

The logo for FIVE ESTUARIES OFFSHORE WIND FARM. The word 'FIVE' is in a grey sans-serif font. The 'V' is stylized with a purple-to-pink gradient. To the right of 'FIVE' are three wavy lines representing water, colored blue, green, and yellow from top to bottom. Below 'FIVE' is the word 'ESTUARIES' in a larger grey sans-serif font, and below that is 'OFFSHORE WIND FARM' in a smaller grey sans-serif font.

FIVE ESTUARIES

OFFSHORE WIND FARM

FIVE ESTUARIES OFFSHORE WIND FARM

VOLUME 6, PART 6, ANNEX 4.1: GREAT CRESTED NEWT SURVEY REPORT: ADDITIONAL PONDS

Application Reference	EN010115
Application Document Number	6.6.4.1
Revision	A
APFP Regulation:	5(2)(a)
Date	March 2024



Project	Five Estuaries Offshore Wind Farm
Sub-Project or Package	Environmental Statement
Document Title	Great Crested Newt Survey Report: Additional Ponds
Application Document Number	6.6.4.1
Revision	A
APFP Regulation	5(2)(a)
Document Reference	005024247-01

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Revision	Date	Status/Reason for Issue	Originator	Checked	Approved
A	Mar 2024	Environmental Statement	SLR	GoBe	VEOWFL

FIVE ESTUARIES OFFSHORE WIND FARM

Great Crested Newt (GCN) Survey Report: Additional ponds

Prepared for: GoBe Consultants (on behalf of Five
Estuaries Offshore Wind Farm Ltd)

SLR Ref: 404.V05356.00010
Version No: 1
October 2023



Document Control	
Document Properties	
Organisation	GoBe
Project Name	Five Estuaries Offshore Wind Farm
Report Title	Great Crested Newt (GCN) Survey Report: Additional Ponds
Author(s)	Jess Colebrook
Draft version/final	FINAL
Document reference	404.V05356.00010

Date	Revision No	Prepared By	Reviewed By	Approved By	Status	Comments
27/10/23	1	Jess Colebrook	Andy Law		FINAL	

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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) of the project is being undertaken, the findings of which will be presented within an Environmental Statement (ES). The ES will accompany a Development Consent Order (DCO) application under the Planning Act 2008.

SLR Consulting Limited (SLR) was commissioned by GoBe Consultants, on behalf of Five Estuaries Offshore Wind Limited, to undertake a Great Crested Newt (GCN) survey of specific ponds that had not previously been surveyed and that may be affected by the construction and operation of the onshore aspects of the VE OWF.

This report presents the findings of the GCN survey undertaken in spring 2023, in line with the recommendations contained in the Preliminary Ecological Appraisal (PEA)¹.

1.1 Survey Area

The GCN Survey Area comprised previously un-surveyed suitable waterbodies (e.g. ponds) within a 250m buffer zone around the draft Red Line Boundary (RLB) which was available at the time of survey, as indicated on Figure 1.

Access permission for surveys was sought for all 14 ponds indicated, but was only granted in respect of four of these (pond numbers 35, 89, 91, 97).

1.2 Purpose of this Report

This report presents the findings of the 2023 GCN survey of the four ponds for which access permission was granted.

The report seeks to establish baseline conditions and identify habitats that may be important for this species.

The assessment of impacts resulting from the onshore elements of VE OWF is beyond the scope of this report and was covered in Volume 3, Chapter 4: Onshore Biodiversity and Nature Conservation Chapter of the PEIR. Subsequently updated in the Environmental Statement chapter Volume 6, Part 3, Chapter 4: Onshore Biodiversity and Nature Conservation. The main objectives of the work were to:

- undertake a Habitat Suitability Index (HSI) assessment of all previously un-surveyed ponds present within 250m of the draft RLB at the time of survey; and
- determine the presence/absence of GCN at all previously un-surveyed ponds within 250m of the draft RLB at the time of survey;

¹ Five Estuaries Offshore Wind Farm: Preliminary Ecological Appraisal (Onshore), SLR Consulting, May 2022

1.3 Evidence of Technical Competence and Experience

Surveys were led by Russell Goodchild, Associate Ecologist at SLR Consulting. Russell is a Full Member of CIEEM, holds a GCN survey licence (ref 2016-19897-CLS-CLS), and has 13 years experience of undertaking such survey. Russell was assisted by Alice Mason, Assistant Ecologist.

Jess Colebrook is the lead author of this report, a Principal Ecologist at SLR Consulting with over 20 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.

Andy Law CEnv MCIEEM conducted a review of the report. Andy is a Principal Ecologist at SLR Consulting Ltd with more than 32 years professional experience.

2.0 Methodology

2.1 Field Surveys

Fourteen previously un-surveyed ponds were identified as being present within 250m of the RLB presented at PEIR, of which four proved accessible for survey (permission refused or unobtainable for the remainder). Each pond was subject to environmental DNA (eDNA) survey, egg search and HSI assessment, as described in more detail below.

All surveys were undertaken in accordance with published good practice guidance (English Nature, 2001)²(Biggs et al, 2014)³ in June of 2023. The survey team comprised a lead (NE licence holder or accredited agent) and assistant.

Biosecurity measures were implemented to ensure the risks of introducing disease or invasive species were minimised. This included cleaning and disinfection of surveyor's boots before and after each pond survey, and cleaning/ disinfection of survey equipment (in particular, bottle traps) before each use in a new pond.

2.1.1 Egg searching

Egg-searching surveys involve inspecting pond vegetation for the presence of GCN eggs within folded leaves. Once a GCN egg was found, the presence of this species was confirmed (in a presence/absence sense) in that particular waterbody and no further eggs searches were undertaken to avoid un-necessary damage to aquatic habitats.

2.1.2 eDNA sampling

Environmental DNA sampling protocol³ was followed and samples analysed by ADAS in accordance with published protocols. Samples were collected within the recommended timeframes (mid-April to end of June 2023).

2.1.3 HSI assessment

HSI scores are calculated using ten parameters: site location; waterbody area; frequency of waterbody drying; water quality; shade; waterfowl; fish; presence of other waterbodies in the area; terrestrial habitat; and macrophyte communities. Each parameter scores a value of between 0.01 and 1. These scores are then multiplied and 'rooted' to produce a geometric mean score, of between 0 and 1. The following categorical scale is then used to estimate the overall suitability of the water body concerned.

² English Nature (2001) Great Crested Newt Mitigation Guidelines

³ Biggs J, Ewald N, Valentini A, Gaboriaud C, Griffiths RA, Foster J, Wilkinson J, Arnett A, Williams P and Dunn F 2014. Analytical and methodological development for improved surveillance of the Great Crested Newt. Appendix 5. Technical advice note for field and laboratory sampling of great crested newt (*Triturus cristatus*) environmental DNA. Freshwater Habitats Trust, Oxford.

Table 2-1
HSI Scores

HSI Score	Waterbody Suitability for GCN
<0.5	Poor
0.5-0.59	Below Average
0.6-0.69	Average
0.7-0.79	Good
>0.8	Excellent

2.2 Limitations



No significant constraints were encountered at accessible ponds, and therefore no limitations to the survey noted.

3.0 Results

3.1 Field Survey

Environmental DNA (eDNA) sampling of the four ponds returned negative results for GCN. No other evidence of GCN was recorded at any pond such as the presence of eggs. Appendix 1 provides the raw data and lab results and Figure 1 identifies pond locations and the HSI scores for each pond. The table below provides summary details for each pond, including a photograph of each where available.

Table 3-1
2023 Results summary for each pond (GCN absent from all)

Pond #	Easting	Northing	Photo	Description	HSI & eDNA result
35	617276	223360		Small pond associated with nearby ditching. Well shaded but little water remaining, likely dries out by late summer. No emergent flora.	Poor Negative
89	610886	228461		Agricultural reservoir	Poor Negative
91	610195	228442		Agricultural and residential grey water run off pond, highly vegetated and high algal cover. Swans present.	Good Negative


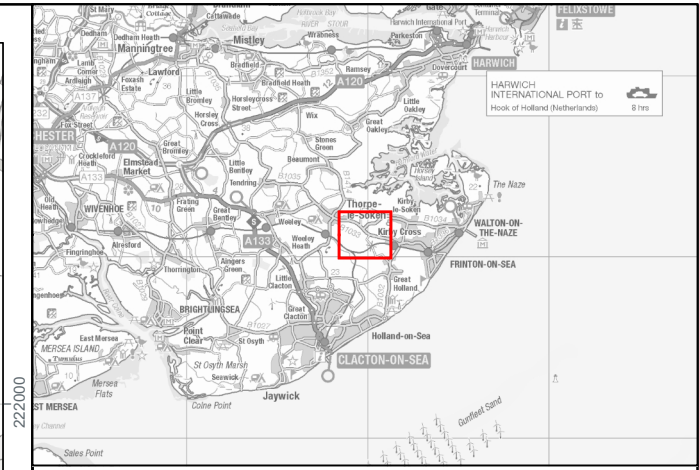
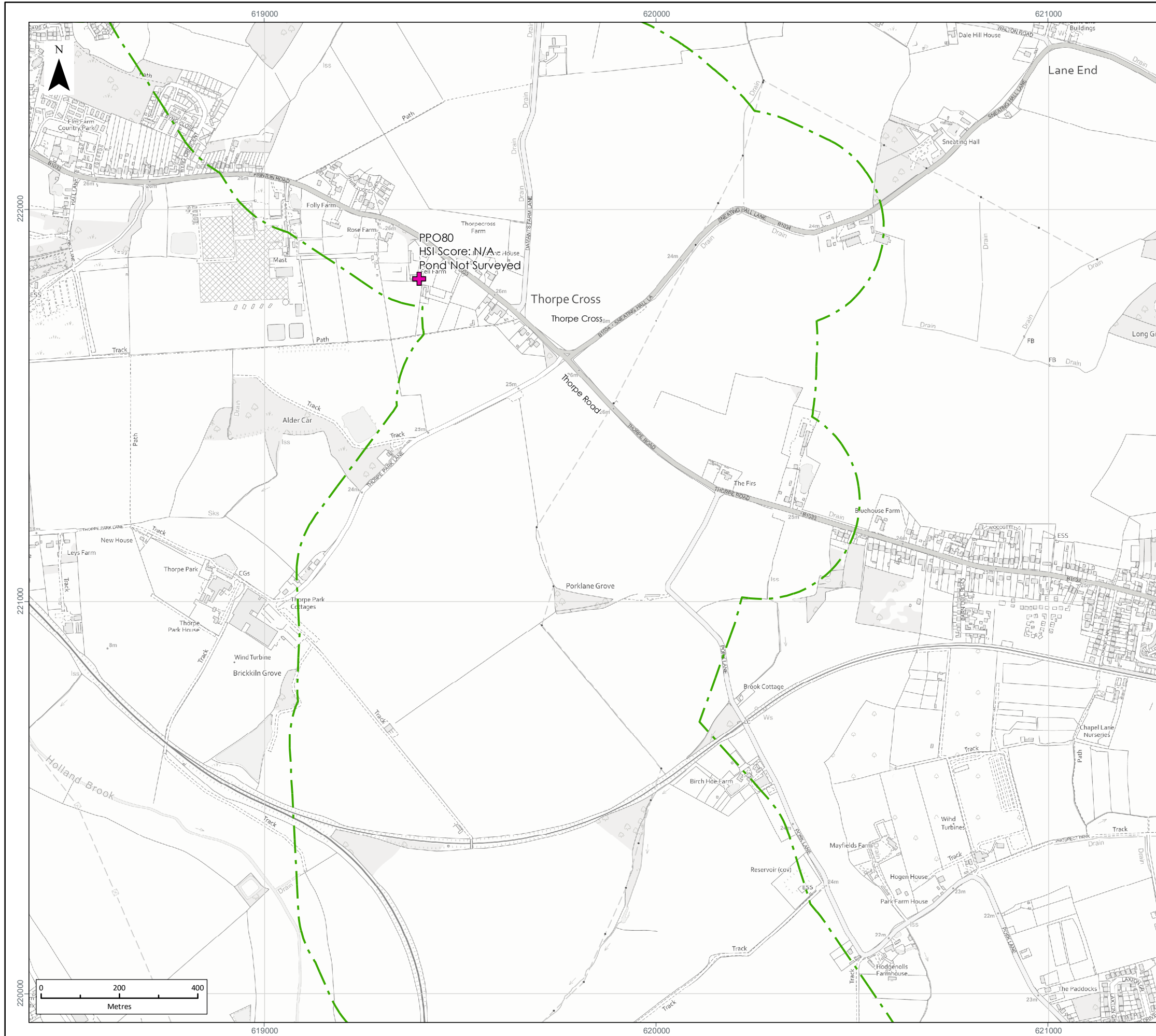
Pond #	Easting	Northing	Photo	Description	HSI & eDNA result
97	607188	228874		Large Pond in woodland, no access, well shaded, little emergent flora.	Good Negative

FIGURE 01

Great Crested Newt 2023 Survey Results



- LEGEND**
- [- - -] GCN Survey Area (Draft Red Line Boundary + 250 m)
 - + Great Crested Newt Absent (2023)
 - + Not Accessible for Survey in 2022 or 2023

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

PROJECT TITLE:
 FIVE ESTUARIES OFFSHORE WINDFARM
 GREAT CRESTED NEWT
 SURVEY REPORT: ADDITIONAL PONDS

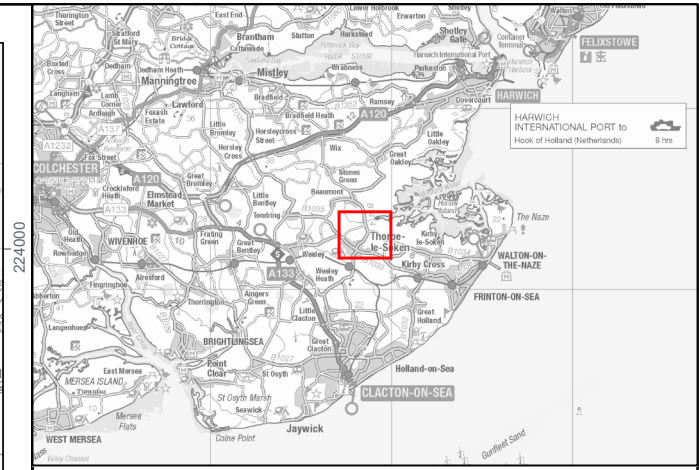
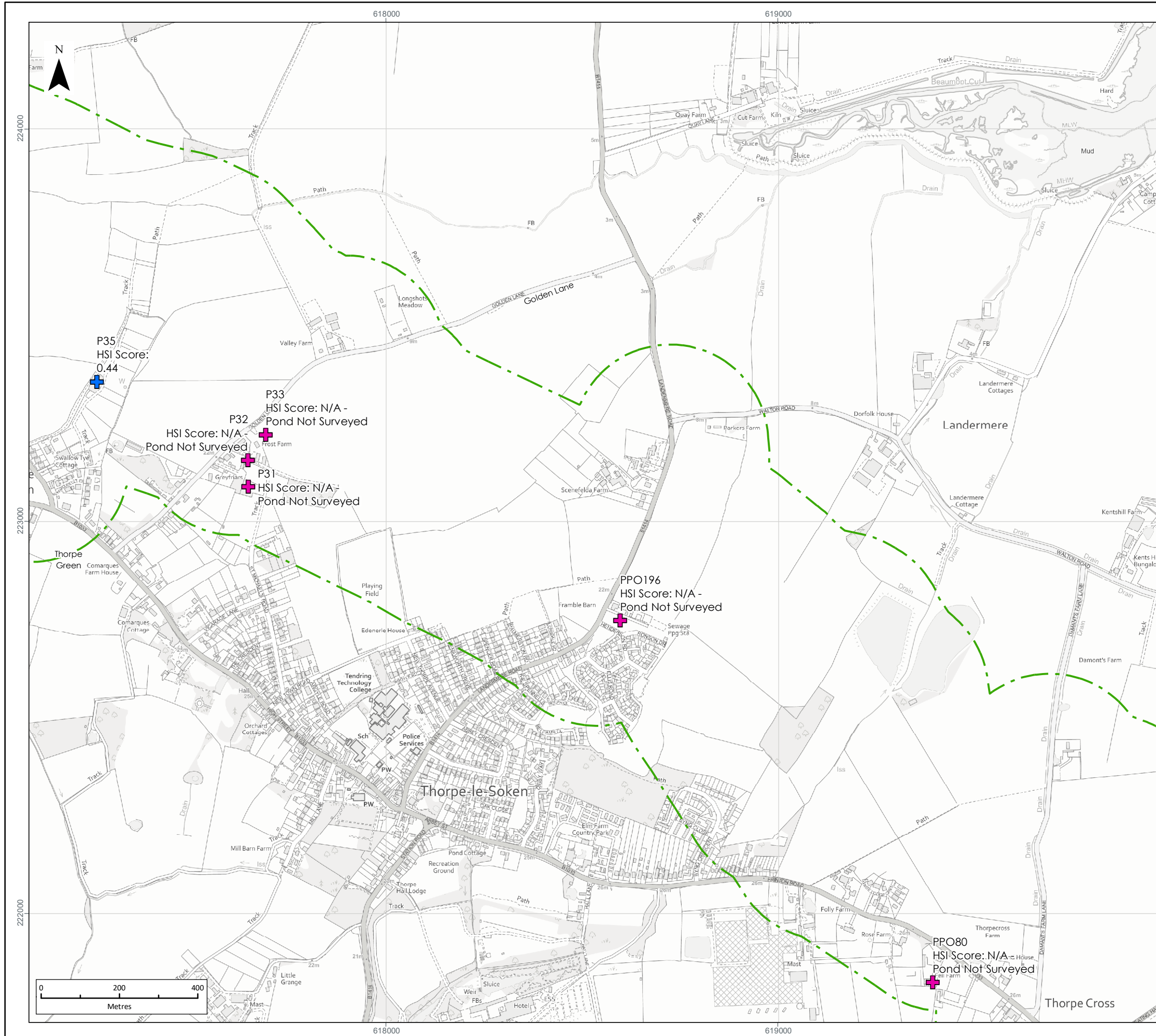
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 GCN Survey Results 2023

VER	DATE	REMARKS	Drawn	Checked
0	20/02/2024	For Issue	DB	JO

DRAWING NUMBER:
 FIGURE 1
 Page 1 of 7

SCALE: 1:10,000 PLOT SIZE: A3 DATUM: OSGB 1936 COORDINATE SYSTEM: British National Grid





- LEGEND**
- - - GCN Survey Area (Draft Red Line Boundary + 250 m)
 - + Great Crested Newt Absent (2023)
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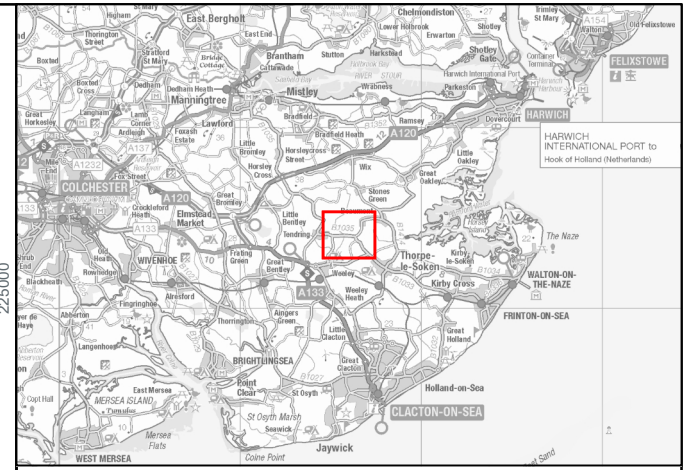
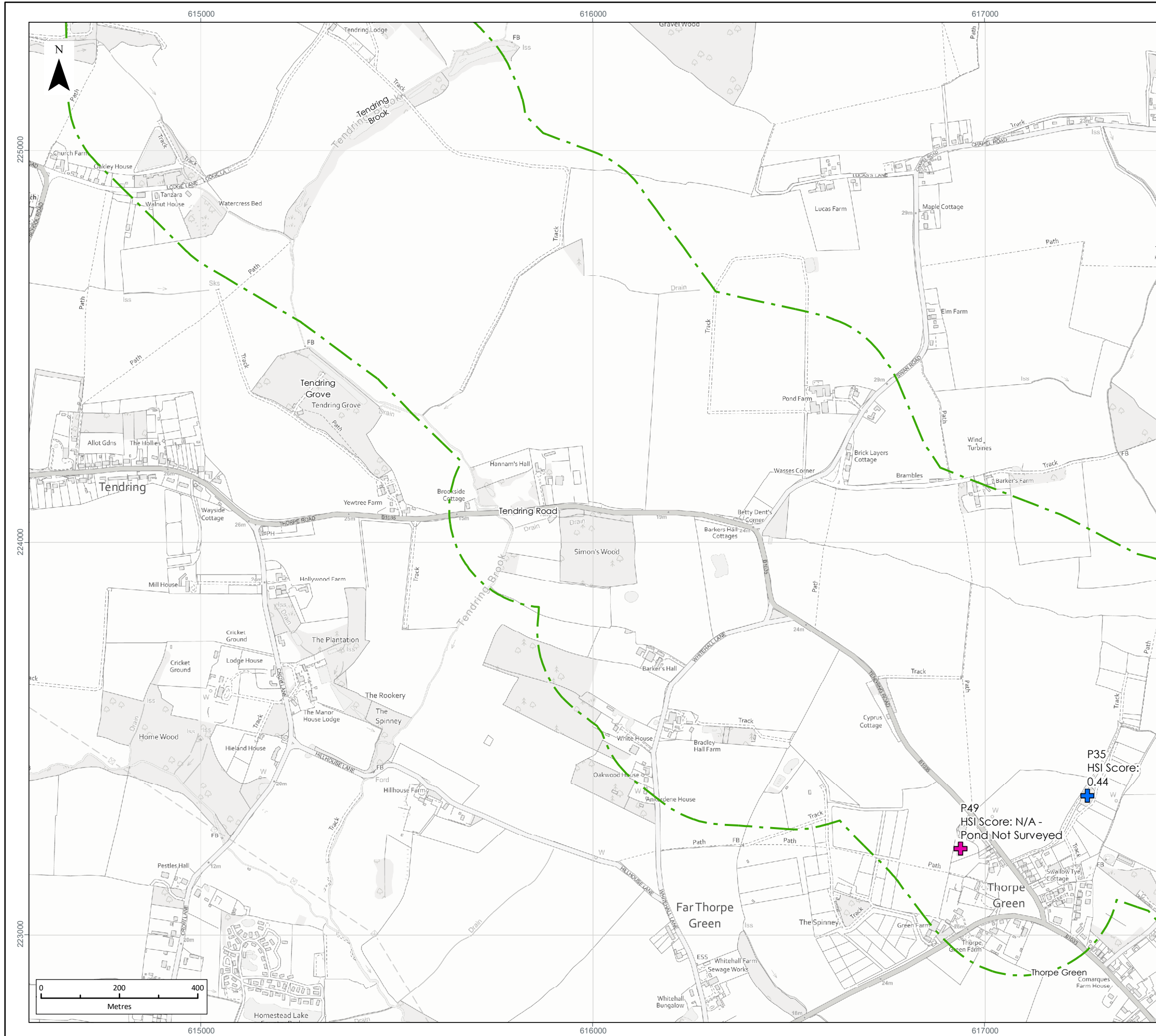
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0	20/02/2024	For Issue	DB	JO

DRAWING NUMBER:
FIGURE 1
Page 2 of 7

SCALE: 1:10,000 PLOT SIZE: A3 DATUM: OSGB 1936 COORDINATE SYSTEM: British National Grid





LEGEND

- - - GCN Survey Area (Draft Red Line Boundary + 250 m)
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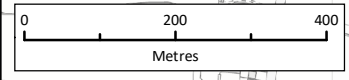
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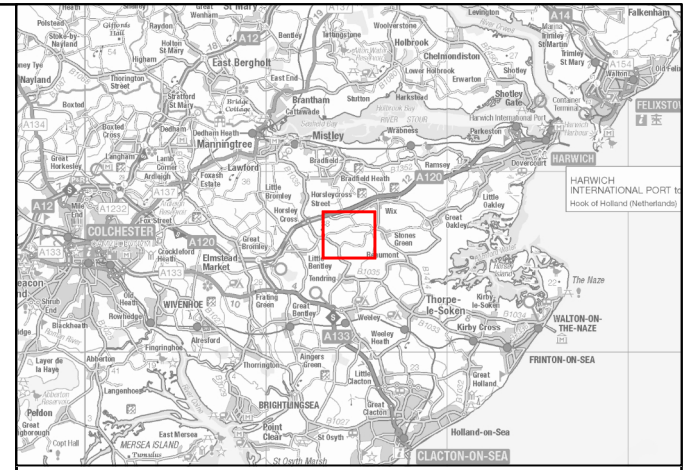
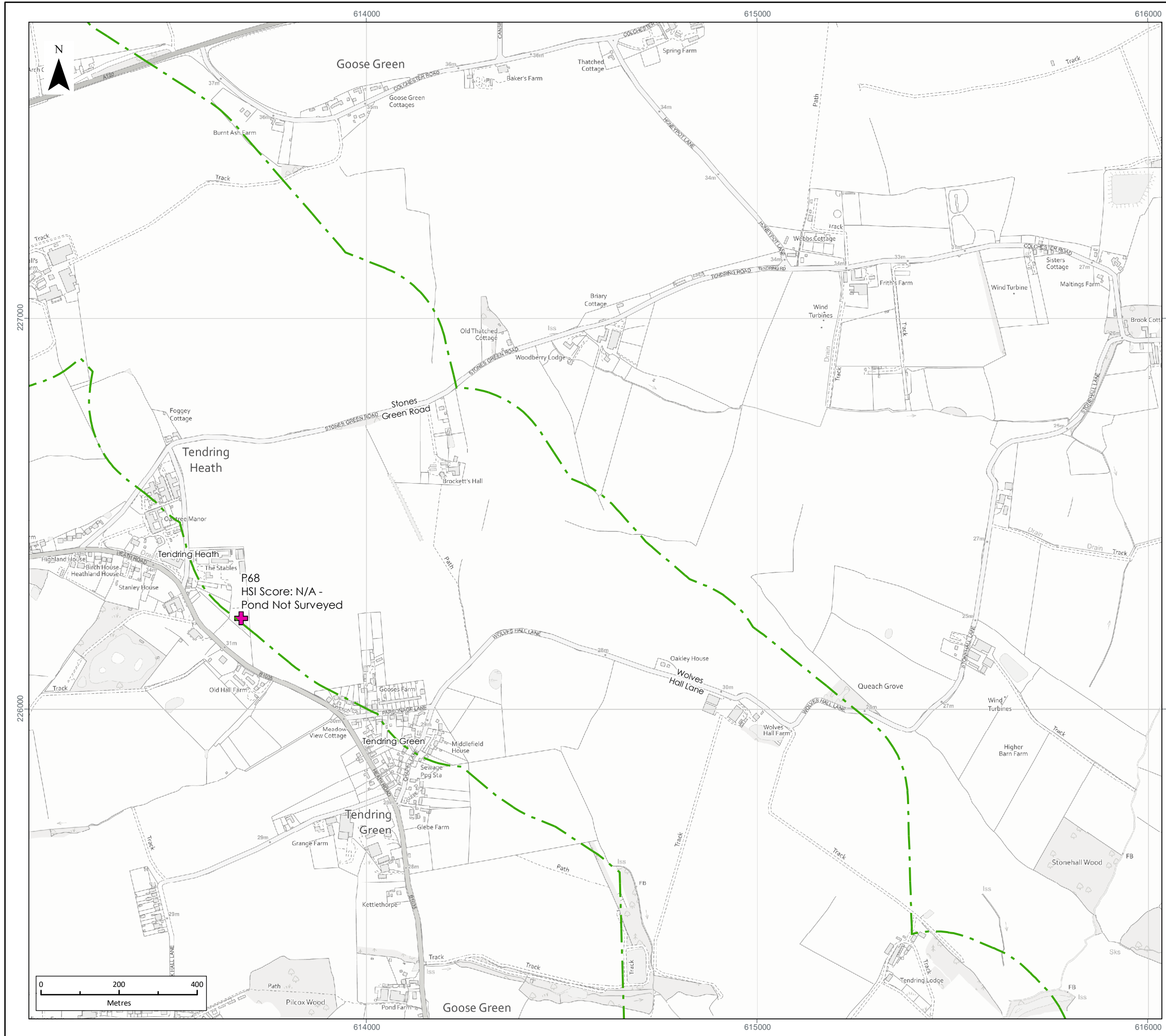
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 FIGURE 1
 Page 3 of 7

SCALE: 1:10,000 PLOT SIZE: A3 DATUM: OSGB 1936 COORDINATE SYSTEM: British National Grid





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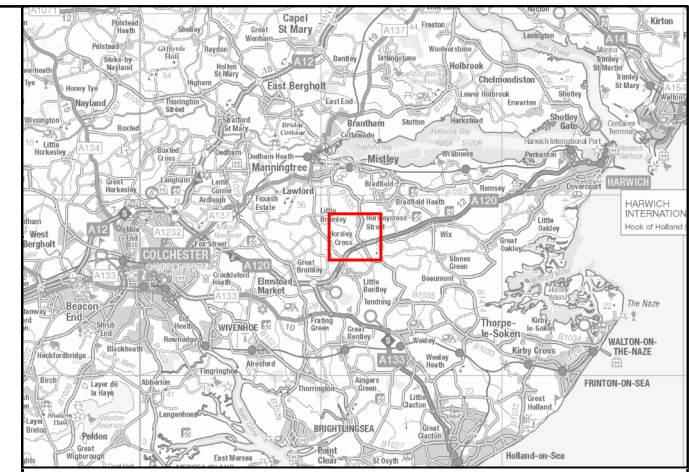
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 Page 4 of 7

SCALE: 1:10,000 PLOT SIZE: A3 DATUM: OSGB 1936 COORDINATE SYSTEM: British National Grid





LEGEND

- - - GCN Survey Area (Draft Red Line Boundary + 250 m)
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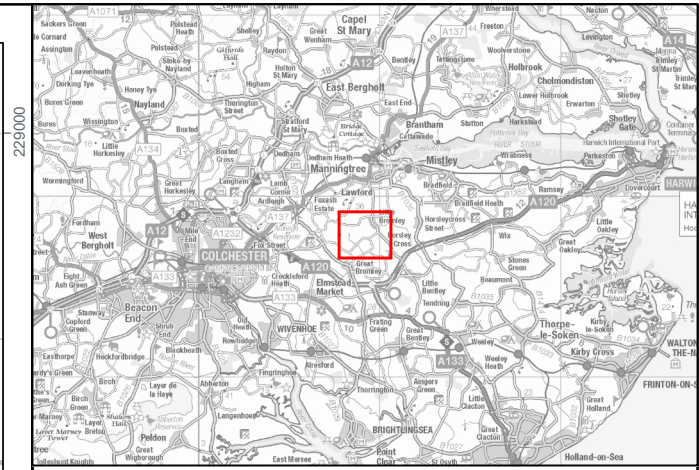
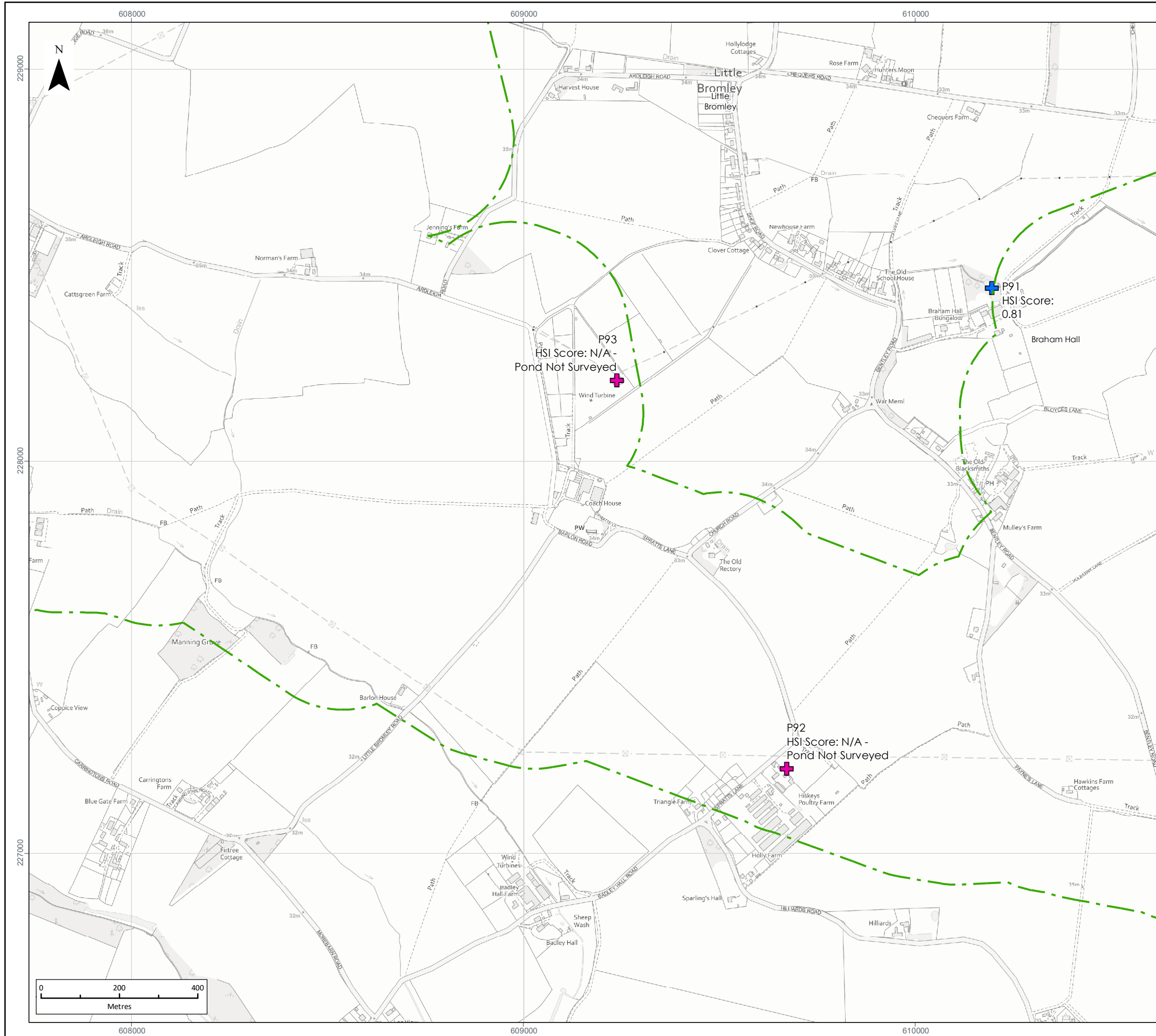
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FIGURE 1
 Page 5 of 7

SCALE: 1:10,000 PLOT SIZE: A3 DATUM: OSGB 1936 COORDINATE SYSTEM: British National Grid





LEGEND

- - - GCN Survey Area (Draft Red Line Boundary + 250 m)
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- + Not Accessible for Survey in 2022 or 2023

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SURVEY REPORT: ADDITIONAL PONDS*

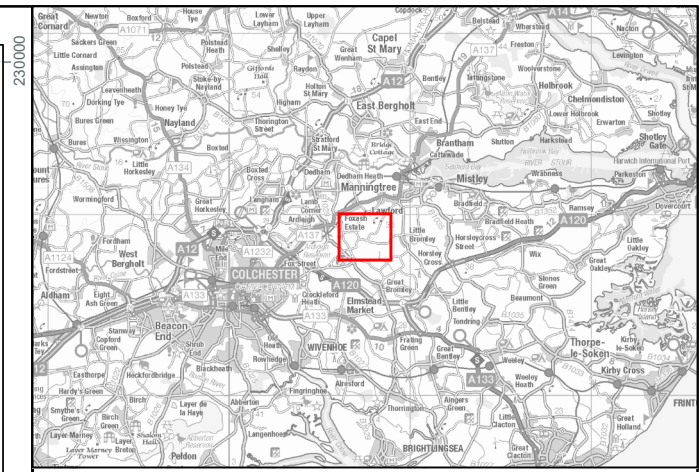
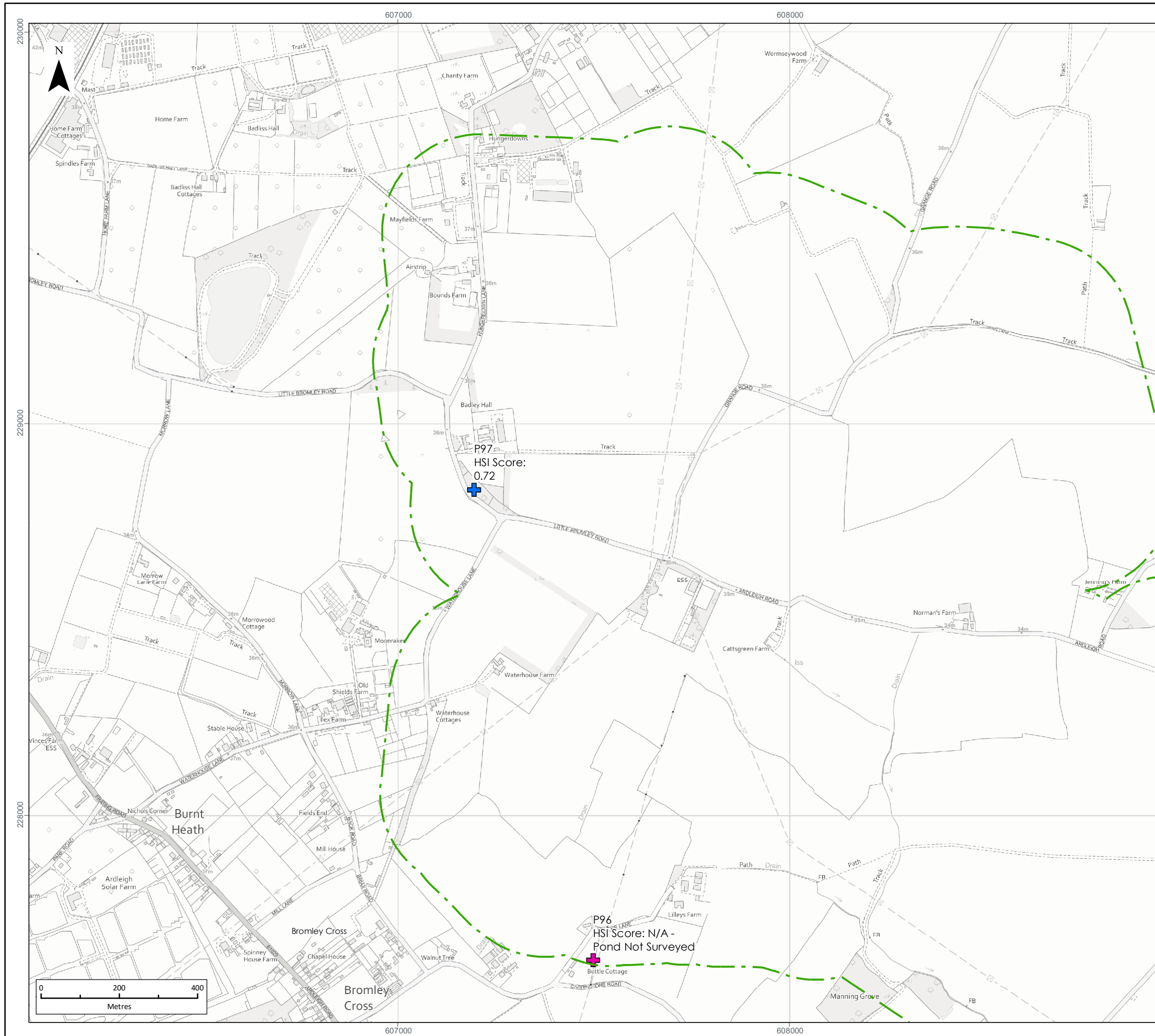
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VER	DATE	REMARKS	Drawn	Checked
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FIGURE 1
Page 6 of 7

SCALE: 1:10,000 PLOT SIZE: A3 DATUM: OSGB 1936 COORDINATE SYSTEM: British National Grid





- LEGEND**
- [- - -] GCN Survey Area (Draft Red Line Boundary + 250 m)
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VER	DATE	REMARKS	Drawn	Checked
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 FIGURE 1
 Page 7 of 7

SCALE: 1:10,000 PLOT SIZE: A3 DATUM: OSGB 1936 COORDINATE SYSTEM: British National Grid



APPENDIX 1

Survey Raw Data

HSI RAW DATA

Pond No	Easting	Northing	Lead Surveyor	HSI Date	SI1 Location	SI2 Area	SI3 Permanence	SI4 Water Quality	SI5 Shade	SI6 Waterfowl	SI7 Fish	SI8 Pond Count	SI9 Habitat	SI10 Macrophytes	HSI Score	HSI Result
35	617276	223360	Russell Goodchild	21.06.23	1	0.025	0.2	0.33	0.4	1	1	1	1	0.4	0.44	Poor
89	610886	228461	Russell Goodchild	21.06.23	1	0.8	1	0.67	1	0.67	0.01	0.8	0.33	0.4	0.45	Poor
91	610195	228442	Russell Goodchild	21.06.23	1	0.9	0.9	0.67	1	0.67	1	0.8	1	0.4	0.81	Excellent
97	607188	228874	Russell Goodchild	21.06.23	1	1	0.9	1	0.2	0.67	0.67	0.9	1	0.5	0.72	Good

EDNA RAW DATA AND LAB RESULTS

Pond No	Easting	Northing	eDNA sample date	Surveyor	EDNA Reference	EDNA Result	eDNALimits
35	617276	223360	21.06.23	Russell Goodchild	ADAS-2475	Negative	None
89	610886	228461	21.06.23	Russell Goodchild	ADAS-2479	Negative	None
91	610199	228435	21.06.23	Russell Goodchild	ADAS-2478	Negative	None
97	607188	228874	21.06.23	Russell Goodchild	ADAS-2480	Negative	None

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