for Energy (EN-1). September 2021. https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1015233/en-1-draft-for-consultation.pdf [last accessed 11th April 2022]

5.0 Conclusions and Recommendations

This report comprises a PEA of the areas that may be affected by construction and operation of the VE OWF project. This interim version of the report presents detailed information and recommendations for the potential onshore infrastructure options currently under consideration (refer to Drawing 1), although summary baseline data for other areas included in the study are also presented. This PEA is informed by desk study and field survey undertaken in summer and autumn 2021 and early spring 2022. Limitations to the desk study and field survey are described within the report but are not considered to significantly affect the conclusions of the PEA.

Important ecological features that are, or could be, present within the Survey Area have been determined and described. Important ecological features that could be impacted by the project, and therefore where further survey is required, are summarised in Table 5.1, with further details provided in Section 4.2. It is also recognised that the potential for air quality impacts to designated sites may need to be assessed. However, this has not been considered here as the details of construction traffic movement and routes are yet to be finalised. This will be assessed separately at a later date.

Table 5.1
Summary of Important Ecological Features and Further Survey Requirements

Important Ecological Feature	Reason for Importance	Further Survey or Desk-based Assessment Required
Hamford Water SSSI, NNR, SAC, SPA and Ramsar Stour and Orwell Estuaries SSSI SPA and Ramsar Colne Estuary (Mid-Essex Coast Phase 2) SSSI SPA and Ramsar, and part of Essex Estuaries SAC Essex Estuaries SAC Holland Haven Marshes SSSI LNR Simon's Wood Beaumont Bridge Verge Great Holland Pits Lower Botony Farm Upper Holland Brook Thorpe Green Little Bromley Churchyard Tendring Grove Manning Grove Far Thorpe Green	Statutory and Non-statutory Designated Sites	These sites either lie within or immediately adjacent to the onshore infrastructure options or else are >100 m and have hydrological associations. Habitat survey of areas within 100 m of the onshore infrastructure options that were not accessible in 2021 is proposed in 2022, once access is obtained (where permitted).
Hamford Water SSSI, NNR, SCA, SPA and Ramsar Stour and Orwell Estuaries SSSI SPA and Ramsar Colne Estuary (Mid-Essex Coast Phase 2) SSSI SPA and Ramsar	Statutory and Non-statutory Designated Sites	There may be functionally linked land used by bird species which are notified features from these sites, within the Survey Area.

Important Ecological Feature	Reason for Importance	Further Survey or Desk-based Assessment Required
Abberton Reservoir SPA Ramsar Blackwater Estuary (Mid-Essex Coast Phase 4) SPA Ramsar		Breeding bird survey is proposed and wintering bird survey has taken place (see breeding and non-breeding birds sections below) to inform an assessment of whether land within the Survey Area may be functionally linked to these sites.
Habitats	Section 41 Habitats, plus areas that may meet Annex 1 definitions	Habitat survey of areas within 100 m of the onshore infrastructure options that were not accessible in 2021 is proposed in 2022, once access is obtained (where permitted). Hedgerow assessment is proposed at areas which may be breached.
Plant species	Protected or notable species	Habitat survey of all areas within 100 m of the onshore infrastructure options that were not accessible in 2021 is proposed in 2022, once access is obtained (where permitted). Detailed survey in areas that are known or suspected to support protected or notable plant species, and that may be impacted, would be undertaken at the appropriate time of year for the relevant species. Mapping of both rare arable weeds and invasive non-native plants species would be included as part of the updated habitat survey.
Invertebrates	Protected or notable species	Except for Fisher’s estuarine moth and Holland Haven Marshes SSSI, which was surveyed for invertebrates in 2021, assessment of impacts to this species group will be via habitat-based assessment, focussing on areas where permanent habitat loss is likely and areas that are known or suspected to support potentially important populations of rare/notable species. Survey for the host plant of Fisher’s estuarine moth (hog’s fennel) will be undertaken in relevant areas in July – August. If the host plant is found, it shall be presumed for the purpose of EIA that Fisher’s estuarine moth is present or could be present in future.
GCN and common toad	Protected or notable species	Presence/ absence survey undertaken at identified ponds within 250 m of the onshore infrastructure options, unless suitable existing data are available. Habitat suitability assessment also undertaken of terrestrial habitats. Population size class surveys to be conducted within 250m of permanent or 100 m of temporary loss to inform impact assessment and EPSL route (i.e., DLL or standard).

Important Ecological Feature	Reason for Importance	Further Survey or Desk-based Assessment Required
Reptiles	Protected or notable species	Assessment of habitats for their suitability for common reptile species, followed by presence/ absence survey undertaken where permanent loss of suitable habitat or significant impacts to populations may occur.
Breeding Birds	Protected or notable species	Survey is proposed for all of the onshore infrastructure options plus a 100 m buffer, excluding the area at and near the landfall which was surveyed by MacArthur Green in 2021. Survey would follow the 2021 Bird Survey Guidelines but with a reduced number of visits (four) given that most effects on breeding bird species will be temporary in nature and given also the very large scale of the survey area. Survey visits will be designed to meet specific requirements for the target species, where appropriate, for example, all potentially suitable trees and potentially suitable structures within the Survey Area (where accessible) will be inspected for evidence of the presence of barn owl.
Non-Breeding Birds	Protected or notable species	Surveys of wintering birds within and surrounding Holland Haven SSSI were carried out by MacArthur Green between October 2020 and March 2021. Surveys of wintering birds using inter-tidal areas at the landfall by SLR have recently been completed. Surveys of wintering birds using inland parts of the Survey Area, excluding areas covered at the landfall in winter 2020-21, have also recently been completed by MacArthur Green (on behalf of NF OFW but the report will be made available to VE OFW).
Bats	Protected or notable species	Surveys are proposed for roosting bats, comprising (i) preliminary roost inspections from the ground, (ii) close inspections at height of trees/ structures initially assessed as having moderate or high suitability for roosting bats and that could be removed or damaged; and (iii) emergence surveys of all trees/ structures that could be removed or damaged which are confirmed as having moderate or high suitability on close inspection or which could not be closely inspected at height. Surveys for foraging bats are proposed by undertaking walked transects and deployment of static bat detectors to record bat activity, with ten transects proposed and 5-8 static bat detectors per transect.
Badger	Protected or notable species	Survey of all areas within at least 30m of the onshore infrastructure options that were not accessible in 2021 is proposed in 2022.

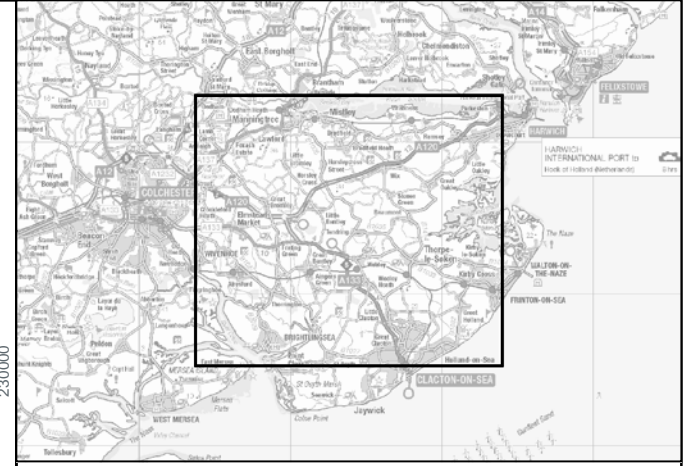
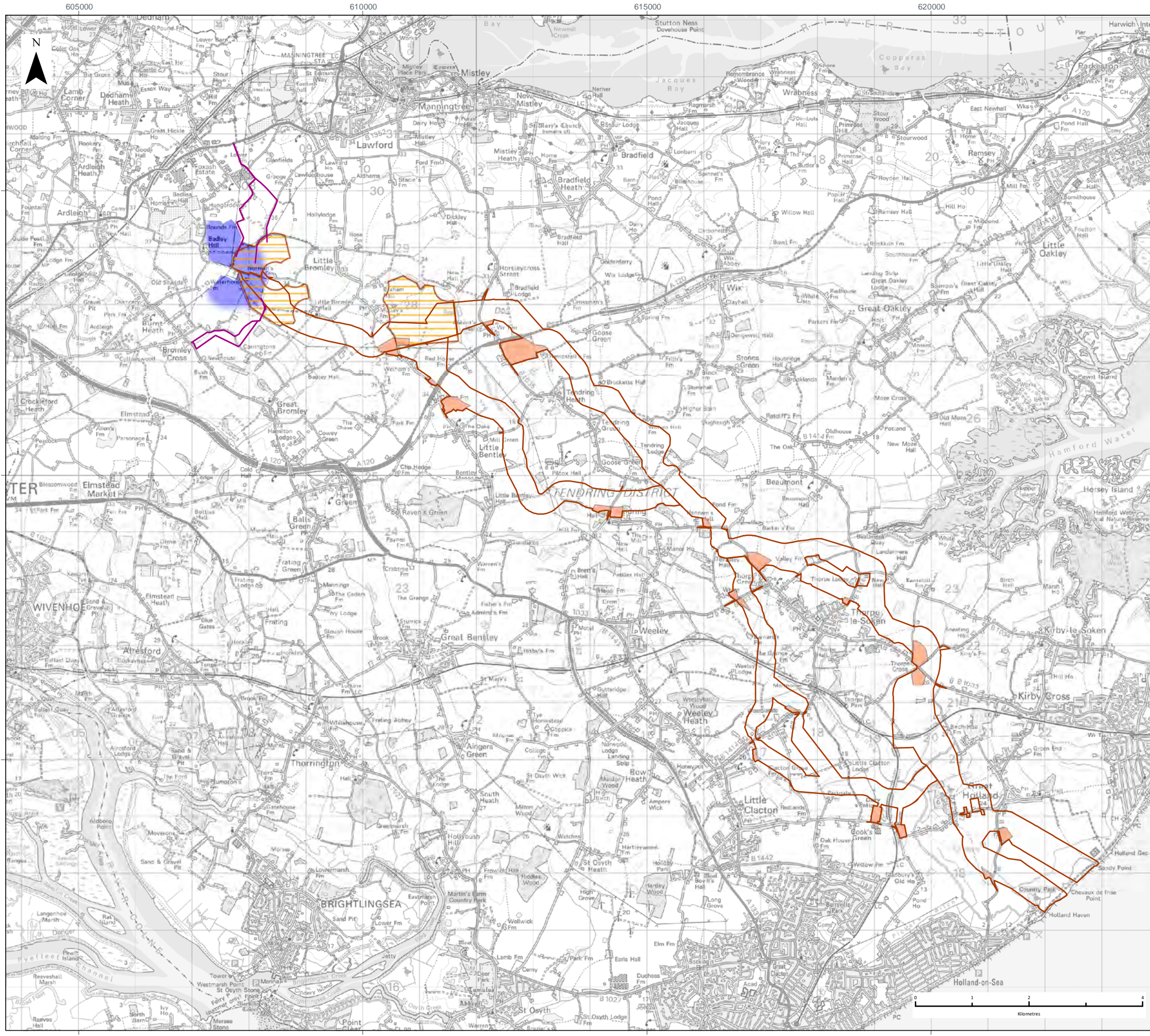
Important Ecological Feature	Reason for Importance	Further Survey or Desk-based Assessment Required
Otter	Protected or notable species	Otter survey is proposed at suitable watercourses crossing the onshore infrastructure options, plus 250m up and downstream.
Water Vole	Protected or notable species	Water vole survey is proposed at suitable watercourses crossing the onshore infrastructure options, plus 200m up and downstream.
Dormouse	Protected or notable species	Habitat based assessment of hedgerows and woodland within the Survey Area is proposed. Nest tube survey would then be undertaken at all hedgerows that may be breached and which are potentially suitable for use by dormice.
Other Section 41 Mammal Species: hedgehog, brown hare, and harvest mouse.	Protected or notable species	Habitat based assessment will be undertaken for these species and used as a basis for impact assessment. Detailed surveys are not proposed.

A brief outline of mitigation/ compensation requirements that have so far been identified is described within Section 4.2 of the report. The final mitigation/ compensation proposals will be subject to detailed, species and location-specific refinement, once all necessary data has been obtained, with full details provided in the PEIR, ES and OEMP. Measures are likely to include (but are not limited to): use of HDD to avoid direct effects on Holland Haven Marshes SSSI and other important habitats; compensation for permanent loss of Section 41/ Annex 1 habitats; to include planting/creation of equivalent habitat type, quality and extent within Habitat Network enhancement/ Expansion/ Fragmentation Action Zones (where possible); and mitigation to minimise impacts to important species through careful alignment, scheduling and/or deterrence and/or exclusion measures as necessary (under licence, if appropriate). Details will depend on the results of further surveys and the detailed design.

Possible biodiversity enhancements are also suggested and include planting of species rich hedgerows, pond, wetland and wildflower meadow creation, creation of reptile/ amphibian refugia; creation and management of habitats to benefit notable bird and moth species and installation of bird and bat boxes. The list of enhancements is likely to change depending on the detailed design of the project, the results of further survey work and land ownership constraints, in addition to the likely requirement to provide BNG gain, in accordance with the Defra Metric 3.0. Full details will be provided in the ES and OEMP.

DRAWING 1

Landfall, Route Corridor and Substation Options



LEGEND

- Potential Landfall and Route Corridor
- Potential Haul Route
- Potential Substation Zone
- Potential Temporary Construction Compound
- National Grid Substation Search Area

Data Source:
 © Crown copyright [and database rights] (2022) 0100031673 OS OpenData.

PROJECT TITLE:
*FIVE ESTUARIES OFFSHORE WINDFARM:
 PRELIMINARY ECOLOGICAL APPRAISAL*

DRAWING TITLE:
Landfall, Route Corridor and Substation Options

VER	DATE	REMARKS	Drawn	Checked
2	30/03/2022	Inclusion of Area North of A120	JO	JC
3	14/04/2022	Route Corridor Amendment	JO	JC
4	30/05/2022	Substation Search Area	JO	SF

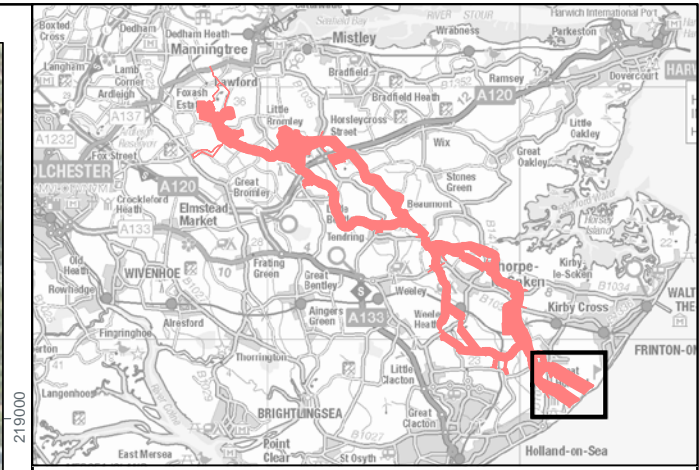
DRAWING NUMBER:
 1

SCALE: 1:70,000 PLOT SIZE: A3 DATUM: ODN COORDINATE SYSTEM: British National Grid.



DRAWING 2

Field Survey & Aerial Photograph Interpretation Extents



- LEGEND**
- Proposed Infrastructure
 - Proposed Infrastructure - 100 m Buffer
 - Field Survey Undertaken
 - Aerial Photography and Limited Ground Truthing
- Survey Technique**

Data Source: © Crown copyright [and database rights] (2022) 0100031673 OS OpenData.
 Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

PROJECT TITLE:
***FIVE ESTUARIES OFFSHORE WINDFARM:
 PRELIMINARY ECOLOGICAL APPRAISAL***

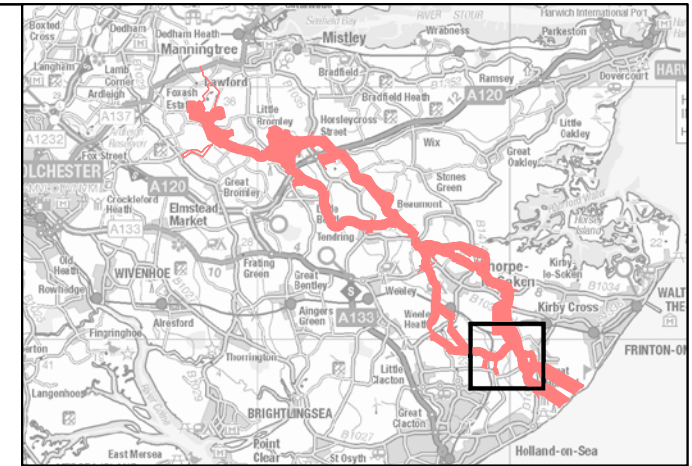
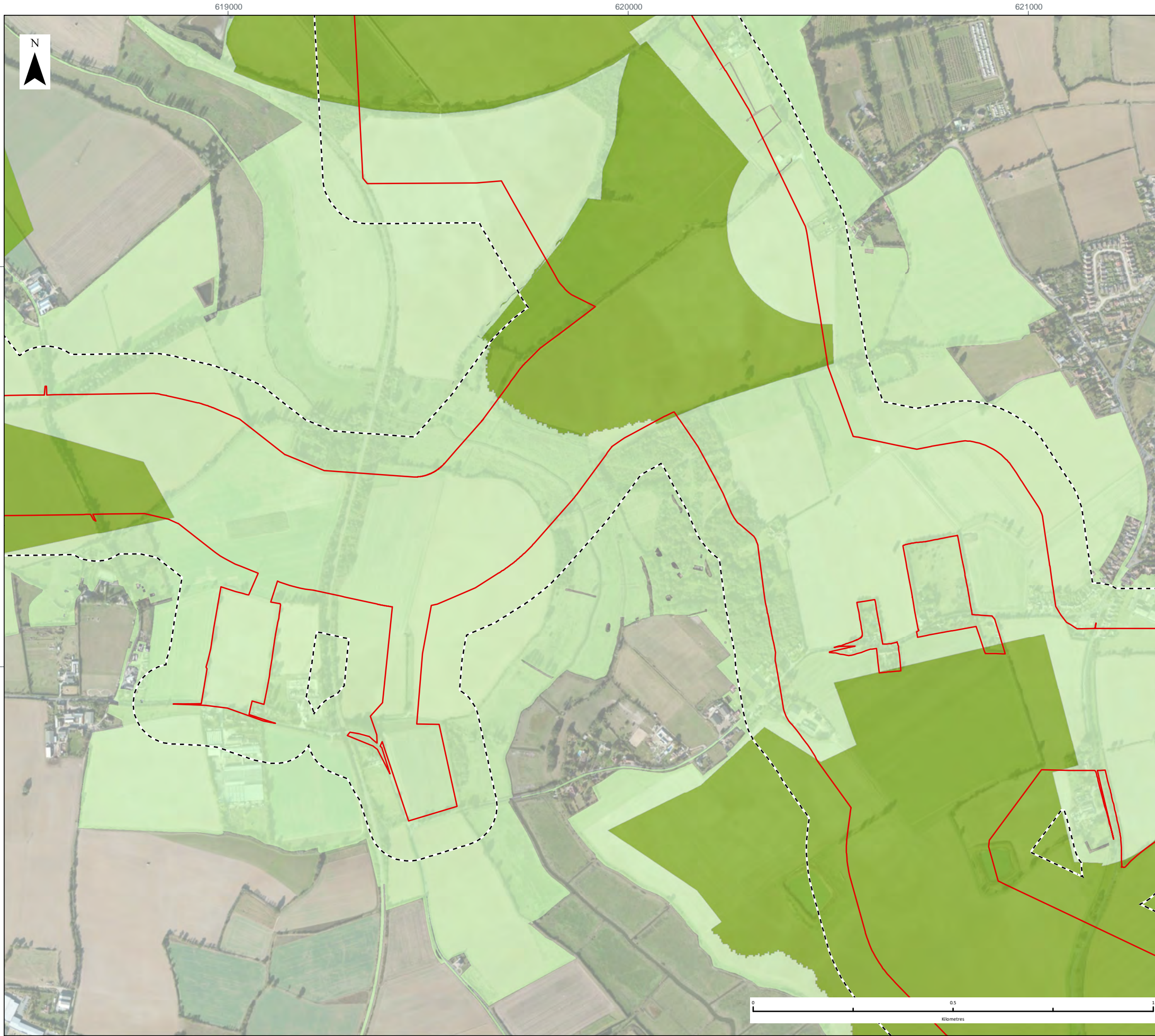
DRAWING TITLE:
**Field Survey & Aerial
 Photograph Interpretation Extents**

VER	DATE	REMARKS	Drawn	Checked
1	23/02/2022	For Issue	JO	JC
2	30/03/2022	Inclusion of Area North of A120	JO	JC
3	13/04/2022	Route Corridor Amendment	JO	JC

DRAWING NUMBER:
2.1
 Page 1 of 12

SCALE: **1:10,000** PLOT SIZE: A3 DATUM: ODN COORDINATE SYSTEM: British National Grid.





- LEGEND**
- Proposed Infrastructure
 - Proposed Infrastructure - 100 m Buffer
 - Survey Technique
 - Field Survey Undertaken
 - Aerial Photography and Limited Ground Truthing

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

PROJECT TITLE:
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 PRELIMINARY ECOLOGICAL APPRAISAL***

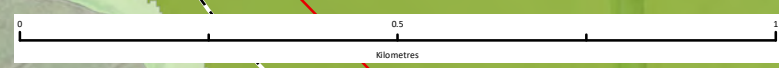
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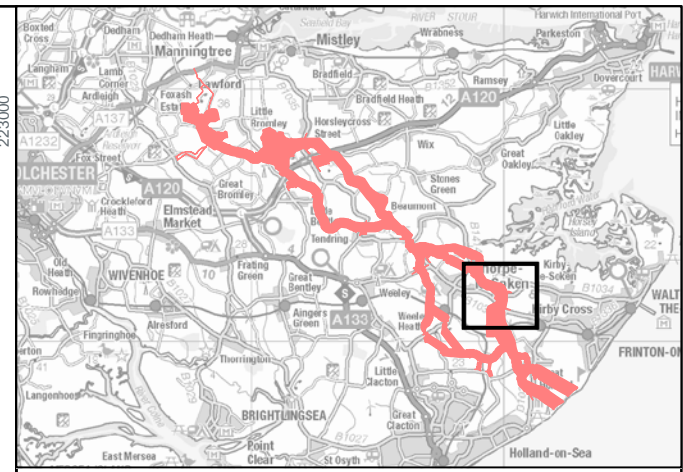
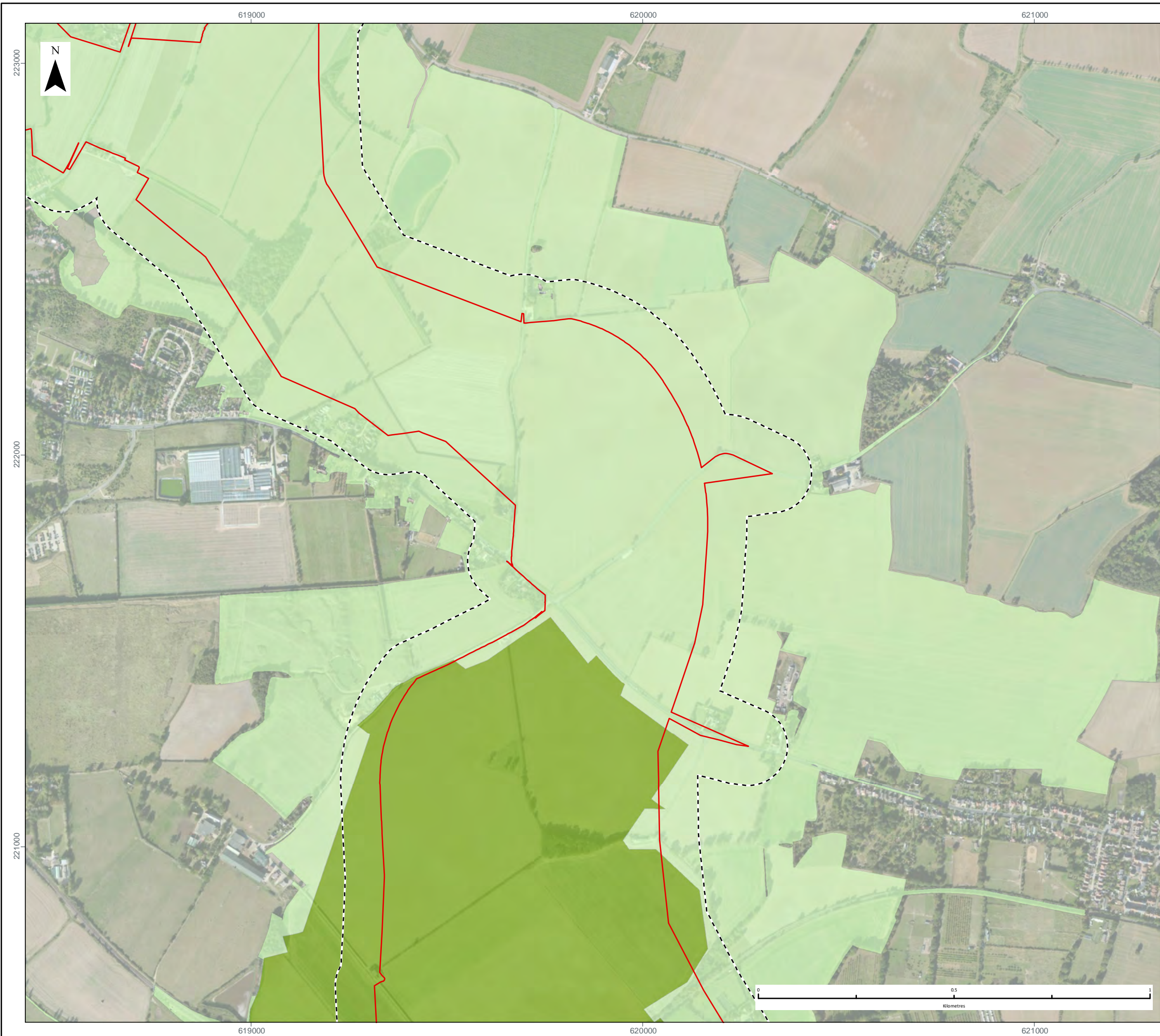
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2	30/03/2022	Inclusion of Area North of A120	JO	JC
3	13/04/2022	Route Corridor Amendment	JO	JC

DRAWING NUMBER:

2.2
 Page 2 of 12

SCALE: **1:10,000** PLOT SIZE: A3 DATUM: ODN COORDINATE SYSTEM: British National Grid.





LEGEND

- Proposed Infrastructure
- Proposed Infrastructure - 100 m Buffer

Survey Technique

- Field Survey Undertaken
- Aerial Photography and Limited Ground Truthing

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

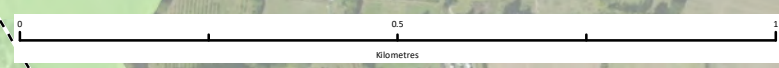
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 PRELIMINARY ECOLOGICAL APPRAISAL***

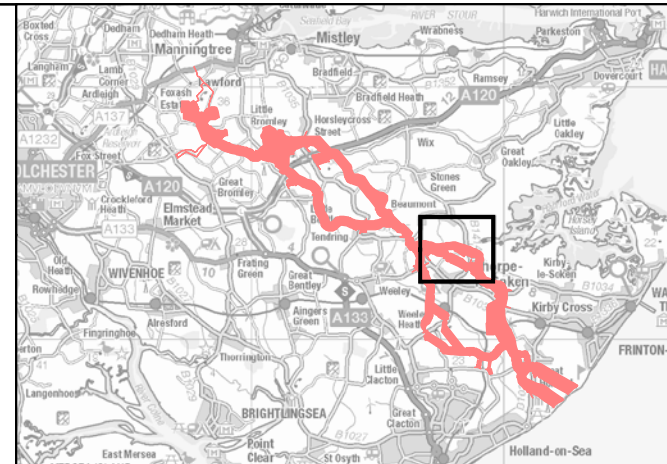
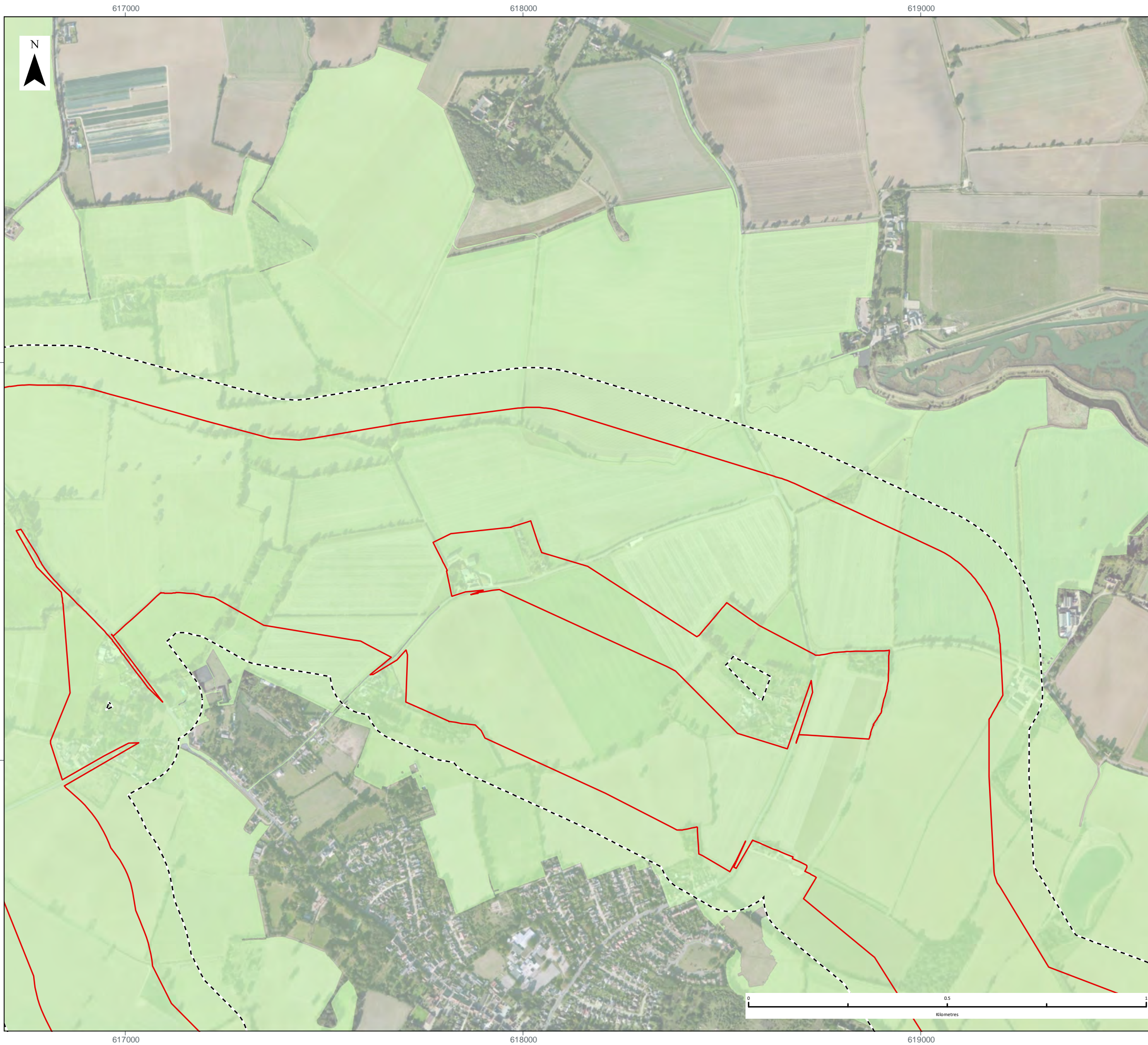
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Field Survey & Aerial Photograph Interpretation Extents

VER	DATE	REMARKS	Drawn	Checked
1	23/02/2022	For Issue	JO	JC
2	30/03/2022	Inclusion of Area North of A120	JO	JC
3	13/04/2022	Route Corridor Amendment	JO	JC

DRAWING NUMBER:
2.3
 Page 3 of 12

SCALE: **1:10,000** PLOT SIZE: A3 DATUM: ODN COORDINATE SYSTEM: British National Grid.





- LEGEND**
- Proposed Infrastructure
 - Proposed Infrastructure - 100 m Buffer
- Survey Technique**
- Aerial Photography and Limited Ground Truthing

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PROJECT TITLE:
*FIVE ESTUARIES OFFSHORE WINDFARM:
 PRELIMINARY ECOLOGICAL APPRAISAL*

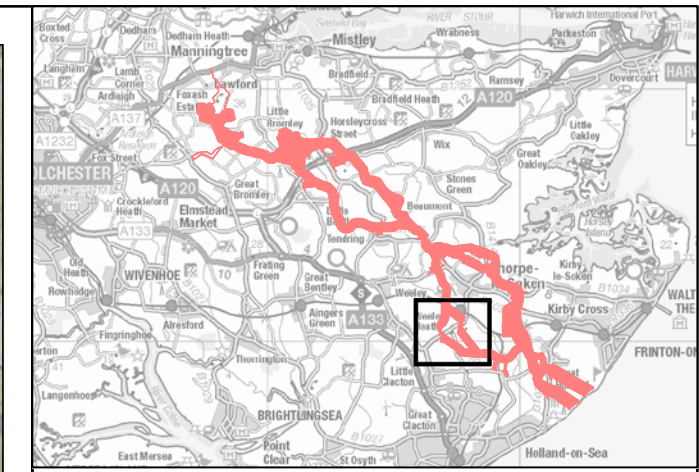
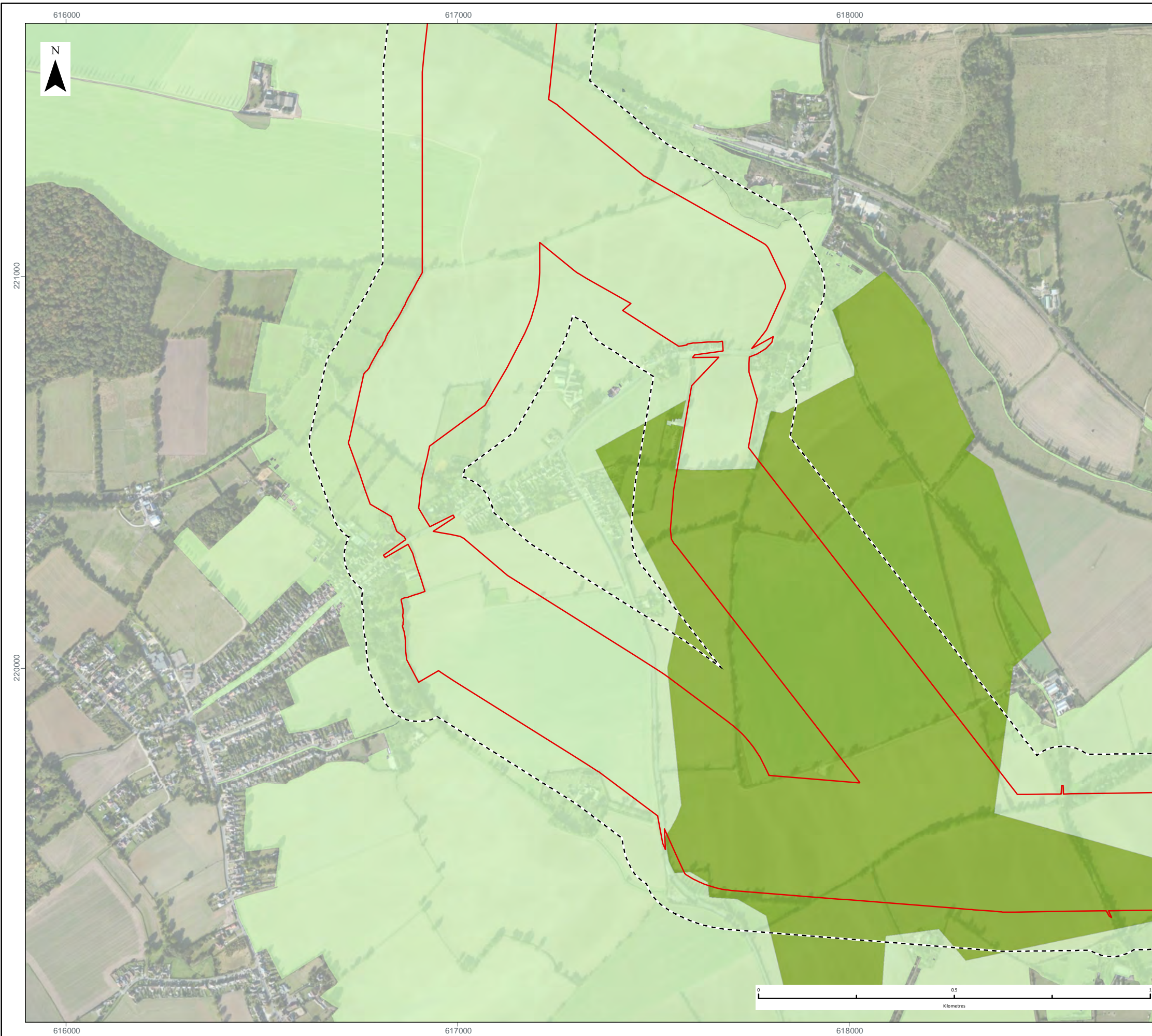
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**Field Survey & Aerial
 Photograph Interpretation Extents**

VER	DATE	REMARKS	Drawn	Checked
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2	30/03/2022	Inclusion of Area North of A120	JO	JC
3	13/04/2022	Route Corridor Amendment	JO	JC

DRAWING NUMBER:
2.4
 Page 4 of 12

SCALE: **1:10,000** PLOT SIZE: **A3** DATUM: **ODN** COORDINATE SYSTEM: **British National Grid.**





LEGEND

- Proposed Infrastructure
- Proposed Infrastructure - 100 m Buffer

Survey Technique

- Field Survey Undertaken
- Aerial Photography and Limited Ground Truthing

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

PROJECT TITLE:
***FIVE ESTUARIES OFFSHORE WINDFARM:
 PRELIMINARY ECOLOGICAL APPRAISAL***

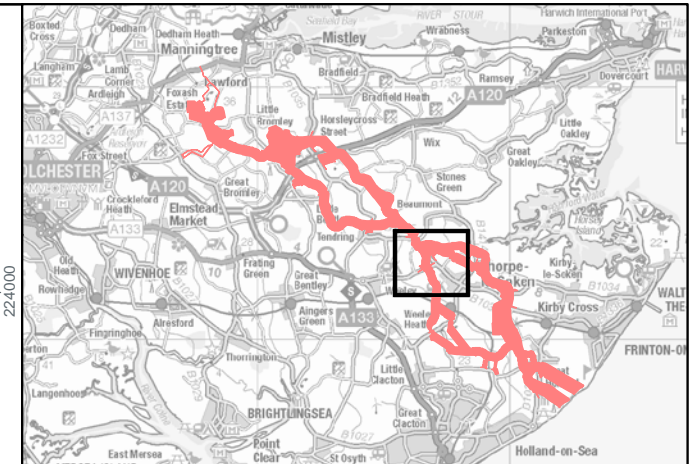
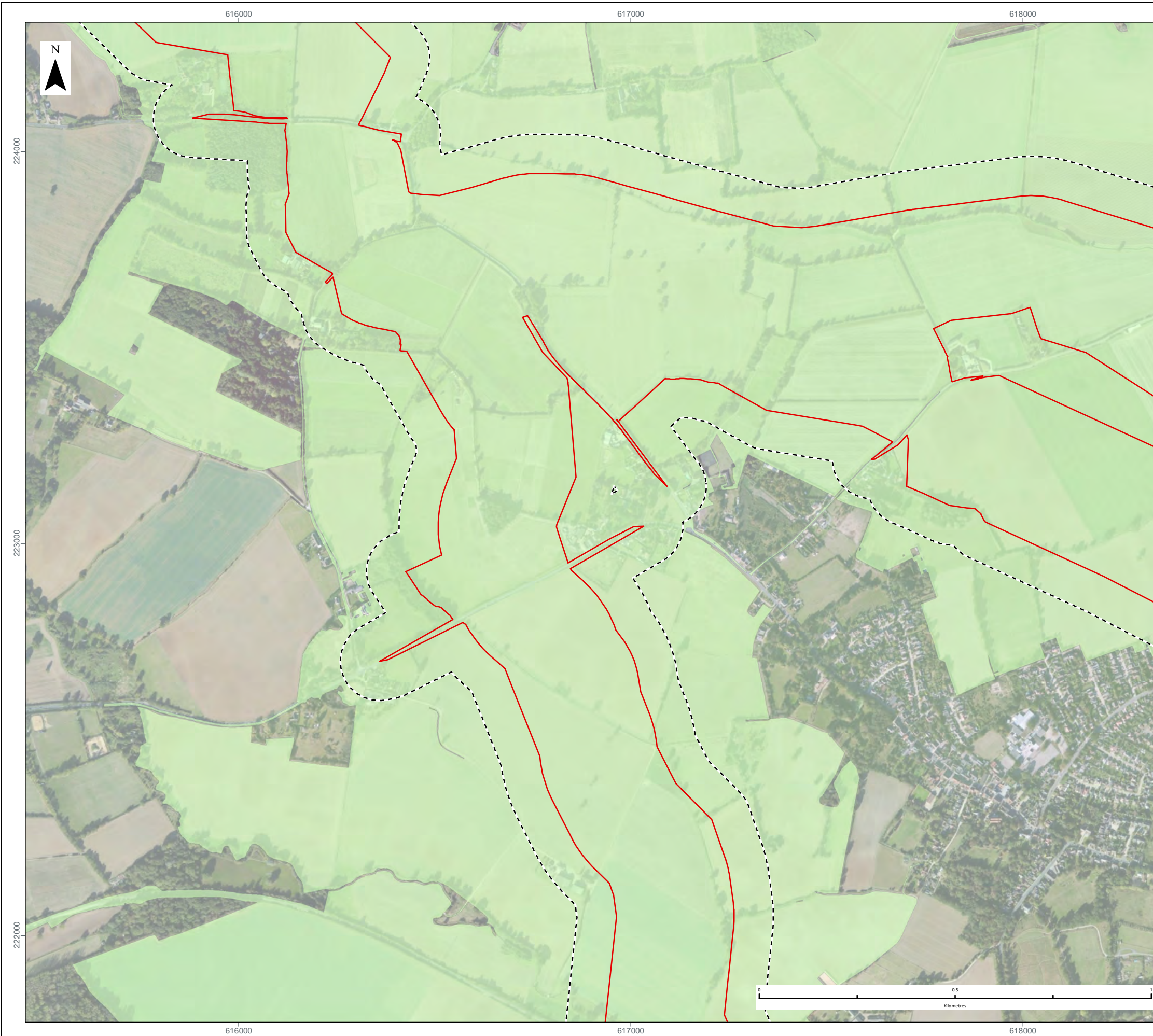
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**Field Survey & Aerial
 Photograph Interpretation Extents**

VER	DATE	REMARKS	Drawn	Checked
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2	30/03/2022	Inclusion of Area North of A120	JO	JC
3	13/04/2022	Route Corridor Amendment	JO	JC

DRAWING NUMBER:
2.5
 Page 5 of 12

SCALE: **1:10,000** PLOT SIZE: A3 DATUM: ODN COORDINATE SYSTEM: British National Grid.





- LEGEND**
- Proposed Infrastructure
 - Proposed Infrastructure - 100 m Buffer
- Survey Technique**
- Aerial Photography and Limited Ground Truthing

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

PROJECT TITLE:
*FIVE ESTUARIES OFFSHORE WINDFARM:
 PRELIMINARY ECOLOGICAL APPRAISAL*

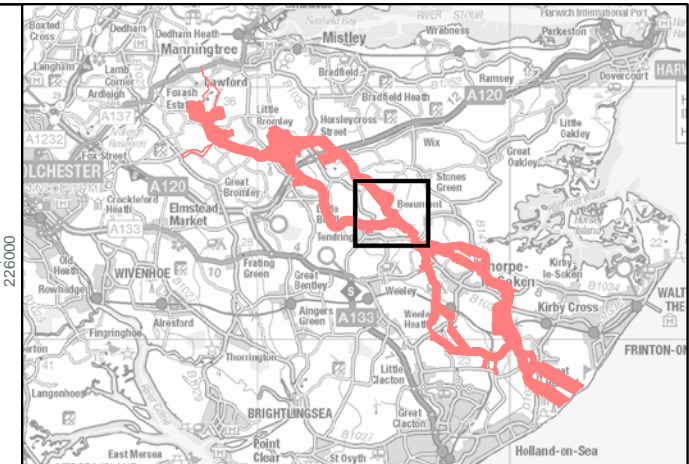
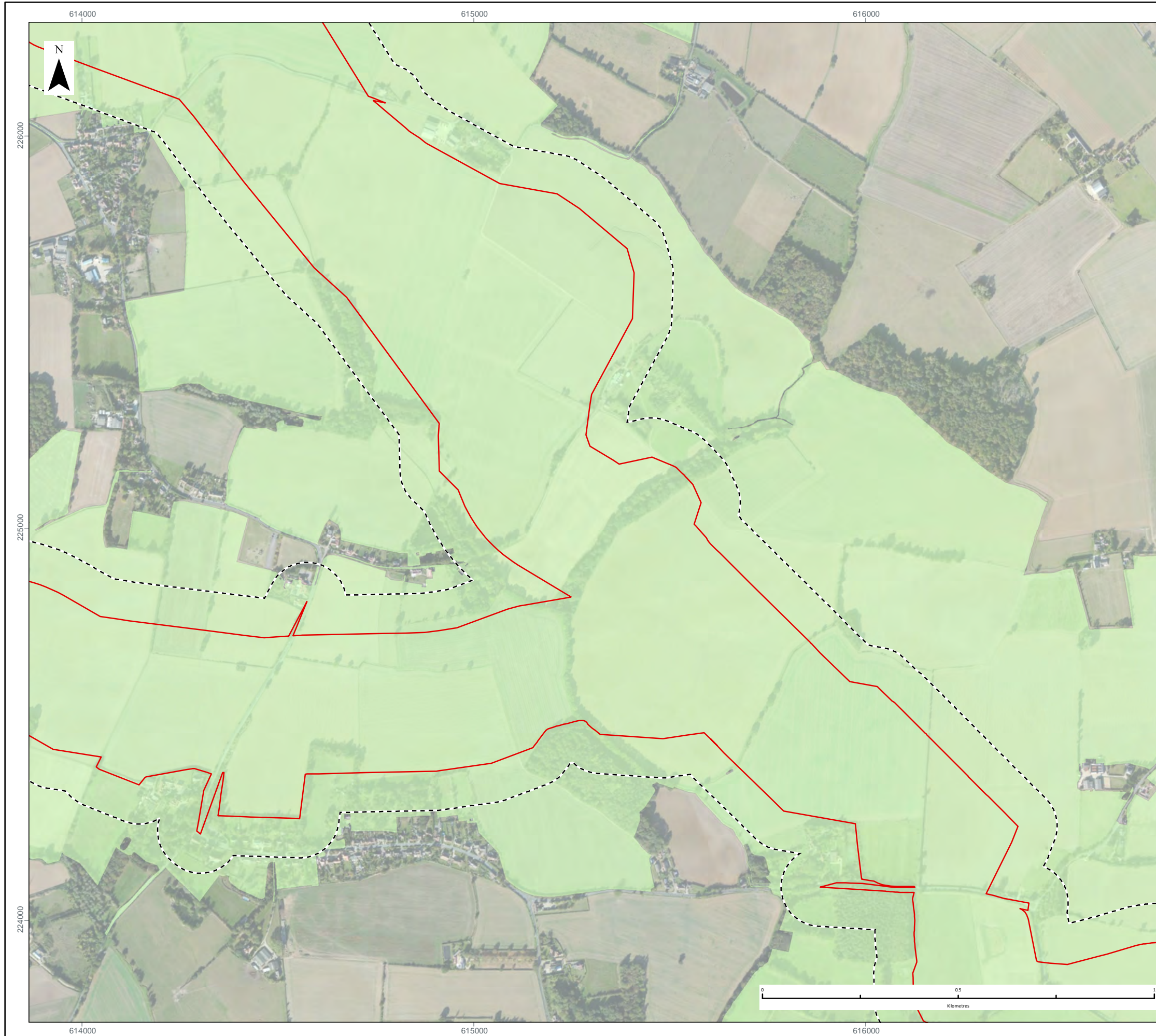
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**Field Survey & Aerial
 Photograph Interpretation Extents**

VER	DATE	REMARKS	Drawn	Checked
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3	13/04/2022	Route Corridor Amendment	JO	JC

DRAWING NUMBER:
 2.6
 Page 6 of 12

SCALE: 1:10,000 PLOT SIZE: A3 DATUM: ODN COORDINATE SYSTEM: British National Grid.





LEGEND

- Proposed Infrastructure
- Proposed Infrastructure - 100 m Buffer

Survey Technique

- Aerial Photography and Limited Ground Truthing

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PROJECT TITLE:
***FIVE ESTUARIES OFFSHORE WINDFARM:
 PRELIMINARY ECOLOGICAL APPRAISAL***

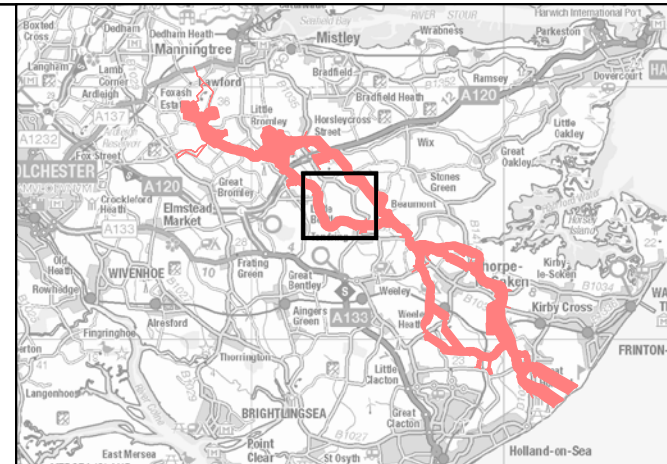
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**Field Survey & Aerial
 Photograph Interpretation Extents**

VER	DATE	REMARKS	Drawn	Checked
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2	30/03/2022	Inclusion of Area North of A120	JO	JC
3	13/04/2022	Route Corridor Amendment	JO	JC

DRAWING NUMBER:
2.7
 Page 7 of 12

SCALE: **1:10,000** PLOT SIZE: A3 DATUM: ODN COORDINATE SYSTEM: British National Grid.





LEGEND

- Proposed Infrastructure
- Proposed Infrastructure - 100 m Buffer

Survey Technique

- Field Survey Undertaken
- Aerial Photography and Limited Ground Truthing

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PROJECT TITLE:
***FIVE ESTUARIES OFFSHORE WINDFARM:
 PRELIMINARY ECOLOGICAL APPRAISAL***

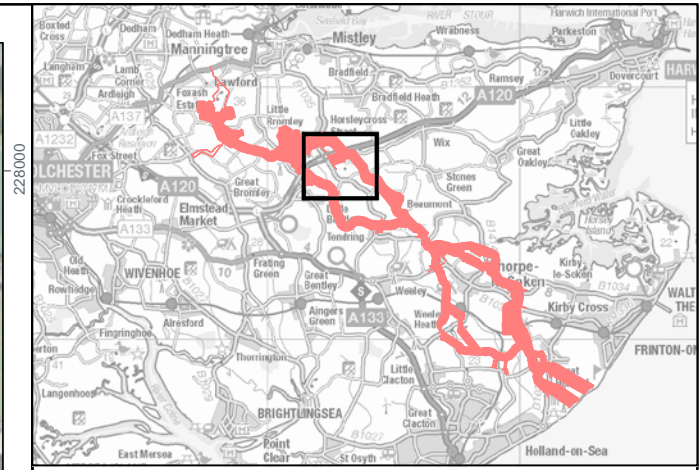
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2	30/03/2022	Inclusion of Area North of A120	JO	JC
3	13/04/2022	Route Corridor Amendment	JO	JC

DRAWING NUMBER:
2.8
 Page 8 of 12

SCALE: **1:10,000** PLOT SIZE: **A3** DATUM: **ODN** COORDINATE SYSTEM: **British National Grid**





LEGEND

- Proposed Infrastructure
- Proposed Infrastructure - 100 m Buffer

Survey Technique

- Field Survey Undertaken
- Aerial Photography and Limited Ground Truthing

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PROJECT TITLE:
***FIVE ESTUARIES OFFSHORE WINDFARM:
 PRELIMINARY ECOLOGICAL APPRAISAL***

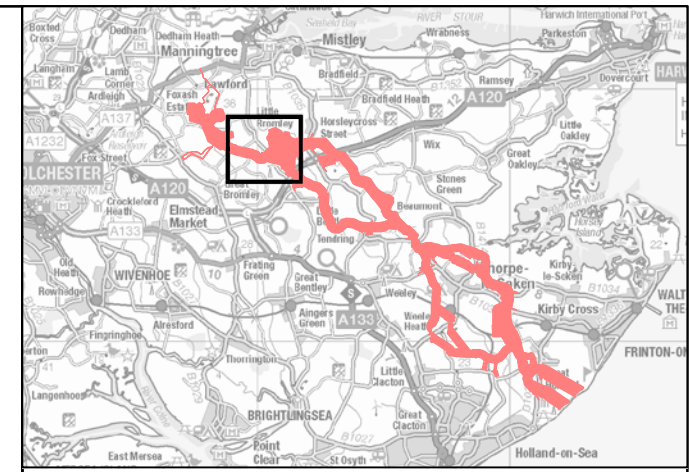
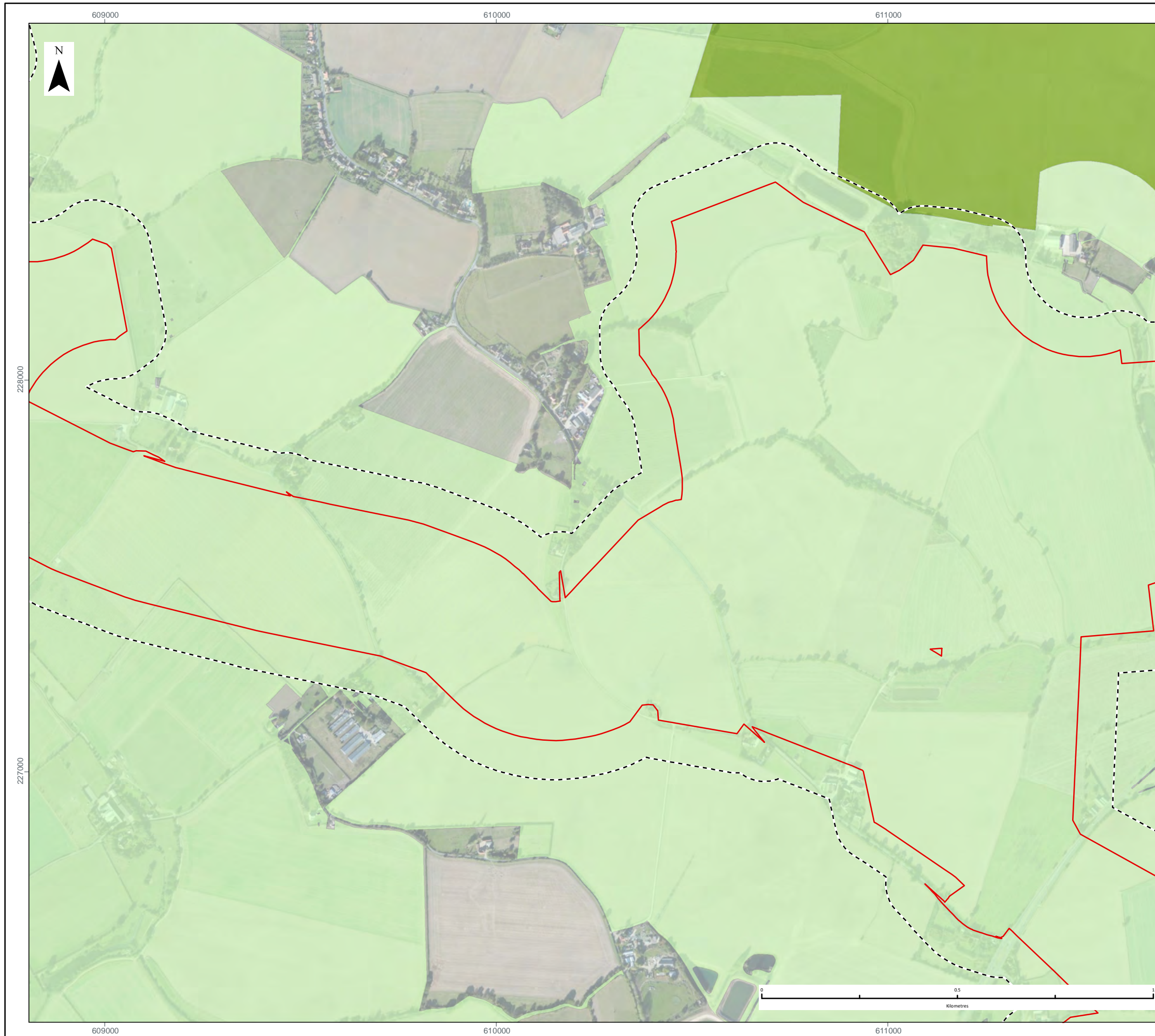
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**Field Survey & Aerial
 Photograph Interpretation Extents**

VER	DATE	REMARKS	Drawn	Checked
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2	30/03/2022	Inclusion of Area North of A120	JO	JC
3	13/04/2022	Route Corridor Amendment	JO	JC

DRAWING NUMBER:
2.9
 Page 9 of 12

SCALE: **1:10,000** PLOT SIZE: A3 DATUM: ODN COORDINATE SYSTEM: British National Grid.





LEGEND

- Proposed Infrastructure
- Proposed Infrastructure - 100 m Buffer

Survey Technique

- Field Survey Undertaken
- Aerial Photography and Limited Ground Truthing

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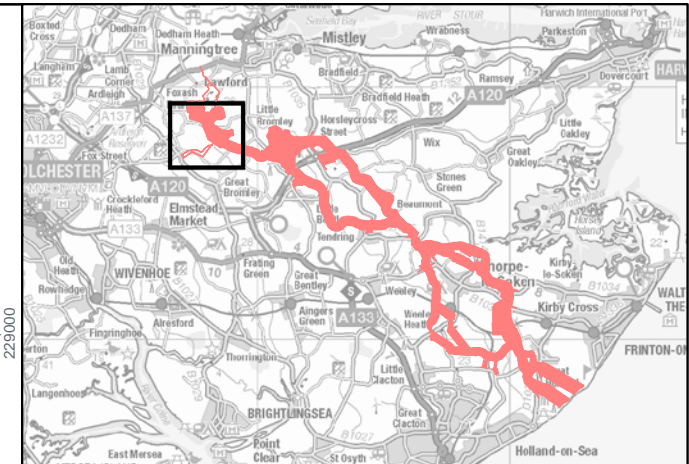
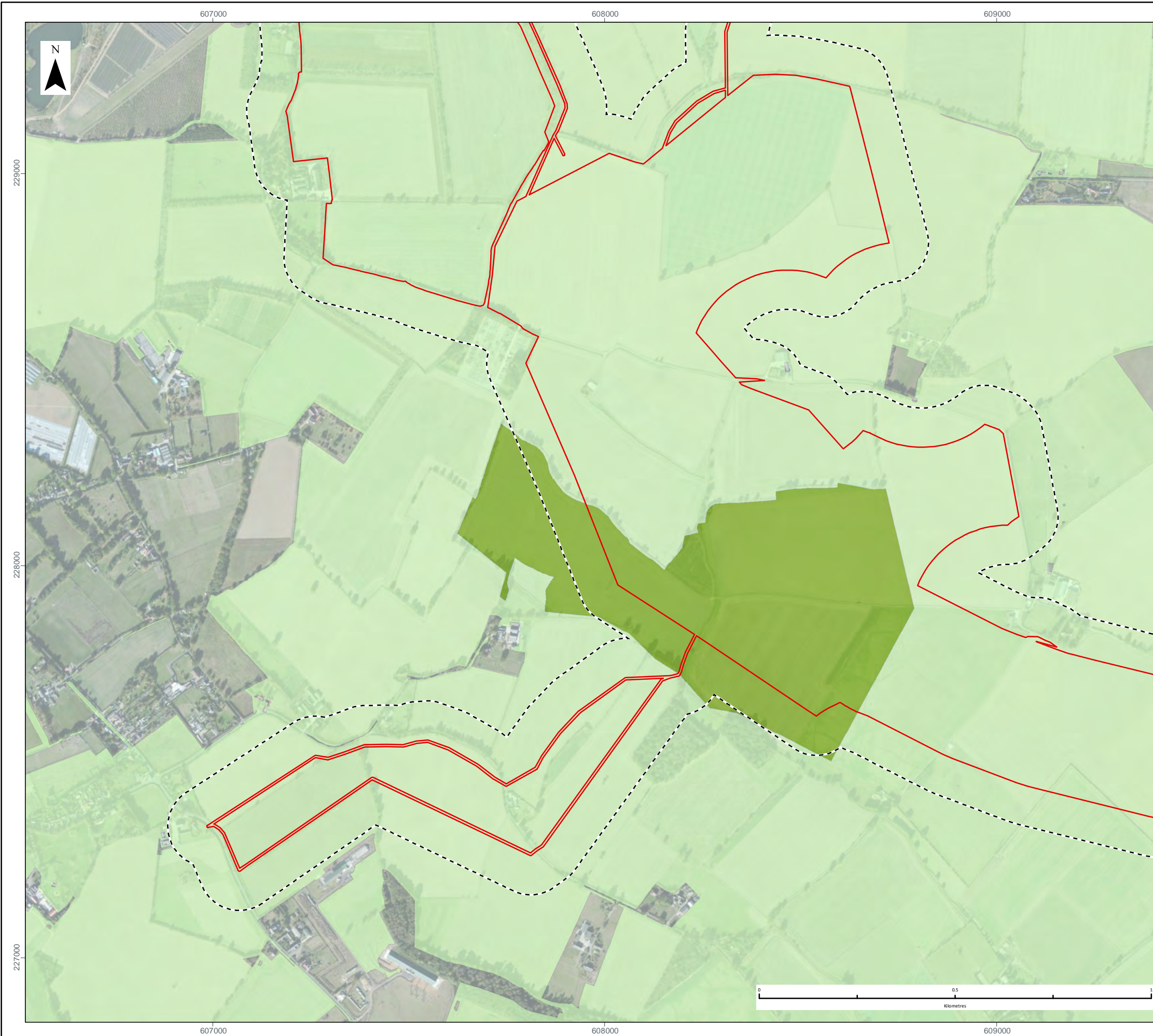
PROJECT TITLE:
*FIVE ESTUARIES OFFSHORE WINDFARM:
 PRELIMINARY ECOLOGICAL APPRAISAL*

DRAWING TITLE:
**Field Survey & Aerial
 Photograph Interpretation Extents**

VER	DATE	REMARKS	Drawn	Checked
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2	30/03/2022	Inclusion of Area North of A120	JO	JC
3	13/04/2022	Route Corridor Amendment	JO	JC

DRAWING NUMBER:
2.10
 Page 10 of 12

SCALE: **1:10,000** PLOT SIZE: A3 DATUM: ODN COORDINATE SYSTEM: British National Grid.



LEGEND

- Proposed Infrastructure
- Proposed Infrastructure - 100 m Buffer
- Survey Technique**
- Field Survey Undertaken
- Aerial Photography and Limited Ground Truthing

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

PROJECT TITLE:
***FIVE ESTUARIES OFFSHORE WINDFARM:
 PRELIMINARY ECOLOGICAL APPRAISAL***

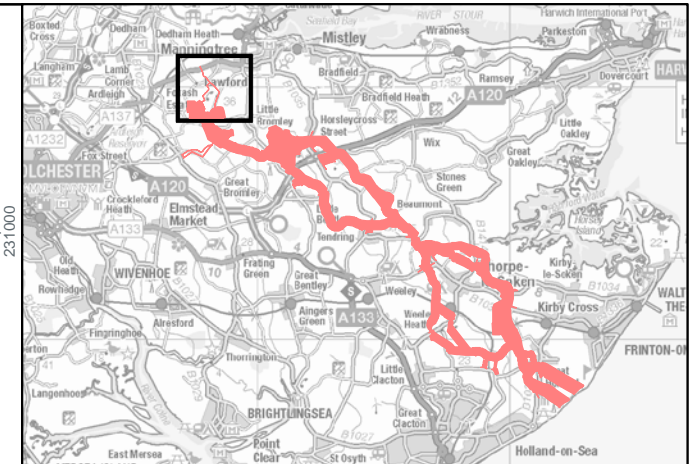
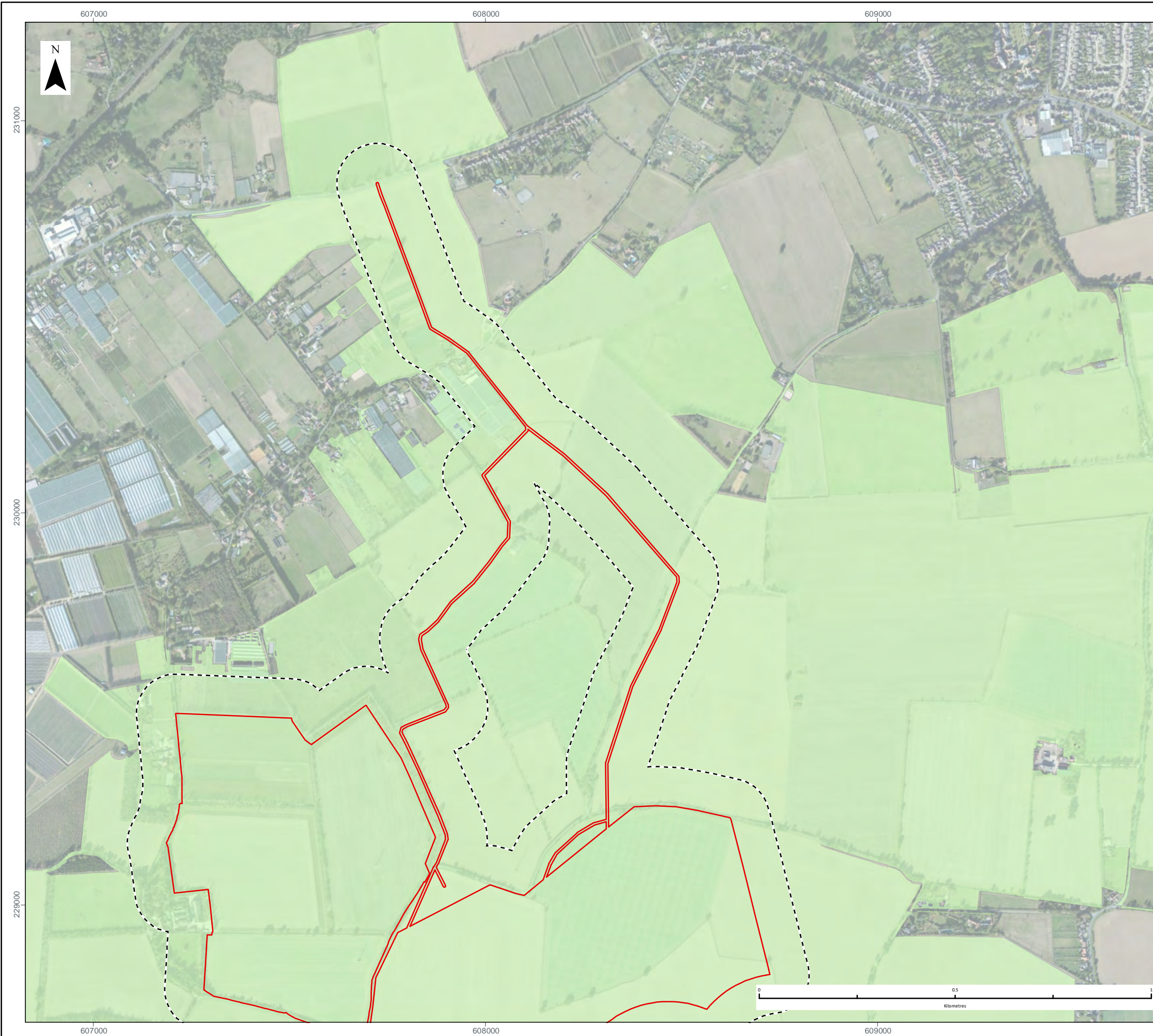
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**Field Survey & Aerial
 Photograph Interpretation Extents**

VER	DATE	REMARKS	Drawn	Checked
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2	30/03/2022	Inclusion of Area North of A120	JO	JC
3	13/04/2022	Route Corridor Amendment	JO	JC

DRAWING NUMBER:
2.11
 Page 11 of 12

SCALE: **1:10,000** PLOT SIZE: A3 DATUM: ODN COORDINATE SYSTEM: British National Grid.





LEGEND

- Proposed Infrastructure
- Proposed Infrastructure - 100 m Buffer
- Survey Technique
- Aerial Photography and Limited Ground Truthing

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PROJECT TITLE:
***FIVE ESTUARIES OFFSHORE WINDFARM:
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DRAWING TITLE:
**Field Survey & Aerial
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VER	DATE	REMARKS	Drawn	Checked
1	23/02/2022	For Issue	JO	JC
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3	13/04/2022	Route Corridor Amendment	JO	JC

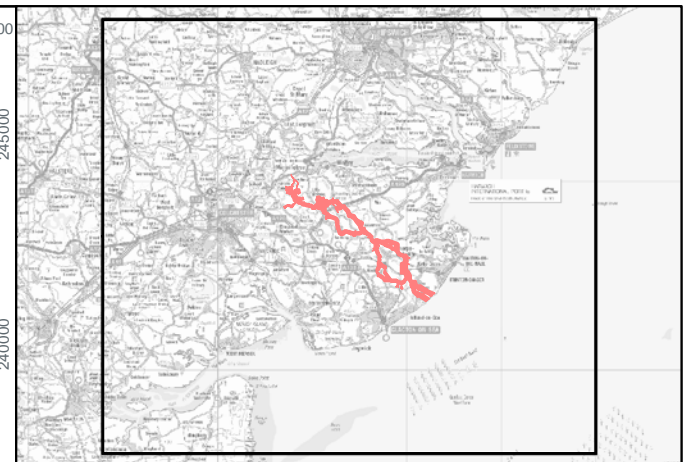
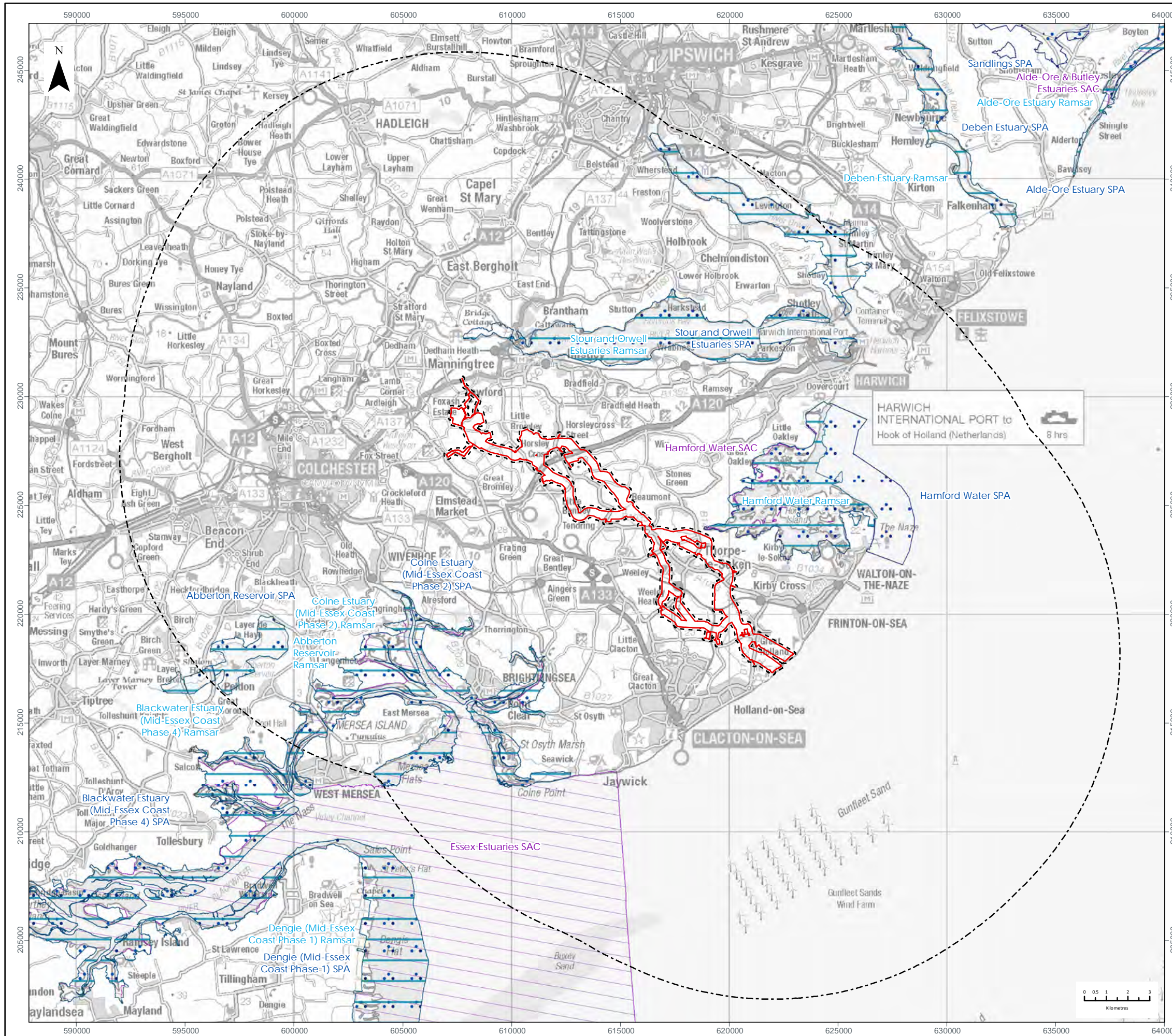
DRAWING NUMBER:
2.12
 Page 12 of 12

SCALE: **1:10,000** PLOT SIZE: A3 DATUM: ODN COORDINATE SYSTEM: British National Grid.



DRAWING 3

Designated Sites Plan



LEGEND

- Proposed Infrastructure
- Proposed Infrastructure - 100 m Buffer
- Proposed Infrastructure - 15 km Buffer
- Ramsar
- Special Protection Area (SPA)
- Special Area of Conservation (SAC)

HARWICH INTERNATIONAL PORT to Hook of Holland (Netherlands) 8 hrs

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PROJECT TITLE:
*FIVE ESTUARIES OFFSHORE WINDFARM:
 PRELIMINARY ECOLOGICAL APPRAISAL*

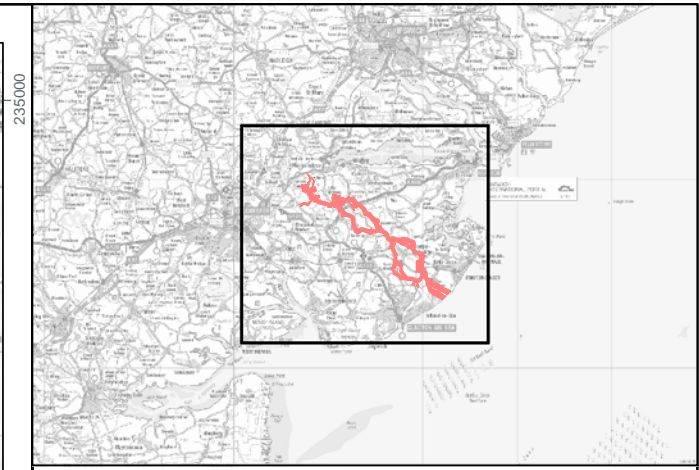
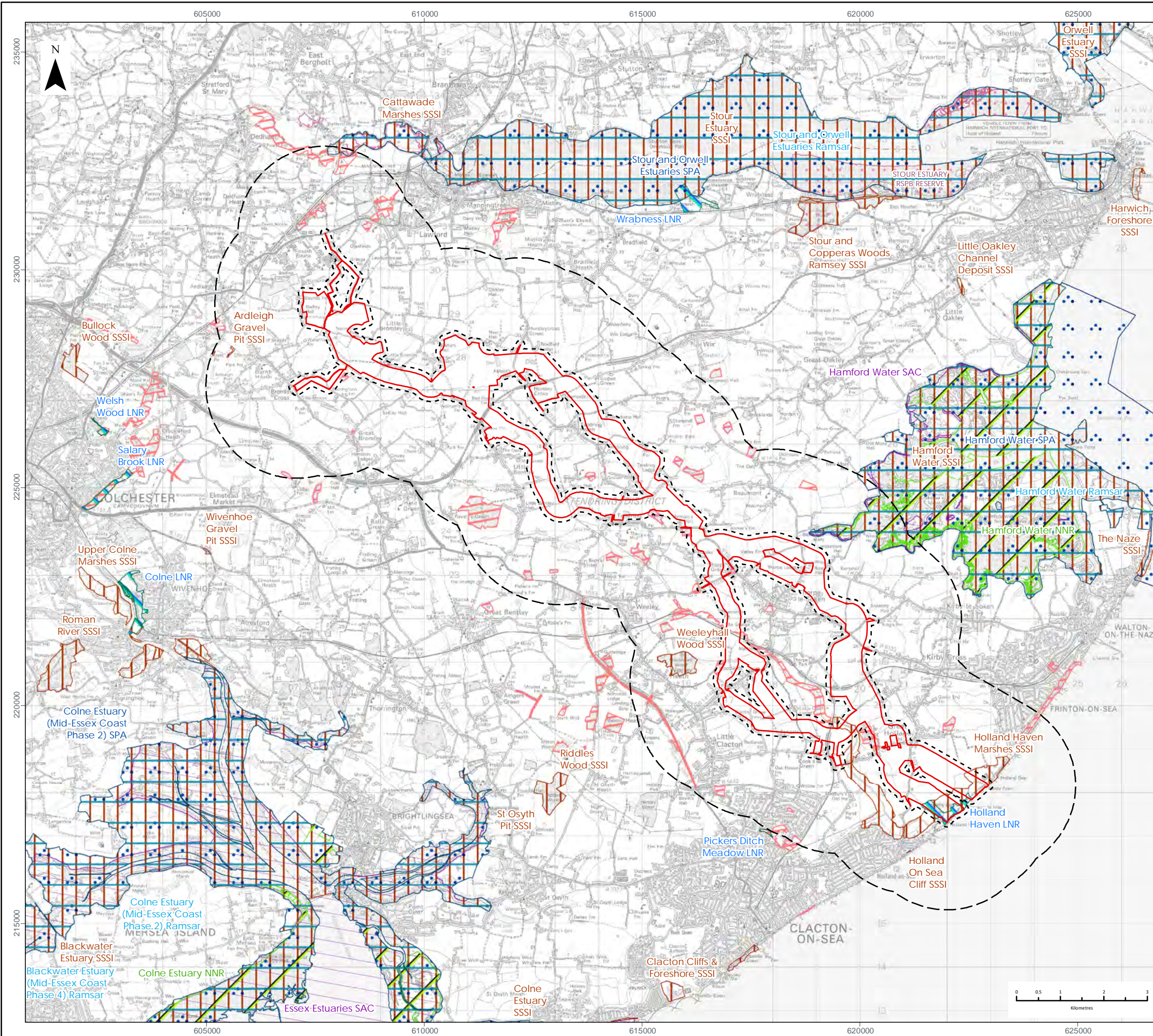
DRAWING TITLE:
Designated Sites Plan

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2	30/03/2022	Inclusion of Area North of A120	JO	JC
3	14/04/2022	Route Corridor Amendment	JO	JC

DRAWING NUMBER:
 3.1
 Page 1 of 9

SCALE: 1:180,000 PLOT SIZE: A3 DATUM: ODN COORDINATE SYSTEM: British National Grid.





LEGEND

- Proposed Infrastructure
- Proposed Infrastructure - 100 m Buffer
- Proposed Infrastructure - 2 km Buffer
- Ramsar
- Special Protection Area (SPA)
- Special Area of Conservation (SAC)
- Site of Special Scientific Interest (SSSI)
- National Nature Reserve (NNR)
- Local Nature Reserve (LNR)
- Local Wildlife Site (LWS)
- RSPB Reserve

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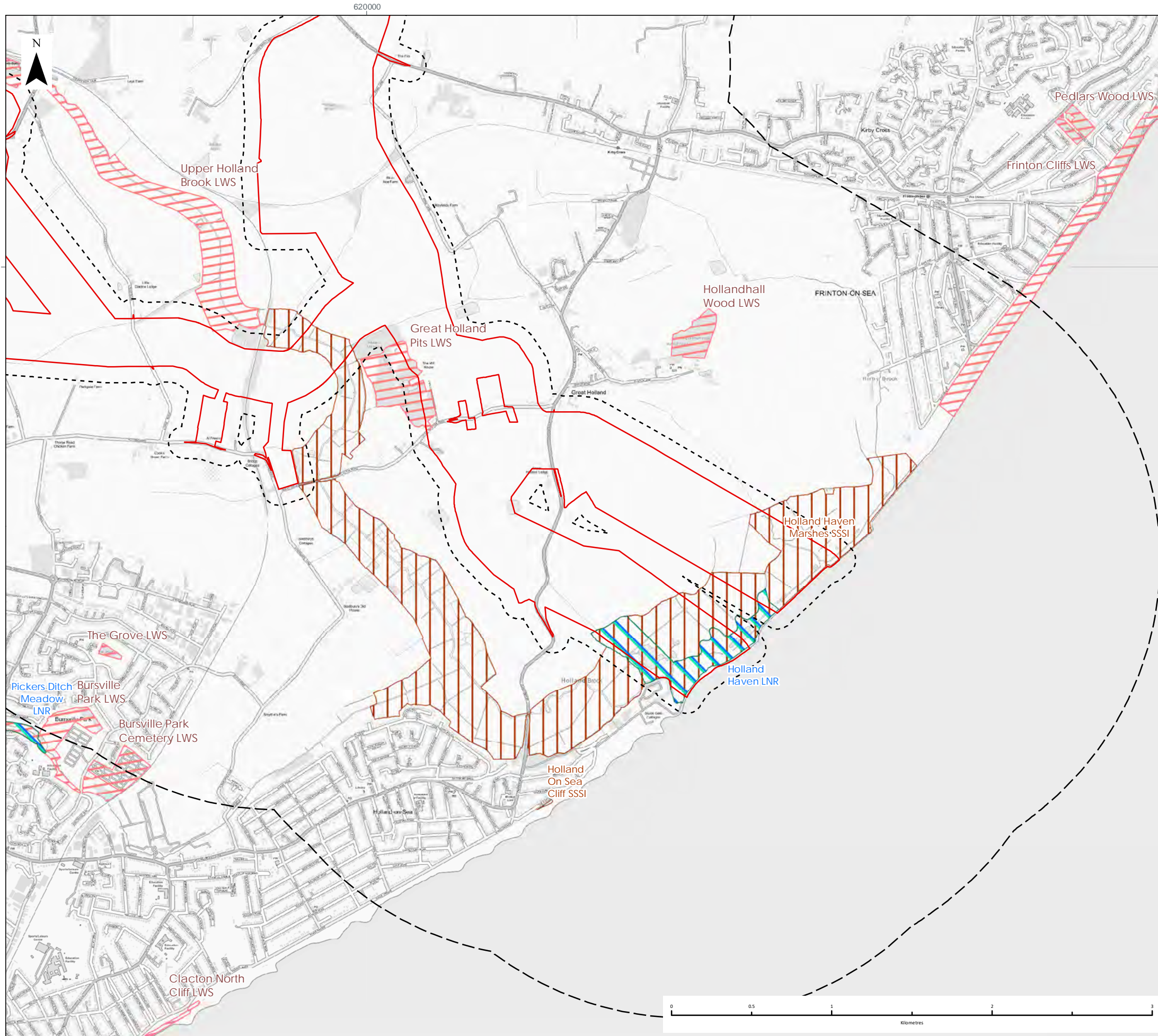
PROJECT TITLE:
*FIVE ESTUARIES OFFSHORE WIND FARM:
 PRELIMINARY ECOLOGICAL APPRAISAL*

DRAWING TITLE:
Designated Sites Plan

VER	DATE	REMARKS	Drawn	Checked
1	23/02/2022	For Issue	JO	JC
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3	14/04/2022	Route Corridor Amendment	JO	JC

DRAWING NUMBER:
 3.2
 Page 2 of 9

SCALE: 1:90,000 PLOT SIZE: A3 DATUM: ODN COORDINATE SYSTEM: British National Grid



LEGEND

- Proposed Infrastructure
- Proposed Infrastructure - 100 m Buffer
- Proposed Infrastructure - 2 km Buffer
- Site of Special Scientific Interest (SSSI)
- Local Nature Reserve (LNR)
- Local Wildlife Site (LWS)

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PROJECT TITLE:
*FIVE ESTUARIES OFFSHORE WINDFARM:
 PRELIMINARY ECOLOGICAL APPRAISAL*

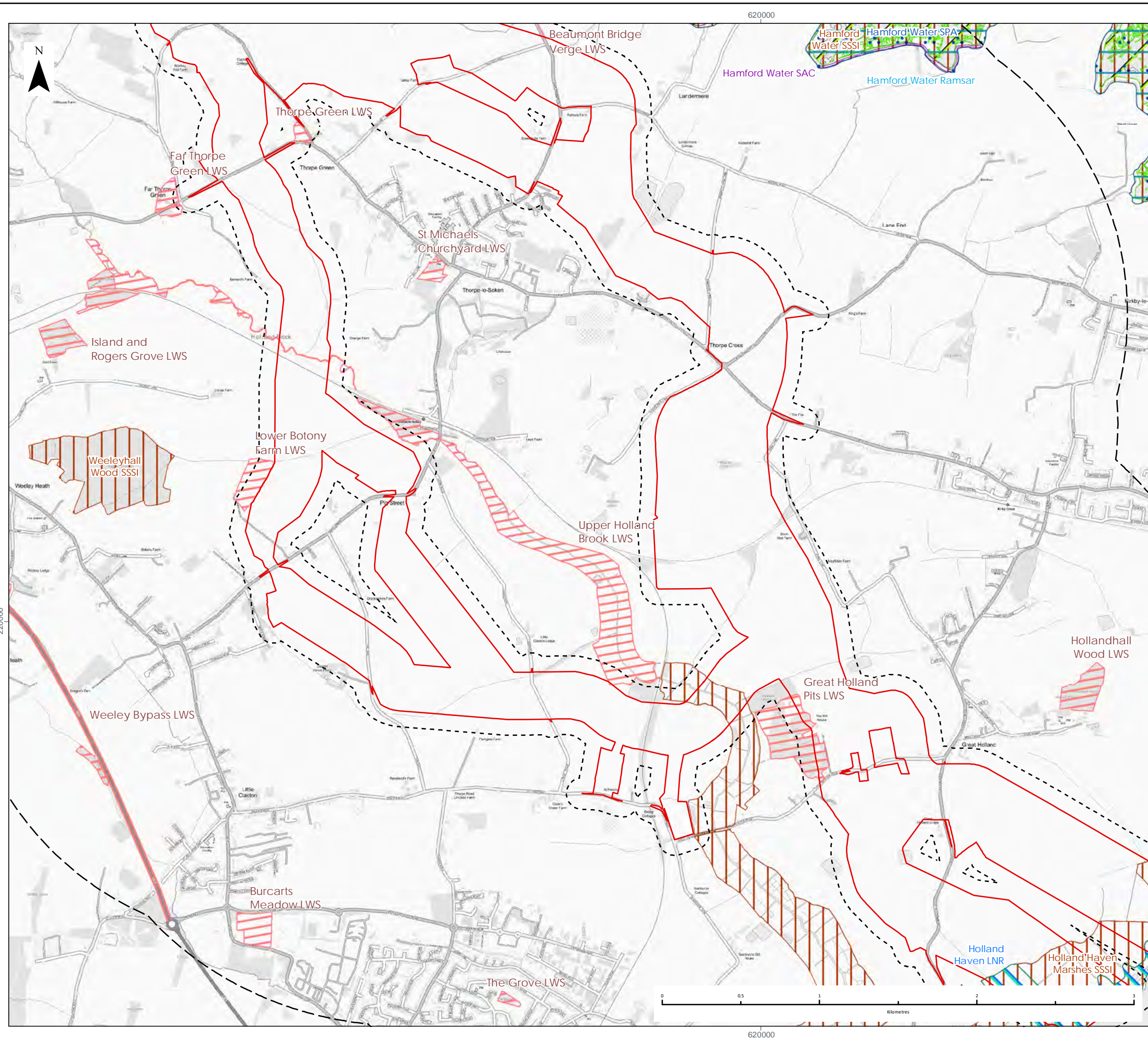
DRAWING TITLE:
Designated Sites Plan

VER	DATE	REMARKS	Drawn	Checked
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2	30/03/2022	Inclusion of Area North of A120	JO	JC
3	14/04/2022	Route Corridor Amendment	JO	JC

DRAWING NUMBER:
3.3
 Page 3 of 9

SCALE: **1:25,000** PLOT SIZE: **A3** DATUM: **ODN** COORDINATE SYSTEM: **British National Grid**





LEGEND

- Proposed Infrastructure
- Proposed Infrastructure - 100 m Buffer
- Proposed Infrastructure - 2 km Buffer
- Ramsar
- Special Protection Area (SPA)
- Special Area of Conservation (SAC)
- Site of Special Scientific Interest (SSSI)
- National Nature Reserve (NNR)
- Local Nature Reserve (LNR)
- Local Wildlife Site (LWS)

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PROJECT TITLE:
*FIVE ESTUARIES OFFSHORE WINDFARM:
 PRELIMINARY ECOLOGICAL APPRAISAL*

DRAWING TITLE:
Designated Sites Plan

VER	DATE	REMARKS	Drawn	Checked
1	23/02/2022	For Issue	JO	JC
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3	14/04/2022	Route Corridor Amendment	JO	JC

DRAWING NUMBER:
3.4
 Page 4 of 9

SCALE: 1:25,000 PLOT SIZE: A3 DATUM: ODN COORDINATE SYSTEM: British National Grid





LEGEND

- Proposed Infrastructure
- Proposed Infrastructure - 100 m Buffer
- Proposed Infrastructure - 2 km Buffer
- Site of Special Scientific Interest (SSSI)
- Local Wildlife Site (LWS)

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PROJECT TITLE:
*FIVE ESTUARIES OFFSHORE WINDFARM:
 PRELIMINARY ECOLOGICAL APPRAISAL*

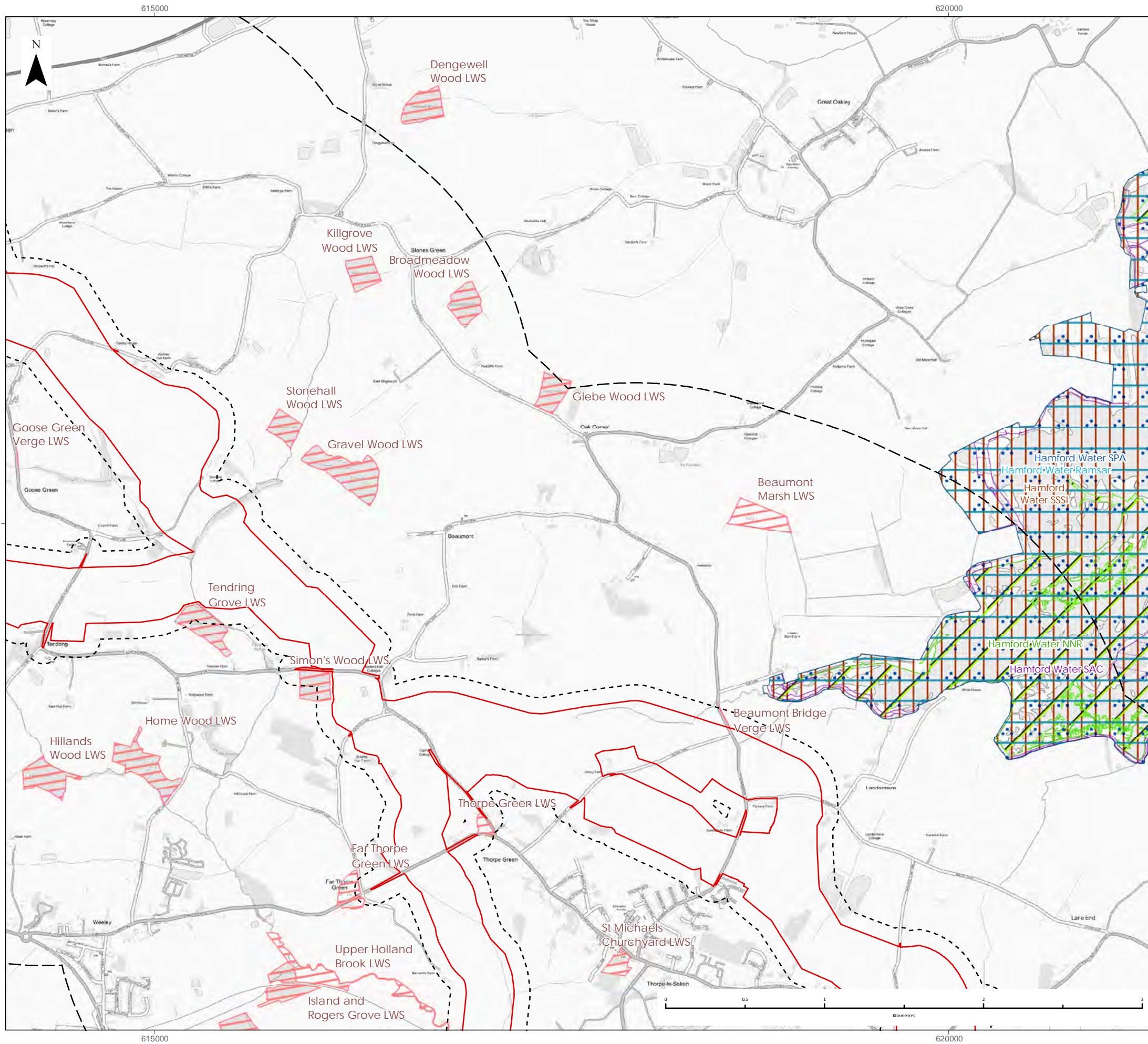
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Designated Sites Plan

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2	30/03/2022	Inclusion of Area North of A120	JO	JC
3	14/04/2022	Route Corridor Amendment	JO	JC

DRAWING NUMBER:
 3.5
 Page 5 of 9

SCALE: 1:25,000 PLOT SIZE: A3 DATUM: ODN COORDINATE SYSTEM: British National Grid





LEGEND

- Proposed Infrastructure
- Proposed Infrastructure - 100 m Buffer
- Proposed Infrastructure - 2 km Buffer
- Ramsar
- Special Protection Area (SPA)
- Special Area of Conservation (SAC)
- Site of Special Scientific Interest (SSSI)
- National Nature Reserve (NNR)
- Local Wildlife Site (LWS)

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PROJECT TITLE:
*FIVE ESTUARIES OFFSHORE WINDFARM:
 PRELIMINARY ECOLOGICAL APPRAISAL*

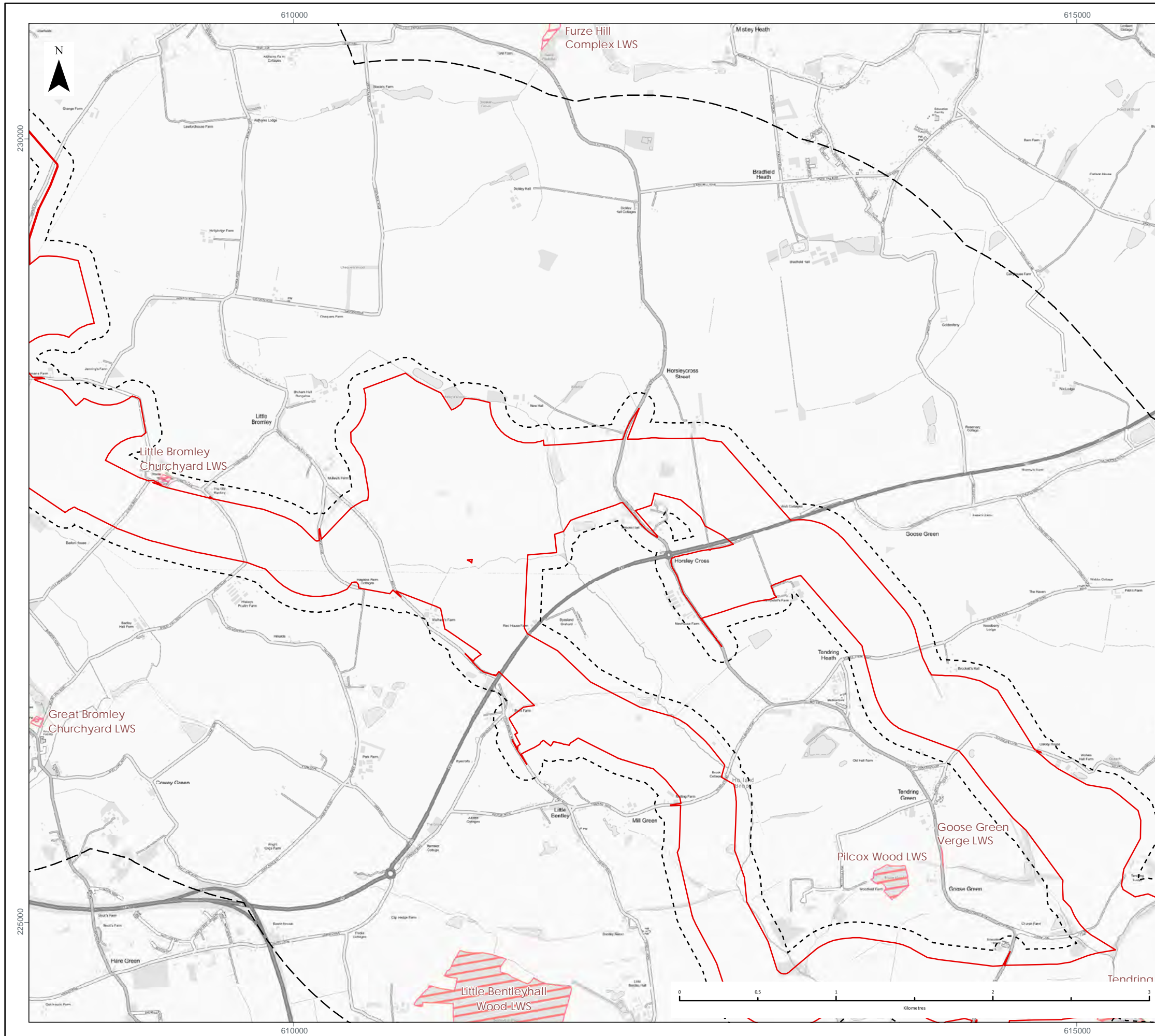
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Designated Sites Plan

VER	DATE	REMARKS	Drawn	Checked
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3	14/04/2022	Route Corridor Amendment	JO	JC

DRAWING NUMBER:
 3.6
 Page 6 of 9

SCALE: 1:25,000 PLOT SIZE: A3 DATUM: ODN COORDINATE SYSTEM: British National Grid





LEGEND

- Proposed Infrastructure
- Proposed Infrastructure - 100 m Buffer
- Proposed Infrastructure - 2 km Buffer
- Local Wildlife Site (LWS)

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PROJECT TITLE:
*FIVE ESTUARIES OFFSHORE WINDFARM:
 PRELIMINARY ECOLOGICAL APPRAISAL*

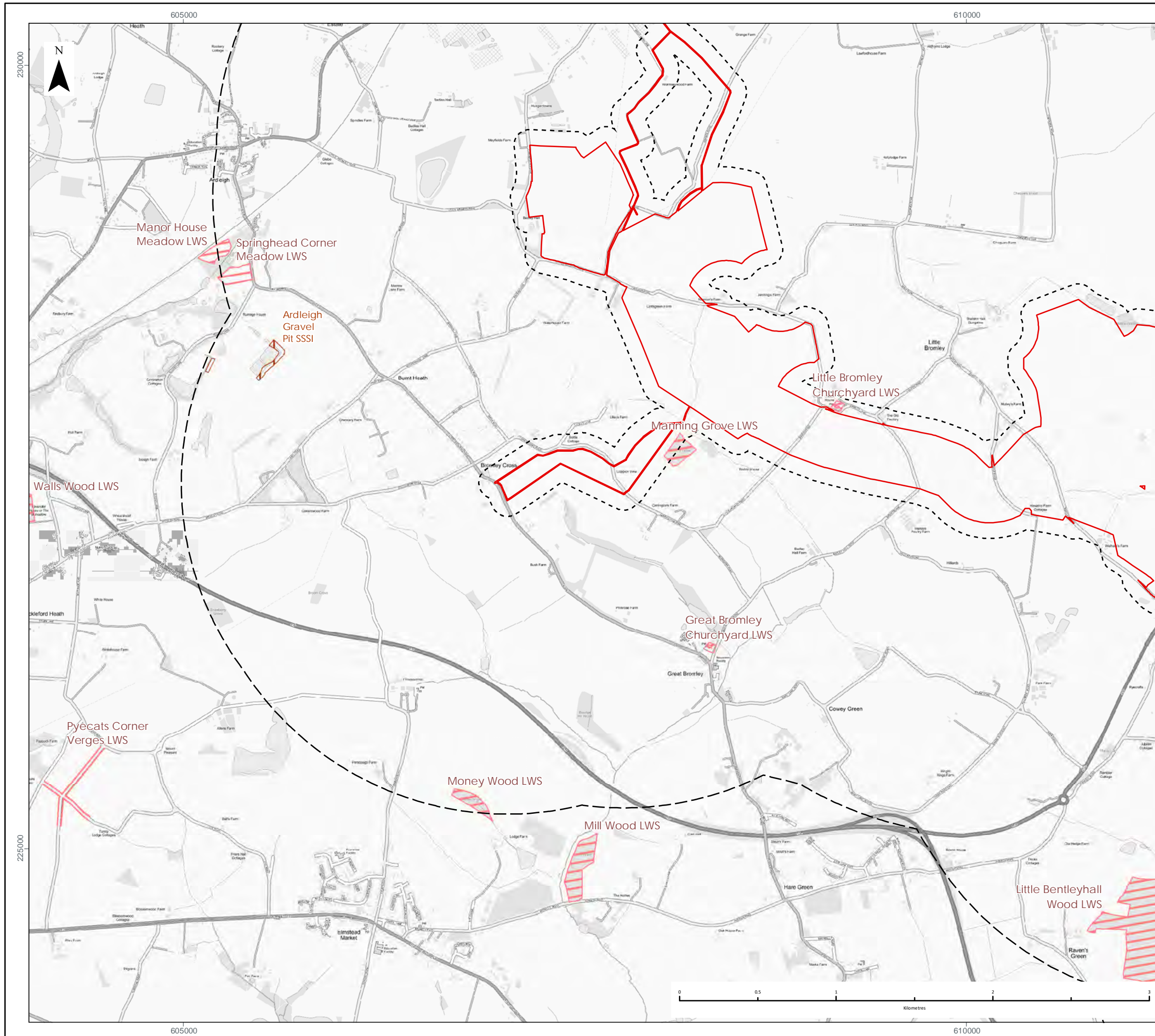
DRAWING TITLE:
Designated Sites Plan

VER	DATE	REMARKS	Drawn	Checked
1	23/02/2022	For Issue	JO	JC
2	30/03/2022	Inclusion of Area North of A120	JO	JC
3	14/04/2022	Route Corridor Amendment	JO	JC

DRAWING NUMBER:
3.7
Page 7 of 9

SCALE: 1:25,000 PLOT SIZE: A3 DATUM: ODN COORDINATE SYSTEM: British National Grid.





LEGEND

- Proposed Infrastructure
- Proposed Infrastructure - 100 m Buffer
- Proposed Infrastructure - 2 km Buffer
- Site of Special Scientific Interest (SSSI)
- Local Wildlife Site (LWS)

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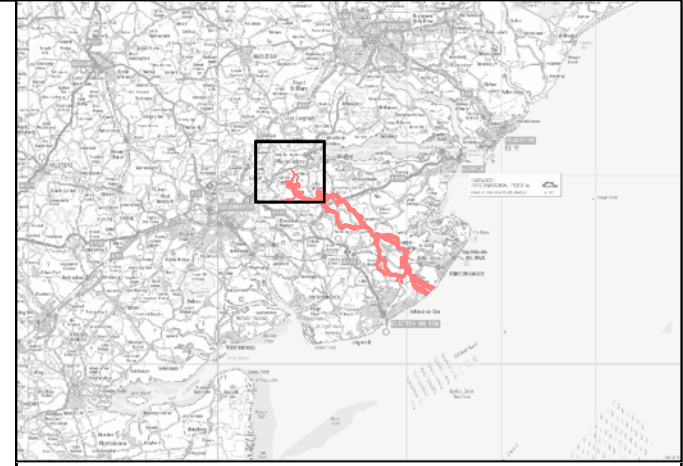
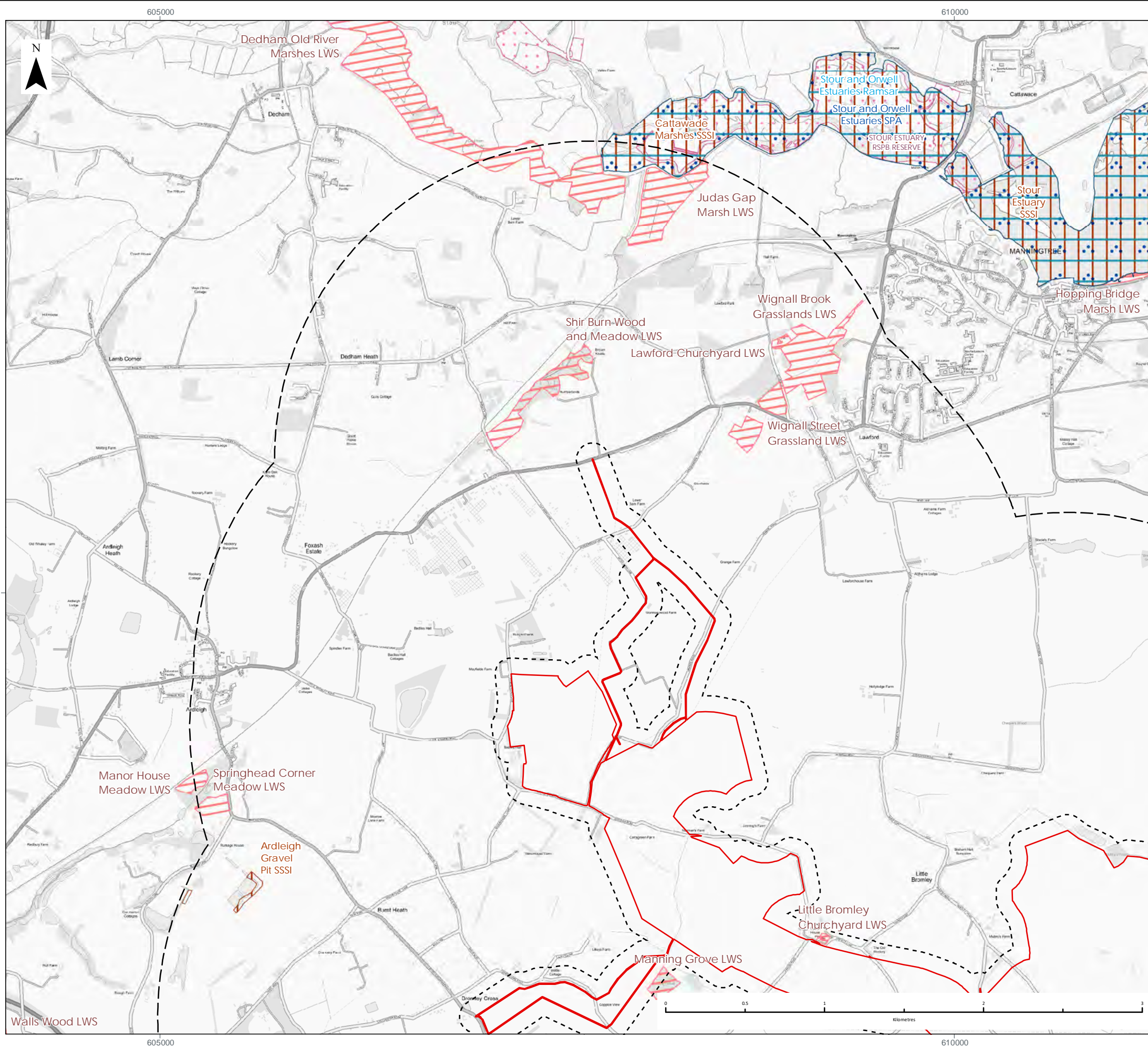
PROJECT TITLE:
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DRAWING TITLE:
Designated Sites Plan

VER	DATE	REMARKS	Drawn	Checked
1	23/02/2022	For Issue	JO	JC
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DRAWING NUMBER:
3.8
 Page 8 of 9

SCALE: **1:25,000** PLOT SIZE: A3 DATUM: ODN COORDINATE SYSTEM: British National Grid



LEGEND

- Proposed Infrastructure
- Proposed Infrastructure - 100 m Buffer
- Proposed Infrastructure - 2 km Buffer
- Ramsar
- Special Protection Area (SPA)
- Site of Special Scientific Interest (SSSI)
- Local Wildlife Site (LWS)
- RSPB Reserve

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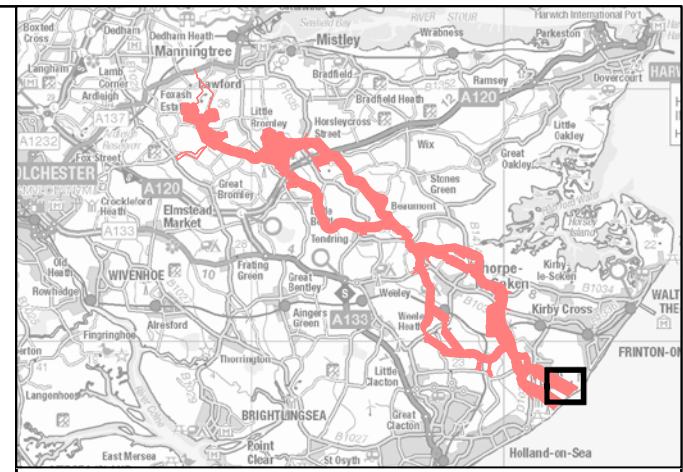
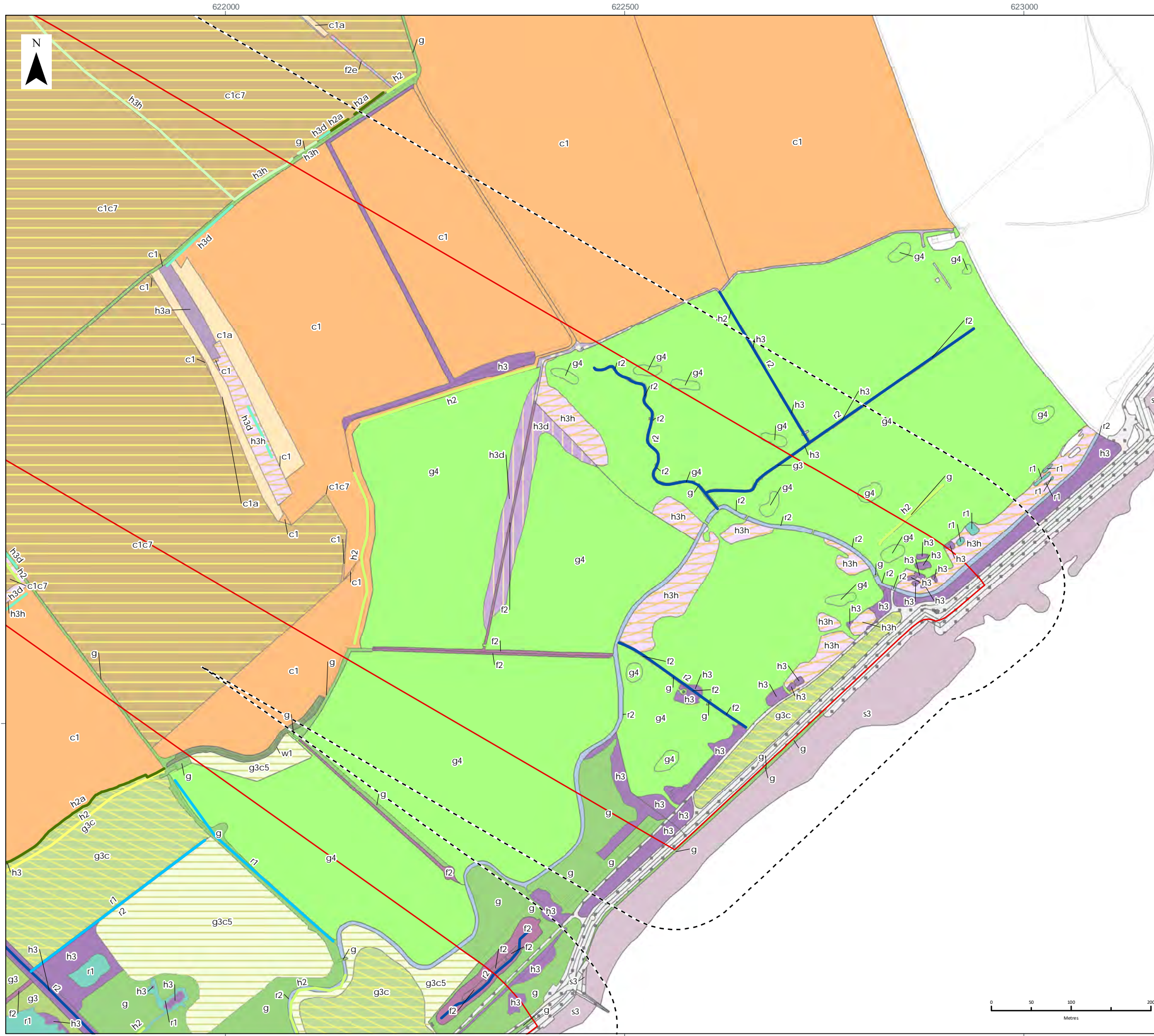
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 Page 9 of 9

SCALE: 1:25,000 PLOT SIZE: A3 DATUM: ODN COORDINATE SYSTEM: British National Grid.



DRAWING 4

Habitat Plan



LEGEND

Proposed Infrastructure	g3c5 - Arrhenatherum neutral grassland (Coastal Floodplain Grazing Marsh)
Proposed Infrastructure - 100 m Buffer	Grassland - Modified Grassland
Linear Habitat Features	g4 - Other Neutral Grassland
Grassland - Neutral Grassland	Heathland and Shrub - Hedgerows
g3c - Other Neutral Grassland	h2 - Hedgerow
Heathland and Shrub - Dense Scrub	Heathland and Shrub - Dense Scrub
h3d - Bramble Scrub	h3 - Dense Scrub
h3h - Mixed Scrub	h3a - Blackthorn Scrub
Heathland and Shrub - Hedgerows	h3d - Bramble Scrub
h2 - Hedgerow	h2a - Hedgerow (Priority Habitat)
h2a - Hedgerow (Priority Habitat)	Sparsely Vegetated Land - Supralittoral Sediment
Area Habitat Features	s3 - Supralittoral Sediment
Cropland - Arable and Horticulture	Urban - Built-up Areas and Gardens
c1 - Arable and Horticulture	u1 - Built-up Area and Garden
c1a - Arable Field Margins	u1b5 - Building
c1c7 - Other Cereal Crops	Woodland and Forest - Broadleaved Mixed and Yew Woodland
Wetland - Fen Marsh and Swamp	w1 - Broadleaved Mixed and Yew Woodland
f2 - Fen Marsh and Swamp	Rivers and Lakes - Standing Open Water and Canals
f2e - Reedbeds	r1 - Standing Open Water and Canal
Grassland - Neutral Grassland	Rivers and Lakes - Rivers and Streams
g - Grassland	r2 - Rivers and Streams
g3 - Neutral Grassland (Coastal Floodplain Grazing Marsh)	
g3c - Other Neutral Grassland (Coastal Floodplain Grazing Marsh)	

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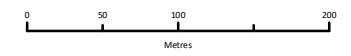
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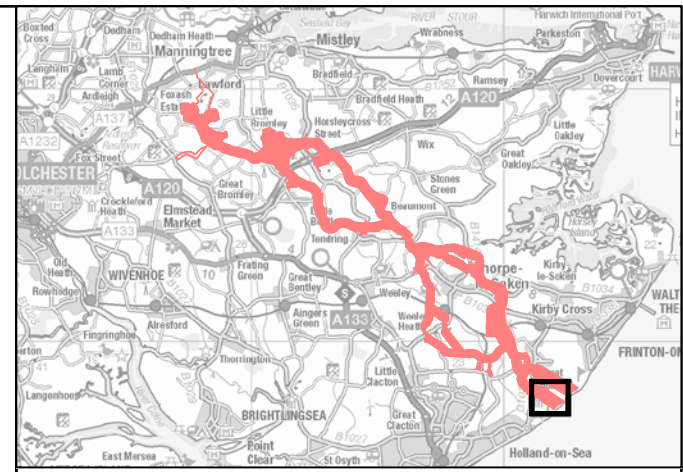
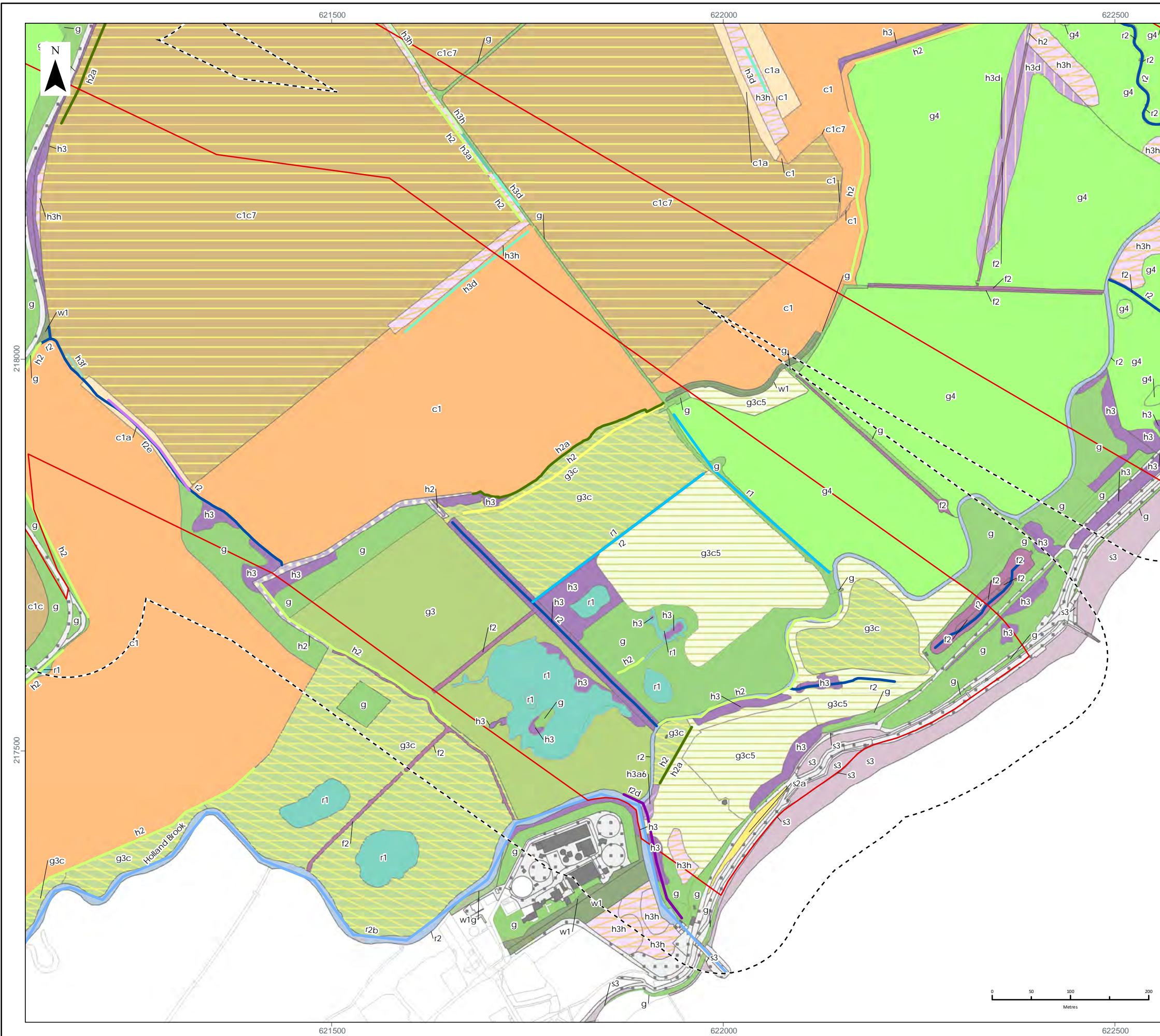
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VER	DATE	REMARKS	Drawn	Checked
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2	31/03/2022	Inclusion of Area North of A120	JO	JC
3	13/04/2022	Route Corridor Amendment	JO	JC

DRAWING NUMBER:
4.1
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SCALE: **1:5,000** PLOT SIZE: **A3** DATUM: **ODN** COORDINATE SYSTEM: **British National Grid**





LEGEND

Proposed Infrastructure	g3 - Neutral Grassland (Coastal Floodplain Grazing Marsh)	w1g - Other Woodland: Broadleaved
Proposed Infrastructure - 100 m Buffer	g3c - Other Neutral Grassland (Coastal Floodplain Grazing Marsh)	Rivers and Lakes - Standing Open Water and Canals
Linear Habitat Features	g3c5 - Arrhenatherum neutral grassland (Coastal Floodplain Grazing Marsh)	r1 - Standing Open Water and Canal
Grassland - Neutral Grassland	g4 - Modified Grassland	Rivers and Lakes - Rivers and Streams
g3c - Other Neutral Grassland	h2 - Hedgerow	r2 - Rivers and Streams
Heathland and Shrub - Dense Scrub	h2a - Hedgerow (Priority Habitat)	
h3a - Blackthorn Scrub	h3 - Dense Scrub	
h3d - Bramble Scrub	h3a6 - Other Blackthorn Scrub	
h3f - Hawthorn Scrub	h3d - Bramble Scrub	
h3h - Mixed Scrub	h3h - Mixed Scrub	
Heathland and Shrub - Hedgerows	h3d - Bramble Scrub	
h2 - Hedgerow	h3h - Mixed Scrub	
h2a - Hedgerow (Priority Habitat)	Sparsely Vegetated Land - Supralittoral Rock	
Wetland - Fen Marsh and Swamp	s2a - Maritime Cliff and Slopes	
f2d - Aquatic Marginal Vegetation	Sparsely Vegetated Land - Supralittoral Sediment	
f2e - Reedbed	s3 - Supralittoral Sediment	
Area Habitat Features	Urban - Built-up Areas and Gardens	
Cropland - Arable and Horticulture	u1 - Built-up Area and Garden	
c1 - Arable and Horticulture	u1b5 - Building	
c1a - Arable Field Margins	Woodland and Forest - Broadleaved Mixed and Yew Woodland	
c1c - Cereal Crops	w1 - Broadleaved Mixed and Yew Woodland	
c1c7 - Other Cereal Crops		
Wetland - Fen Marsh and Swamp		
f2 - Fen Marsh and Swamp		
Grassland - Neutral Grassland		
g - Grassland		

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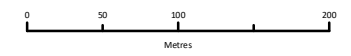
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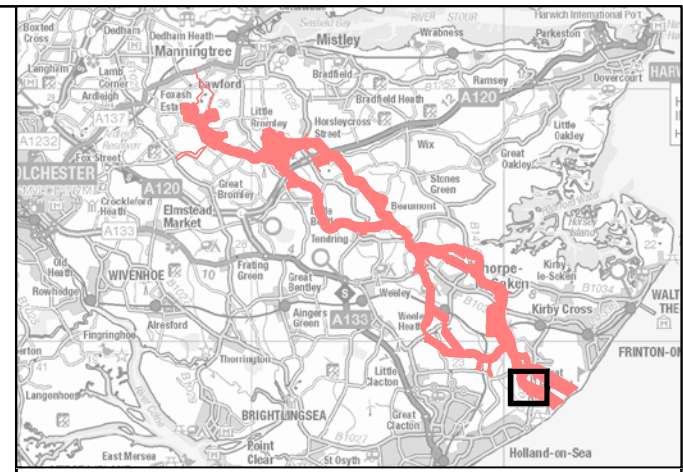
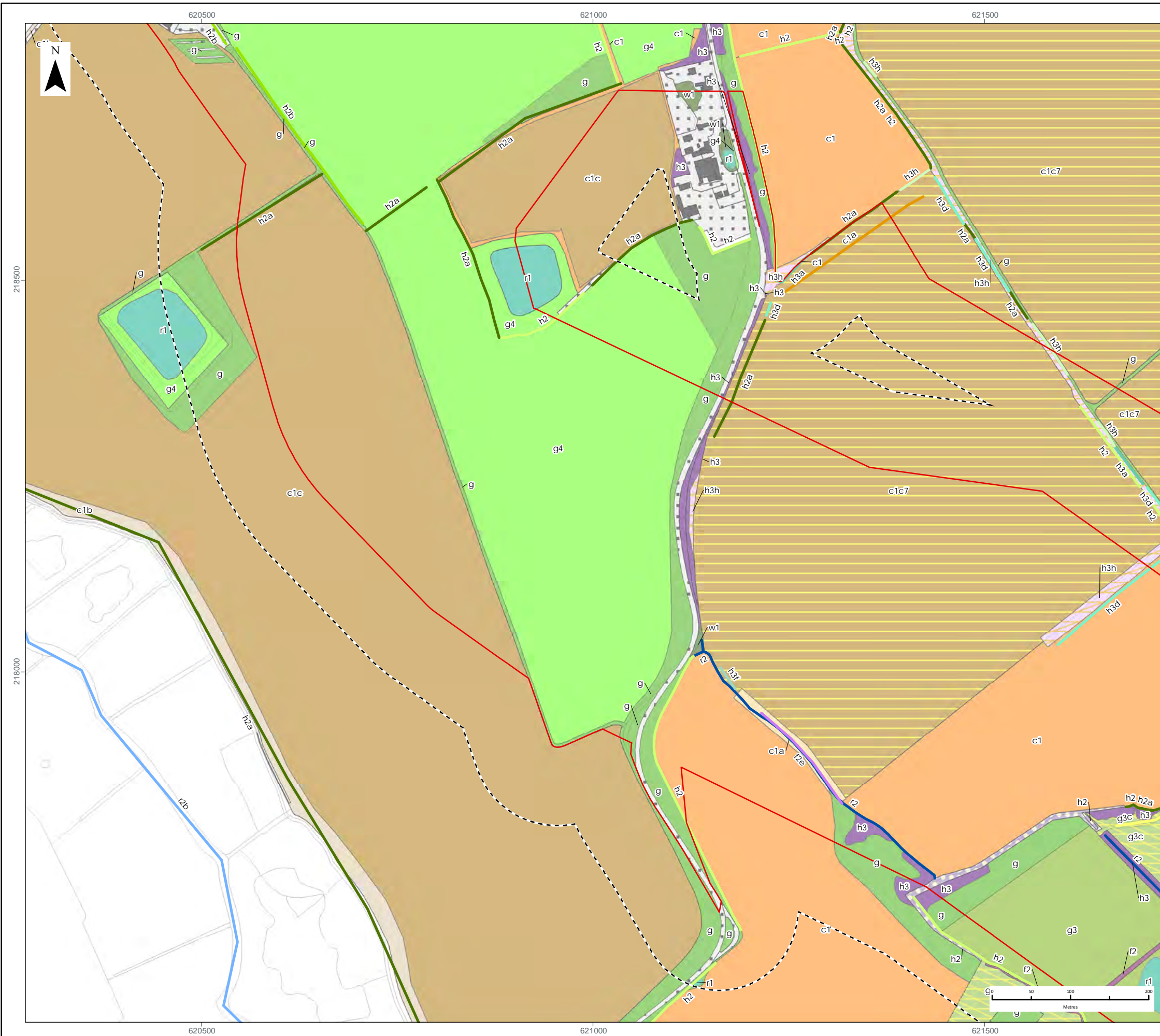
DRAWING TITLE:
Habitat Plan

VER	DATE	REMARKS	Drawn	Checked
1	23/02/2022	For Issue	JO	JC
2	31/03/2022	Inclusion of Area North of A120	JO	JC
3	13/04/2022	Route Corridor Amendment	JO	JC

DRAWING NUMBER:
4.2
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SCALE: **1:5,000** PLOT SIZE: **A3** DATUM: **ODN** COORDINATE SYSTEM: **British National Grid**





LEGEND

Proposed Infrastructure	Wetland - Fen Marsh and Swamp
Proposed Infrastructure - 100 m Buffer	f2 - Fen Marsh and Swamp
Linear Habitat Features	Grassland - Neutral Grassland
Cropland - Arable and Horticulture	g - Grassland
c1a - Arable Field Margin	g3 - Neutral Grassland (Coastal Floodplain Grazing Marsh)
Grassland - Neutral Grassland	g3c - Other Neutral Grassland (Coastal Floodplain Grazing Marsh)
g3c - Other Neutral Grassland	Grassland - Modified Grassland
Heathland and Shrub - Dense Scrub	g4 - Modified Grassland
h3a - Blackthorn Scrub	Heathland and Shrub - Hedgerows
h3d - Bramble Scrub	h2 - Hedgerow
h3f - Hawthorn Scrub	Heathland and Shrub - Dense Scrub
h3h - Mixed Scrub	h3 - Dense Scrub
Heathland and Shrub - Hedgerows	h3h - Mixed Scrub
h2 - Hedgerow	Urban - Built-up Areas and Gardens
h2a - Hedgerow (Priority Habitat)	u1 - Built-up Area and Garden
h2b - Other Hedgerow	u1b5 - Building
Wetland - Fen Marsh and Swamp	Woodland and Forest - Broadleaved Mixed and Yew Woodland
f2e - Reedbed	w1 - Broadleaved Mixed and Yew Woodland
Area Habitat Features	Rivers and Lakes - Standing Open Water and Canals
Cropland - Arable and Horticulture	r1 - Standing Open Water and Canal
c1 - Arable and Horticulture	
c1a - Arable Field Margins	
c1b - Temporary Grass and Clover Leys	
c1c - Cereal Crops	
c1c7 - Other Cereal Crops	

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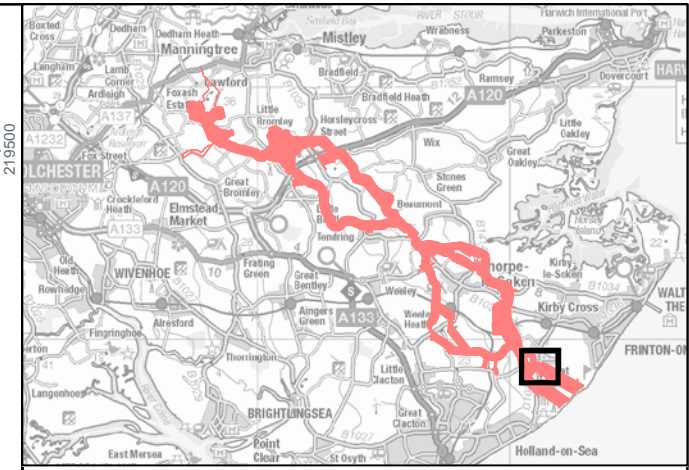
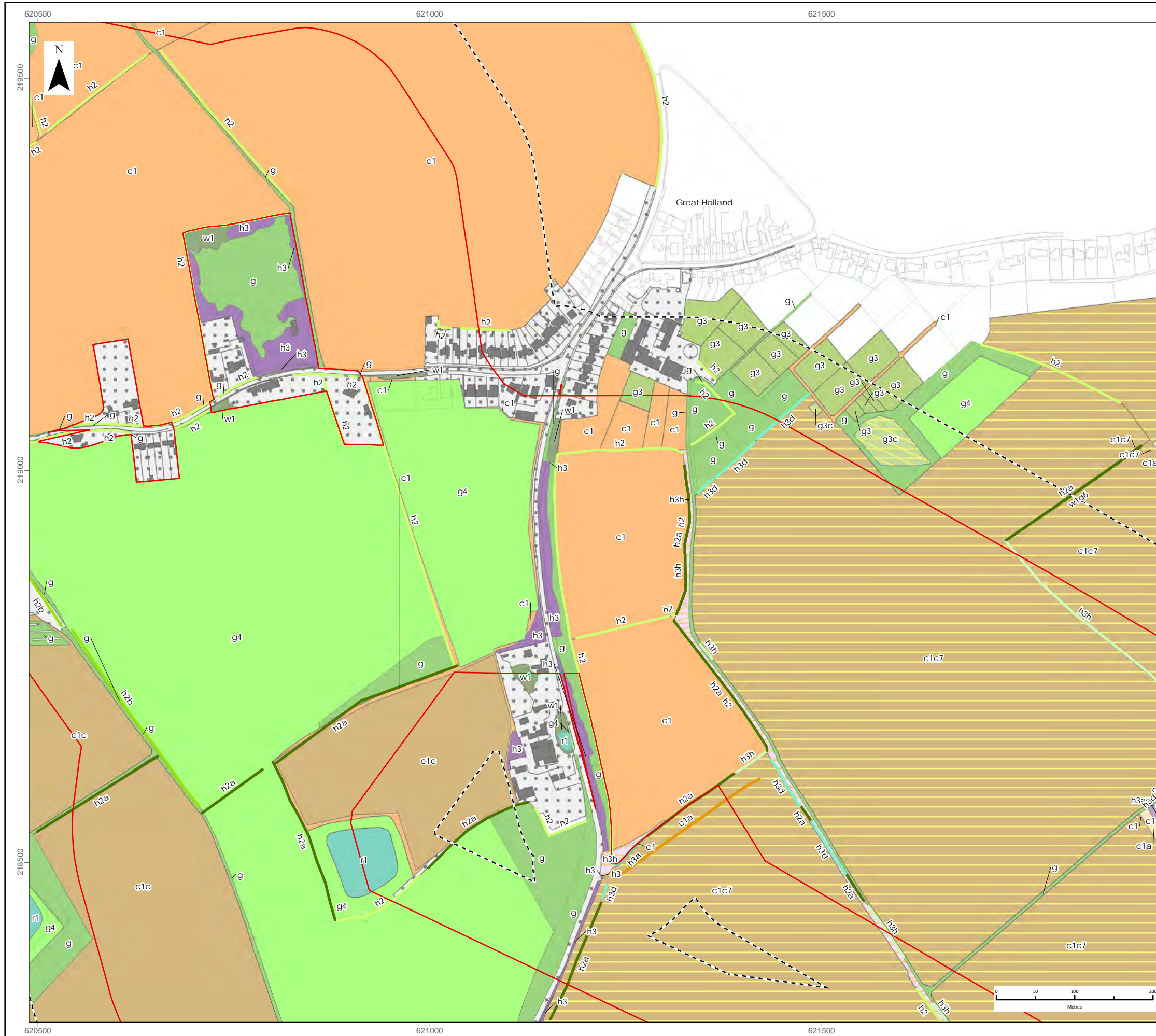
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3	13/04/2022	Route Corridor Amendment	JO	JC

DRAWING NUMBER:
4.3
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SCALE: 1:5,000 PLOT SIZE: A3 DATUM: ODN COORDINATE SYSTEM: British National Grid.





LEGEND

Proposed Infrastructure	g3c - Other Neutral Grassland (Coastal Floodplain Grazing Marsh)
Proposed Infrastructure - 100 m Buffer	Grassland - Modified Grassland
Linear Habitat Features	g4 - Modified Grassland
Cropland - Arable and Horticulture	Heathland and Shrub - Dense Scrub
c1a - Arable Field Margin	h3 - Dense Scrub
Heathland and Shrub - Dense Scrub	h3a - Blackthorn Scrub
h3a - Blackthorn Scrub	h3h - Mixed Scrub
h3d - Bramble Scrub	Urban - Built-up Areas and Gardens
h3h - Mixed Scrub	u1 - Built-up Area and Garden
Heathland and Shrub - Hedgerows	u1b5 - Building
h2 - Hedgerow	Woodland and Forest - Broadleaved Mixed and Yew Woodland
h2a - Hedgerow (Priority Habitat)	w1 - Broadleaved Mixed and Yew Woodland
h2b - Other Hedgerow	Rivers and Lakes - Standing Open Water and Canals
Woodland and Forest - Broadleaved Mixed and Yew Woodland	r1 - Standing Open Water and Canal
w1g6 - Line of Trees	
Area Habitat Features	
Cropland - Arable and Horticulture	
c1 - Arable and Horticulture	
c1a - Arable Field Margins	
c1c - Cereal Crops	
c1c7 - Other Cereal Crops	
Grassland - Neutral Grassland	
g - Grassland	
g3 - Neutral Grassland (Coastal Floodplain Grazing Marsh)	

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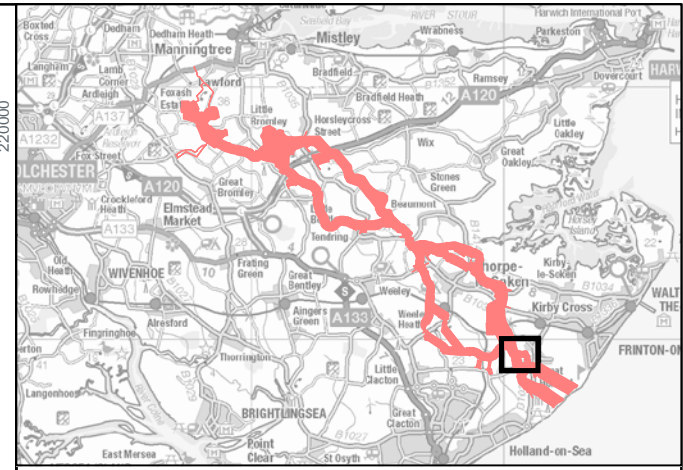
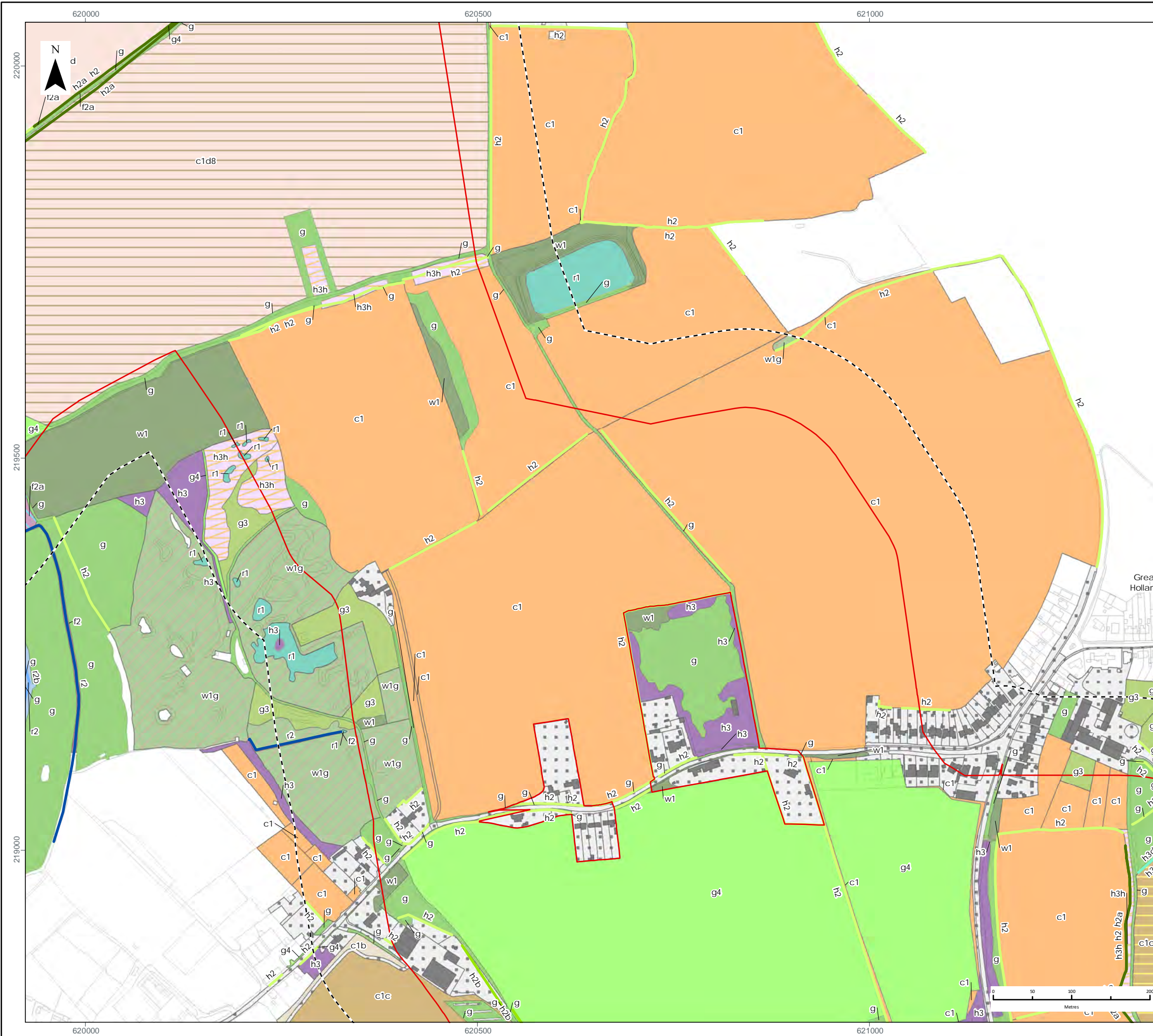
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VER	DATE	REMARKS	Drawn	Checked
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DRAWING NUMBER:
4.4
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SCALE: 1:5,000 PLOT SIZE: A3 DATUM: ODN COORDINATE SYSTEM: British National Grid.





LEGEND

- Proposed Infrastructure
- Proposed Infrastructure - 100 m Buffer
- Linear Habitat Features
- Heathland and Shrub - Dense Scrub
 - h3 - Dense Scrub
 - h3h - Mixed Scrub
- Urban - Built-up Areas and Gardens
 - u1 - Built-up Area and Garden
 - u1b5 - Building
- Woodland and Forest - Broadleaved Mixed and Yew Woodland
 - w1 - Broadleaved Mixed and Yew Woodland
 - w1g - Other Woodland; Broadleaved
- Rivers and Lakes - Standing Open Water and Canals
 - r1 - Standing Open Water and Canal
 - r2 - Rivers and Streams
- Cropland - Arable and Horticulture
 - c1 - Arable and Horticulture
 - c1b - Temporary Grass and Clover Leys
 - c1c - Cereal Crops
 - c1c7 - Other Cereal Crops
 - c1d - Non-cereal Crops
 - c1d8 - Other Non-cereal Crops
- Wetland - Fen Marsh and Swamp
 - f2 - Fen Marsh and Swamp
 - f2a - Lowland Fen
- Grassland - Neutral Grassland
 - g - Grassland
 - g3 - Neutral Grassland (Coastal Floodplain Grazing Marsh)
 - g4 - Modified Grassland
- Heathland and Shrub - Hedgerows
 - h2 - Hedgerow
 - h2a - Hedgerow (Priority Habitat)
 - h2b - Other Hedgerow
- Area Habitat Features

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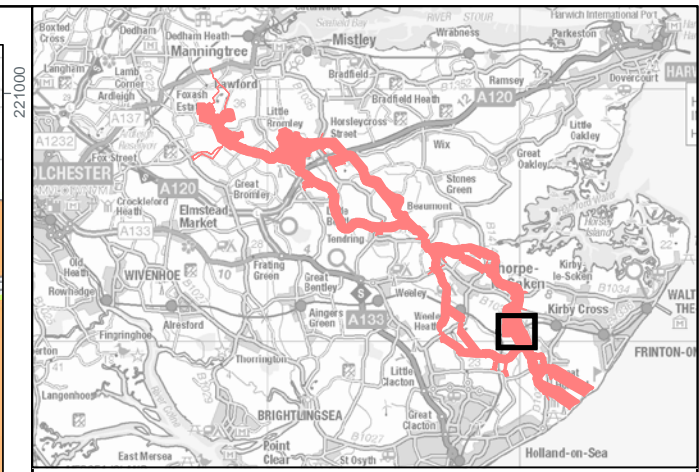
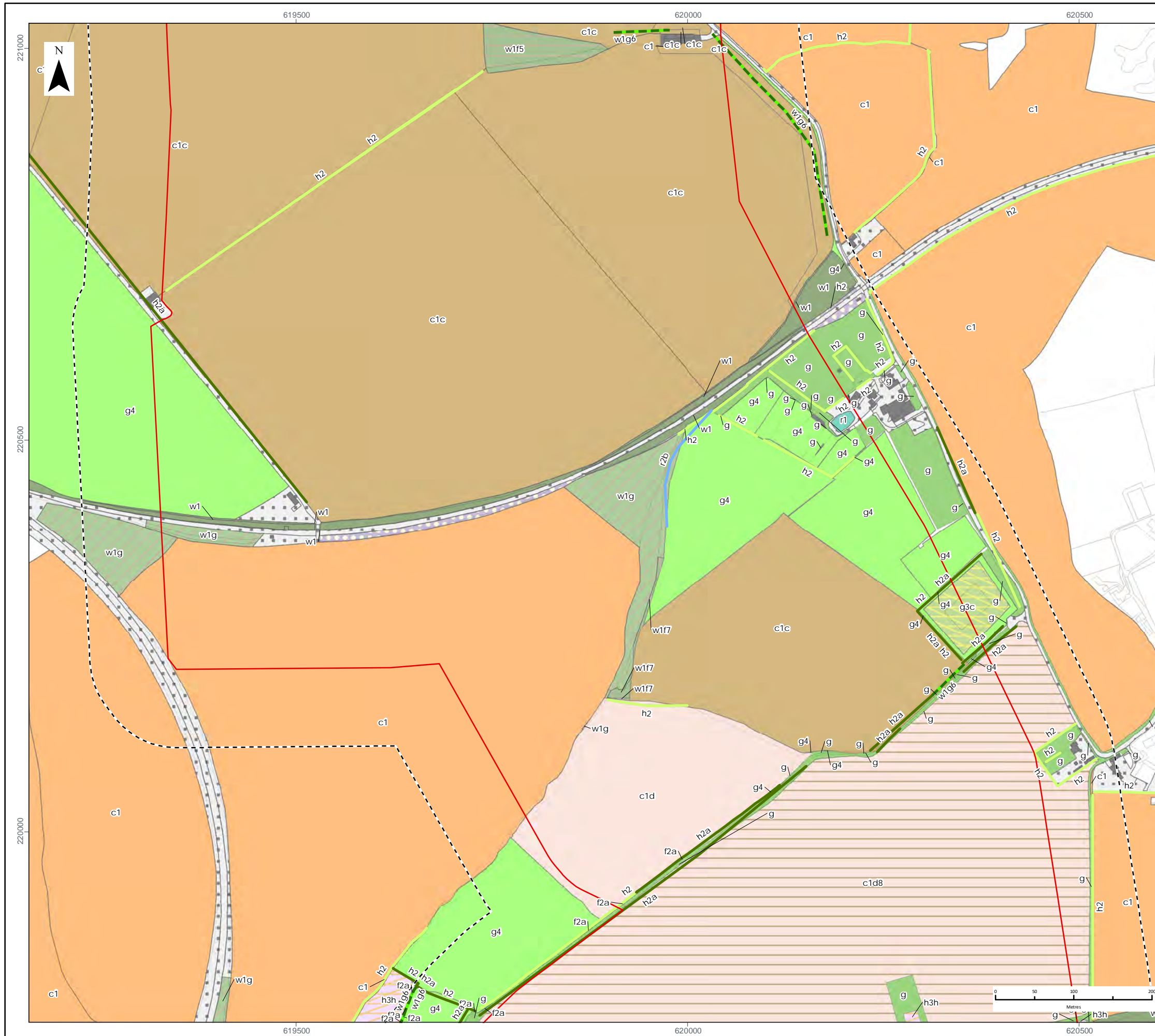
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SCALE: 1:5,000 PLOT SIZE: A3 DATUM: ODN COORDINATE SYSTEM: British National Grid.





LEGEND

Proposed Infrastructure	Urban - Built-up Areas and Gardens
Proposed Infrastructure - 100 m Buffer	u1 - Built-up Area and Garden
Linear Habitat Features	u1b5 - Building
Heathland and Shrub - Hedgerows	Woodland and Forest - Broadleaved Mixed and Yew Woodland
h2 - Hedgerow	w1 - Broadleaved Mixed and Yew Woodland
h2a - Hedgerow (Priority Habitat)	w1f5 - Dry oak-dominated woodland (H9190)
Woodland and Forest - Broadleaved Mixed and Yew Woodland	w1f7 - Other Lowland Mixed Deciduous Woodland
w1g6 - Line of Trees	w1g - Other Woodland: Broadleaved
Area Habitat Features	Rivers and Lakes - Standing Open Water and Canals
Cropland - Arable and Horticulture	Wetland - Fen Marsh and Swamp
c1 - Arable and Horticulture	f2a - Lowland Fen
c1c - Cereal Crops	Grassland - Neutral Grassland
c1d - Non-cereal Crops	g - Grassland
c1d8 - Other Non-cereal Crops	g3c - Other Neutral Grassland (Coastal Floodplain Grazing Marsh)
r1 - Standing Open Water and Canal	Grassland - Modified Grassland
	g4 - Modified Grassland
	Heathland and Shrub - Hedgerows
	h2 - Hedgerow
	Heathland and Shrub - Dense Scrub
	h3h - Mixed Scrub

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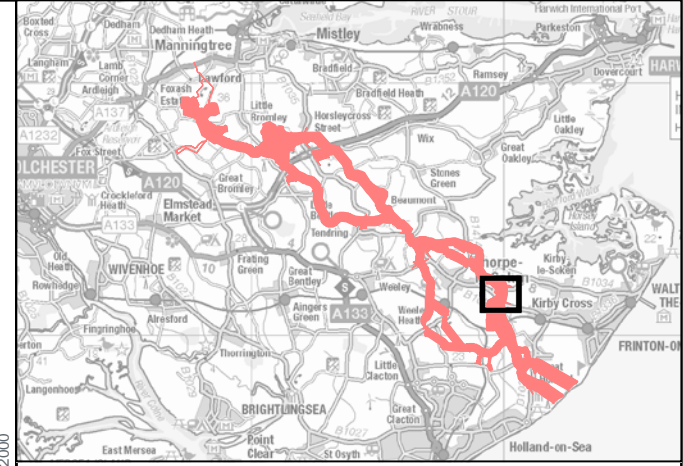
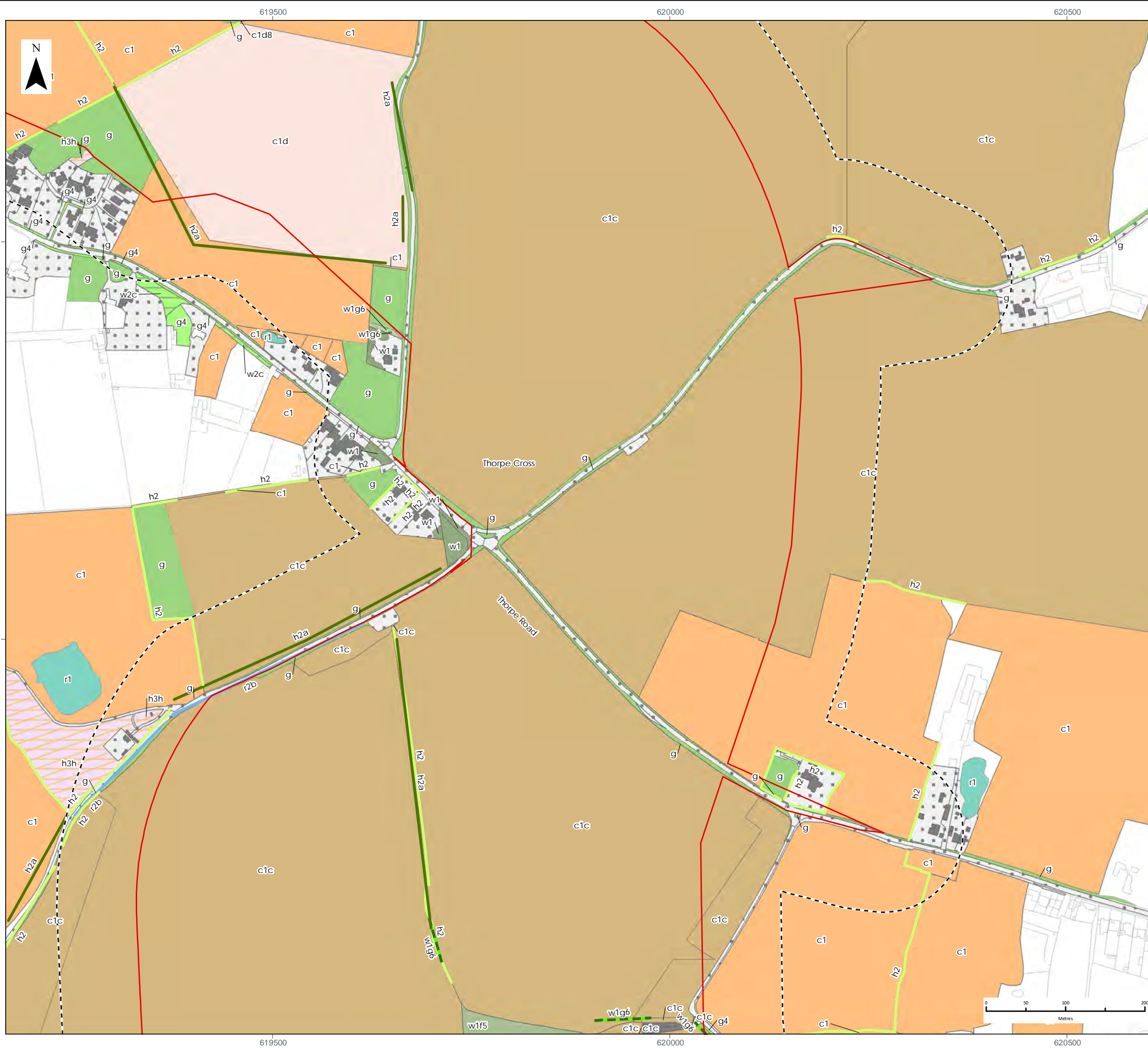
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Habitat Plan

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DRAWING NUMBER:
4.6
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SCALE: **1:5,000** PLOT SIZE: **A3** DATUM: **ODN** COORDINATE SYSTEM: **British National Grid**





LEGEND

- Proposed Infrastructure
- Proposed Infrastructure - 100 m Buffer
- Linear Habitat Features
- Heathland and Shrub - Hedgerows
- Woodland and Forest - Broadleaved Mixed and Yew Woodland
- Area Habitat Features
- Cropland - Arable and Horticulture
- Grassland - Neutral Grassland
- Grassland - Modified Grassland
- Heathland and Shrub - Dense Scrub
- Urban - Built-up Areas and Gardens
- Woodland and Forest - Broadleaved Mixed and Yew Woodland
- w1f5 - Dry oak-dominated woodland (H9190)
- w1g6 - Line of Trees
- Woodland and Forest - Coniferous Woodland
- w2c - Other Coniferous Woodland
- Rivers and Lakes - Standing Open Water and Canals
- r1 - Standing Open Water and Canal
- c1 - Arable and Horticulture
- c1c - Cereal Crops
- c1d - Non-cereal Crops
- c1d8 - Other Non-cereal Crops
- g - Grassland
- g4 - Modified Grassland
- h3h - Mixed Scrub
- u1 - Built-up Area and Garden
- u1b5 - Building
- w1 - Broadleaved Mixed and Yew Woodland

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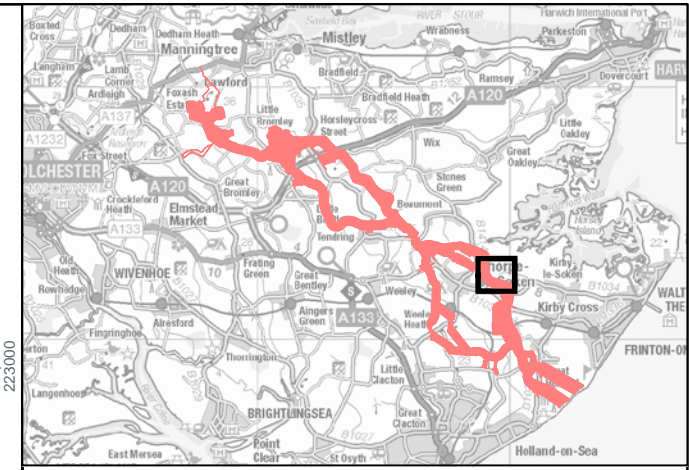
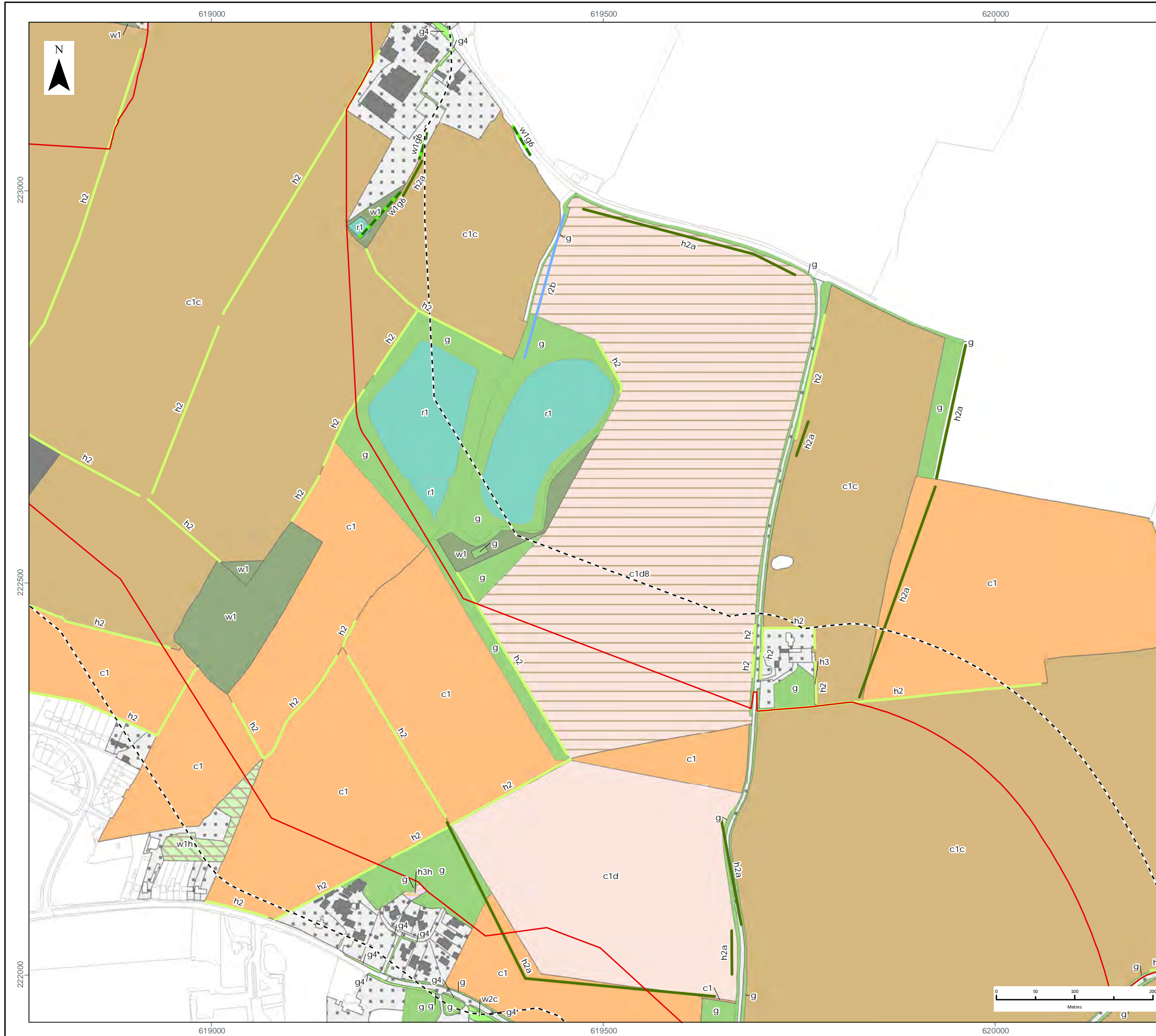
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DRAWING NUMBER:
4.7
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SCALE: **1:5,000** PLOT SIZE: **A3** DATUM: **ODN** COORDINATE SYSTEM: **British National Grid**





LEGEND

- Proposed Infrastructure
- Proposed Infrastructure - 100 m Buffer
- Linear Habitat Features
- Heathland and Shrub - Hedgerows
 - h2 - Hedgerow
 - h2a - Hedgerow (Priority Habitat)
- Woodland and Forest - Broadleaved Mixed and Yew Woodland
 - w1g6 - Line of Trees
- Area Habitat Features
 - Cropland - Arable and Horticulture
 - c1 - Arable and Horticulture
 - c1c - Cereal Crops
 - c1d - Non-cereal Crops
 - c1d8 - Other Non-cereal Crops
 - Grassland - Neutral Grassland
 - g - Grassland
 - Grassland - Modified Grassland
 - g4 - Modified Grassland
 - Heathland and Shrub - Dense Scrub
 - h3 - Dense Scrub
 - h3h - Mixed Scrub
 - Urban - Built-up Areas and Gardens
 - u1 - Built-up Area and Garden
 - u1b5 - Building
 - Woodland and Forest - Broadleaved Mixed and Yew Woodland
 - w1 - Broadleaved Mixed and Yew Woodland
- Woodland and Forest - Mixed
 - w1h - Other Woodland: Mixed
- Woodland and Forest - Coniferous Woodland
 - w2c - Other Coniferous Woodland
- Rivers and Lakes - Standing Open Water and Canals
 - r1 - Standing Open Water and Canal

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PROJECT TITLE:
*FIVE ESTUARIES OFFSHORE WINDFARM:
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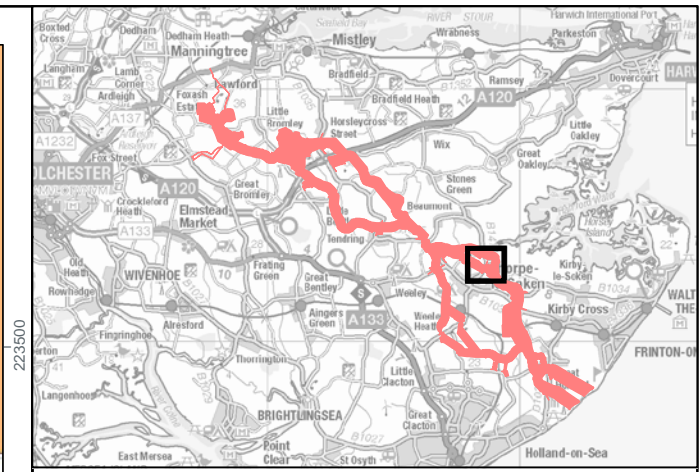
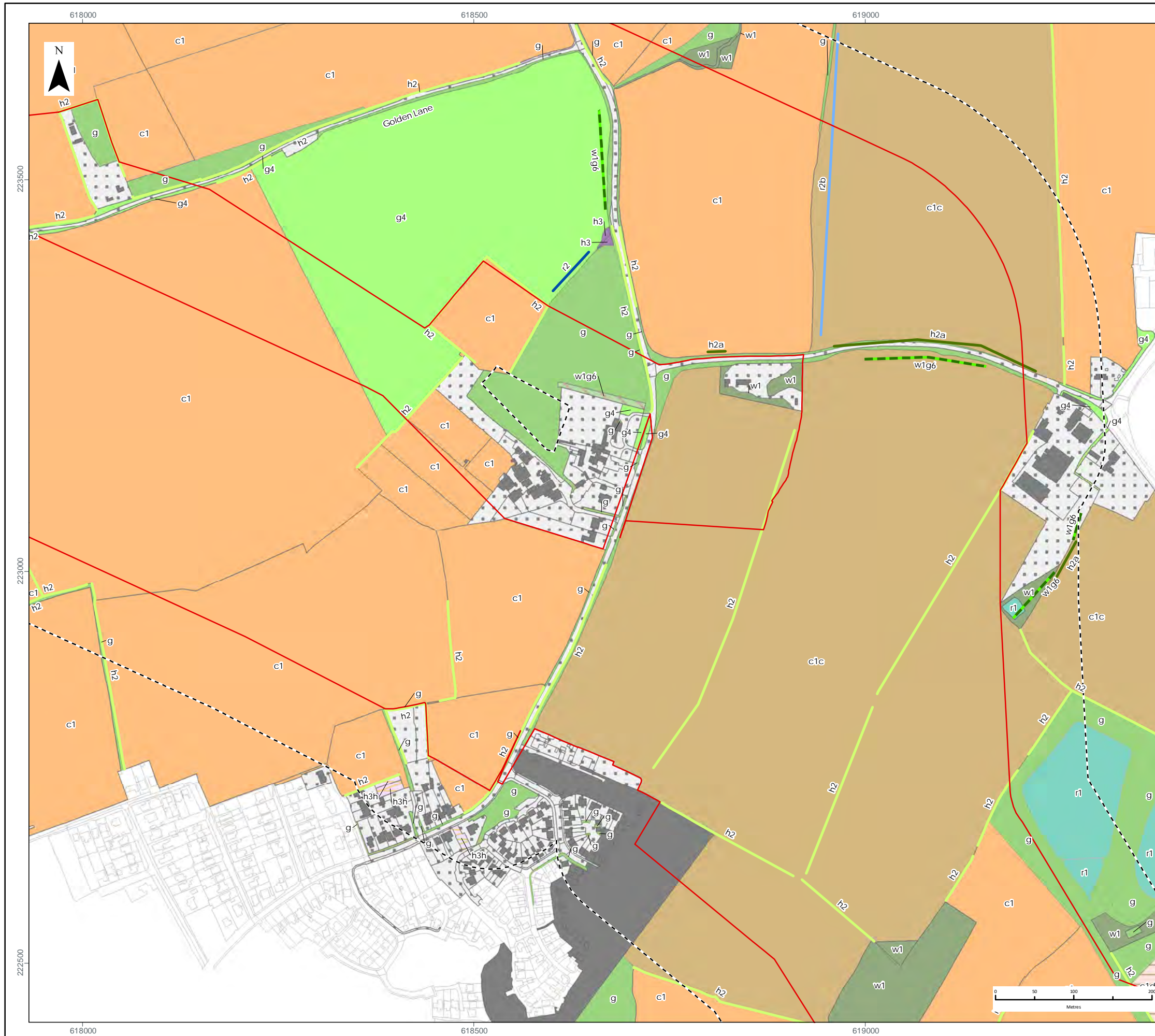
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DRAWING NUMBER:
4.8
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SCALE: 1:5,000 PLOT SIZE: A3 DATUM: ODN COORDINATE SYSTEM: British National Grid.





LEGEND

Proposed Infrastructure	Woodland and Forest - Broadleaved Mixed and Yew Woodland
Proposed Infrastructure - 100 m Buffer	w1 - Broadleaved Mixed and Yew Woodland
Linear Habitat Features	w1g6 - Line of Trees
Heathland and Shrub - Hedgerows	Rivers and Lakes - Standing Open Water and Canals
h2 - Hedgerow	r1 - Standing Open Water and Canal
h2a - Hedgerow (Priority Habitat)	
Woodland and Forest - Broadleaved Mixed and Yew Woodland	
w1g6 - Line of Trees	
Area Habitat Features	
Cropland - Arable and Horticulture	
c1 - Arable and Horticulture	
c1c - Cereal Crops	
c1d8 - Other Non-cereal Crops	
Grassland - Neutral Grassland	
g - Grassland	
g4 - Modified Grassland	
Heathland and Shrub - Hedgerows	
h2 - Hedgerow	
Heathland and Shrub - Dense Scrub	
h3 - Dense Scrub	
h3h - Mixed Scrub	
Urban - Built-up Areas and Gardens	
u1 - Built-up Area and Garden	
u1b5 - Building	

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PROJECT TITLE:
*FIVE ESTUARIES OFFSHORE WINDFARM:
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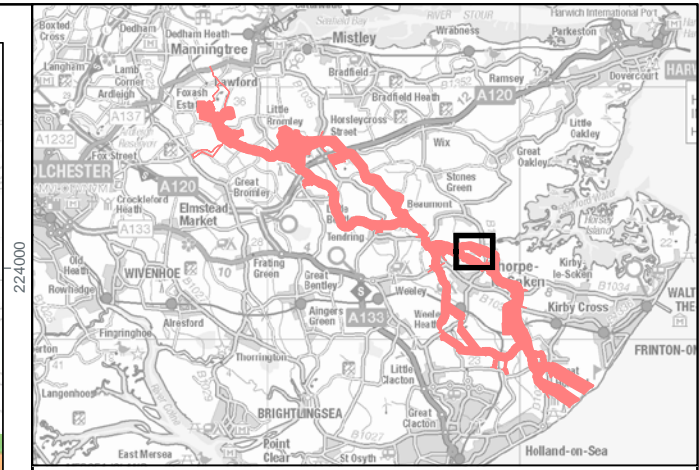
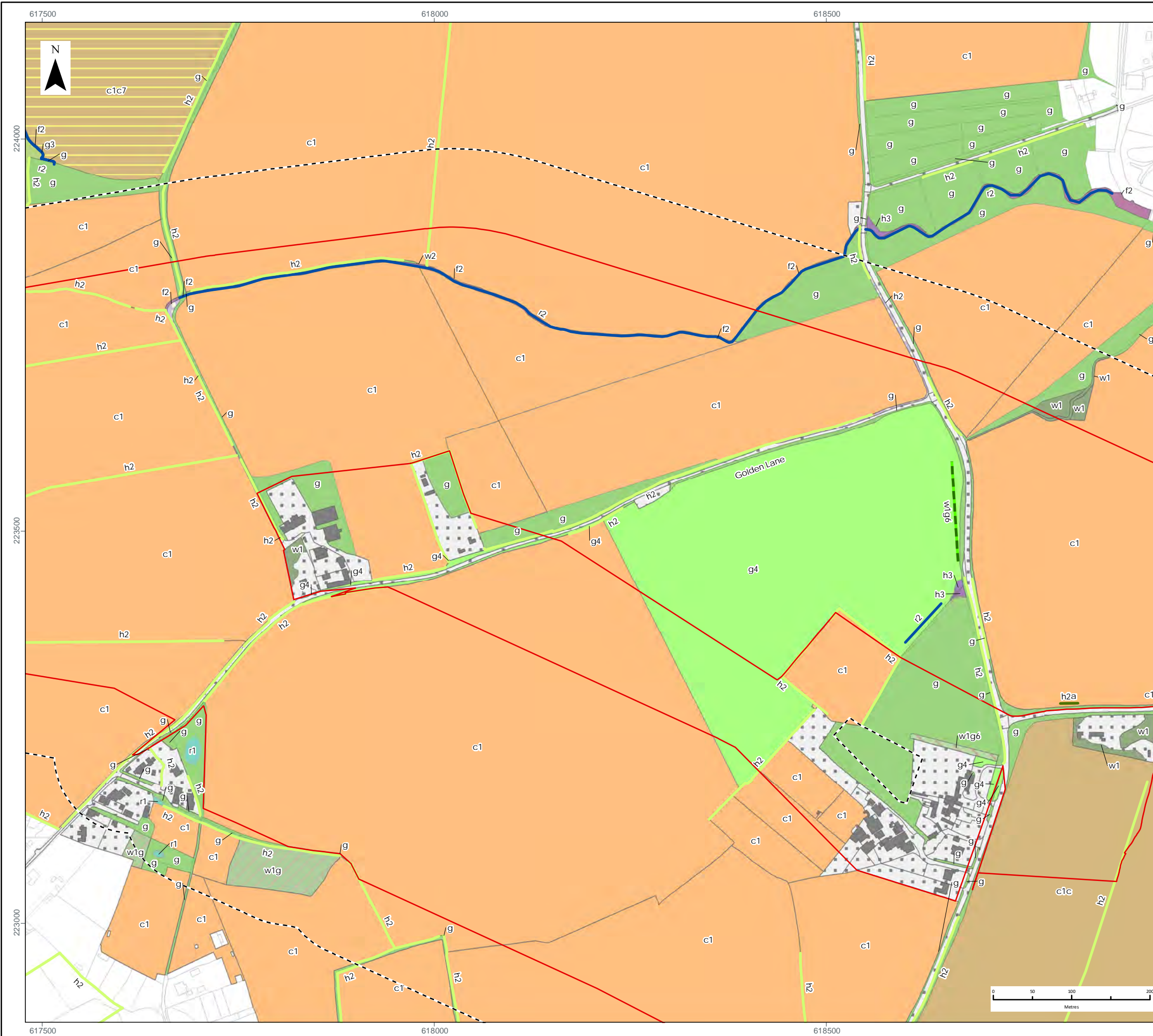
DRAWING TITLE:
Habitat Plan

VER	DATE	REMARKS	Drawn	Checked
1	23/02/2022	For Issue	JO	JC
2	31/03/2022	Inclusion of Area North of A120	JO	JC
3	13/04/2022	Route Corridor Amendment	JO	JC

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SCALE: 1:5,000 PLOT SIZE: A3 DATUM: ODN COORDINATE SYSTEM: British National Grid.





LEGEND

Proposed Infrastructure	Urban - Built-up Areas and Gardens
Proposed Infrastructure - 100 m Buffer	u1 - Built-up Area and Garden
Linear Habitat Features	u1b5 - Building
Heathland and Shrub - Hedgerows	Woodland and Forest - Broadleaved Mixed and Yew Woodland
h2 - Hedgerow	w1 - Broadleaved Mixed and Yew Woodland
h2a - Hedgerow (Priority Habitat)	w1g - Other Woodland: Broadleaved
Woodland and Forest - Broadleaved Mixed and Yew Woodland	w1g6 - Line of Trees
w1g6 - Line of Trees	Woodland and Forest - Coniferous Woodland
Area Habitat Features	w2 - Coniferous Woodland
Cropland - Arable and Horticulture	Rivers and Lakes - Standing Open Water and Canals
c1 - Arable and Horticulture	r1 - Standing Open Water and Canal
c1c - Cereal Crops	
c1c7 - Other Cereal Crops	
Wetland - Fen Marsh and Swamp	
f2 - Fen Marsh and Swamp	
Grassland - Neutral Grassland	
g - Grassland	
g3 - Neutral Grassland (Coastal Floodplain Grazing Marsh)	
Grassland - Modified Grassland	
g4 - Modified Grassland	
Heathland and Shrub - Hedgerows	
h2 - Hedgerow	
Heathland and Shrub - Dense Scrub	
h3 - Dense Scrub	

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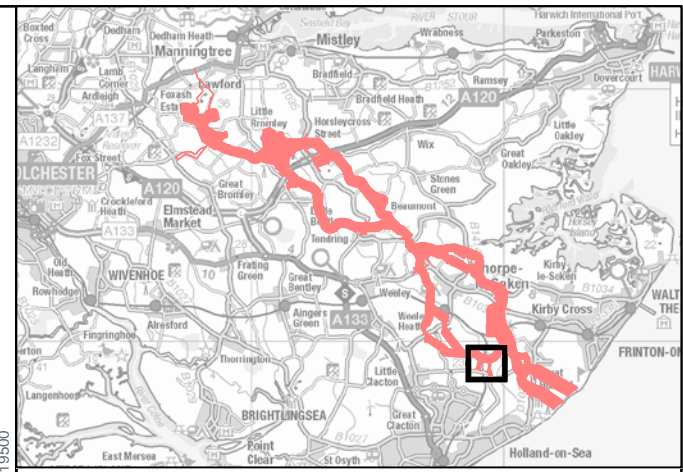
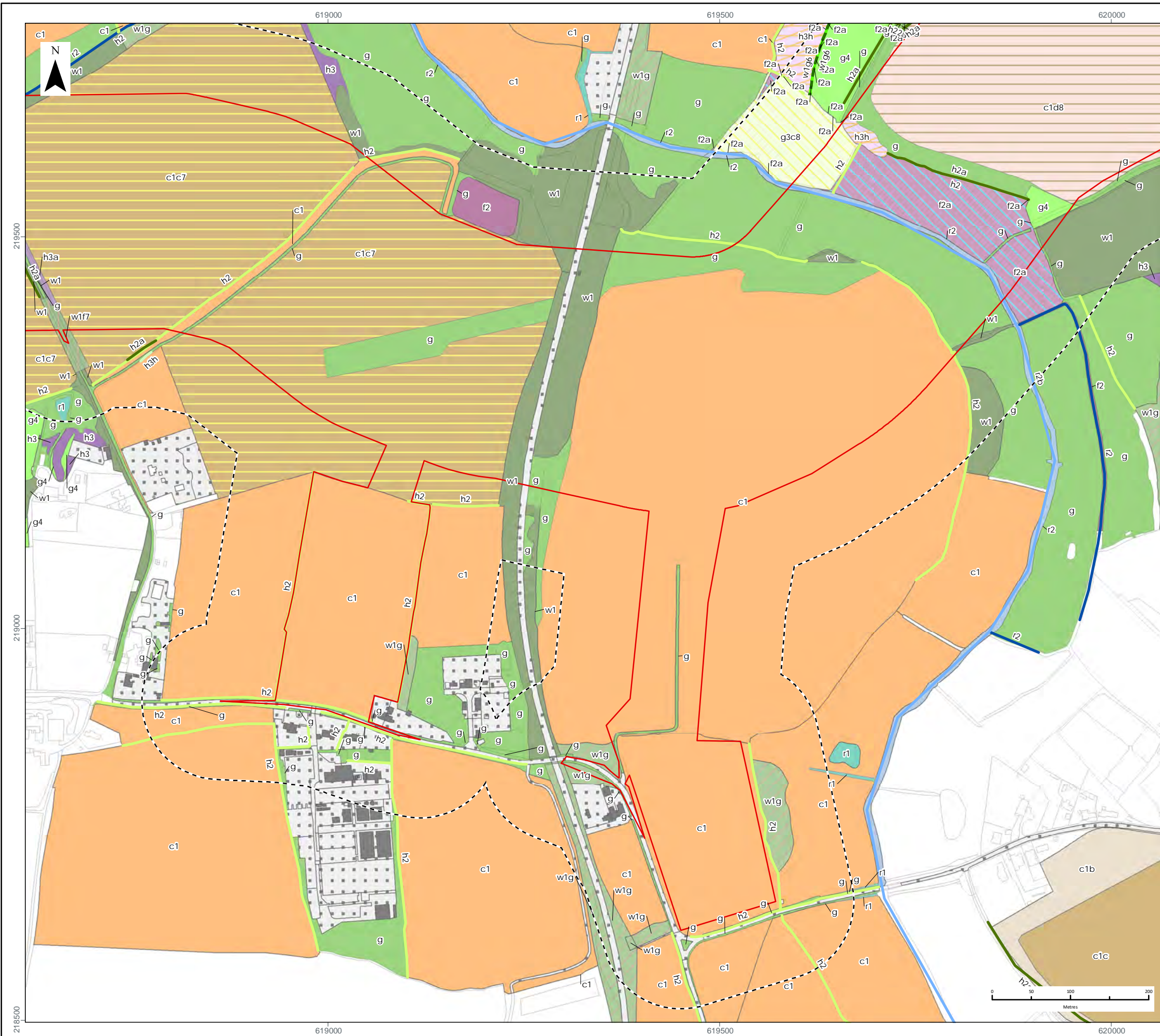
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Habitat Plan

VER	DATE	REMARKS	Drawn	Checked
1	23/02/2022	For Issue	JO	JC
2	31/03/2022	Inclusion of Area North of A120	JO	JC
3	13/04/2022	Route Corridor Amendment	JO	JC

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4.10
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SCALE: 1:5,000	PLOT SIZE: A3	DATUM: ODN	COORDINATE SYSTEM: British National Grid.
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LEGEND

Proposed Infrastructure	Heathland and Shrub - Dense Scrub
Proposed Infrastructure - 100 m Buffer	h3 - Dense Scrub
Linear Habitat Features	h3a - Blackthorn Scrub
Heathland and Shrub - Dense Scrub	h3h - Mixed Scrub
h3h - Mixed Scrub	Urban - Built-up Areas and Gardens
Heathland and Shrub - Hedgerows	u1 - Built-up Area and Garden
h2 - Hedgerow	u1b5 - Building
h2a - Hedgerow (Priority Habitat)	Woodland and Forest - Broadleaved Mixed and Yew Woodland
Woodland and Forest - Broadleaved Mixed and Yew Woodland	w1 - Broadleaved Mixed and Yew Woodland
w1g6 - Line of Trees	w1f7 - Other Lowland Mixed Deciduous Woodland
Area Habitat Features	w1g - Other Woodland: Broadleaved
Cropland - Arable and Horticulture	Rivers and Lakes - Standing Open Water and Canals
c1 - Arable and Horticulture	r1 - Standing Open Water and Canals
c1b - Temporary Grass and Clover Leys	r2 - Rivers and Streams
c1c - Cereal Crops	
c1c7 - Other Cereal Crops	
c1d8 - Other Non-cereal Crops	
Wetland - Fen Marsh and Swamp	
f2 - Fen Marsh and Swamp	
f2a - Lowland Fen	
Grassland - Neutral Grassland	
g - Grassland	
g3c8 - Holcus-Juncus Neutral Grassland (Coastal Floodplain Grazing Marsh)	
Grassland - Modified Grassland	
g4 - Modified Grassland	

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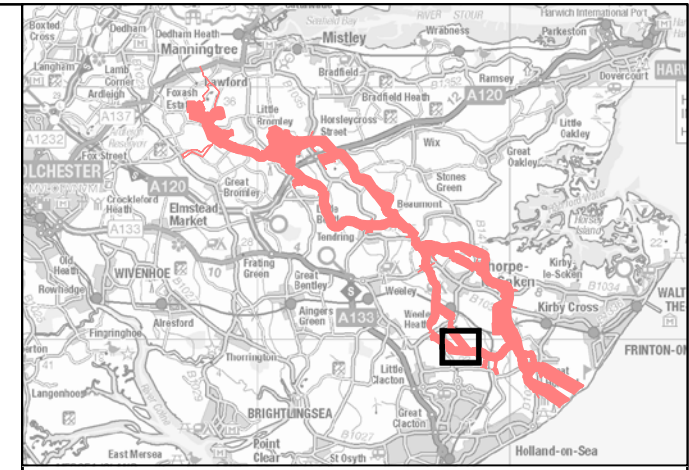
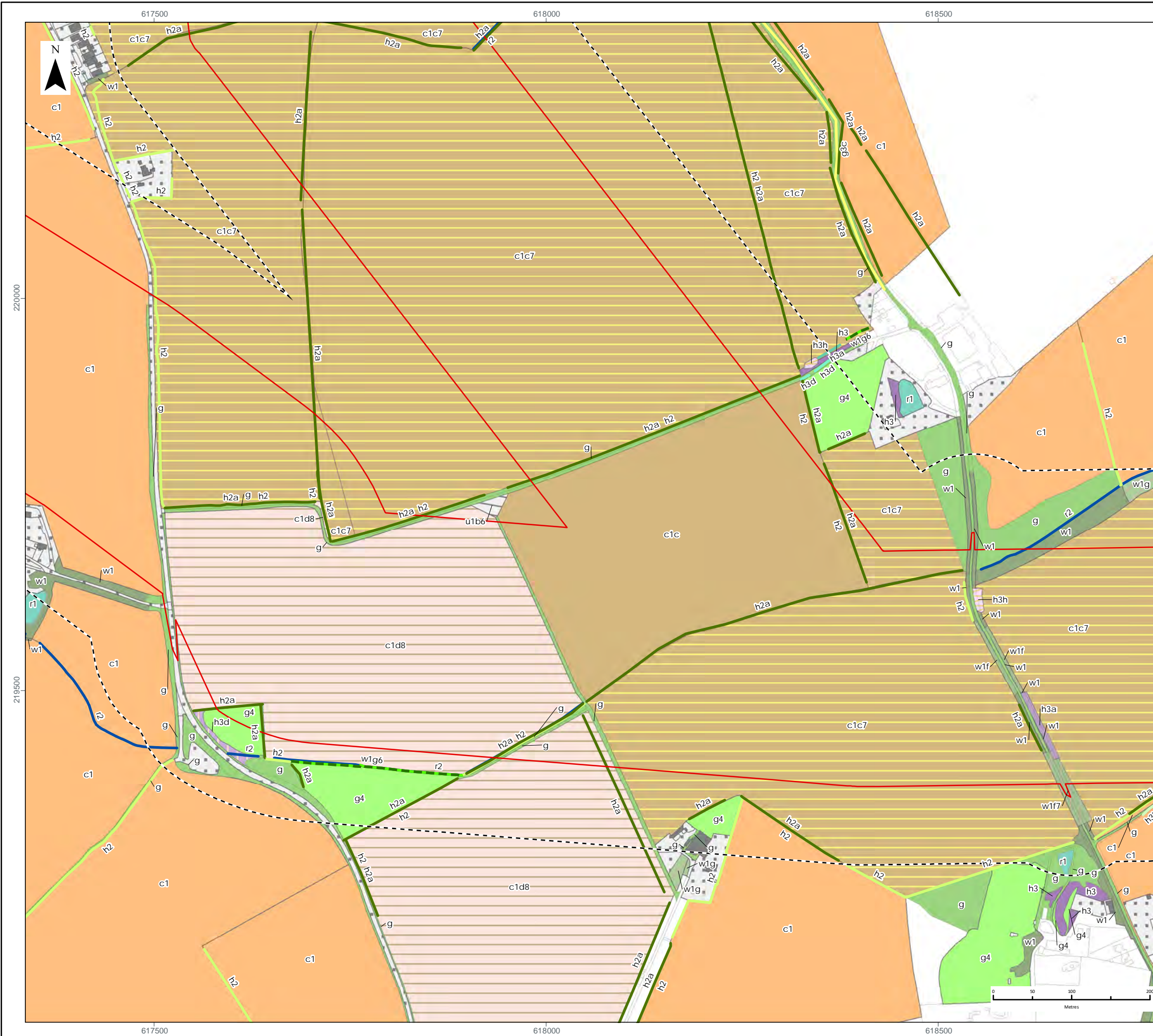
DRAWING TITLE:
Habitat Plan

VER	DATE	REMARKS	Drawn	Checked
1	23/02/2022	For Issue	JO	JC
2	31/03/2022	Inclusion of Area North of A120	JO	JC
3	13/04/2022	Route Corridor Amendment	JO	JC

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4.11
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SCALE: 1:5,000 PLOT SIZE: A3 DATUM: ODN COORDINATE SYSTEM: British National Grid.





LEGEND

	Proposed Infrastructure		h3h - Mixed Scrub
	Proposed Infrastructure - 100 m Buffer		Urban - Built-up Areas and Gardens
	Linear Habitat Features		u1 - Built-up Area and Garden
	Grassland - Neutral Grassland		u1b5 - Building
	g3c - Other Neutral Grassland		u1b6 - Other Developed Land
	Grassland - Modified Grassland		Woodland and Forest - Broadleaved Mixed and Yew Woodland
	g4 - Modified Grassland		w1 - Broadleaved Mixed and Yew Woodland
	Heathland and Shrub - Dense Scrub		w1f - Lowland Mixed Deciduous Woodland
	h3 - Dense Scrub		w1f7 - Other Lowland Mixed Deciduous Woodland
	h3a - Blackthorn Scrub		Woodland and Forest - Broadleaved Mixed and Yew Woodland
	h3d - Bramble Scrub		w1g - Other Woodland: Broadleaved
	h3h - Mixed Scrub		Rivers and Lakes - Standing Open Water and Canals
	Heathland and Shrub - Hedgerows		r1 - Standing Open Water and Canal
	h2 - Hedgerow		
	h2a - Hedgerow (Priority Habitat)		
	Woodland and Forest - Broadleaved Mixed and Yew Woodland		
	w1g6 - Line of Trees		
	Area Habitat Features		
	Cropland - Arable and Horticulture		
	c1 - Arable and Horticulture		
	c1c - Cereal Crops		
	c1c7 - Other Cereal Crops		
	c1d8 - Other Non-cereal Crops		
	Grassland - Neutral Grassland		
	g - Grassland		
	Grassland - Modified Grassland		
	g4 - Modified Grassland		
	Heathland and Shrub - Dense Scrub		
	h3 - Dense Scrub		
	h3a - Blackthorn Scrub		
	h3d - Bramble Scrub		

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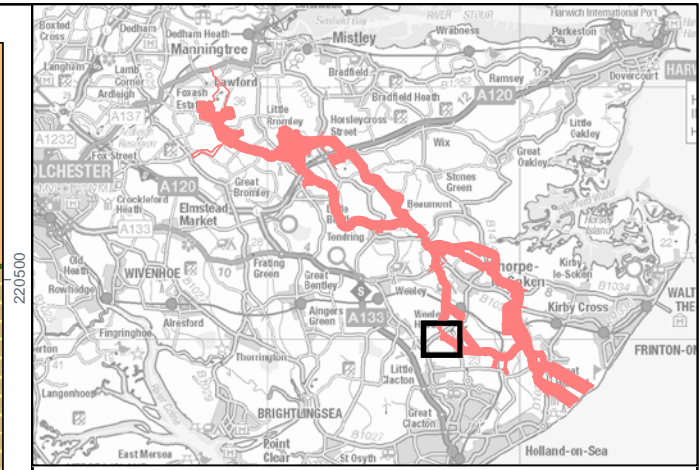
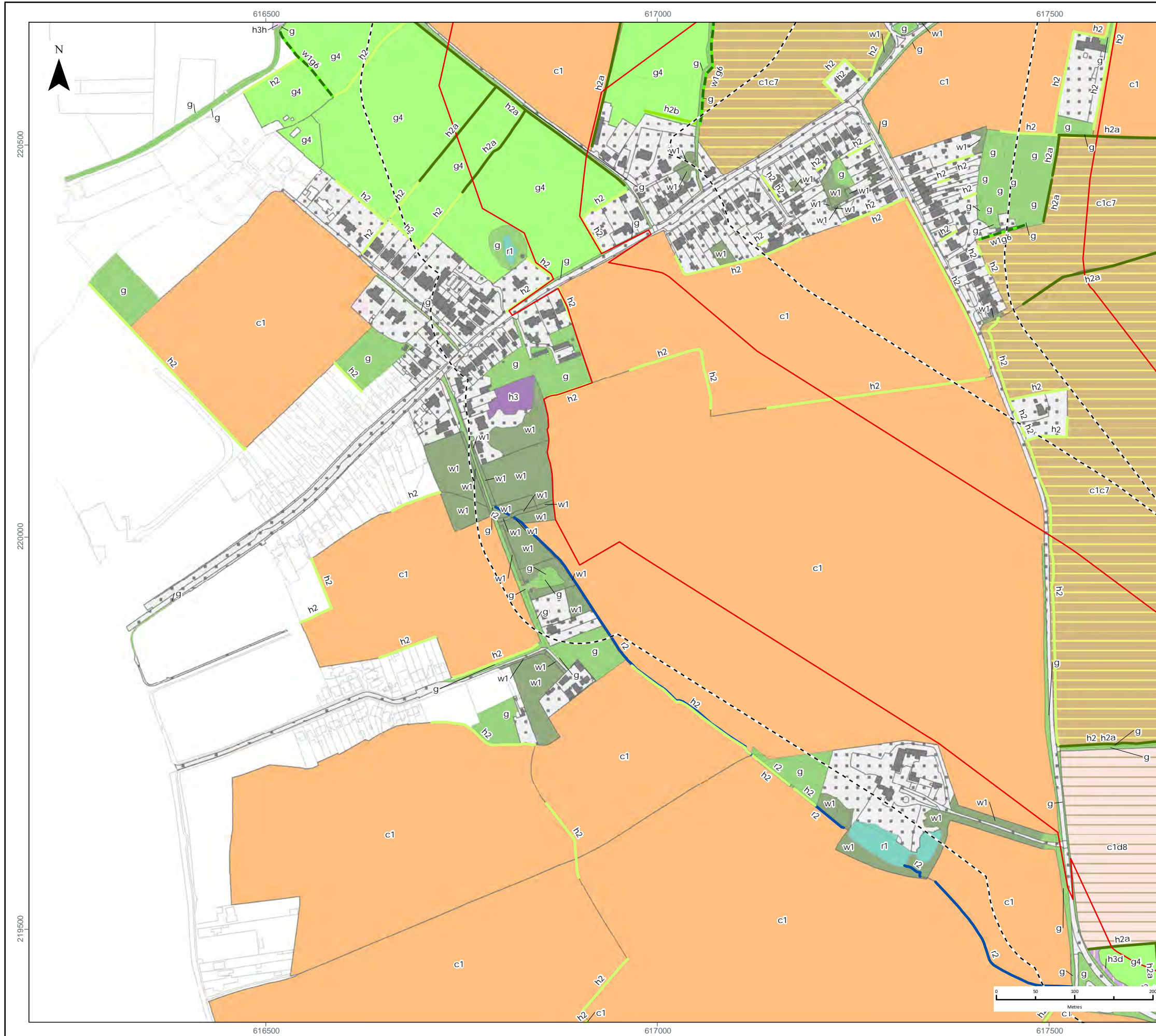
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2	31/03/2022	Inclusion of Area North of A120	JO	JC
3	13/04/2022	Route Corridor Amendment	JO	JC

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SCALE: 1:5,000 | PLOT SIZE: A3 | DATUM: ODN | COORDINATE SYSTEM: British National Grid.





LEGEND

- Proposed Infrastructure - Red line
- Proposed Infrastructure - 100 m Buffer - Dashed black line
- Linear Habitat Features
 - h2 - Hedgerow
 - h2a - Hedgerow (Priority Habitat)
 - h2b - Other Hedgerow
- Woodland and Forest - Broadleaved Mixed and Yew Woodland
 - w1 - Broadleaved Mixed and Yew Woodland
 - w1g6 - Line of Trees
- Area Habitat Features
 - c1 - Arable and Horticulture
 - c1c7 - Other Cereal Crops
 - c1d8 - Other Non-cereal Crops
 - g - Grassland
 - g4 - Modified Grassland
 - g4 - Modified Grassland
 - h3 - Dense Scrub
 - h3d - Bramble Scrub
 - h3h - Mixed Scrub
 - Urban - Built-up Areas and Gardens
 - u1 - Built-up Area and Garden
 - u1b5 - Building
- Woodland and Forest - Broadleaved Mixed and Yew Woodland
 - w1 - Broadleaved Mixed and Yew Woodland
- Rivers and Lakes - Standing Open Water and Canals
 - r1 - Standing Open Water and Canal

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PROJECT TITLE:
*FIVE ESTUARIES OFFSHORE WINDFARM:
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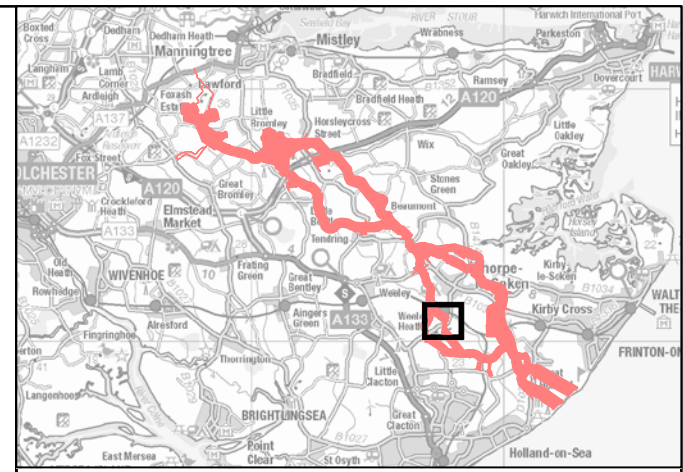
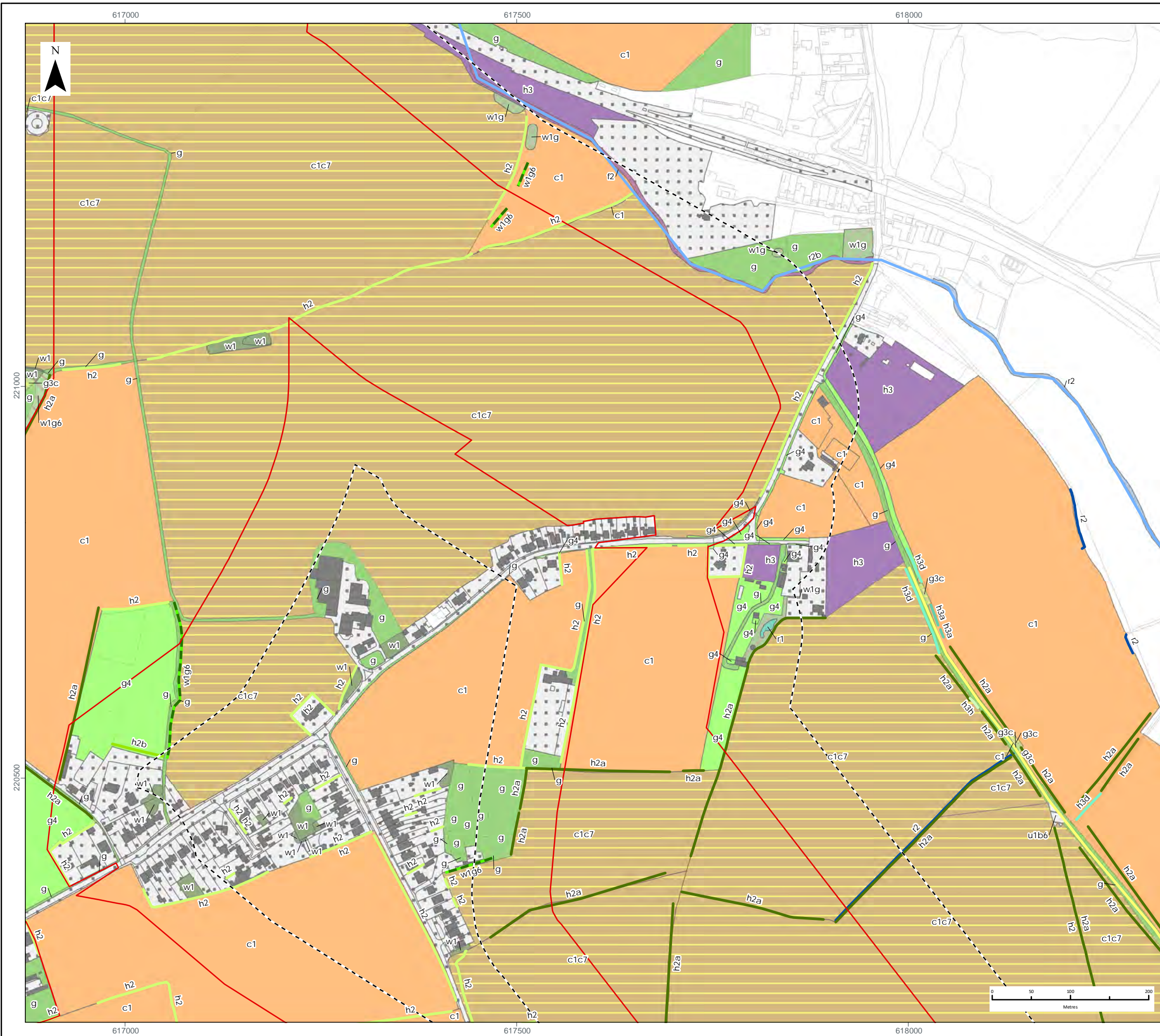
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4.13
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SCALE: 1:5,000 PLOT SIZE: A3 DATUM: ODN COORDINATE SYSTEM: British National Grid.





LEGEND

Proposed Infrastructure	Grassland - Modified Grassland
Proposed Infrastructure - 100 m Buffer	g4 - Modified Grassland
Linear Habitat Features	Heathland and Shrub - Dense Scrub
Grassland - Neutral Grassland	h3 - Dense Scrub
g3c - Other Neutral Grassland	Urban - Built-up Areas and Gardens
Heathland and Shrub - Dense Scrub	u1 - Built-up Area and Scrub
h3a - Blackthorn Scrub	Garden
h3d - Bramble Scrub	u1b5 - Building
h3h - Mixed Scrub	u1b6 - Other Developed Land
Heathland and Shrub - Hedgerows	Woodland and Forest - Broadleaved Mixed and Yew Woodland
h2 - Hedgerow	w1 - Broadleaved Mixed and Yew Woodland
h2a - Hedgerow (Priority Habitat)	w1g - Other Woodland: Broadleaved
h2b - Other Hedgerow	w1g6 - Line of Trees
Woodland and Forest - Broadleaved Mixed and Yew Woodland	Rivers and Lakes - Standing Open Water and Canals
w1g6 - Line of Trees	r1 - Standing Open Water and Canal
Area Habitat Features	Rivers and Lakes - Rivers and Streams
Cropland - Arable and Horticulture	
c1 - Arable and Horticulture	
c1c7 - Other Cereal Crops	
Wetland - Fen Marsh and Swamp	
r2 - Fen Marsh and Swamp	
Grassland - Neutral Grassland	
g - Grassland	
g3c - Other Neutral Grassland (Coastal Floodplain Grazing Marsh)	

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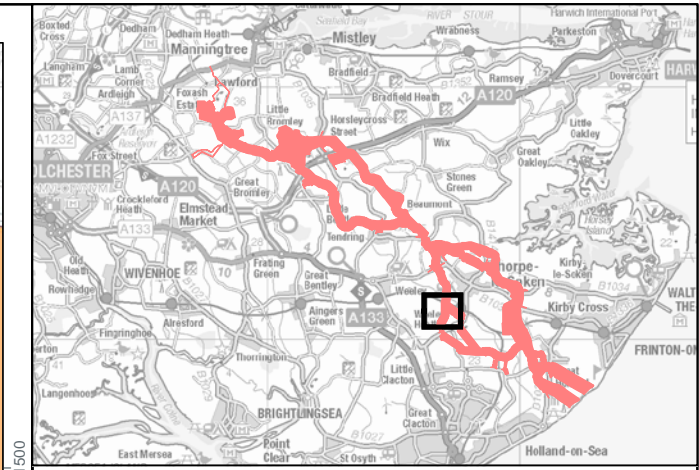
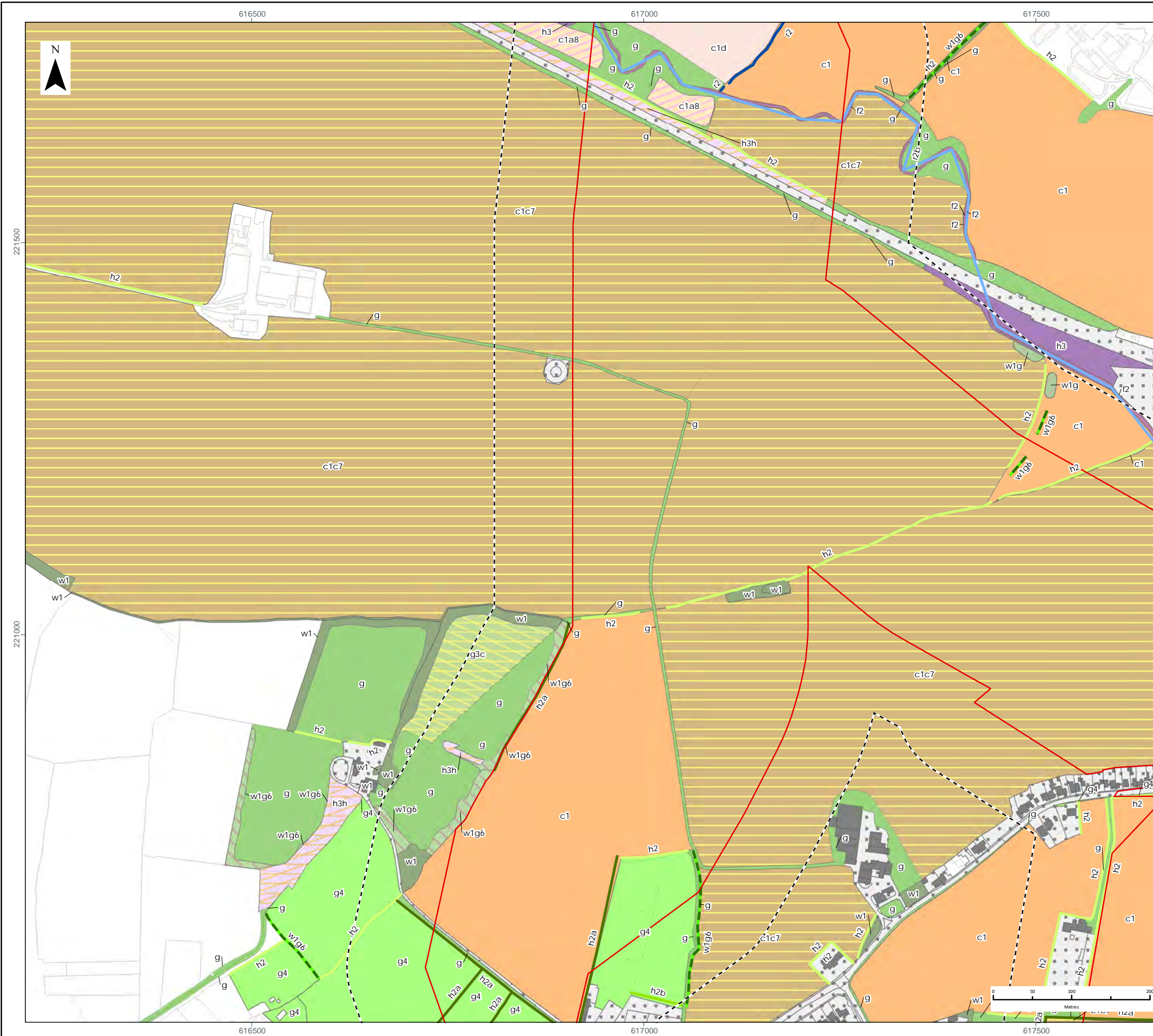
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2	31/03/2022	Inclusion of Area North of A120	JO	JC
3	13/04/2022	Route Corridor Amendment	JO	JC

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4.14
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SCALE: 1:5,000	PLOT SIZE: A3	DATUM: ODN	COORDINATE SYSTEM: British National Grid.
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LEGEND

Proposed Infrastructure	Urban - Built-up Areas and Gardens
Proposed Infrastructure - 100 m Buffer	u1 - Built-up Area and Garden
Linear Habitat Features	u1b5 - Building
Heathland and Shrub - Hedgerows	Woodland and Forest - Broadleaved Mixed and Yew Woodland
h2 - Hedgerow	w1 - Broadleaved Mixed and Yew Woodland
h2a - Hedgerow (Priority Habitat)	w1g - Other Woodland: Broadleaved
h2b - Other Hedgerow	w1g6 - Line of Trees
Woodland and Forest - Broadleaved Mixed and Yew Woodland	
w1g6 - Line of Trees	
Area Habitat Features	
Cropland - Arable and Horticulture	
c1 - Arable and Horticulture	
c1a8 - Game Bird Mx Strips and Corners	
c1c7 - Other Cereal Crops	
c1d - Non-cereal Crops	
Wetland - Fen Marsh and Swamp	
f2 - Fen Marsh and Swamp	
Grassland - Neutral Grassland	
g - Grassland	
g3c - Other Neutral Grassland (Coastal Floodplain Grazing Marsh)	
Grassland - Modified Grassland	
g4 - Modified Grassland	
Heathland and Shrub - Dense Scrub	
h3 - Dense Scrub	
h3h - Mixed Scrub	

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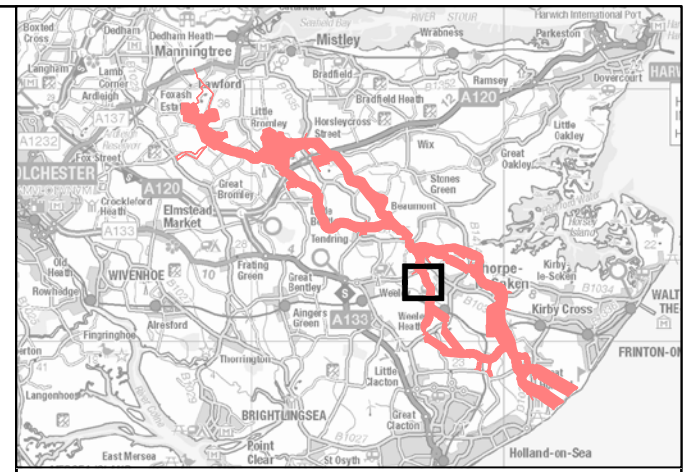
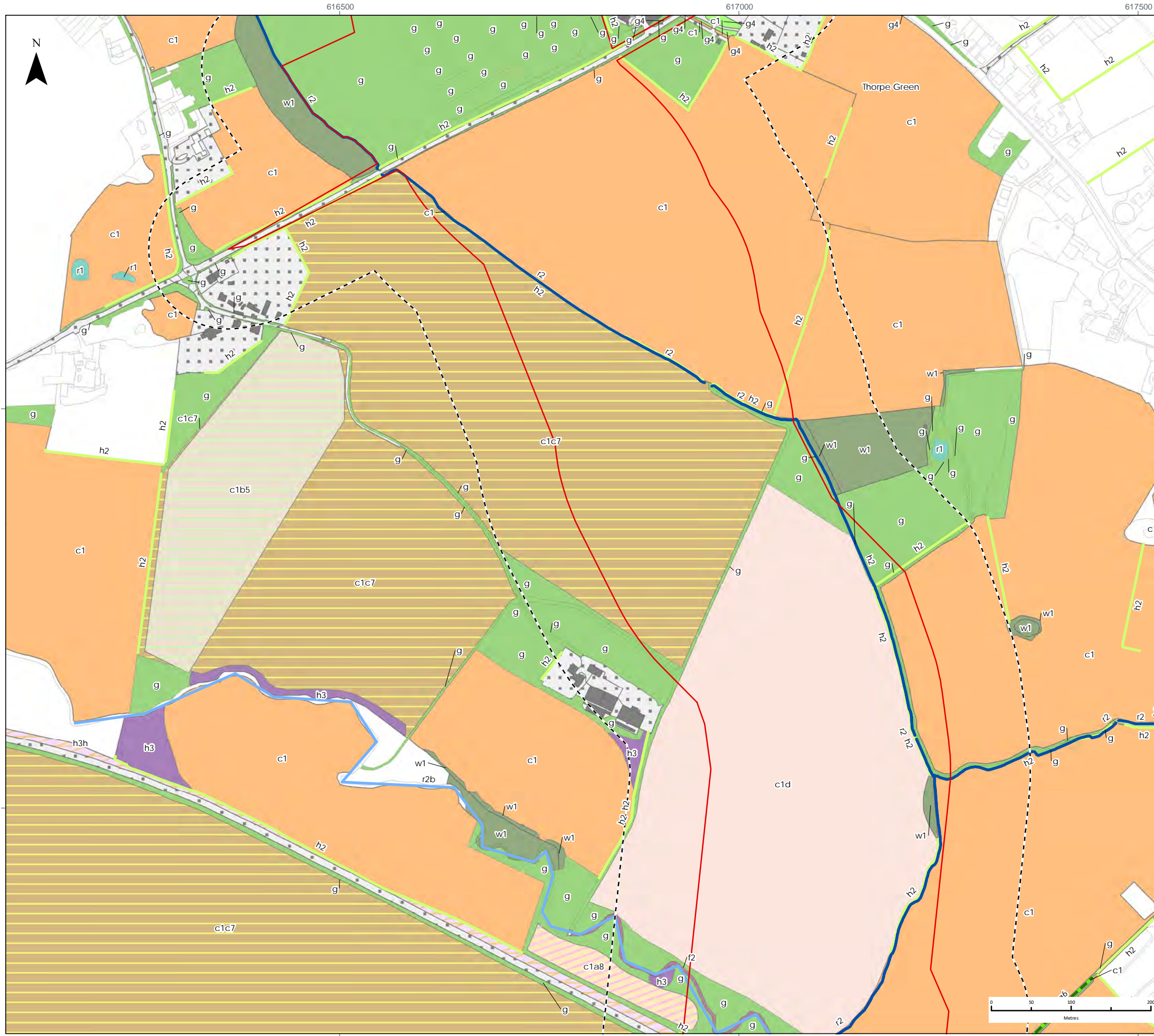
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Habitat Plan

VER	DATE	REMARKS	Drawn	Checked
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2	31/03/2022	Inclusion of Area North of A120	JO	JC
3	13/04/2022	Route Corridor Amendment	JO	JC

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4.15
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SCALE: **1:5,000** PLOT SIZE: **A3** DATUM: **ODN** COORDINATE SYSTEM: **British National Grid**





LEGEND

Proposed Infrastructure	Woodland and Forest - Broadleaved Mixed and Yew Woodland
Proposed Infrastructure - 100 m Buffer	w1 - Broadleaved Mixed and Yew Woodland
Linear Habitat Features	Rivers and Lakes - Standing Open Water and Canals
Heathland and Shrub - Hedgerows	r1 - Standing Open Water and Canal
h2 - Hedgerow	
Woodland and Forest - Broadleaved Mixed and Yew Woodland	
w1g6 - Line of Trees	
Area Habitat Features	
Cropland - Arable and Horticulture	
c1 - Arable and Horticulture	
c1a8 - Game Bird Mix Strips and Corners	
c1b5 - Rye-grass and Clover Ley	
c1c7 - Other Cereal Crops	
c1d - Non-cereal Crops	
Wetland - Fen Marsh and Swamp	
r2 - Fen Marsh and Swamp	
Grassland - Neutral Grassland	
g - Grassland	
Grassland - Modified Grassland	
g4 - Modified Grassland	
Heathland and Shrub - Dense Scrub	
h3 - Dense Scrub	
h3h - Mixed Scrub	
Urban - Built-up Areas and Gardens	
u1 - Built-up Area and Garden	
u1b5 - Building	

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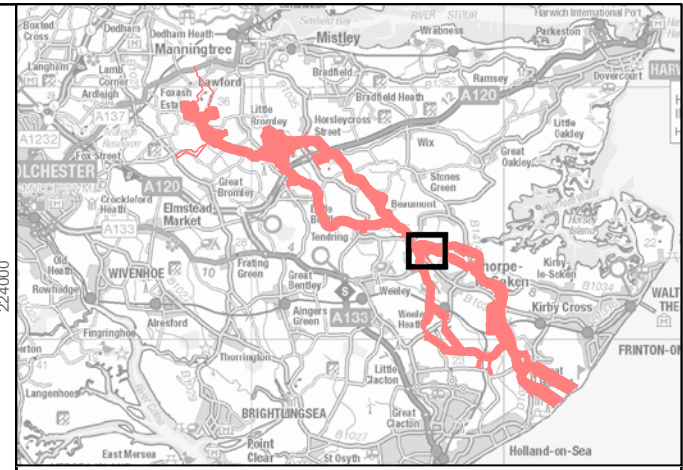
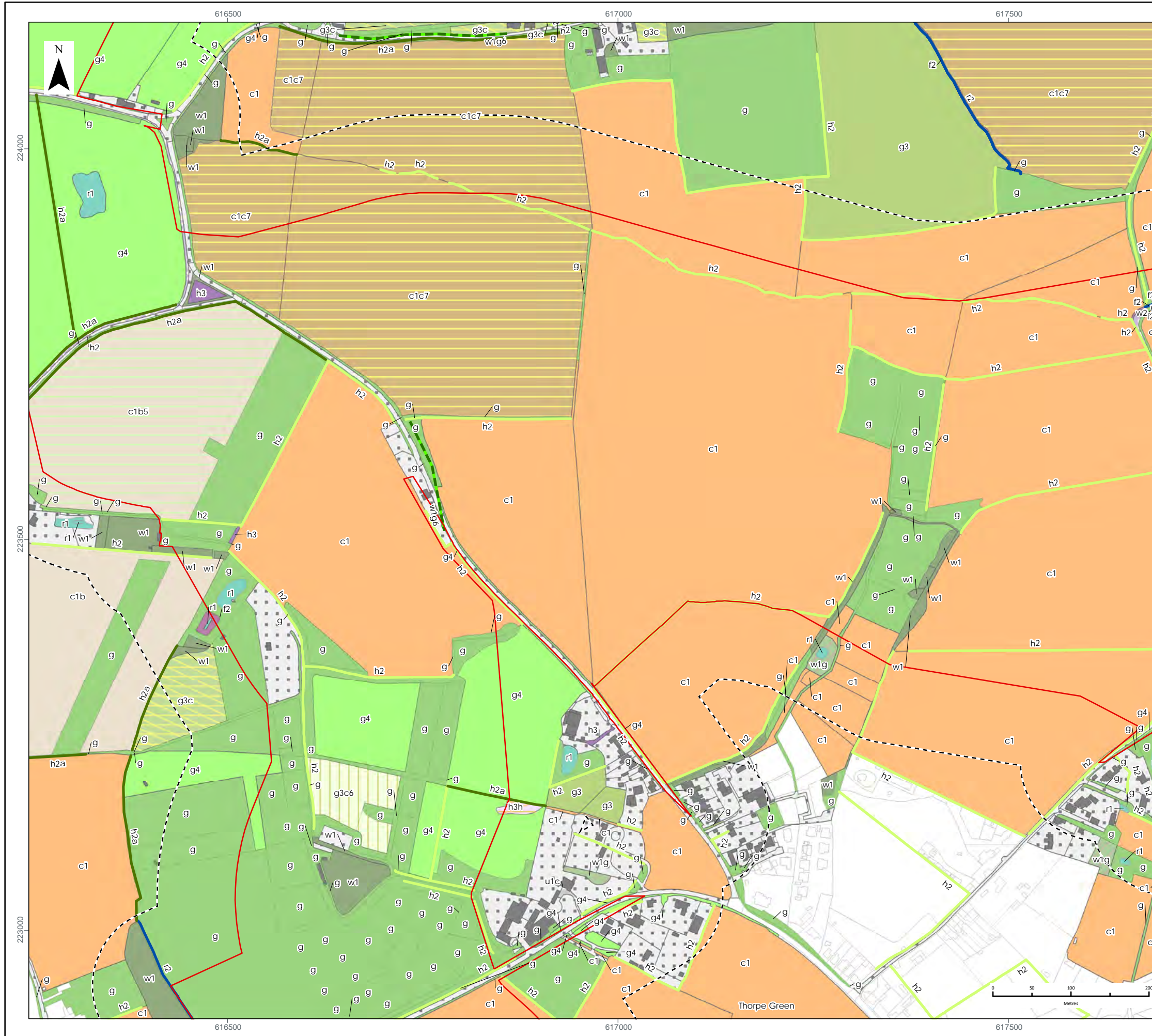
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Habitat Plan

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2	31/03/2022	Inclusion of Area North of A120	JO	JC
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4.16
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SCALE: 1:5,000 PLOT SIZE: A3 DATUM: ODN COORDINATE SYSTEM: British National Grid.





LEGEND

- Proposed Infrastructure
- Proposed Infrastructure - 100 m Buffer
- Linear Habitat Features**
- Heathland and Shrub - Hedgerows
 - h2 - Hedgerow
 - h2a - Hedgerow (Priority Habitat)
- Woodland and Forest - Broadleaved Mixed and Yew Woodland
 - w1g6 - Line of Trees
- Area Habitat Features
- Cropland - Arable and Horticulture
 - c1 - Arable and Horticulture
 - c1b - Temporary Grass and Clover Leys
 - c1b5 - Rye-grass and Clover Ley
 - c1c7 - Other Cereal Crops
- Wetland - Fen Marsh and Swamp
 - f2 - Fen Marsh and Swamp
- Grassland - Neutral Grassland
 - g - Grassland
 - g3 - Neutral Grassland (Coastal Floodplain Grazing Marsh)
 - g3c - Other Neutral Grassland (Coastal Floodplain Grazing Marsh)
 - g3c6 - Lolium-Cynurus Neutral Grassland (Coastal Floodplain Grazing Marsh)
- Grassland - Modified Grassland
 - g4 - Modified Grassland
- Heathland and Shrub - Hedgerows
 - h2 - Hedgerow
 - h2a - Hedgerow (Priority Habitat)
 - h3 - Dense Scrub
 - h3h - Mixed Scrub
- Urban - Built-up Areas and Gardens
 - u1 - Built-up Area and Garden
 - u1b5 - Building
 - u1c - Artificial Unvegetated, Unsealed Surface
- Woodland and Forest - Broadleaved Mixed and Yew Woodland
 - w1 - Broadleaved Mixed and Yew Woodland
 - w1g - Other Woodland: Broadleaved
- Woodland and Forest - Coniferous Woodland
 - w2 - Coniferous Woodland
- Rivers and Lakes - Standing Open Water and Canals
 - r1 - Standing Open Water and Canal

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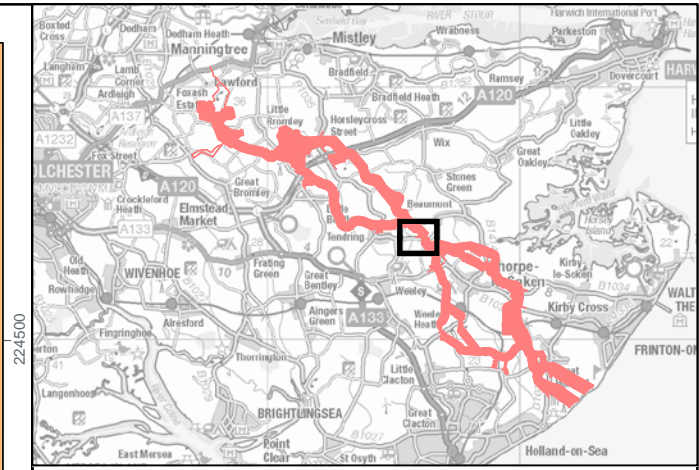
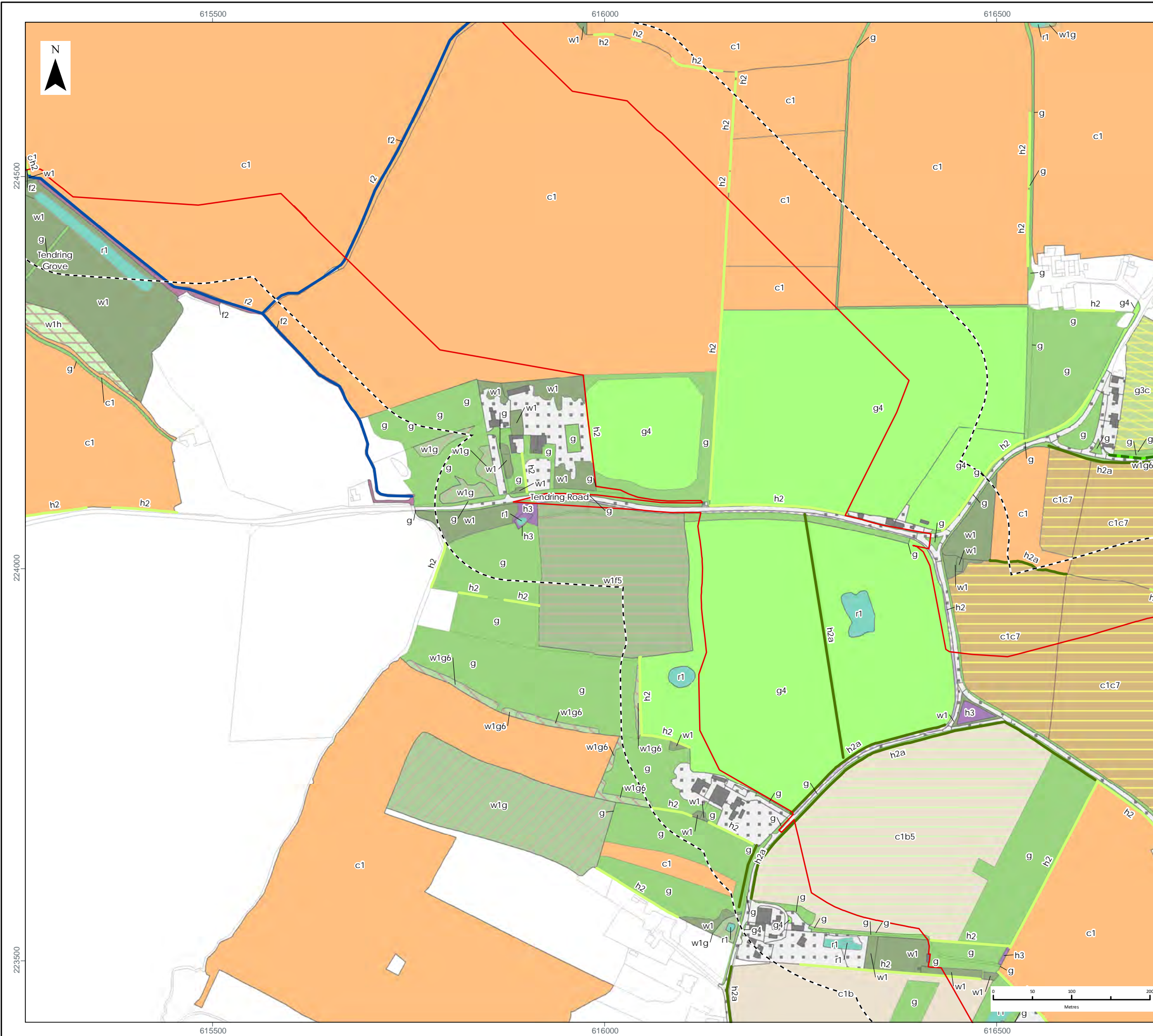
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1	23/02/2022	For Issue	JO	JC
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4.17
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SCALE: **1:5,000** PLOT SIZE: **A3** DATUM: **ODN** COORDINATE SYSTEM: **British National Grid**





LEGEND

Proposed Infrastructure	Heathland and Shrub - Dense Scrub
Proposed Infrastructure - 100 m Buffer	h3 - Dense Scrub
Linear Habitat Features	Urban - Built-up Areas and Gardens
Heathland and Shrub - Hedgerows	u1 - Built-up Area and Garden
h2 - Hedgerow	u1b5 - Building
h2a - Hedgerow (Priority Habitat)	Woodland and Forest - Broadleaved Mixed and Yew Woodland
Woodland and Forest - Broadleaved Mixed and Yew Woodland	w1 - Broadleaved Mixed and Yew Woodland
w1g6 - Line of Trees	w1f5 - Dry oak-dominated woodland (H9190)
Area Habitat Features	w1g - Other Woodland; Broadleaved
Cropland - Arable and Horticulture	w1g6 - Line of Trees Mixed
c1 - Arable and Horticulture	w1h - Other Woodland; Mixed
c1b - Temporary Grass and Clover Leys	Rivers and Lakes - Standing Open Water and Canals
c1b5 - Rye-grass and Clover Ley	r1 - Standing Open Water and Canal
c1c7 - Other Cereal Crops	
Wetland - Fen Marsh and Swamp	
f2 - Fen Marsh and Swamp	
Grassland - Neutral Grassland	
g - Grassland	
g3c - Other Neutral Grassland (Coastal Floodplain Grazing Marsh)	
Grassland - Modified Grassland	
g4 - Modified Grassland	
Heathland and Shrub - Hedgerows	
h2 - Hedgerow	

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*FIVE ESTUARIES OFFSHORE WINDFARM:
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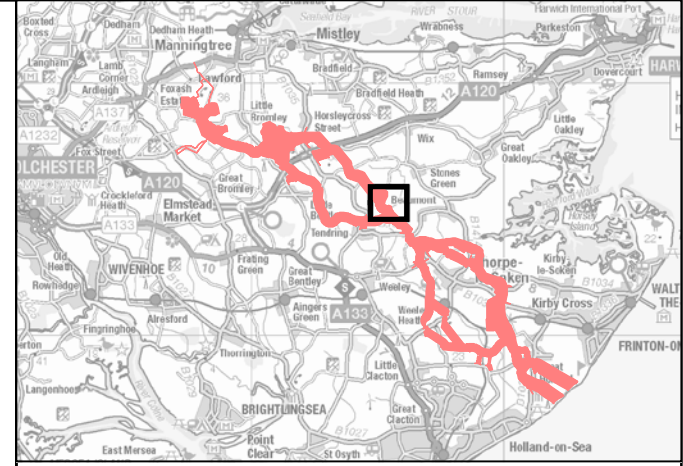
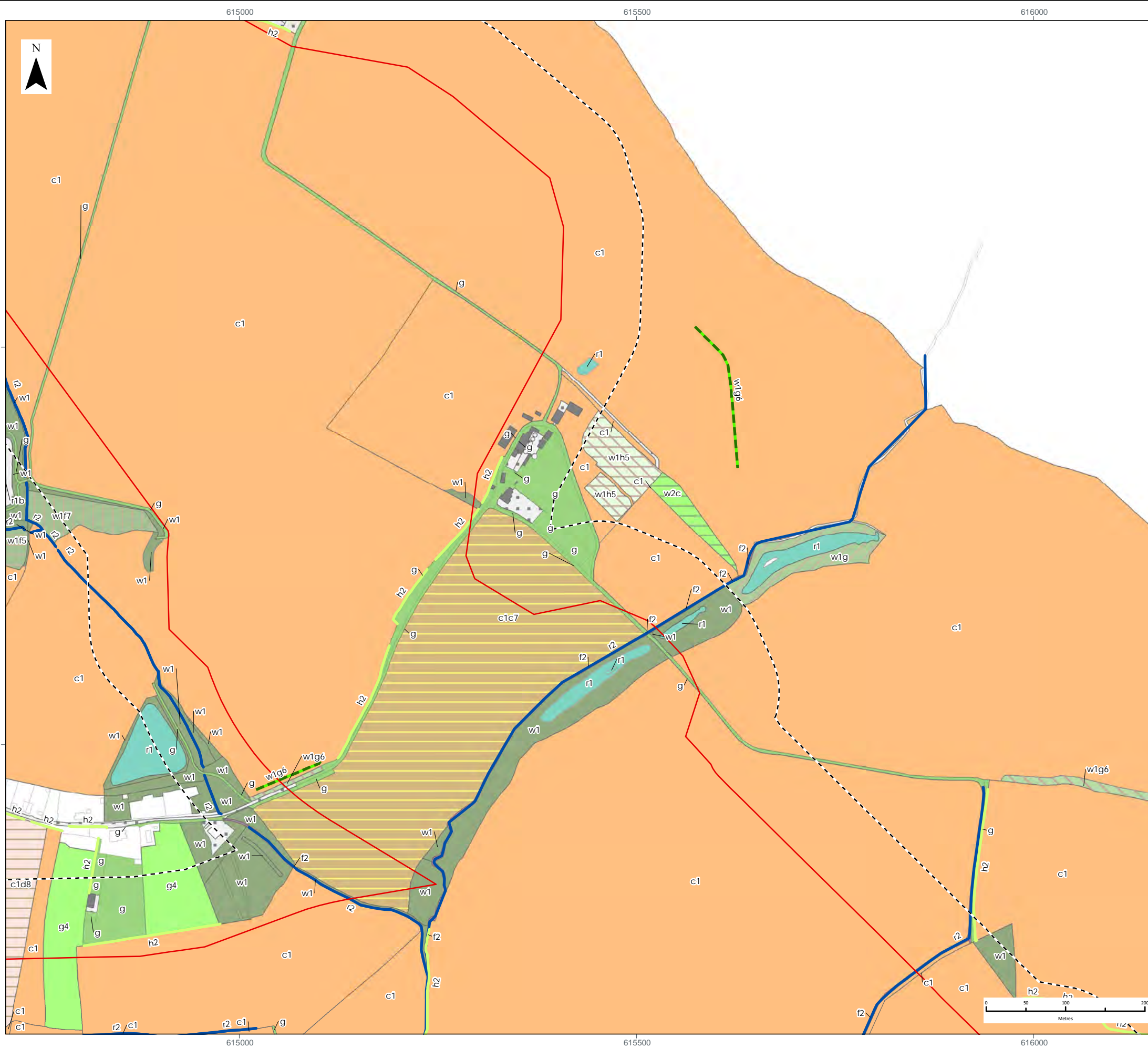
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1	23/02/2022	For Issue	JO	JC
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3	13/04/2022	Route Corridor Amendment	JO	JC

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4.18
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SCALE: 1:5,000 PLOT SIZE: A3 DATUM: ODN COORDINATE SYSTEM: British National Grid.





LEGEND

Proposed Infrastructure	w17 - Other Lowland Mixed Deciduous Woodland
Proposed Infrastructure - 100 m Buffer	w1g - Other Woodland: Broadleaved
Linear Habitat Features	w1g6 - Line of Trees
h2 - Hedgerow	w1h5 - Other Woodland: Mixed: Mainly Broadleaved
Woodland and Forest - Broadleaved Mixed and Yew Woodland	Woodland and Forest - Coniferous Woodland
w1g6 - Line of Trees	w2c - Other Coniferous Woodland
Area Habitat Features	Rivers and Lakes - Standing Open Water and Canals
Cropland - Arable and Horticulture	r1 - Standing Open Water and Canal
c1 - Arable and Horticulture	r1b - Mesotrophic Lakes
c1c7 - Other Cereal Crops	
c1d8 - Other Non-cereal Crops	
Wetland - Fen Marsh and Swamp	
f2 - Fen Marsh and Swamp	
Grassland - Neutral Grassland	
g - Grassland	
Grassland - Modified Grassland	
g4 - Modified Grassland	
Urban - Built-up Areas and Gardens	
u1 - Built-up Area and Garden	
u1b5 - Building	
Woodland and Forest - Broadleaved Mixed and Yew Woodland	
w1 - Broadleaved Mixed and Yew Woodland	
w1f5 - Dry oak-dominated woodland (H9190)	

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*FIVE ESTUARIES OFFSHORE WINDFARM:
 PRELIMINARY ECOLOGICAL APPRAISAL*

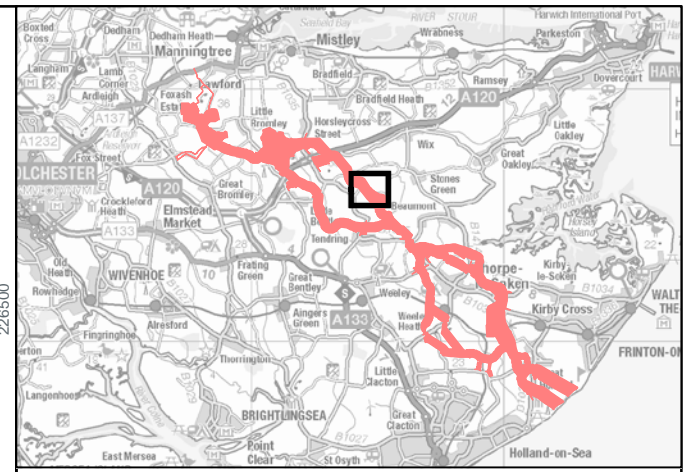
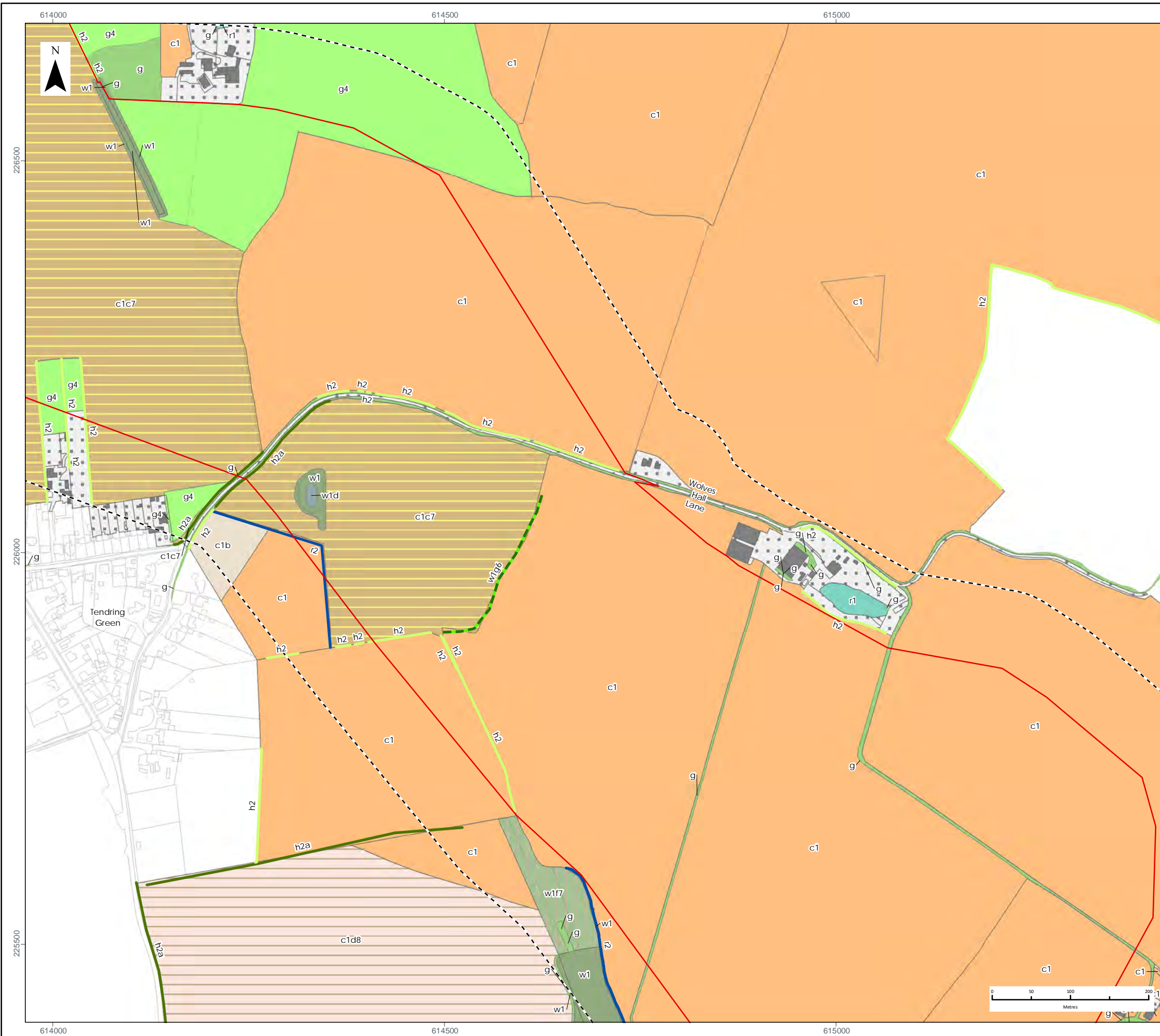
DRAWING TITLE:
Habitat Plan

VER	DATE	REMARKS	Drawn	Checked
1	23/02/2022	For Issue	JO	JC
2	31/03/2022	Inclusion of Area North of A120	JO	JC
3	13/04/2022	Route Corridor Amendment	JO	JC

DRAWING NUMBER:
4.19
 Page 19 of 36

SCALE: **1:5,000** PLOT SIZE: **A3** DATUM: **ODN** COORDINATE SYSTEM: **British National Grid**





LEGEND

- Proposed Infrastructure
- Proposed Infrastructure - 100 m Buffer
- Linear Habitat Features
- Heathland and Shrub - Hedgerows
 - h2 - Hedgerow
 - h2a - Hedgerow (Priority Habitat)
- Woodland and Forest - Broadleaved Mixed and Yew Woodland
 - w1g6 - Line of Trees
- Area Habitat Features
- Cropland - Arable and Horticulture
 - c1 - Arable and Horticulture
 - c1b - Temporary Grass and Clover Leys
 - c1c7 - Other Cereal Crops
 - c1d8 - Other Non-cereal Crops
- Grassland - Neutral Grassland
 - g - Grassland
- Grassland - Modified Grassland
 - g4 - Modified Grassland
- Urban - Built-up Areas and Gardens
 - u1 - Built-up Area and Garden
 - u1b5 - Building
- Woodland and Forest - Broadleaved Mixed and Yew Woodland
 - w1 - Broadleaved Mixed and Yew Woodland
 - w1d - Wet Woodland
- Rivers and Lakes - Standing Open Water and Canals
 - r1 - Standing Open Water and Canal
- w1f7 - Other Lowland
- Mixed Deciduous Woodland

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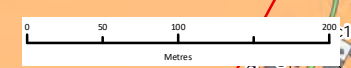
PROJECT TITLE:
*FIVE ESTUARIES OFFSHORE WINDFARM:
 PRELIMINARY ECOLOGICAL APPRAISAL*

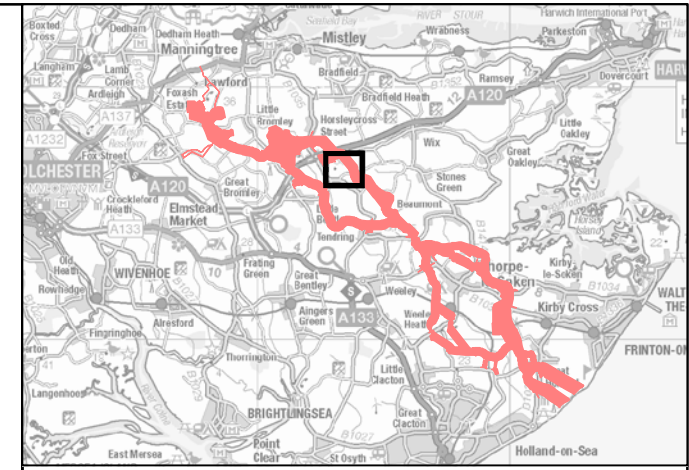
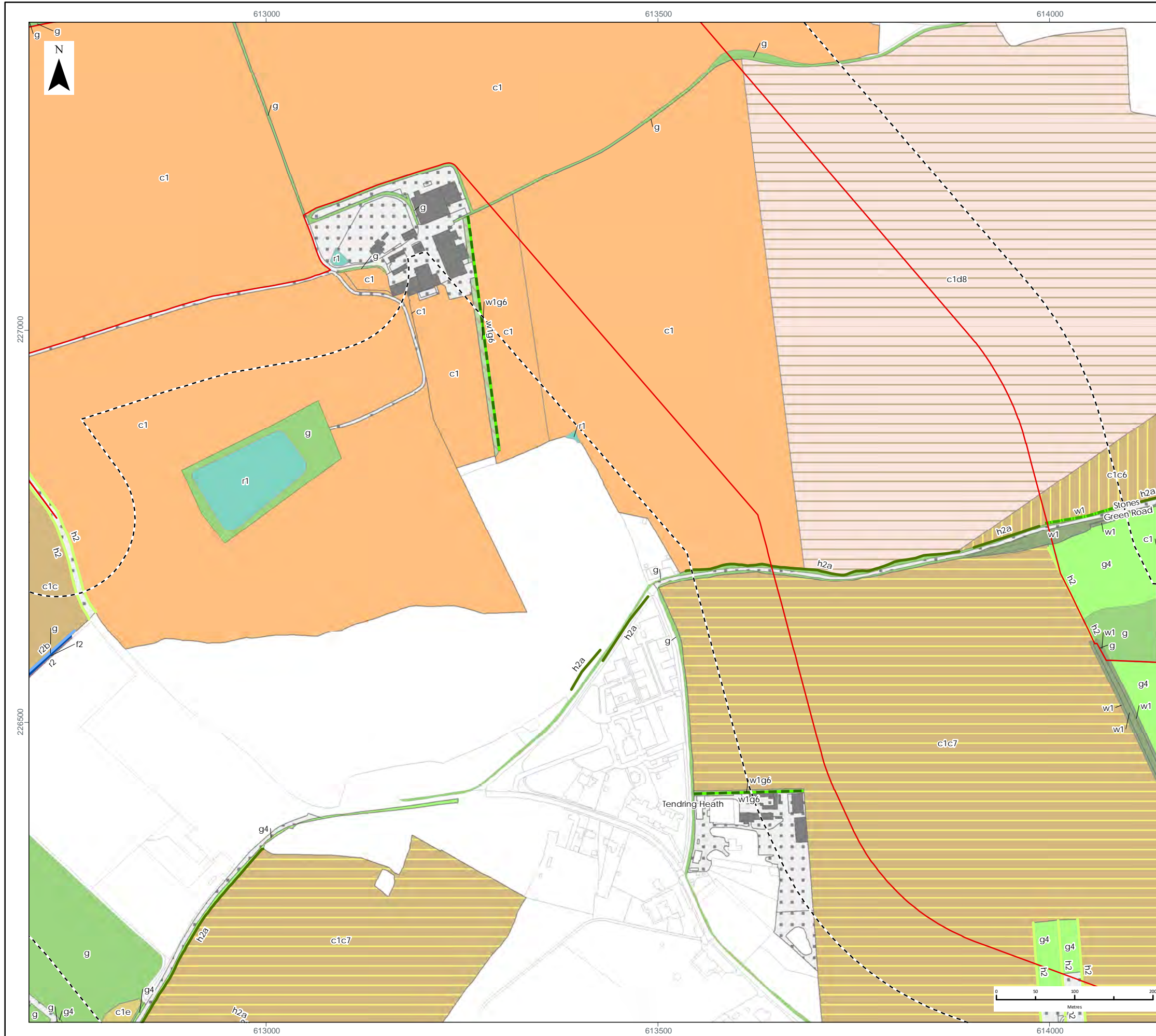
DRAWING TITLE:
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VER	DATE	REMARKS	Drawn	Checked
1	23/02/2022	For Issue	JO	JC
2	31/03/2022	Inclusion of Area North of A120	JO	JC
3	13/04/2022	Route Corridor Amendment	JO	JC

DRAWING NUMBER:
4.20
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SCALE: **1:5,000** PLOT SIZE: A3 DATUM: ODN COORDINATE SYSTEM: British National Grid.





LEGEND

Proposed Infrastructure	u1b5 - Building
Proposed Infrastructure - 100 m Buffer	Woodland and Forest - Broadleaved Mixed and Yew Woodland
Linear Habitat Features	w1 - Broadleaved Mixed and Yew Woodland
h2 - Hedgerow	w1g6 - Line of Trees
h2a - Hedgerow (Priority Habitat)	Rivers and Lakes - Standing Open Water and Canals
Woodland and Forest - Broadleaved Mixed and Yew Woodland	r1 - Standing Open Water and Canal
w1 - Broadleaved Mixed and Yew Woodland	
w1g6 - Line of Trees	
Area Habitat Features	
c1 - Arable and Horticulture	
c1c - Cereal Crops	
c1c6 - Game Bird Mx Fields	
c1c7 - Other Cereal Crops	
c1d8 - Other Non-cereal Crops	
c1e - Intensive Orchards	
Wetland - Fen Marsh and Swamp	
f2 - Fen Marsh and Swamp	
Grassland - Neutral Grassland	
g - Grassland	
Grassland - Modified Grassland	
g4 - Modified Grassland	
Urban - Built-up Areas and Gardens	
u1 - Built-up Area and Garden	

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PROJECT TITLE:
*FIVE ESTUARIES OFFSHORE WINDFARM:
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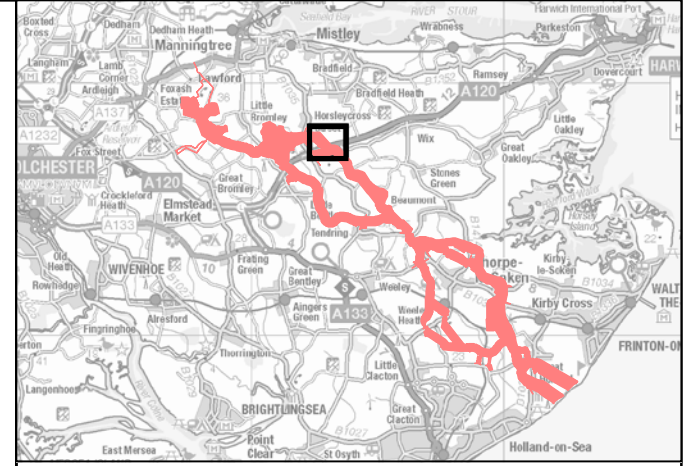
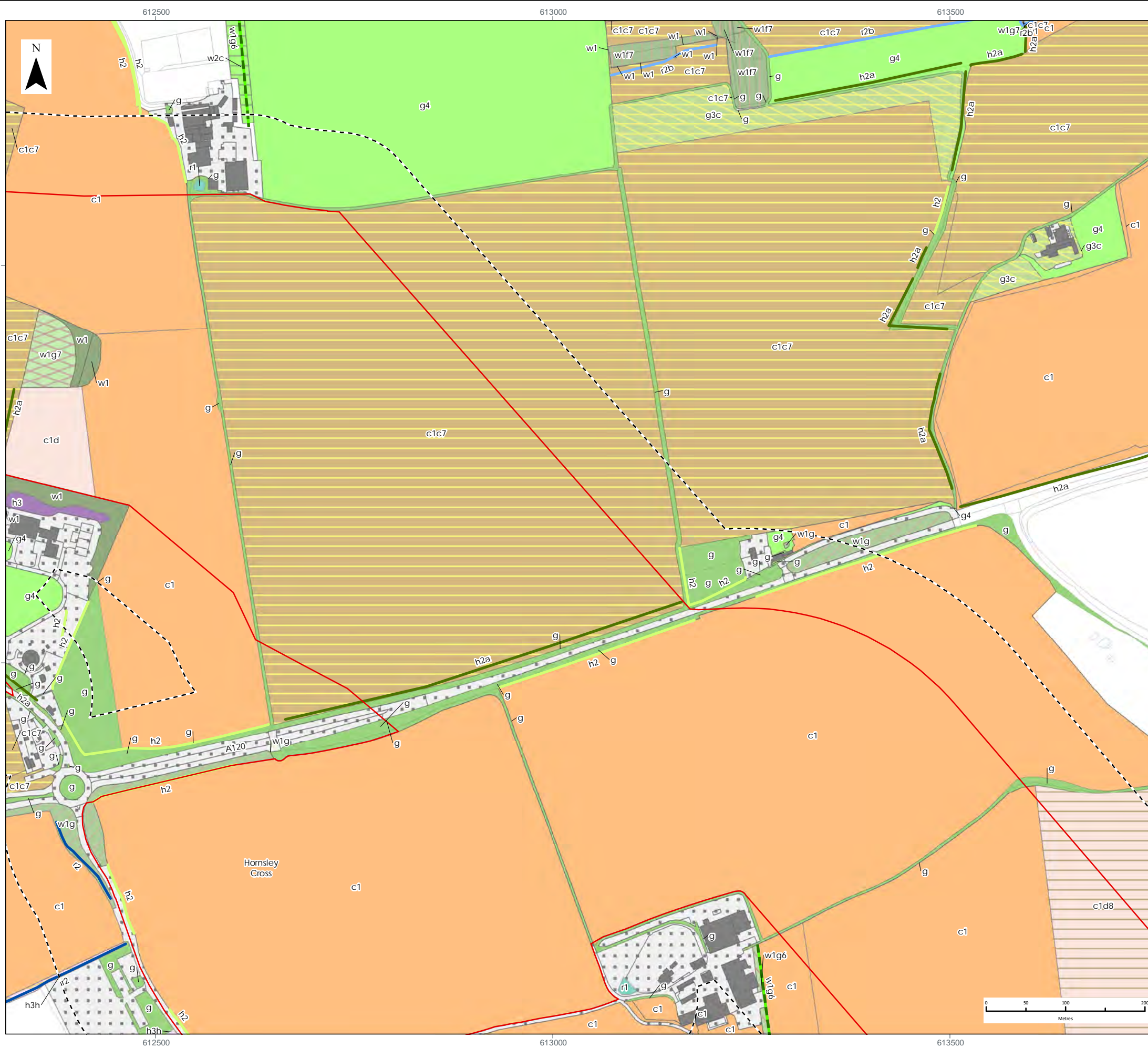
DRAWING TITLE:
Habitat Plan

VER	DATE	REMARKS	Drawn	Checked
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2	31/03/2022	Inclusion of Area North of A120	JO	JC
3	13/04/2022	Route Corridor Amendment	JO	JC

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4.21
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SCALE: 1:5,000 PLOT SIZE: A3 DATUM: ODN COORDINATE SYSTEM: British National Grid.





LEGEND

	Proposed Infrastructure		Woodland and Forest - Broadleaved Mixed and Yew Woodland
	Proposed Infrastructure - 100 m Buffer		w1 - Broadleaved Mixed and Yew Woodland
	Linear Habitat Features		w1f7 - Other Lowland Hedgerows
	h2 - Hedgerow		Mixed Deciduous Woodland
	h2a - Hedgerow (Priority Habitat)		w1g - Other Woodland: Broadleaved
	Woodland and Forest - Broadleaved Mixed and Yew Woodland		w1g6 - Line of Trees
	w1g6 - Line of Trees		w1g7 - Other Broadleaved Woodland Types
	Area Habitat Features		Woodland and Forest - Coniferous Woodland
	c1 - Arable and Horticulture		w2c - Other Coniferous Woodland
	c1c7 - Other Cereal Crops		Rivers and Lakes - Standing Open Water and Canals
	c1d - Non-cereal Crops		r1 - Standing Open Water and Canal
	c1d8 - Other Non-cereal Crops		
	Grassland - Neutral Grassland		
	g - Grassland		
	g3c - Other Neutral Grassland (Coastal Floodplain Grazing Marsh)		
	Grassland - Modified Grassland		
	g4 - Modified Grassland		
	Heathland and Shrub - Dense Scrub		
	h3 - Dense Scrub		
	h3h - Mixed Scrub		
	Urban - Built-up Areas and Gardens		
	u1 - Built-up Area and Garden		
	u1b5 - Building		

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*FIVE ESTUARIES OFFSHORE WINDFARM:
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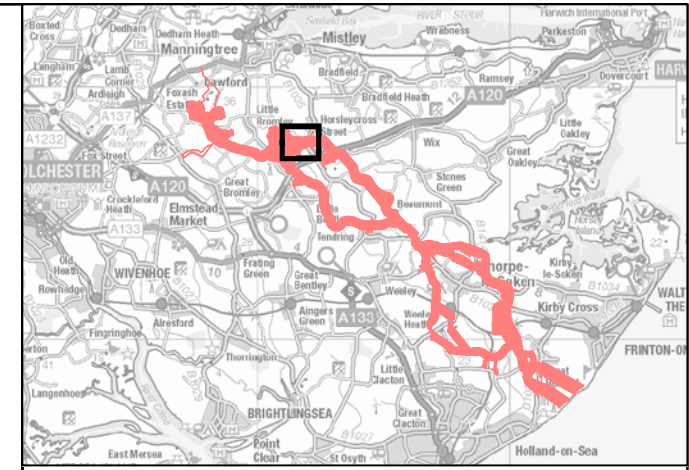
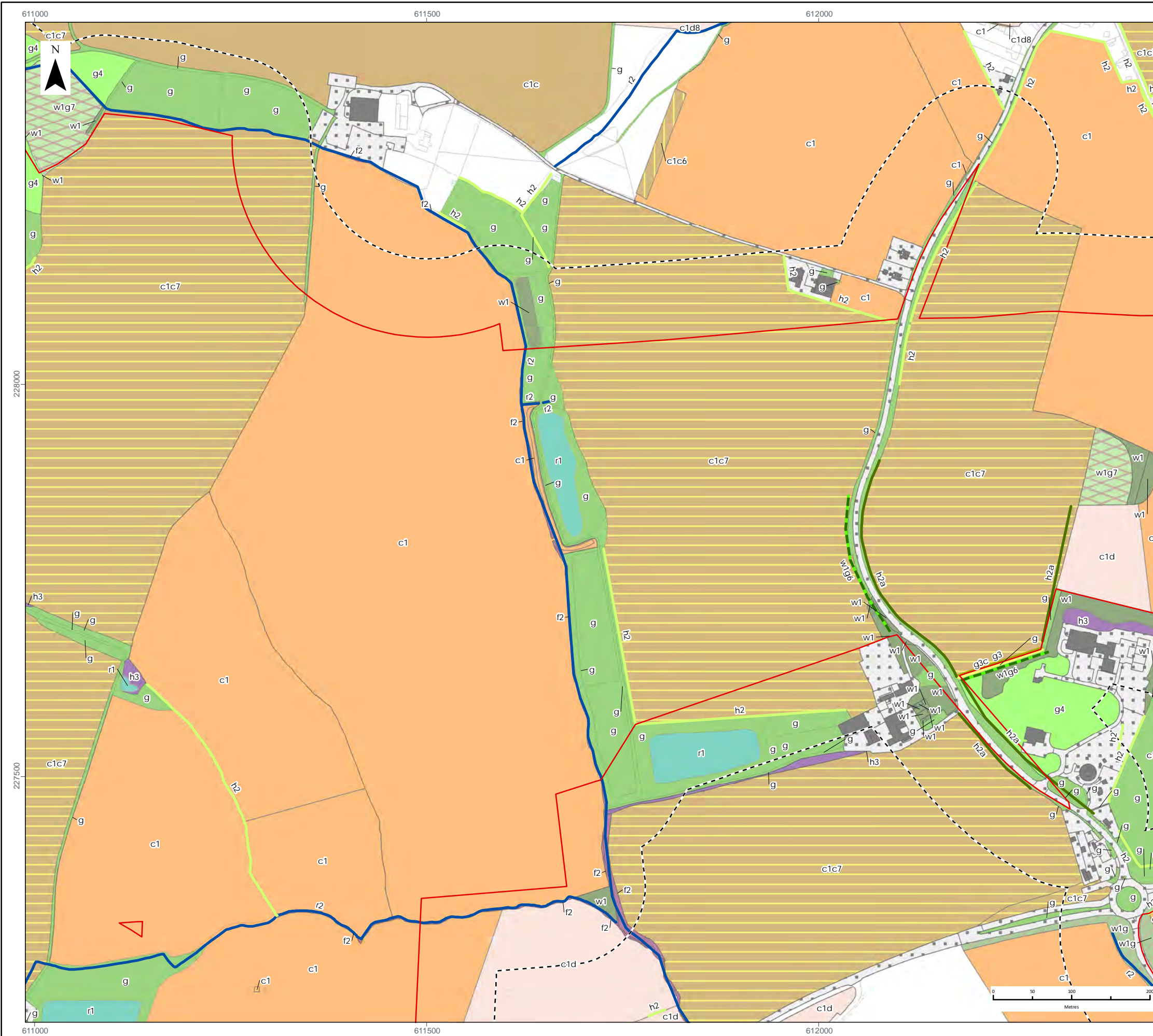
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VER	DATE	REMARKS	Drawn	Checked
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2	31/03/2022	Inclusion of Area North of A120	JO	JC
3	13/04/2022	Route Corridor Amendment	JO	JC

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4.22
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SCALE: **1:5,000** PLOT SIZE: **A3** DATUM: **ODN** COORDINATE SYSTEM: **British National Grid**





LEGEND

Proposed Infrastructure	Heathland and Shrub - Dense Scrub
Proposed Infrastructure - 100 m Buffer	h3 - Dense Scrub
Linear Habitat Features	Urban - Built-up Areas and Gardens
Grassland - Neutral Grassland	u1 - Built-up Area and Garden
g3 - Neutral Grassland	u1b5 - Building
g3c - Other Neutral Grassland	Woodland and Forest - Broadleaved Mixed and Yew Woodland
Heathland and Shrub - Hedgerows	w1 - Broadleaved Mixed and Yew Woodland
h2 - Hedgerow	w1g - Other Woodland: Broadleaved
h2a - Hedgerow (Priority Habitat)	w1g7 - Other Broadleaved Woodland Types
Woodland and Forest - Broadleaved Mixed and Yew Woodland	w1g6 - Line of Trees
Area Habitat Features	Rivers and Lakes - Standing Open Water and Canals
Cropland - Arable and Horticulture	r1 - Standing Open Water and Canals
c1 - Arable and Horticulture	Water and Canal
c1c - Cereal Crops	
c1c6 - Game Bird Mx Fields	
c1c7 - Other Cereal Crops	
c1d - Non-cereal Crops	
c1d8 - Other Non-cereal Crops	
Wetland - Fen Marsh and Swamp	
f2 - Fen Marsh and Swamp	
Grassland - Neutral Grassland	
g - Grassland	
Grassland - Modified Grassland	
g4 - Modified Grassland	

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*FIVE ESTUARIES OFFSHORE WINDFARM:
 PRELIMINARY ECOLOGICAL APPRAISAL*

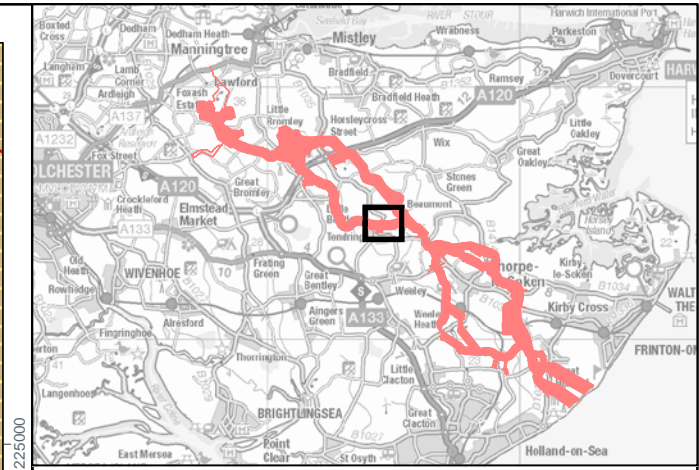
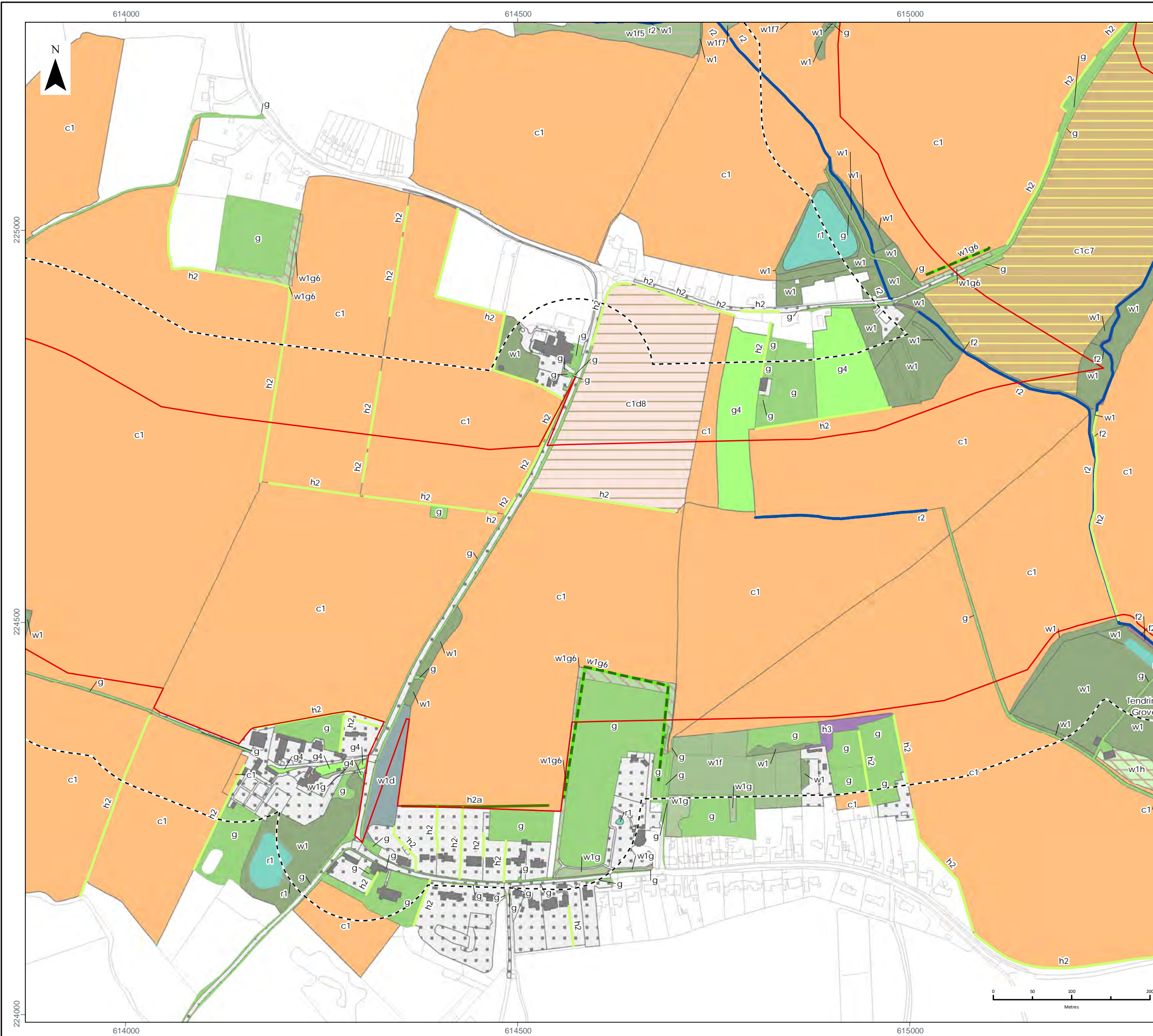
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Habitat Plan

VER	DATE	REMARKS	Drawn	Checked
1	23/02/2022	For Issue	JO	JC
2	31/03/2022	Inclusion of Area North of A120	JO	JC
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4.23
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SCALE: 1:5,000 PLOT SIZE: A3 DATUM: ODN COORDINATE SYSTEM: British National Grid.





LEGEND

Proposed Infrastructure	Woodland and Forest - Broadleaved Mixed and Yew Woodland
Proposed Infrastructure - 100 m Buffer	w1 - Broadleaved Mixed and Yew Woodland
Linear Habitat Features	w1d - Wet Woodland
Heathland and Shrub - Hedgerows	w1f - Lowland Mixed Deciduous Woodland
h2 - Hedgerow	w1f5 - Dry oak-dominated woodland (H9190)
h2a - Hedgerow (Priority Habitat)	w1f7 - Other Lowland Mixed Deciduous Woodland
Woodland and Forest - Broadleaved Mixed and Yew Woodland	w1g - Other Woodland: Broadleaved
w1g6 - Line of Trees	w1g6 - Line of Trees
Area Habitat Features	w1h - Other Woodland: Mixed
Cropland - Arable and Horticulture	Rivers and Lakes - Standing Open Water and Canals
c1 - Arable and Horticulture	r1 - Standing Open Water and Canal
c1c7 - Other Cereal Crops	
c1d8 - Other Non-cereal Crops	
Wetland - Fen Marsh and Swamp	
f2 - Fen Marsh and Swamp	
Grassland - Neutral Grassland	
g - Grassland	
Grassland - Modified Grassland	
g4 - Modified Grassland	
Heathland and Shrub - Dense Scrub	
h3 - Dense Scrub	
Urban - Built-up Areas and Gardens	
u1 - Built-up Area and Garden	
u1b5 - Building	

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*FIVE ESTUARIES OFFSHORE WINDFARM:
 PRELIMINARY ECOLOGICAL APPRAISAL*

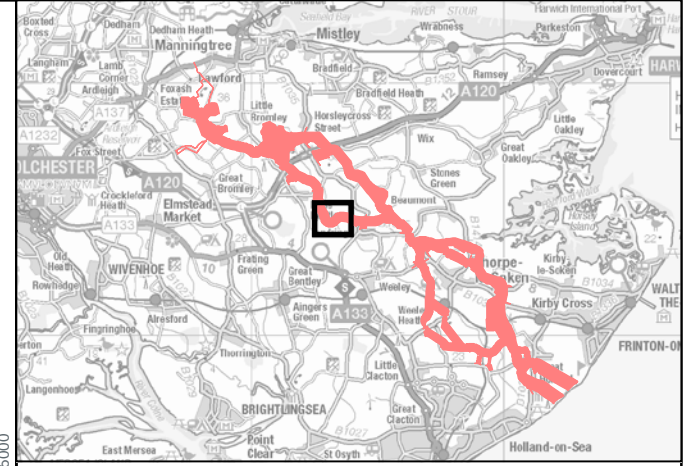
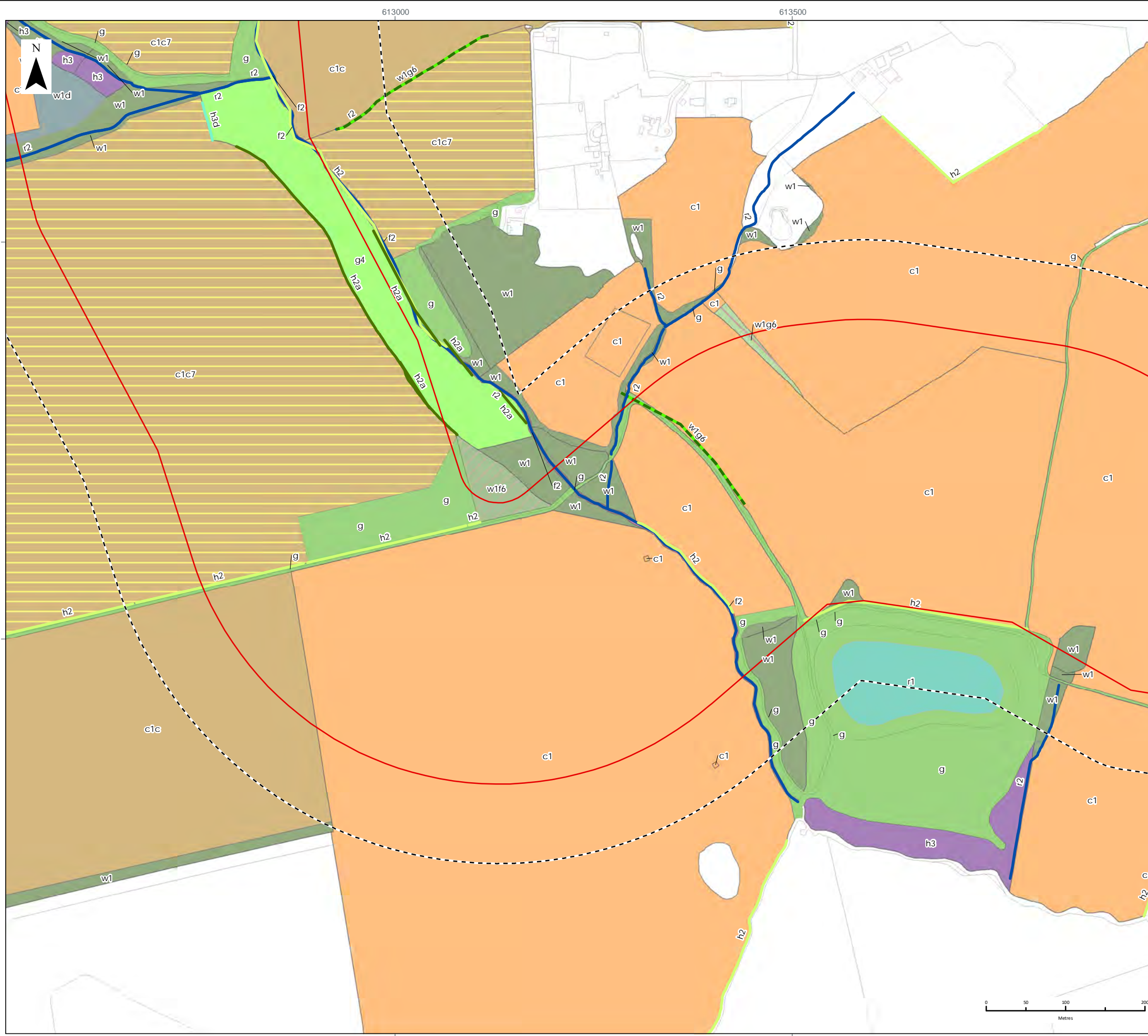
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VER	DATE	REMARKS	Drawn	Checked
1	23/02/2022	For Issue	JO	JC
2	31/03/2022	Inclusion of Area North of A120	JO	JC
3	13/04/2022	Route Corridor Amendment	JO	JC

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4.24
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SCALE: **1:5,000** PLOT SIZE: **A3** DATUM: **ODN** COORDINATE SYSTEM: **British National Grid**





LEGEND

Proposed Infrastructure	w1d - Wet Woodland
Proposed Infrastructure - 100 m Buffer	w1f6 - Oak-hornbeam forests (H9160)
Linear Habitat Features	w1g6 - Line of Trees
Heathland and Shrub - Dense Scrub	Rivers and Lakes - Standing Open Water and Canals
h3d - Bramble Scrub	r1 - Standing Open Water and Canal
Heathland and Shrub - Hedgerows	
h2 - Hedgerow	
h2a - Hedgerow (Priority Habitat)	
Woodland and Forest - Broadleaved Mixed and Yew Woodland	
w1g6 - Line of Trees	
Area Habitat Features	
Cropland - Arable and Horticulture	
c1 - Arable and Horticulture	
c1c - Cereal Crops	
c1c7 - Other Cereal Crops	
Wetland - Fen Marsh and Swamp	
f2 - Fen Marsh and Swamp	
Grassland - Neutral Grassland	
g - Grassland	
Grassland - Modified Grassland	
g4 - Modified Grassland	
Heathland and Shrub - Dense Scrub	
h3 - Dense Scrub	
Woodland and Forest - Broadleaved Mixed and Yew Woodland	
w1 - Broadleaved Mixed and Yew Woodland	

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*FIVE ESTUARIES OFFSHORE WINDFARM:
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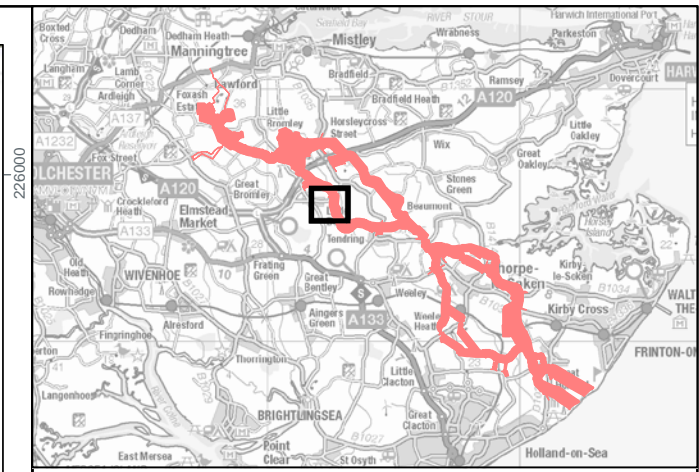
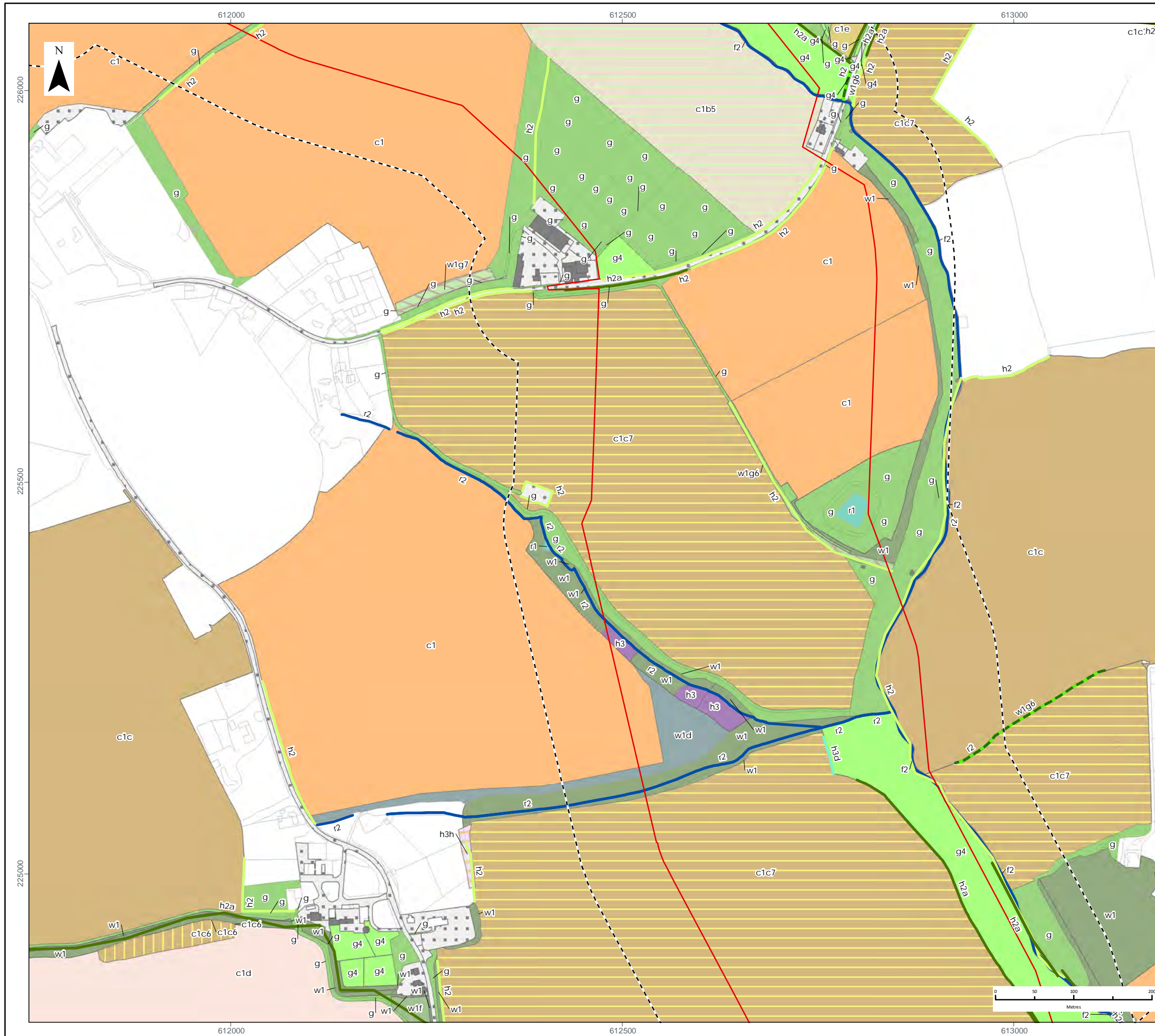
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VER	DATE	REMARKS	Drawn	Checked
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2	31/03/2022	Inclusion of Area North of A120	JO	JC
3	13/04/2022	Route Corridor Amendment	JO	JC

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SCALE: **1:5,000** PLOT SIZE: **A3** DATUM: **ODN** COORDINATE SYSTEM: **British National Grid**





LEGEND

Proposed Infrastructure	Heathland and Shrub - Dense Scrub
Proposed Infrastructure - 100 m Buffer	h3 - Dense Scrub
Linear Habitat Features	h3h - Mixed Scrub
Heathland and Shrub - Dense Scrub	Urban - Built-up Areas and Gardens
h3d - Bramble Scrub	u1 - Built-up Area and Garden
Heathland and Shrub - Hedgerows	u1b5 - Building
h2 - Hedgerow	Woodland and Forest - Broadleaved Mixed and Yew Woodland
h2a - Hedgerow (Priority Habitat)	w1 - Broadleaved Mixed and Yew Woodland
Woodland and Forest - Broadleaved Mixed and Yew Woodland	w1d - Wet Woodland
w1g6 - Line of Trees	w1f - Lowland Mixed Deciduous Woodland
Area Habitat Features	w1g6 - Line of Trees
Cropland - Arable and Horticulture	w1g7 - Other Broadleaved Woodland Types
c1 - Arable and Horticulture	Rivers and Lakes - Standing Open Water and Canals
c1b5 - Rye-grass and Clover Ley	r1 - Standing Open Water and Canal
c1c - Cereal Crops	
c1c6 - Game Bird Mx Fields	
c1c7 - Other Cereal Crops	
c1d - Non-cereal Crops	
c1e - Intensive Orchards	
Wetland - Fen Marsh and Swamp	
f2 - Fen Marsh and Swamp	
Grassland - Neutral Grassland	
g - Grassland	
Grassland - Modified Grassland	
g4 - Modified Grassland	

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*FIVE ESTUARIES OFFSHORE WINDFARM:
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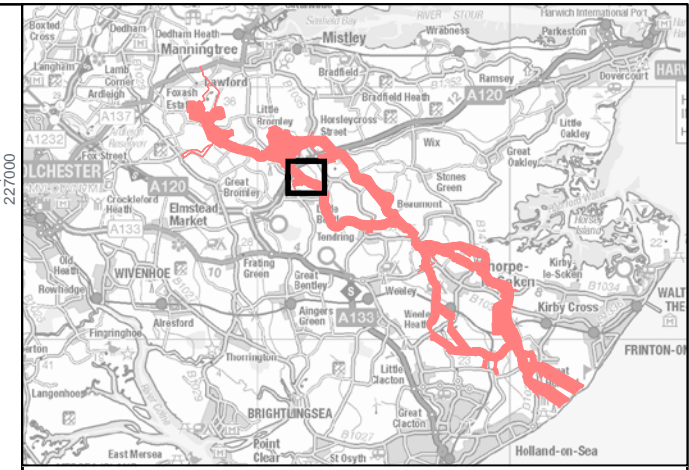
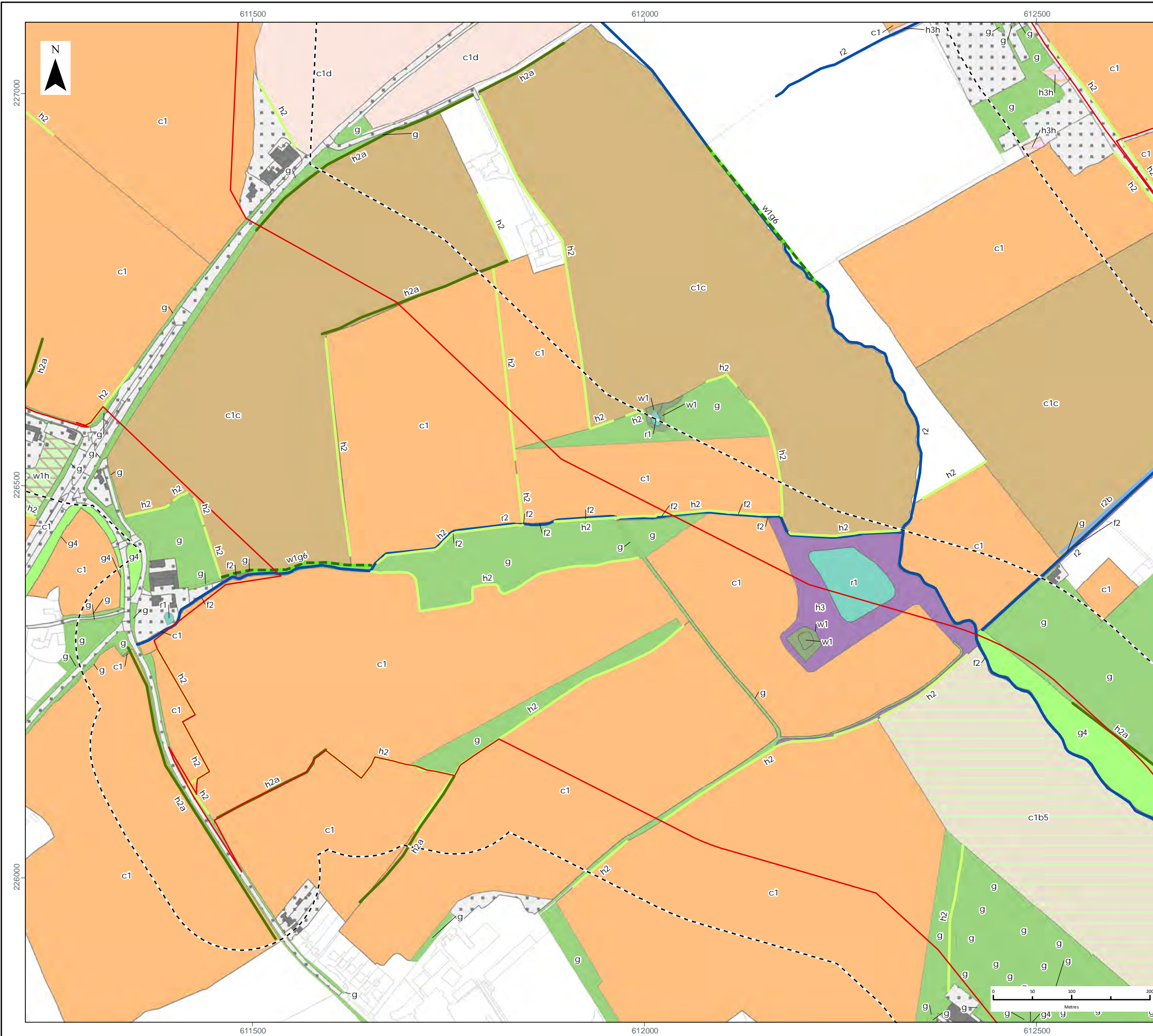
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VER	DATE	REMARKS	Drawn	Checked
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2	31/03/2022	Inclusion of Area North of A120	JO	JC
3	13/04/2022	Route Corridor Amendment	JO	JC

DRAWING NUMBER:
4.26
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SCALE: 1:5,000 PLOT SIZE: A3 DATUM: ODN COORDINATE SYSTEM: British National Grid.





LEGEND

- Proposed Infrastructure
- Proposed Infrastructure - 100 m Buffer
- Linear Habitat Features**
- h2 - Hedgerow
- h2a - Hedgerow (Priority Habitat)
- Woodland and Forest - Broadleaved Mixed and Yew Woodland**
- w1g6 - Line of Trees
- Area Habitat Features**
- Cropland - Arable and Horticulture**
- c1 - Arable and Horticulture
- c1b5 - Rye-grass and Clover Ley
- c1c - Cereal Crops
- c1d - Non-cereal Crops
- Wetland - Fen Marsh and Swamp**
- f2 - Fen Marsh and Swamp
- Grassland - Neutral Grassland**
- g - Grassland
- Grassland - Modified Grassland**
- g4 - Modified Grassland
- Heathland and Shrub - Dense Scrub**
- h3 - Dense Scrub
- h3h - Mixed Scrub
- Urban - Built-up Areas and Gardens**
- u1 - Built-up Area and Garden
- u1b5 - Building
- Woodland and Forest - Broadleaved Mixed and Yew Woodland**
- w1 - Broadleaved Mixed and Yew Woodland
- w1h - Other Woodland: Mixed
- Rivers and Lakes - Standing Open Water and Canals**
- r1 - Standing Open Water and Canal

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PROJECT TITLE:
*FIVE ESTUARIES OFFSHORE WINDFARM:
 PRELIMINARY ECOLOGICAL APPRAISAL*

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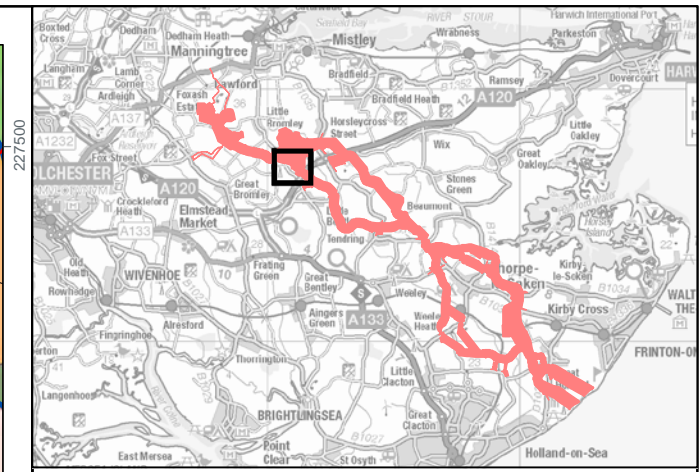
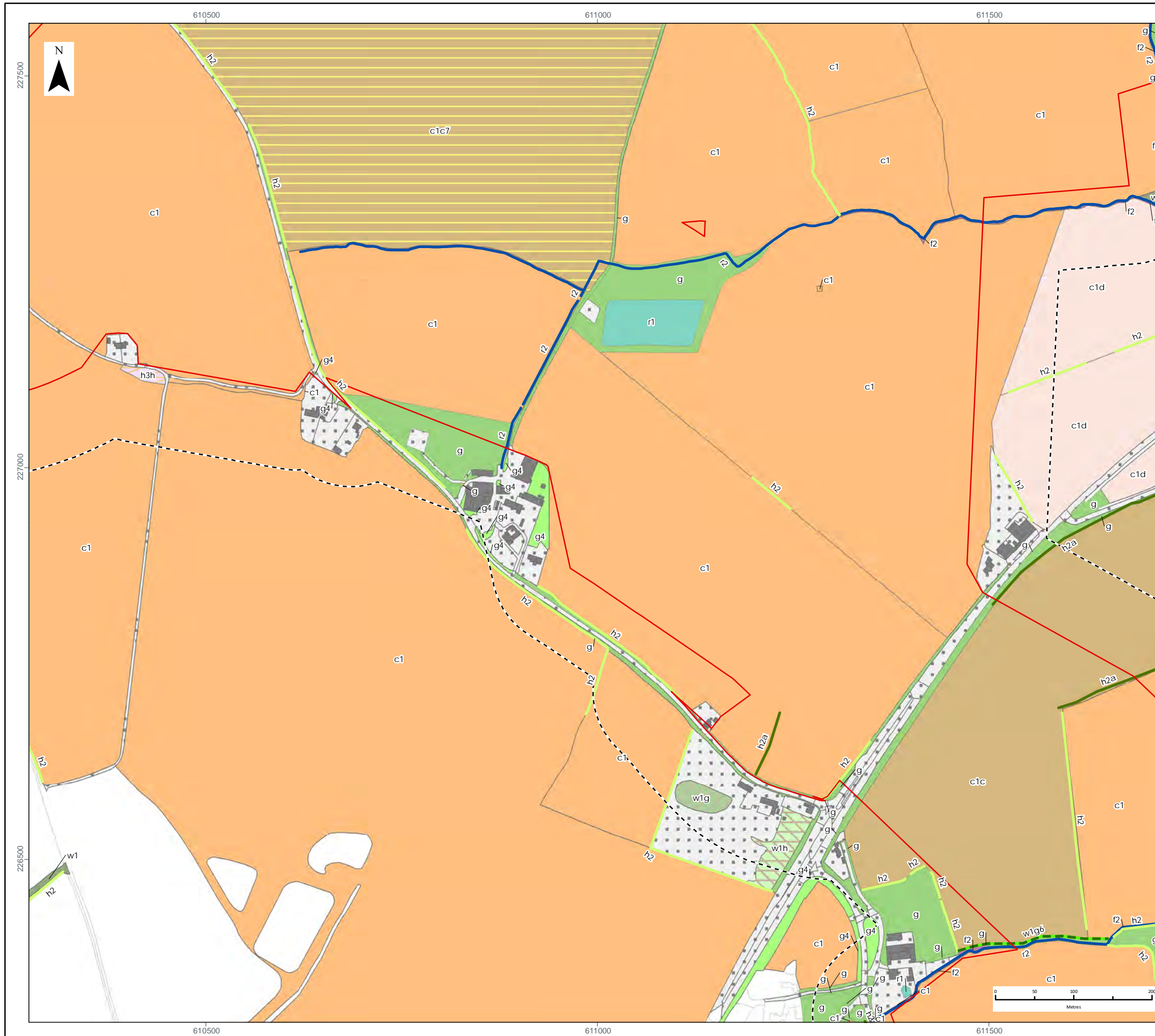
Habitat Plan

VER	DATE	REMARKS	Drawn	Checked
1	23/02/2022	For Issue	JO	JC
2	31/03/2022	Inclusion of Area North of A120	JO	JC
3	13/04/2022	Route Corridor Amendment	JO	JC

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SCALE: 1:5,000 PLOT SIZE: A3 DATUM: ODN COORDINATE SYSTEM: British National Grid.





LEGEND

Proposed Infrastructure	Woodland and Forest - Broadleaved Mixed and Yew Woodland
Proposed Infrastructure - 100 m Buffer	w1 - Broadleaved Mixed and Yew Woodland
Linear Habitat Features	w1g - Other Woodland: Broadleaved
h2 - Hedgerow	w1h - Other Woodland: Mixed
h2a - Hedgerow (Priority Habitat)	Rivers and Lakes - Standing Open Water and Canals
Woodland and Forest - Broadleaved Mixed and Yew Woodland	r1 - Standing Water and Canal
w1g6 - Line of Trees	
Area Habitat Features	
Cropland - Arable and Horticulture	c1 - Arable and Horticulture
c1c - Cereal Crops	c1c7 - Other Cereal Crops
c1d - Non-cereal Crops	c1d - Non-cereal Crops
Wetland - Fen Marsh and Swamp	f2 - Fen Marsh and Swamp
Grassland - Neutral Grassland	g - Grassland
Grassland - Modified Grassland	g4 - Modified Grassland
Heathland and Shrub - Dense Scrub	h3h - Mixed Scrub
Urban - Built-up Areas and Gardens	u1 - Built-up Area and Garden
u1b5 - Building	

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*FIVE ESTUARIES OFFSHORE WINDFARM:
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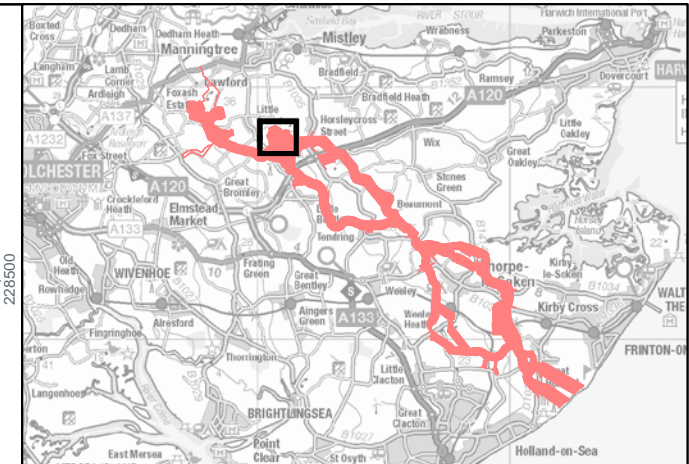
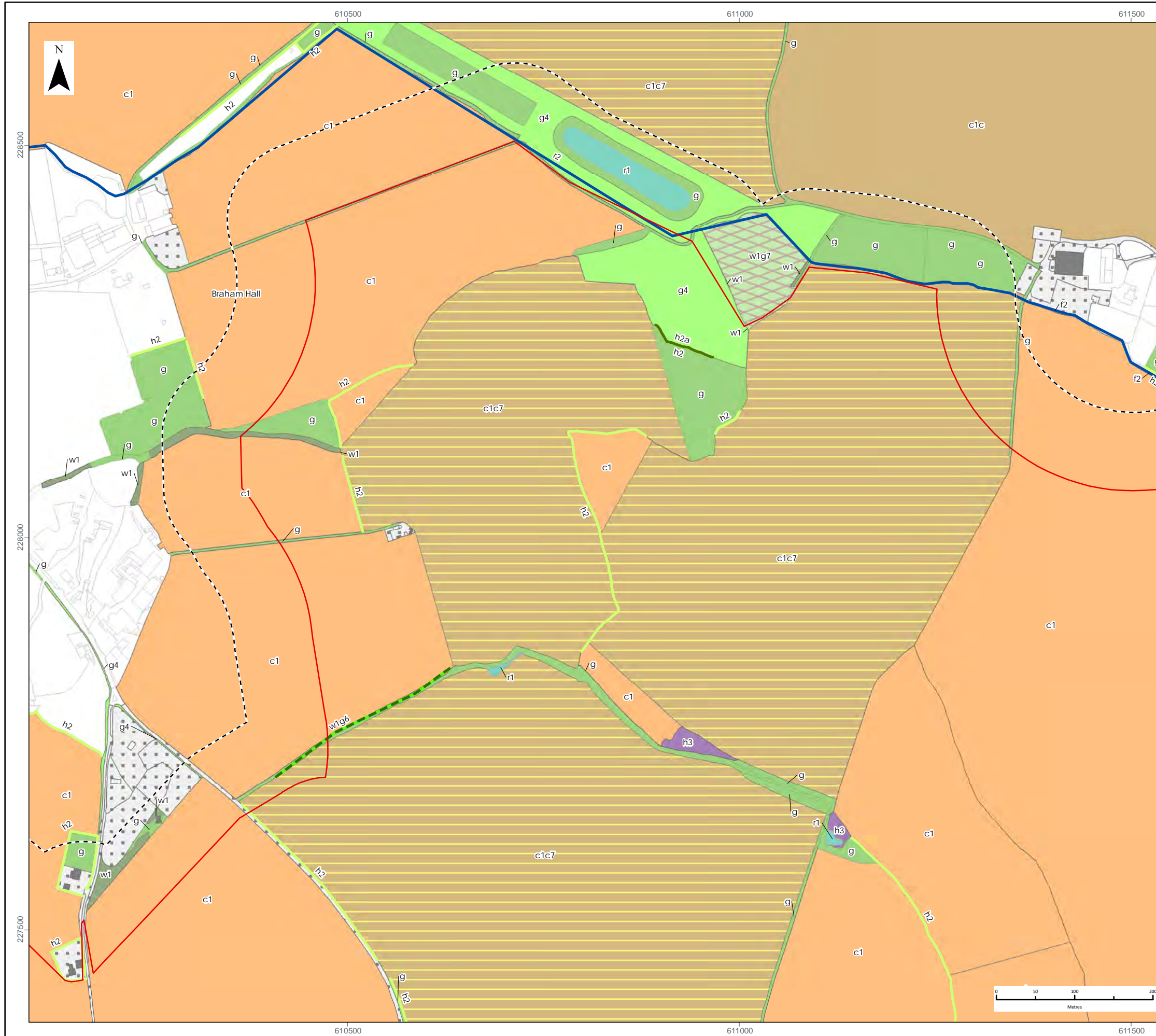
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Habitat Plan

VER	DATE	REMARKS	Drawn	Checked
1	23/02/2022	For Issue	JO	JC
2	31/03/2022	Inclusion of Area North of A120	JO	JC
3	13/04/2022	Route Corridor Amendment	JO	JC

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4.28
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SCALE: 1:5,000	PLOT SIZE: A3	DATUM: ODN	COORDINATE SYSTEM: British National Grid.
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LEGEND

- Proposed Infrastructure - Red line
- Proposed Infrastructure - 100 m Buffer - Dashed line
- Linear Habitat Features
 - h2 - Hedgerow
 - h2a - Hedgerow (Priority Habitat)
 - w1g7 - Line of Trees
- Woodland and Forest - Broadleaved Mixed and Yew Woodland
 - w1 - Broadleaved Mixed and Yew Woodland
 - w1g7 - Other Broadleaved Woodland Types
- Rivers and Lakes - Standing Open Water and Canals
 - r1 - Standing Open Water and Canal
- Area Habitat Features
 - Cropland - Arable and Horticulture
 - c1 - Arable and Horticulture
 - c1c - Cereal Crops
 - c1c7 - Other Cereal Crops
 - Wetland - Fen Marsh and Swamp
 - f2 - Fen Marsh and Swamp
 - Grassland - Neutral Grassland
 - g - Grassland
 - g4 - Modified Grassland
 - Heathland and Shrub - Dense Scrub
 - h3 - Dense Scrub
 - Urban - Built-up Areas and Gardens
 - u1 - Built-up Area and Garden
 - u1b5 - Building

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*FIVE ESTUARIES OFFSHORE WINDFARM:
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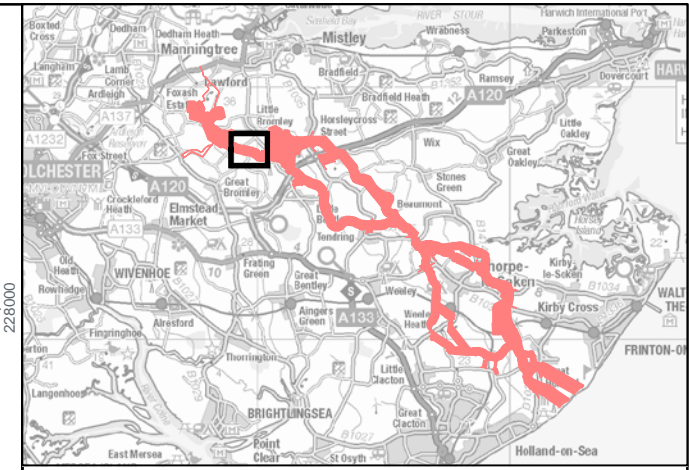
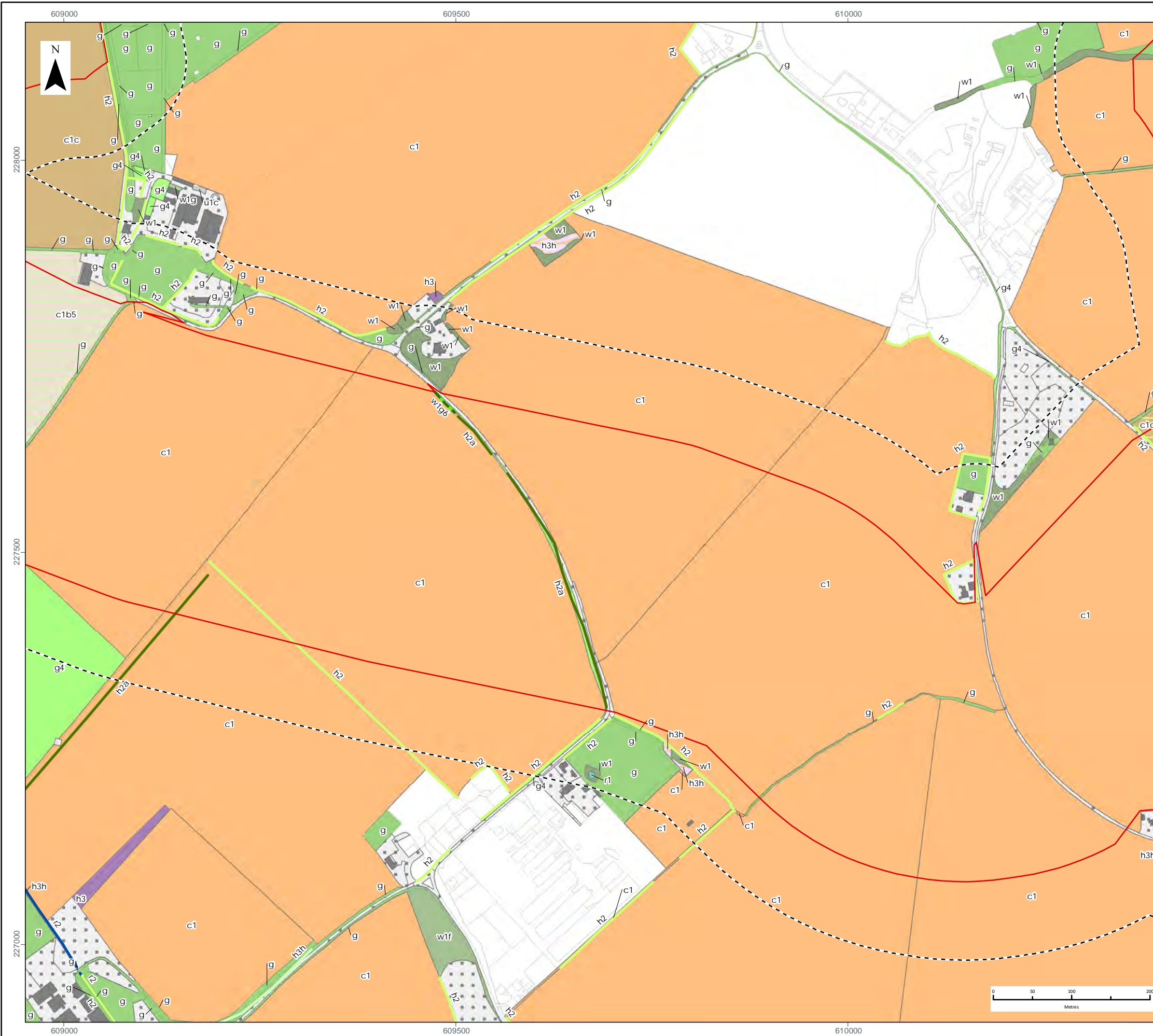
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VER	DATE	REMARKS	Drawn	Checked
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2	31/03/2022	Inclusion of Area North of A120	JO	JC
3	13/04/2022	Route Corridor Amendment	JO	JC

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SCALE: 1:5,000 | PLOT SIZE: A3 | DATUM: ODN | COORDINATE SYSTEM: British National Grid.





LEGEND

- Proposed Infrastructure
- Proposed Infrastructure - 100 m Buffer
- Linear Habitat Features
- Heathland and Shrub - Dense Scrub
- Heathland and Shrub - Hedgerows
- Woodland and Forest - Broadleaved Mixed and Yew Woodland
- Area Habitat Features
- Cropland - Arable and Horticulture
- Grassland - Neutral Grassland
- Grassland - Modified Grassland
- Heathland and Shrub - Dense Scrub
- Urban - Built-up Areas and Gardens
- u1 - Built-up Area and Garden
- u1b5 - Building
- u1c - Artificial Unvegetated, Unsealed Surface
- Woodland and Forest - Broadleaved Mixed and Yew Woodland
- w1 - Broadleaved Mixed and Yew Woodland
- w1f - Lowland Mixed Deciduous Woodland
- w1g - Other Woodland; Broadleaved
- Rivers and Lakes - Standing Open Water and Canals
- r1 - Standing Open Water and Canal
- c1 - Arable and Horticulture
- c1b5 - Rye-grass and Clover Ley
- c1c - Cereal Crops
- c1c7 - Other Cereal Crops
- g - Grassland
- g4 - Modified Grassland
- h3 - Dense Scrub
- h3h - Mixed Scrub
- h2 - Hedgerow
- h2a - Hedgerow (Priority Habitat)
- w1g6 - Line of Trees

Data Source:
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PROJECT TITLE:
*FIVE ESTUARIES OFFSHORE WINDFARM:
 PRELIMINARY ECOLOGICAL APPRAISAL*

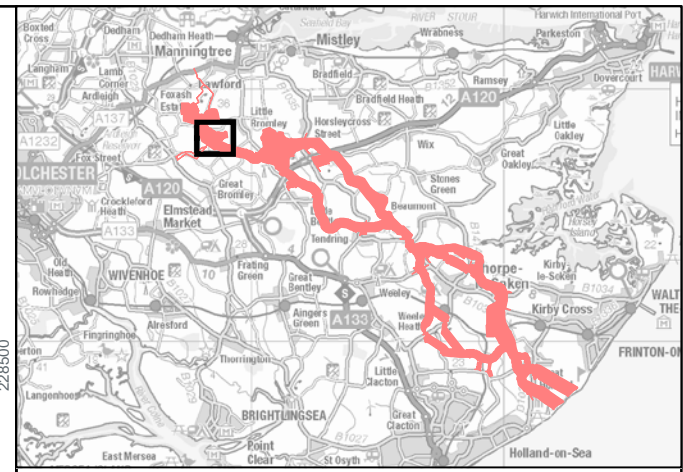
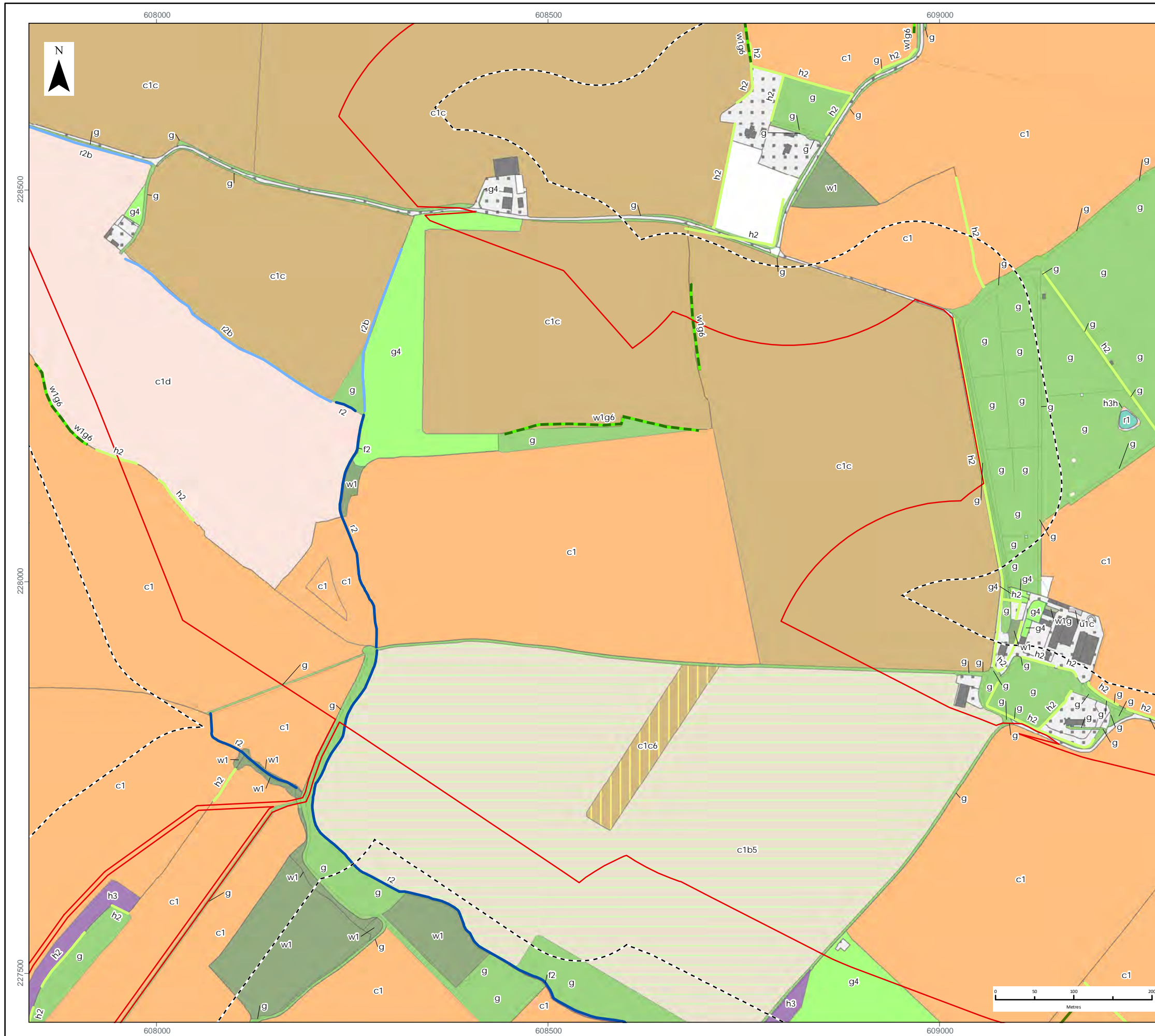
DRAWING TITLE:
Habitat Plan

VER	DATE	REMARKS	Drawn	Checked
1	23/02/2022	For Issue	JO	JC
2	31/03/2022	Inclusion of Area North of A120	JO	JC
3	13/04/2022	Route Corridor Amendment	JO	JC

DRAWING NUMBER:
4.30
 Page 30 of 36

SCALE: 1:5,000 PLOT SIZE: A3 DATUM: ODN COORDINATE SYSTEM: British National Grid.





LEGEND

Proposed Infrastructure	u1b5 - Building
Proposed Infrastructure - 100 m Buffer	u1c - Artificial Unvegetated, Unsealed Surface
Linear Habitat Features	Woodland and Forest - Broadleaved Mixed and Yew Woodland
h2 - Hedgerow	w1 - Broadleaved Mixed and Yew Woodland
h2a - Hedgerow (Priority Habitat)	w1g - Other Woodland: Broadleaved
Woodland and Forest - Broadleaved Mixed and Yew Woodland	Rivers and Lakes - Standing Open Water and Canals
w1g6 - Line of Trees	r1 - Standing Open Water and Canal
Area Habitat Features	
c1 - Arable and Horticulture	
c1b5 - Rye-grass and Clover Ley	
c1c - Cereal Crops	
c1c6 - Game Bird Mix Fields	
c1d - Non-cereal Crops	
Wetland - Fen Marsh and Swamp	
f2 - Fen Marsh and Swamp	
Grassland - Neutral Grassland	
g - Grassland	
g4 - Modified Grassland	
Heathland and Shrub - Dense Scrub	
h3 - Dense Scrub	
h3h - Mixed Scrub	
Urban - Built-up Areas and Gardens	
u1 - Built-up Area and Garden	

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PROJECT TITLE:
*FIVE ESTUARIES OFFSHORE WINDFARM:
 PRELIMINARY ECOLOGICAL APPRAISAL*

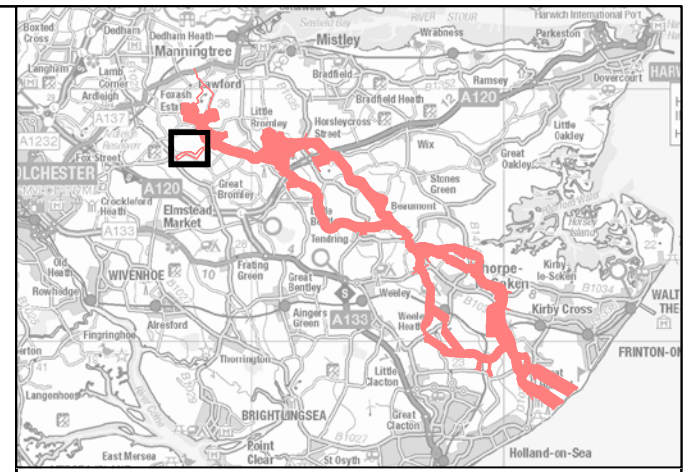
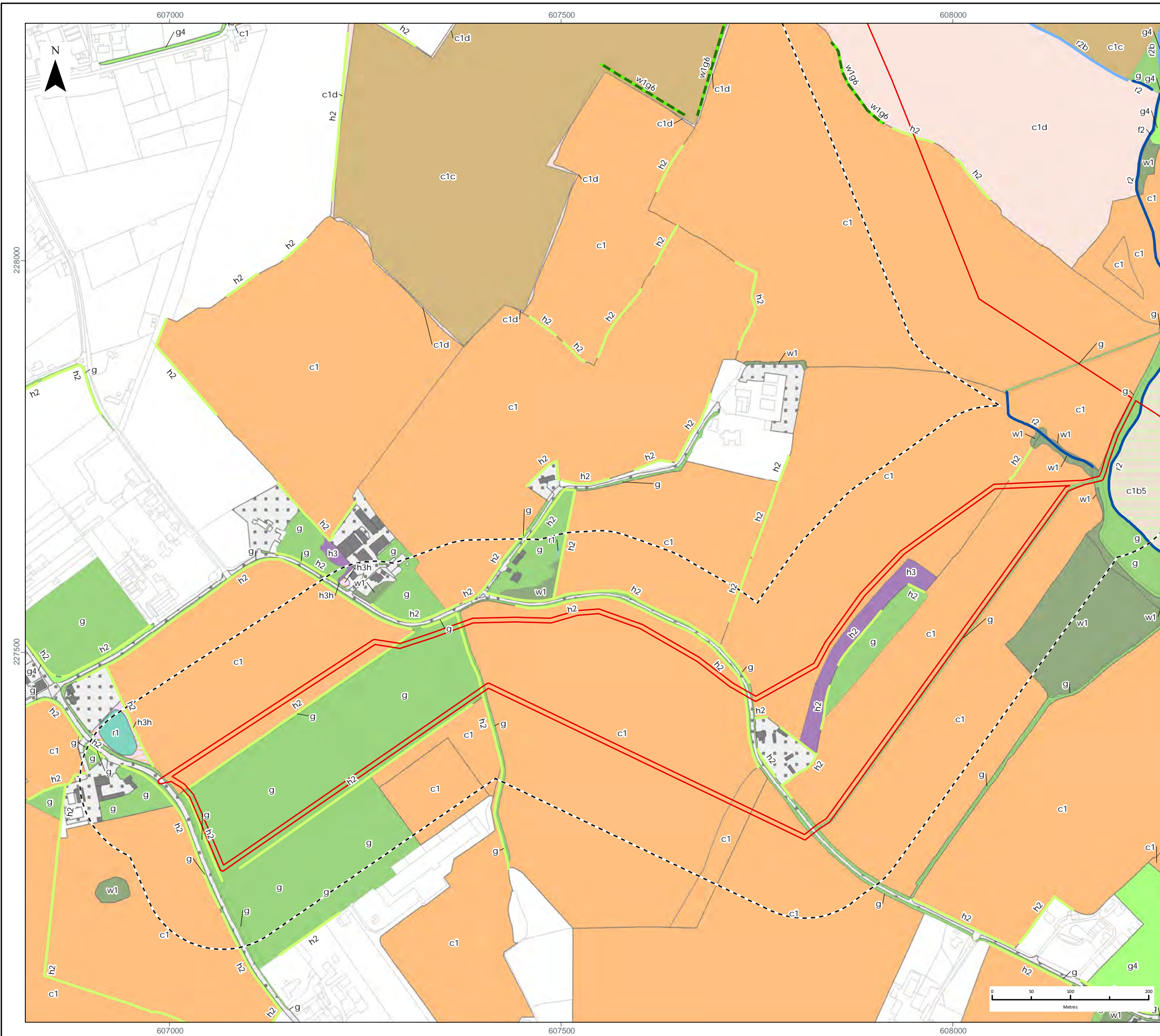
DRAWING TITLE:
Habitat Plan

VER	DATE	REMARKS	Drawn	Checked
1	23/02/2022	For Issue	JO	JC
2	31/03/2022	Inclusion of Area North of A120	JO	JC
3	13/04/2022	Route Corridor Amendment	JO	JC

DRAWING NUMBER:
4.31
 Page 31 of 36

SCALE: **1:5,000** PLOT SIZE: A3 DATUM: ODN COORDINATE SYSTEM: British National Grid.





LEGEND

- Proposed Infrastructure
- Proposed Infrastructure - 100 m Buffer
- Linear Habitat Features
- Heathland and Shrub - Hedgerows
- Woodland and Forest - Broadleaved Mixed and Yew Woodland
- Line of Trees
- Area Habitat Features
- Cropland - Arable and Horticulture
- Grassland - Neutral Grassland
- Grassland - Modified Grassland
- Heathland and Shrub - Dense Scrub
- Urban - Built-up Areas and Gardens
- Woodland and Forest - Broadleaved Mixed and Yew Woodland
- Rivers and Lakes - Standing Open Water and Canals
- Wetland - Fen Marsh and Swamp
- Grassland - Neutral Grassland
- Grassland - Modified Grassland
- Heathland and Shrub - Dense Scrub
- Urban - Built-up Areas and Gardens

w1 - Broadleaved Mixed and Yew Woodland
 r1 - Standing Open Water and Canals
 h2 - Hedgerow
 w1g6 - Line of Trees
 c1 - Arable and Horticulture
 c1b5 - Rye-grass and Clover Ley
 c1c - Cereal Crops
 c1d - Non-cereal Crops
 f2 - Fen Marsh and Swamp
 g - Grassland
 g4 - Modified Grassland
 h3 - Dense Scrub
 h3h - Mixed Scrub
 u1 - Built-up Area and Garden
 u1b5 - Building

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PROJECT TITLE:
*FIVE ESTUARIES OFFSHORE WINDFARM:
 PRELIMINARY ECOLOGICAL APPRAISAL*

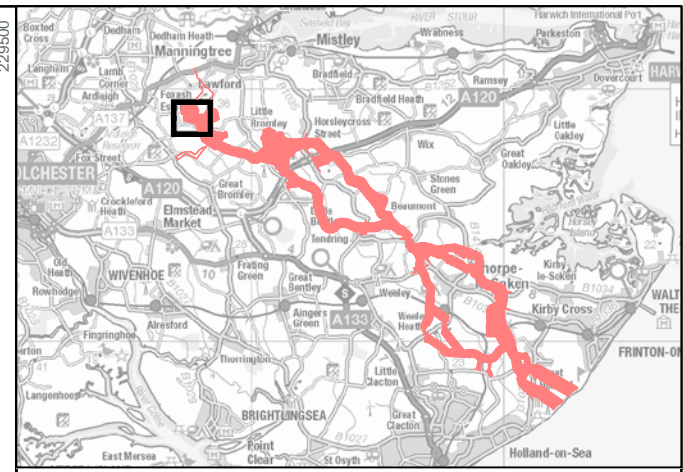
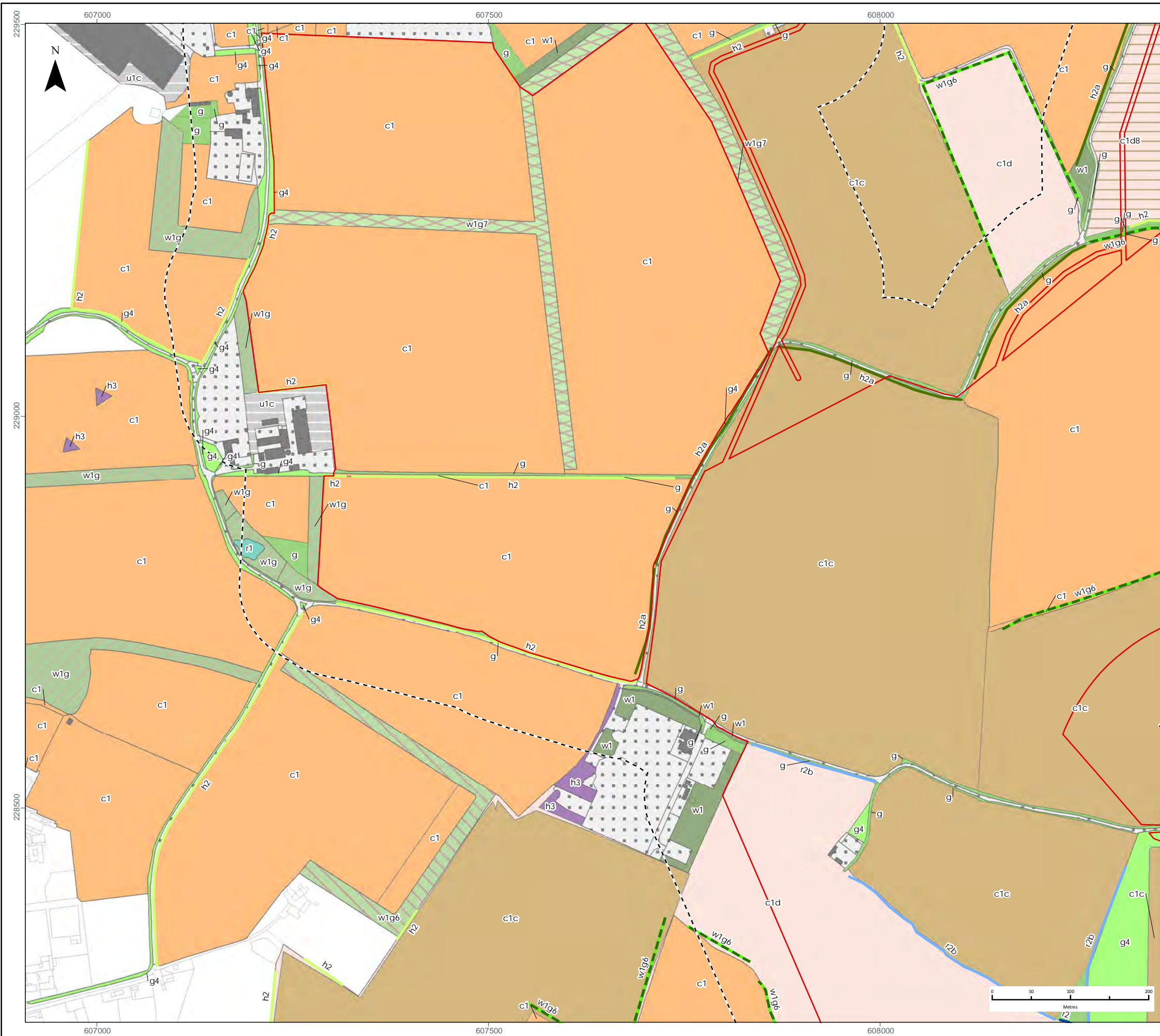
DRAWING TITLE:
Habitat Plan

VER	DATE	REMARKS	Drawn	Checked
1	23/02/2022	For Issue	JO	JC
2	31/03/2022	Inclusion of Area North of A120	JO	JC
3	13/04/2022	Route Corridor Amendment	JO	JC

DRAWING NUMBER:
4.32
 Page 32 of 36

SCALE: 1:5,000 PLOT SIZE: A3 DATUM: ODN COORDINATE SYSTEM: British National Grid.





LEGEND

Proposed Infrastructure	Woodland and Forest - Broadleaved Mixed and Yew Woodland
Proposed Infrastructure - 100 m Buffer	w1 - Broadleaved Mixed and Yew Woodland
Linear Habitat Features	w1g - Other Woodland: Broadleaved
h2 - Hedgerow	w1g6 - Line of Trees
h2a - Hedgerow (Priority Habitat)	w1g7 - Other Broadleaved Woodland Types
Woodland and Forest - Broadleaved Mixed and Yew Woodland	Rivers and Lakes - Standing Open Water and Canals
w1g6 - Line of Trees	r1 - Standing Open Water and Canal
Area Habitat Features Cropland - Arable and Horticulture	
c1 - Arable and Horticulture	
c1c - Cereal Crops	
c1d - Non-cereal Crops	
c1d8 - Other Non-cereal Crops	
Grassland - Neutral Grassland	
g - Grassland	
Grassland - Modified Grassland	
g4 - Modified Grassland	
Heathland and Shrub - Dense Scrub	
h3 - Dense Scrub	
Urban - Built-up Areas and Gardens	
u1 - Built-up Area and Garden	
u1b5 - Building	
u1c - Artificial Unvegetated, Unsealed Surface	

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PROJECT TITLE:
*FIVE ESTUARIES OFFSHORE WINDFARM:
 PRELIMINARY ECOLOGICAL APPRAISAL*

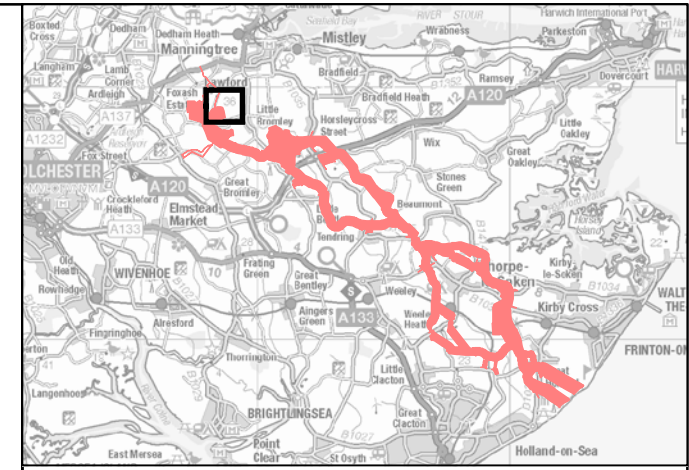
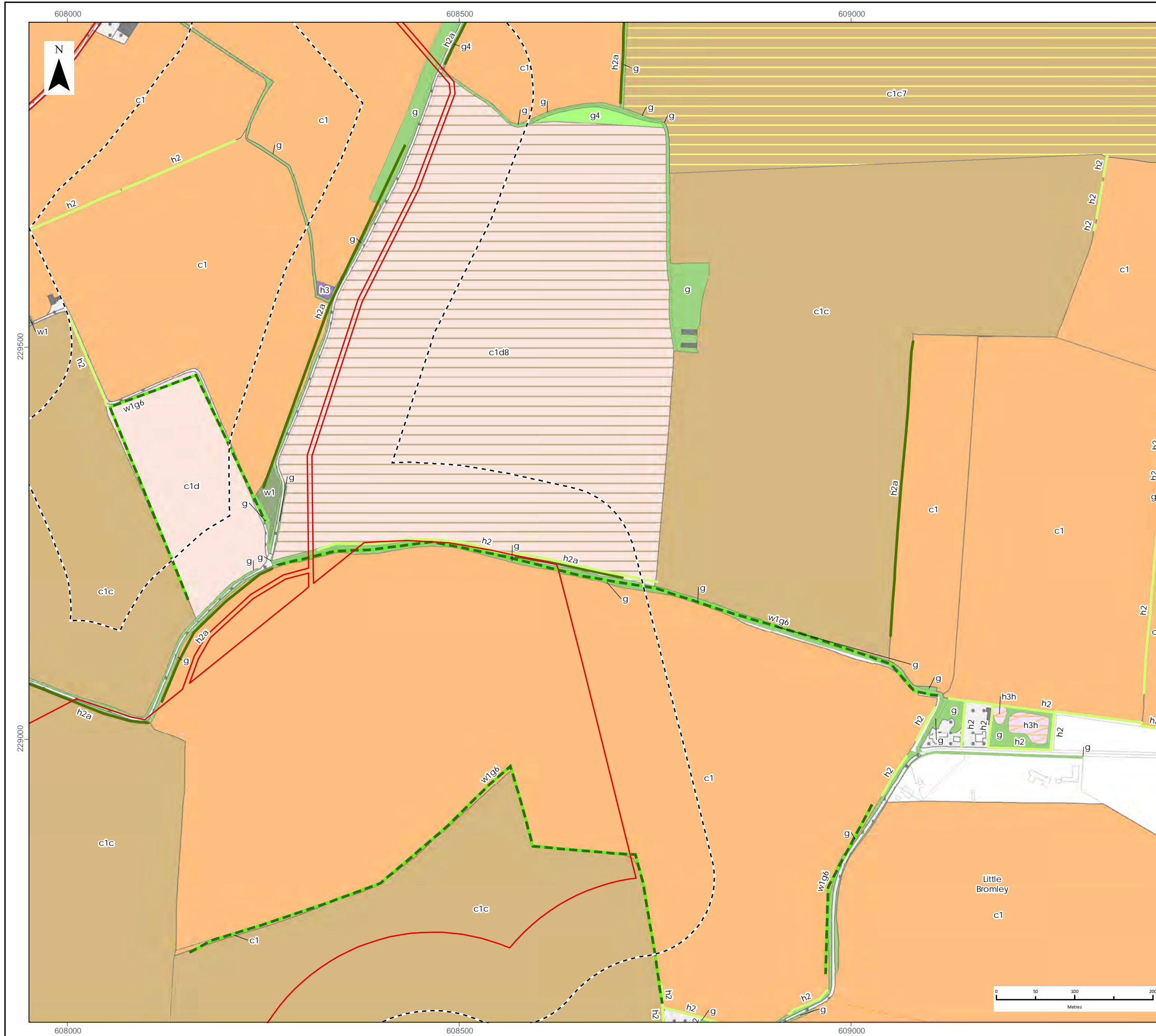
DRAWING TITLE:
Habitat Plan

VER	DATE	REMARKS	Drawn	Checked
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2	31/03/2022	Inclusion of Area North of A120	JO	JC
3	13/04/2022	Route Corridor Amendment	JO	JC

DRAWING NUMBER:
4.33
 Page 33 of 36

SCALE: 1:5,000	PLOT SIZE: A3	DATUM: ODN	COORDINATE SYSTEM: British National Grid.
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LEGEND

Proposed Infrastructure	Woodland and Forest - Broadleaved Mixed and Yew Woodland
Proposed Infrastructure - 100 m Buffer	Woodland
Linear Habitat Features	w1 - Broadleaved Mixed and Yew Woodland
h2 - Hedgerow	
h2a - Hedgerow (Priority Habitat)	
Woodland and Forest - Broadleaved Mixed and Yew Woodland	
w1g6 - Line of Trees	
Area Habitat Features	
c1 - Arable and Horticulture	
c1c - Cereal Crops	
c1c7 - Other Cereal Crops	
c1d - Non-cereal Crops	
c1d8 - Other Non-cereal Crops	
Grassland - Neutral Grassland	
g - Grassland	
Grassland - Modified Grassland	
g4 - Modified Grassland	
Heathland and Shrub - Dense Scrub	
h3 - Dense Scrub	
h3h - Mixed Scrub	
Urban - Built-up Areas and Gardens	
u1 - Built-up Area and Garden	
u1b5 - Building	

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PROJECT TITLE:
*FIVE ESTUARIES OFFSHORE WINDFARM:
PRELIMINARY ECOLOGICAL APPRAISAL*

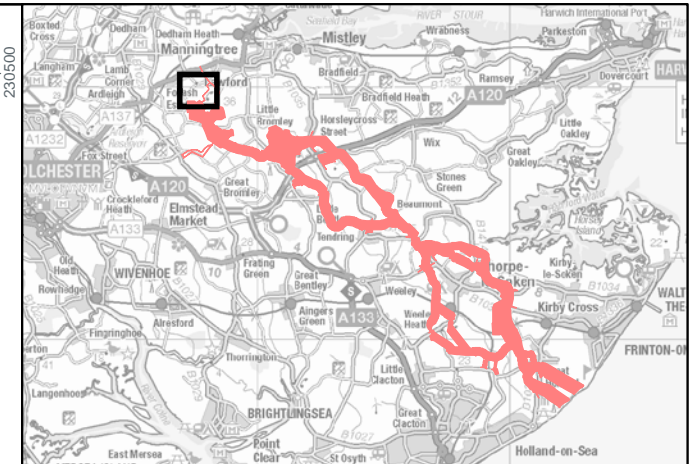
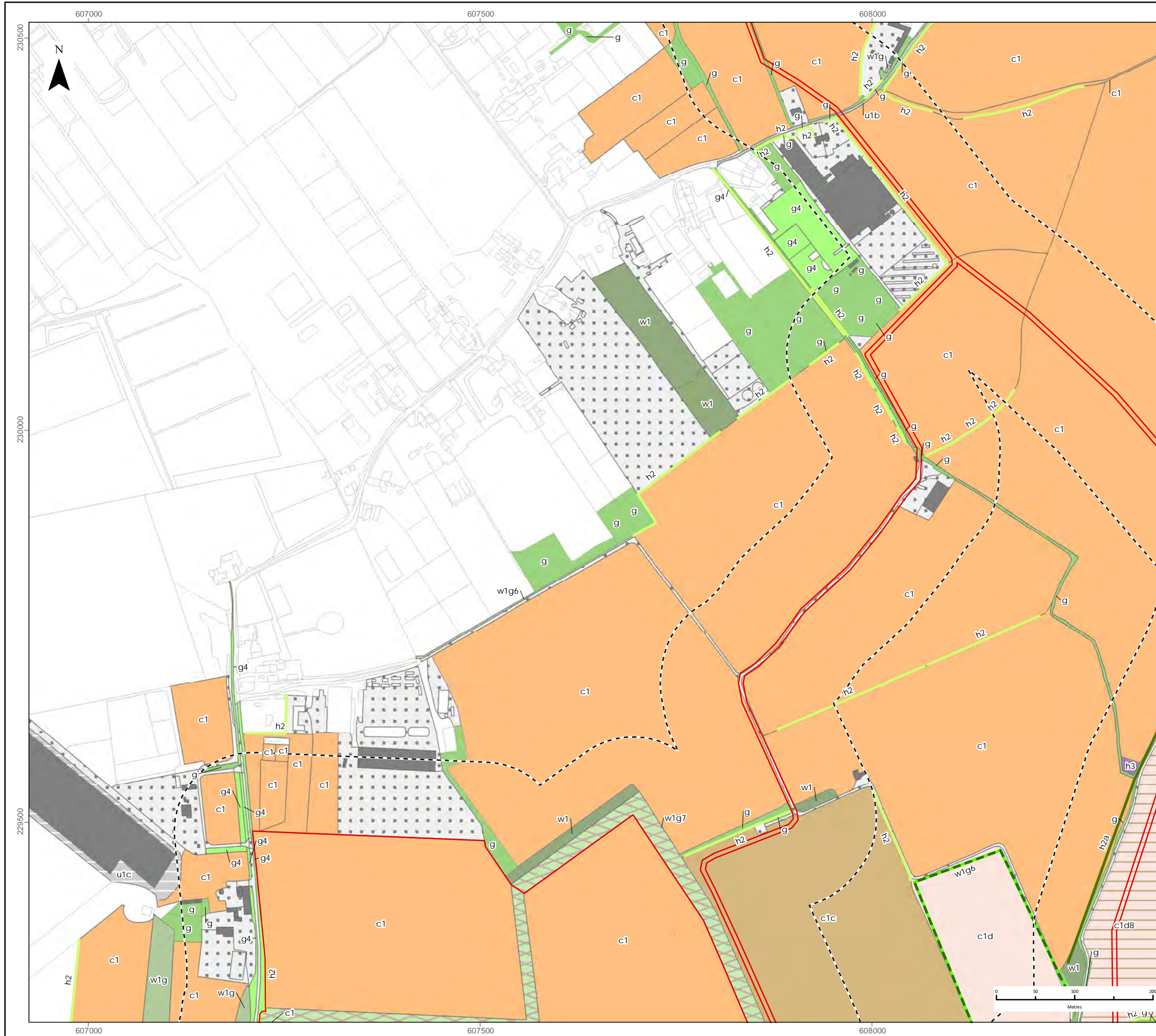
DRAWING TITLE:
Habitat Plan

VER	DATE	REMARKS	Drawn	Checked
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2	31/03/2022	Inclusion of Area North of A120	JO	JC
3	13/04/2022	Route Corridor Amendment	JO	JC

DRAWING NUMBER:
4.34
Page 34 of 36

SCALE: **1:5,000** PLOT SIZE: **A3** DATUM: **ODN** COORDINATE SYSTEM: **British National Grid**





LEGEND

- Proposed Infrastructure - Red line
- Proposed Infrastructure - 100 m Buffer - Dashed line
- Linear Habitat Features
 - Heathland and Shrub - Hedgerows
 - h2 - Hedgerow
 - h2a - Hedgerow (Priority Habitat)
 - Woodland and Forest - Broadleaved Mixed and Yew Woodland
 - w1g6 - Line of Trees
- Area Habitat Features
 - Cropland - Arable and Horticulture
 - c1 - Arable and Horticulture
 - c1c - Cereal Crops
 - c1d - Non-cereal Crops
 - c1d8 - Other Non-cereal Crops
 - Grassland - Neutral Grassland
 - g - Grassland
 - Grassland - Modified Grassland
 - g4 - Modified Grassland
 - Heathland and Shrub - Dense Scrub
 - h3 - Dense Scrub
 - Urban - Built-up Areas and Gardens
 - u1 - Built-up Area and Garden
 - u1b - Developed Land: Sealed Surface
 - u1b5 - Building
 - u1c - Artificial Unvegetated, Unsealed Surface
- Woodland and Forest - Broadleaved Mixed and Yew Woodland
 - w1 - Broadleaved Mixed and Yew Woodland
 - w1g - Other Woodland: Broadleaved
 - w1g6 - Line of Trees
 - w1g7 - Other Broadleaved Woodland Types

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PROJECT TITLE:
*FIVE ESTUARIES OFFSHORE WINDFARM:
 PRELIMINARY ECOLOGICAL APPRAISAL*

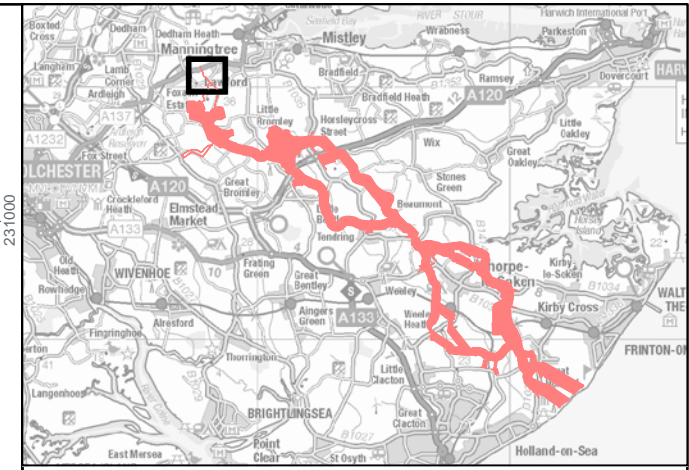
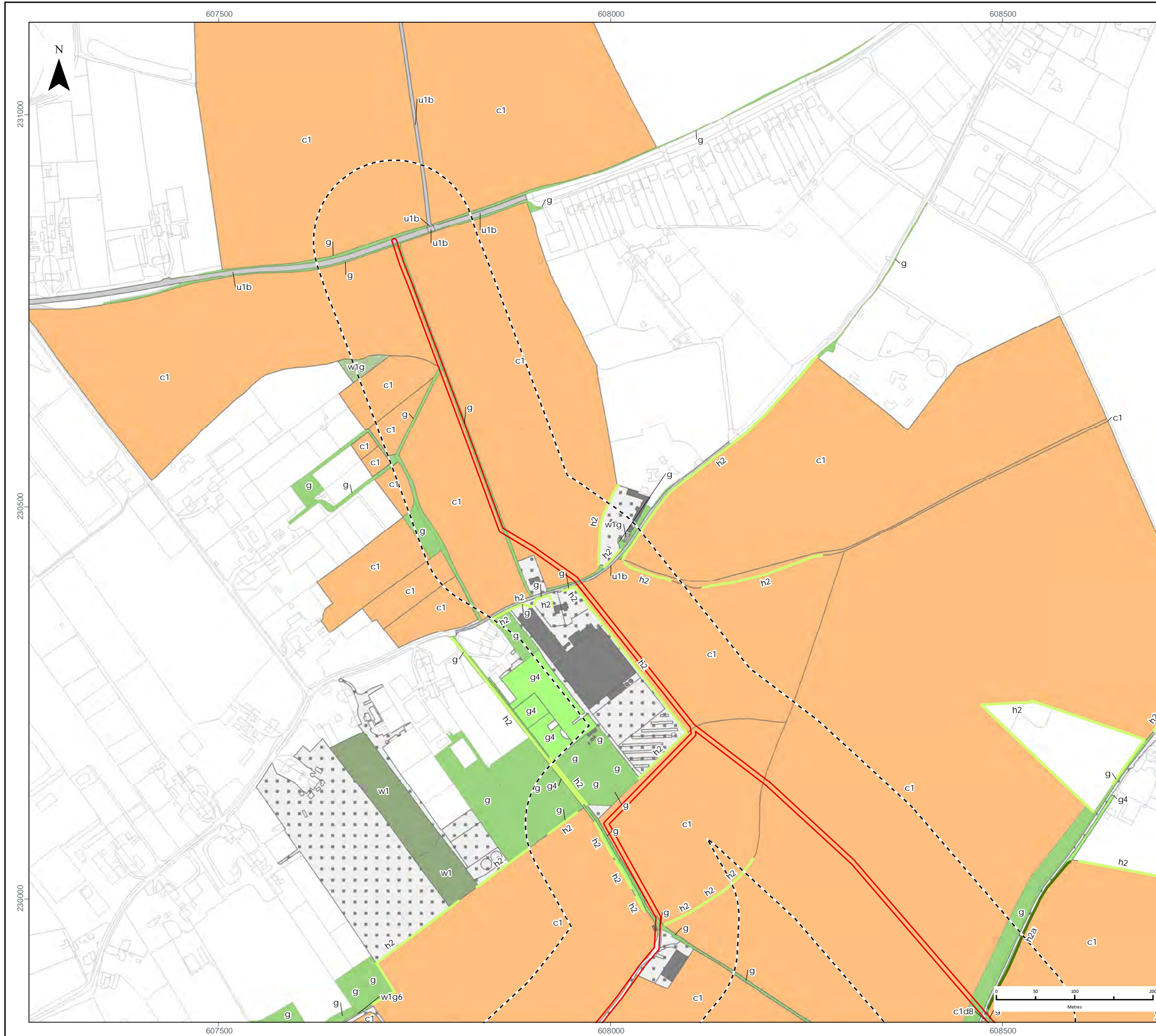
DRAWING TITLE:
Habitat Plan

VER	DATE	REMARKS	Drawn	Checked
1	23/02/2022	For Issue	JO	JC
2	31/03/2022	Inclusion of Area North of A120	JO	JC
3	13/04/2022	Route Corridor Amendment	JO	JC

DRAWING NUMBER:
4.35
 Page 35 of 36

SCALE: 1:5,000 PLOT SIZE: A3 DATUM: ODN COORDINATE SYSTEM: British National Grid.





LEGEND

- Proposed Infrastructure
- Proposed Infrastructure - 100 m Buffer
- Linear Habitat Features
- Heathland and Shrub - Hedgerows
 - h2 - Hedgerow
 - h2a - Hedgerow (Priority Habitat)
- Area Habitat Features
- Cropland - Arable and Horticulture
 - c1 - Arable and Horticulture
 - c1d8 - Other Non-cereal Crops
- Grassland - Neutral Grassland
 - g - Grassland
- Grassland - Modified Grassland
 - g4 - Modified Grassland
- Urban - Built-up Areas and Gardens
 - u1 - Built-up Area and Garden
 - u1b - Developed Land: Sealed Surface
 - u1b5 - Building
- Woodland and Forest - Broadleaved Mixed and Yew Woodland
 - w1 - Broadleaved Mixed and Yew Woodland
 - w1g - Other Woodland: Broadleaved
 - w1g6 - Line of Trees

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PROJECT TITLE:
*FIVE ESTUARIES OFFSHORE WINDFARM:
 PRELIMINARY ECOLOGICAL APPRAISAL*

DRAWING TITLE:
Habitat Plan

VER	DATE	REMARKS	Drawn	Checked
1	23/02/2022	For Issue	JO	JC
2	31/03/2022	Inclusion of Area North of A120	JO	JC
3	13/04/2022	Route Corridor Amendment	JO	JC

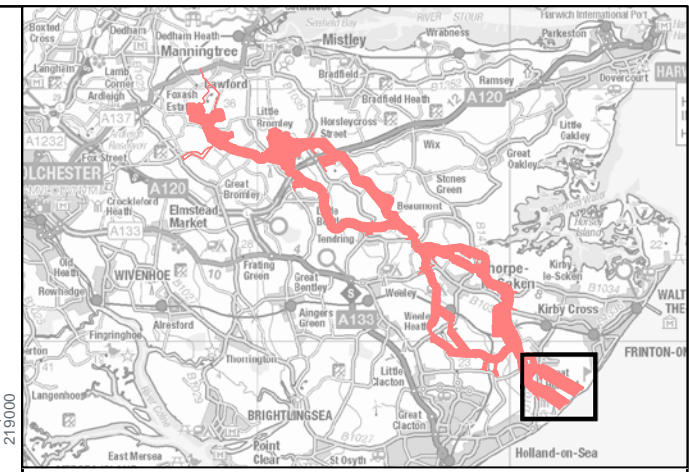
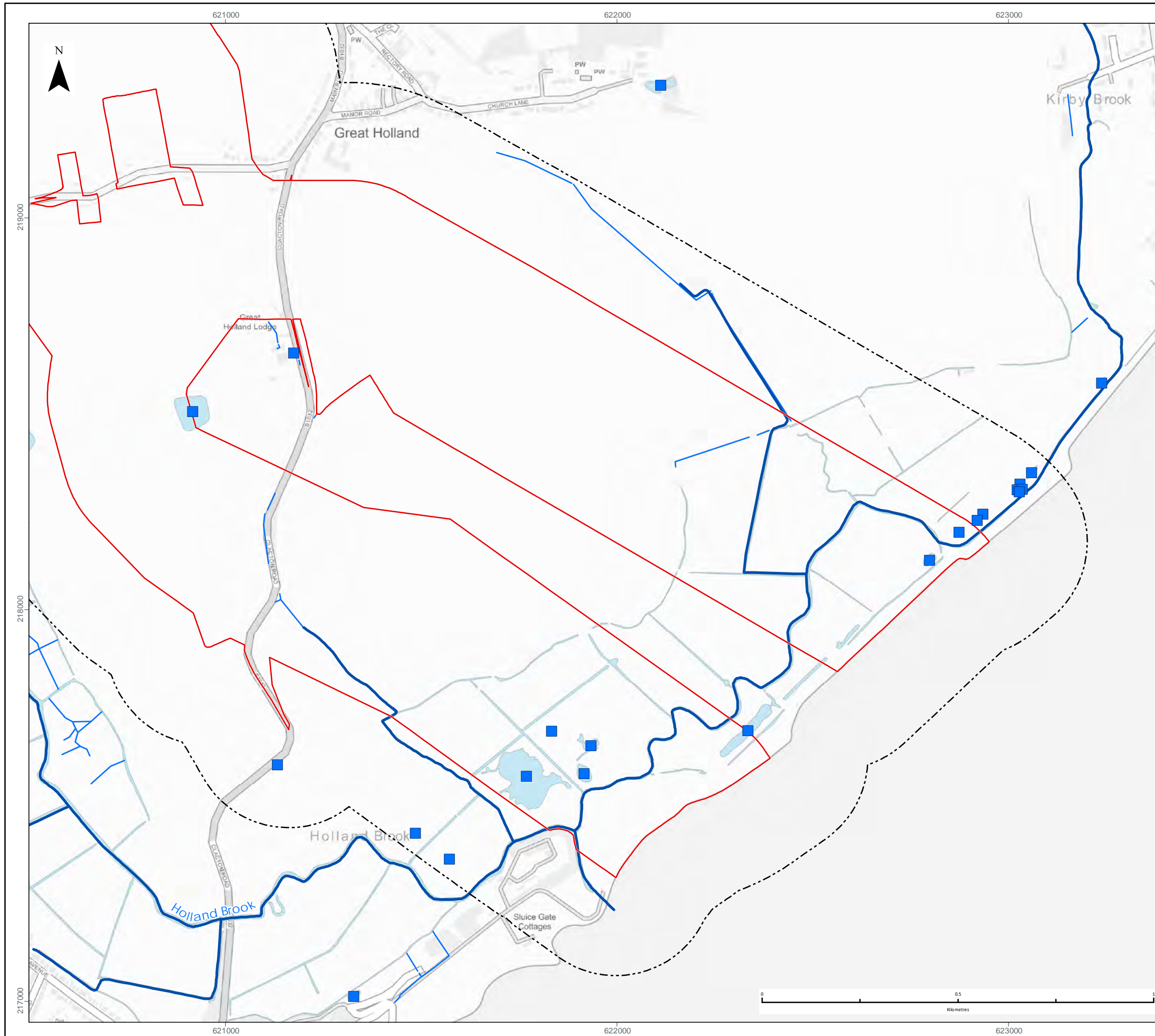
DRAWING NUMBER:
4.36
 Page 36 of 36

SCALE: 1:5,000 PLOT SIZE: A3 DATUM: ODN COORDINATE SYSTEM: British National Grid.



DRAWING 5

Ponds and Watercourses Plan



LEGEND

- Proposed Infrastructure
- Proposed Infrastructure - 250 m Buffer
- Waterbody Centroid
- Main River
- Minor Watercourse
- Waterbody

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PROJECT TITLE:
*FIVE ESTUARIES OFFSHORE WINDFARM:
 PRELIMINARY ECOLOGICAL APPRAISAL*

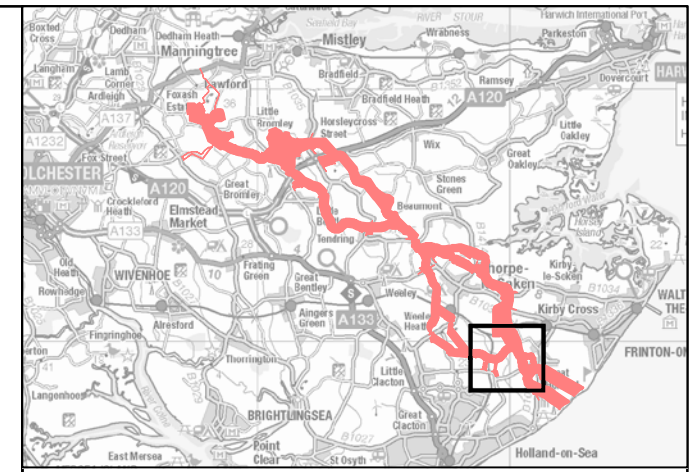
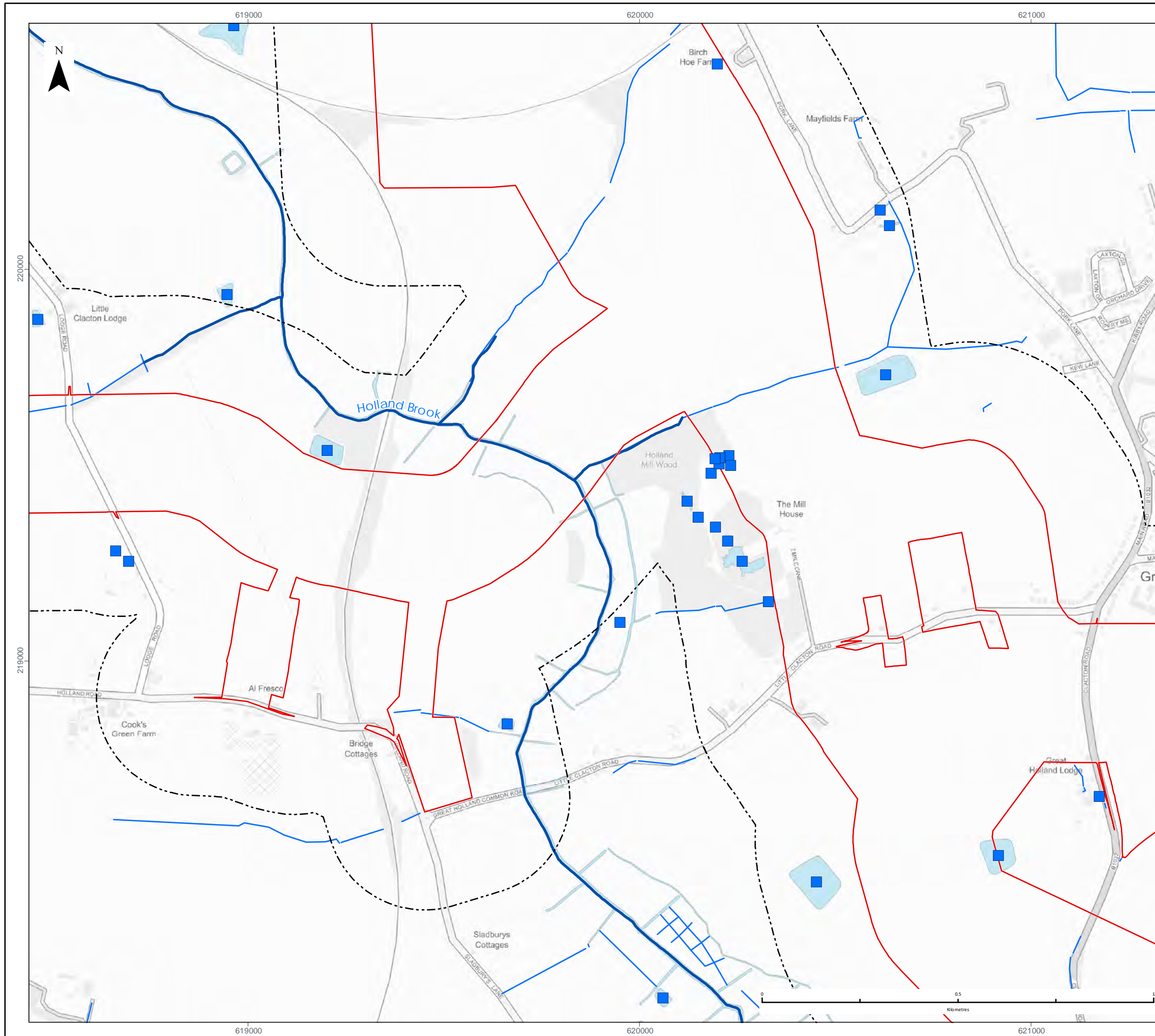
DRAWING TITLE:
Ponds and Watercourses

VER	DATE	REMARKS	Drawn	Checked
2	30/03/2022	Inclusion of Area North of A120	JO	JC
3	13/04/2022	Route Corridor Amendment	JO	JC
4	25/05/2022	Pond Additions	JO	JC

DRAWING NUMBER:
5.1
 Page 1 of 12

SCALE: **1:10,000** PLOT SIZE: A3 DATUM: ODN COORDINATE SYSTEM: British National Grid.





LEGEND

- Proposed Infrastructure
- Proposed Infrastructure - 250 m Buffer
- Waterbody Centroid
- Main River
- Minor Watercourse
- Waterbody

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PROJECT TITLE:
*FIVE ESTUARIES OFFSHORE WINDFARM:
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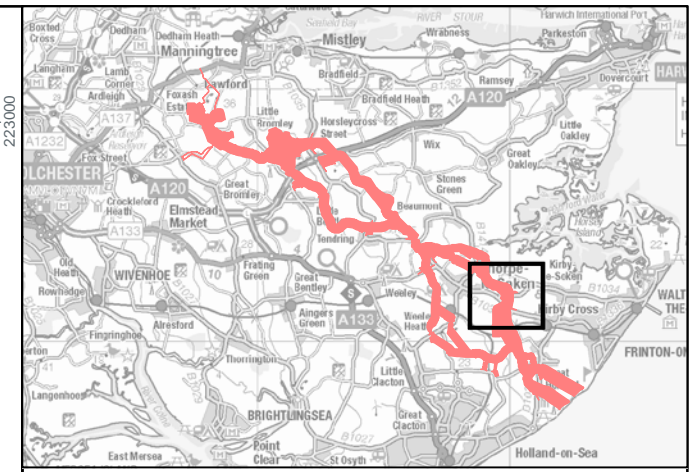
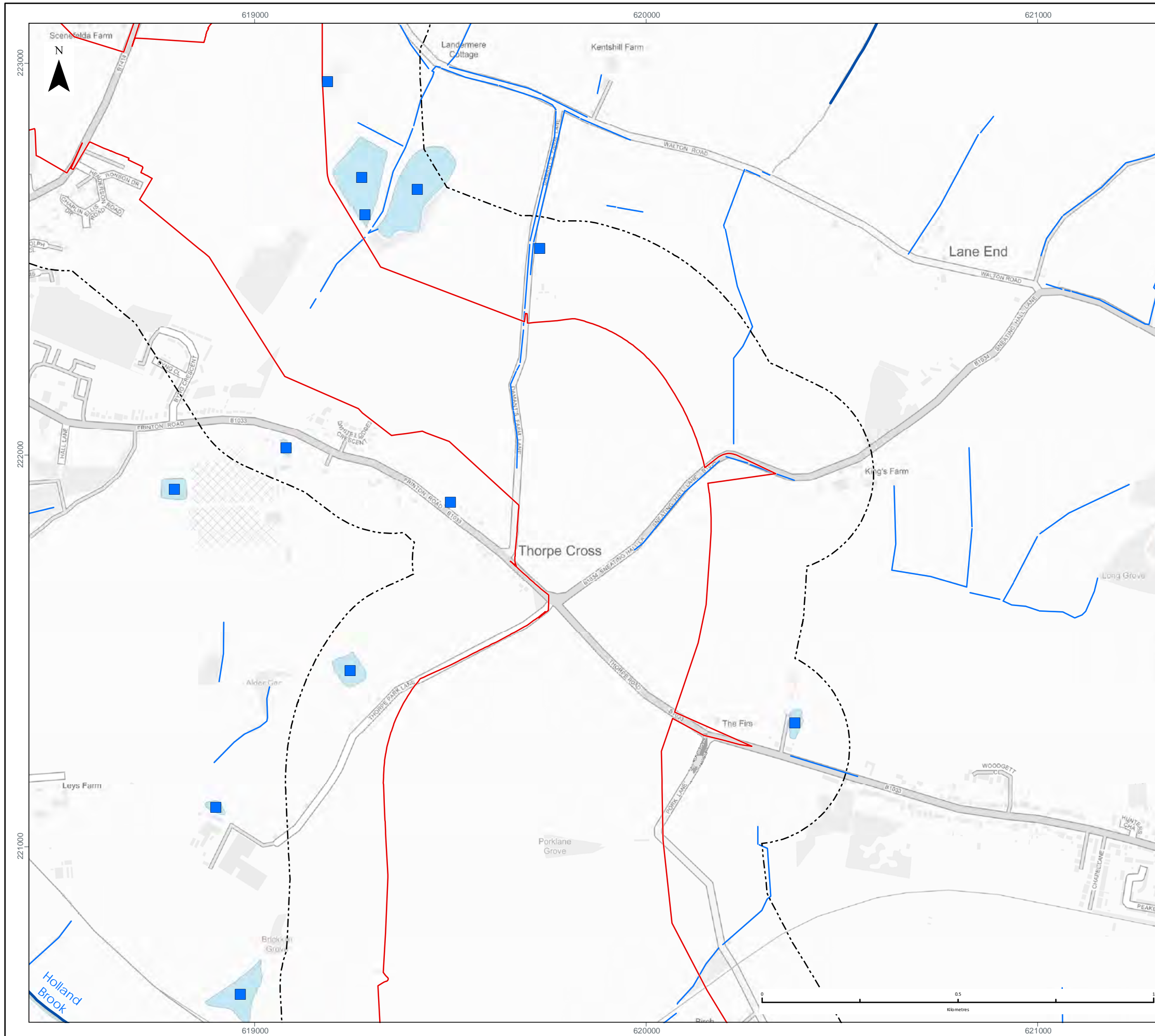
DRAWING TITLE:
Ponds and Watercourses

VER	DATE	REMARKS	Drawn	Checked
2	30/03/2022	Inclusion of Area North of A120	JO	JC
3	13/04/2022	Route Corridor Amendment	JO	JC
4	25/05/2022	Pond Additions	JO	JC

DRAWING NUMBER:
5.2
 Page 2 of 12

SCALE: **1:10,000** PLOT SIZE: **A3** DATUM: **ODN** COORDINATE SYSTEM: **British National Grid**





LEGEND

- Proposed Infrastructure
- Proposed Infrastructure - 250 m Buffer
- Waterbody Centroid
- Main River
- Minor Watercourse
- Waterbody

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*FIVE ESTUARIES OFFSHORE WINDFARM:
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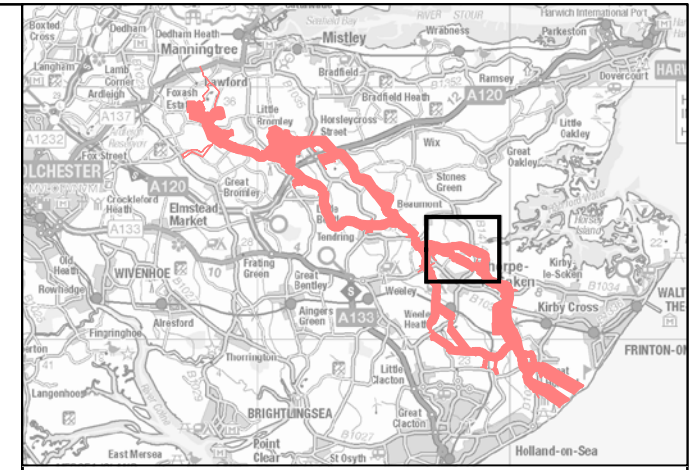
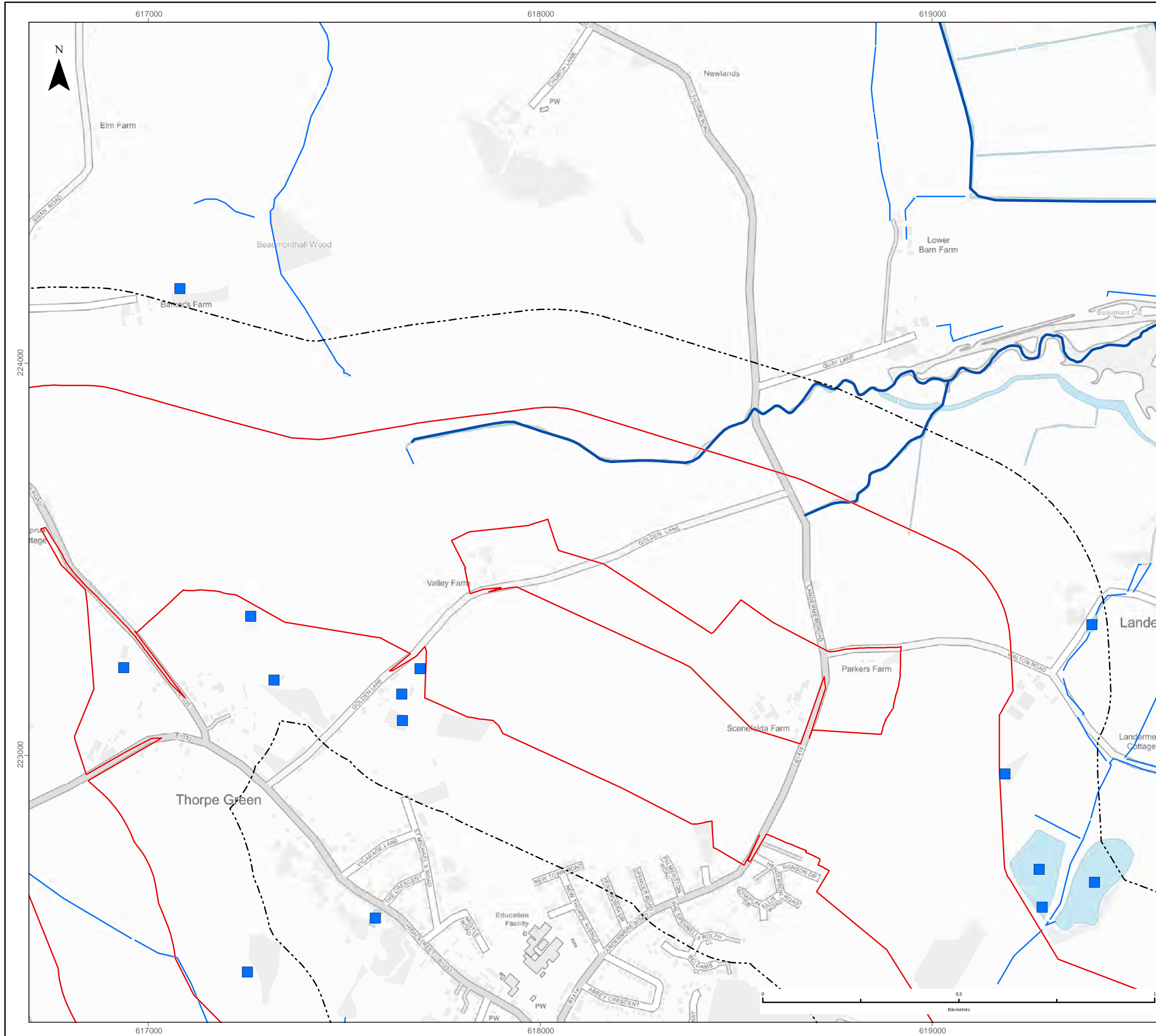
DRAWING TITLE:
Ponds and Watercourses

VER	DATE	REMARKS	Drawn	Checked
2	30/03/2022	Inclusion of Area North of A120	JO	JC
3	13/04/2022	Route Corridor Amendment	JO	JC
4	25/05/2022	Pond Additions	JO	JC

DRAWING NUMBER:
5.3
 Page 3 of 12

SCALE: **1:10,000** PLOT SIZE: A3 DATUM: ODN COORDINATE SYSTEM: British National Grid.





LEGEND

- Proposed Infrastructure
- Proposed Infrastructure - 250 m Buffer
- Waterbody Centroid
- Main River
- Minor Watercourse
- Waterbody

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PROJECT TITLE:
*FIVE ESTUARIES OFFSHORE WINDFARM:
 PRELIMINARY ECOLOGICAL APPRAISAL*

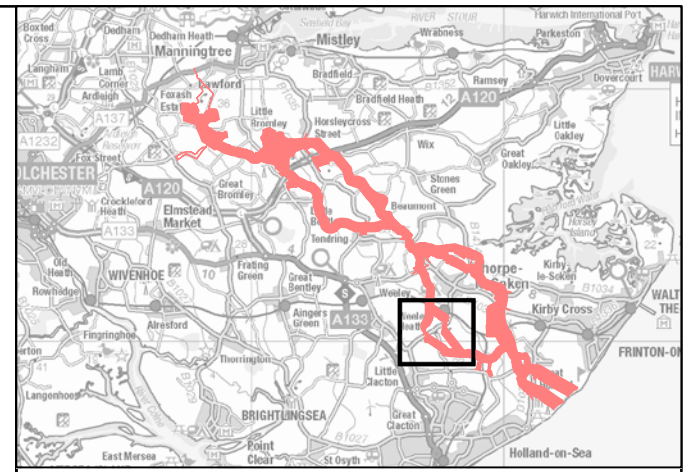
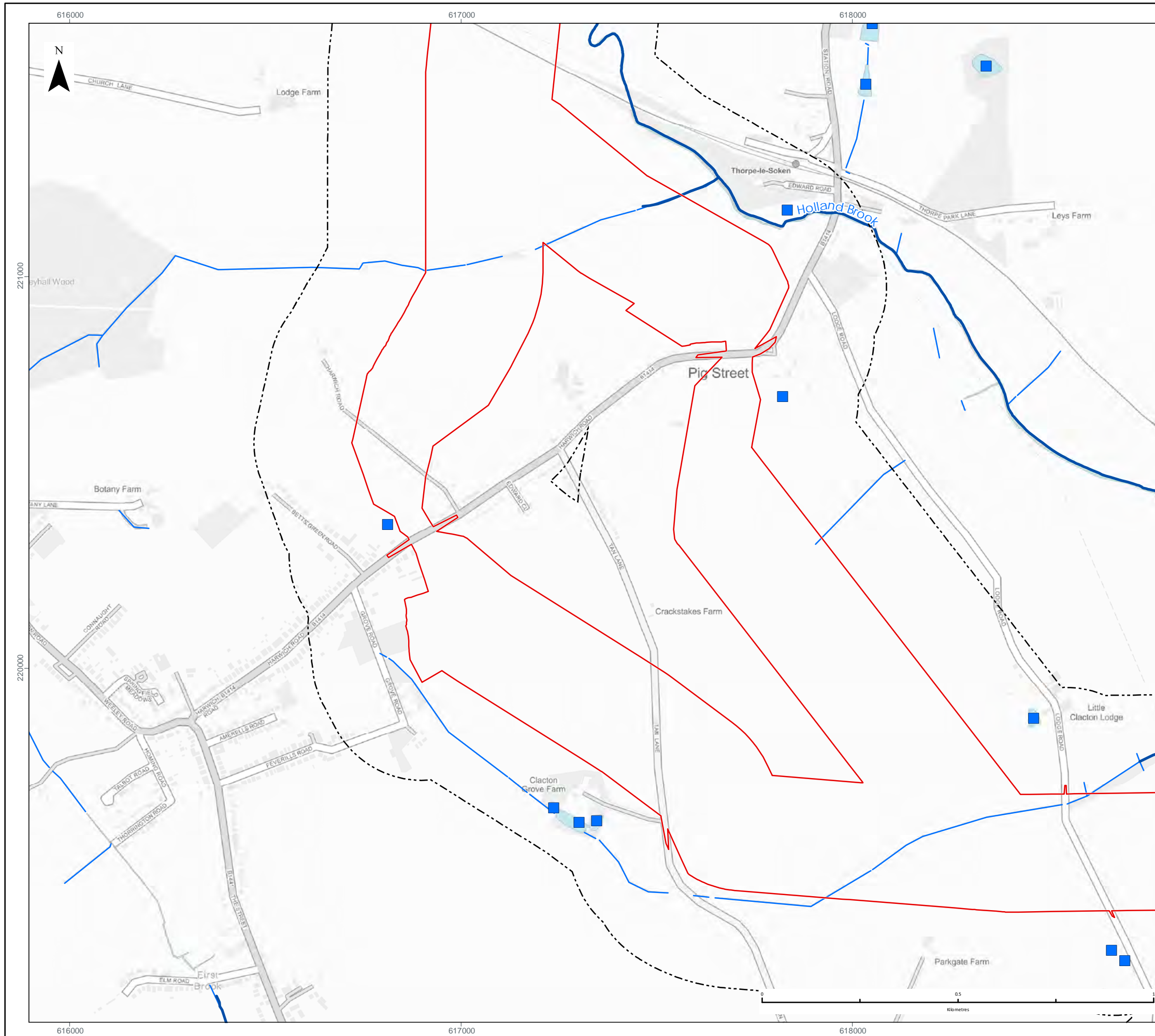
DRAWING TITLE:
Ponds and Watercourses

VER	DATE	REMARKS	Drawn	Checked
2	30/03/2022	Inclusion of Area North of A120	JO	JC
3	13/04/2022	Route Corridor Amendment	JO	JC
4	25/05/2022	Pond Additions	JO	JC

DRAWING NUMBER:
5.4
 Page 4 of 12

SCALE: **1:10,000** PLOT SIZE: A3 DATUM: ODN COORDINATE SYSTEM: British National Grid.





LEGEND

- Proposed Infrastructure
- Proposed Infrastructure - 250 m Buffer
- Waterbody Centroid
- Main River
- Minor Watercourse
- Waterbody

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*FIVE ESTUARIES OFFSHORE WINDFARM:
 PRELIMINARY ECOLOGICAL APPRAISAL*

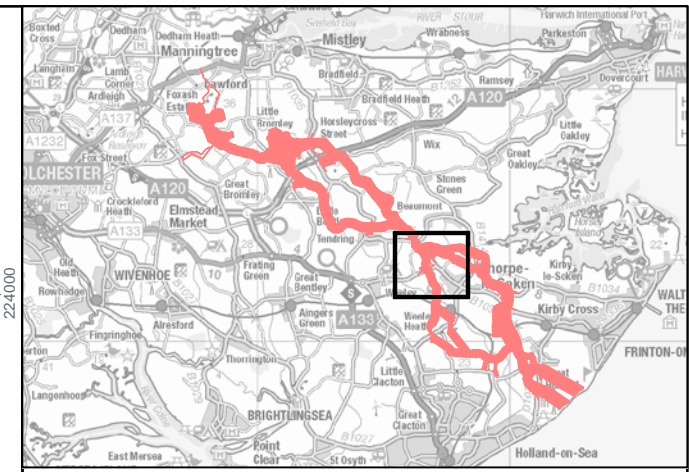
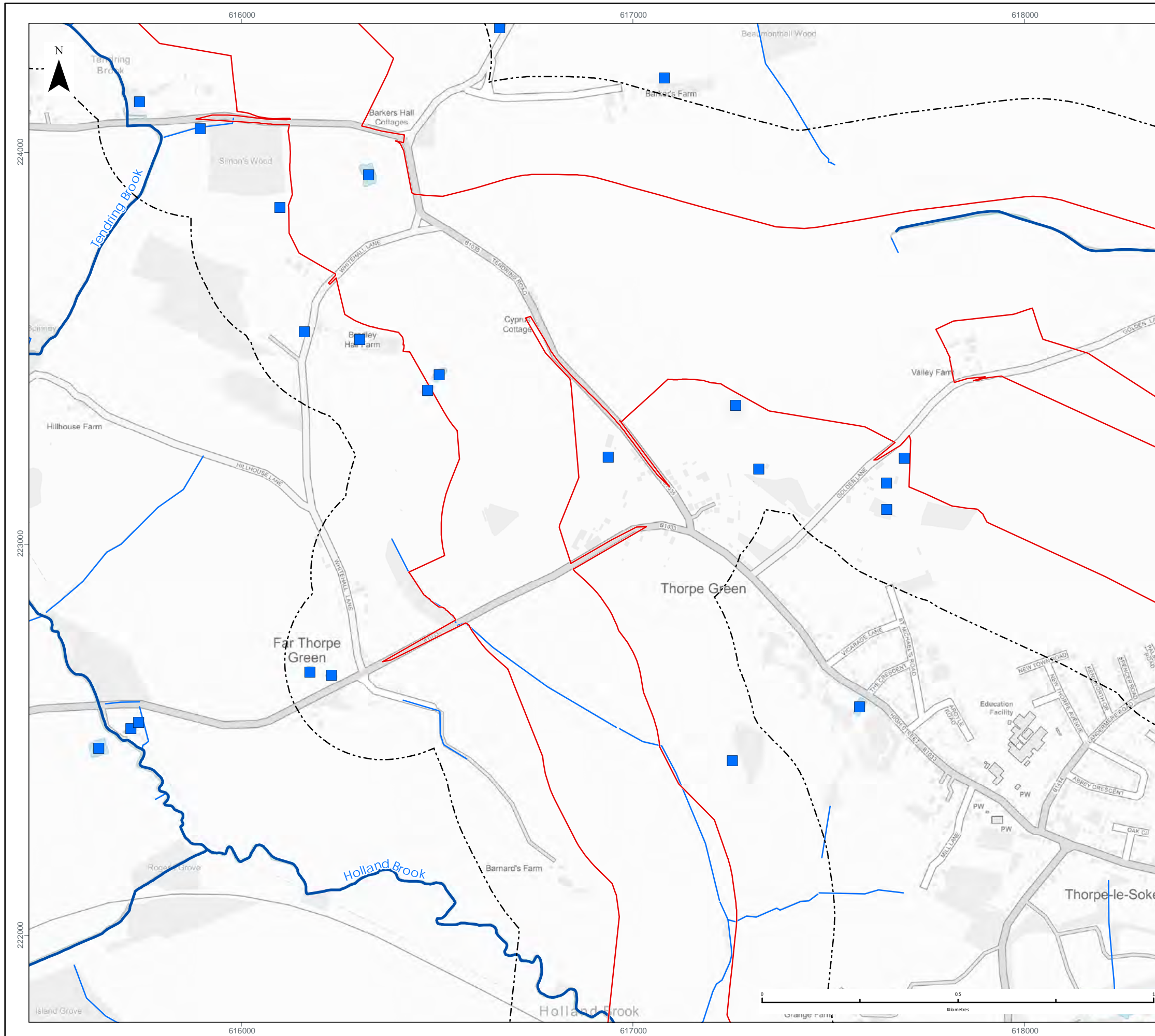
DRAWING TITLE:
Ponds and Watercourses

VER	DATE	REMARKS	Drawn	Checked
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3	13/04/2022	Route Corridor Amendment	JO	JC
4	25/05/2022	Pond Additions	JO	JC

DRAWING NUMBER:
5.5
 Page 5 of 12

SCALE: **1:10,000** PLOT SIZE: A3 DATUM: ODN COORDINATE SYSTEM: British National Grid.





LEGEND

- Proposed Infrastructure
- Proposed Infrastructure - 250 m Buffer
- Waterbody Centroid
- Main River
- Minor Watercourse
- Waterbody

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PROJECT TITLE:
*FIVE ESTUARIES OFFSHORE WINDFARM:
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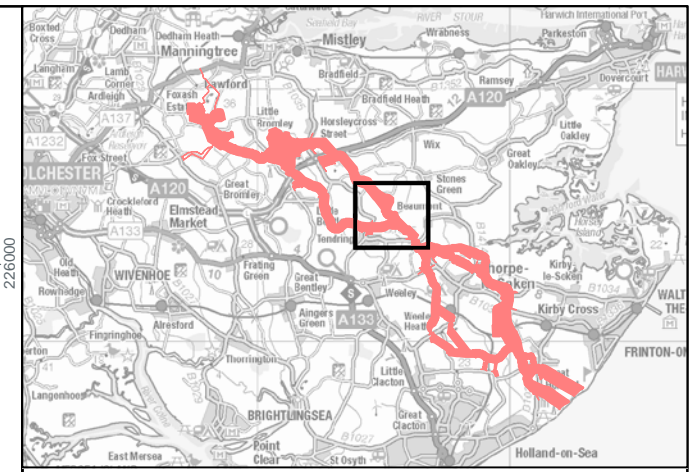
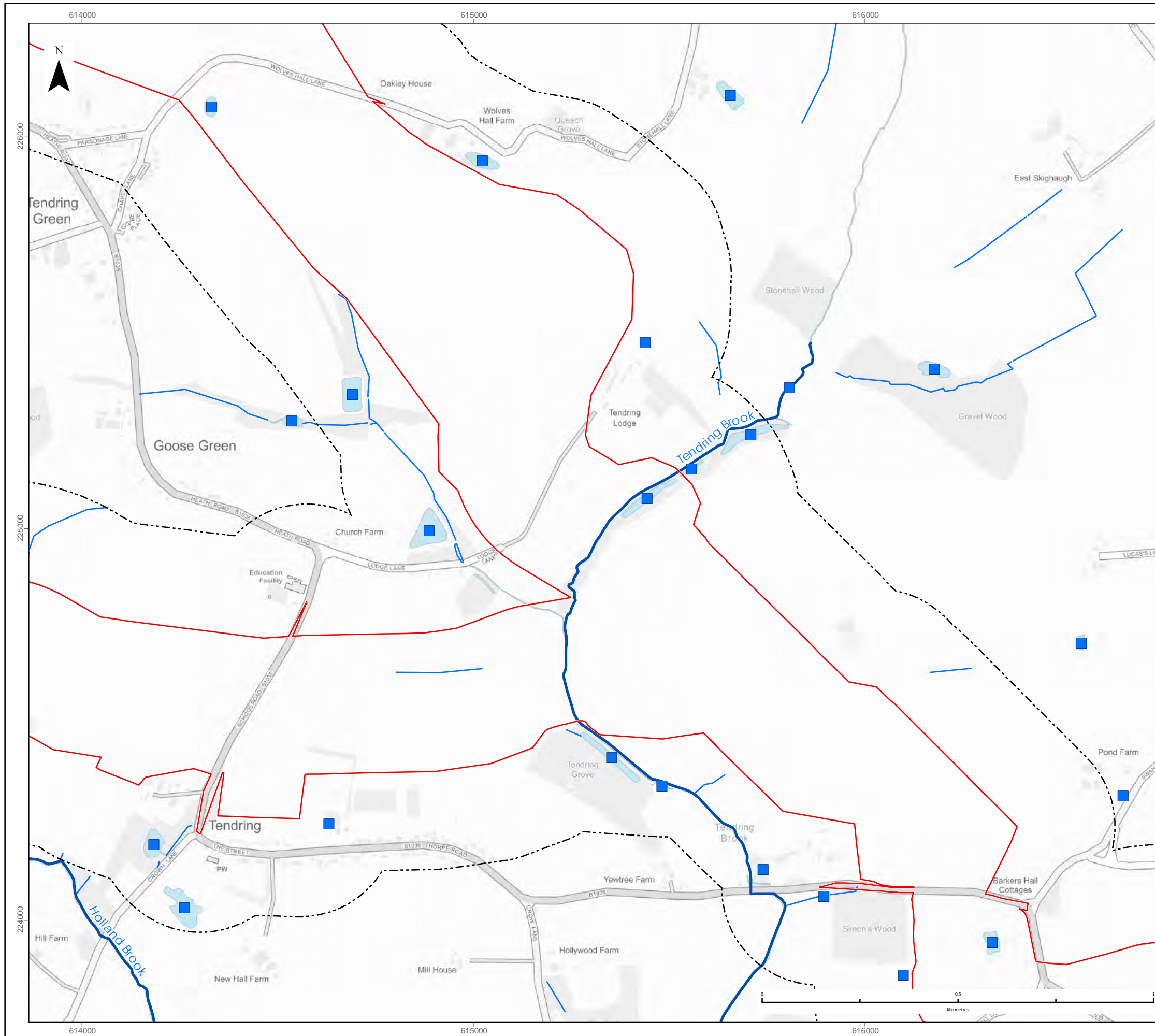
DRAWING TITLE:
Ponds and Watercourses

VER	DATE	REMARKS	Drawn	Checked
2	30/03/2022	Inclusion of Area North of A120	JO	JC
3	13/04/2022	Route Corridor Amendment	JO	JC
4	25/05/2022	Pond Additions	JO	JC

DRAWING NUMBER:
5.6
 Page 6 of 12

SCALE: **1:10,000** PLOT SIZE: A3 DATUM: ODN COORDINATE SYSTEM: British National Grid.





LEGEND

- Proposed Infrastructure
- - - Proposed Infrastructure - 250 m Buffer
- Waterbody Centroid
- Main River
- Minor Watercourse
- Waterbody

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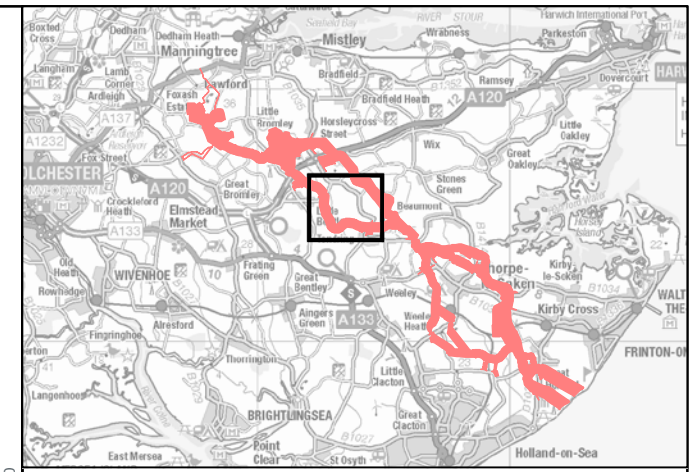
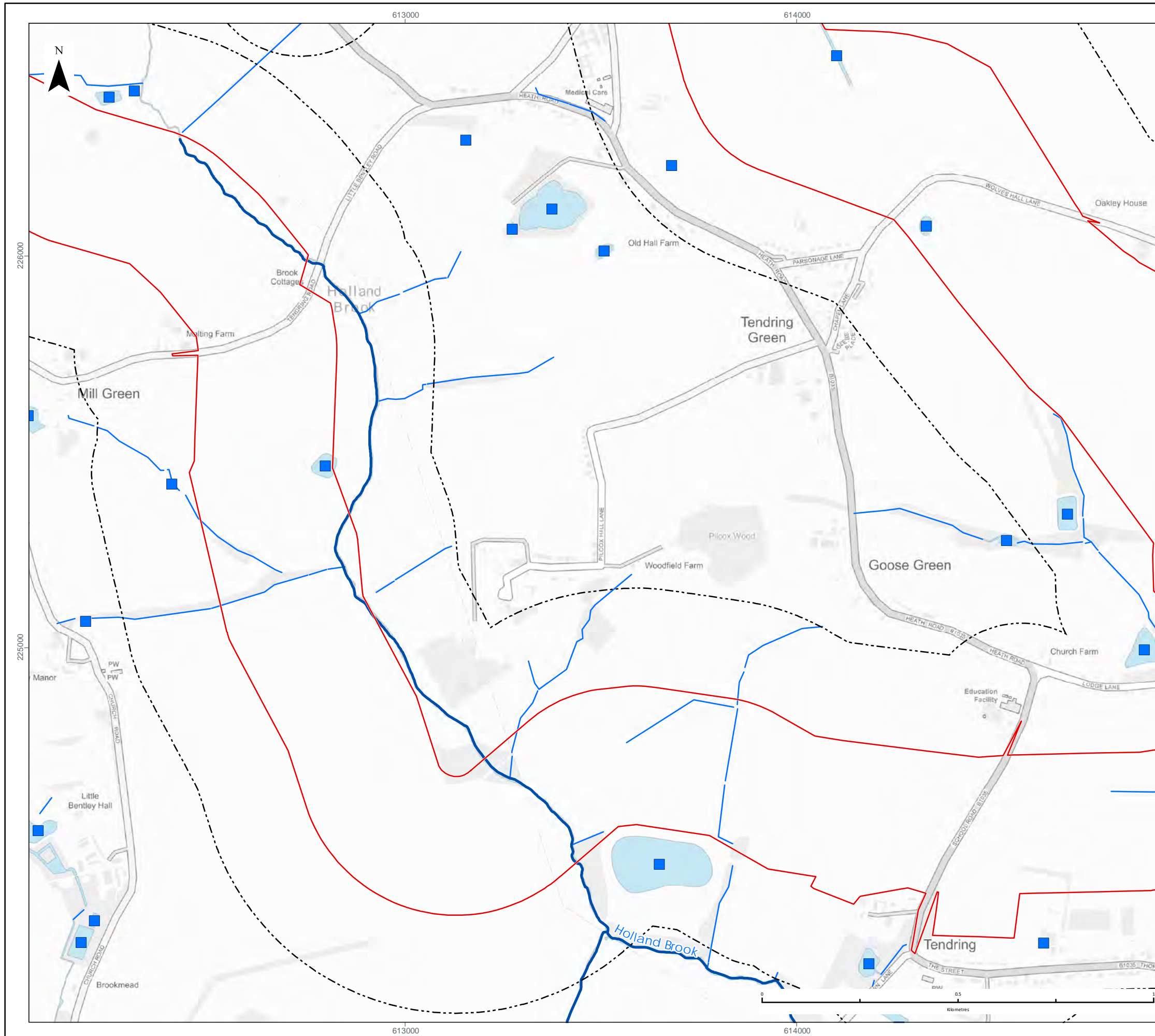
PROJECT TITLE:
*FIVE ESTUARIES OFFSHORE WINDFARM:
 PRELIMINARY ECOLOGICAL APPRAISAL*

DRAWING TITLE:
Ponds and Watercourses

VER	DATE	REMARKS	Drawn	Checked
2	30/03/2022	Inclusion of Area North of A120	JO	JC
3	13/04/2022	Route Corridor Amendment	JO	JC
4	25/05/2022	Pond Additions	JO	JC

DRAWING NUMBER:
 5.7
 Page 7 of 12

SCALE: 1:10,000 PLOT SIZE: A3 DATUM: ODN COORDINATE SYSTEM: British National Grid.



LEGEND

- Proposed Infrastructure
- Proposed Infrastructure - 250 m Buffer
- Waterbody Centroid
- Main River
- Minor Watercourse
- Waterbody

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PROJECT TITLE:
*FIVE ESTUARIES OFFSHORE WINDFARM:
 PRELIMINARY ECOLOGICAL APPRAISAL*

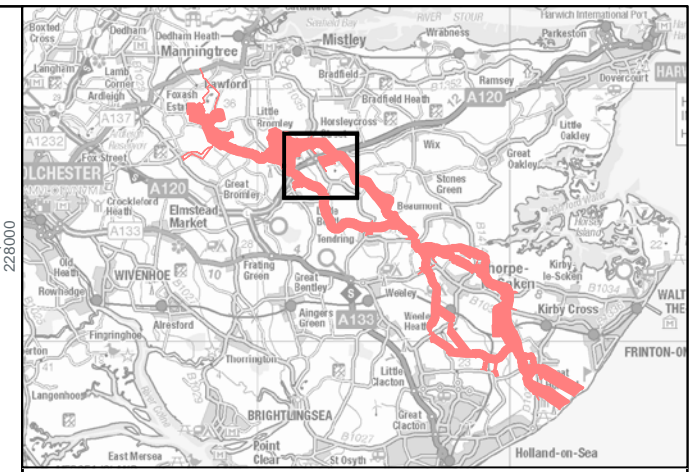
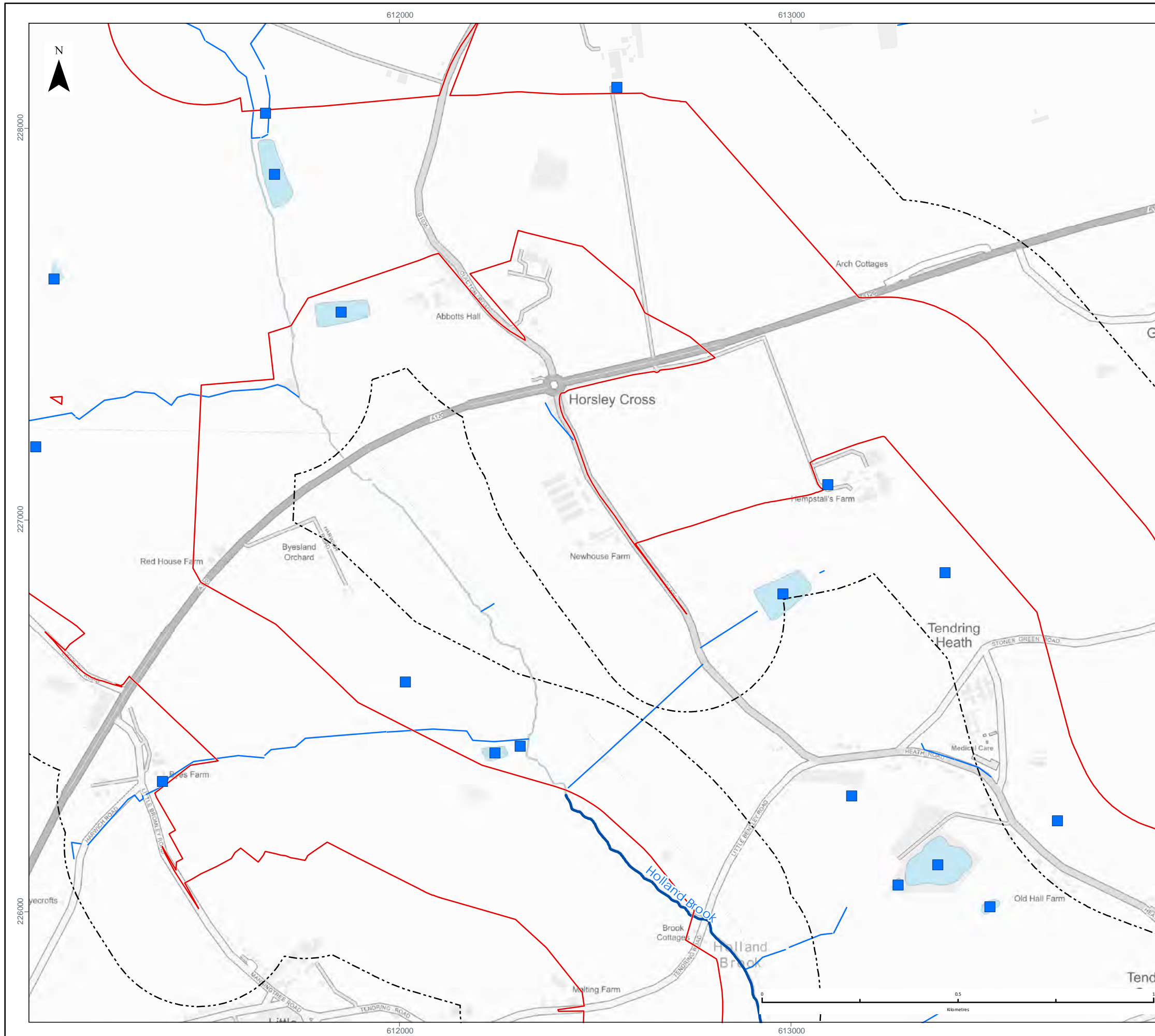
DRAWING TITLE:
Ponds and Watercourses

VER	DATE	REMARKS	Drawn	Checked
2	30/03/2022	Inclusion of Area North of A120	JO	JC
3	13/04/2022	Route Corridor Amendment	JO	JC
4	25/05/2022	Pond Additions	JO	JC

DRAWING NUMBER:
5.8
 Page 8 of 12

SCALE: **1:10,000** PLOT SIZE: **A3** DATUM: **ODN** COORDINATE SYSTEM: **British National Grid**





LEGEND

- Proposed Infrastructure
- Proposed Infrastructure - 250 m Buffer
- Waterbody Centroid
- Main River
- Minor Watercourse
- Waterbody

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PROJECT TITLE:
*FIVE ESTUARIES OFFSHORE WINDFARM:
 PRELIMINARY ECOLOGICAL APPRAISAL*

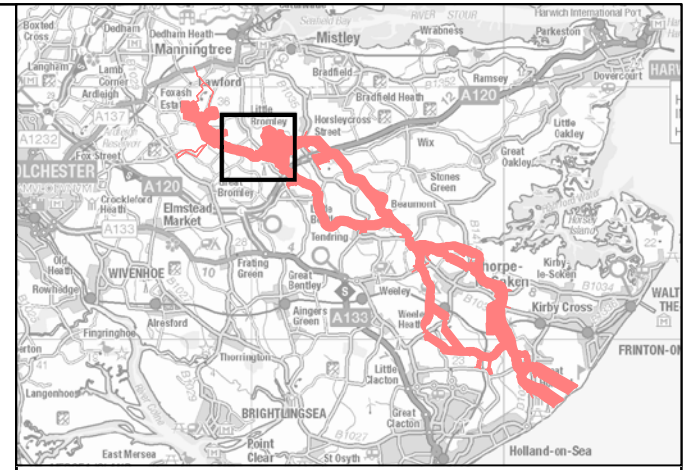
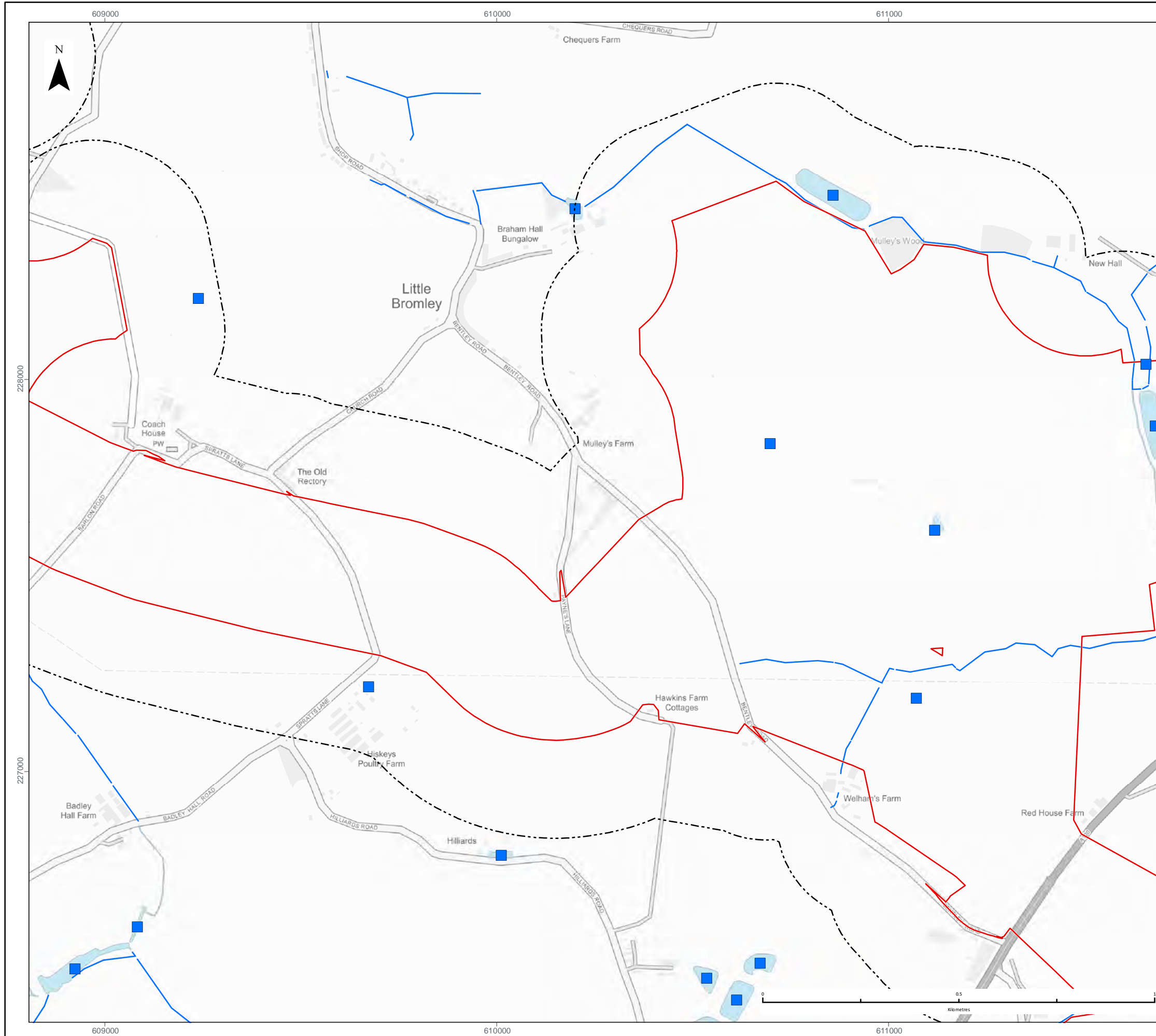
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Ponds and Watercourses

VER	DATE	REMARKS	Drawn	Checked
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3	13/04/2022	Route Corridor Amendment	JO	JC
4	25/05/2022	Pond Additions	JO	JC

DRAWING NUMBER:
5.9
 Page 9 of 12

SCALE: **1:10,000** PLOT SIZE: **A3** DATUM: **ODN** COORDINATE SYSTEM: **British National Grid**





LEGEND

- Proposed Infrastructure
- Proposed Infrastructure - 250 m Buffer
- Waterbody Centroid
- Minor Watercourse
- Waterbody

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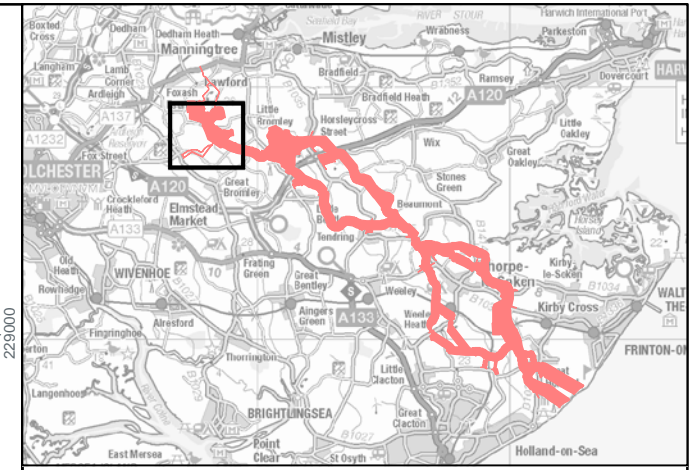
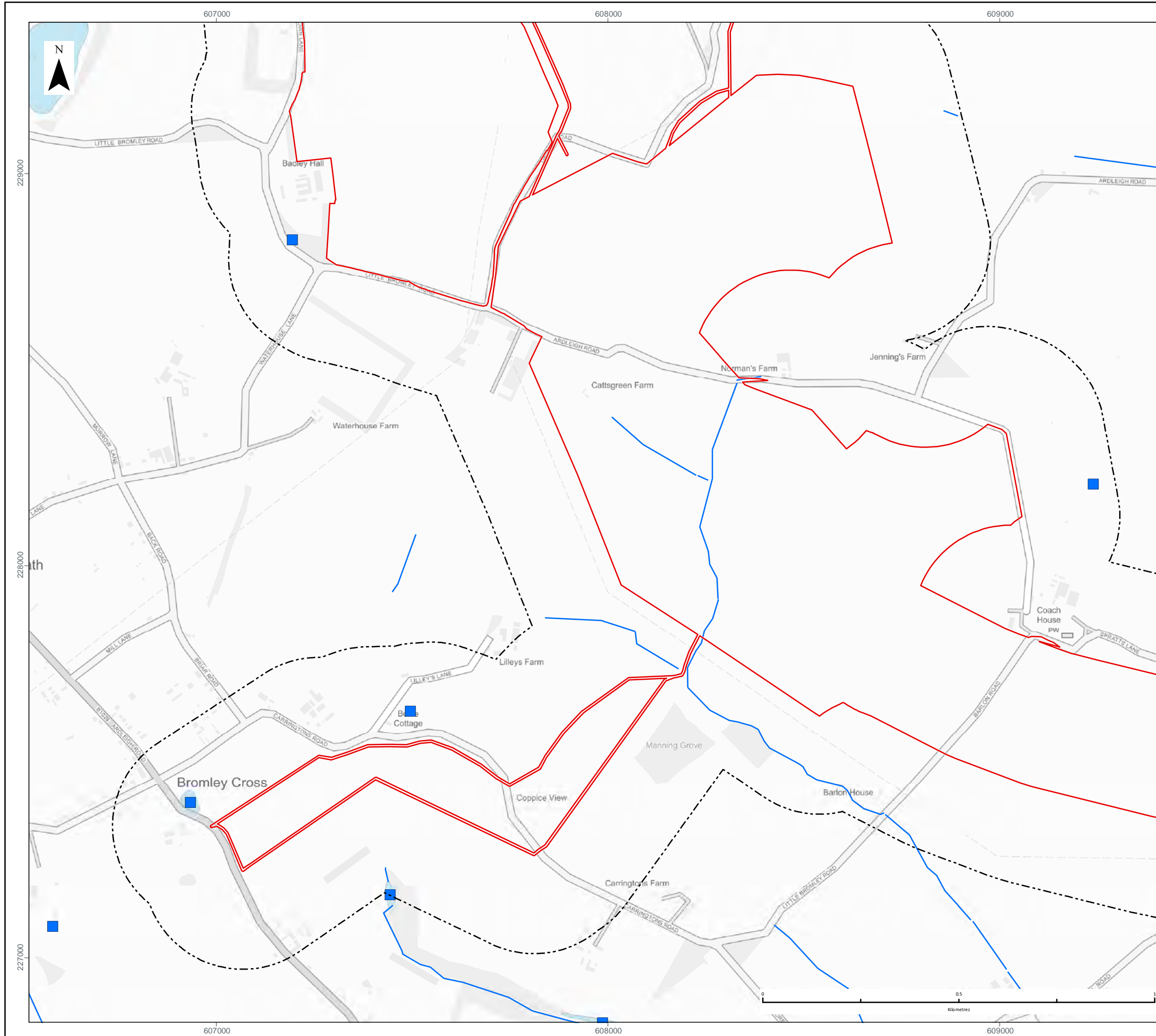
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*FIVE ESTUARIES OFFSHORE WINDFARM:
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DRAWING TITLE:
Ponds and Watercourses

VER	DATE	REMARKS	Drawn	Checked
2	30/03/2022	Inclusion of Area North of A120	JO	JC
3	13/04/2022	Route Corridor Amendment	JO	JC
4	25/05/2022	Pond Additions	JO	JC

DRAWING NUMBER:
5.10
 Page 10 of 12

SCALE: **1:10,000** PLOT SIZE: **A3** DATUM: **ODN** COORDINATE SYSTEM: **British National Grid.**



LEGEND

- ▭ Proposed Infrastructure
- Proposed Infrastructure - 250 m Buffer
- Waterbody Centroid
- Minor Watercourse
- Waterbody

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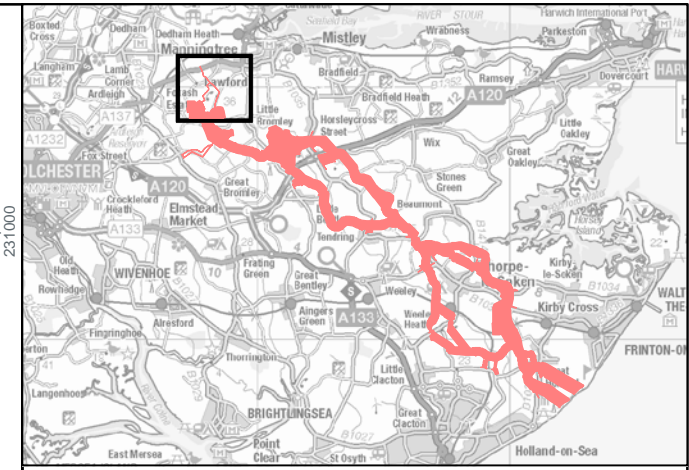
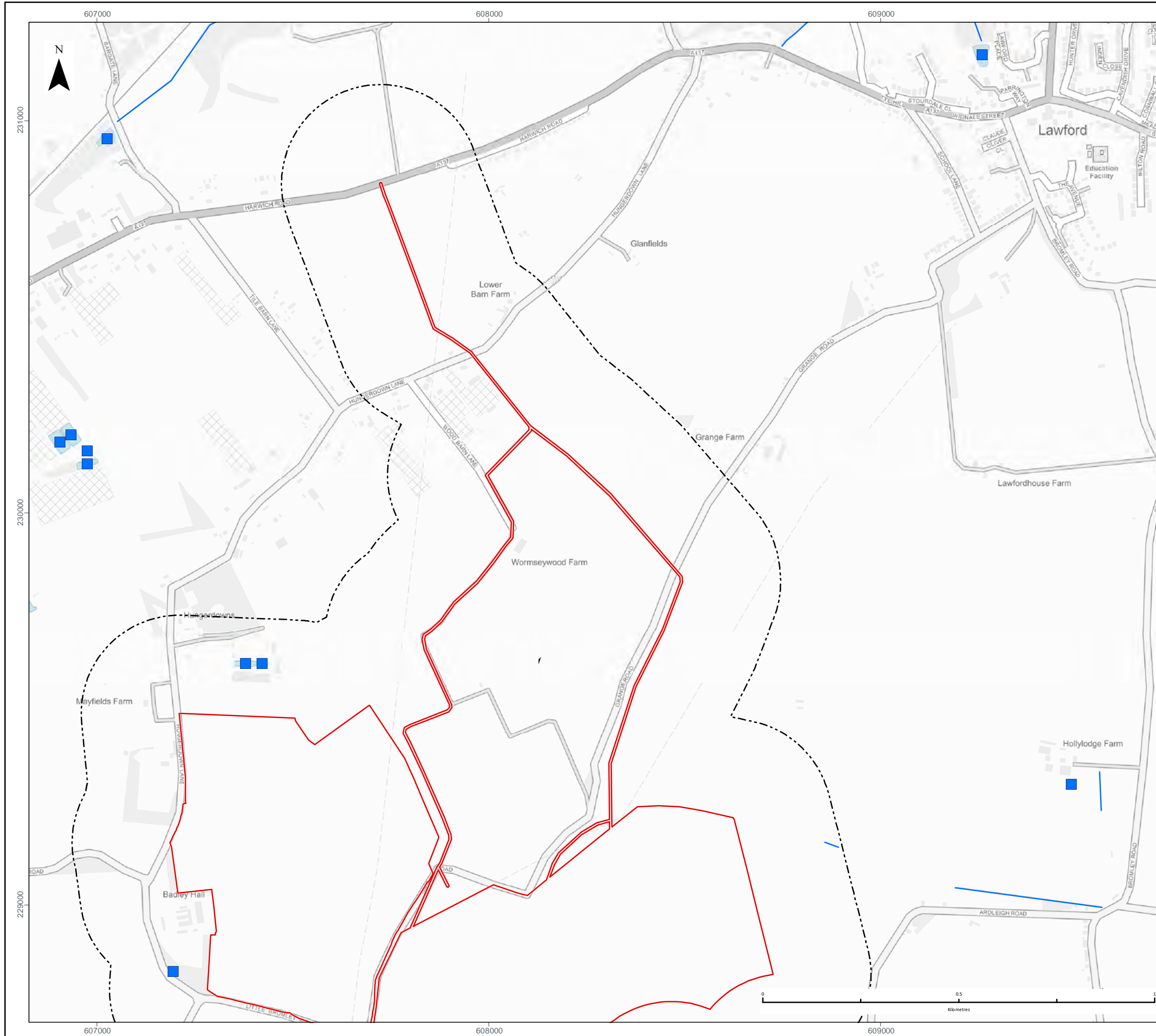
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3	13/04/2022	Route Corridor Amendment	JO	JC
4	25/05/2022	Pond Additions	JO	JC

DRAWING NUMBER:
 5.11
 Page 11 of 12

SCALE: 1:10,000 PLOT SIZE: A3 DATUM: ODN COORDINATE SYSTEM: British National Grid.

The logo for the Five Estuaries Offshore Wind Farm, featuring the text 'FIVE ESTUARIES OFFSHORE WIND FARM' with a stylized wave graphic above the word 'ESTUARIES'.



LEGEND

- Proposed Infrastructure
- Proposed Infrastructure - 250 m Buffer
- Waterbody Centroid
- Minor Watercourse
- Waterbody

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DRAWING TITLE:
Ponds and Watercourses

VER	DATE	REMARKS	Drawn	Checked
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3	13/04/2022	Route Corridor Amendment	JO	JC
4	25/05/2022	Pond Additions	JO	JC

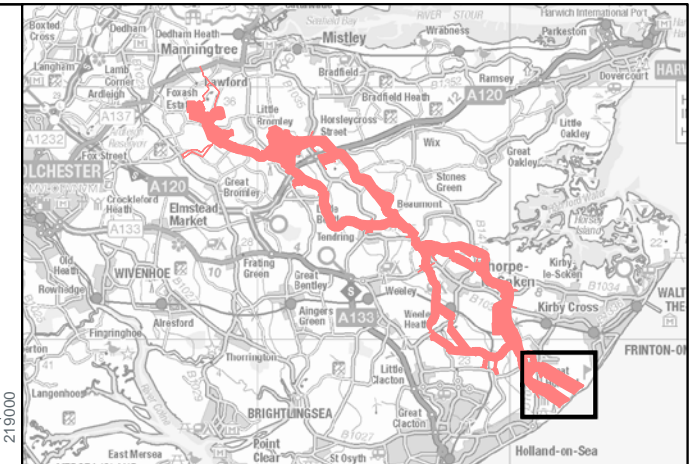
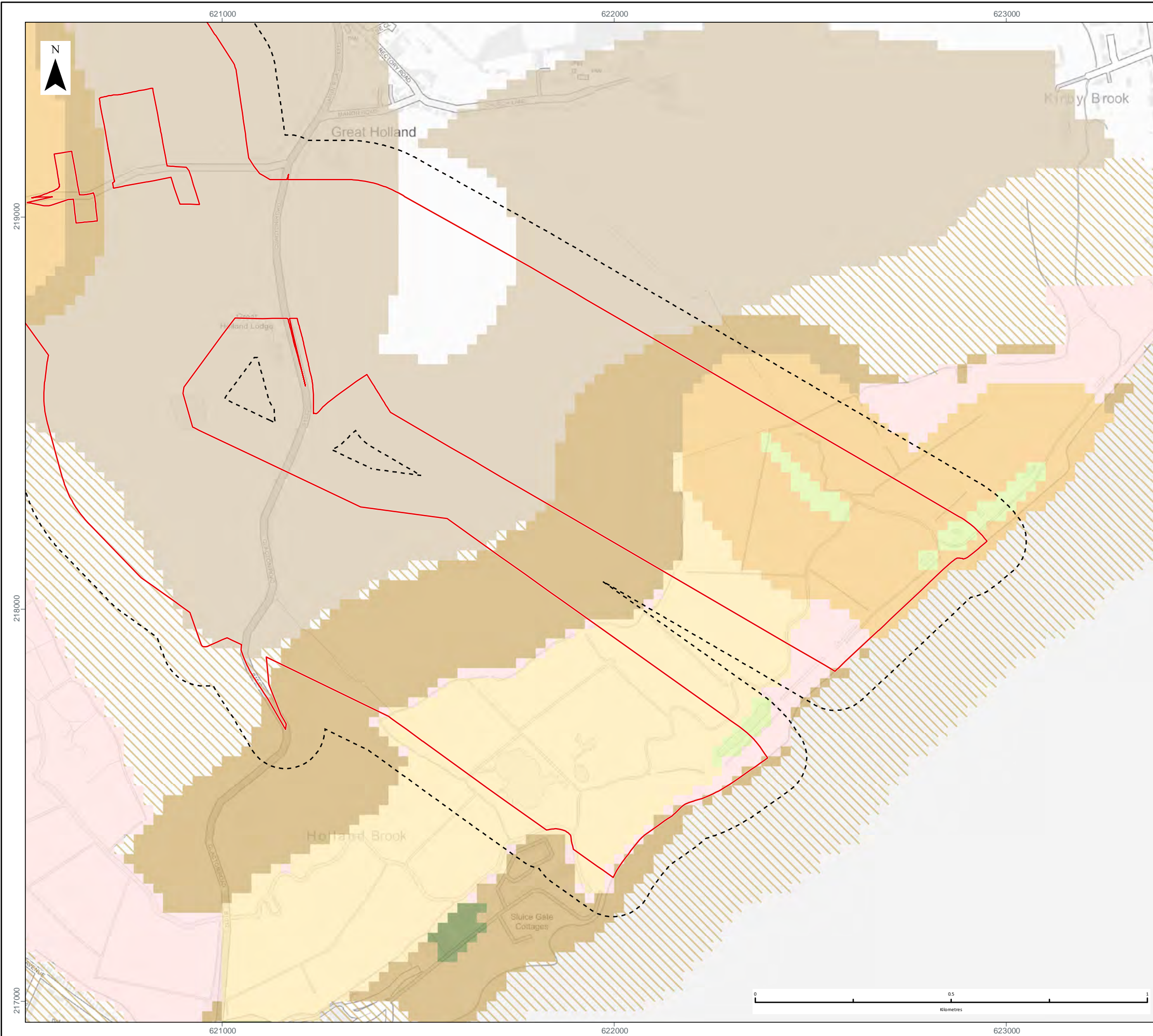
DRAWING NUMBER:
5.12
 Page 12 of 12

SCALE: **1:10,000** PLOT SIZE: **A3** DATUM: **ODN** COORDINATE SYSTEM: **British National Grid**



DRAWING 6

Habitat Networks



- LEGEND**
- Proposed Infrastructure
 - Proposed Infrastructure - 100 m Buffer
 - Habitat Network Classification (Natural England)**
 - Lowland Fens
 - Other Priority Habitat
 - Site of Special Scientific Interest (SSSI)
 - Restorable Habitat
 - Network Expansion Zone
 - Network Enhancement Zone 1
 - Network Enhancement Zone 2
 - Fragmentation Action Zone

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PROJECT TITLE:
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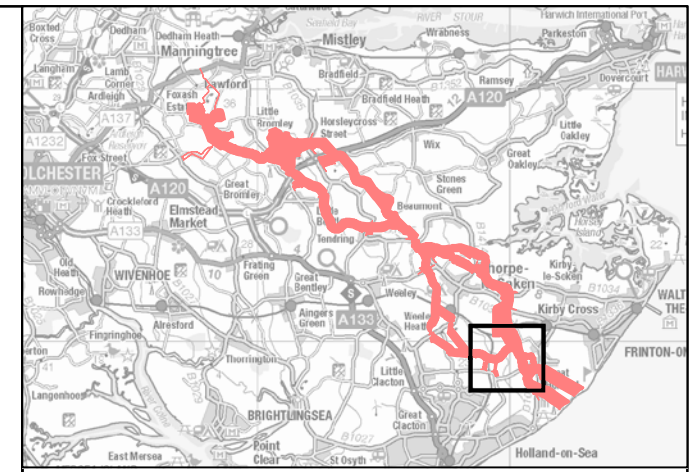
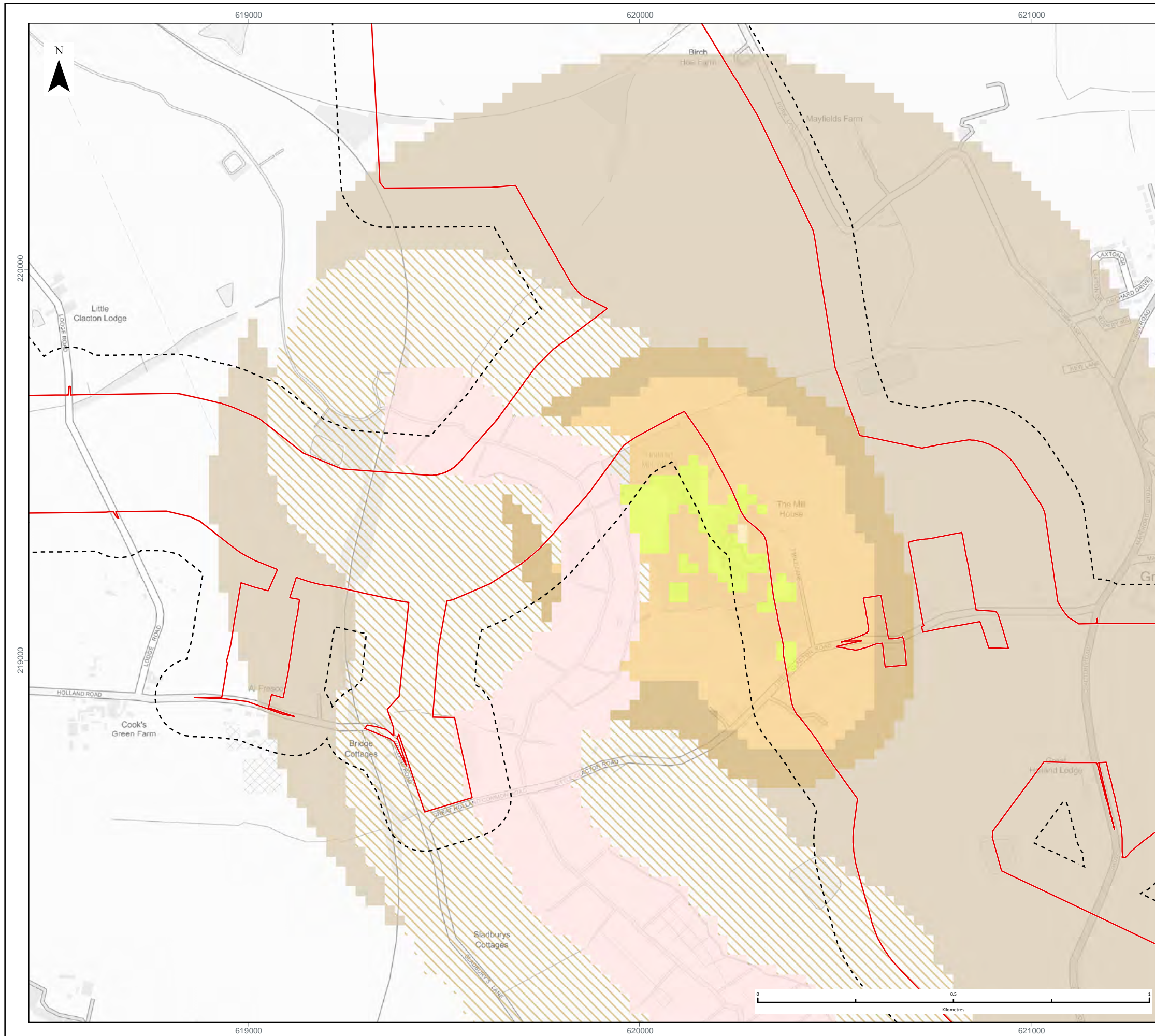
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2	30/03/2022	Inclusion of Area North of A120	JO	JC
3	11/04/2022	Route Corridor Amendment	JO	JC

DRAWING NUMBER:
6.1
 Page 1 of 12

SCALE: **1:10,000** PLOT SIZE: A3 DATUM: ODN COORDINATE SYSTEM: British National Grid.





- LEGEND**
- Proposed Infrastructure
 - Proposed Infrastructure - 100 m Buffer
 - Habitat Network Classification (Natural England)**
 - Lowland Heathland
 - Site of Special Scientific Interest (SSSI)
 - Restorable Habitat
 - Network Expansion Zone
 - Network Enhancement Zone 1
 - Network Enhancement Zone 2
 - Fragmentation Action Zone

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PROJECT TITLE:
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DRAWING TITLE:
Habitat Networks

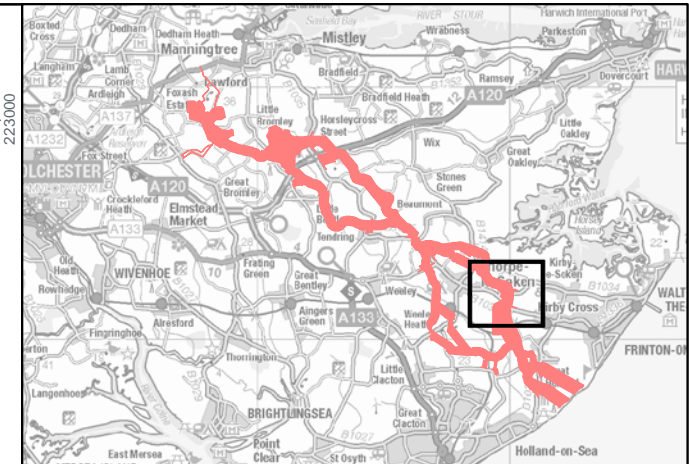
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2	30/03/2022	Inclusion of Area North of A120	JO	JC
3	11/04/2022	Route Corridor Amendment	JO	JC

DRAWING NUMBER:

6.2
 Page 2 of 12

SCALE: 1:10,000 PLOT SIZE: A3 DATUM: ODN COORDINATE SYSTEM: British National Grid.





LEGEND

- Proposed Infrastructure
- Proposed Infrastructure - 100 m Buffer
- B-Line Network (Buglife)

Habitat Network Classification (Natural England)

- Traditional Orchard
- Other Priority Habitat
- Network Expansion Zone
- Network Enhancement Zone 1
- Network Enhancement Zone 2

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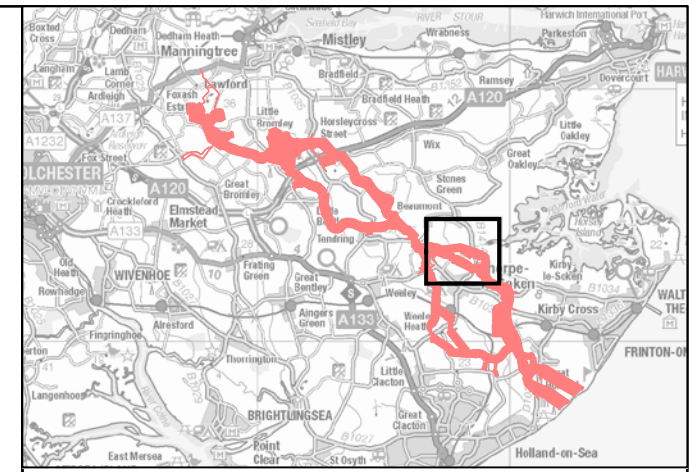
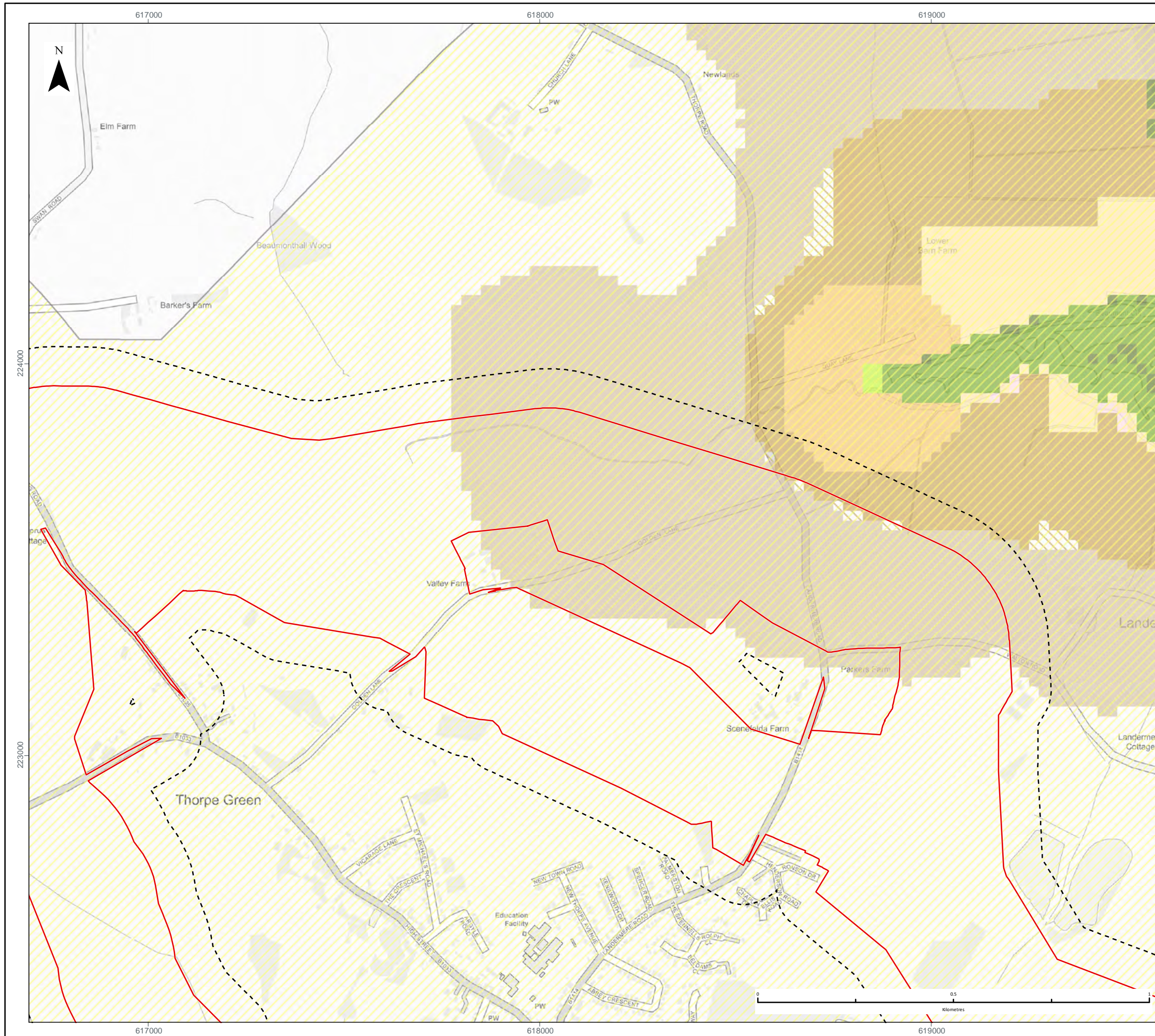
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VER	DATE	REMARKS	Drawn	Checked
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2	30/03/2022	Inclusion of Area North of A120	JO	JC
3	11/04/2022	Route Corridor Amendment	JO	JC

DRAWING NUMBER:
6.3
 Page 3 of 12

SCALE: **1:10,000** PLOT SIZE: A3 DATUM: ODN COORDINATE SYSTEM: British National Grid.





LEGEND

- Proposed Infrastructure
- Proposed Infrastructure - 100 m Buffer
- B-Line Network (Buglife)

Habitat Network Classification (Natural England)

- Coastal Saltmarsh
- Reedbeds
- Other Priority Habitat
- Site of Special Scientific Interest (SSSI)
- Restorable Habitat
- Network Expansion Zone
- Network Enhancement Zone 1
- Network Enhancement Zone 2
- Fragmentation Action Zone

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PROJECT TITLE:
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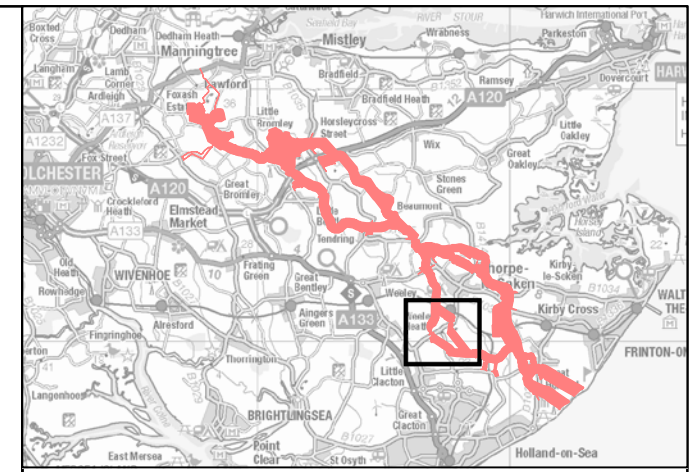
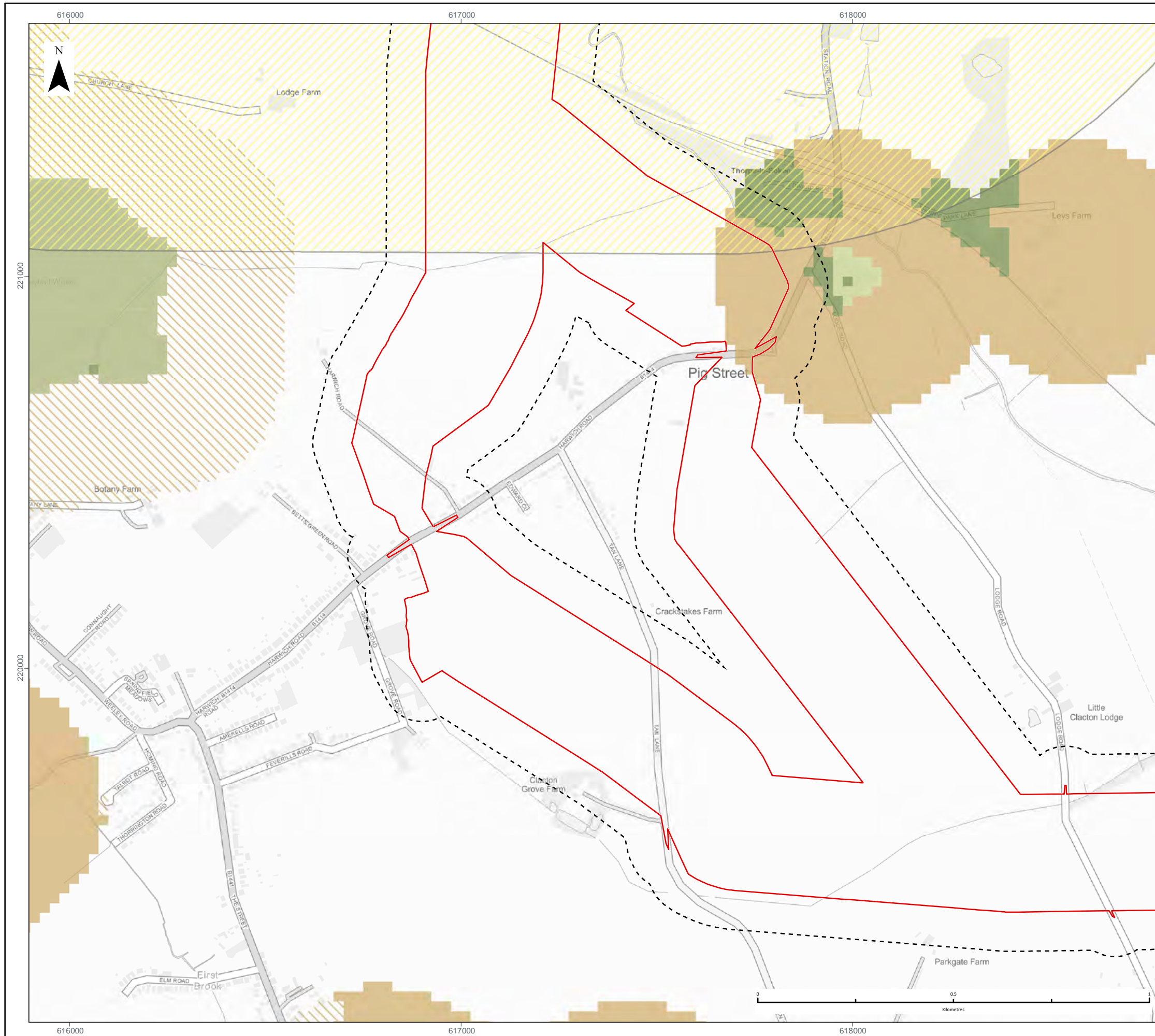
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VER	DATE	REMARKS	Drawn	Checked
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2	30/03/2022	Inclusion of Area North of A120	JO	JC
3	11/04/2022	Route Corridor Amendment	JO	JC

DRAWING NUMBER:
 6.4
 Page 4 of 12

SCALE: 1:10,000 PLOT SIZE: A3 DATUM: ODN COORDINATE SYSTEM: British National Grid.





LEGEND

- Proposed Infrastructure
- Proposed Infrastructure - 100 m Buffer
- B-Line Network (Buglife)

Habitat Network Classification (Natural England)

- Ancient Woodland
- Traditional Orchard
- Other Priority Habitat
- Network Enhancement Zone 1
- Network Enhancement Zone 2

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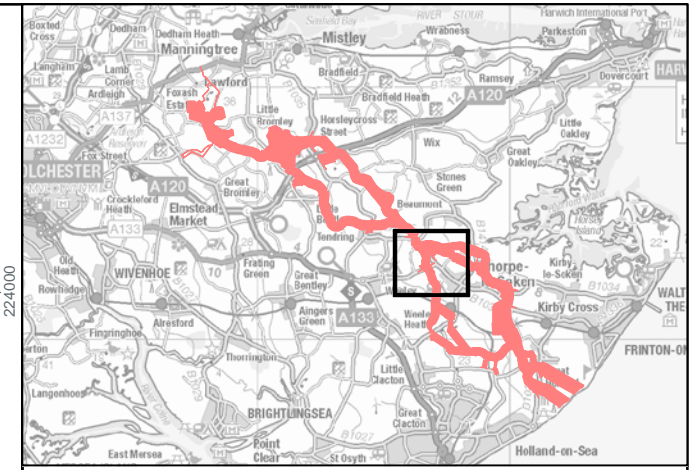
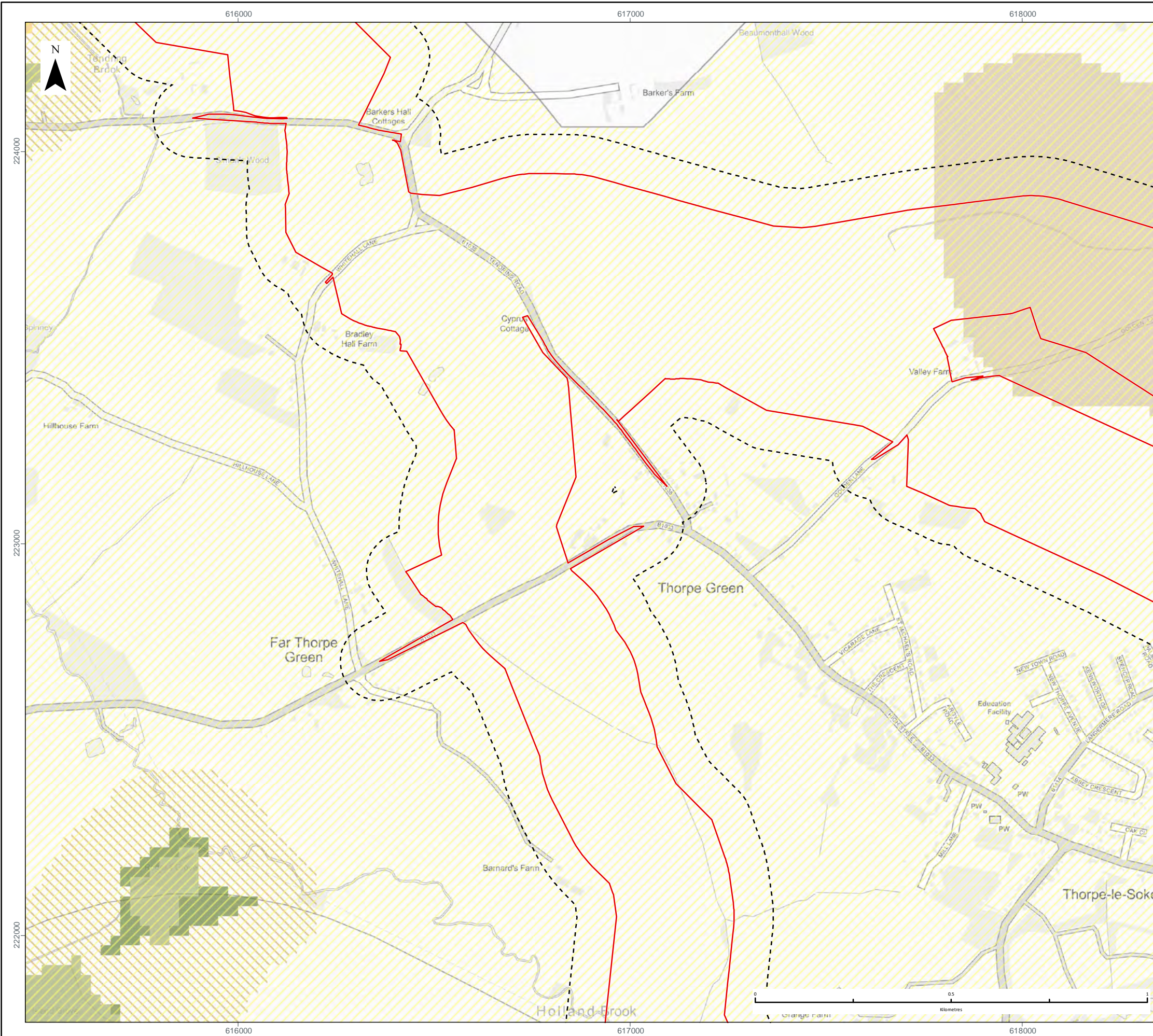
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 PRELIMINARY ECOLOGICAL APPRAISAL*

DRAWING TITLE:
Habitat Networks

VER	DATE	REMARKS	Drawn	Checked
1	23/02/2022	For Issue	JO	JC
2	30/03/2022	Inclusion of Area North of A120	JO	JC
3	11/04/2022	Route Corridor Amendment	JO	JC

DRAWING NUMBER:
6.5
 Page 5 of 12

SCALE: **1:10,000** PLOT SIZE: **A3** DATUM: **ODN** COORDINATE SYSTEM: **British National Grid.**



LEGEND

- Proposed Infrastructure
- - - Proposed Infrastructure - 100 m Buffer
- B-Line Network (Buglife)

Habitat Network Classification (Natural England)

- Ancient Woodland
- Other Priority Habitat
- Network Expansion Zone
- Network Enhancement Zone 2
- Fragmentation Action Zone

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PROJECT TITLE:
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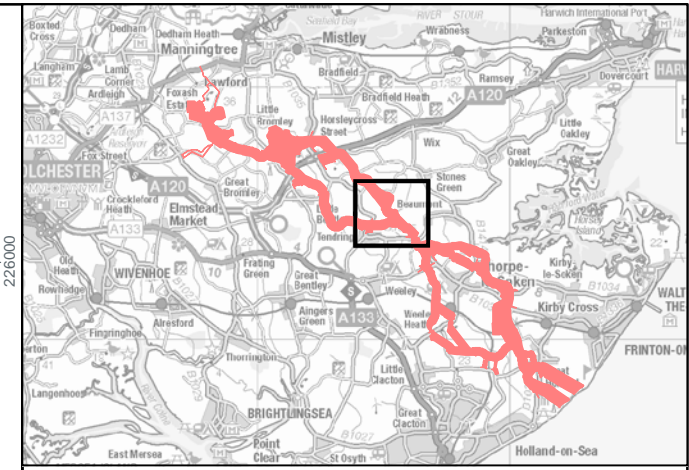
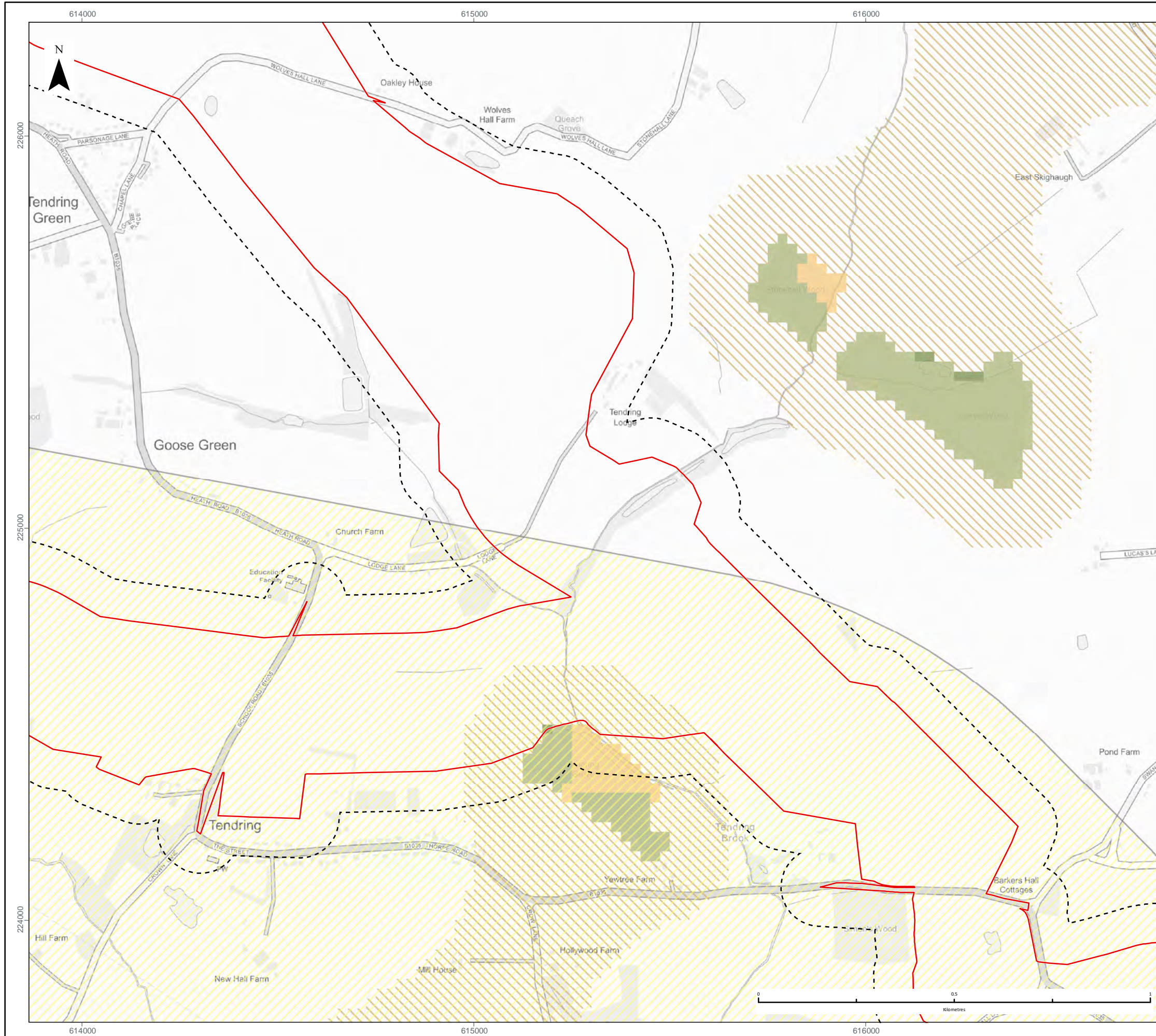
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Habitat Networks

VER	DATE	REMARKS	Drawn	Checked
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2	30/03/2022	Inclusion of Area North of A120	JO	JC
3	11/04/2022	Route Corridor Amendment	JO	JC

DRAWING NUMBER:
6.6
 Page 6 of 12

SCALE: **1:10,000** PLOT SIZE: A3 DATUM: ODN COORDINATE SYSTEM: British National Grid.





LEGEND

- Proposed Infrastructure
- - - Proposed Infrastructure - 100 m Buffer
- B-Line Network (Buglife)

Habitat Network Classification (Natural England)

- Ancient Woodland
- Other Priority Habitat
- Network Enhancement Zone 2
- Fragmentation Action Zone

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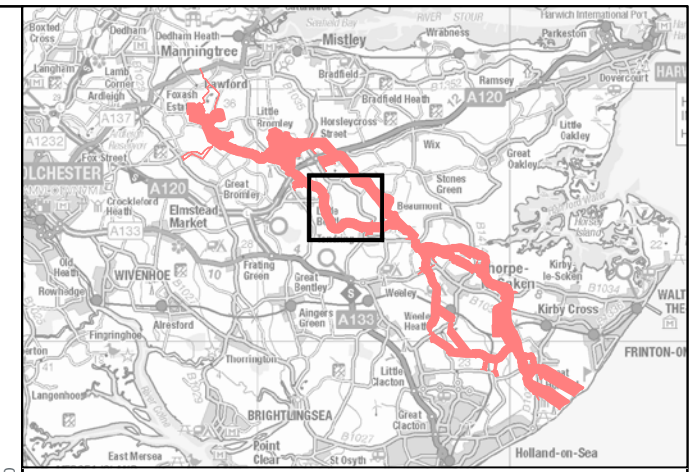
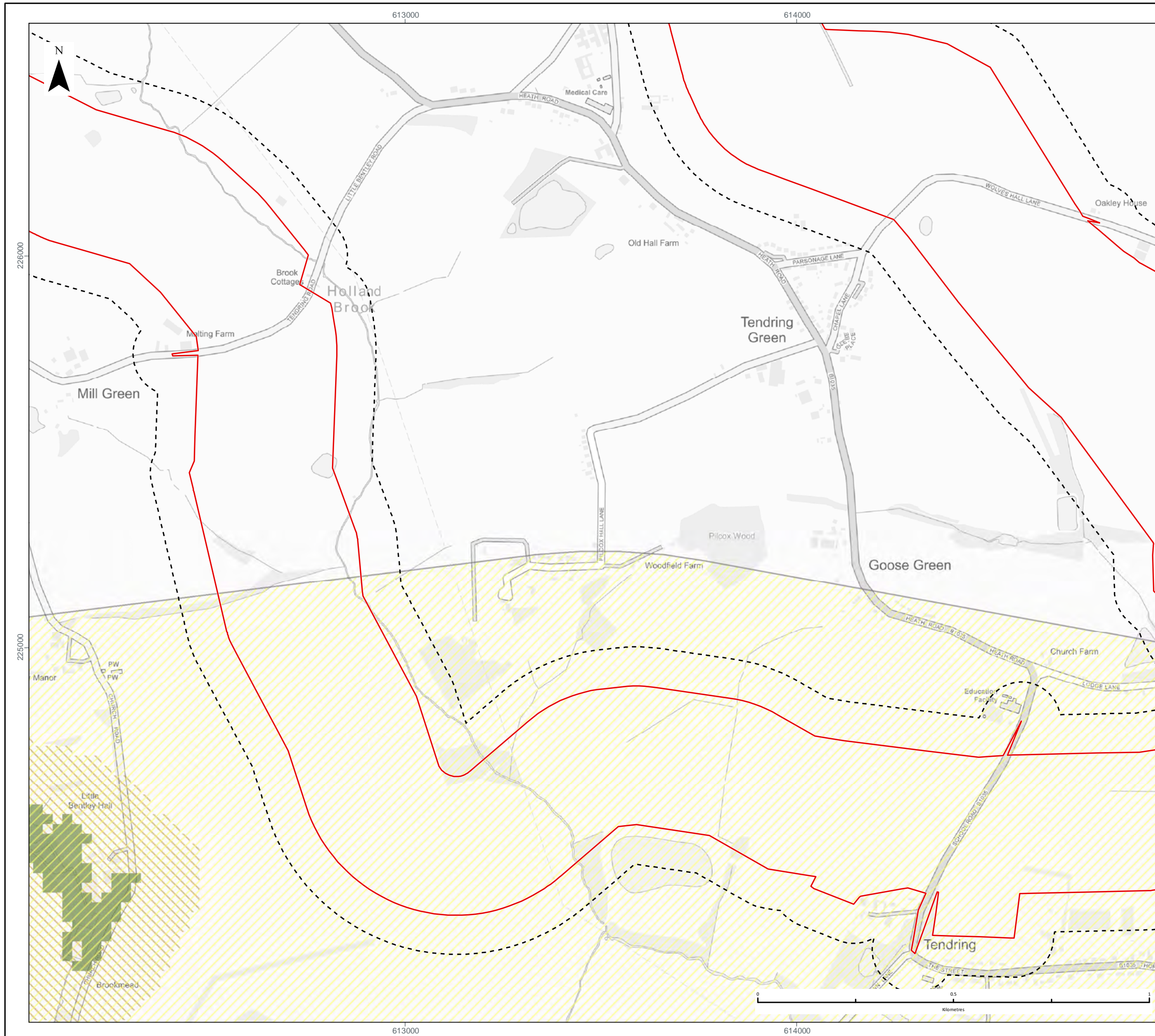
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VER	DATE	REMARKS	Drawn	Checked
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2	30/03/2022	Inclusion of Area North of A120	JO	JC
3	11/04/2022	Route Corridor Amendment	JO	JC

DRAWING NUMBER:
 6.7
 Page 7 of 12

SCALE: 1:10,000 PLOT SIZE: A3 DATUM: ODN COORDINATE SYSTEM: British National Grid.





LEGEND

- Proposed Infrastructure
- Proposed Infrastructure - 100 m Buffer
- B-Line Network (Buglife)

Habitat Network Classification (Natural England)

- Other Priority Habitat
- Network Enhancement Zone 2

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PROJECT TITLE:
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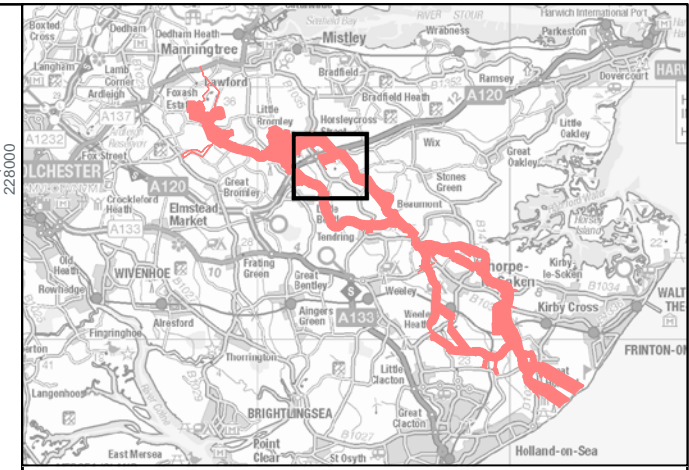
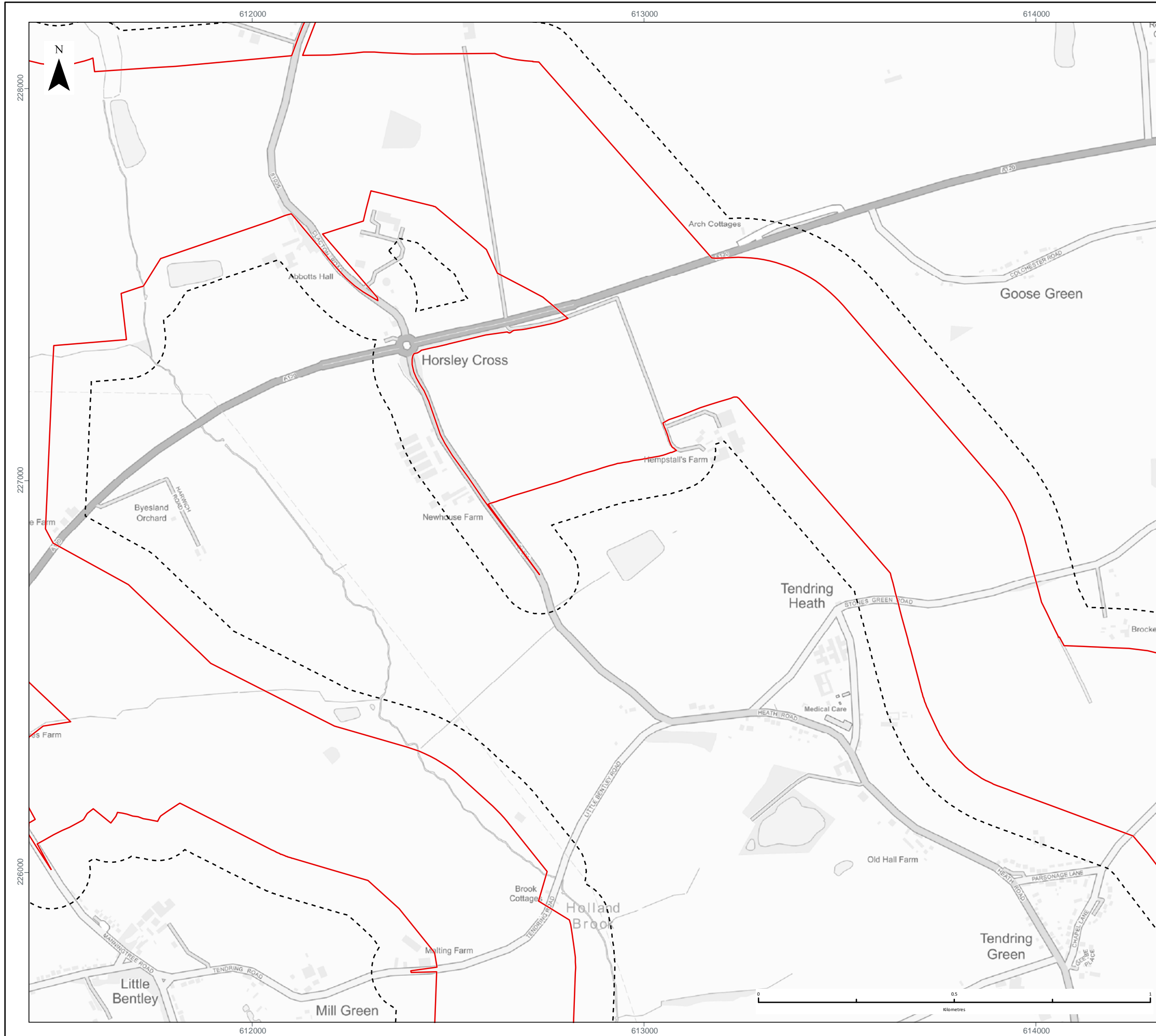
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VER	DATE	REMARKS	Drawn	Checked
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2	30/03/2022	Inclusion of Area North of A120	JO	JC
3	11/04/2022	Route Corridor Amendment	JO	JC

DRAWING NUMBER:
 6.8
 Page 8 of 12

SCALE: 1:10,000 PLOT SIZE: A3 DATUM: ODN COORDINATE SYSTEM: British National Grid.





LEGEND

- Proposed Infrastructure
- Proposed Infrastructure - 100 m Buffer

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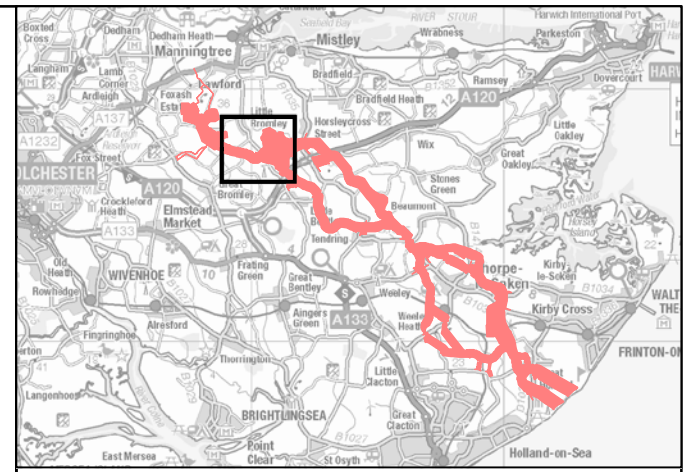
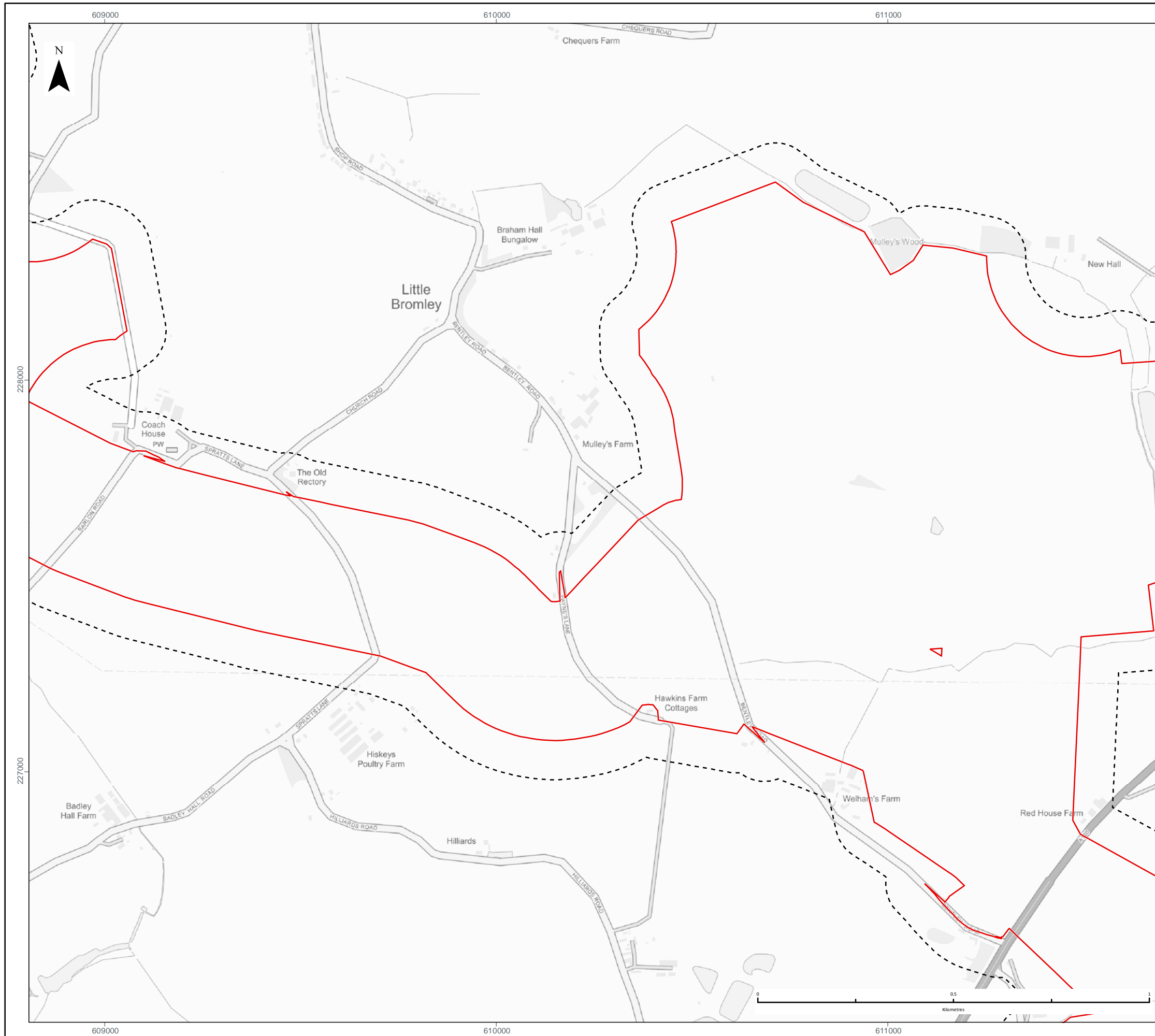
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DRAWING NUMBER:
 6.9
 Page 9 of 12

SCALE: 1:10,000 PLOT SIZE: A3 DATUM: ODN COORDINATE SYSTEM: British National Grid.





LEGEND

- Proposed Infrastructure
- Proposed Infrastructure - 100 m Buffer

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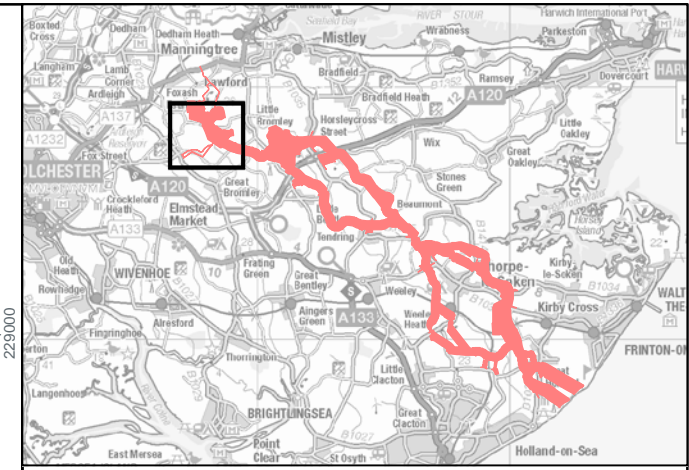
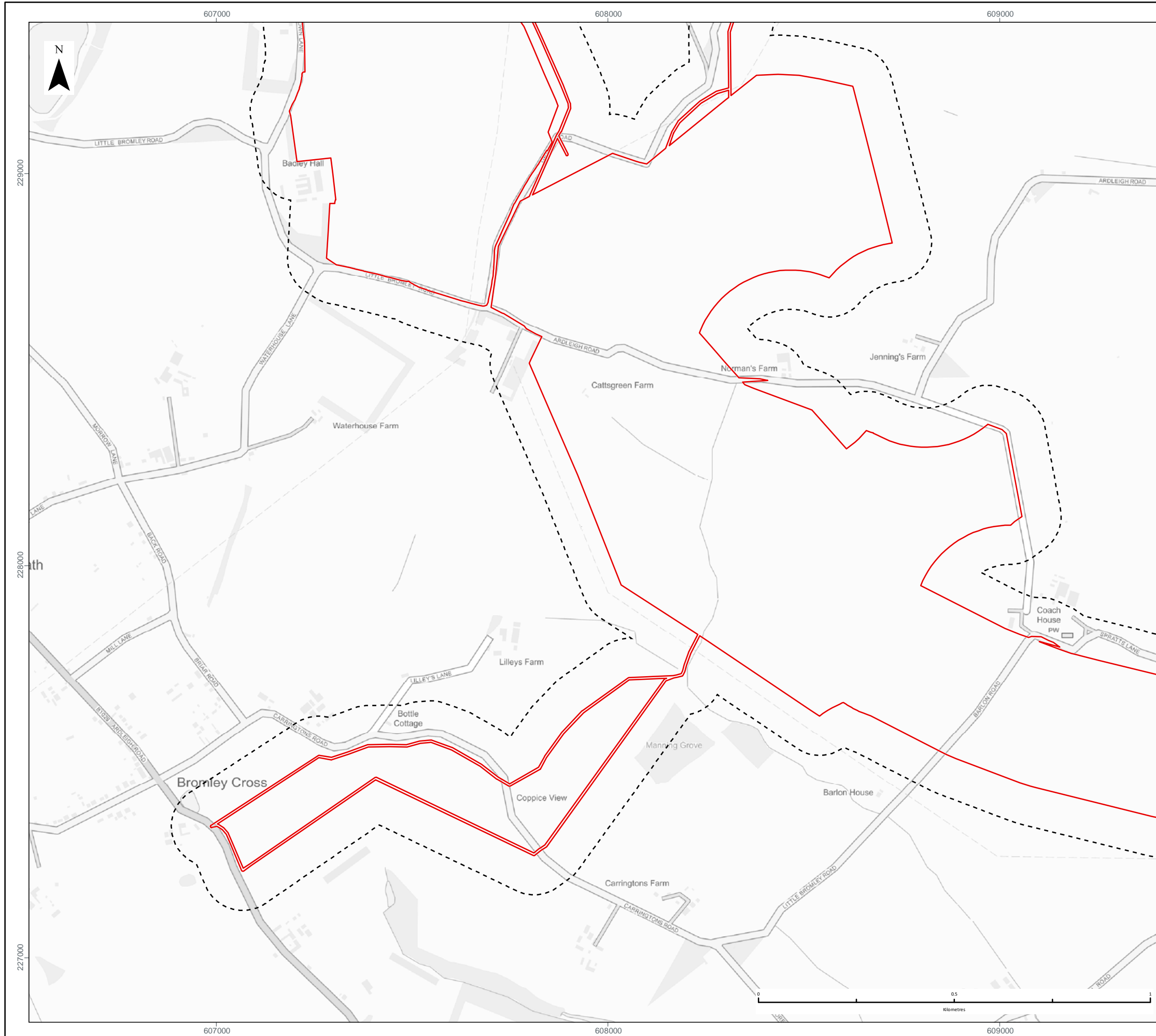
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DRAWING TITLE:
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VER	DATE	REMARKS	Drawn	Checked
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DRAWING NUMBER:
6.10
 Page 10 of 12

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LEGEND

- Proposed Infrastructure
- Proposed Infrastructure - 100 m Buffer

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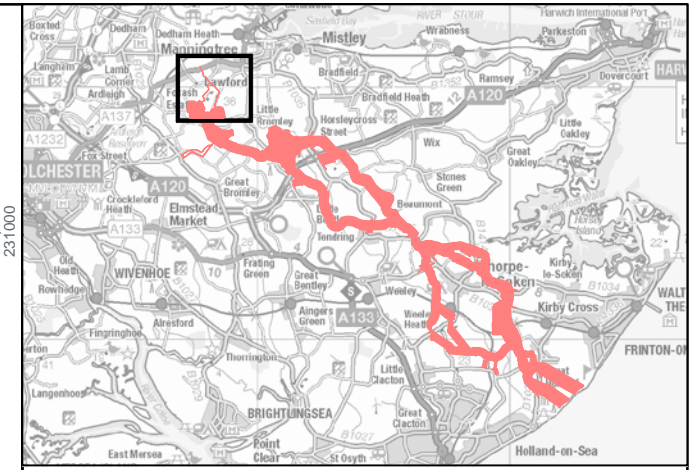
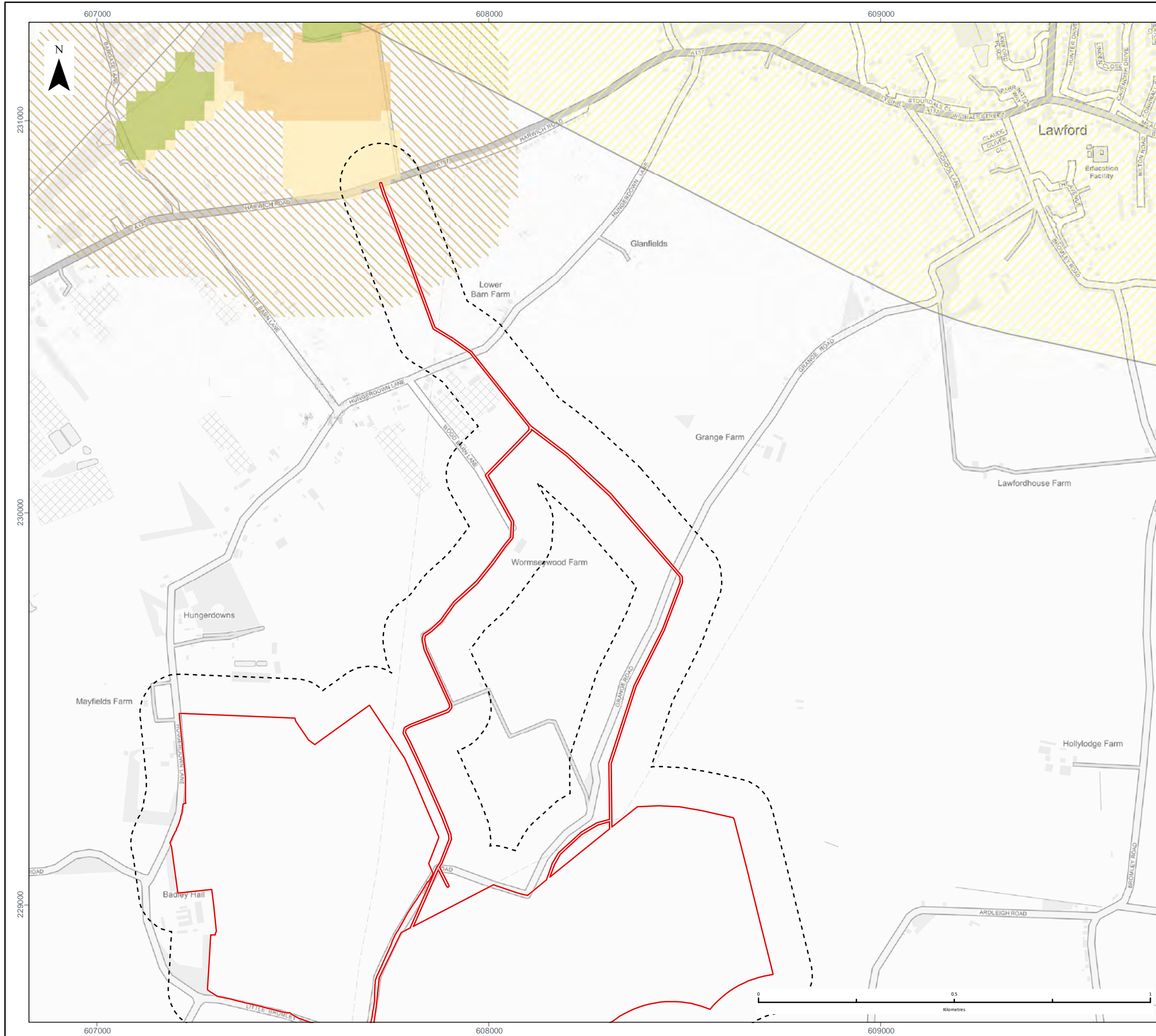
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3	11/04/2022	Route Corridor Amendment	JO	JC

DRAWING NUMBER:
6.11
 Page 11 of 12

SCALE: **1:10,000** PLOT SIZE: **A3** DATUM: **ODN** COORDINATE SYSTEM: **British National Grid**





- LEGEND**
- Proposed Infrastructure
 - - - Proposed Infrastructure - 100 m Buffer
 - B-Line Network (Buglife)
- Habitat Network Classification (Natural England)**
- Lowland Dry Acid Grassland
 - Restorable Habitat
 - Network Enhancement Zone 2
 - Fragmentation Action Zone

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DRAWING TITLE:
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VER	DATE	REMARKS	Drawn	Checked
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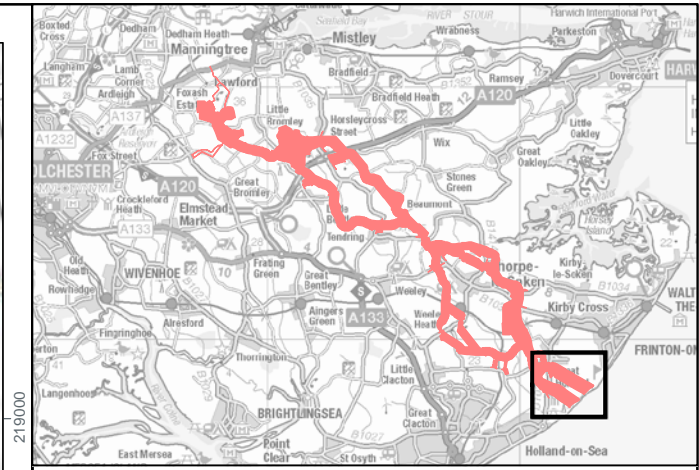
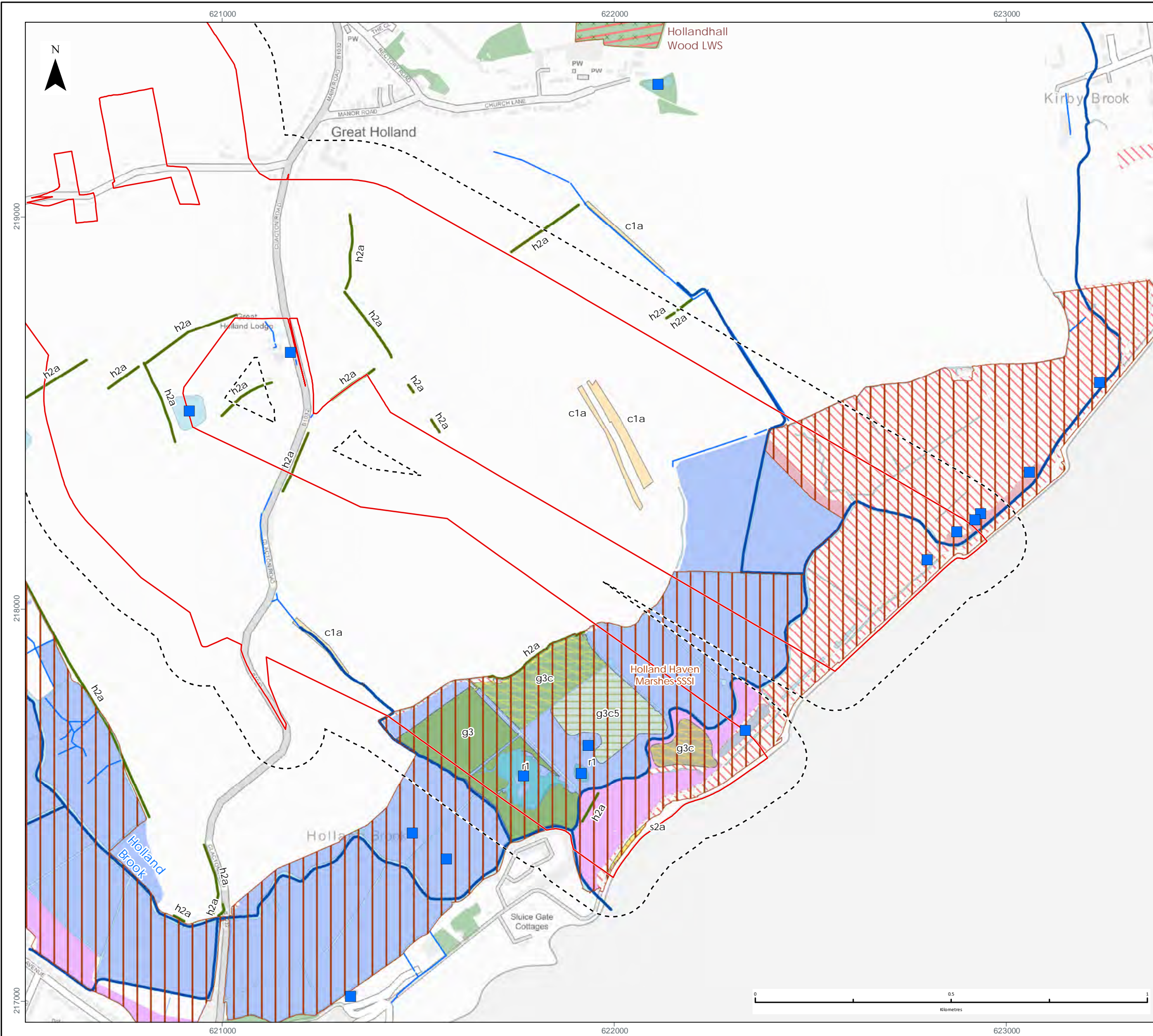
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 6.12
 Page 12 of 12

SCALE: 1:10,000 PLOT SIZE: A3 DATUM: ODN COORDINATE SYSTEM: British National Grid.



DRAWING 7

Important Sites and Habitats



LEGEND

- Proposed Infrastructure
- Proposed Infrastructure - 100 m Buffer
- Site of Special Scientific Interest (SSSI)
- Ancient Woodland
- Local Wildlife Site (LWS)
- Waterbody Centroid
- Waterbody
- Main River
- Minor Watercourse

Priority Habitat Linear Features (UK Habitat Classification from Field Survey)

- h2a - Hedgerow (Priority Habitat)

Priority Habitat Area Features (UK Habitat Classification from Field Survey)

- c1a - Arable Field Margins
- g3 - Neutral Grassland (Coastal Floodplain Grazing Marsh)
- g3c - Other Neutral Grassland (Coastal Floodplain Grazing Marsh)
- g3c5 - Arrhenatherum neutral grassland (Coastal Floodplain Grazing Marsh)
- s2a - Maritime Cliff and Slopes
- r1 - Standing Open Water and Canal

Priority Habitats (Natural England)

- Coastal and Floodplain Grazing Marsh
- Deciduous Woodland
- Good Quality Semi-Improved Grassland
- Lowland Fens
- No Main Habitat But Additional Habitats Present

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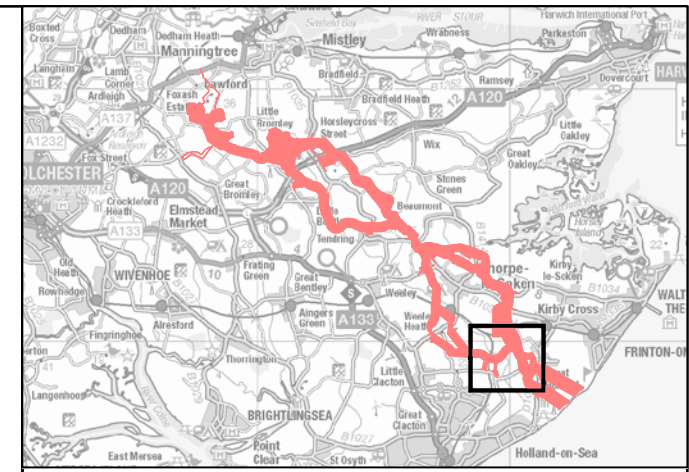
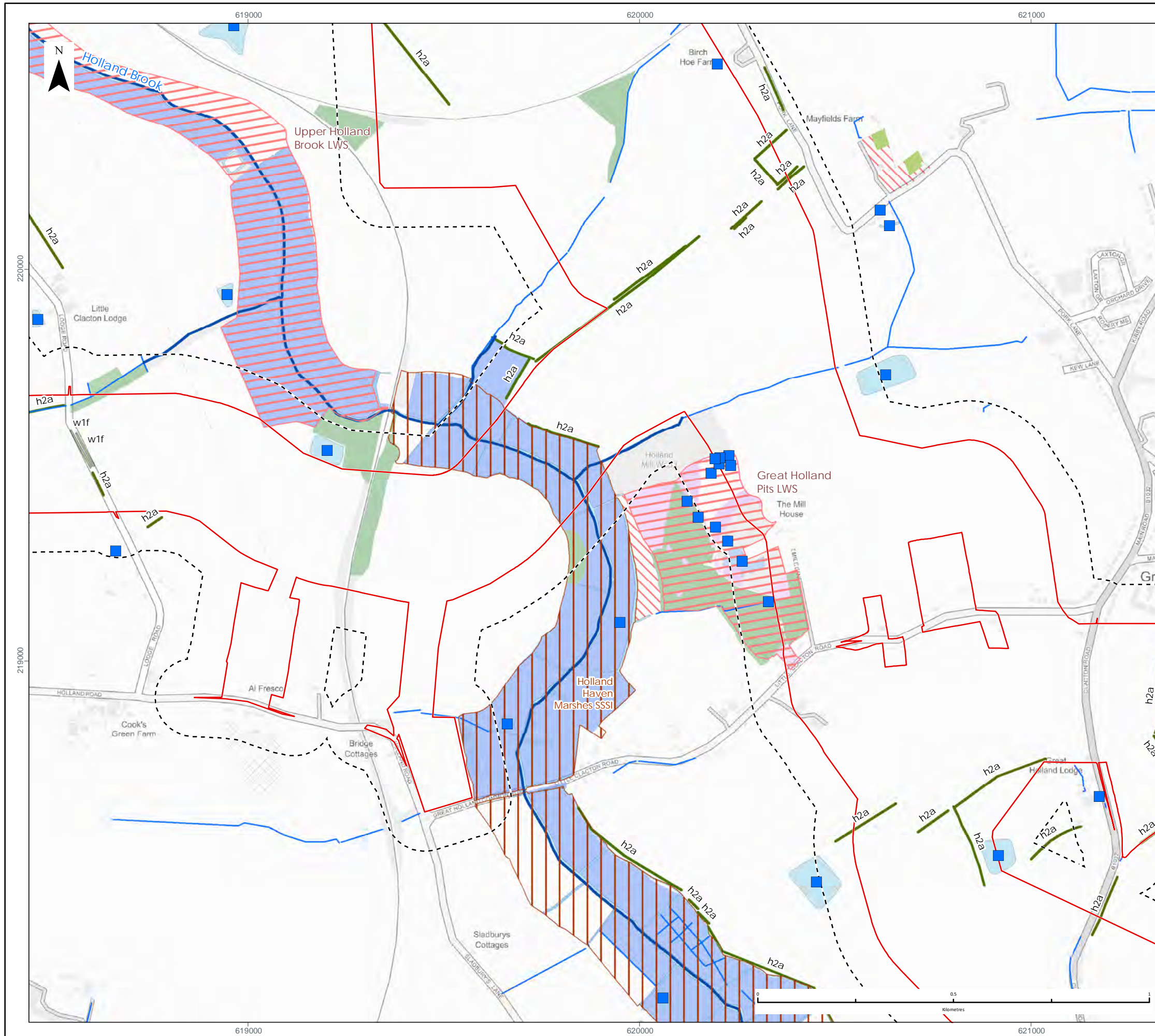
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Important Sites and Habitats

VER	DATE	REMARKS	Drawn	Checked
1	23/02/2022	For Issue	JO	JC
2	30/03/2022	Inclusion of Area North of A120	JO	JC
3	11/04/2022	Route Corridor Amendment	JO	JC

DRAWING NUMBER:
7.1
 Page 1 of 12

SCALE: **1:10,000** PLOT SIZE: A3 DATUM: ODN COORDINATE SYSTEM: British National Grid.





LEGEND

- Proposed Infrastructure
- Proposed Infrastructure - 100 m Buffer
- Site of Special Scientific Interest (SSSI)
- Local Wildlife Site (LWS)
- Waterbody Centroid
- Waterbody
- Main River
- Minor Watercourse
- Priority Habitat Linear Features (UK Habitat Classification from Field Survey)
 - h2a - Hedgerow (Priority Habitat)
- Priority Habitat Area Features (UK Habitat Classification from Field Survey)
 - w1f - Lowland Mixed Deciduous Woodland
- Priority Habitats (Natural England)
 - Coastal and Floodplain Grazing Marsh
 - Deciduous Woodland
 - Lowland Heathland
 - Traditional Orchard
 - No Main Habitat But Additional Habitats Present

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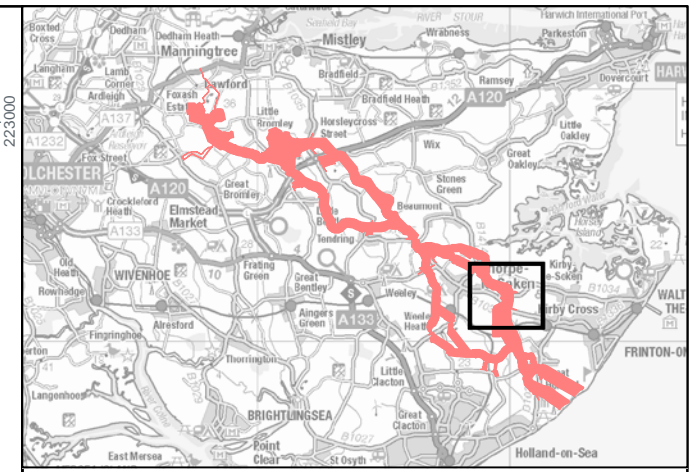
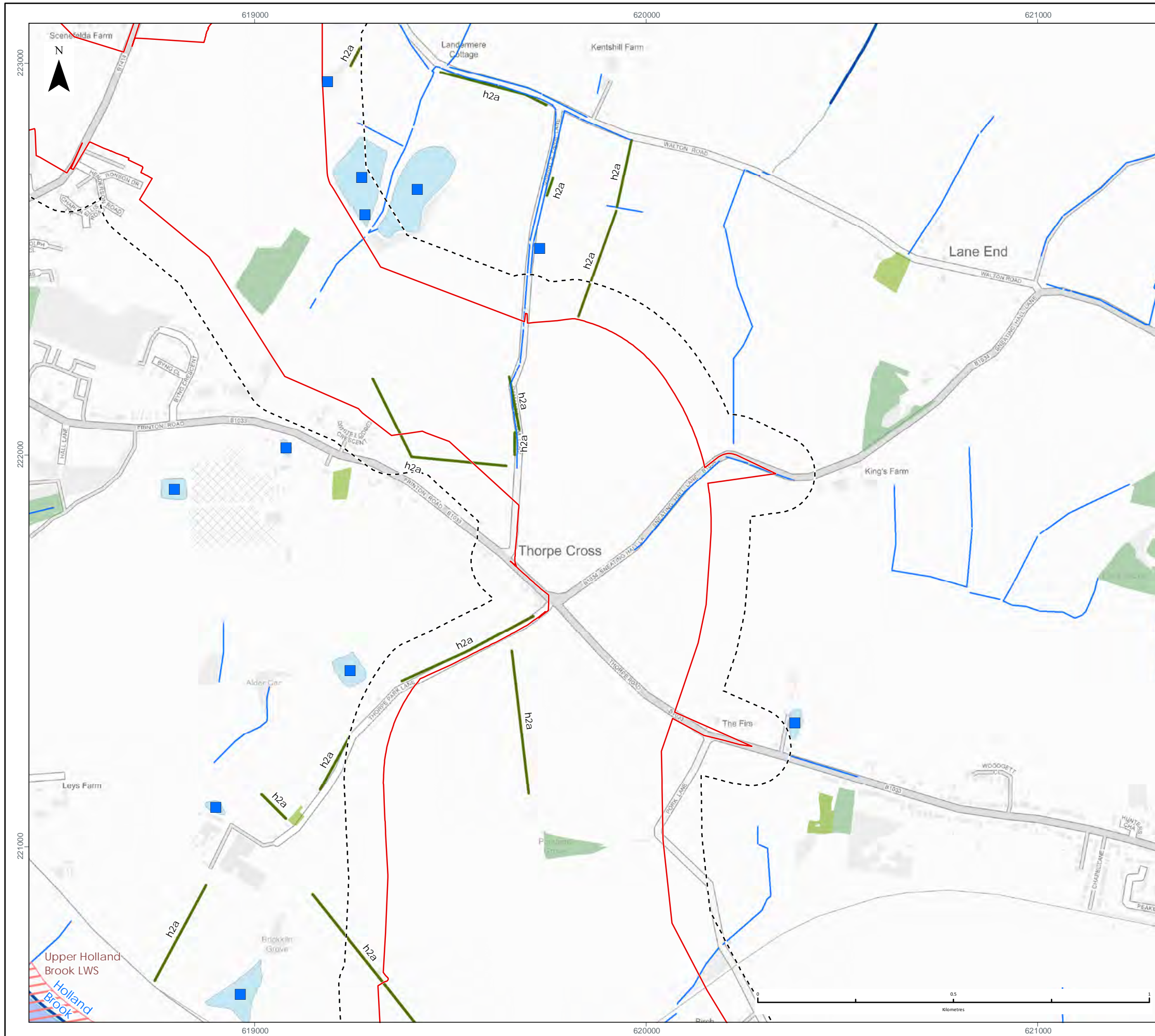
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Important Sites and Habitats

VER	DATE	REMARKS	Drawn	Checked
1	23/02/2022	For Issue	JO	JC
2	30/03/2022	Inclusion of Area North of A120	JO	JC
3	11/04/2022	Route Corridor Amendment	JO	JC

DRAWING NUMBER:
 7.2
 Page 2 of 12

SCALE: 1:10,000 PLOT SIZE: A3 DATUM: ODN COORDINATE SYSTEM: British National Grid.





LEGEND

- Proposed Infrastructure
- Proposed Infrastructure - 100 m Buffer
- Local Wildlife Site (LWS)
- Waterbody Centroid
- Waterbody
- Main River
- Minor Watercourse

Priority Habitat Linear Features (UK Habitat Classification from Field Survey)

- h2a - Hedgerow (Priority Habitat)

Priority Habitats (Natural England)

- Coastal and Floodplain Grazing Marsh
- Deciduous Woodland
- Traditional Orchard

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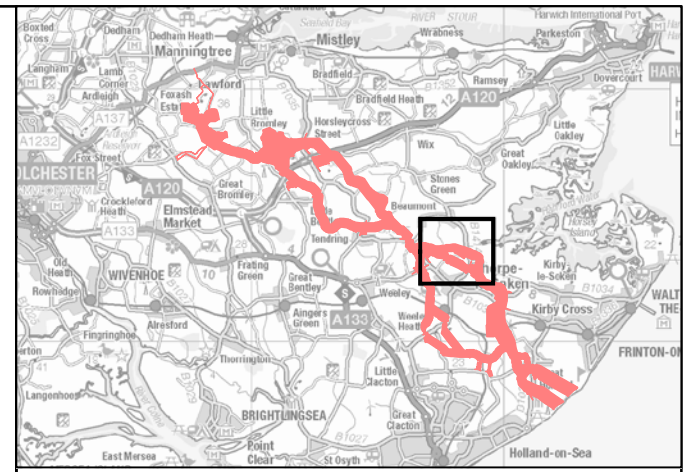
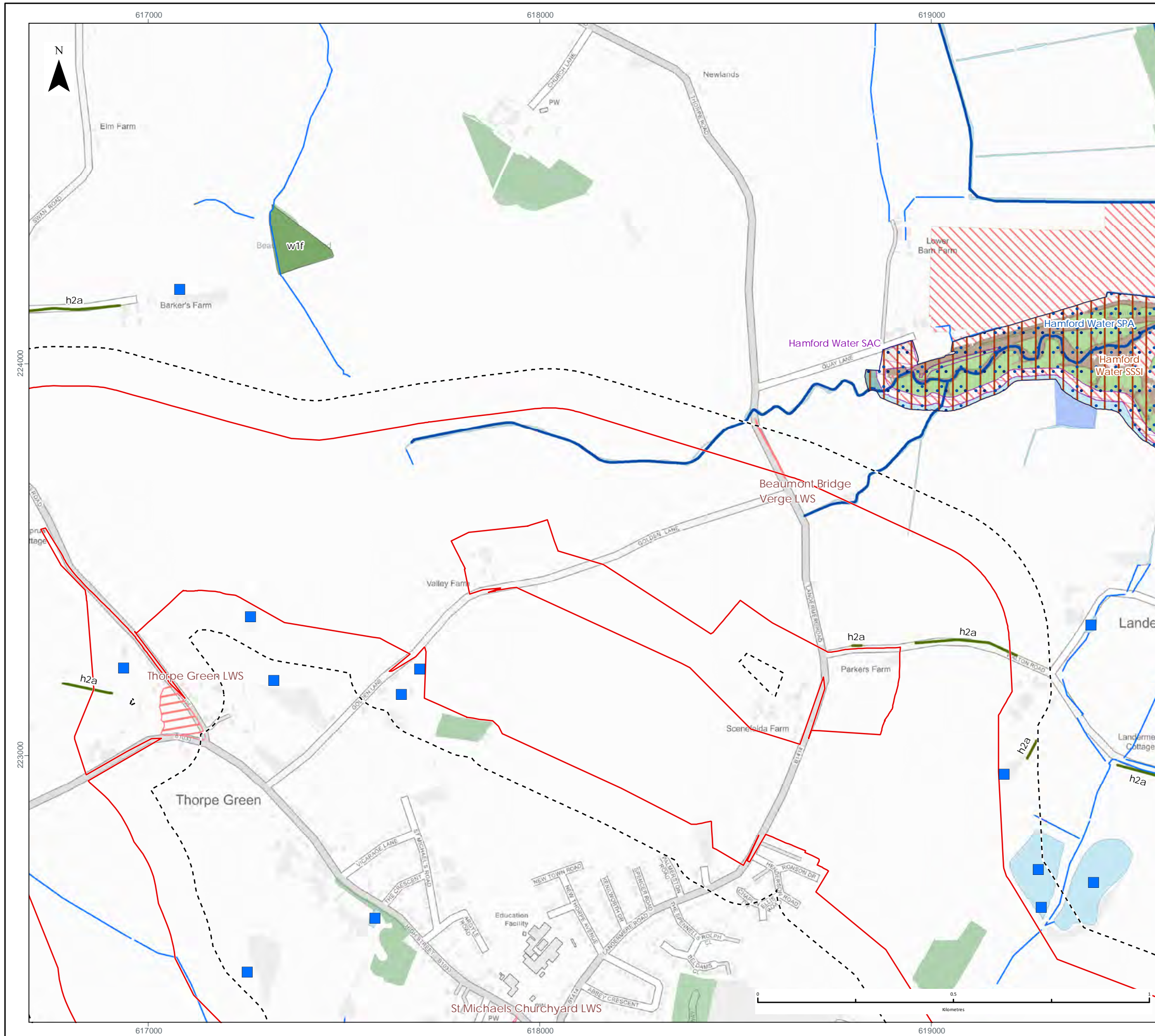
DRAWING TITLE:
Important Sites and Habitats

VER	DATE	REMARKS	Drawn	Checked
1	23/02/2022	For Issue	JO	JC
2	30/03/2022	Inclusion of Area North of A120	JO	JC
3	11/04/2022	Route Corridor Amendment	JO	JC

DRAWING NUMBER:
7.3
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SCALE: **1:10,000** PLOT SIZE: A3 DATUM: ODN COORDINATE SYSTEM: British National Grid.





LEGEND

- Proposed Infrastructure
- Proposed Infrastructure - 100 m Buffer
- Special Protection Area (SPA)
- Special Area of Conservation (SAC)
- Site of Special Scientific Interest (SSSI)
- Local Wildlife Site (LWS)
- Waterbody Centroid
- Waterbody
- Main River
- Minor Watercourse
- Priority Habitat Linear Features (UK Habitat Classification from Field Survey)
- h2a - Hedgerow (Priority Habitat)
- Priority Habitat Area Features (UK Habitat Classification from Field Survey)
- w1f - Lowland Mixed Deciduous Woodland
- Priority Habitats (Natural)
- Coastal and Floodplain Grazing Marsh
- Coastal Saltmarsh
- Deciduous Woodland
- Mudflats
- Reedbeds
- No Main Habitat But Additional Habitats Present

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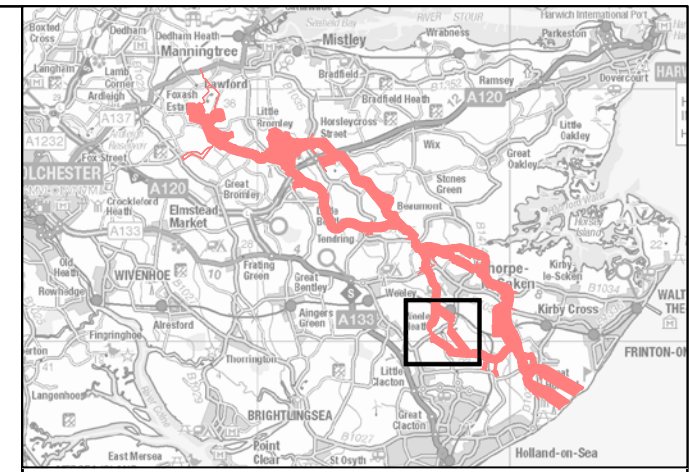
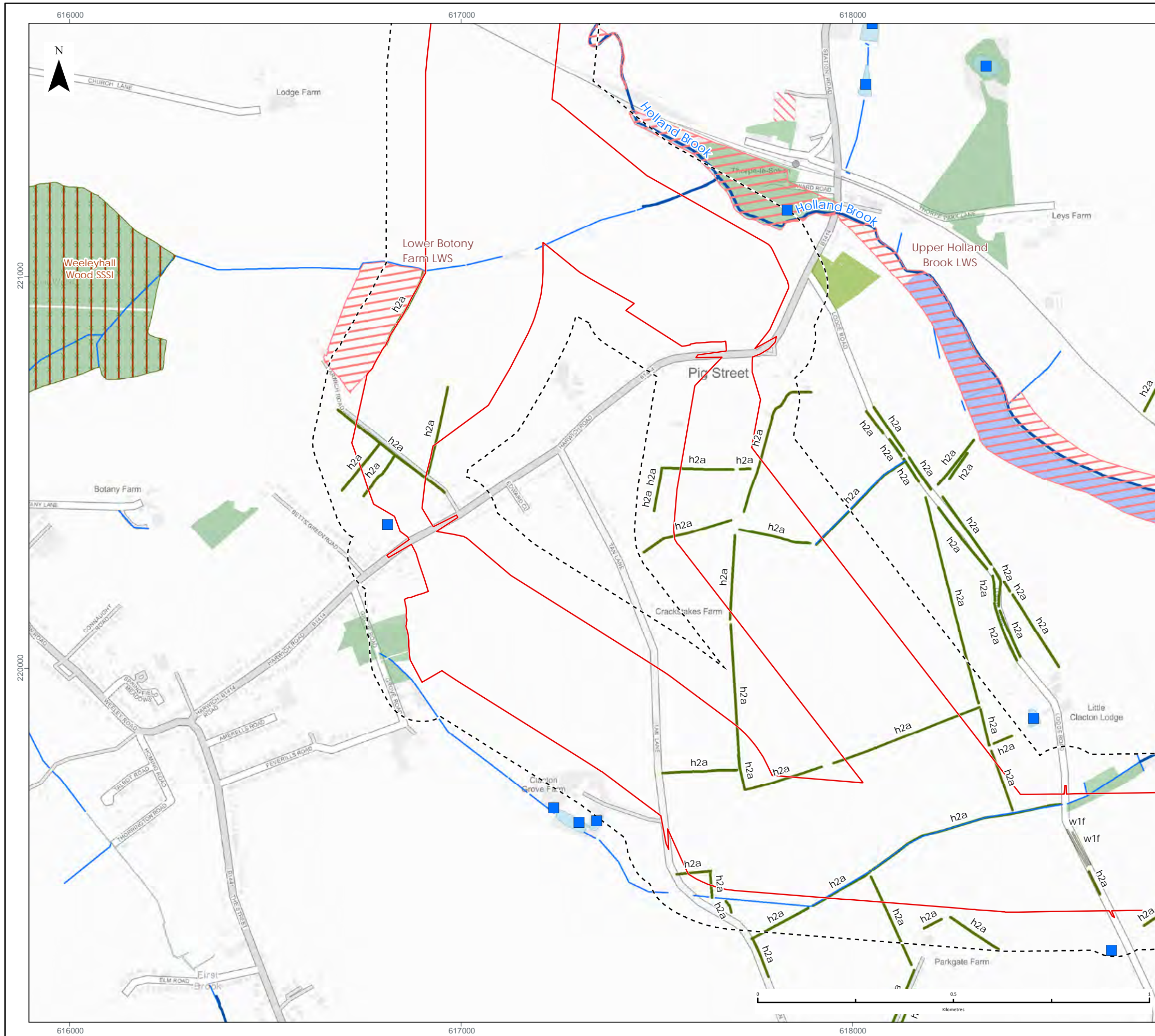
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 PRELIMINARY ECOLOGICAL APPRAISAL*

DRAWING TITLE:
Important Sites and Habitats

VER	DATE	REMARKS	Drawn	Checked
1	23/02/2022	For Issue	JO	JC
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3	11/04/2022	Route Corridor Amendment	JO	JC

DRAWING NUMBER:
7.4
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SCALE: **1:10,000** PLOT SIZE: **A3** DATUM: **ODN** COORDINATE SYSTEM: **British National Grid**



LEGEND

- Proposed Infrastructure
- Proposed Infrastructure - 100 m Buffer
- Site of Special Scientific Interest (SSSI)
- Ancient Woodland
- Local Wildlife Site (LWS)
- Waterbody Centroid
- Waterbody
- Main River
- Minor Watercourse

Priority Habitat Linear Features (UK Habitat Classification from Field Survey)

- h2a - Hedgerow (Priority Habitat)

Priority Habitat Area Features (UK Habitat Classification from Field Survey)

- w1f - Lowland Mixed Deciduous Woodland

Priority Habitats (Natural)

- Coastal and Floodplain Grazing Marsh
- Deciduous Woodland
- Traditional Orchard
- No Main Habitat But Additional Habitats Present

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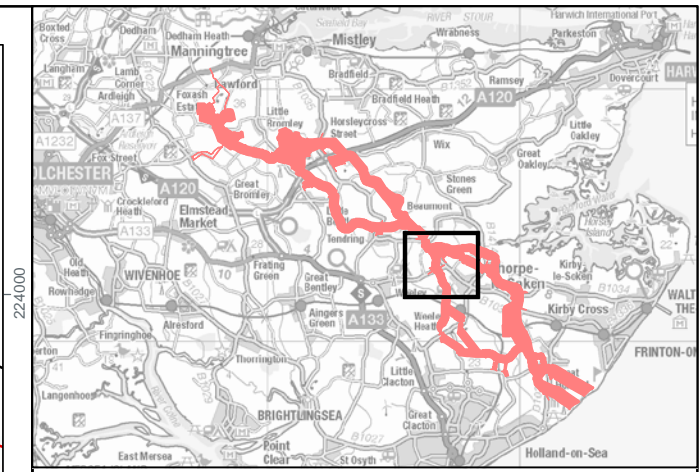
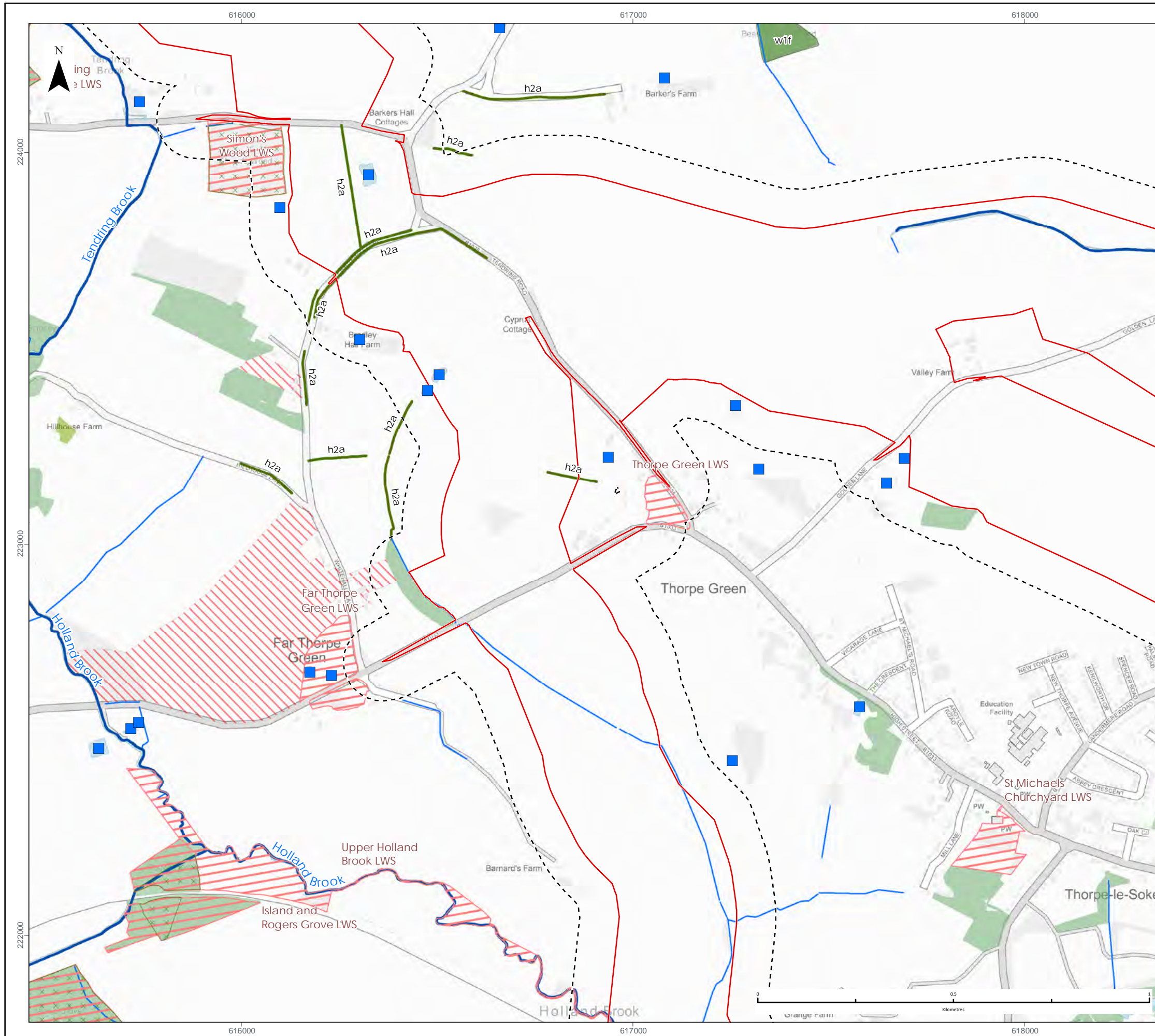
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*FIVE ESTUARIES OFFSHORE WINDFARM:
 PRELIMINARY ECOLOGICAL APPRAISAL*

DRAWING TITLE:
Important Sites and Habitats

VER	DATE	REMARKS	Drawn	Checked
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3	11/04/2022	Route Corridor Amendment	JO	JC

DRAWING NUMBER:
7.5
 Page 5 of 12

SCALE: **1:10,000** PLOT SIZE: **A3** DATUM: **ODN** COORDINATE SYSTEM: **British National Grid**



LEGEND

- Proposed Infrastructure
- Proposed Infrastructure - 100 m Buffer
- x Ancient Woodland
- x Local Wildlife Site (LWS)
- Waterbody Centroid
- Waterbody
- Main River
- Minor Watercourse
- Priority Habitat Linear Features (UK Habitat Classification from Field Survey)
 - h2a - Hedgerow (Priority Habitat)
- Priority Habitat Area Features (UK Habitat Classification from Field Survey)
 - w1f - Lowland Mixed Deciduous Woodland
 - Deciduous Woodland
 - Traditional Orchard
 - x No Main Habitat But Additional Habitats Present

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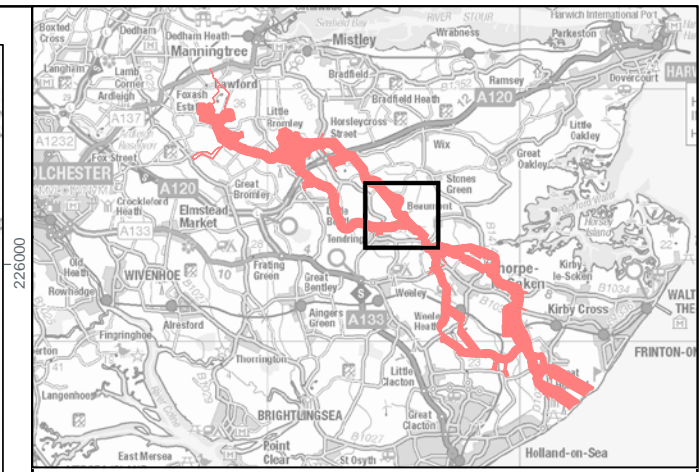
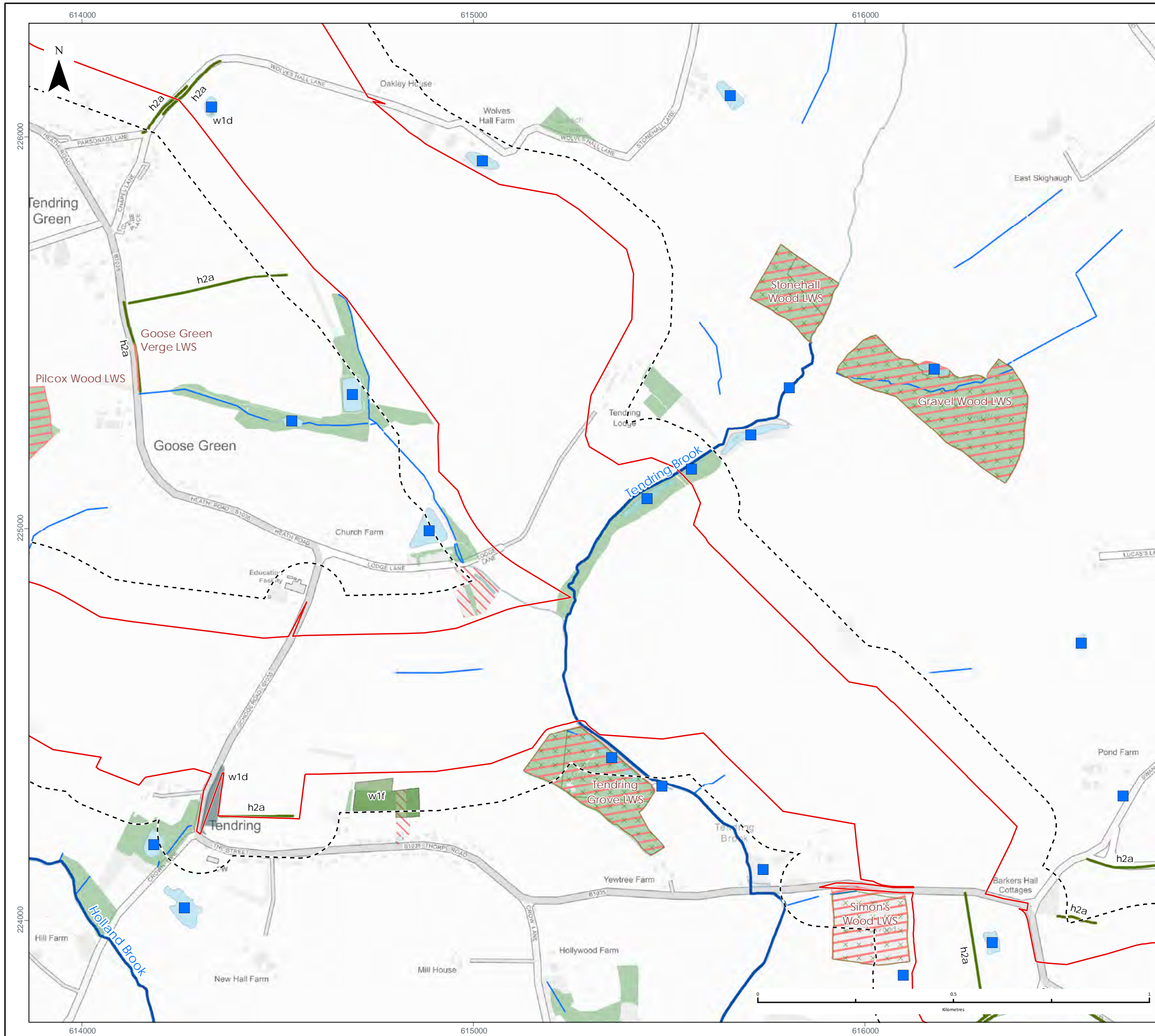
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 PRELIMINARY ECOLOGICAL APPRAISAL*

DRAWING TITLE:
Important Sites and Habitats

VER	DATE	REMARKS	Drawn	Checked
1	23/02/2022	For Issue	JO	JC
2	30/03/2022	Inclusion of Area North of A120	JO	JC
3	11/04/2022	Route Corridor Amendment	JO	JC

DRAWING NUMBER:
 7.6
 Page 6 of 12

SCALE: 1:10,000 PLOT SIZE: A3 DATUM: ODN COORDINATE SYSTEM: British National Grid



LEGEND

- Proposed Infrastructure
- Proposed Infrastructure - 100 m Buffer
- x Ancient Woodland
- Local Wildlife Site (LWS)
- Waterbody Centroid
- Waterbody
- Main River
- Minor Watercourse
- Priority Habitat Linear Features (UK Habitat Classification from Field Survey)
 - h2a - Hedgerow (Priority Habitat)
- Priority Habitat Area Features (UK Habitat Classification from Field Survey)
 - w1d - Wet Woodland
 - w1f - Lowland Mixed Deciduous Woodland
 - Deciduous Woodland
 - No Main Habitat But Additional Habitats Present

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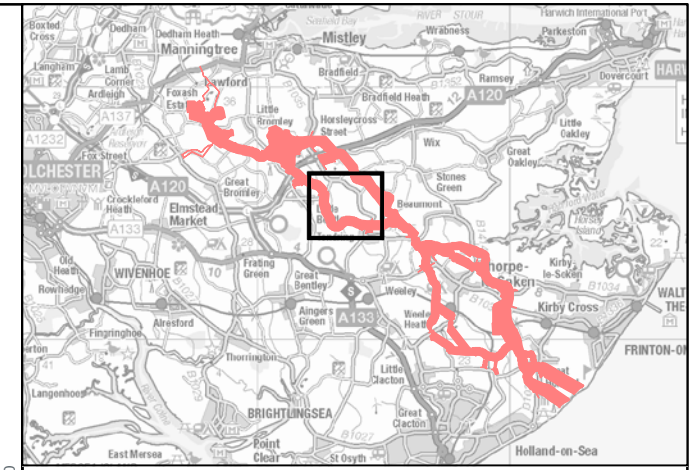
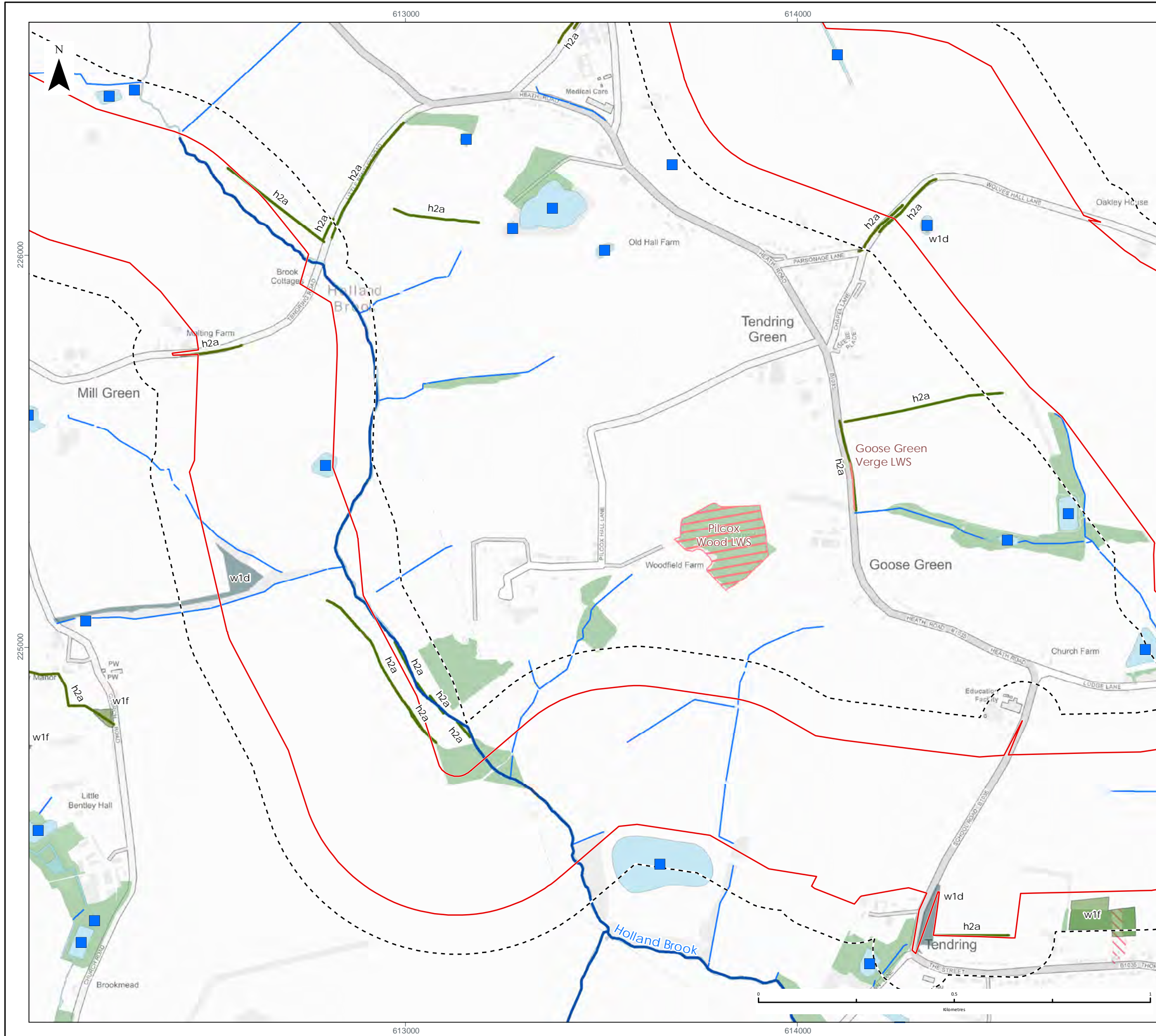
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DRAWING TITLE:
Important Sites and Habitats

VER	DATE	REMARKS	Drawn	Checked
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3	11/04/2022	Route Corridor Amendment	JO	JC

DRAWING NUMBER:
7.7
 Page 7 of 12

SCALE: **1:10,000** PLOT SIZE: A3 DATUM: ODN COORDINATE SYSTEM: British National Grid



LEGEND

- Proposed Infrastructure
- Proposed Infrastructure - 100 m Buffer
- Local Wildlife Site (LWS)
- Waterbody Centroid
- Waterbody
- Main River
- Minor Watercourse
- Priority Habitat Linear Features (UK Habitat Classification from Field Survey)
 - h2a - Hedgerow (Priority Habitat)
- Priority Habitat Area Features (UK Habitat Classification from Field Survey)
 - w1d - Wet Woodland
 - w1f - Lowland Mixed Deciduous Woodland
- Priority Habitats (Natural England)
 - Deciduous Woodland
 - No Main Habitat But Additional Habitats Present

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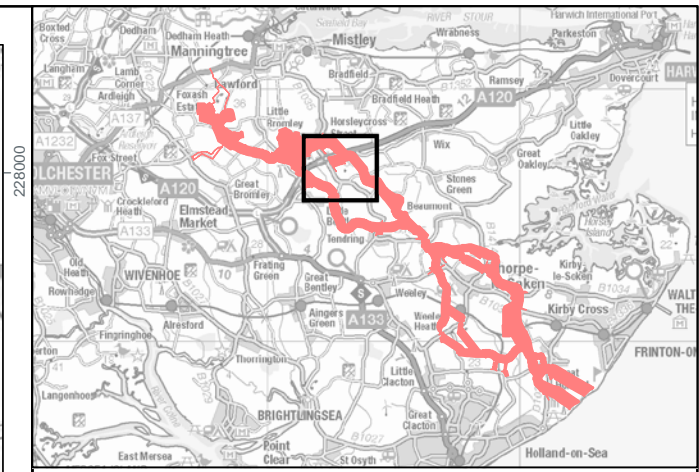
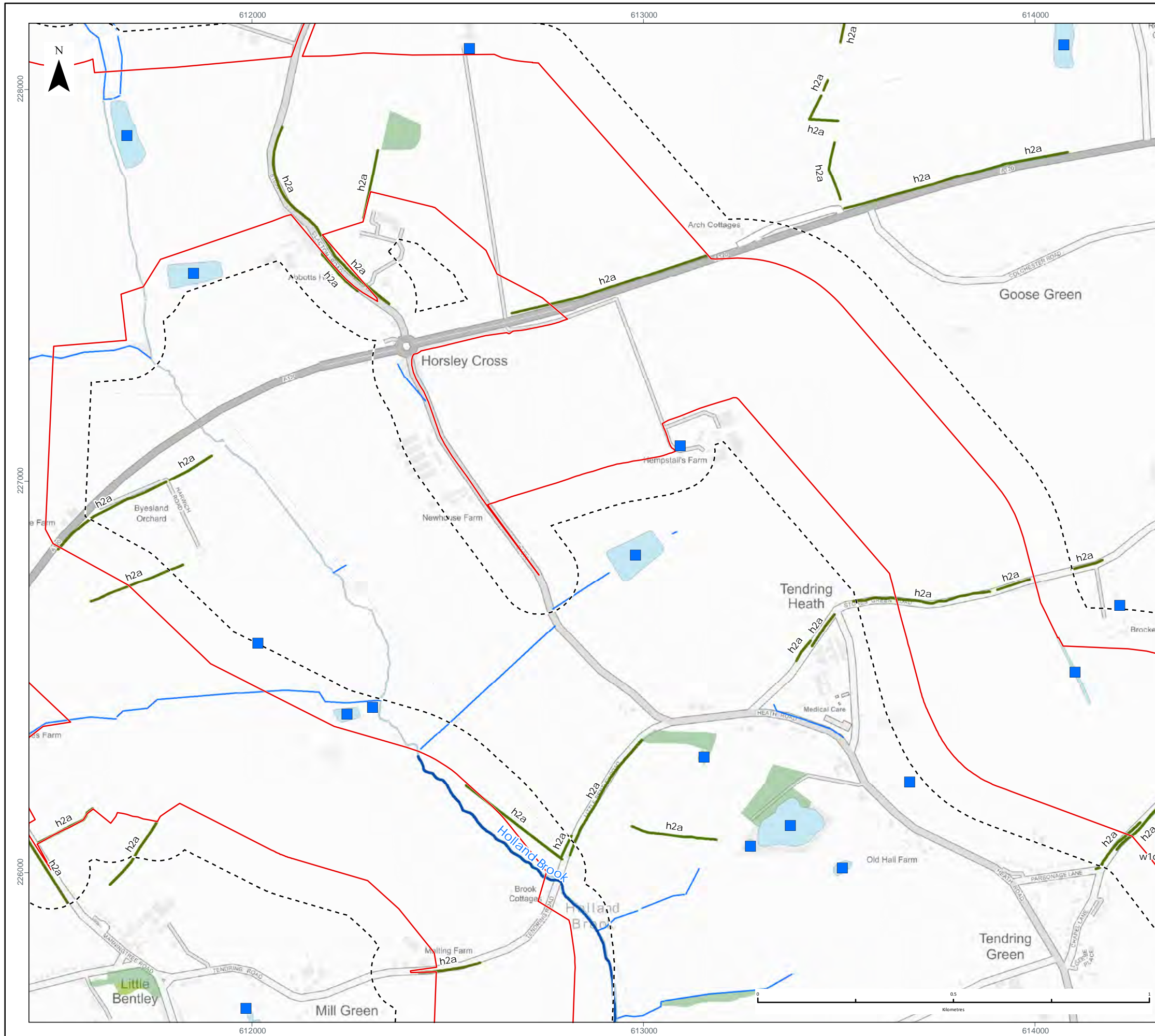
PROJECT TITLE:
*FIVE ESTUARIES OFFSHORE WINDFARM:
 PRELIMINARY ECOLOGICAL APPRAISAL*

DRAWING TITLE:
Important Sites and Habitats

VER	DATE	REMARKS	Drawn	Checked
1	23/02/2022	For Issue	JO	JC
2	30/03/2022	Inclusion of Area North of A120	JO	JC
3	11/04/2022	Route Corridor Amendment	JO	JC

DRAWING NUMBER:
7.8
 Page 8 of 12

SCALE: 1:10,000 PLOT SIZE: A3 DATUM: ODN COORDINATE SYSTEM: British National Grid



LEGEND

- Proposed Infrastructure
- - - Proposed Infrastructure - 100 m Buffer
- Waterbody Centroid
- Waterbody
- Main River
- Minor Watercourse
- Priority Habitat Linear Features (UK Habitat Classification from Field Survey)
 - h2a - Hedgerow (Priority Habitat)
- Priority Habitat Area Features (UK Habitat Classification from Field Survey)
 - w1d - Wet Woodland
- Priority Habitats (Natural England)
 - Deciduous Woodland
 - Traditional Orchard

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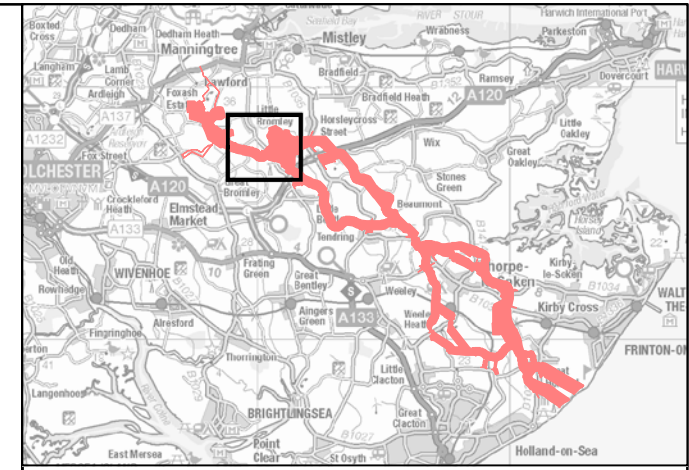
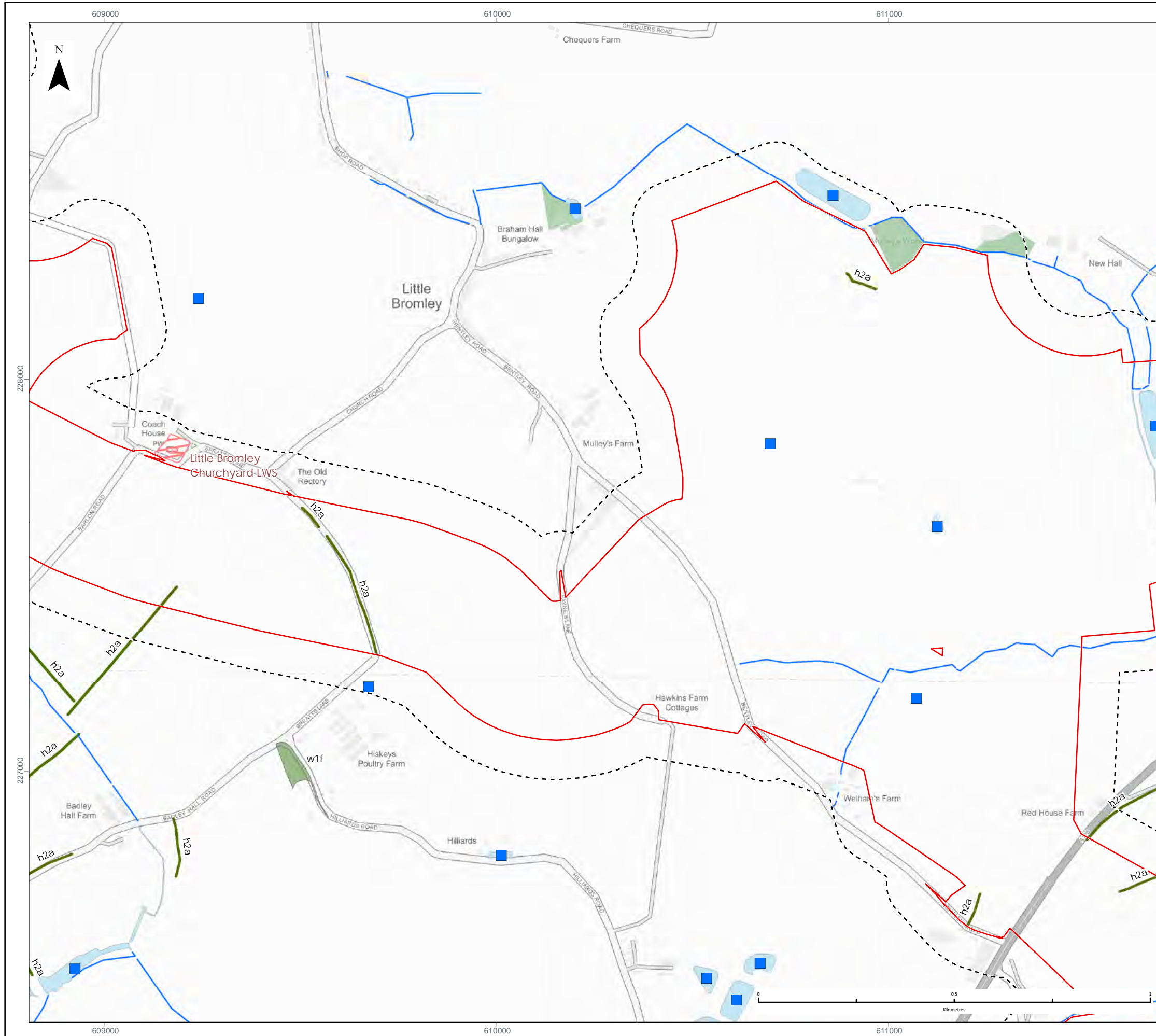
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Important Sites and Habitats

VER	DATE	REMARKS	Drawn	Checked
1	23/02/2022	For Issue	JO	JC
2	30/03/2022	Inclusion of Area North of A120	JO	JC
3	11/04/2022	Route Corridor Amendment	JO	JC

DRAWING NUMBER:
7.9
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SCALE: 1:10,000 PLOT SIZE: A3 DATUM: ODN COORDINATE SYSTEM: British National Grid.





LEGEND

- Proposed Infrastructure
- Proposed Infrastructure - 100 m Buffer
- Local Wildlife Site (LWS)
- Waterbody Centroid
- Waterbody
- Minor Watercourse
- Priority Habitat Linear Features (UK Habitat Classification from Field Survey)
 - h2a - Hedgerow (Priority Habitat)
- Priority Habitat Area Features (UK Habitat Classification from Field Survey)
 - w1f - Lowland Mixed Deciduous Woodland
 - Deciduous Woodland

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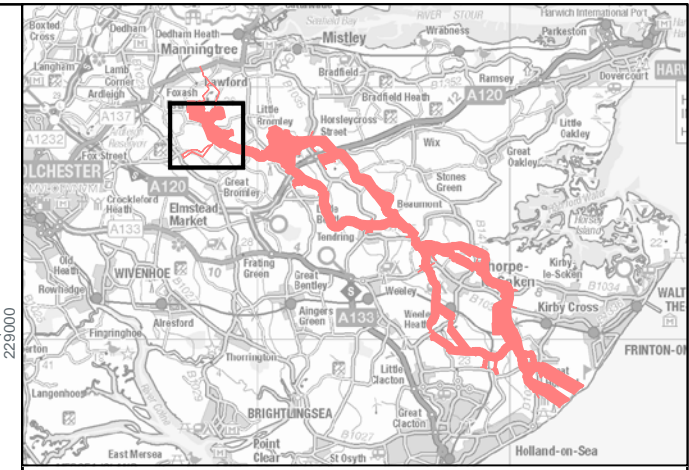
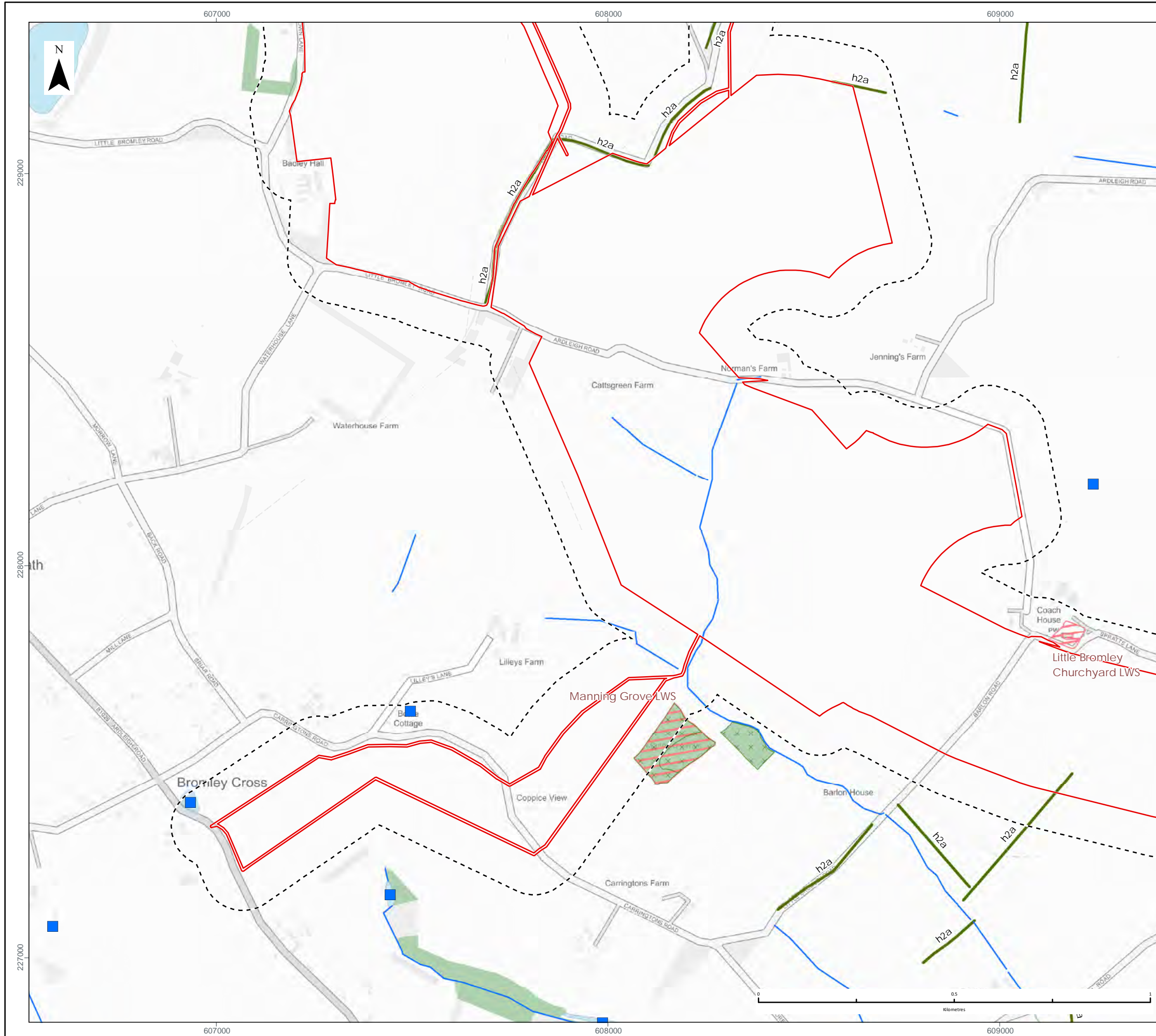
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2	30/03/2022	Inclusion of Area North of A120	JO	JC
3	11/04/2022	Route Corridor Amendment	JO	JC

DRAWING NUMBER:
7.10
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SCALE: **1:10,000** PLOT SIZE: **A3** DATUM: **ODN** COORDINATE SYSTEM: **British National Grid**





- LEGEND**
- Proposed Infrastructure
 - Proposed Infrastructure - 100 m Buffer
 - Ancient Woodland
 - Local Wildlife Site (LWS)
 - Waterbody Centroid
 - Waterbody
 - Minor Watercourse
 - Priority Habitat Linear Features (UK Habitat Classification from Field Survey)
 - h2a - Hedgerow (Priority Habitat)
 - Priority Habitats (Natural England)
 - Deciduous Woodland

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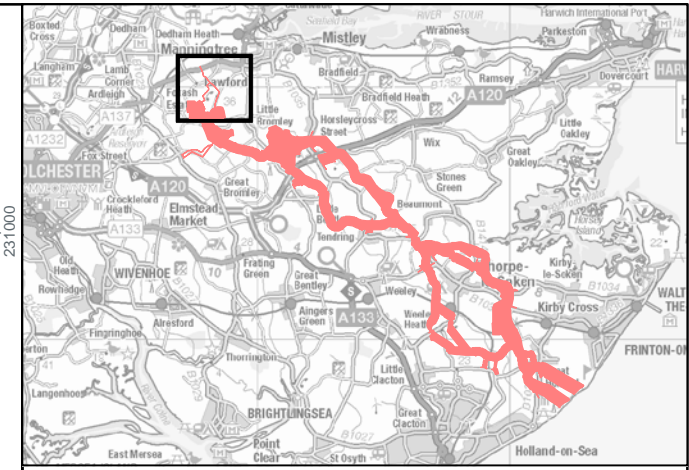
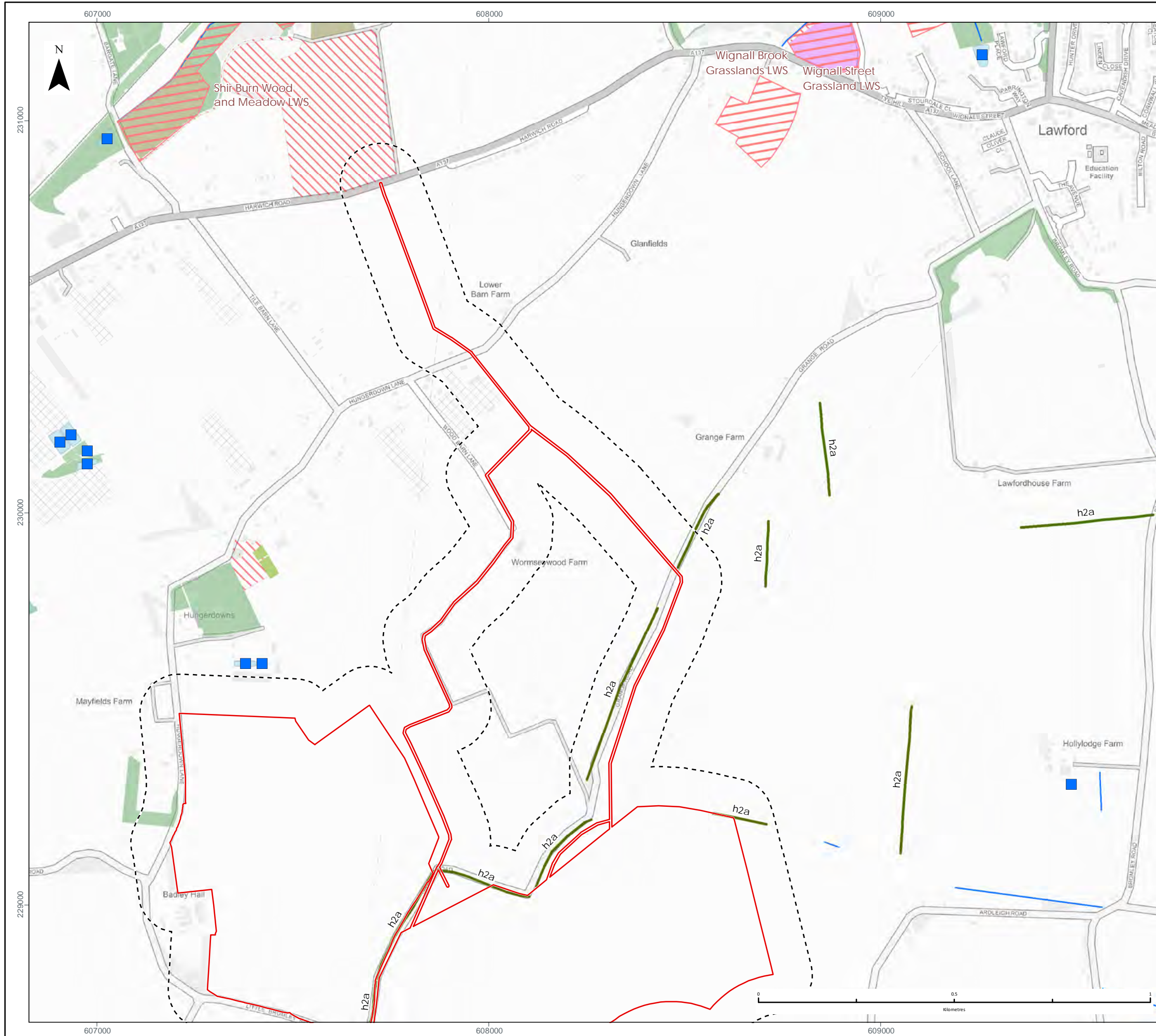
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2	30/03/2022	Inclusion of Area North of A120	JO	JC
3	11/04/2022	Route Corridor Amendment	JO	JC

DRAWING NUMBER:
 7.11
 Page 11 of 12

SCALE: 1:10,000 PLOT SIZE: A3 DATUM: ODN COORDINATE SYSTEM: British National Grid.





LEGEND

- Proposed Infrastructure
- Proposed Infrastructure - 100 m Buffer
- Local Wildlife Site (LWS)
- Waterbody Centroid
- Waterbody
- Minor Watercourse
- Priority Habitat Linear Features (UK Habitat Classification from Field Survey)
 - h2a - Hedgerow (Priority Habitat)
- Priority Habitats (Natural England)
 - Deciduous Woodland
 - Good Quality Semi-Improved Grassland
 - Lowland Dry Acid Grassland
 - Traditional Orchard
 - No Main Habitat But Additional Habitats Present

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DRAWING TITLE:
Important Sites and Habitats

VER	DATE	REMARKS	Drawn	Checked
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3	11/04/2022	Route Corridor Amendment	JO	JC

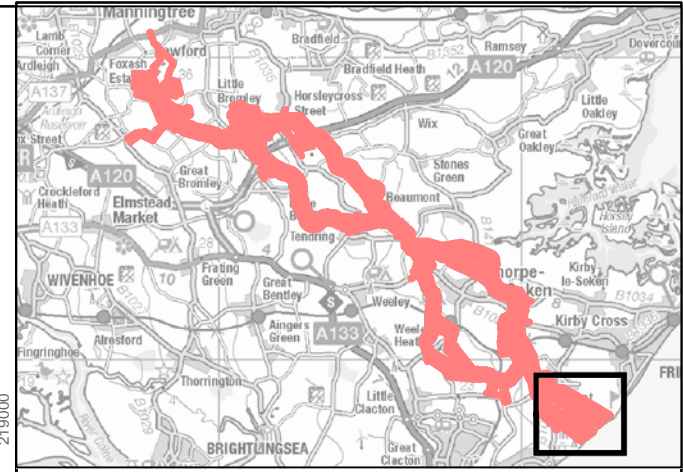
DRAWING NUMBER:
7.12
 Page 12 of 12

SCALE: **1:10,000** PLOT SIZE: **A3** DATUM: **ODN** COORDINATE SYSTEM: **British National Grid**



DRAWING 8

Suitable Habitat for Important Fauna: Proposed Survey Areas



LEGEND

- Proposed Infrastructure
- Proposed Infrastructure - 100 m Buffer
- Proposed Infrastructure - 250 m Buffer
- Holland Haven Marshes Site of Special Scientific Interest (SSSI)
- Watercourse Subject to Otter and Water Vole Survey
- Waterbody
- Bat Roost Assessment (Tree)
- Bat Roost Assessment (Woodland)
- Reptile Survey
- Dormouse Presence/Absence Survey
- Great Crested Newt Survey
- + Population Size Class Assessment Unless Pre-Existing Data Exists

Survey extent for Otter, Water Vole, Dormouse and Reptiles are the maximum survey extents. Actual survey areas would be confirmed following more detailed habitat assessments.

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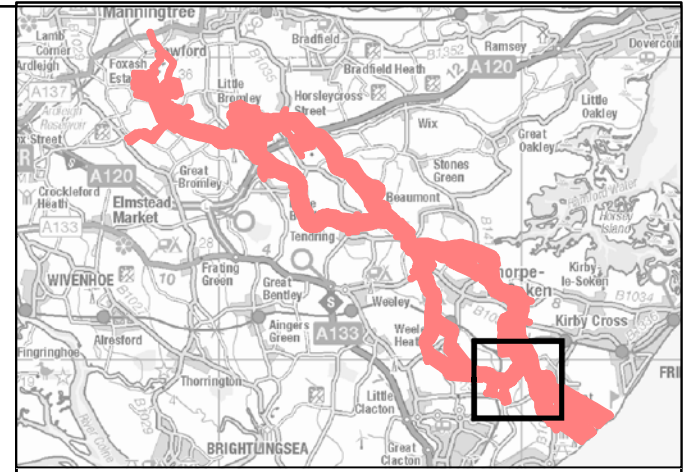
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 Suitable Habitat for Important Fauna -
 Proposed Survey Areas

VER	DATE	REMARKS	Drawn	Checked
2	31/03/2022	Inclusion of Area North of A120	JO	JC
3	13/04/2022	Route Corridor Amendment	JO	JC
4	25/05/2022	GCN Ponds Updated	JO	DW

DRAWING NUMBER:
 8.1
 Page 1 of 12

SCALE: 1:10,000 PLOT SIZE: A3 DATUM: ODN COORDINATE SYSTEM: British National Grid.





LEGEND

- Proposed Infrastructure
- Proposed Infrastructure - 100 m Buffer
- Proposed Infrastructure - 250 m Buffer
- Holland Haven Marshes Site of Special Scientific Interest (SSSI)
- Watercourse Subject to Otter and Water Vole Survey
- Waterbody
- + Bat Roost Assessment (Tree)
- Bat Roost Assessment (Woodland)
- Reptile Survey
- Dormouse Presence/Absence Survey
- Great Crested Newt Survey
- + Population Size Class Assessment Unless Pre-Existing Data Exists
- + eDNA Survey Unless Pre-Existing Data Exists

Survey extent for Otter, Water Vole, Dormouse and Reptiles are the maximum survey extents. Actual survey areas would be confirmed following more detailed habitat assessments.

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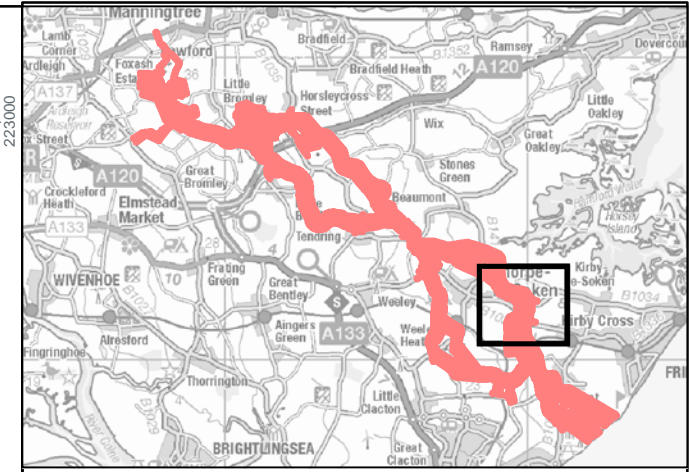
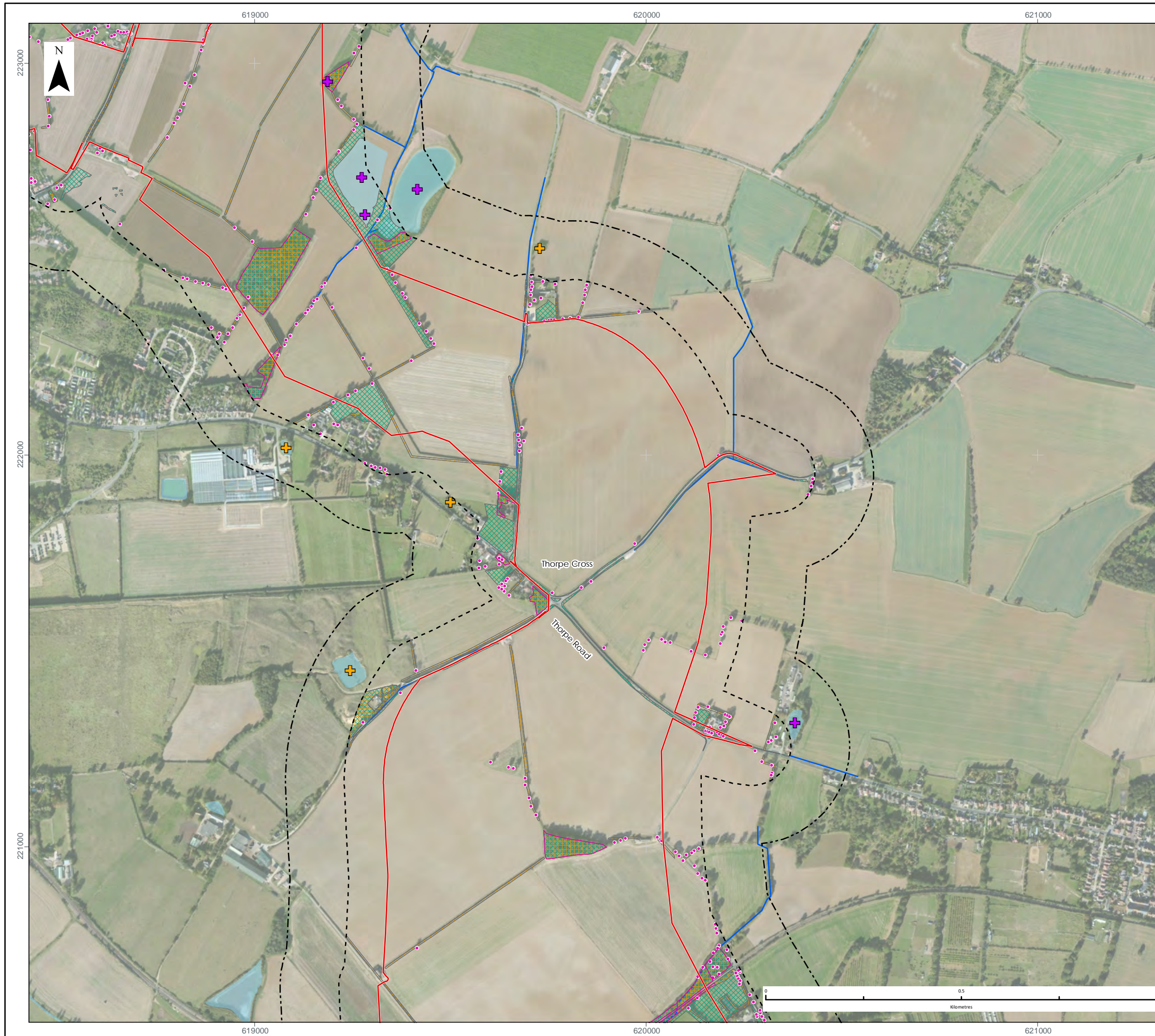
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*FIVE ESTUARIES OFFSHORE WINDFARM:
 PRELIMINARY ECOLOGICAL APPRAISAL*

DRAWING TITLE:
 Suitable Habitat for Important Fauna -
 Proposed Survey Areas

VER	DATE	REMARKS	Drawn	Checked
2	31/03/2022	Inclusion of Area North of A120	JO	JC
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4	25/05/2022	GCN Ponds Updated	JO	DW

DRAWING NUMBER:
 8.2
 Page 2 of 12

SCALE: 1:10,000 PLOT SIZE: A3 DATUM: ODN COORDINATE SYSTEM: British National Grid.



LEGEND

- Proposed Infrastructure
- Proposed Infrastructure - 100 m Buffer
- Proposed Infrastructure - 250 m Buffer
- Watercourse Subject to Otter and Water Vole Survey
- Waterbody
- Bat Roost Assessment (Tree)
- Bat Roost Assessment (Woodland)
- Reptile Survey
- Dormouse Presence/Absence Survey
- Great Crested Newt Survey
- + Population Size Class Assessment Unless Pre-Existing Data Exists
- + eDNA Survey Unless Pre-Existing Data Exists

Survey extent for Otter, Water Vole, Dormouse and Reptiles are the maximum survey extents. Actual survey areas would be confirmed following more detailed habitat assessments.

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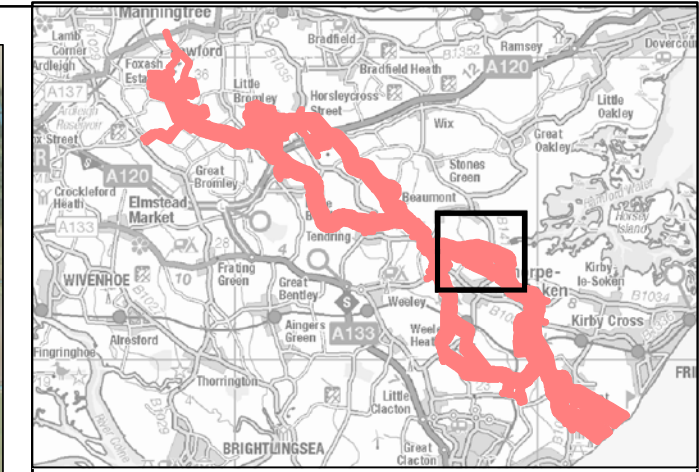
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 Suitable Habitat for Important Fauna -
 Proposed Survey Areas

VER	DATE	REMARKS	Drawn	Checked
2	31/03/2022	Inclusion of Area North of A120	JO	JC
3	13/04/2022	Route Corridor Amendment	JO	JC
4	25/05/2022	GCN Ponds Updated	JO	DW

DRAWING NUMBER:
 8.3
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SCALE: 1:10,000 PLOT SIZE: A3 DATUM: ODN COORDINATE SYSTEM: British National Grid.





- LEGEND**
- Proposed Infrastructure
 - Proposed Infrastructure - 100 m Buffer
 - Proposed Infrastructure - 250 m Buffer
 - Watercourse Subject to Otter and Water Vole Survey
 - Waterbody
 - Bat Roost Assessment (Tree)
 - Bat Roost Assessment (Woodland)
 - Reptile Survey
 - Dormouse Presence/Absence Survey
 - + Great Crested Newt Survey
 - + Population Size Class Assessment Unless Pre-Existing Data Exists
 - + eDNA Survey Unless Pre-Existing Data Exists

Survey extent for Otter, Water Vole, Dormouse and Reptiles are the maximum survey extents. Actual survey areas would be confirmed following more detailed habitat assessments.

Data Source:
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PROJECT TITLE:
*FIVE ESTUARIES OFFSHORE WINDFARM:
 PRELIMINARY ECOLOGICAL APPRAISAL*

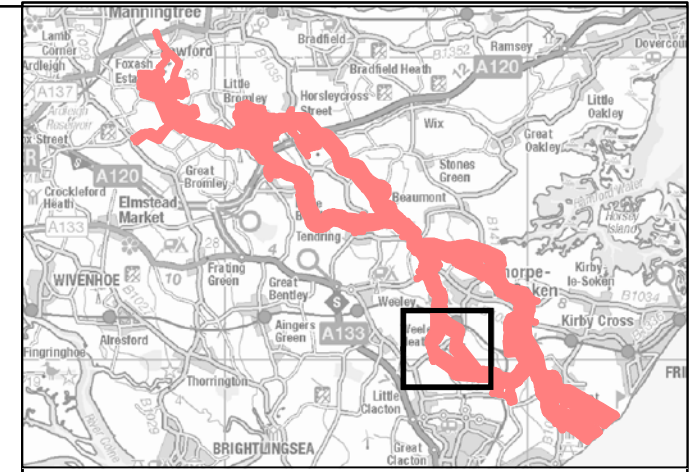
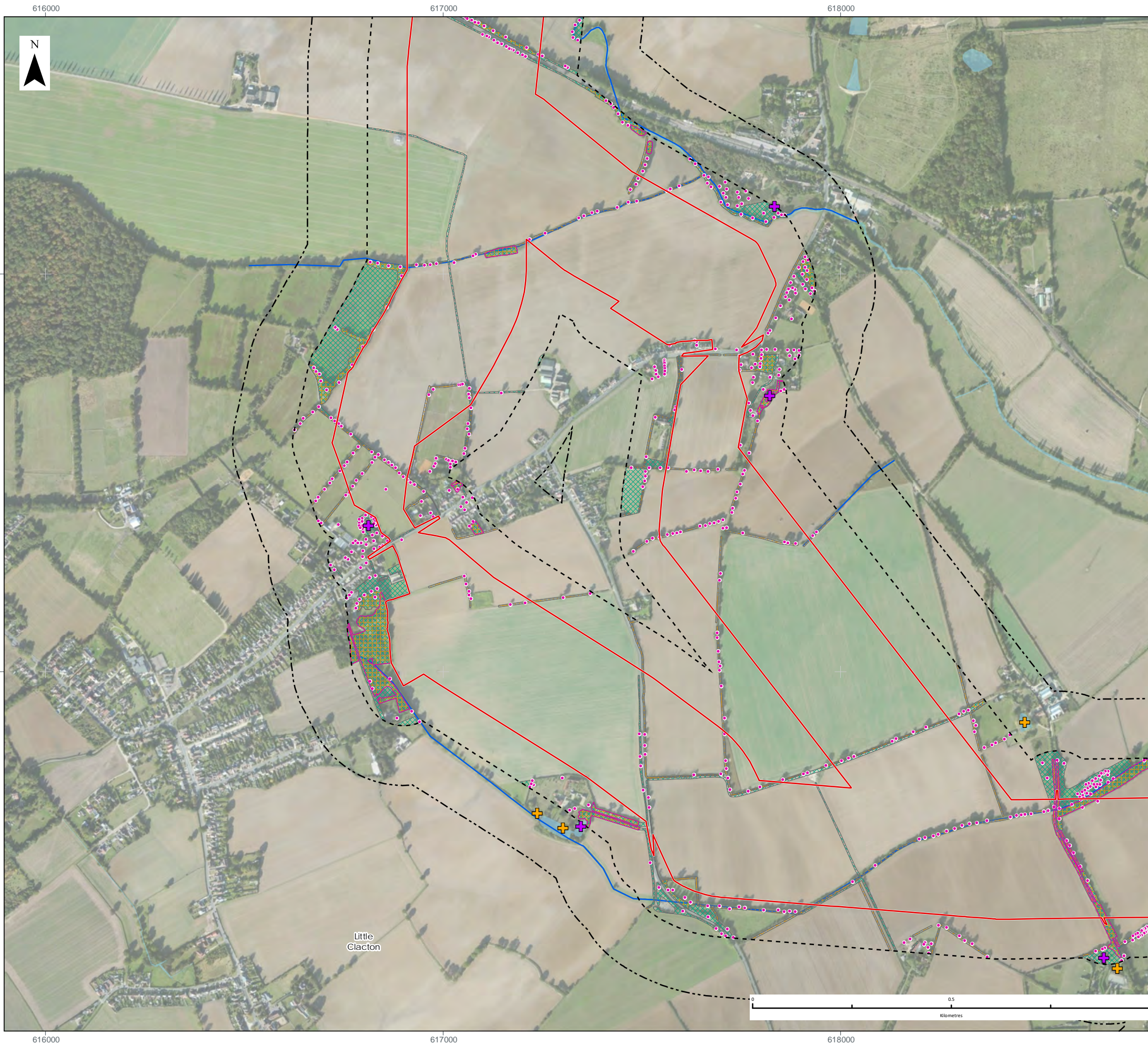
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 Suitable Habitat for Important Fauna -
 Proposed Survey Areas

VER	DATE	REMARKS	Drawn	Checked
2	31/03/2022	Inclusion of Area North of A120	JO	JC
3	13/04/2022	Route Corridor Amendment	JO	JC
4	25/05/2022	GCN Ponds Updated	JO	DW

DRAWING NUMBER:
 8.4
 Page 4 of 12

SCALE: 1:10,000 PLOT SIZE: A3 DATUM: ODN COORDINATE SYSTEM: British National Grid.





LEGEND

- Proposed Infrastructure
- Proposed Infrastructure - 100 m Buffer
- Proposed Infrastructure - 250 m Buffer
- Watercourse Subject to Otter and Water Vole Survey
- Waterbody
- Bat Roost Assessment (Tree)
- Bat Roost Assessment (Woodland)
- Reptile Survey
- Dormouse Presence/Absence Survey
- Great Crested Newt Survey
- + Population Size Class Assessment Unless Pre-Existing Data Exists
- + eDNA Survey Unless Pre-Existing Data Exists

Survey extent for Otter, Water Vole, Dormouse and Reptiles are the maximum survey extents. Actual survey areas would be confirmed following more detailed habitat assessments.

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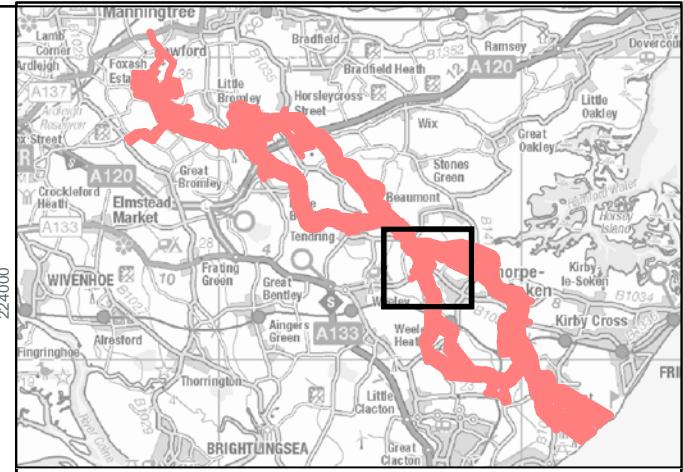
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*FIVE ESTUARIES OFFSHORE WINDFARM:
 PRELIMINARY ECOLOGICAL APPRAISAL*

DRAWING TITLE:
 Suitable Habitat for Important Fauna -
 Proposed Survey Areas

VER	DATE	REMARKS	Drawn	Checked
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4	25/05/2022	GCN Ponds Updated	JO	DW

DRAWING NUMBER:
 8.5
 Page 5 of 12

SCALE: 1:10,000 PLOT SIZE: A3 DATUM: ODN COORDINATE SYSTEM: British National Grid



LEGEND

- Proposed Infrastructure
- Proposed Infrastructure - 100 m Buffer
- Proposed Infrastructure - 250 m Buffer
- Watercourse Subject to Otter and Water Vole Survey
- Waterbody
- Bat Roost Assessment (Tree)
- Bat Roost Assessment (Woodland)
- Reptile Survey
- Dormouse Presence/Absence Survey
- + Great Crested Newt Survey
- + Population Size Class Assessment Unless Pre-Existing Data Exists
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*FIVE ESTUARIES OFFSHORE WINDFARM:
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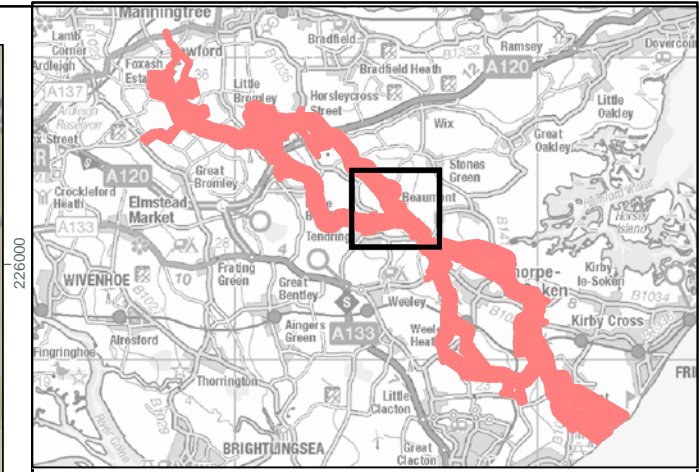
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 Proposed Survey Areas

VER	DATE	REMARKS	Drawn	Checked
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3	13/04/2022	Route Corridor Amendment	JO	JC
4	25/05/2022	GCN Ponds Updated	JO	DW

DRAWING NUMBER:
 8.6
 Page 6 of 12

SCALE: 1:10,000 PLOT SIZE: A3 DATUM: ODN COORDINATE SYSTEM: British National Grid.





LEGEND

- Proposed Infrastructure
- Proposed Infrastructure - 100 m Buffer
- Proposed Infrastructure - 250 m Buffer
- Watercourse Subject to Otter and Water Vole Survey
- Waterbody
- Bat Roost Assessment (Tree)
- Bat Roost Assessment (Woodland)
- Reptile Survey
- Dormouse Presence/Absence Survey
- + Great Crested Newt Survey
- + Population Size Class Assessment Unless Pre-Existing Data Exists
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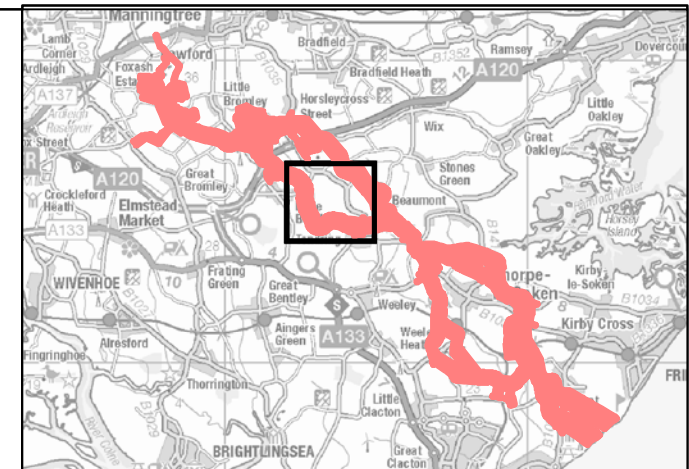
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*FIVE ESTUARIES OFFSHORE WINDFARM:
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DRAWING TITLE:
 Suitable Habitat for Important Fauna -
 Proposed Survey Areas

VER	DATE	REMARKS	Drawn	Checked
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3	13/04/2022	Route Corridor Amendment	JO	JC
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DRAWING NUMBER:
 8.7
 Page 7 of 12

SCALE: 1:10,000 PLOT SIZE: A3 DATUM: ODN COORDINATE SYSTEM: British National Grid.



LEGEND

- Proposed Infrastructure
- Proposed Infrastructure - 100 m Buffer
- Proposed Infrastructure - 250 m Buffer
- Watercourse Subject to Otter and Water Vole Survey
- Waterbody
- Bat Roost Assessment (Tree)
- Bat Roost Assessment (Woodland)
- Reptile Survey
- Dormouse Presence/Absence Survey
- Great Crested Newt Survey
- + Population Size Class Assessment Unless Pre-Existing Data Exists
- + eDNA Survey Unless Pre-Existing Data Exists

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PROJECT TITLE:
*FIVE ESTUARIES OFFSHORE WINDFARM:
 PRELIMINARY ECOLOGICAL APPRAISAL*

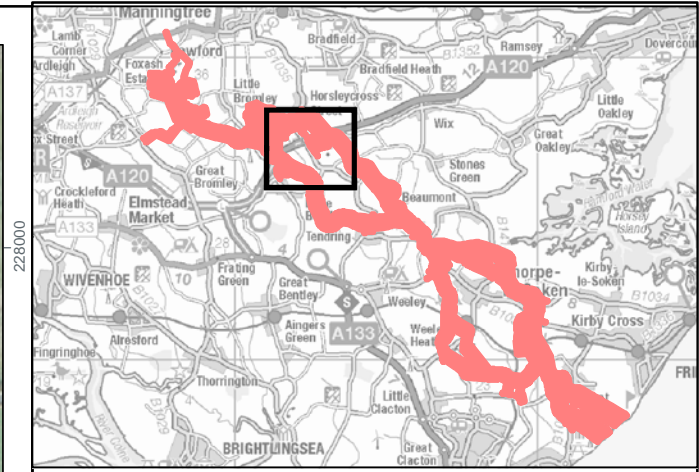
DRAWING TITLE:
 Suitable Habitat for Important Fauna -
 Proposed Survey Areas

VER	DATE	REMARKS	Drawn	Checked
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3	13/04/2022	Route Corridor Amendment	JO	JC
4	25/05/2022	GCN Ponds Updated	JO	DW

DRAWING NUMBER:
 8.8
 Page 8 of 12

SCALE: 1:10,000 PLOT SIZE: A3 DATUM: ODN COORDINATE SYSTEM: British National Grid.





LEGEND

- Proposed Infrastructure
- Proposed Infrastructure - 100 m Buffer
- Proposed Infrastructure - 250 m Buffer
- Watercourse Subject to Otter and Water Vole Survey
- Waterbody
- Bat Roost Assessment (Tree)
- Bat Roost Assessment (Woodland)
- Reptile Survey
- Dormouse Presence/Absence Survey
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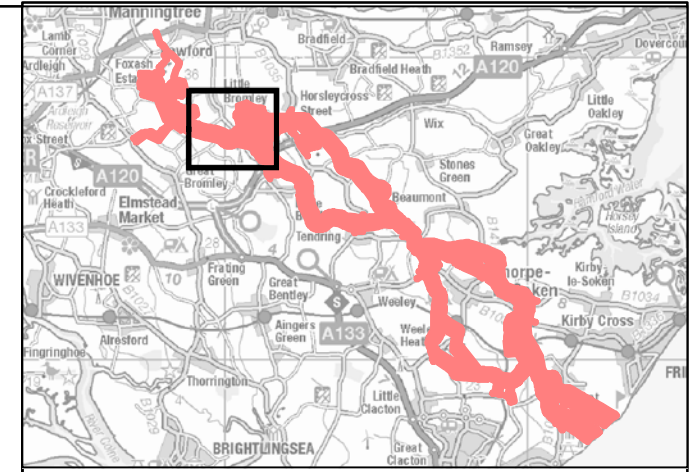
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*FIVE ESTUARIES OFFSHORE WINDFARM:
 PRELIMINARY ECOLOGICAL APPRAISAL*

DRAWING TITLE:
 Suitable Habitat for Important Fauna -
 Proposed Survey Areas

VER	DATE	REMARKS	Drawn	Checked
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DRAWING NUMBER:
 8.9
 Page 9 of 12
 SCALE: 1:10,000 PLOT SIZE: A3 DATUM: ODN COORDINATE SYSTEM: British National Grid.





- LEGEND**
- Proposed Infrastructure
 - Proposed Infrastructure - 100 m Buffer
 - Proposed Infrastructure - 250 m Buffer
 - Watercourse Subject to Otter and Water Vole Survey
 - Waterbody
 - Bat Roost Assessment (Tree)
 - Bat Roost Assessment (Woodland)
 - Reptile Survey
 - Dormouse Presence/Absence Survey
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PROJECT TITLE:
*FIVE ESTUARIES OFFSHORE WINDFARM:
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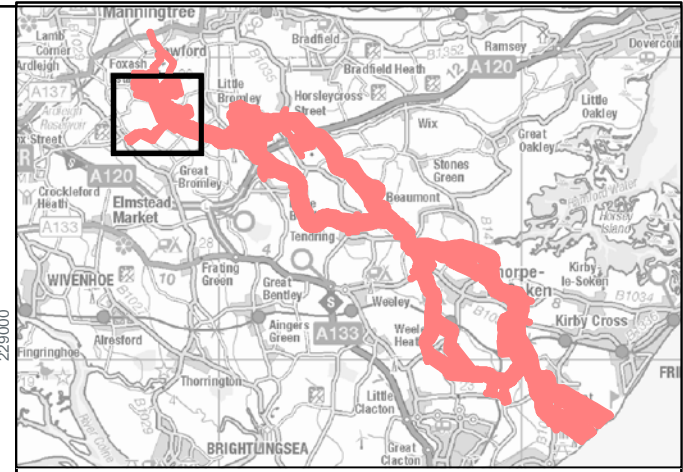
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 Suitable Habitat for Important Fauna -
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VER	DATE	REMARKS	Drawn	Checked
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4	25/05/2022	GCN Ponds Updated	JO	DW

DRAWING NUMBER:
 8.10
 Page 10 of 12

SCALE: 1:10,000 PLOT SIZE: A3 DATUM: ODN COORDINATE SYSTEM: British National Grid.





LEGEND

- Proposed Infrastructure
- Proposed Infrastructure - 100 m Buffer
- Proposed Infrastructure - 250 m Buffer
- Watercourse Subject to Otter and Water Vole Survey
- Waterbody
- Bat Roost Assessment (Tree)
- Bat Roost Assessment (Woodland)
- Reptile Survey
- Dormouse Presence/Absence Survey
- + Great Crested Newt Survey
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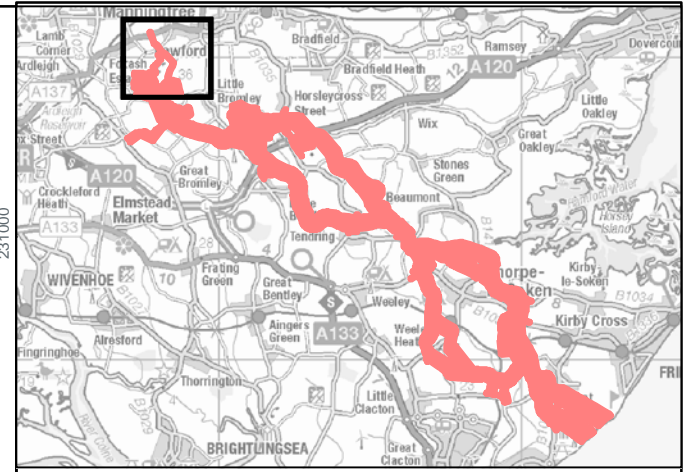
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*FIVE ESTUARIES OFFSHORE WINDFARM:
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 Suitable Habitat for Important Fauna -
 Proposed Survey Areas

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4	25/05/2022	GCN Ponds Updated	JO	DW

DRAWING NUMBER:
 8.11
 Page 11 of 12

SCALE: 1:10,000 PLOT SIZE: A3 DATUM: ODN COORDINATE SYSTEM: British National Grid.



- LEGEND**
- Proposed Infrastructure
 - Proposed Infrastructure - 100 m Buffer
 - Proposed Infrastructure - 250 m Buffer
 - Watercourse Subject to Otter and Water Vole Survey
 - Waterbody
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 - Bat Roost Assessment (Woodland)
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PROJECT TITLE:
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 PRELIMINARY ECOLOGICAL APPRAISAL*

DRAWING TITLE:
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 Proposed Survey Areas

VER	DATE	REMARKS	Drawn	Checked
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DRAWING NUMBER:
 8.12
 Page 12 of 12

SCALE: 1:10,000 PLOT SIZE: A3 DATUM: ODN COORDINATE SYSTEM: British National Grid.

APPENDIX A

Habitat Plan (full extent)
2021 Essex Field Club Desk Study Results

Essex Recorders partnership Datasearch Report

Essex Field Club

Registered Charity Number 1113963

In partnership with

Basildon Council

Buglife

Butterfly Conservation

Essex Amphibian & Reptile Group

Essex Bat Group

Essex Birdwatching Society

GeoEssex



Bio and Geodiversity data regarding
Project 5VWF Cable Routes Substations
LERCAreaofSearchSLR20210413 Record 1 Part 1
Customer Reference: 404-12537

On behalf of

Mr Robert Williams
SLR Consulting Ltd

EFC4409, 15 Apr 2021

When information in this report is used in a desk study, Environmental Statement or to support a planning application, then the report must also be put into the public domain and provided in full in the searchable pdf format in which it is supplied and not changed or redacted.

The Essex Field Club, Registered Charity Number 1113963.

Registered Office: Green Centre, Wat Tyler Country Park, Pitsea Hall Lane, Pitsea, Basildon, Essex SS16 4UH

Website: www.essexfieldclub.org.uk. Email: datasearch@essexfieldclub.org.uk or Phone: 01375 371571



Essex Recorders partnership

Essex Field Club

Registered Charity Number 1113963

In partnership with

Basildon Council

Buglife

Butterfly Conservation

Essex Amphibian & Reptile Group

Essex Bat Group

Essex Birdwatching Society

GeoEssex



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Essex Recorders partnership Datasearch Report

Project 5VWF Cable Routes Substations

Search Area: LERCAreaofSearchSLR20210413 Record 1 Part 1

Our Reference: EFC4409

Customer Reference: 404-12537

Dated: 15 Apr 2021

On behalf of:

Mr Robert Williams

SLR Consulting Ltd

This report was compiled using records held by the County Recorders of the Essex Field Club, Basildon Council, Buglife, Butterfly Conservation, Essex Amphibian & Reptile Group, Essex Bat Group, Essex Birdwatching Society, GeoEssex and available at the time of creation.

Enclosed within this report is the following information specific to the enquiry site area:

All of a Buzz in Thames Gateway Sites	<input checked="" type="checkbox"/>
B-lines	<input checked="" type="checkbox"/>
Nature Improvement Areas	<input checked="" type="checkbox"/>
Special Areas of Conservation	<input checked="" type="checkbox"/>
Special Protection Areas	<input checked="" type="checkbox"/>
Ramsar Sites	<input checked="" type="checkbox"/>
Marine Conservation Zones	<input checked="" type="checkbox"/>
Sites of Special Scientific Interest details	<input checked="" type="checkbox"/>
Local Nature Reserves	<input checked="" type="checkbox"/>
Country Parks	<input checked="" type="checkbox"/>
Common Land	<input checked="" type="checkbox"/>
Ancient Woodland Inventory	<input checked="" type="checkbox"/>
Wood-Pasture and Parkland Inventory	<input checked="" type="checkbox"/>
Traditional Orchard Inventory	<input checked="" type="checkbox"/>
Priority Habitat Inventory	<input checked="" type="checkbox"/>
Invertebrate Assemblage Information	<input checked="" type="checkbox"/>
Protected Species	<input checked="" type="checkbox"/>
Priority Section 41 Species	<input checked="" type="checkbox"/>
National Red List and Scarce Species	<input checked="" type="checkbox"/>
Essex Red Data List Species	<input checked="" type="checkbox"/>
All Species Records	<input type="checkbox"/>
Invasive Species	<input checked="" type="checkbox"/>
Geological Sites	<input checked="" type="checkbox"/>

1. Introduction

Biological species recording is largely undertaken by committed naturalists on a voluntary basis and on land with public access. Recording is much more rarely undertaken for planning and development purposes, or such data subsequently provided to centralised biological recording specialists, the County Recorders. Desk studies can therefore only ever provide guidance on what is already known about the species recorded in an area, and absence of species records for a search area does not mean they may not occur. For any site with potential nature conservation significance a full ecological site appraisal should be undertaken and species surveys carried out to complement the information contained in this report.

Copyrights

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All site boundaries have been mapped using Ordnance Survey OS OpenData subject to the OS OpenData Licence. Persons viewing this material should contact Ordnance Survey for advice if they wish to licence Ordnance Survey data for their own use.

Data accuracy

The Essex Recorders partnership does not guarantee the accuracy of any information supplied and shall have no liability for any loss, damage or expense incurred as the result of reliance on any information supplied.

The Essex Recorders partnership can only provide information based on the data held by us. In particular, the absence of records for a species does not necessarily indicate that the species itself is absent, merely that it not been recorded, that we have not received records for it or the data are unavailable in suitable format at this time.

Access and use of data

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When publishing information derived from these data, the Essex Field Club, Essex Recorders partnership and any other copyright holders and the date of receipt must be acknowledged.

The data held by the Essex Recorders partnership is updated regularly and will become out-of-date. If you intend to use this data after a period of six months please contact us to confirm that we have no new records.

Designations

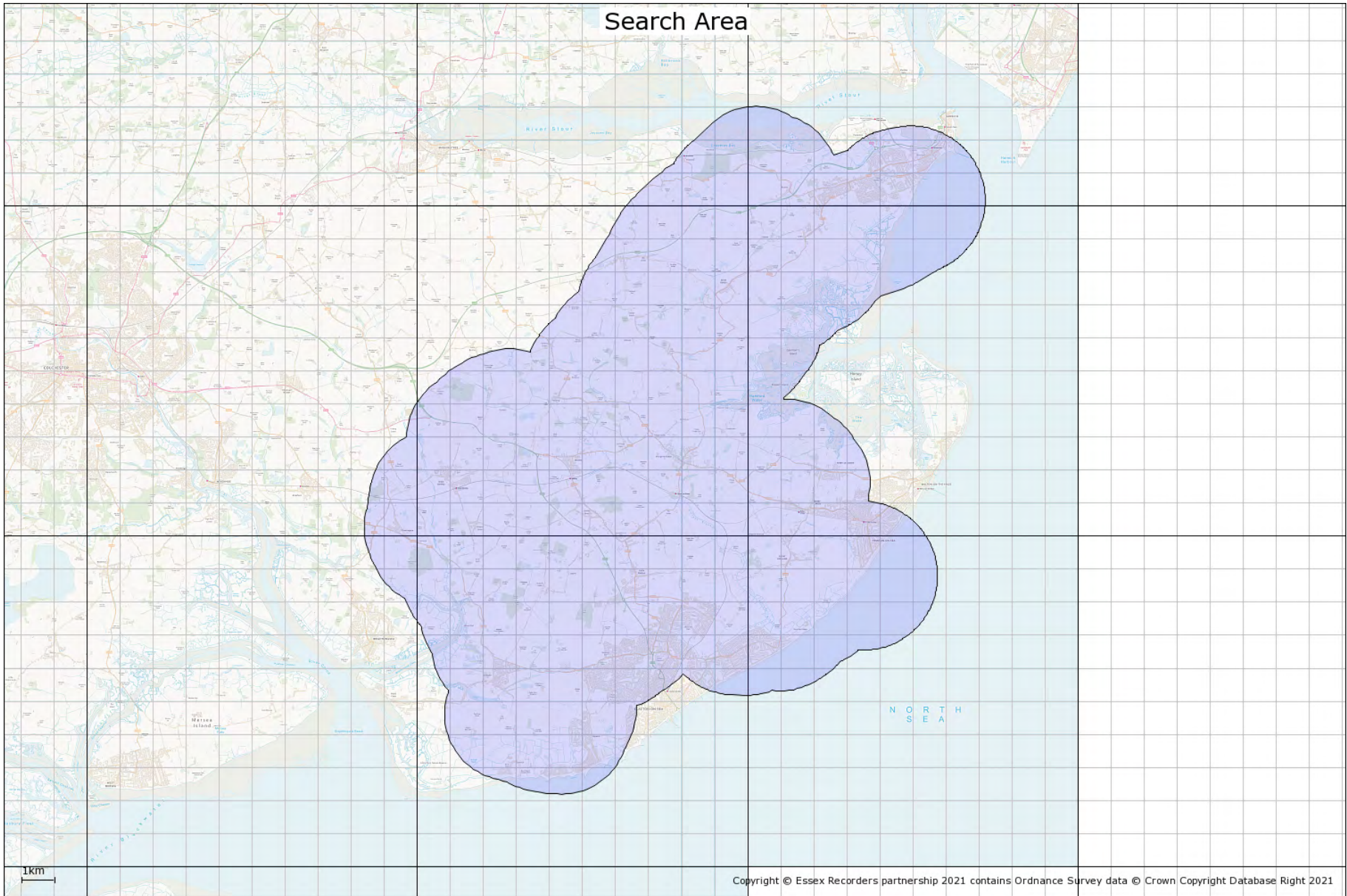
Except for Essex designations included in the Essex Biodiversity Action Plan or Essex Red Data List, or where otherwise indicated, designations used in this report are derived from the Joint Nature Conservation Committee (JNCC) Master list regardless of the status of the species in the county.

2. Data available through the Essex Recorders partnership

This report provides access to the following species datasets:

Data Provider	Species Group	County Coverage
EFC/Essex Amphibian & Reptile Group	amphibians and reptiles	County data
Essex Field Club	honey bee and bumblebees	Countywide data
Essex Field Club	bees and wasps	County data
Essex Field Club	ants	County data
Essex Field Club	beetles	Available county data
Essex Field Club	centipedes and millipedes	County data
Essex Field Club	hoverflies	Available county data
Essex Field Club	soldier flies and allies	County data
Essex Field Club	flies (other)	County data
Essex Field Club	grasshoppers, crickets and allies	County data
Essex Field Club/Butterfly Conservation	butterflies	County data
Essex Field Club/Essex Moth Group	larger moths	County data
Essex Field Club/Essex Moth Group	micro moths	County data
Essex Field Club	leafhoppers and allies	Available county data
Essex Field Club	true bugs	Available county data
Essex Field Club	spiders	County data
Essex Field Club	harvestmen	County data
Essex Field Club	pseudoscorpions	County data
Essex Field Club	flowering plant	Available county data
Essex Field Club	woodlice	County data
Essex Field Club	dragonflies & damselflies	Available county data
Essex Field Club	non-vascular plants	Available county data
Essex Field Club	other Hymenoptera	County data
Essex Field Club	molluscs	County data
Essex Field Club	lichens	Sample of data
Essex Field Club	fungi	Available county data
Essex Field Club	other mammals	County data
Essex Field Club	bats	County data
Essex Field Club	galls	Available data
Essex Field Club	Invasive species	Available data
Essex Field Club	birds	Club records
Essex Field Club/From the UK Caddisfly Recording Scheme dataset (2019)	caddisflies	County/National Recording Scheme data
Essex Field Club	slime moulds	Small number of records
EFC Schemes	EFC Schemes records	EFC Schemes records
Essex Bat Group	bats	Dataset
Essex Birdwatching Society	birds, with incorporated Birdtrack data	County data

Search Area



Sections on site designations

The following sections provide data on site designations in relation to the datasearch request search area. For statutory designated conservation sites, these are provided on maps expanded to cover a 5km radius.

We cannot currently provide information on Local Wildlife Sites. For these contact the local authority or see Essex Wildlife Trust and www.essexwt.org.uk/protecting-wildlife/local-wildlife-sites

3. All of a Buzz in the Thames Gateway

No All of a Buzz in the Thames Gateway sites are identified in relation to the search area

4. Nature Improvement Areas (NIAs)

See www.naturalengland.org.uk/ourwork/conservation/biodiversity/funding/nia/default.aspx

Nature Improvement Areas (NIAs) were introduced by the Government's Natural Environment White Paper to 'enhance and reconnect nature on a significant scale' in England.

Nature Improvement Areas encompass areas of land that include natural features and wildlife habitats but also include roads, housing developments and other man-made elements. They are areas that have been identified for their opportunities to restore nature at a landscape-scale alongside other land-uses.

These areas will become much better places for wildlife – creating more and better-connected habitats at a landscape scale, providing space for wildlife to thrive and adapt to climate change.

They will help people as well as wildlife – through enhancing a wide range of benefits that nature provides, such as recreation opportunities, flood protection, cleaner water and carbon storage.

NIAs should enhance existing ecological networks by:

- Increasing the number of wildlife sites
- Increasing the size of existing wildlife sites
- Improving connectivity between sites
- Creating wildlife corridors
- Improving the management of existing wildlife sites

The twelve initial NIAs extend from Morecambe Bay in the North West to the Wild Purbeck in the South West. One affecting Essex is the Greater Thames Marshes NIA in the south of the county.

No Nature Improvements Areas are identified near the search area

5. B-Lines network

Map shows routes within the B-Lines network, identified by Buglife and a wide range of conservation and landowner partners. B-Lines aims to coordinate the delivery of wildflower-rich habitats to aid pollinator movement across the landscape. For more information visit www.buglife.org.uk/b-lines

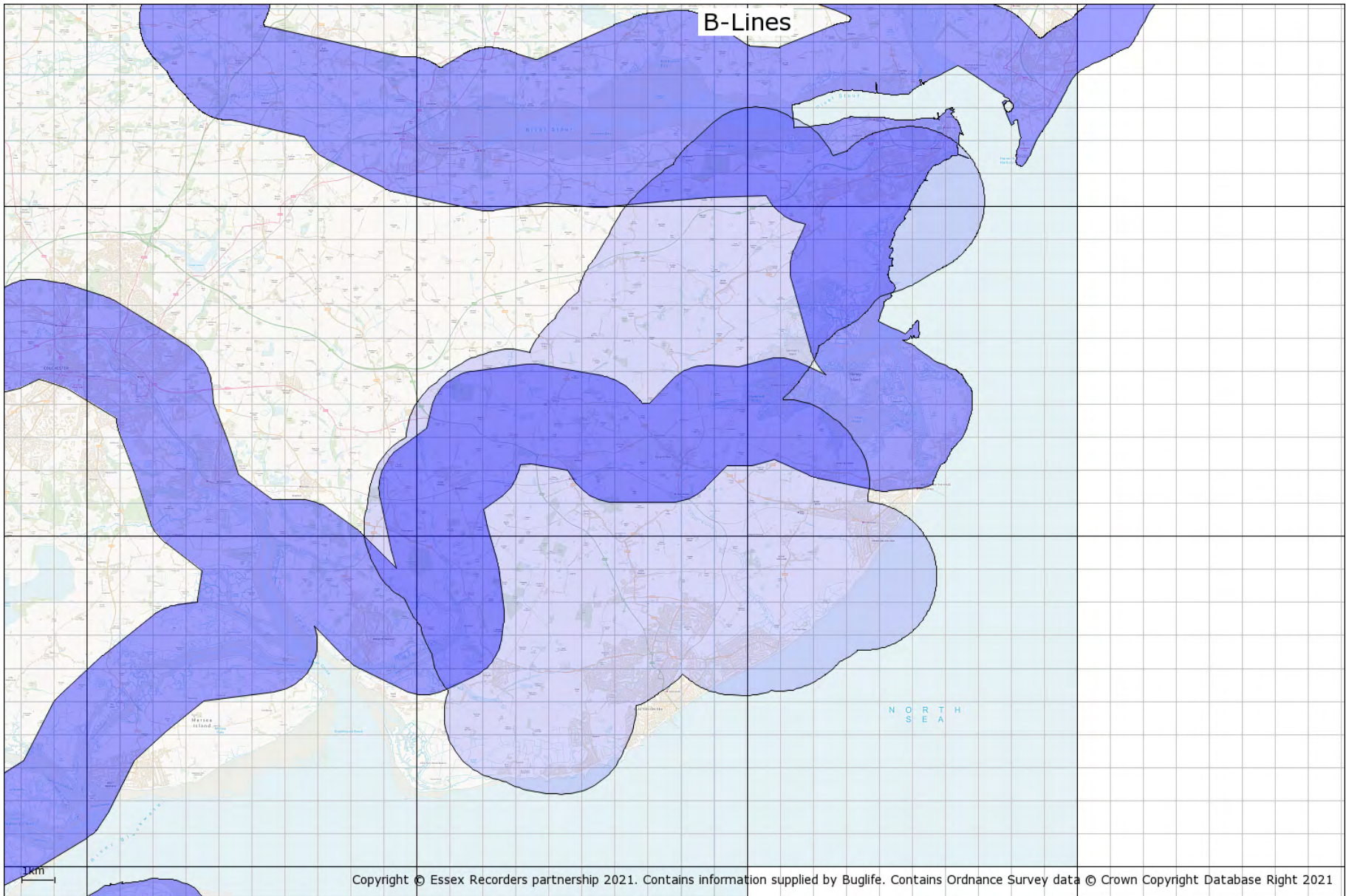
B-Lines is a landscape scale initiative to enhance declining pollinator populations by connecting up the best remaining wildflower-rich habitats through the creation or restoration of wildflower habitats. B-Lines was identified as a method to reverse pollinator declines in the National Pollinator Strategy's Implementation Plan, by aiding their movement across the fragmented landscape.

B-Lines are 3km corridors within which wildflower habitat restoration and creation can be focused and co-ordinated to maximise gains for pollinators. Habitat can be delivered by organisations, landowners, businesses, communities or individuals. Contribution to the B-Lines can be achieved through a variety of wildflower enhancement methods, such as habitat restoration (e.g. scrub clearance/re-introducing management/green haying), wildflower meadow creation in species poor grasslands, wildlife gardens, landowners entering agri-environment schemes, orchard planting, disturbance management and brownfield habitat creation, bee friendly formal planting, living roofs, etc.

Where relevant, planning applications in or around B-Lines should consider what they can contribute to the growing resources of pollinators in B-Lines. This will help to ensure that mitigation proposals align with ongoing work in the surrounding area for pollinators. It is important to note, however, that any planning applications should seek to protect and enhance the wildlife interests of all taxonomic groups and habitats, not pollinators and their requirements in isolation.

Buglife's online B-Lines hub includes an interactive map where habitat work can be uploaded to collate information on wildflower enhancements across the UK, as well as specific pollinator advice.

B-Lines identified in relation to the search area are shown on the map.



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6. Special Areas of Conservation

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A Special Area of Conservation (SAC) is an area which has been given special protection under the European Union's Habitats Directive. SACs provide increased protection to a variety of wild animals, plants and habitats and are a vital part of global efforts to conserve the world's biodiversity.

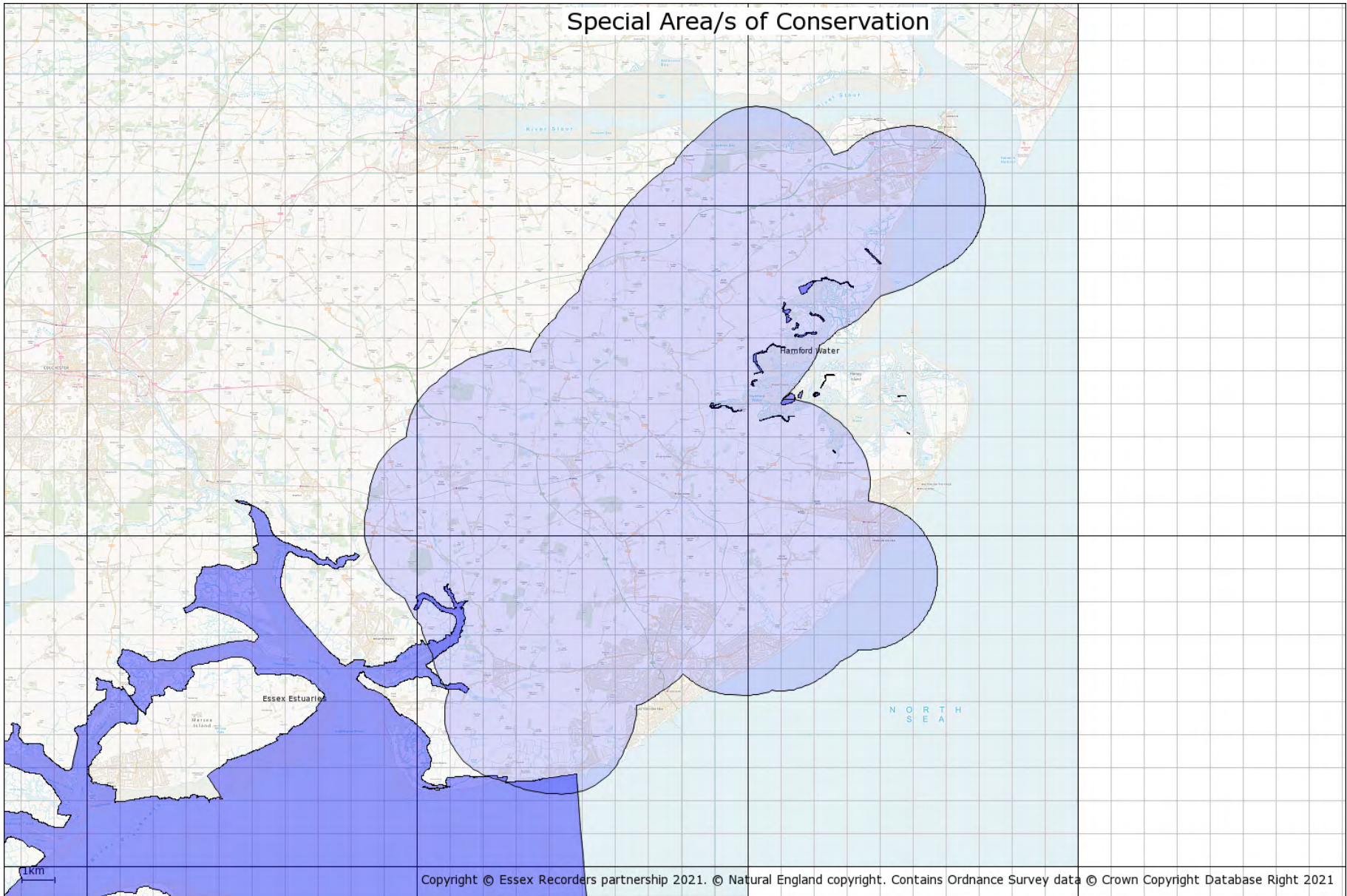
See www.naturalengland.org.uk/ourwork/conservation/designations/sac/

There are 2 Special Area/s of Conservation identified in relation to the search area.

Essex Estuaries

Hamford Water

Special Area/s of Conservation



7. Special Protection Areas

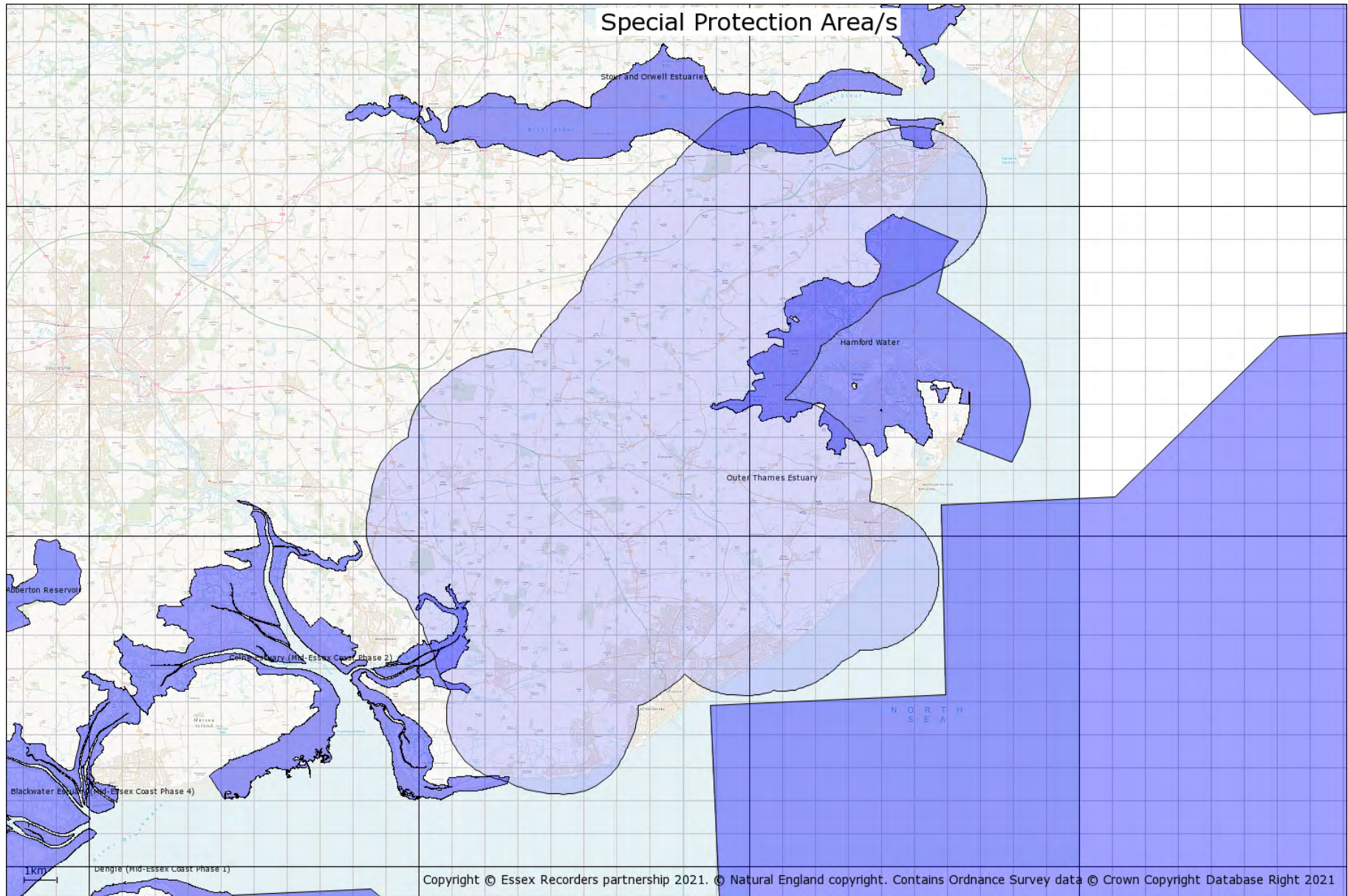
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A Special Protection Area (SPA) is an area of land, water or sea which has been identified as being of international importance for the breeding, feeding, wintering or the migration of rare and vulnerable species of birds found within the European Union. SPAs are European designated sites, classified under the European Wild Birds Directive which affords them enhanced protection.

See www.naturalengland.org.uk/ourwork/conservation/designations/spa/

There are 7 Special Protection Area/s identified in relation to the search area.

Abberton Reservoir
Blackwater Estuary (Mid-Essex Coast Phase 4)
Colne Estuary (Mid-Essex Coast Phase 2)
Dengie (Mid-Essex Coast Phase 1)
Hamford Water
Outer Thames Estuary
Stour and Orwell Estuaries



8. Ramsar sites

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Ramsar sites are wetlands of international importance, designated under the Ramsar Convention.

Wetlands are defined as areas of marsh, fen, peatland or water, whether natural or artificial, permanent or temporary, with water that is static or flowing, fresh, brackish or salt, including areas of marine water the depth of which at low tide does not exceed six metres.

Ramsar sites may also incorporate riparian (banks of a stream, river, pond or watercourse) and coastal zones adjacent to the wetlands, and islands or bodies of marine water deeper than six metres at low tide lying within the wetlands.

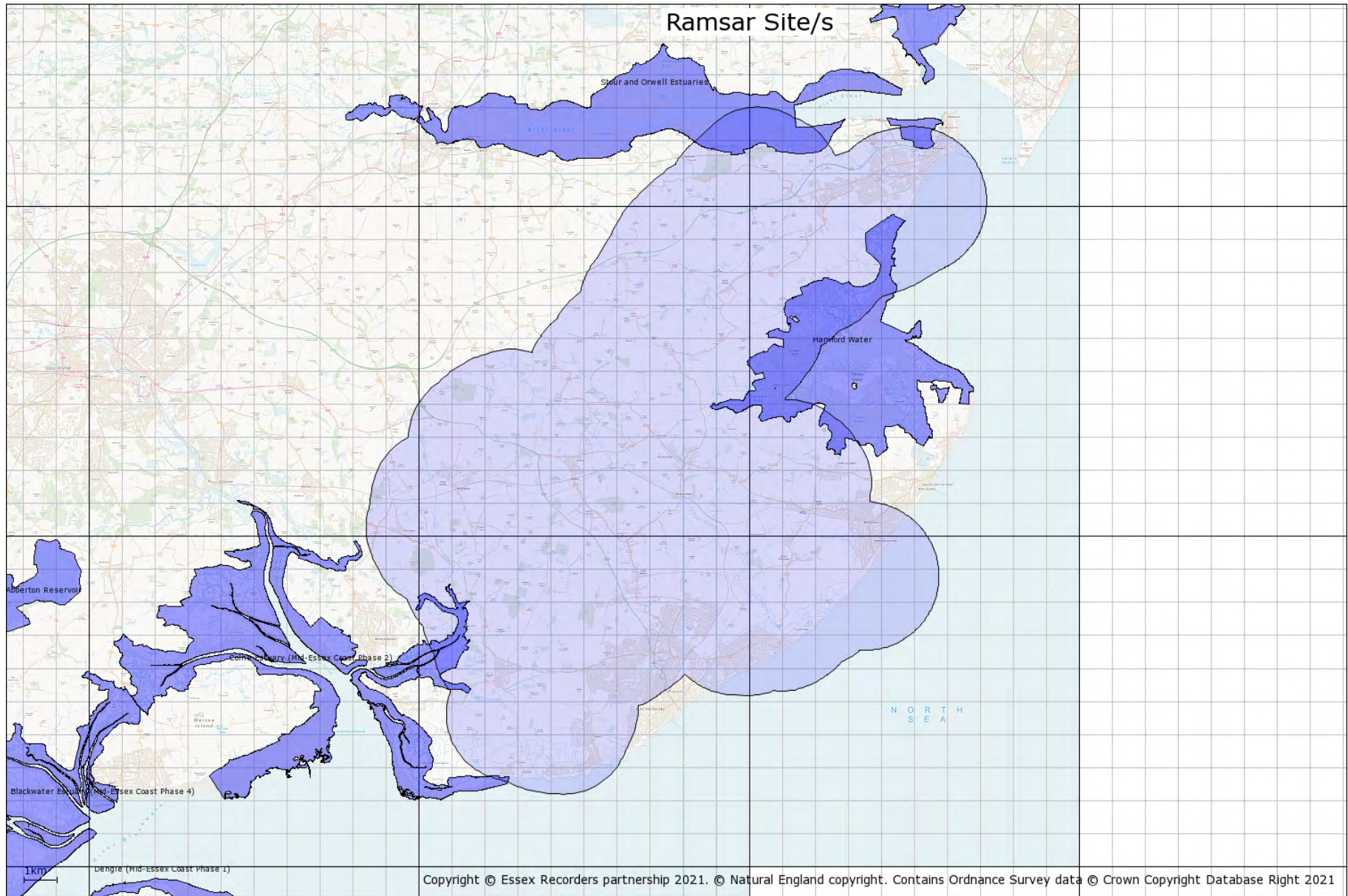
What is the Ramsar Convention?

The Ramsar Convention is an international agreement signed in Ramsar, Iran, in 1971, which provides for the conservation and good use of wetlands. The UK Government ratified the Convention and designated the first Ramsar sites in 1976.

See www.naturalengland.org.uk/ourwork/conservation/designations/ramsars/

There are 6 Ramsar Site/s identified in relation to the search area.

Abberton Reservoir
Blackwater Estuary (Mid-Essex Coast Phase 4)
Colne Estuary (Mid-Essex Coast Phase 2)
Dengie (Mid-Essex Coast Phase 1)
Hamford Water
Stour and Orwell Estuaries



9. Marine Conservation Zone/s

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Marine Conservation Zones (MCZs) are a type of Marine Protected Area. They protect areas that are important to conserving the diversity of nationally rare or threatened habitats and/or species and those places containing habitats and/or species that are representative of the biodiversity in our seas.

The Marine and Coastal Access Act 2009 (Part 5) enables Defra Ministers to designate and protect Marine Conservation Zones (MCZs). These are a type of marine protected area, which will exist alongside European marine sites [Special Areas of Conservation (SACs) and Special Protected Areas (SPAs)], SSSIs and Ramsar sites to form an ecologically coherent network of marine protected areas.

See <http://www.naturalengland.gov.uk/ourwork/marine/mpa/mcz/default.aspx>

There is 1 Marine Conservation Zone/s identified in relation to the search area.

Blackwater, Crouch, Roach and Colne Estuaries



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