

Rampion 2 Wind Farm

Category 7: Other Documents

Evidence Plan (Part 10 of 11)

Date: August 2023

Revision A

Document Reference: 7.21

Pursuant to: APFP Regulation 5 (2) (q)

Ecodoc number: 004866615-01

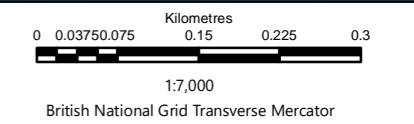


Phase Four – Environmental Statement



Service Layer Credits: Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

- Key**
- Proposed DCO Order Limits
 - Temporary construction compound
 - Trenchless Crossing (TC) compounds
 - Trenchless Crossing (TC) limits of deviation
- Proposed crossing method**
- ▲ Open cut
 - Trenchless
- Onshore cable route KM points**
- Onshore cable route
- Proposed onshore cable construction corridor**
- Indicative trenchless section
 - Indicative open cut section
- Access from public highway**
- ◆ Construction & operational
 - ◆ Light construction
 - ◆ Operational



Rampion Extension Development

Rampion 2 Offshore Wind Farm

Figure 18.8 Landscape elements along cable corridor

Environmental Statement

Page 1 of 21

System Identifier:		Version:	
42285-WSPE-ES-ON-FG-OL-7723		1.0	
Company:	Drawn By:	Chk/Prvd:	Drawn Date:
WSP	SUTET	RYLOR	06/07/2023
Status:	FINAL		

Note: the aerial photo has been overlain with the onshore elements of the proposed development by way of demonstrating the type of landscape elements likely to be affected by the onshore cable corridor. Reference should be made to the suite of Vegetation Retention Plans refer to Terrestrial Ecology chapter 22 figures for information on specific trees, woodland, treebelts, hedges, scrub and grassland. For other landscape elements which are man-made, reference should be made to the Historic Environment chapter 25 figures



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Key

- Proposed DCO Order Limits
- Trenchless Crossing (TC) compounds
- Trenchless Crossing (TC) limits of deviation
- Trenchless Crossing (TC) compound alternatives

Proposed crossing method

- ▲ Open cut
- Trenchless

Onshore cable route KM points

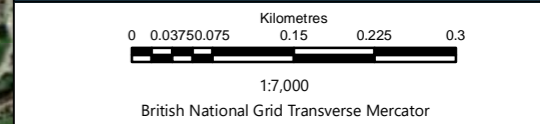
- Onshore cable route

Proposed onshore cable construction corridor

- Indicative trenchless section
- Indicative open cut section

Access from public highway

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Rampion Extension Development

Rampion 2 Offshore Wind Farm

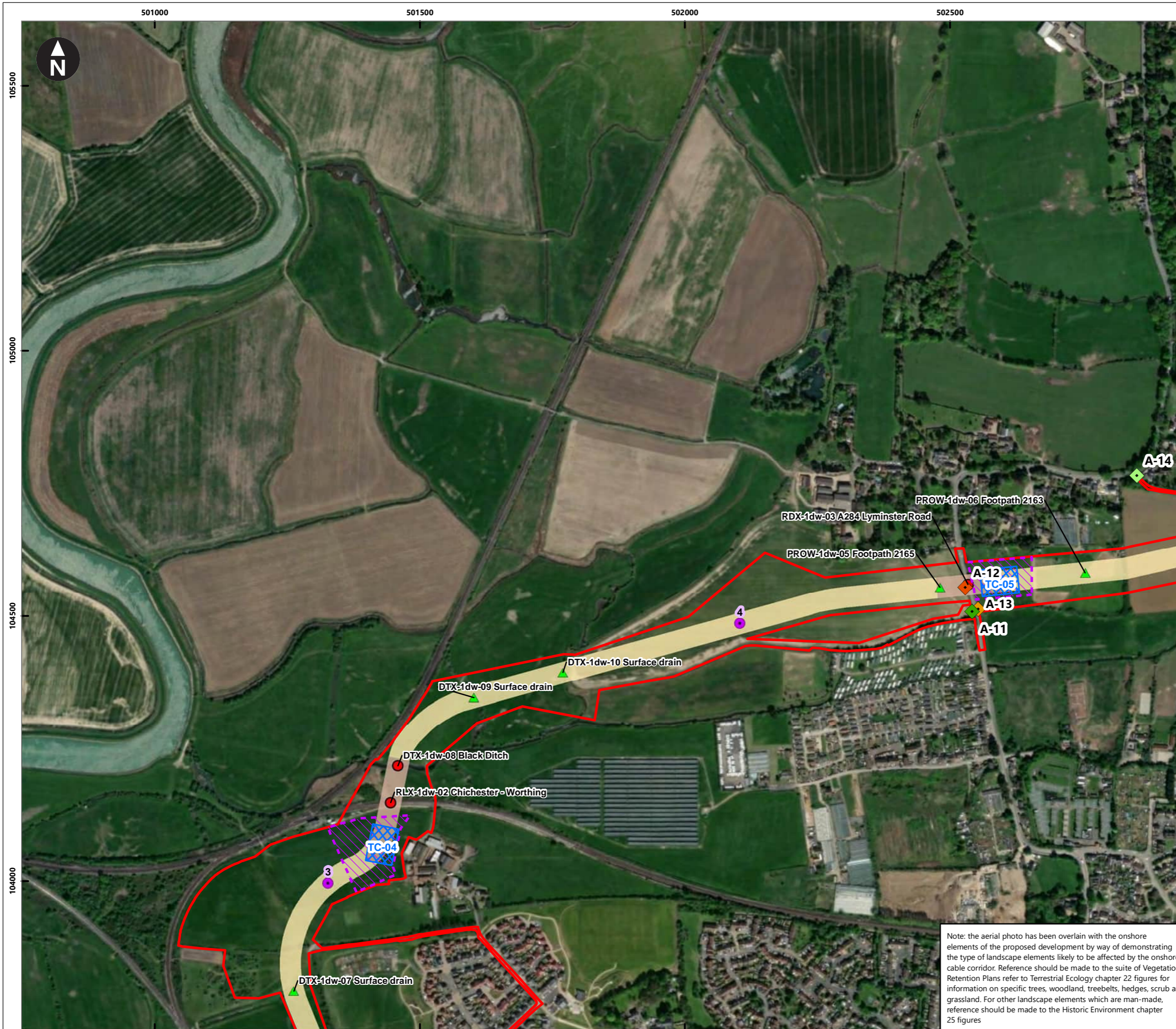
Figure 18.8 Landscape elements along cable corridor

Environmental Statement

System Identifier: 42285-WSP-ES-ON-FG-OL-7723 Version: 1.0

Company: WSP	Drawn By: SUTET	Chk/Prvd: RYLOR	Drawn Date: 06/07/2023	Status: FINAL
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- Trenchless Crossing (TC) limits of deviation

Proposed crossing method

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Onshore cable route KM points

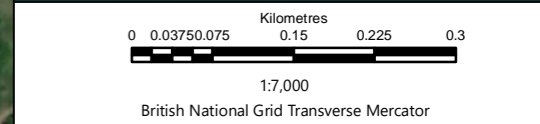
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Access from public highway

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Rampion Extension Development

Rampion 2 Offshore Wind Farm

Figure 18.8 Landscape elements along cable corridor

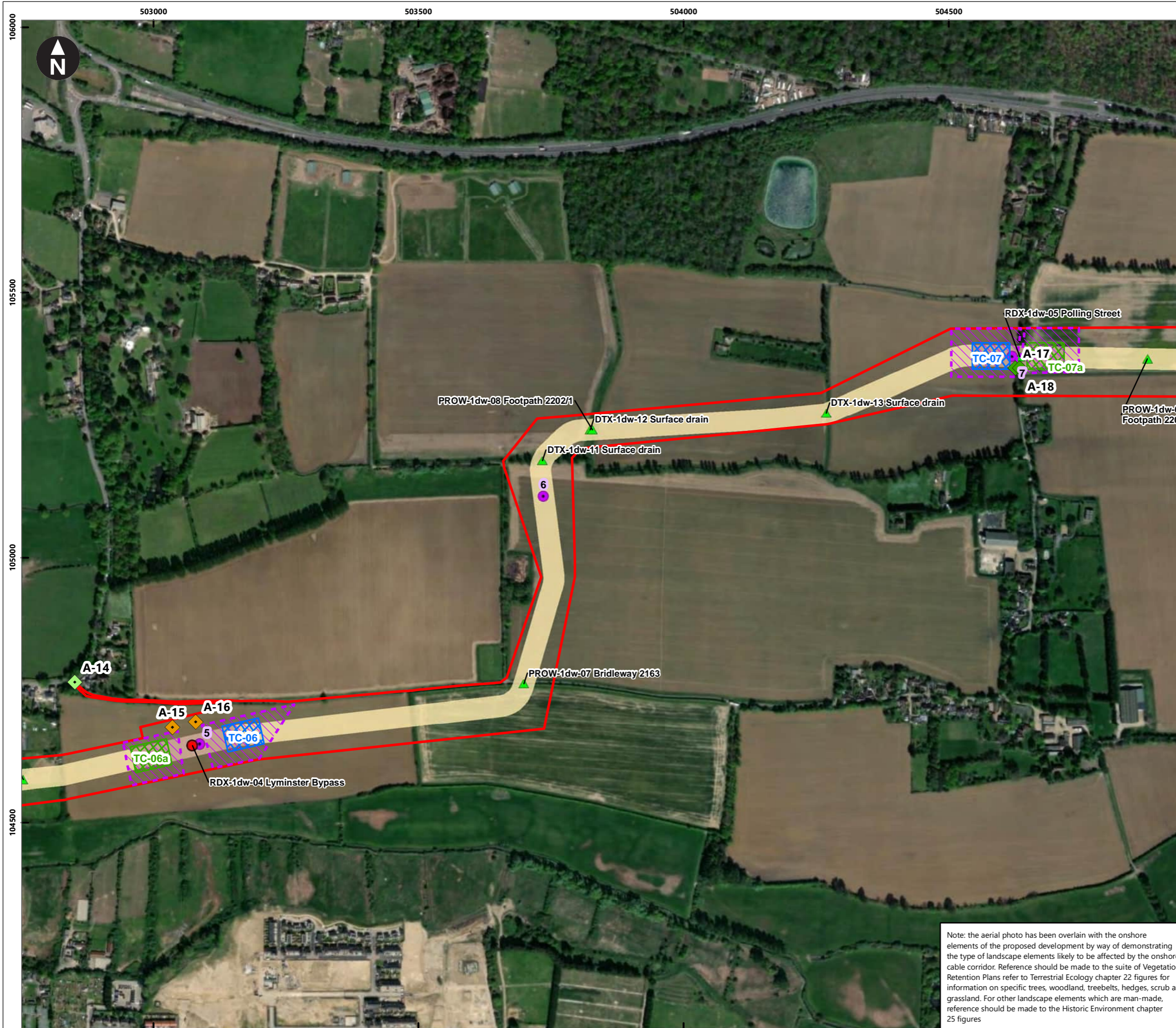
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Page 3 of 21

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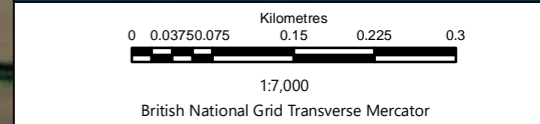
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Access from public highway

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Rampion 2 Offshore Wind Farm

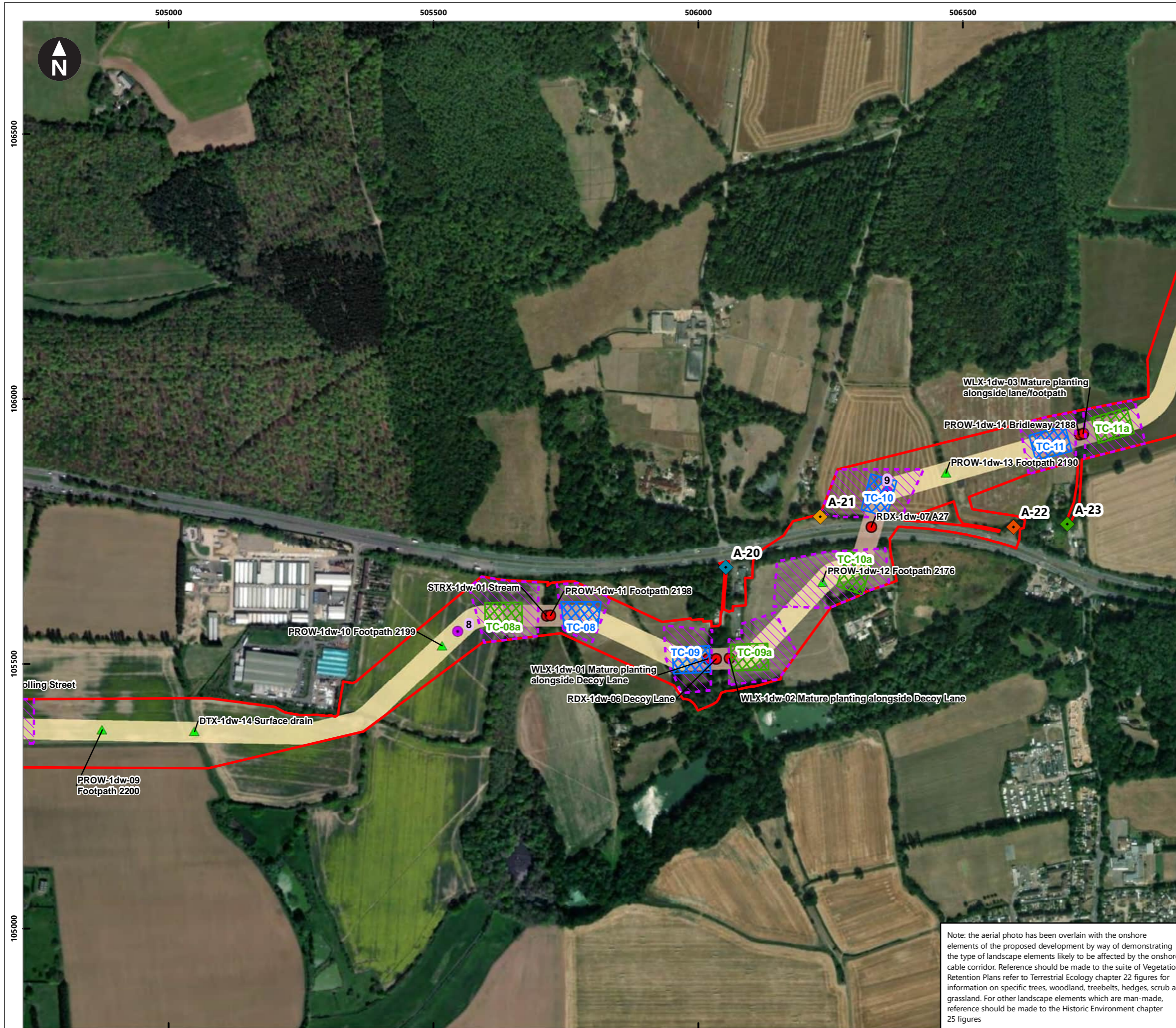
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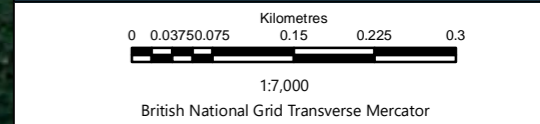
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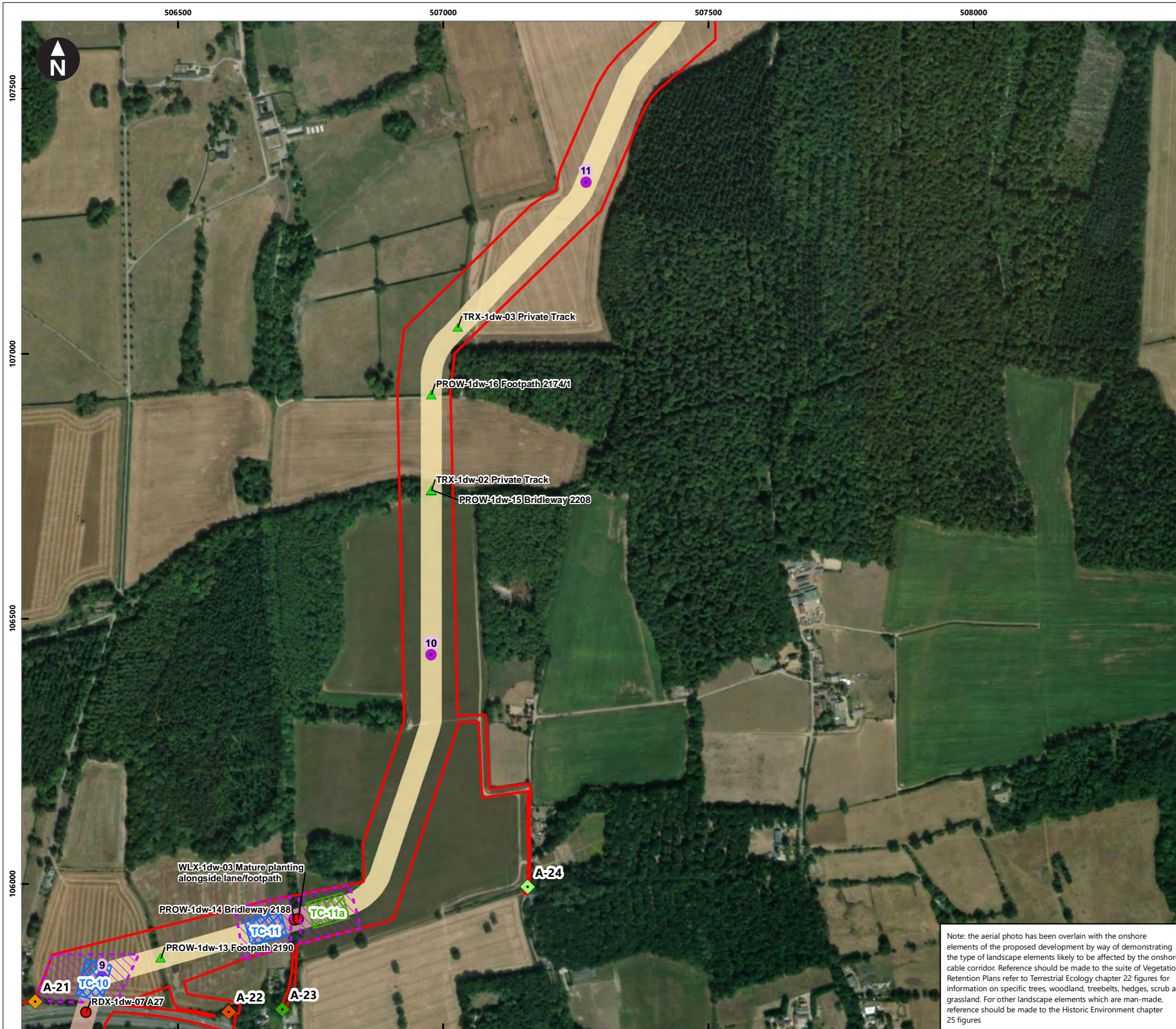
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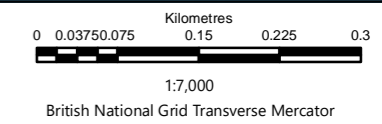
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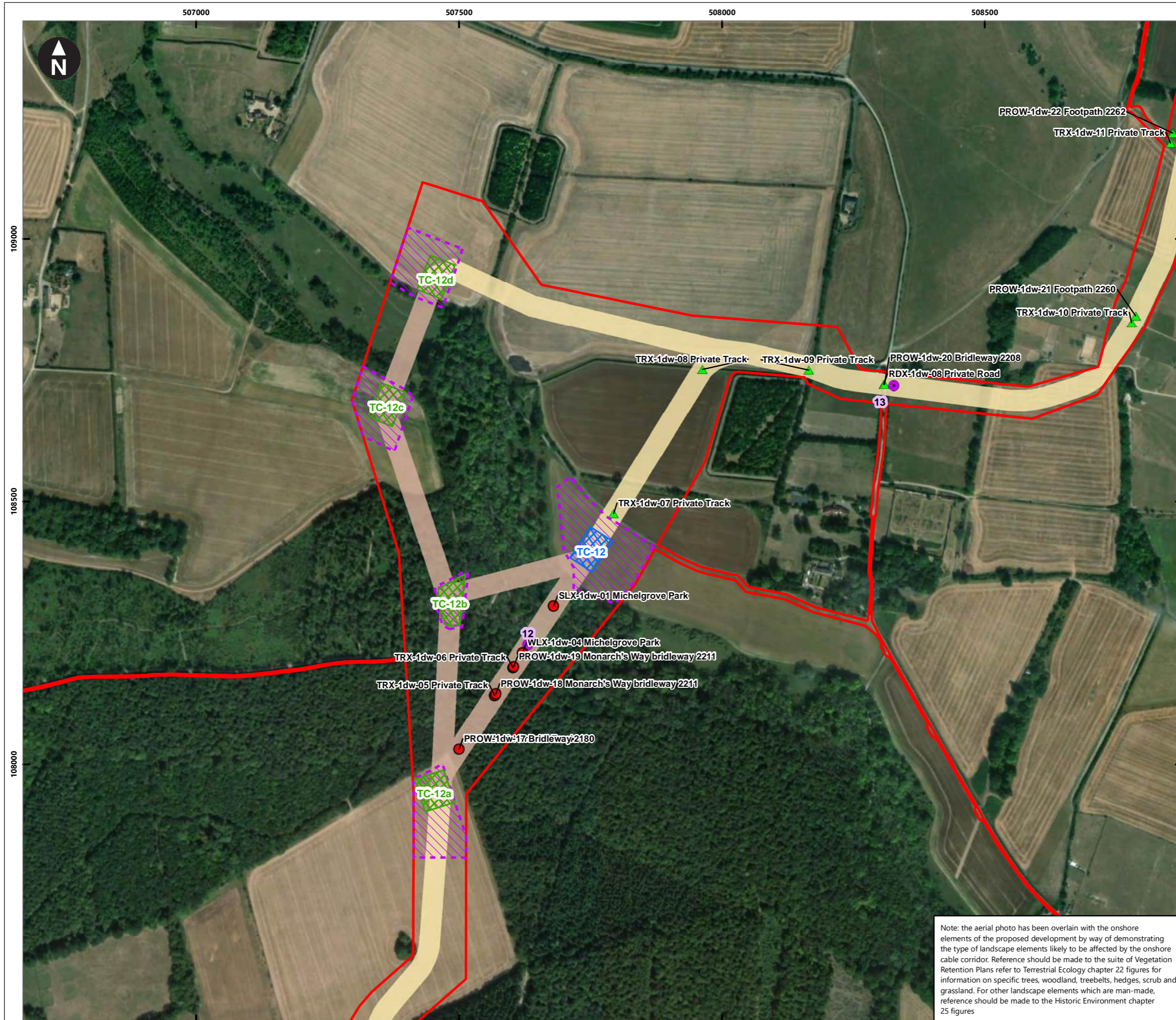
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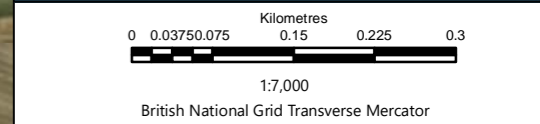
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- Trenchless

Onshore cable route KM points

- Onshore cable route

Proposed onshore cable construction corridor

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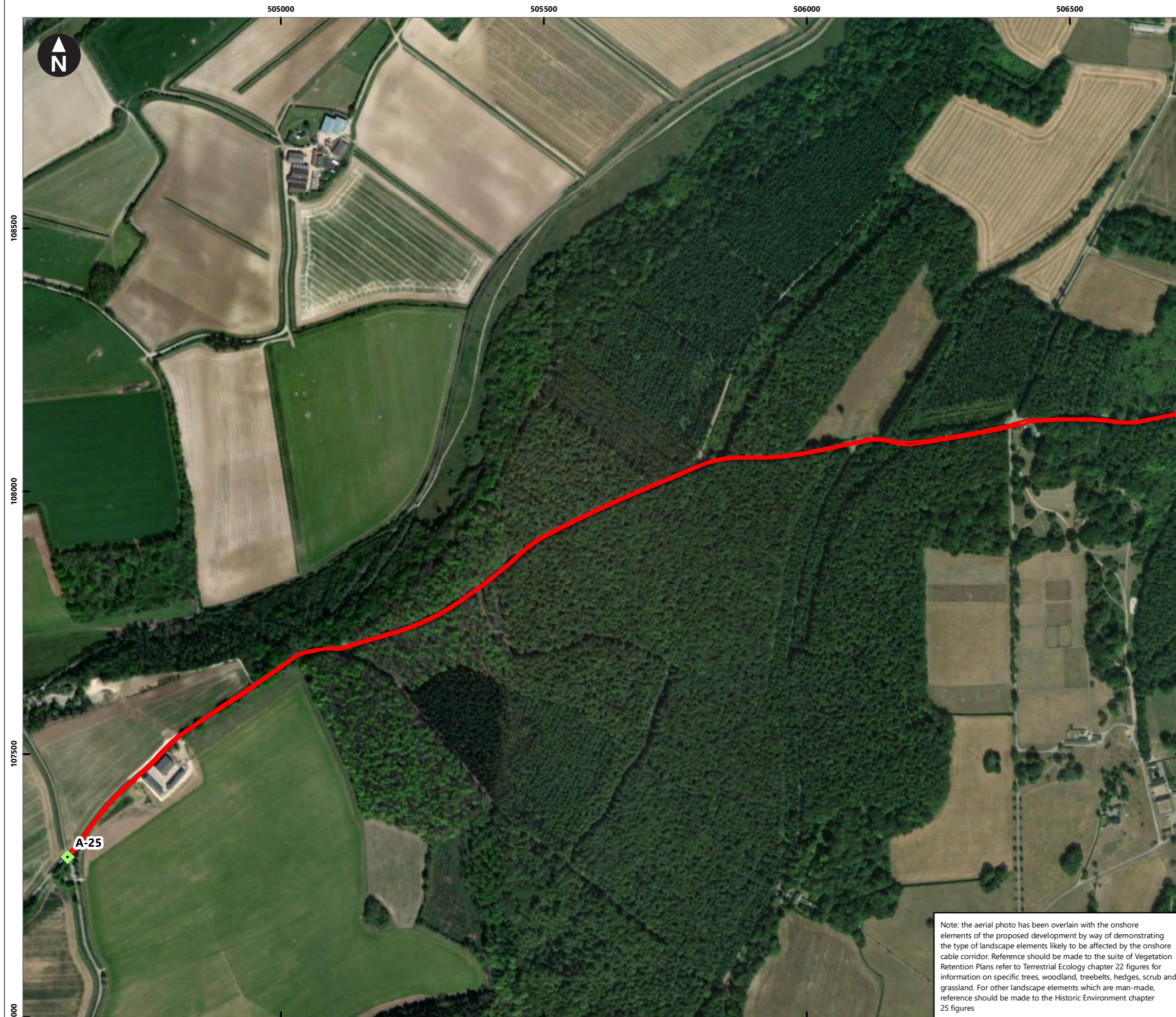
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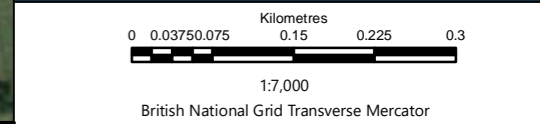
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Key

- Proposed DCO Order Limits
- ◆ Access from public highway
- ◆ Light construction & operational



Rampion Extension Development



Rampion 2 Offshore Wind Farm

Figure 18.8 Landscape elements along cable corridor

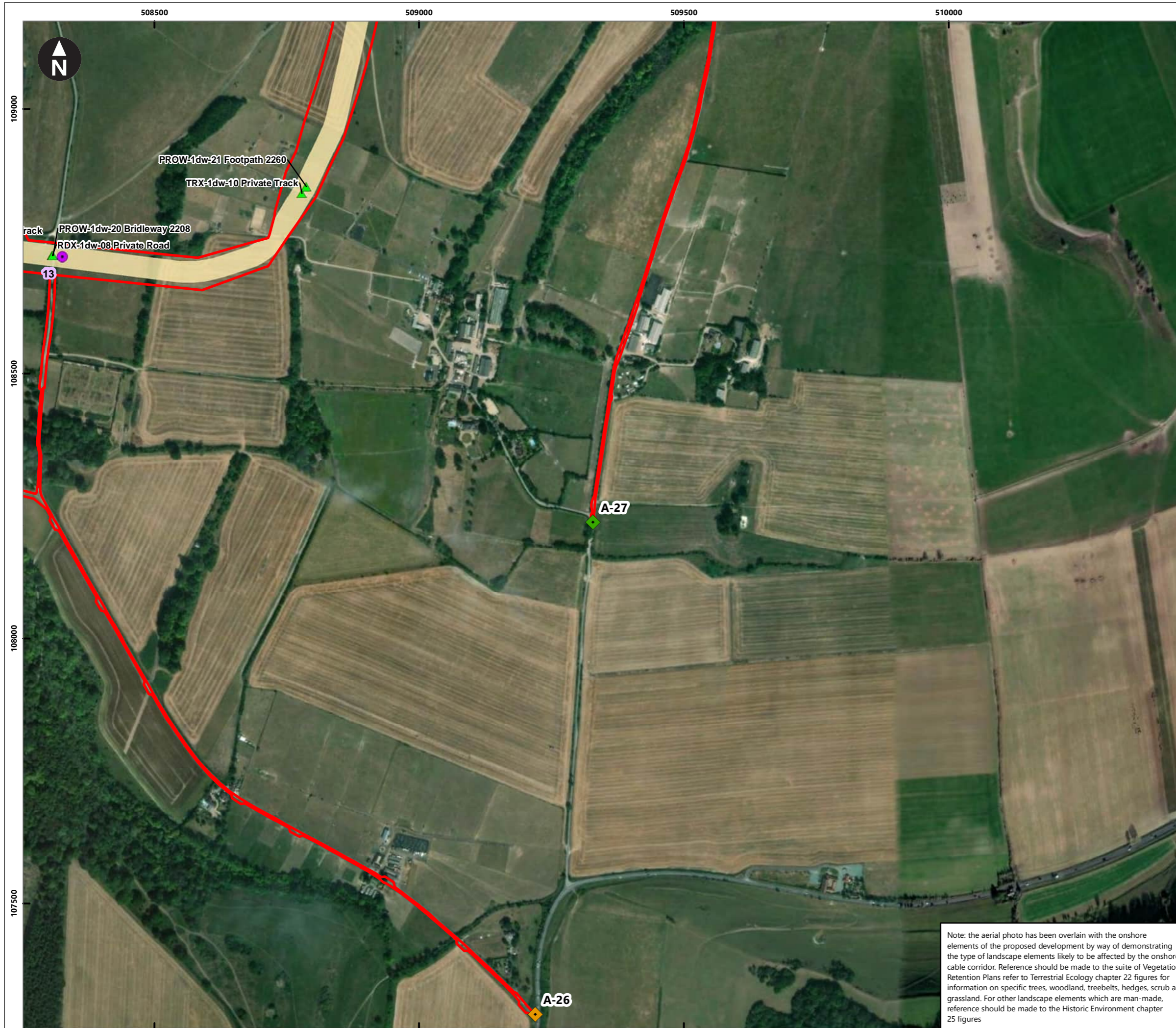
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Page 8 of 21

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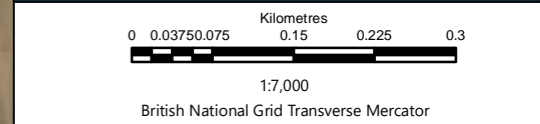
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Key

- Proposed DCO Order Limits
- Proposed crossing method**
- ▲ Open cut
- Onshore cable route KM points**
- Onshore cable route
- Proposed onshore cable construction corridor**
- Indicative open cut section
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- ◆ Construction & operational
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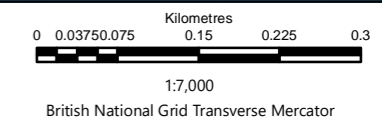
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Rampion Extension Development



Rampion 2 Offshore Wind Farm

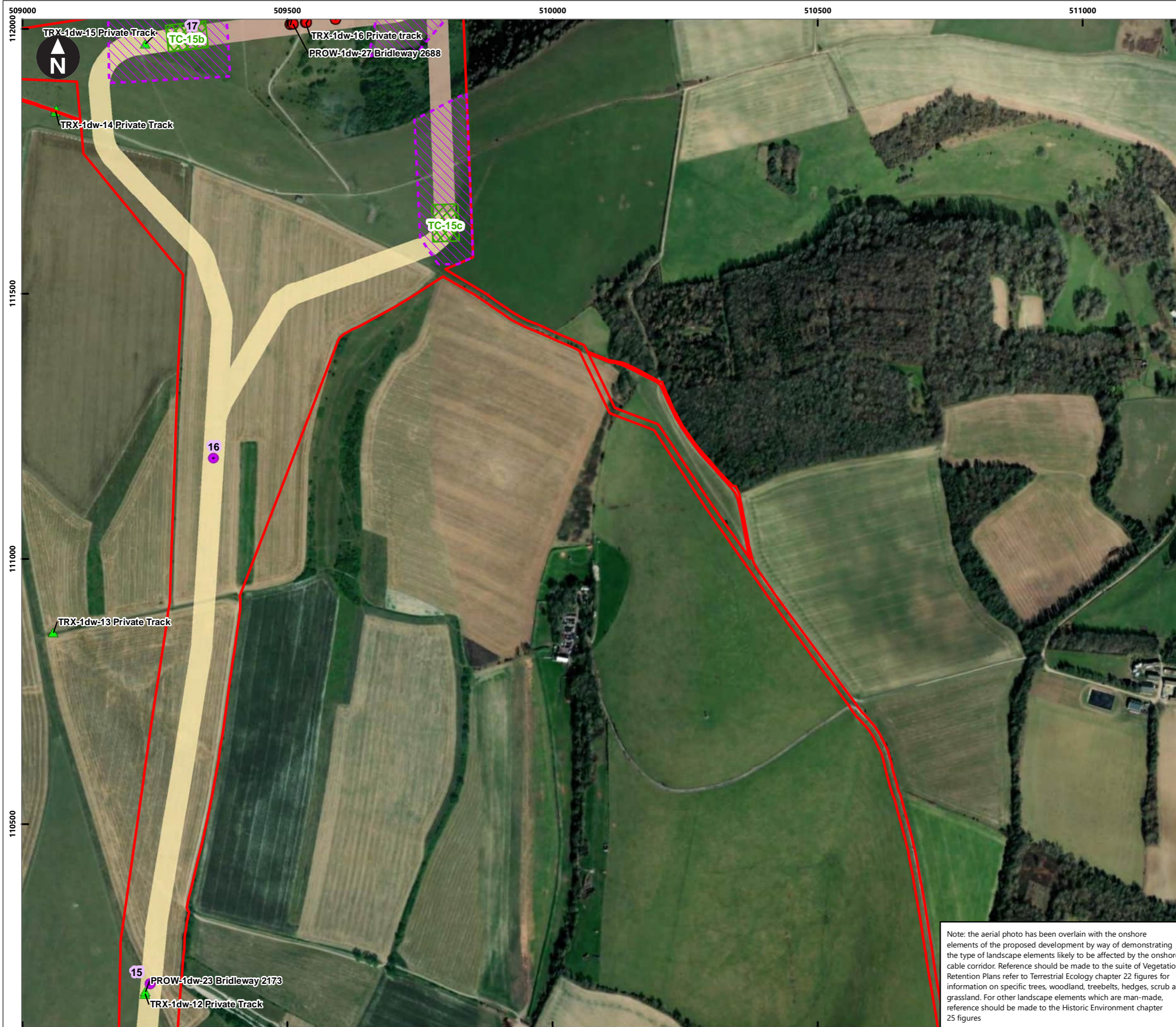
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Environmental Statement

Page 10 of 21

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WSP	SUTET	RYLOR	06/07/2023	FINAL



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Key

- Proposed DCO Order Limits
- Trenchless Crossing (TC) limits of deviation
- Trenchless Crossing (TC) compound alternatives

Proposed crossing method

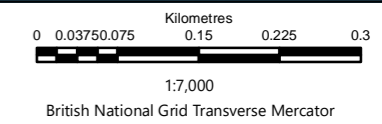
- ▲ Open cut
- Trenchless

Onshore cable route KM points

- Onshore cable route

Proposed onshore cable construction corridor

- Indicative trenchless section
- Indicative open cut section



Rampion Extension Development



Rampion 2 Offshore Wind Farm

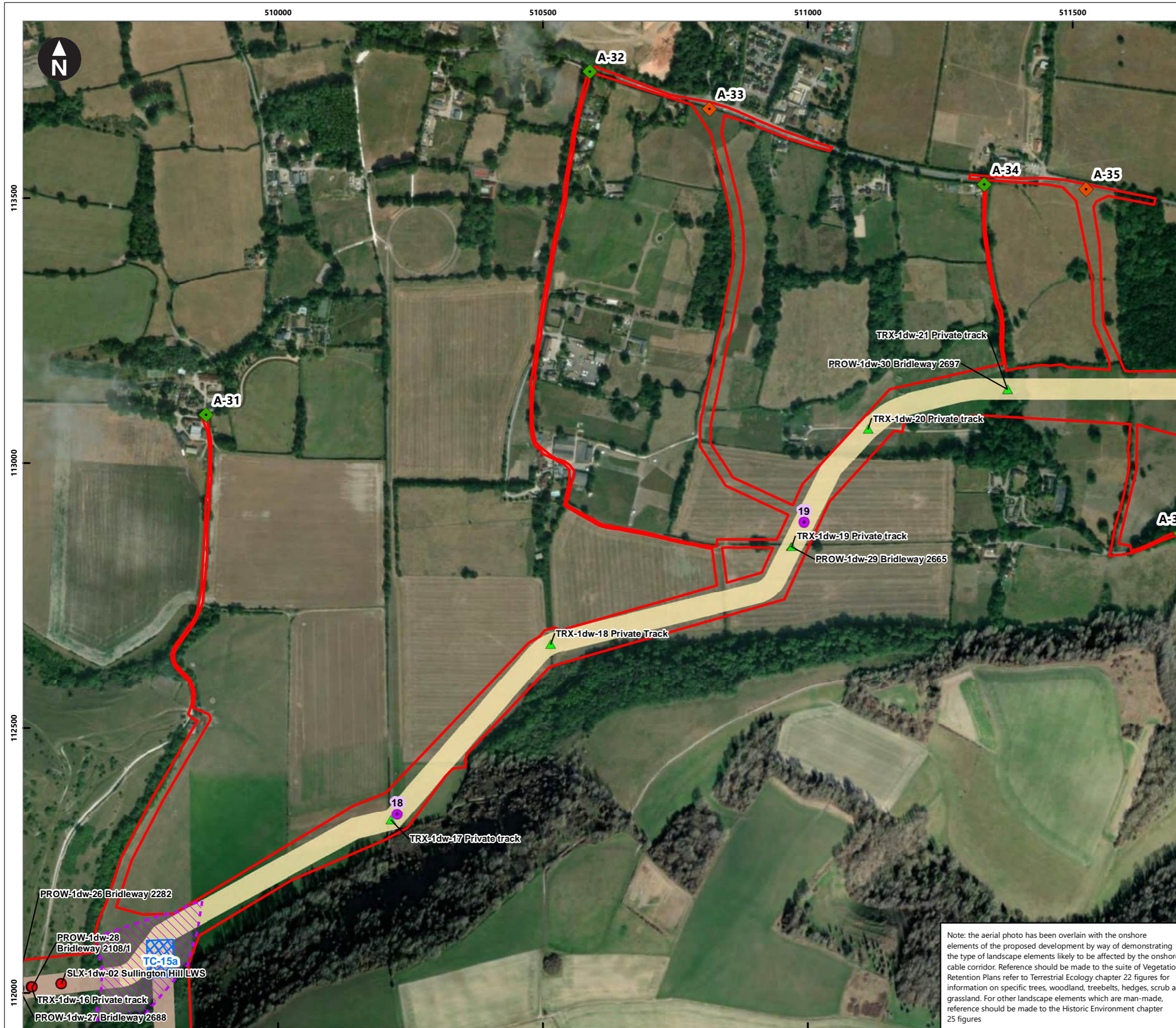
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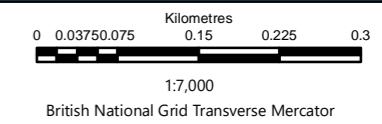
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Rampion Extension Development

Rampion 2 Offshore Wind Farm

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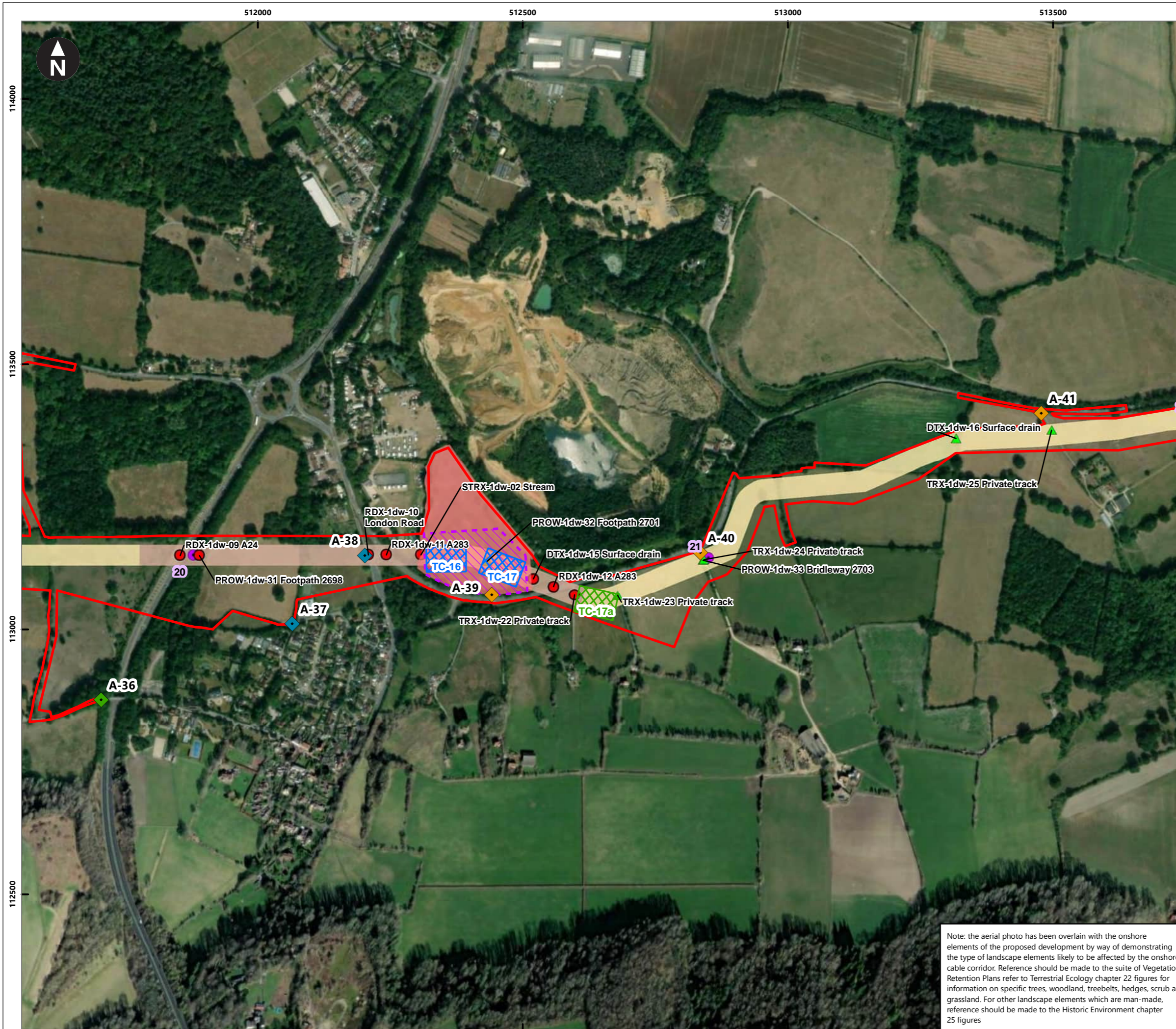
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Page 12 of 21

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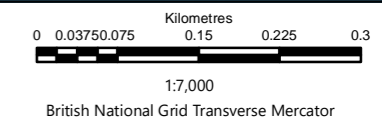
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Rampion Extension Development

Rampion 2 Offshore Wind Farm

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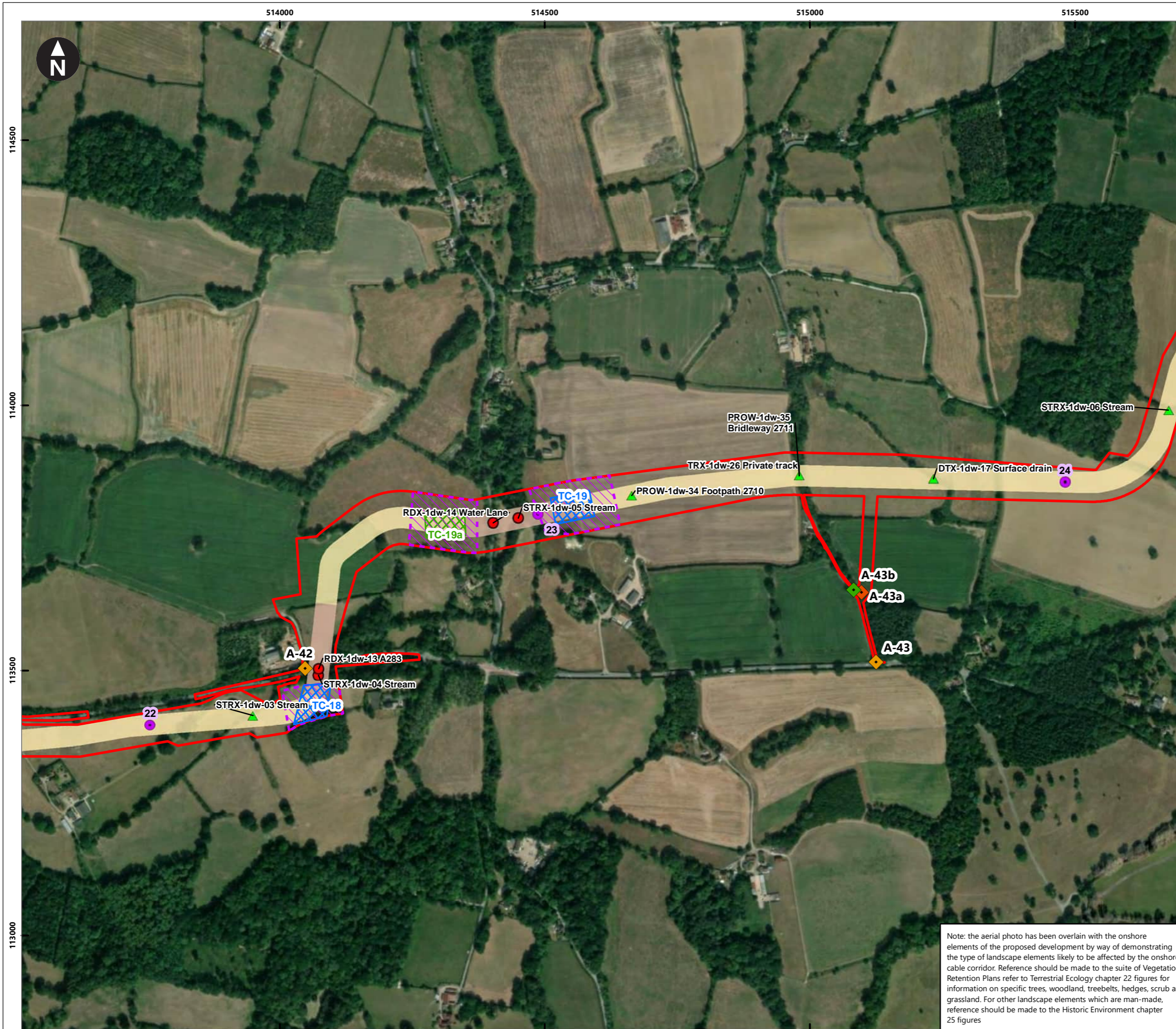
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Page 13 of 21

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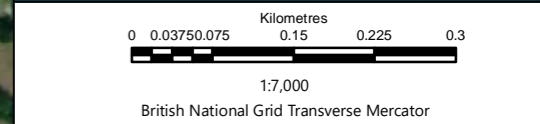
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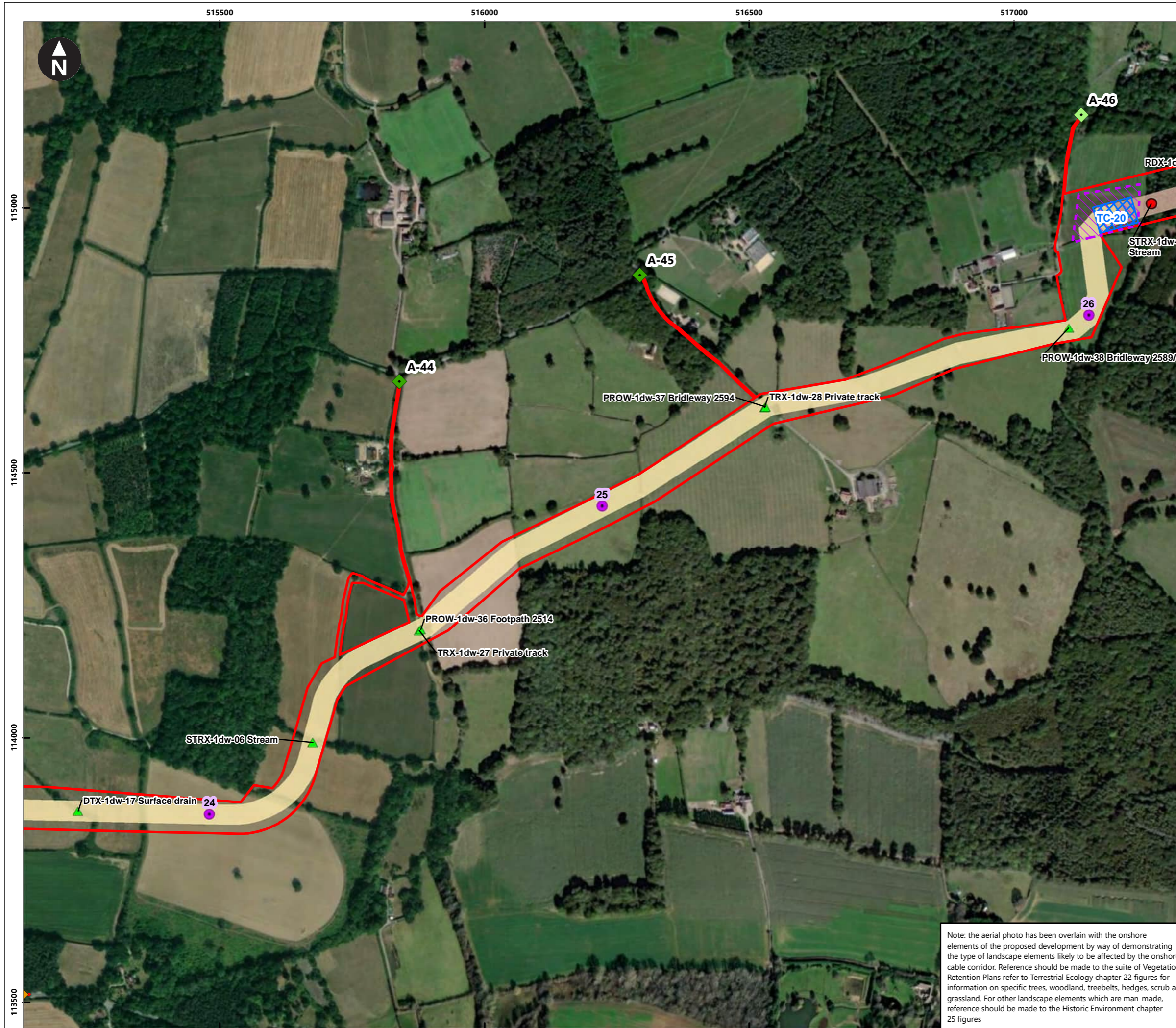
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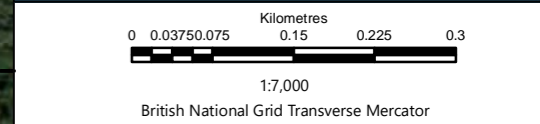
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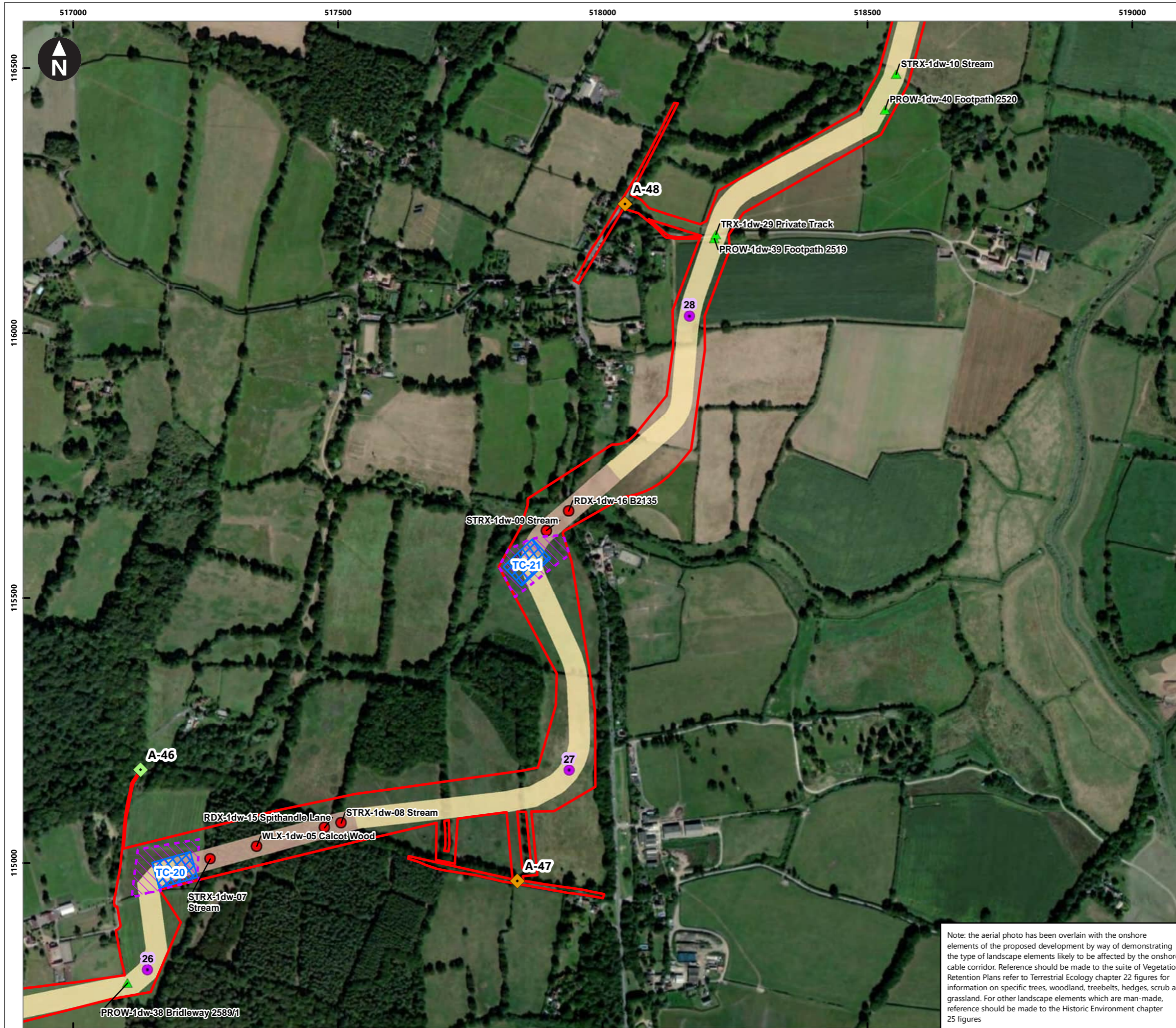
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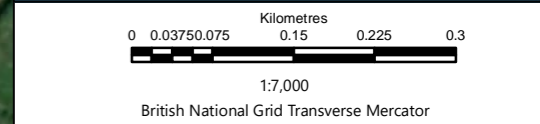
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Rampion 2 Offshore Wind Farm

Figure 18.8 Landscape elements along cable corridor

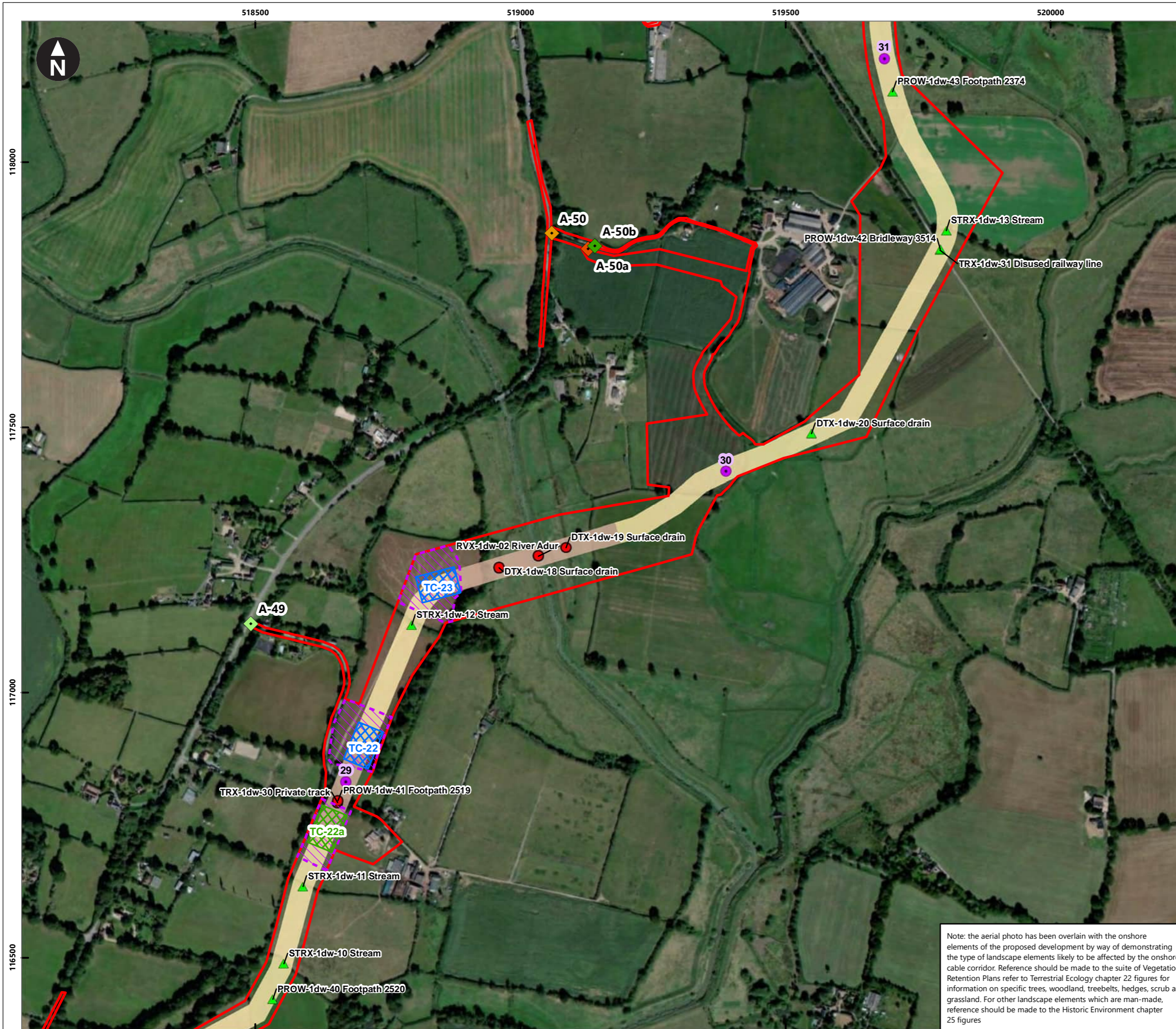
Environmental Statement

Page 16 of 21

System Identifier: 42285-WSP-ES-ON-FG-OL-7723 Version: 1.0

Company: WSP	Drawn By: SUTET	Chk/Prvd: RYLOR	Drawn Date: 06/07/2023	Status: FINAL
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Note: the aerial photo has been overlain with the onshore elements of the proposed development by way of demonstrating the type of landscape elements likely to be affected by the onshore cable corridor. Reference should be made to the suite of Vegetation Retention Plans refer to Terrestrial Ecology chapter 22 figures for information on specific trees, woodland, treebelts, hedges, scrub and grassland. For other landscape elements which are man-made, reference should be made to the Historic Environment chapter 25 figures



Service Layer Credits: Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

Key

- Proposed DCO Order Limits
- Trenchless Crossing (TC) compounds
- Trenchless Crossing (TC) limits of deviation
- Trenchless Crossing (TC) compound alternatives

Proposed crossing method

- ▲ Open cut
- Trenchless

Onshore cable route KM points

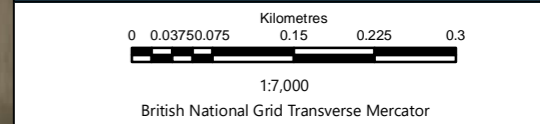
- Onshore cable route

Proposed onshore cable construction corridor

- Indicative trenchless section
- Indicative open cut section

Access from public highway

- ◆ Construction
- ◆ Construction & operational
- ◆ Light construction & operational
- ◆ Operational



Rampion Extension Development

Rampion 2 Offshore Wind Farm

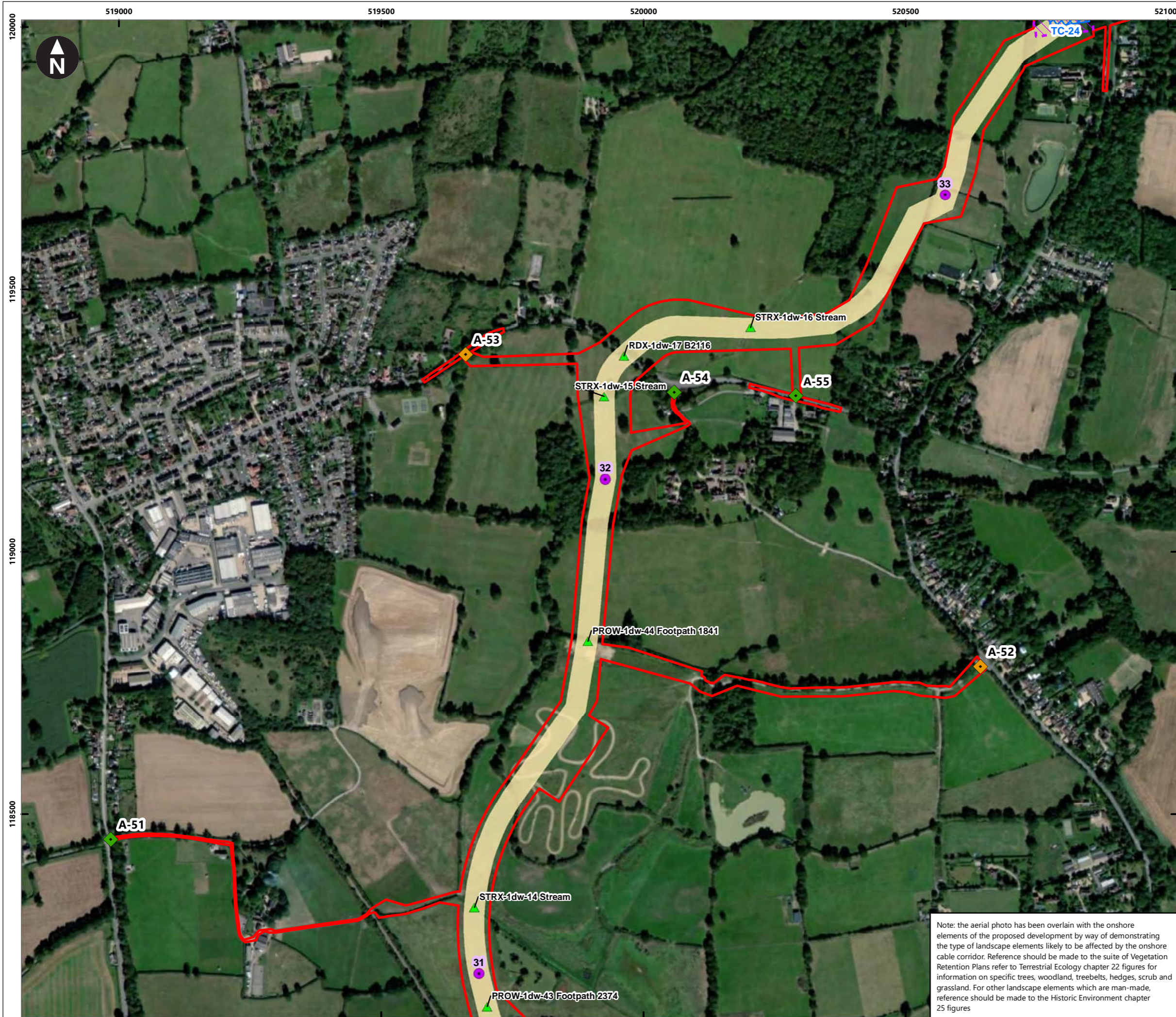
Figure 18.8 Landscape elements along cable corridor

Environmental Statement

System Identifier: 42285-WSP-ES-ON-FG-OL-7723 Version: 1.0

Company: WSP	Drawn By: SUTET	Chk/Prvd: RYLOR	Drawn Date: 06/07/2023	Status: FINAL
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Key

- Proposed DCO Order Limits
- Trenchless Crossing (TC) compounds
- Trenchless Crossing (TC) limits of deviation

Proposed crossing method

- ▲ Open cut

Onshore cable route KM points

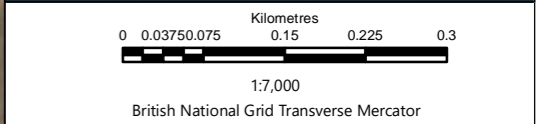
- Onshore cable route

Proposed onshore cable construction corridor

- Indicative trenchless section
- Indicative open cut section

Access from public highway

- ◆ Construction & operational
- ◆ Operational



Rampion Extension Development

Rampion 2 Offshore Wind Farm

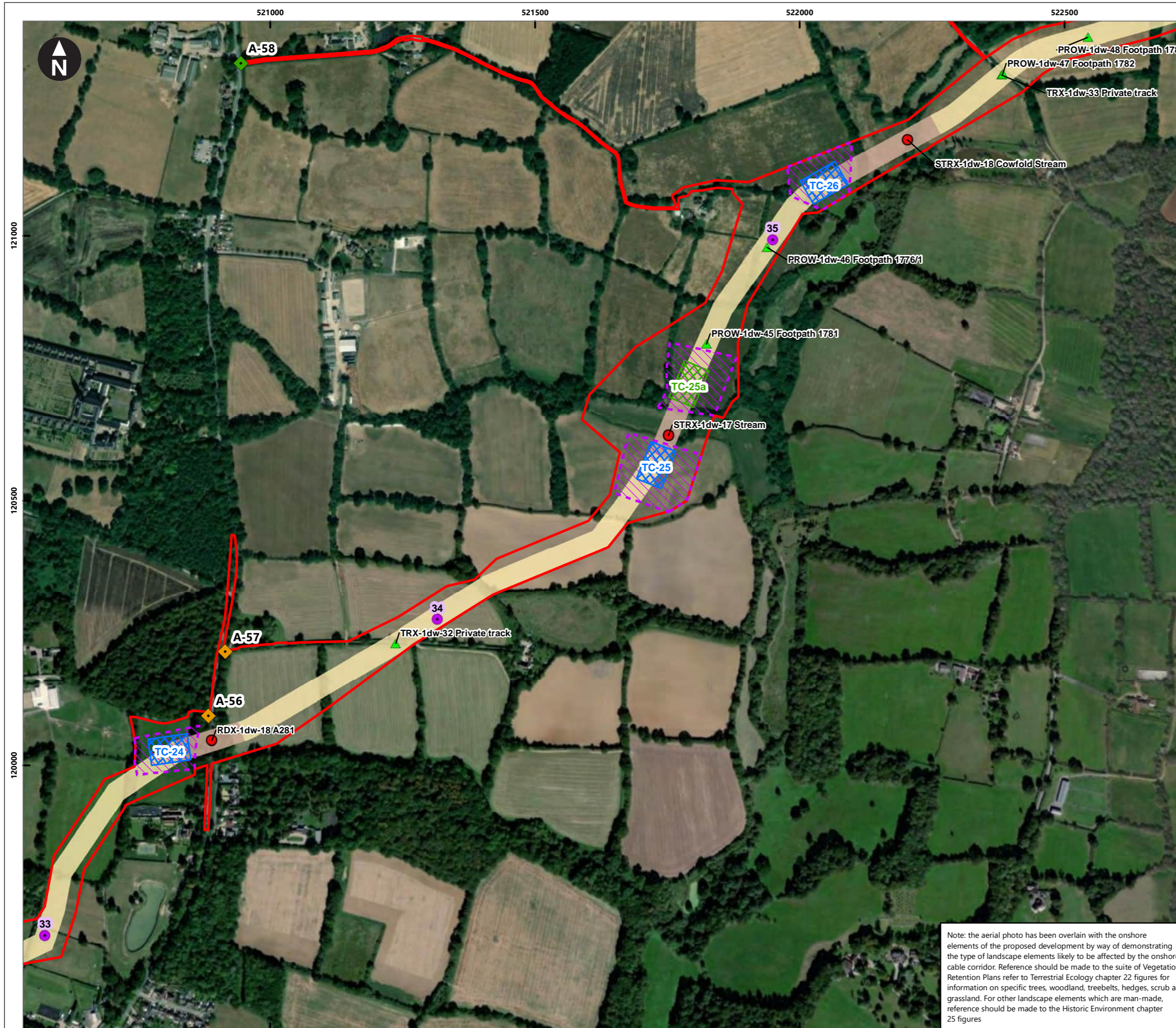
Figure 18.8 Landscape elements along cable corridor

Environmental Statement

Page 18 of 21

System Identifier:		Version:		
42285-WSP-ES-ON-FG-OL-7723		1.0		
Company:	Drawn By:	Chk/Prvd:	Drawn Date:	Status:
WSP	SUTET	RYLOR	06/07/2023	FINAL

Note: the aerial photo has been overlain with the onshore elements of the proposed development by way of demonstrating the type of landscape elements likely to be affected by the onshore cable corridor. Reference should be made to the suite of Vegetation Retention Plans refer to Terrestrial Ecology chapter 22 figures for information on specific trees, woodland, treebelts, hedges, scrub and grassland. For other landscape elements which are man-made, reference should be made to the Historic Environment chapter 25 figures



Service Layer Credits: Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

Key

- Proposed DCO Order Limits
- Trenchless Crossing (TC) compounds
- Trenchless Crossing (TC) limits of deviation
- Trenchless Crossing (TC) compound alternatives

Proposed crossing method

- ▲ Open cut
- Trenchless

Onshore cable route KM points

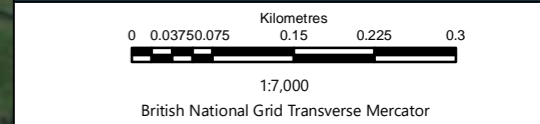
- Onshore cable route

Proposed onshore cable construction corridor

- Indicative trenchless section
- Indicative open cut section

Access from public highway

- ◆ Construction & operational
- ◆ Operational



Rampion Extension Development

Rampion 2 Offshore Wind Farm

Figure 18.8 Landscape elements along cable corridor

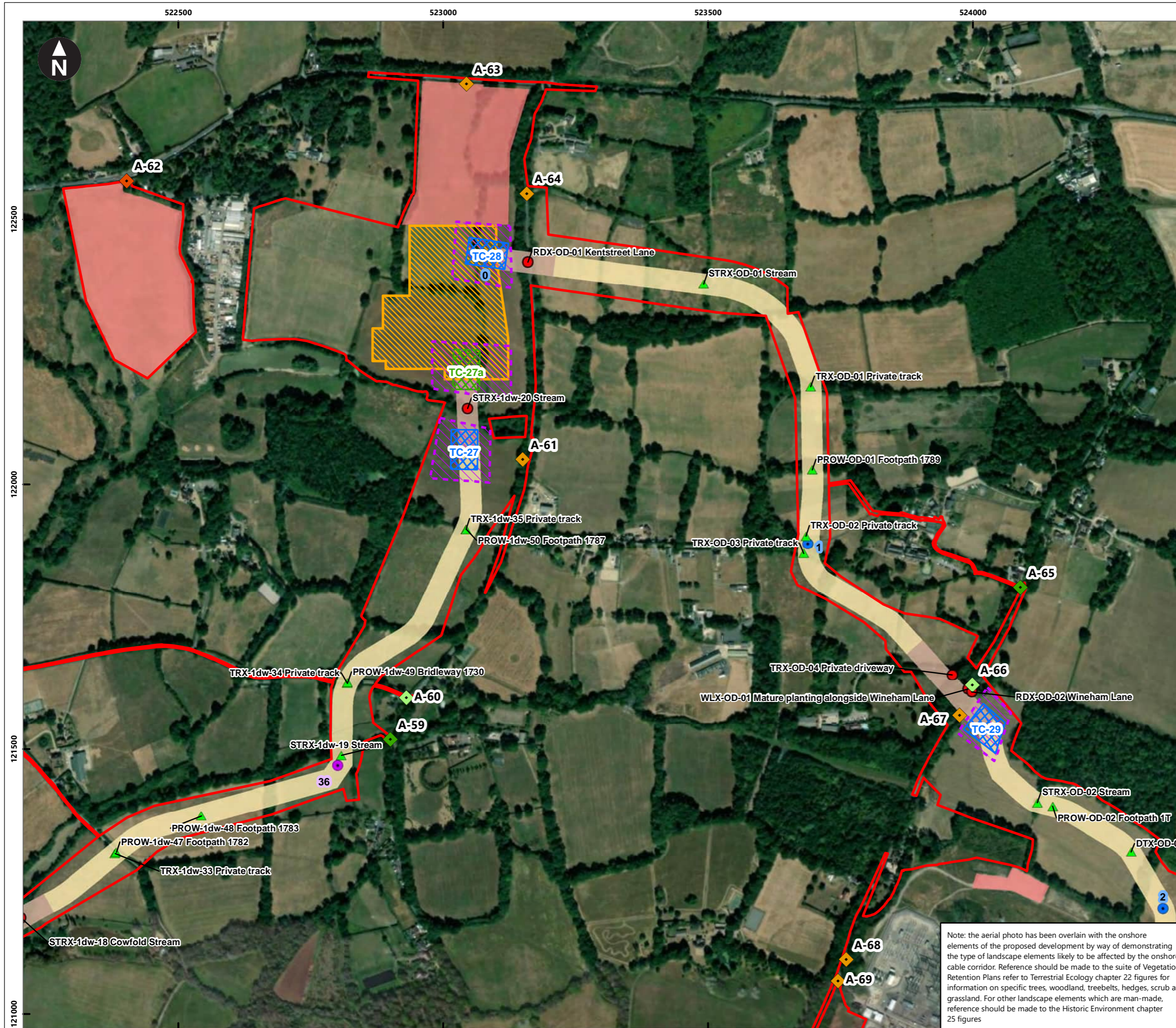
Environmental Statement

Page 19 of 21

System Identifier: 42285-WSP-ES-ON-FG-OL-7723 Version: 1.0

Company: WSP	Drawn By: SUTET	Chk/Prvd: RYLOR	Drawn Date: 06/07/2023	Status: FINAL
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Service Layer Credits: Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

Key

- Proposed DCO Order Limits
- Onshore substation site
- Bolney Substation extension (GIS)*
- Bolney Substation extension (AIS)*
- Temporary construction compound
- Trenchless Crossing (TC) compounds
- Trenchless Crossing (TC) limits of deviation
- Trenchless Crossing (TC) compound alternatives

Proposed crossing method

- ▲ Open cut
- Trenchless

Onshore cable route KM points

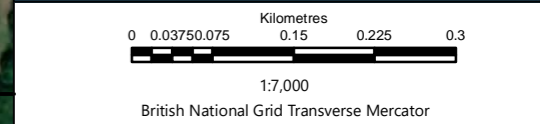
- Onshore Substation connection
- Onshore cable route

Proposed onshore cable construction corridor

- Indicative trenchless section
- Indicative open cut section

Access from public highway

- ◆ Construction
- ◆ Construction & operational
- ◆ Light construction & operational
- ◆ Operational



Rampion Extension Development

Rampion 2 Offshore Wind Farm

Figure 18.8 Landscape elements along cable corridor

Environmental Statement

Page 20 of 21

Note: the aerial photo has been overlain with the onshore elements of the proposed development by way of demonstrating the type of landscape elements likely to be affected by the onshore cable corridor. Reference should be made to the suite of Vegetation Retention Plans refer to Terrestrial Ecology chapter 22 figures for information on specific trees, woodland, treebelts, hedges, scrub and grassland. For other landscape elements which are man-made, reference should be made to the Historic Environment chapter 25 figures

System Identifier:		Version:	
42285-WSP-ES-ON-FG-OL-7723		1.0	
Company:	Drawn By:	Chk/Aprvd:	Drawn Date:
WSP	SUTET	RYLOR	06/07/2023
Status:	FINAL		



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Key

- Proposed DCO Order Limits
- Bolney Substation extension (GIS)*
- Bolney Substation extension (AIS)*
- Temporary construction compound
- Trenchless Crossing (TC) compounds
- Trenchless Crossing (TC) limits of deviation

Proposed crossing method

- ▲ Open cut
- Trenchless

Onshore cable route KM points

- Onshore Substation connection

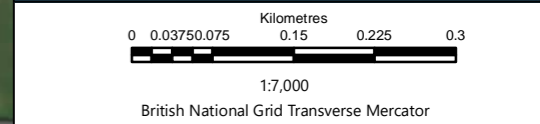
Proposed onshore cable construction corridor

- Indicative trenchless section
- Indicative open cut section

Access from public highway

- Construction & operational
- Light construction & operational
- Operational

*AIS = Air Insulated Switchgear
GIS = Gas Insulated Switchgear



Rampion 2 Offshore Wind Farm

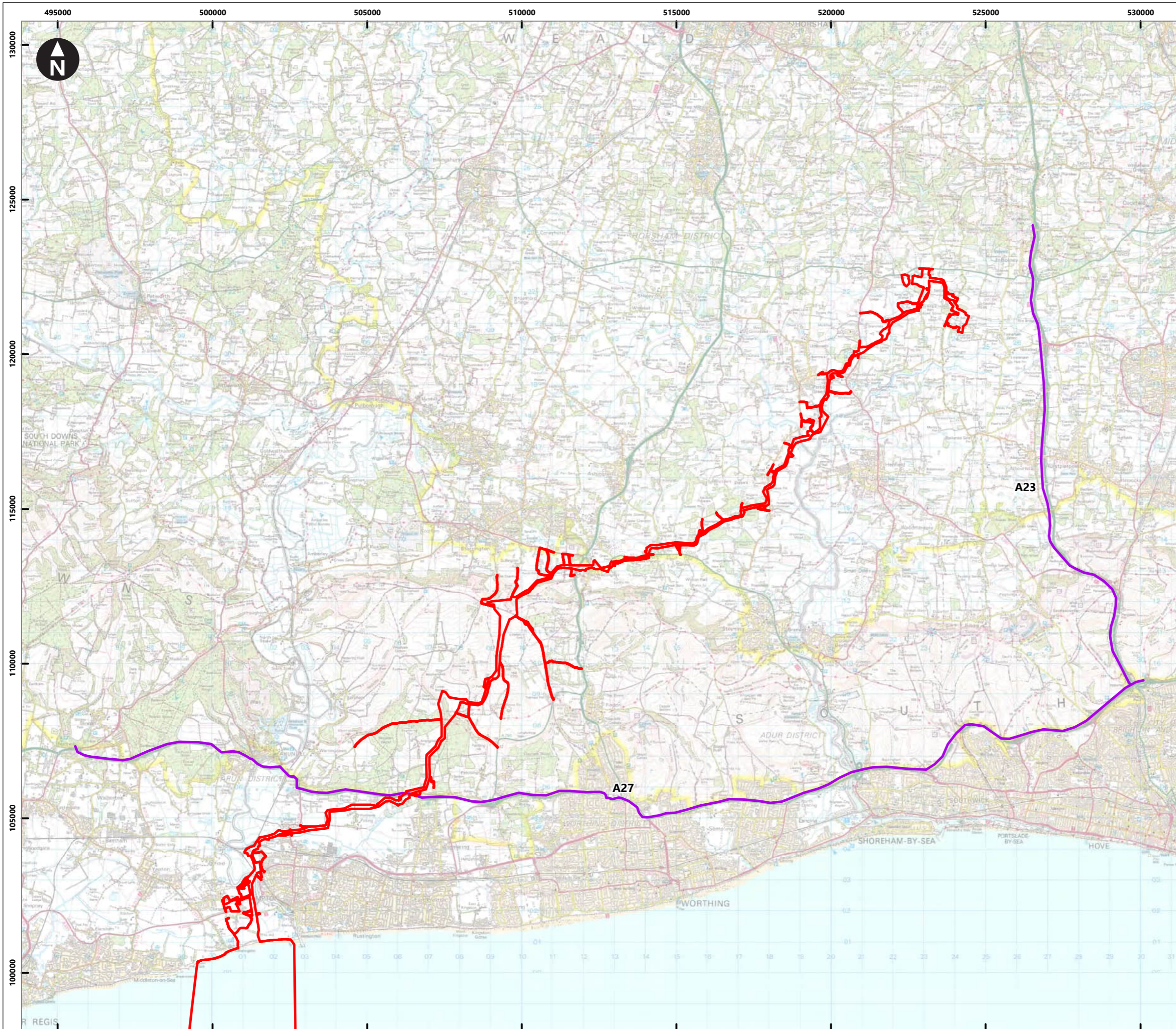
Figure 18.8 Landscape elements along cable corridor

Environmental Statement

Note: the aerial photo has been overlain with the onshore elements of the proposed development by way of demonstrating the type of landscape elements likely to be affected by the onshore cable corridor. Reference should be made to the suite of Vegetation Retention Plans refer to Terrestrial Ecology chapter 22 figures for information on specific trees, woodland, treebelts, hedges, scrub and grassland. For other landscape elements which are man-made, reference should be made to the Historic Environment chapter 25 figures

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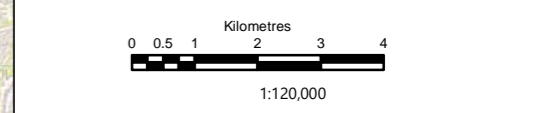
Company: WSP	Drawn By: SUTET	Chk/Prvd: RYLOR	Drawn Date: 06/07/2023	Status: FINAL
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Key

- Proposed DCO Order Limits
- Strategic Access Routes



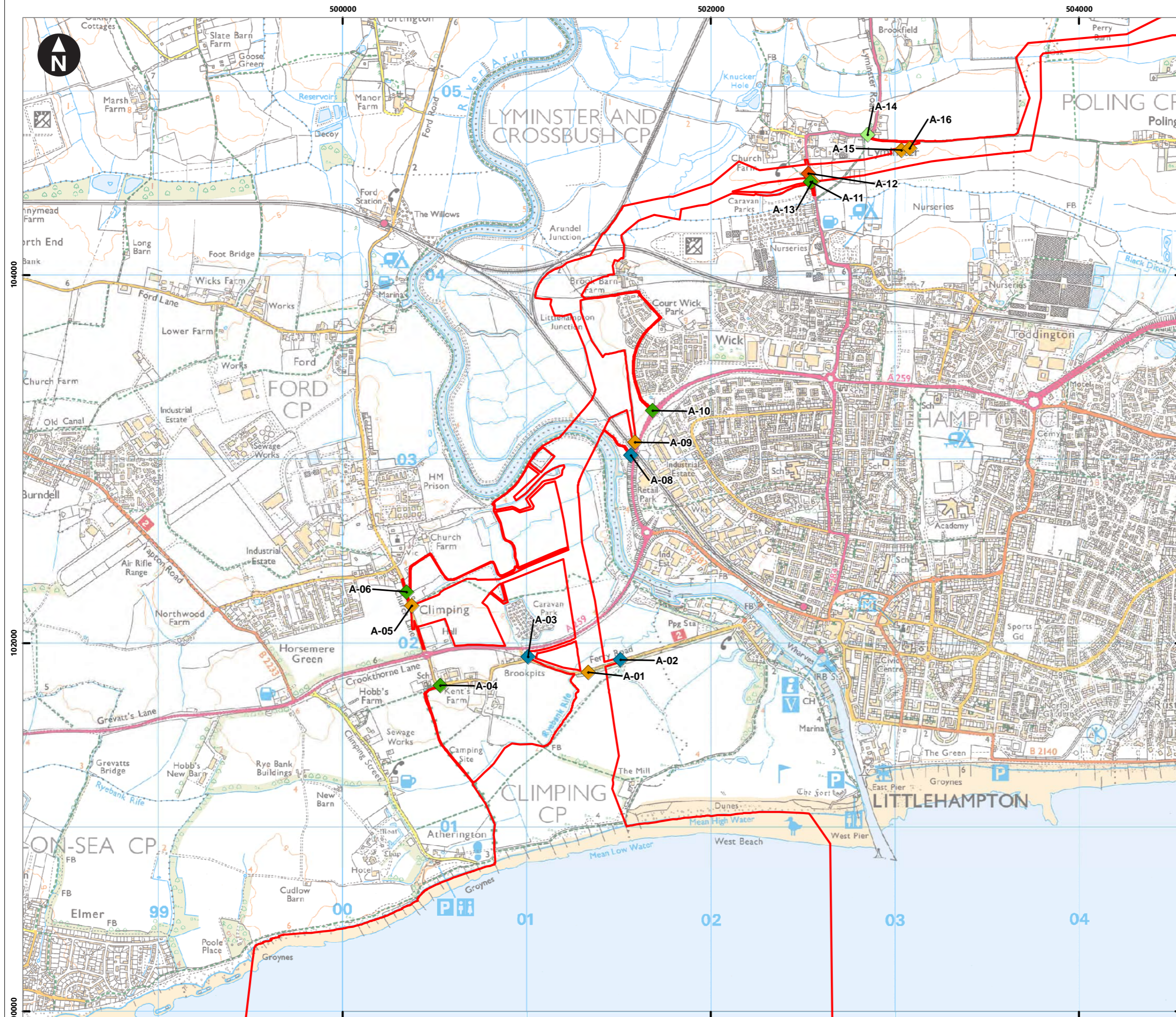
Rampion Extension Development



Rampion 2 Offshore Wind Farm
 Figure 23.1.5 Strategic Access Routes
 Environmental Statement

System Identifier: 42285-WSPE-ES-ON-FG-OT-3464	Version: 1.0
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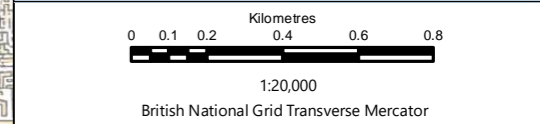
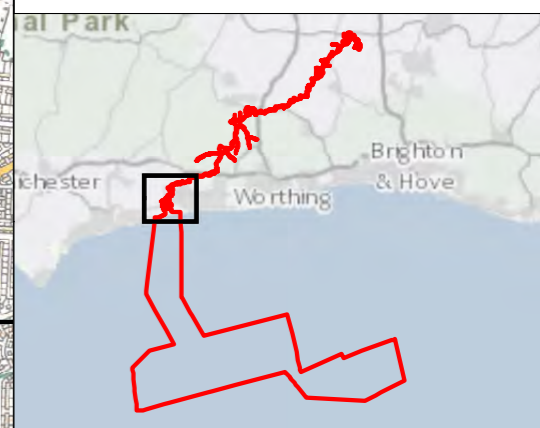
Company: WSP	Drawn By: SHEPS	Chk/Aprvd: SUTET	Drawn Date: 25/05/2023	Status: FINAL
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Key

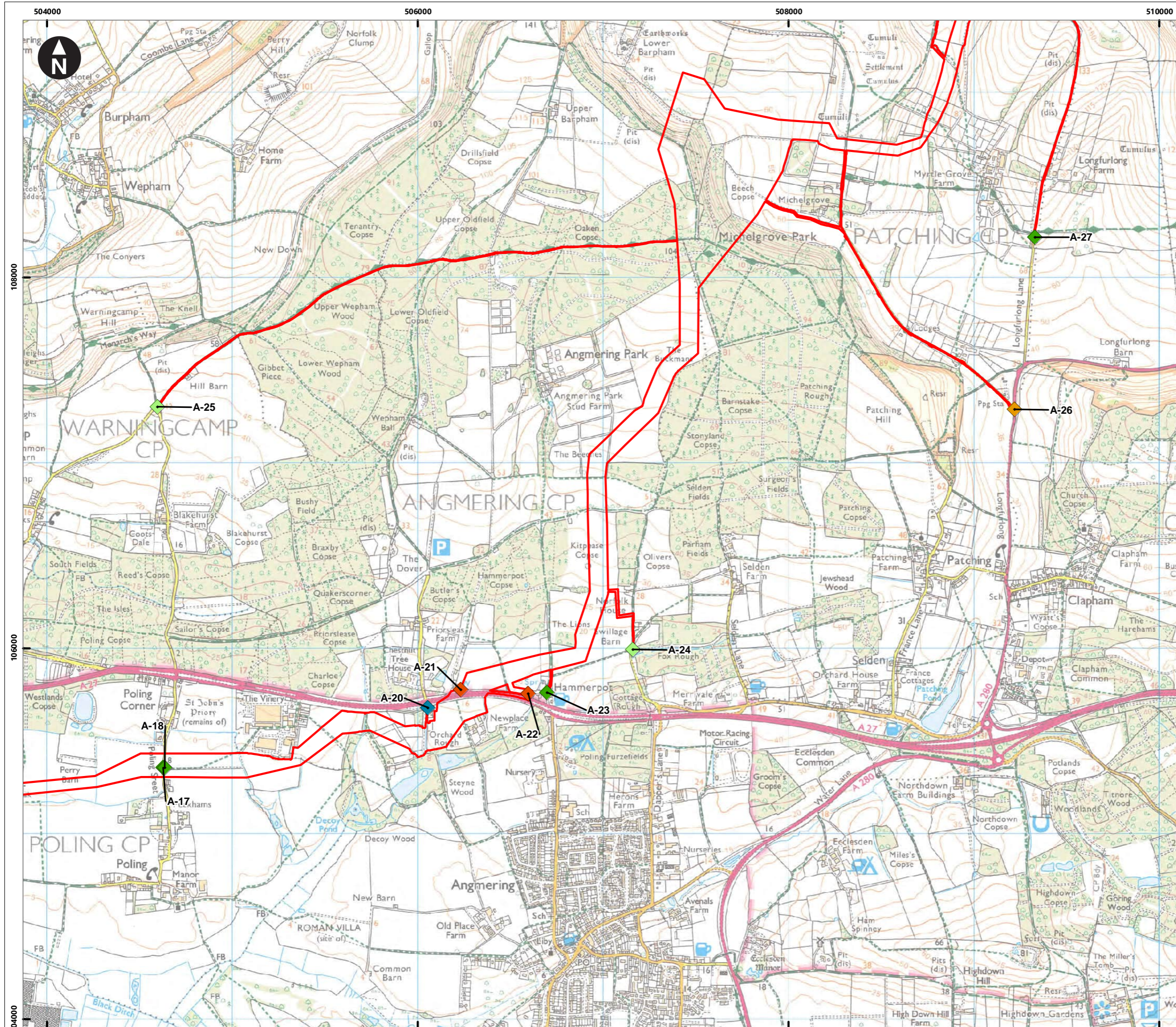
- Proposed DCO Order Limits
- ◆ Construction
- ◆ Construction & operational
- ◆ Light construction
- ◆ Light construction & operational
- ◆ Operational



Rampion Extension Development


Rampion 2 Offshore Wind Farm
 Figure 23.14a Accesses used - Onshore construction phase
 Environmental Statement

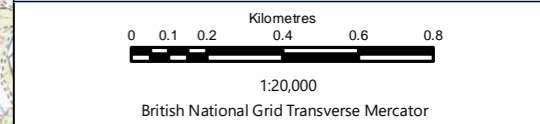
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Company: WSP	Drawn By: SHEPS	Chk/Prvd: SUTET	Drawn Date: 21/07/2023	Status: FINAL



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Key

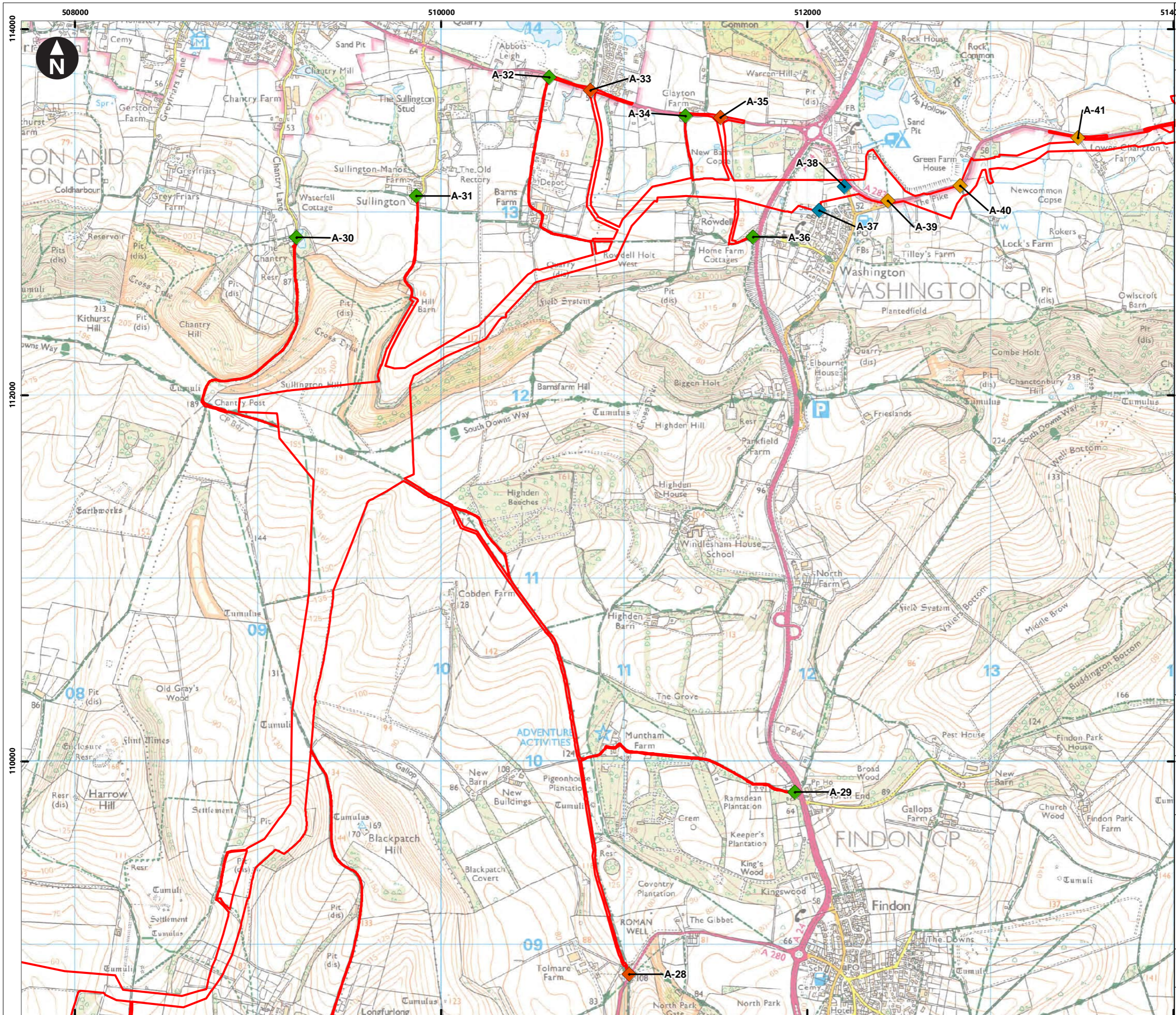
- Proposed DCO Order Limits
- ◆ Construction
- ◆ Construction & operational
- ◆ Light construction
- ◆ Light construction & operational
- ◆ Operational



Rampion Extension Development

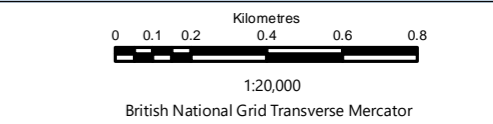
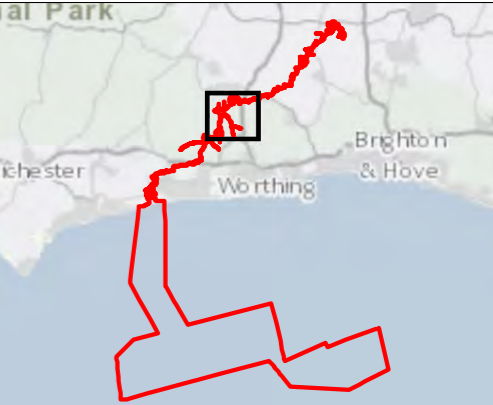

Rampion 2 Offshore Wind Farm
 Figure 23.14b Accesses used - Onshore construction phase
 Environmental Statement

System Identifier: 42285-WSPE-ES-ON-FG-OT-4787		Version: 1.0
Company: WSP	Drawn By: SHEPS	Chk/Prvrd: SUTET
Drawn Date: 21/07/2023	Status: FINAL	



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- Key**
- Proposed DCO Order Limits
 - ◆ Construction
 - ◆ Construction & operational
 - ◆ Light construction
 - ◆ Light construction & operational
 - ◆ Operational

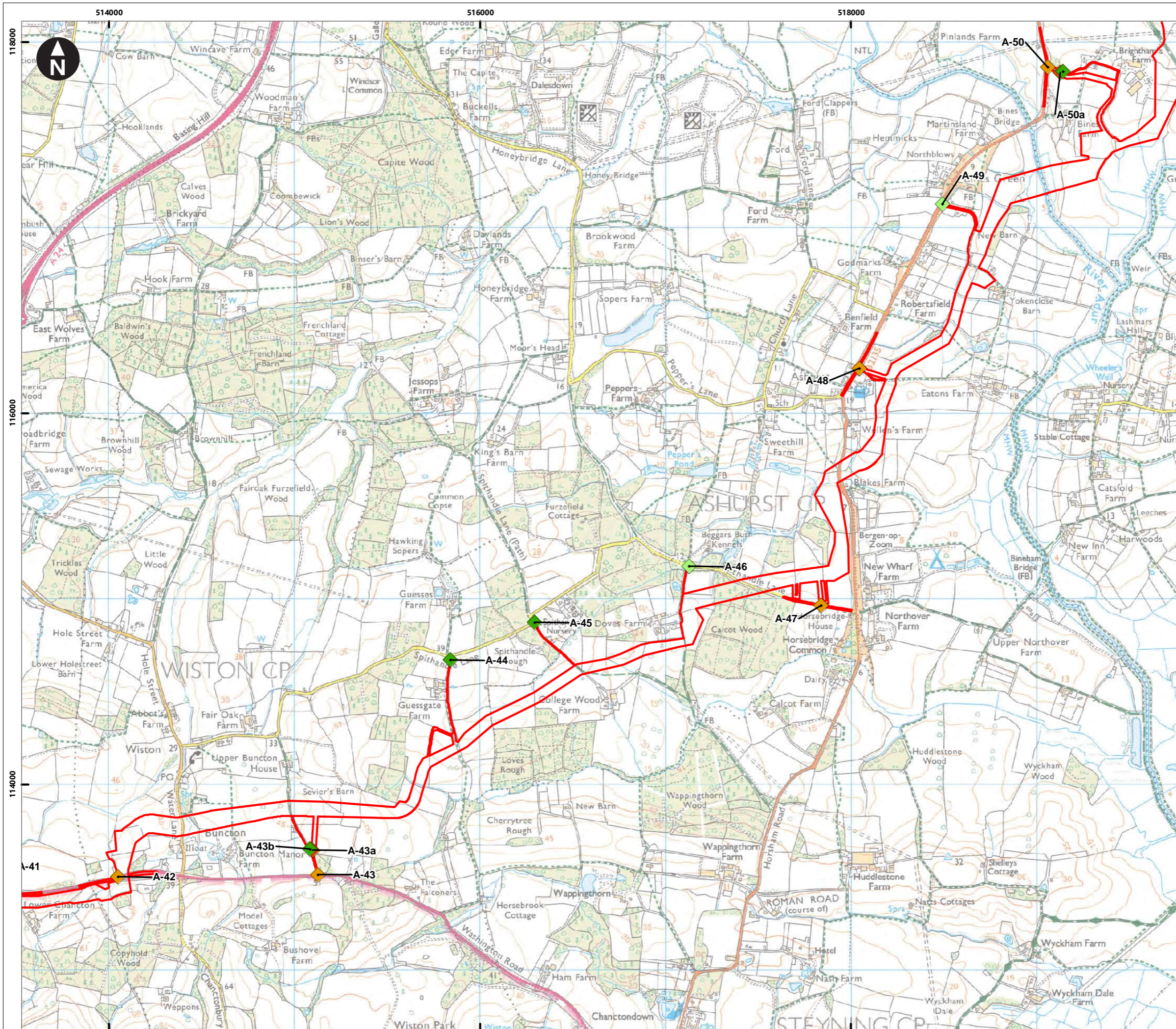


Rampion Extension Development

Rampion 2 Offshore Wind Farm
 Figure 23.14c Accesses used - Onshore construction phase
 Environmental Statement

System Identifier: 42285-WSP-ES-ON-FG-OT-4787
 Version: 1.0

Company: WSP	Drawn By: SHEPS	Chk/Prvrd: SUTET	Drawn Date: 21/07/2023	Status: FINAL
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Key

- Proposed DCO Order Limits
- ◆ Construction
- ◆ Construction & operational
- ◆ Light construction
- ◆ Light construction & operational
- ◆ Operational

Access from public highway

0 0.1 0.2 0.4 0.6 0.8
 Kilometres
 1:20,000
 British National Grid Transverse Mercator

Rampion Extension Development



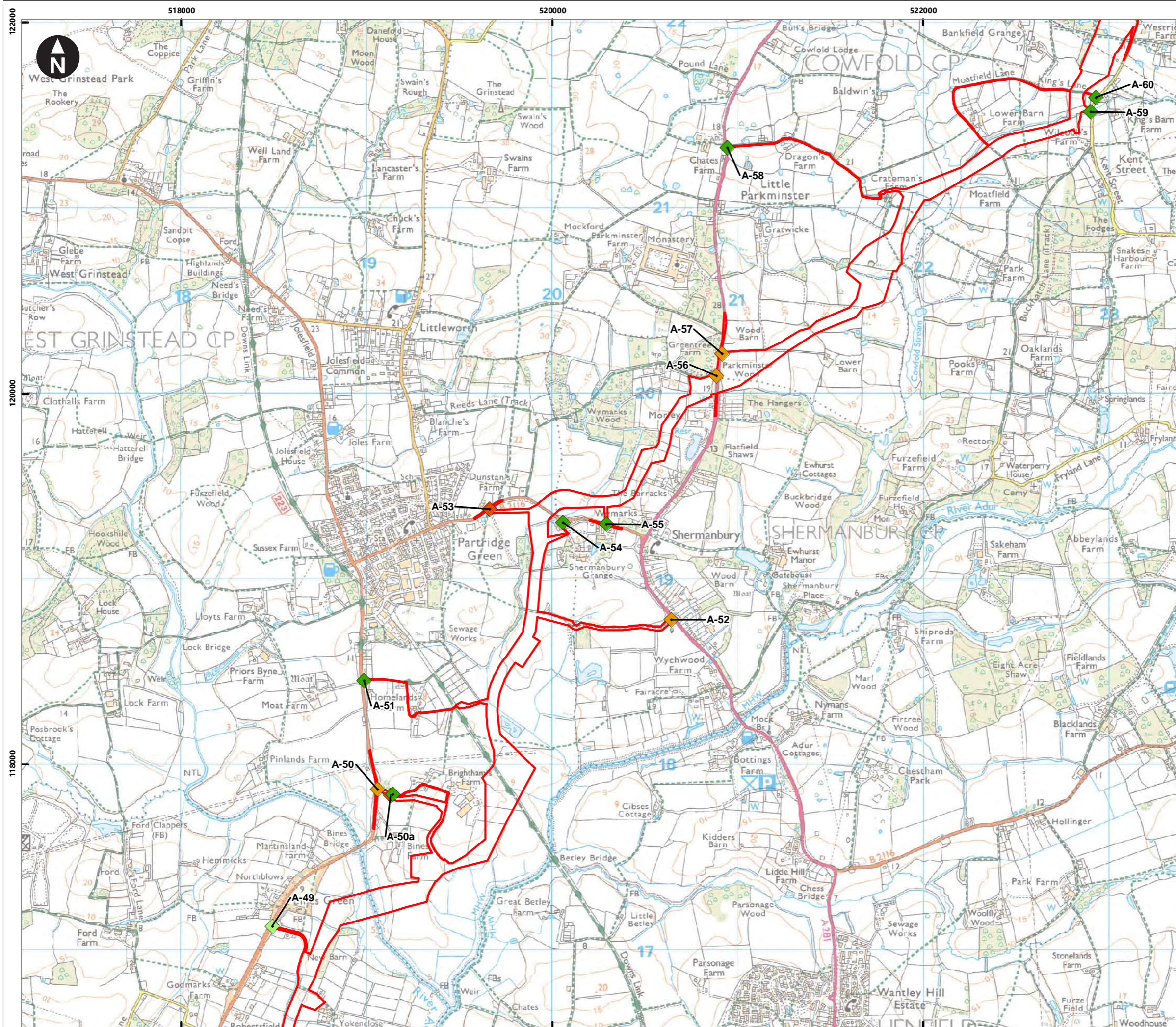
Rampion 2 Offshore Wind Farm

Figure 23.14d Accesses used - Onshore construction phase

Environmental Statement

System Identifier: 42285-WSPE-ES-ON-FG-OT-4787 Version: 1.0

Company: WSP	Drawn By: SHEPS	Chk/Prvrd: SUTET	Drawn Date: 21/07/2023	Status: FINAL
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Key

- Proposed DCO Order Limits
- ◆ Construction
- ◆ Construction & operational
- ◆ Light construction
- ◆ Light construction & operational
- ◆ Operational

Access from public highway

Rampion Extension Development



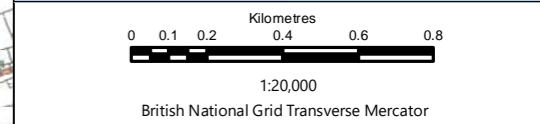
Rampion 2 Offshore Wind Farm

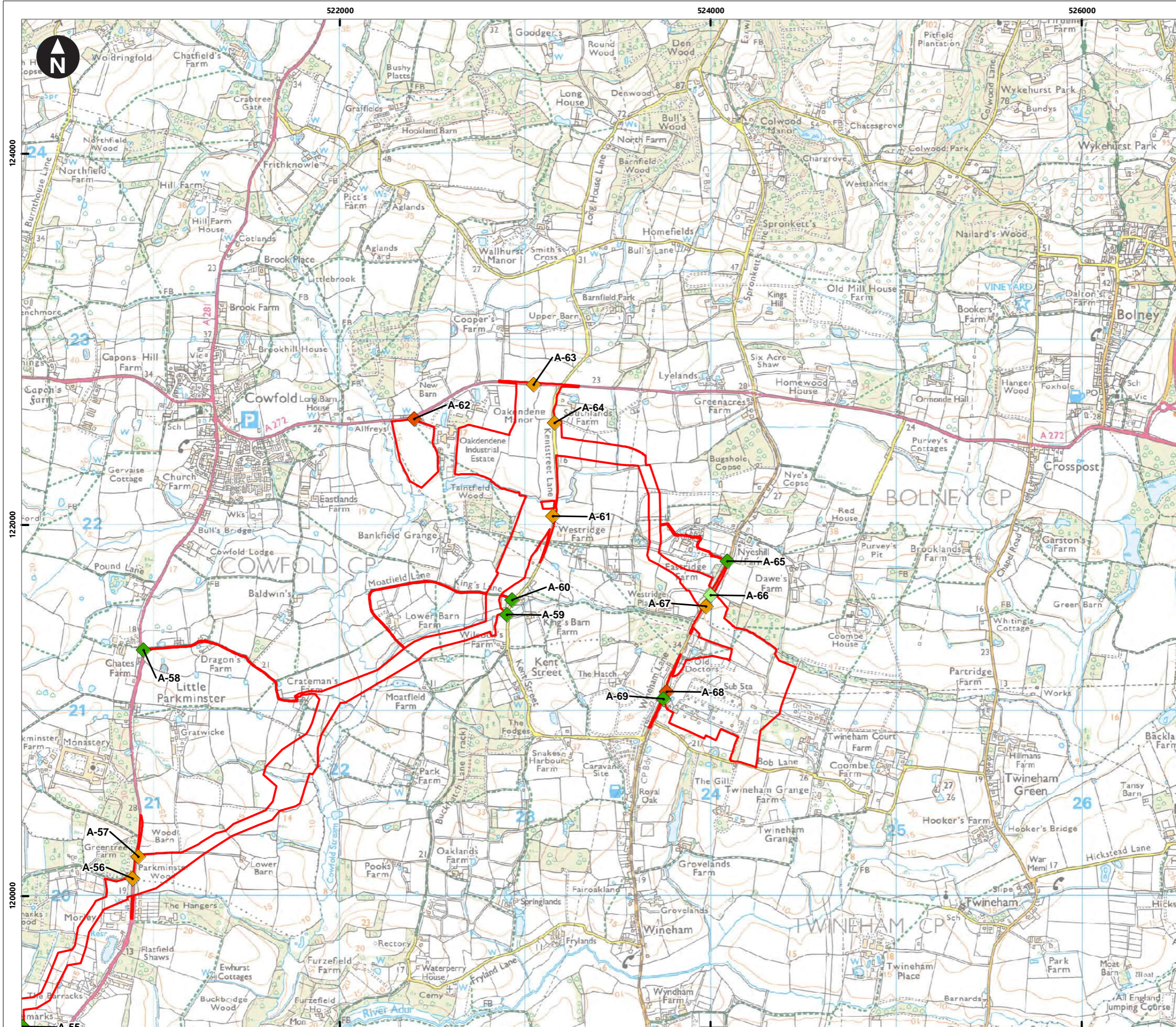
Figure 23.14e Accesses used - Onshore construction phase

Environmental Statement

System Identifier: 42285-WSPE-ES-ON-FG-OT-4787 Version: 1.0

Company: WSP	Drawn By: SHEPS	Chk/Prvd: SUTET	Drawn Date: 21/07/2023	Status: FINAL
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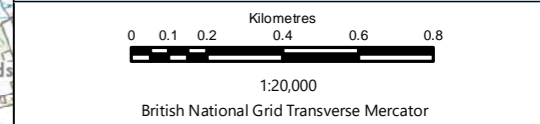




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Key

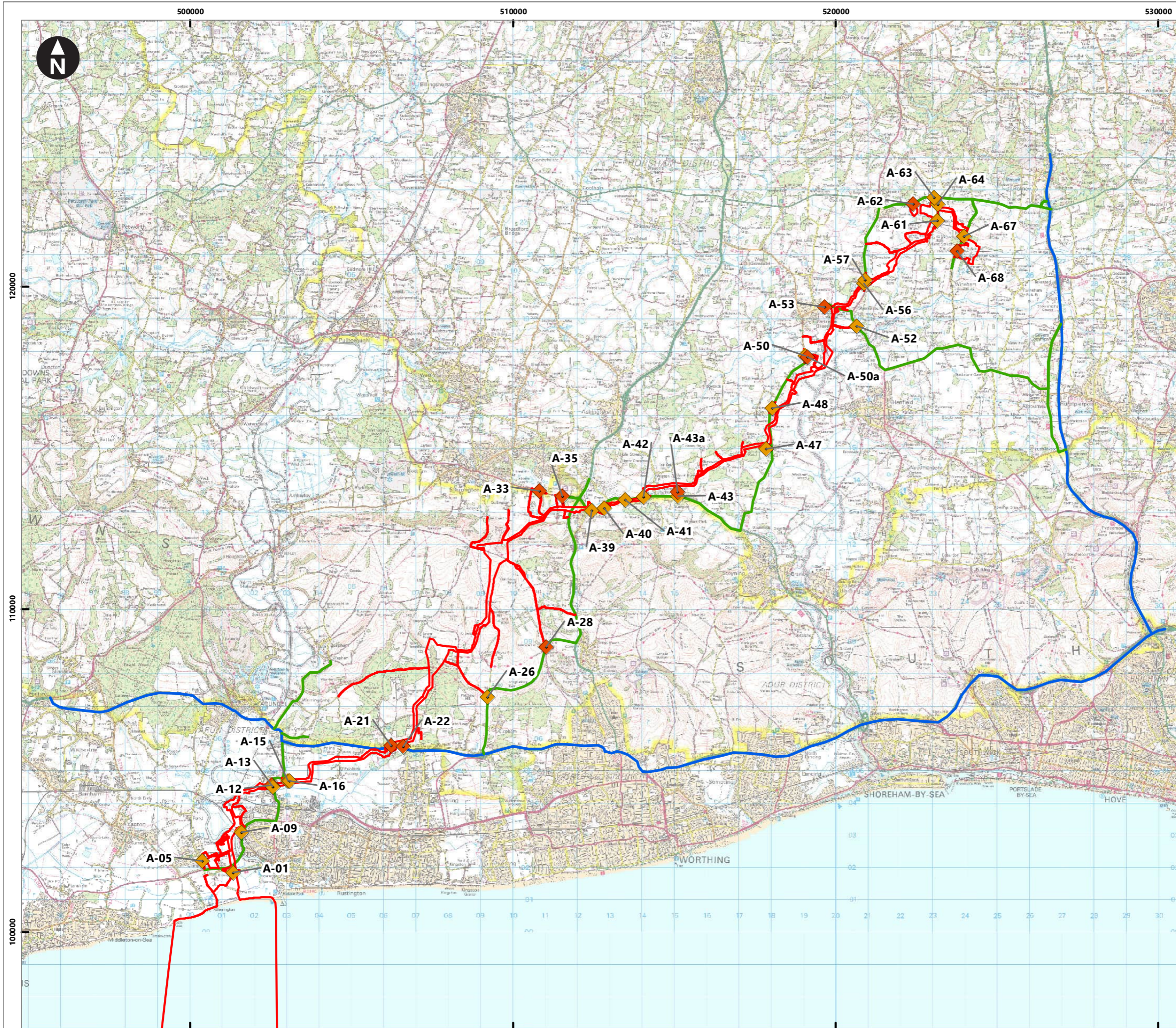
- Proposed DCO Order Limits
- ◆ Construction
- ◆ Construction & operational
- ◆ Light construction
- ◆ Light construction & operational
- ◆ Operational



Rampion Extension Development

Rampion 2 Offshore Wind Farm
 Figure 23.14f Accesses used - Onshore construction phase
 Environmental Statement

System Identifier: 42285-WSPE-ES-ON-FG-OT-4787		Version: 1.0
Company: WSP	Drawn By: SHEPS	Chk/Prvrd: SUTET
Drawn Date: 21/07/2023	Status: FINAL	



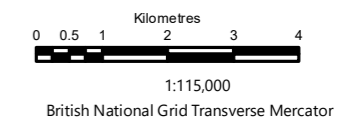
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Key

- Proposed DCO Order Limits
- Fixed HGV Routes
- Strategic Road Network

Access from public highway

- ◆ Construction
- ◆ Construction & operational



Rampion Extension Development



Rampion 2 Offshore Wind Farm

Figure 23.18 Study Area 1 HGV Access Strategy

Environmental Statement

System Identifier: 42285-WSPE-ES-ON-FG-OT-9882				Version: 1.0
Company: WSP	Drawn By: SHEPS	Chk/Aprvd: SUTET	Drawn Date: 18/07/2023	Status: FINAL



MEMO

TO	[REDACTED]	FROM	[REDACTED]
DATE	07 July 2023	CONFIDENTIALITY	Confidential
SUBJECT	AIR EMISSIONS MITIGATION STRATEGY		

INTRODUCTION

This memo outlines the proposed approach in addressing the following comment received by Horsham District Council (HDC) during Rampion 2 Offshore Wind Farm (the Proposed Development) first Statutory Consultation exercise under Section 42 of the Planning Act 2008:

“.....Although Air Quality and Emissions Mitigation Guidance for Sussex (2021) guidance was written in the context of operational impacts it de facto applies to impacts lasting a number of years. As such it still applies to construction activities that take a number of years to complete. It is stated in the PEIR that the duration of the construction phase for cable installation may take up to three years, although – as confirmed by the consultants – construction activities at any given location will be of fairly short duration as the contractors work their way along the route. It would be helpful, if possible, at ES stage to clarify the duration of the installation activities taking place along the A272 between the A23 and A24”

The memo outlines the requirements set out in the Sussex ‘Air quality and emissions mitigation guidance for Sussex’ (2021)¹ for an air emissions mitigation strategy. It compares the requirements against the Proposed Development. It presents a review of the current traffic data that are subject to some minor changes. It concludes with the proposed approach in calculating the damage costs.

¹ Mid Sussex District Council (MSDC), 2021. Air Quality and Emissions Mitigation Guidance for Sussex. Available at: <https://www.midsussex.gov.uk/media/5608/sussex-aq-guidance-2021.pdf> [Accessed June 2023]



SUSSEX GUIDANCE

The Sussex guidance (2021)² includes a screening checklist to ascertain when an air quality assessment and an emission mitigation assessment are required. The screening checklist is presented in Table 1.

Table 1: Screening checklist

QUESTIONS TO BE ANSWERED BY THE DEVELOPER	ACTION REQUIRED DEPENDANT ON THE ASWERS
<p>Is the proposed development:</p> <ul style="list-style-type: none">■ a MAJOR development, as defined by Town and Country Planning (Development Management Procedure) Order (England) 2015.■ within an Air Quality Management Area. Look this up at: https://uk-air.defra.gov.uk/aqma/maps or contact the relevant Local Authority Air Quality Officer;■ in relevant proximity to an Air Quality Management Area. Contact the relevant Local Authority Air Quality Officer;■ in an area close to exceeding the Air Quality Objectives. Contact the relevant Local Authority Air Quality Officer;■ B8 storage and distribution use class with a floorspace of 500m² or more. This is included due to the transport-related movements usually associated with this Use Class	<ul style="list-style-type: none">■ if NO to all, then advise LPA. No further action is required.■ if YES to ANY, then the following are required, unless agreed in writing with the Air Quality Officer:<ol style="list-style-type: none">1 an air quality assessment and2 an emissions mitigation assessment. <p>See Sections 2 and 3 for guidance.</p>

The Proposed Development is not expected to impact any of the Air Quality Management Areas (AQMA). A Construction Traffic Management Plan (CTMP) has been produced to accompany the DCO Application. A review of the baseline data across the Zone of Influence (Zol) indicated that apart from the AQMAs there are no additional areas where the Air Quality Objectives (AQOs) are close to being exceeded. The Proposed Development is not a B8 storage and distribution use project with a floorspace of 500m² or more.

The development is classified as major development under the Town and Country Planning (Development Management Procedure) Order (England) 2015. However, as a result of the nature of the Proposed Development (onshore installation of below ground cables), a Transport Assessment was not required, given that the development is associated with temporary traffic only, with duration of 6 weeks to 3 years (i.e., Oakendene Substation construction works). Therefore, a Transport Statement was produced. Peak traffic flow data were obtained to support the air quality chapters.

²Mid Sussex District Council (MSDC), 2021. Air Quality and Emissions Mitigation Guidance for Sussex. Available at: <https://www.midsussex.gov.uk/media/5608/sussex-aq-guidance-2021.pdf> [Accessed June 2023]

CONSTRUCTION TRAFFIC FLOWS

As part of the transport assessment work peak weekly data were produced. The peak weekly data were subsequently converted to 24 hr flows by assuming a 5-day week.

Table 2 below presents the peak daily flows provided by the transport consultant, based on a 5-day week. The peak weekly data were subsequently adjusted to reflect a 7-day week, as damage cost calculations are expected to reflect annual emissions. Table 3 presents the peak daily flows based on 7-day week.

The traffic flows presented in Table 3 only reflect the expected traffic during the peak week, and therefore are not representative of Annual Average Daily Traffic (AADT) across the four years of construction. As a result, the weekly data, that were produced as part of the transport assessment, were used to calculate the percentage of each construction year that there is traffic on each road link. The peak daily data based on a 7 day week was then adjusted to reflect AADT for each construction year for the road link with the highest anticipated traffic for each local authority. These were also the road links with the highest % of the year with construction traffic. Table 4 also includes all road links within or adjacent to any Air Quality Management Areas (AQMAs).

Table 2: Peak weekly data – 5-day week

HIGHWAY RECEPTOR	DESCRIPTION	TOTAL	HGVS	LOCAL AUTHORITY
1	Ferry Road	49	32	Arun
2	Church Lane	222	52	Arun
3	Ford Road	0	0	Arun
4	A27 West of Arundel	9	0	Arun
5	A259 West of Wick	23	8	Arun
6	A284 North of Wick	45	8	Arun
7	A284 Lyminster	117	27	Arun
8	Crossbush Lane, Crossbush	0	0	Arun
9	A27, Arundul Station	12	4	Arun
10	Crossbush Lane, Warning Camp	0	0	Arun
11	A27, South of Crossbush	12	4	Arun
12	A27 High Salvington	12	4	Mid Sussex
13	A24/A27 Offington (Warren Road)	12	4	Mid Sussex
14	A24 Findon	0	0	Mid Sussex
15	A280 Long Furlong	76	12	Arun
16	A283 West of A24	86	24	Horsham
17	A283 East of A24	239	24	Horsham
18	B2135, South of Ashurst	142	110	Horsham
19	A283, Steyning	0	0	Horsham
20	A24, South of A272	0	0	Horsham

HIGHWAY RECEPTOR	DESCRIPTION	TOTAL	HGVS	LOCAL AUTHORITY
21	B2116 Patridge Green Road	0	0	Horsham
22	A281, South Shermanbury	106	106	Horsham
23	A281, South of Cowfold	106	106	Horsham
24	A281, Cowfold Center	63	26	Horsham
25	A272, Station Road, Cowfold	0	0	Horsham
26	Wineham Lane, South of A272	64	41	Horsham
27	A272, West of A23	135	123	Mid Sussex
28	A23, North of the A272	1	0	Mid Sussex
29	B2188, Sayers Common	0	0	Mid Sussex
30	B2116, Henfield Road, Albourne	0	0	Mid Sussex
31	A23, North of the A272	1	0	Worthing
32	A27, West of A23	3	0	Worthing
33	A27, East of A23	2	0	Worthing
34	A259, West of Church Street	15	0	Arun
35	A259 East of Wick	48	0	Arun

Table 3: Peak weekly data – 7 day week

HIGHWAY RECEPTOR	DESCRIPTION	TOTAL	HGVS	LOCAL AUTHORITY
1	Ferry Road	35	23	Arun
2	Church Lane	159	37	Arun
3	Ford Road	0	0	Arun
4	A27 West of Arundel	6	0	Arun
5	A259 West of Wick	16	6	Arun
6	A284 North of Wick	32	6	Arun
7	A284 Lyminster	83	19	Arun
8	Crossbush Lane, Crossbush	0	0	Arun
9	A27, Arundul Station	9	3	Arun
10	Crossbush Lane, Warning Camp	0	0	Arun
11	A27, South of Crossbush	9	3	Arun
12	A27 High Salvington	9	3	Mid Sussex
13	A24/A27 Offington (Warren Road)	9	3	Mid Sussex
14	A24 Findon	0	0	Mid Sussex
15	A280 Long Furlong	54	9	Arun
16	A283 West of A24	61	17	Horsham
17	A283 East of A24	171	17	Horsham



HIGHWAY RECEPTOR	DESCRIPTION	TOTAL	HGVS	LOCAL AUTHORITY
18	B2135, South of Ashurst	101	79	Horsham
19	A283, Steyning	0	0	Horsham
20	A24, South of A272	0	0	Horsham
21	B2116 Patridge Green Road	0	0	Horsham
22	A281, South Shermanbury	76	76	Horsham
23	A281, South of Cowfold	76	76	Horsham
24	A281, Cowfold Center	45	19	Horsham
25	A272, Station Road, Cowfold	0	0	Horsham
26	Wineham Lane, South of A272	46	29	Horsham
27	A272, West of A23	96	88	Mid Sussex
28	A23, North of the A272	1	0	Mid Sussex
29	B2188, Sayers Common	0	0	Mid Sussex
30	B2116, Henfield Road, Albourne	0	0	Mid Sussex
31	A23, North of the A272	1	0	Worthing
32	A27, West of A23	2	0	Worthing
33	A27, East of A23	1	0	Worthing
34	A259, West of Church Street	10	0	Arun
35	A259 East of Wick	34	0	Arun

The AADT data for 2026 to 2029 are presented in Table 4. Link 2 represents Church Lane in Arun District Council (ADC) and is the main access point to the construction compound servicing the landfall area and Trenchless Crossing (TC) activities. Link 17 in HDC represents the A283 East of A24 and is the main access point for the construction compound servicing TC activities. Link 27 represents A272, West of the A23 in Mid Sussex District Council (MSDC) and is the main route for accessing the two construction compounds servicing the Oekendene substation works. Link 16 is adjacent to the Storrington AQMA. Links 23 and 24 are adjacent or within the Cowfold AQMA. Link 25 in Cowfold AQMA is not associated with any construction traffic as seen in Table 2 and Table 3.

Table 4 below demonstrates that the High Goods Vehicles (HGVs) and total AADT for adversely affected links are below the Institute of Air Quality Management (IAQM) and Environmental Protection UK (EPUK), 'Land-use Planning and Development Control: Planning for Air Quality' (2017)³ screening criteria (<25 HGVs and <100 total AADT in or adjacent to AQMAs; <100 HGVs and < 500 total AADT for all other links). These criteria are applied to determine whether a detailed air quality assessment is required.

³ Institute of Air Quality Management (IAQM) and Environmental Protection UK (EPUK) (2017). Land-use Planning and Development Control: Planning for Air Quality. Available at: <https://iaqm.co.uk/text/guidance/air-quality-planning-guidance.pdf> [Accessed June 2023]



Table 4: Annual Average Daily Traffic (AADT)

HIGHWAY RECEPTOR	DESCRIPTION	2026			2027			2028			2029		
		% of the year with traffic	Total	HGVs	% of the year with traffic	Total	HGVs	% of the year with traffic	Total	HGVs	% of the year with traffic	Total	HGVs
2	Church Lane	49	78	18	77	123	29	19	30	7	17	27	6
16	A283 West of A24	4	2	1	60	37	10	0	0	0	0	0	0
17	A283 East of A24	1	35	4	89	151	15	79	135	14	0	0	0
23	A281, South of Cowfold	19	0	0	17	13	13	29	22	22	4	3	3
24	A281, Cowfold Centre	0	0	0	17	8	3	29	13	5	4	2	1
27	A272, West of A23	26	16	15	89	85	78	94	91	83	23	22	20



DAMAGE COSTS METHODOLOGY

The calculation of damage costs will be undertaken following the methodology detailed in the Sussex (2021)¹ guidance, which references DEFRA's guidance on valuing impacts on air quality.

The damage cost calculations will be undertaken for emissions of NO_x and PM_{2.5} from road traffic generated by the Proposed Development and the traffic data presented above for road links 2, 17 and 17. Annual emissions for the years 2026 to 2029 will be calculated using the latest DEFRA's Emission Factor Toolkit (EFT)⁴. The calculated annual emissions for each local authority will be then converted to damage costs using national average costs⁵ presented in Table 5. The national averages costs are higher than the sector specific costs for rural transport, thus providing a robust set of costs.

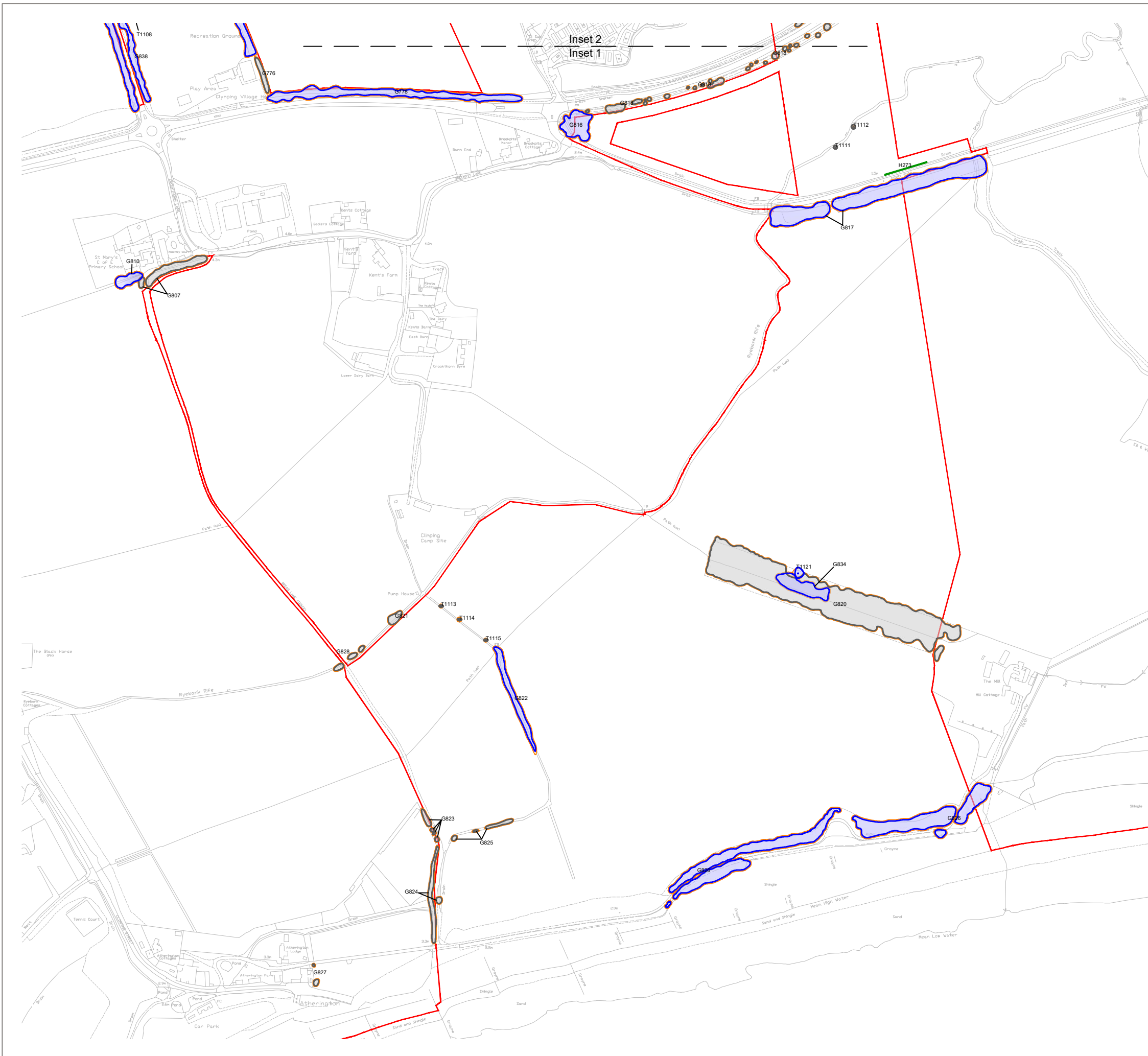
Table 5: Damage costs (£/t of emissions)

POLLUTANT	NATIONAL AVERAGE	RURAL TRANSPORT
NO _x	£8,148	£4,921
PM _{2.5}	£74,769	£31,972



⁴ Available at: [Emissions Factors Toolkit | LAQM \(defra.gov.uk\)](#) [Accessed July 2023]

⁵ Available at: [Air quality appraisal: damage cost guidance - GOV.UK \(www.gov.uk\)](#) [Accessed July 2023]



KEY
[This drawing must be reproduced in colour]

- T1/G1/W1 Trees
- H1 Hedgerow
- Root Protection Area (RPA)
- ES Assessment Boundary

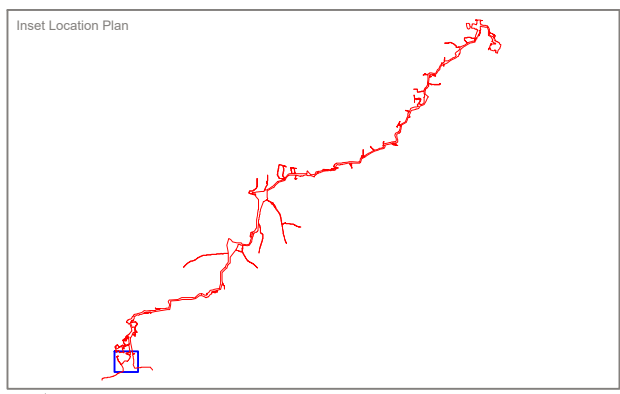
Tree Quality Categorisation
(Based on BS 5837:2012 Trees in relation to design, demolition and construction - Recommendations)

- Category A (High quality)
- Category B (Moderate quality)
- Category C (Low quality)
- Category U (Unsuitable for retention)
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- Trees not surveyed in detail (Due to access availability)

Designations

- Veteran Tree Buffer
- Ancient Woodland (ASNW and Replanted)
- Traditional Orchard
- Wood Pasture and Parkland
- Tree Preservation Order

NOTES:
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Project
Rampion 2 Offshore Wind Farm

Title
Drawing 1: Arboricultural Constraints Plan - Inset 1 of 47

Drawing Number
D8685.001.01

Drawn	Checked	Approved	Scale	Date
RMG	HEE	JGS	1:5,000 @ A3	05/07/2023

Inset 3
Inset 2

Inset 2
Inset 1

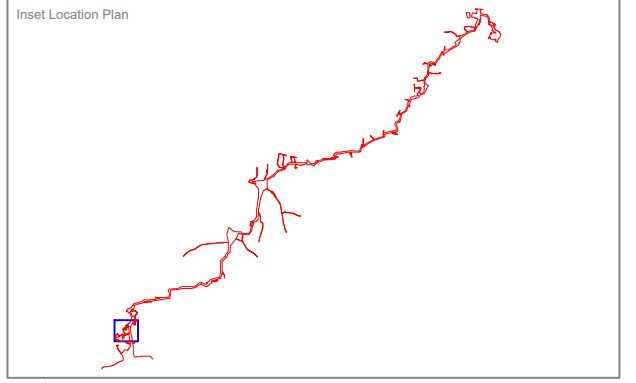
KEY

[This drawing must be reproduced in colour]

- T1/G1/W1 Trees
 - H1 Hedgerow
 - Root Protection Area (RPA)
 - ES Assessment Boundary
- Tree Quality Categorisation**
(Based on BS 5837:2012 Trees in relation to design, demolition and construction - Recommendations)
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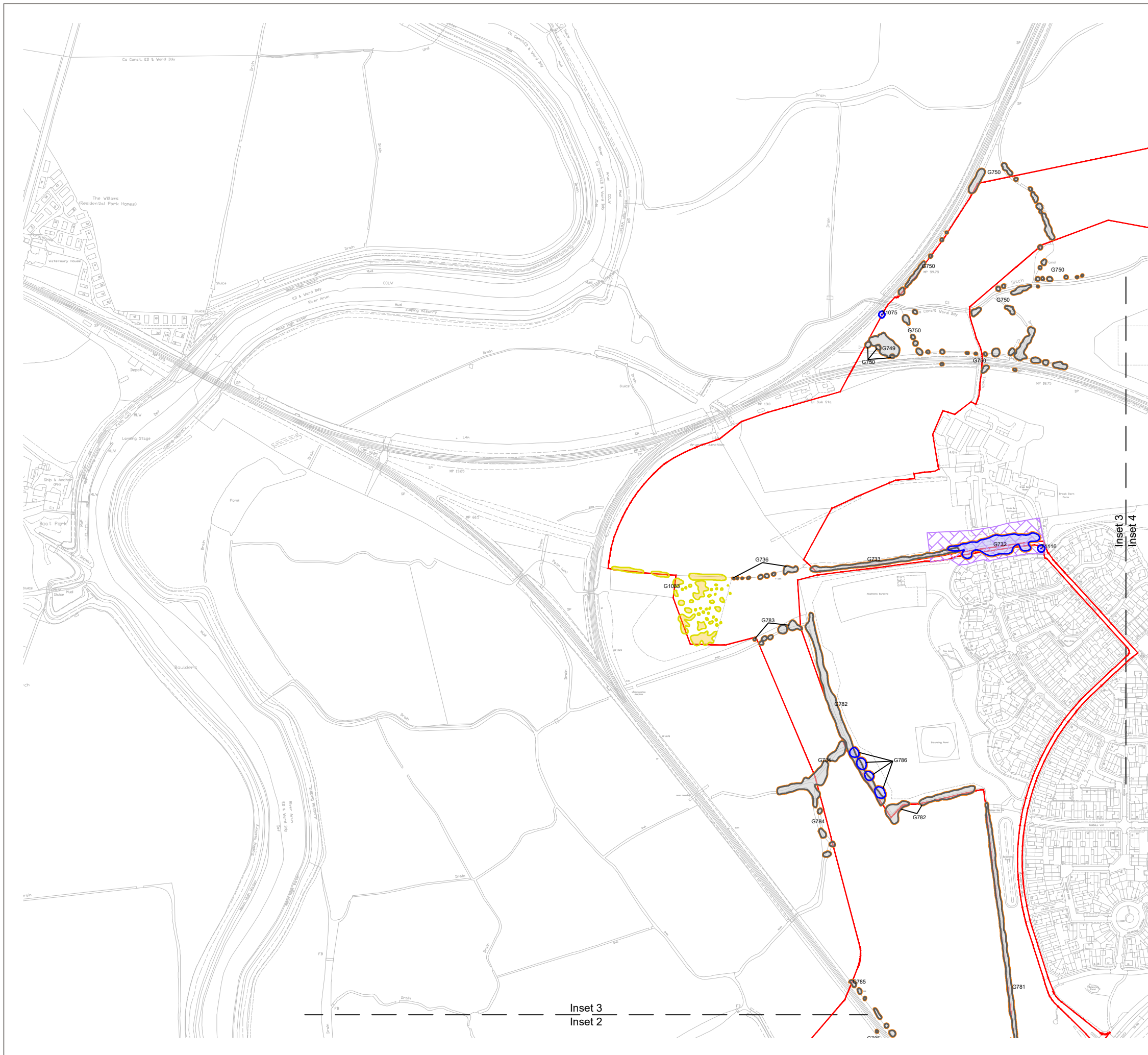
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Project
Rampion 2 Offshore Wind Farm

Title
Drawing 1: Arboricultural Constraints Plan - Inset 2 of 47

Drawing Number
D8685.001.02

Drawn	Checked	Approved	Scale	Date
RMG	HEE	JGS	1:5,000 @ A3	05/07/2023



KEY
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- T1/G1/W1 Trees
- H1 Hedgerow
- Root Protection Area (RPA)
- ES Assessment Boundary

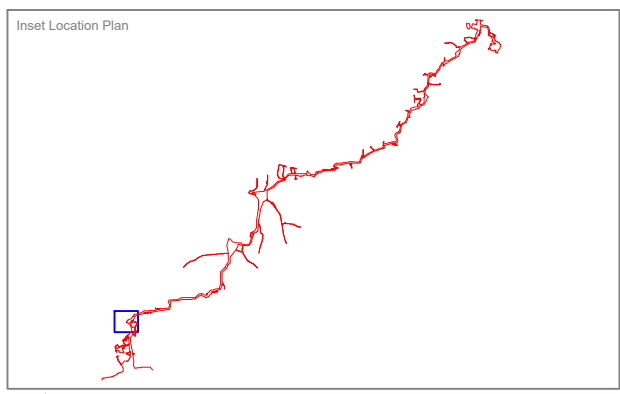
Tree Quality Categorisation
(Based on BS 5837:2012 Trees in relation to design, demolition and construction - Recommendations)

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- Category B (Moderate quality)
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Designations

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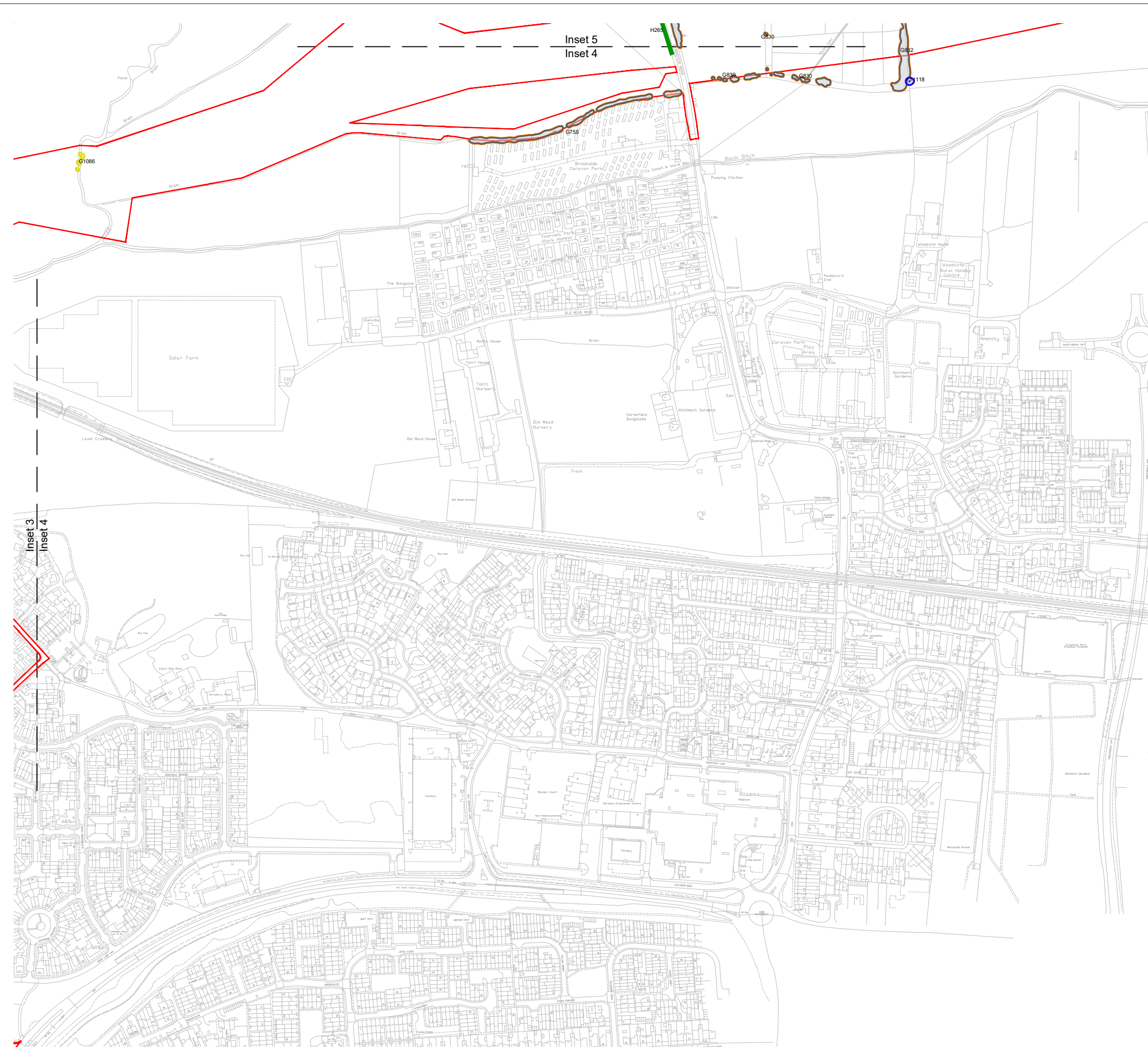
Project
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Title
Drawing 1: Arboricultural Constraints Plan - Inset 3 of 47

Drawing Number
D8685.001.03

Drawn	Checked	Approved	Scale	Date
RMG	HEE	JGS	1:5,000 @ A3	05/07/2023

Inset 3
 Inset 2



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- T1/G1/W1 Trees
- H1 Hedgerow
- Root Protection Area (RPA)
- ES Assessment Boundary

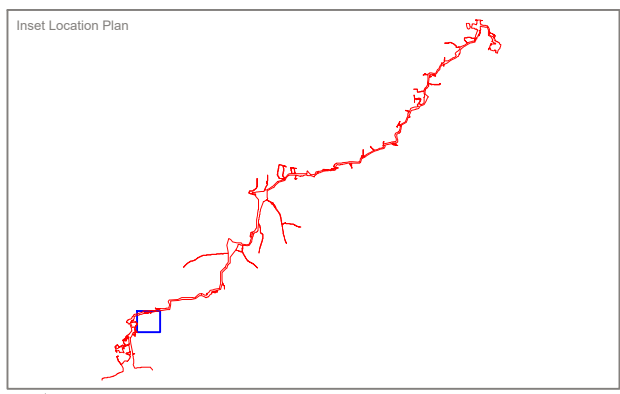
Tree Quality Categorisation
(Based on BS 5837:2012 Trees in relation to design, demolition and construction - Recommendations)

- Category A (High quality)
- Category B (Moderate quality)
- Category C (Low quality)
- Category U (Unsuitable for retention)
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- Trees not surveyed in detail (Due to access availability)

Designations

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- Ancient Woodland (ASINW and Replanted)
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- Wood Pasture and Parkland
- Tree Preservation Order

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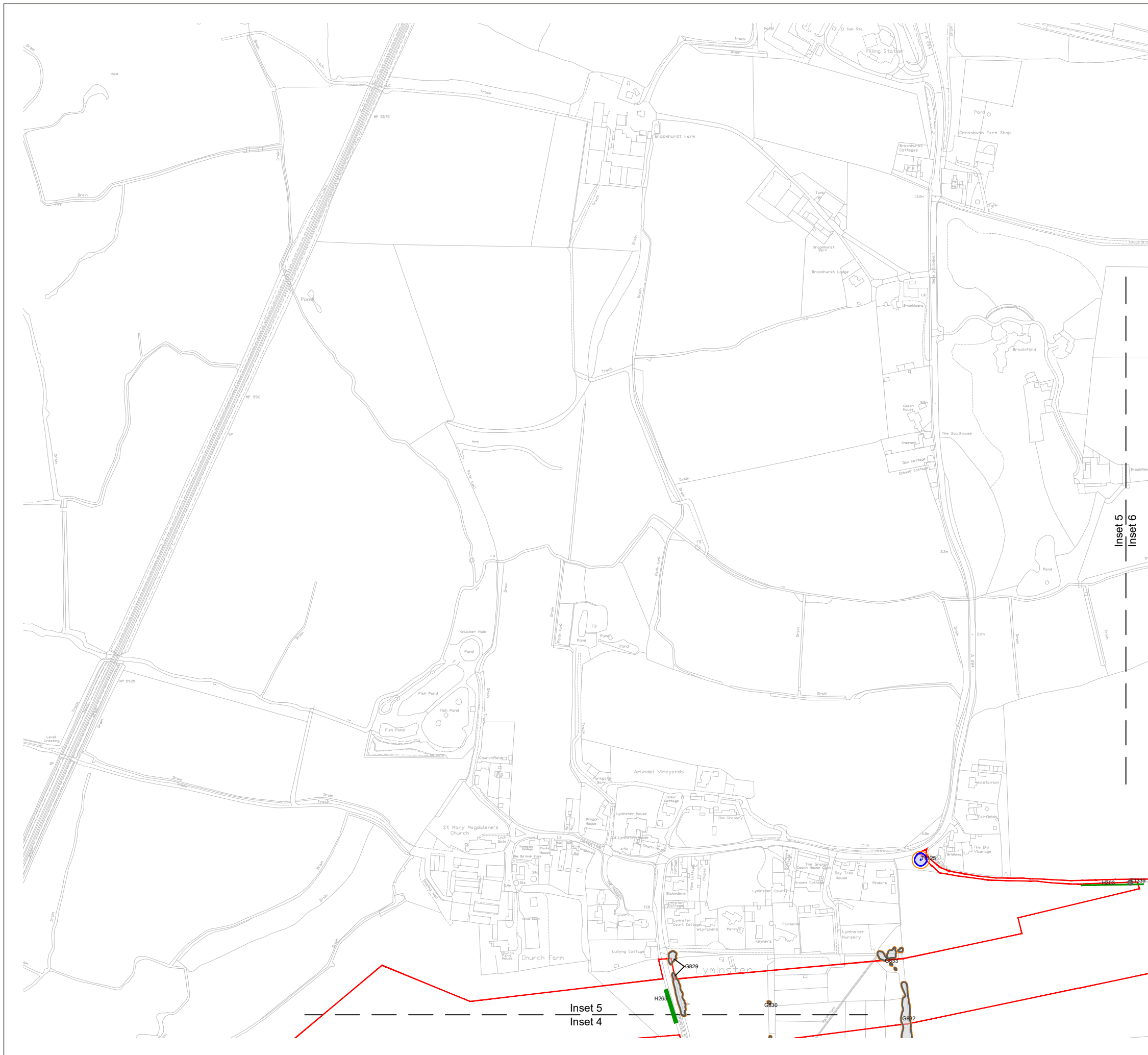
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Project
Rampion 2 Offshore Wind Farm

Title
Drawing 1: Arboricultural Constraints Plan - Inset 4 of 47

Drawing Number
D8685.001.04

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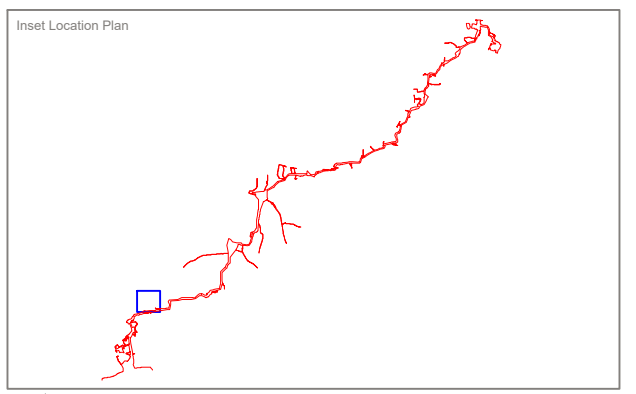
KEY
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- T1/G1/W1 Trees
- H1 Hedgerow
- Root Protection Area (RPA)
- ES Assessment Boundary

- Tree Quality Categorisation**
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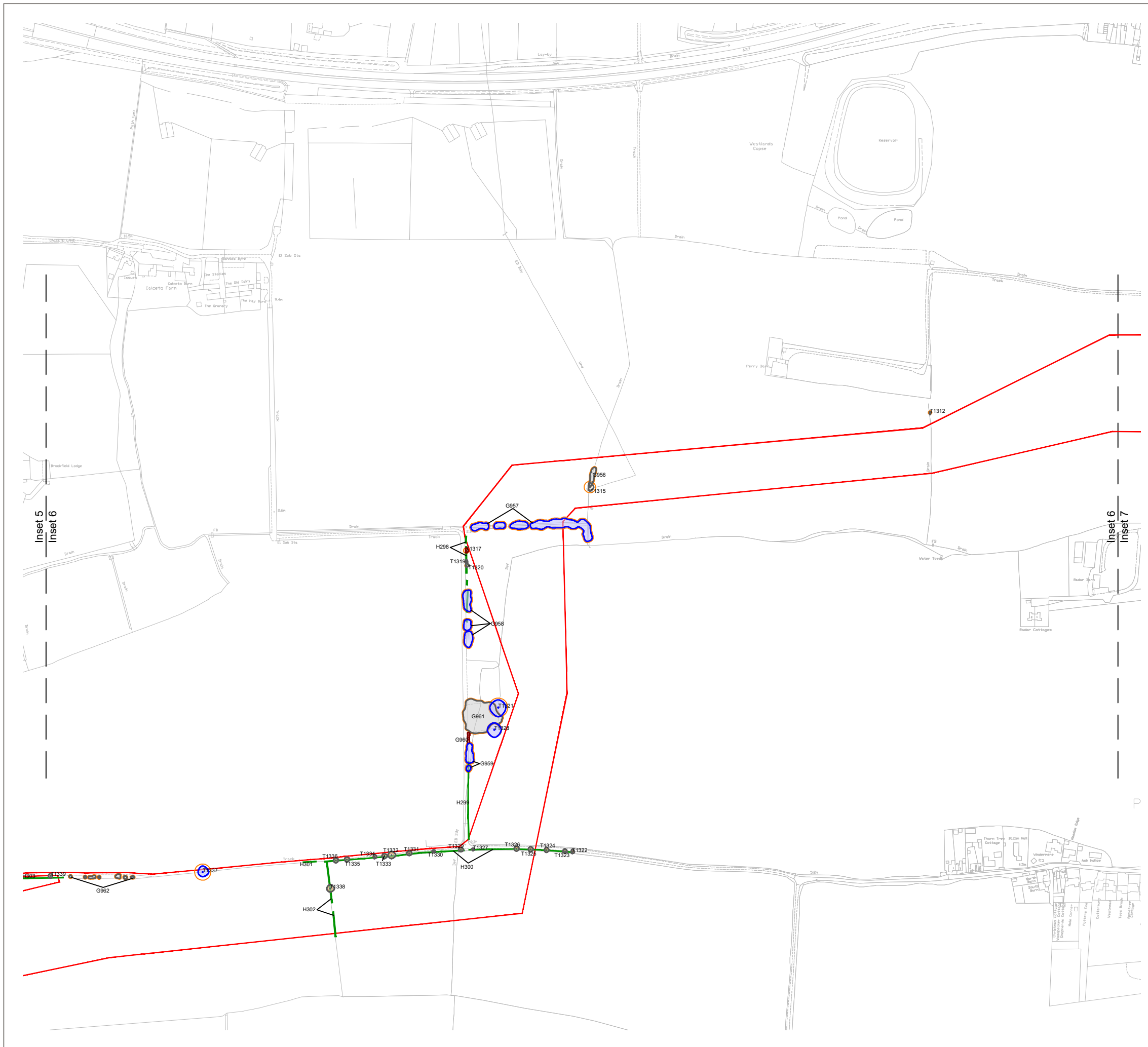
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Project
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Title
Drawing 1: Arboricultural Constraints Plan - Inset 5 of 47

Drawing Number
D8685.001.05

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KEY

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- T1/G1/W1 Trees
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- Root Protection Area (RPA)
- ES Assessment Boundary

Tree Quality Categorisation

(Based on BS 5837:2012 Trees in relation to design, demolition and construction - Recommendations)

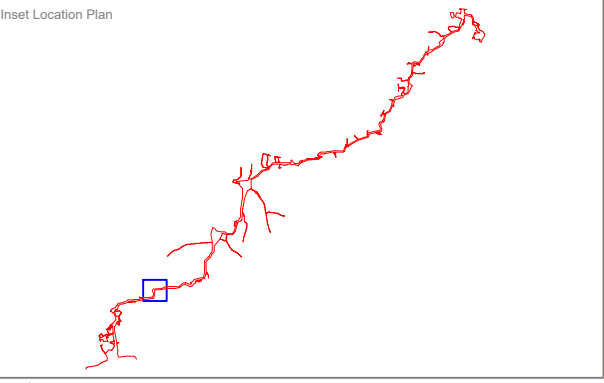
- Category A (High quality)
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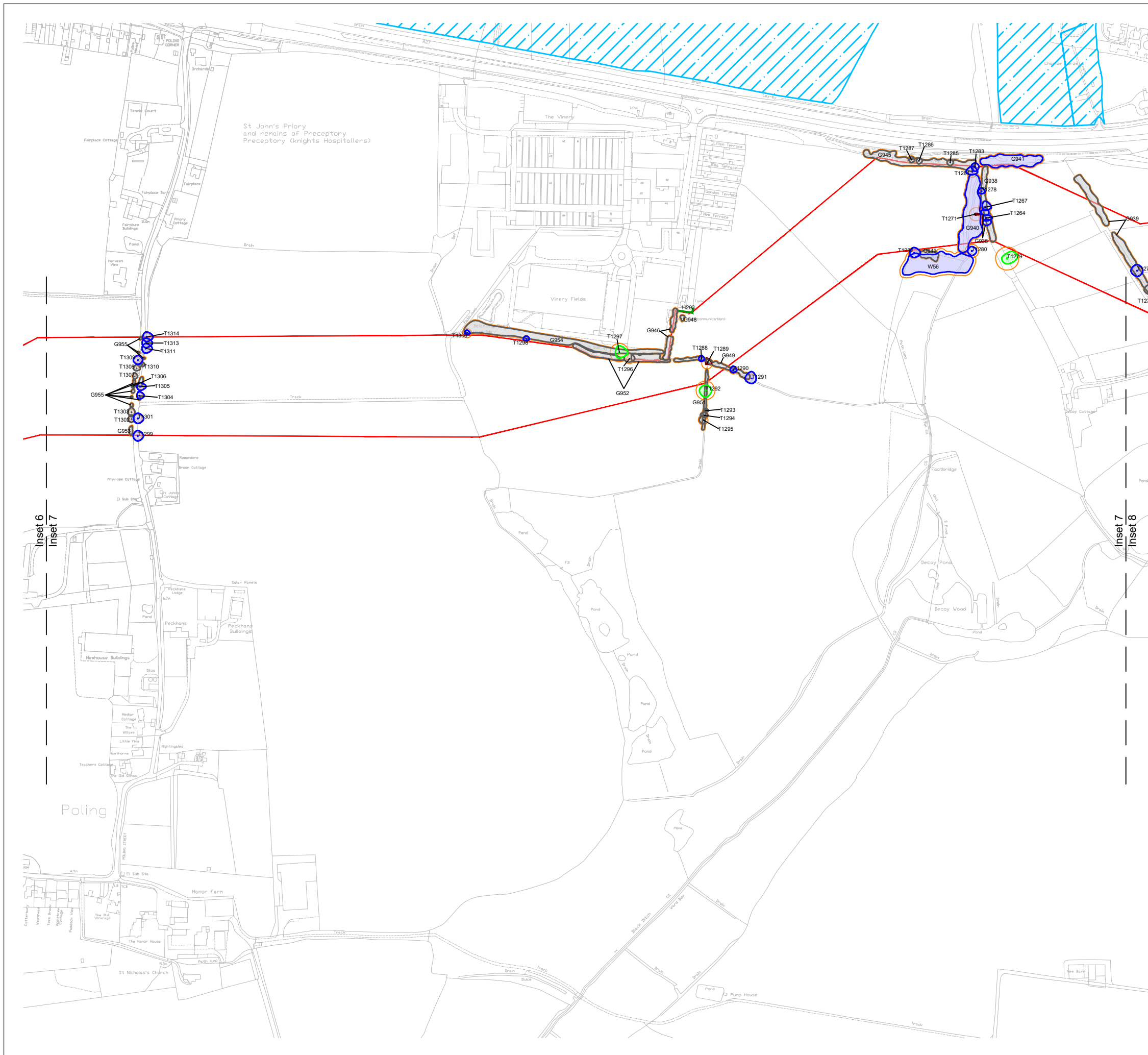
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Project
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Title
Drawing 1: Arboricultural Constraints Plan - Inset 6 of 47

Drawing Number
D8685.001.06

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RMG	HEE	JGS	1:5,000 @ A3	05/07/2023



KEY
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- T1/G1/W1 Trees
- H1 Hedgerow
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- ES Assessment Boundary

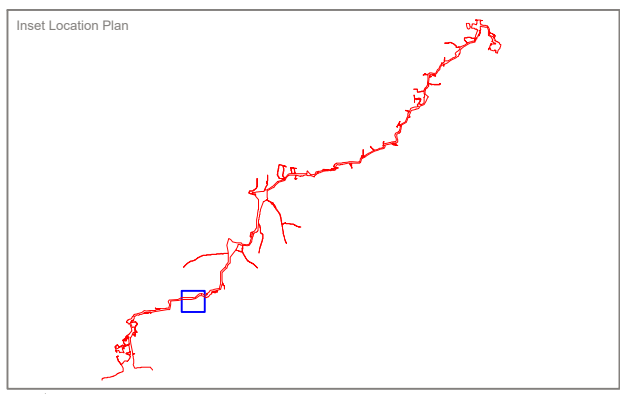
Tree Quality Categorisation
(Based on BS 5837:2012 Trees in relation to design, demolition and construction - Recommendations)

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Project
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Title
Drawing 1: Arboricultural Constraints Plan - Inset 7 of 47

Drawing Number
D8685.001.07

Drawn	Checked	Approved	Scale	Date
RMG	HEE	JGS	1:5,000 @ A3	05/07/2023



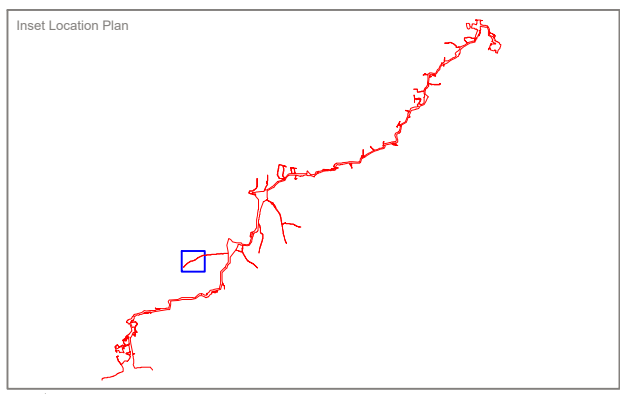
KEY
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- H1 Hedgerow
- Root Protection Area (RPA)
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- Tree Quality Categorisation**
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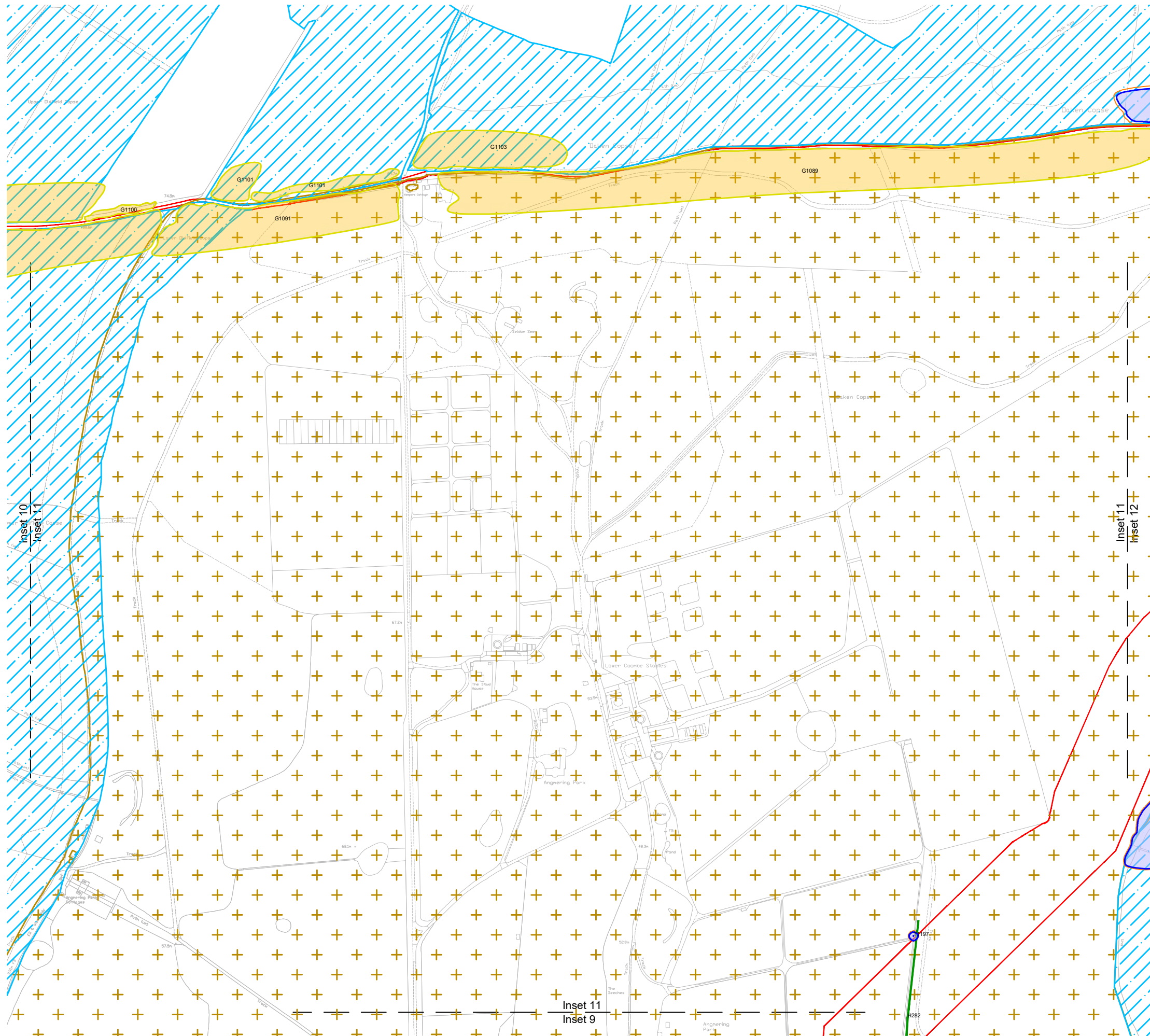
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Project
Rampion 2 Offshore Wind Farm

Title
Drawing 1: Arboricultural Constraints Plan - Inset 10 of 47

Drawing Number
D8685.001.10

Drawn	Checked	Approved	Scale	Date
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KEY

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- T1/G1/W1 Trees
- H1 Hedgerow
- Root Protection Area (RPA)
- ES Assessment Boundary

Tree Quality Categorisation

(Based on BS 5837:2012 Trees in relation to design, demolition and construction - Recommendations)

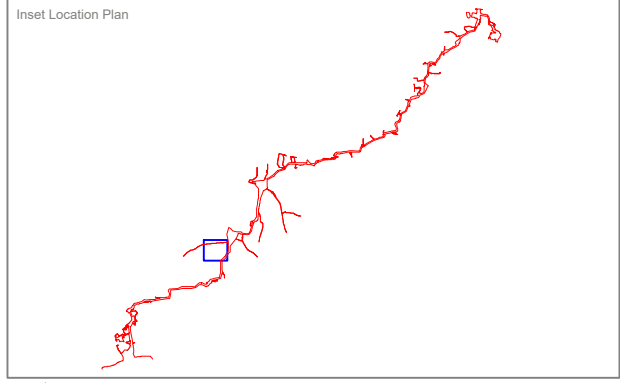
- Category A (High quality)
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Designations

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Project
Rampion 2 Offshore Wind Farm

Title
Drawing 1: Arboricultural Constraints Plan - Inset 11 of 47

Drawing Number
D8685.001.11

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KEY

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- Root Protection Area (RPA)
- ES Assessment Boundary

Tree Quality Categorisation
(Based on BS 5837:2012 Trees in relation to design, demolition and construction - Recommendations)

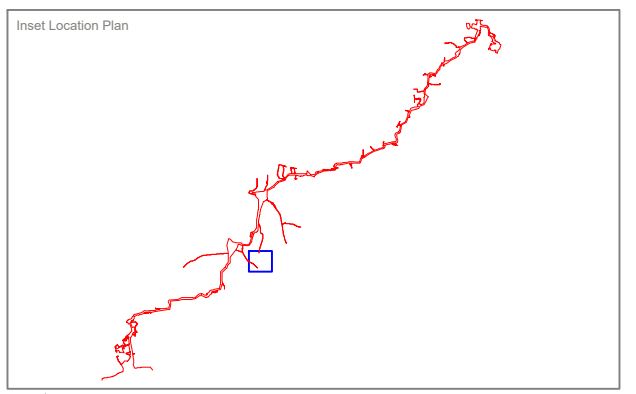
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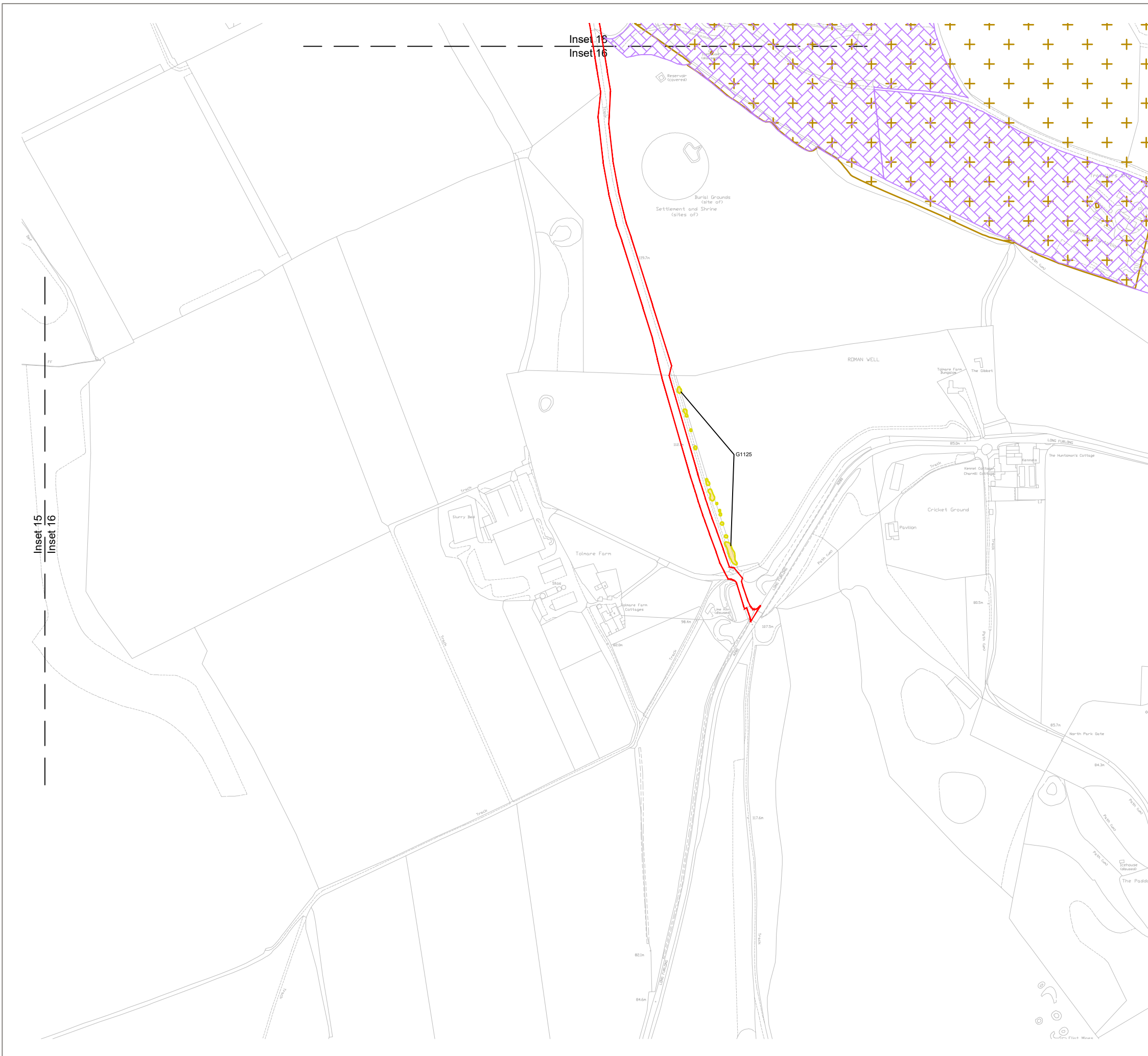
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Project
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Title
Drawing 1: Arboricultural Constraints Plan - Inset 13 of 47

Drawing Number
D8685.001.13

Drawn	Checked	Approved	Scale	Date
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- H1 Hedgerow
- Root Protection Area (RPA)
- ES Assessment Boundary

Tree Quality Categorisation

(Based on BS 5837:2012 Trees in relation to design, demolition and construction - Recommendations)

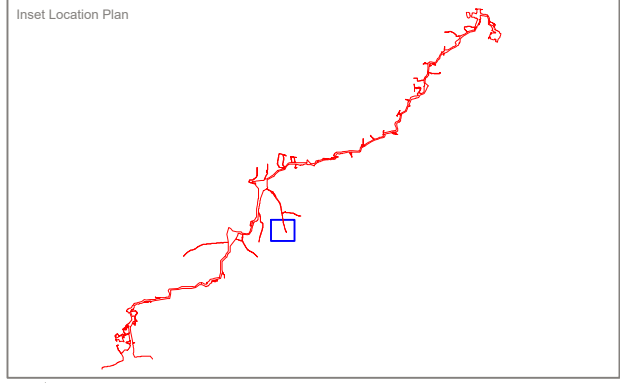
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Project
Rampion 2 Offshore Wind Farm

Title
Drawing 1: Arboricultural Constraints Plan - Inset 16 of 47

Drawing Number
D8685.001.16

Drawn	Checked	Approved	Scale	Date
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KEY
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- T1/G1/W1 Trees
- H1 Hedgerow
- Root Protection Area (RPA)
- ES Assessment Boundary

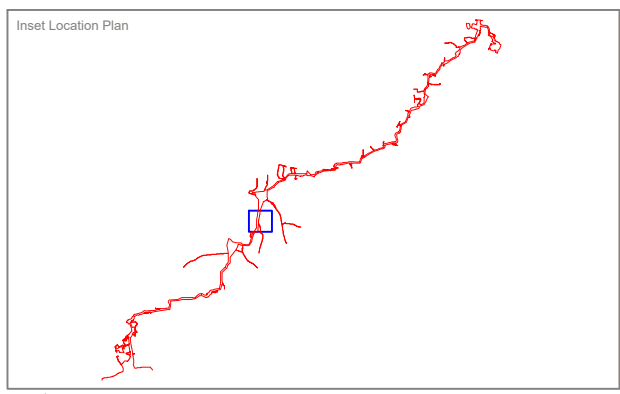
Tree Quality Categorisation
(Based on BS 5837:2012 Trees in relation to design, demolition and construction - Recommendations)

- Category A (High quality)
- Category B (Moderate quality)
- Category C (Low quality)
- Category U (Unsuitable for retention)
- Hedgerow (Not categorised)
- Trees not surveyed in detail (Due to access availability)

Designations

- Veteran Tree Buffer
- Ancient Woodland (ASNV and Replanted)
- Traditional Orchard
- Wood Pasture and Parkland
- Tree Preservation Order

NOTES:
 This drawing should be read in conjunction with the respective Arboricultural Survey Data (Appendix A).
 No topographical information was available during the survey. All features are plotted using a combination of aerial imagery and on-site observations.



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Project
Rampion 2 Offshore Wind Farm

Title
Drawing 1: Arboricultural Constraints Plan - Inset 17 of 47

Drawing Number
D8685.001.17

Drawn	Checked	Approved	Scale	Date
RMG	HEE	JGS	1:5,000 @ A3	05/07/2023

Inset 21
Inset 18

Inset 17
Inset 18

Inset 18
Inset 19

Inset 16
Inset 16

KEY
[This drawing must be reproduced in colour]

- T1/G1/W1 Trees
- H1 Hedgerow
- Root Protection Area (RPA)
- ES Assessment Boundary

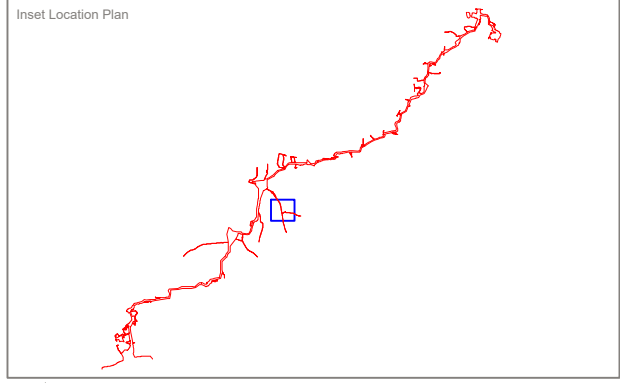
Tree Quality Categorisation
(Based on BS 5837:2012 Trees in relation to design, demolition and construction - Recommendations)

- Category A (High quality)
- Category B (Moderate quality)
- Category C (Low quality)
- Category U (Unsuitable for retention)
- Hedgerow (Not categorised)
- Trees not surveyed in detail (Due to access availability)

Designations

- Veteran Tree Buffer
- Ancient Woodland (ASNV and Replanted)
- Traditional Orchard
- Wood Pasture and Parkland
- Tree Preservation Order

NOTES:
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No topographical information was available during the survey. All features are plotted using a combination of aerial imagery and on-site observations.



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Rev	Description	Drawn	Approved	Date

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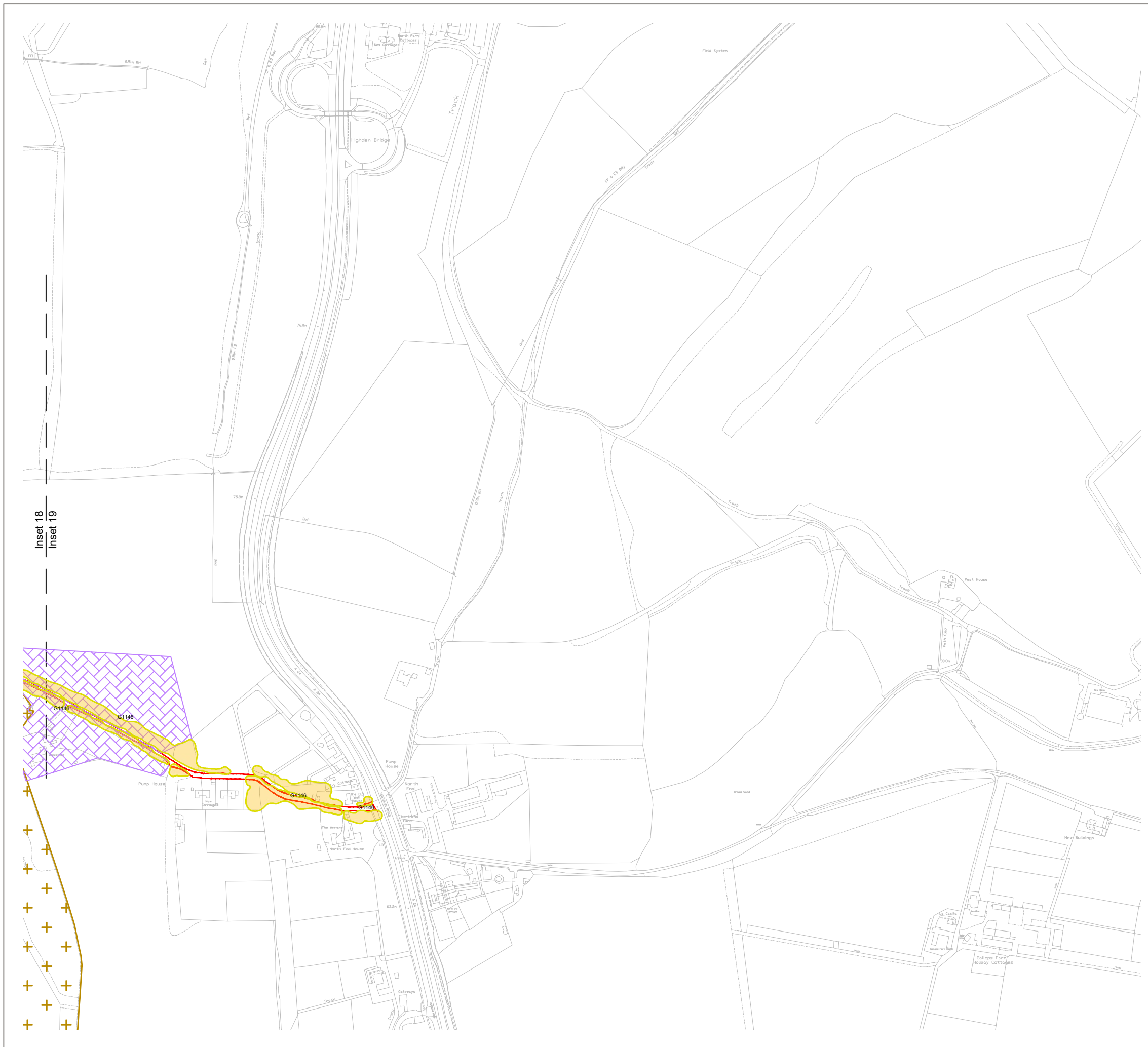
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Project
Rampion 2 Offshore Wind Farm

Title
Drawing 1: Arboricultural Constraints Plan - Inset 18 of 47

Drawing Number
D8685.001.18

Drawn	Checked	Approved	Scale	Date
RMG	HEE	JGS	1:5,000 @ A3	05/07/2023



KEY

[This drawing must be reproduced in colour]

- T1/G1/W1 Trees
- H1 Hedgerow
- Root Protection Area (RPA)
- ES Assessment Boundary

Tree Quality Categorisation

(Based on BS 5837:2012 Trees in relation to design, demolition and construction - Recommendations)

- Category A (High quality)
- Category B (Moderate quality)
- Category C (Low quality)
- Category U (Unsuitable for retention)
- Hedgerow (Not categorised)
- Trees not surveyed in detail (Due to access availability)

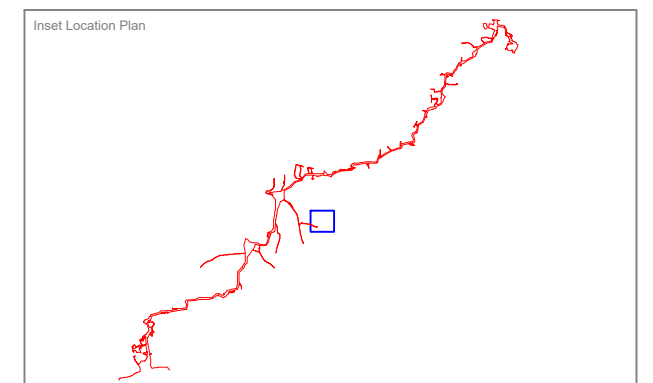
Designations

- Veteran Tree Buffer
- Ancient Woodland (ASNV and Replanted)
- Traditional Orchard
- Wood Pasture and Parkland
- Tree Preservation Order

NOTES:

This drawing should be read in conjunction with the respective Arboricultural Survey Data (Appendix A).

No topographical information was available during the survey. All features are plotted using a combination of aerial imagery and on-site observations.



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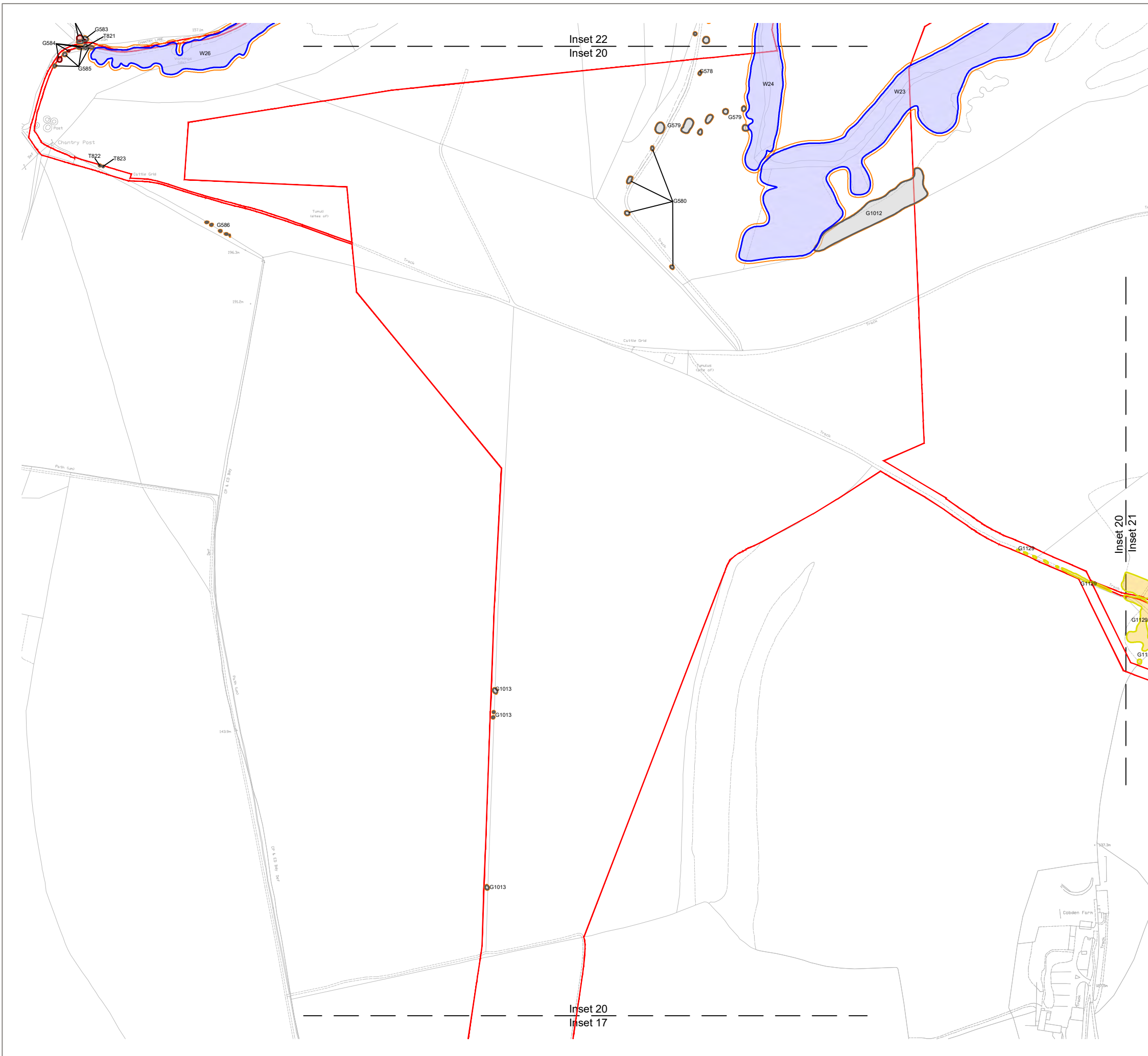
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Project
Rampion 2 Offshore Wind Farm

Title
Drawing 1: Arboricultural Constraints Plan - Inset 19 of 47

Drawing Number
D8685.001.19

Drawn	Checked	Approved	Scale	Date
RMG	HEE	JGS	1:5,000 @ A3	05/07/2023



KEY

[This drawing must be reproduced in colour]

- T1/G1/W1 Trees
- H1 Hedgerow
- Root Protection Area (RPA)
- ES Assessment Boundary

Tree Quality Categorisation

(Based on BS 5837:2012 Trees in relation to design, demolition and construction - Recommendations)

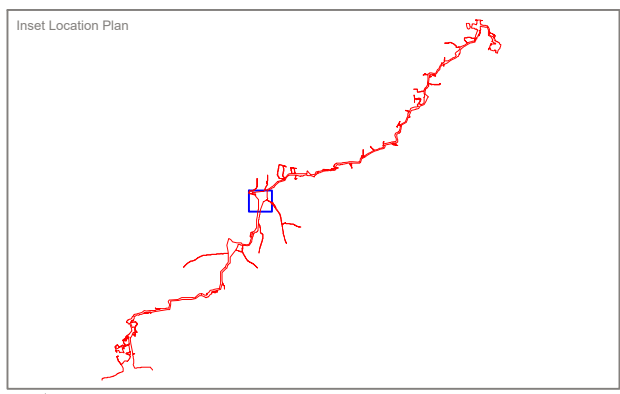
- Category A (High quality)
- Category B (Moderate quality)
- Category C (Low quality)
- Category U (Unsuitable for retention)
- Hedgerow (Not categorised)
- Trees not surveyed in detail (Due to access availability)

Designations

- Veteran Tree Buffer
- Ancient Woodland (ASNV and Replanted)
- Traditional Orchard
- Wood Pasture and Parkland
- Tree Preservation Order

NOTES:

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 No topographical information was available during the survey. All features are plotted using a combination of aerial imagery and on-site observations.



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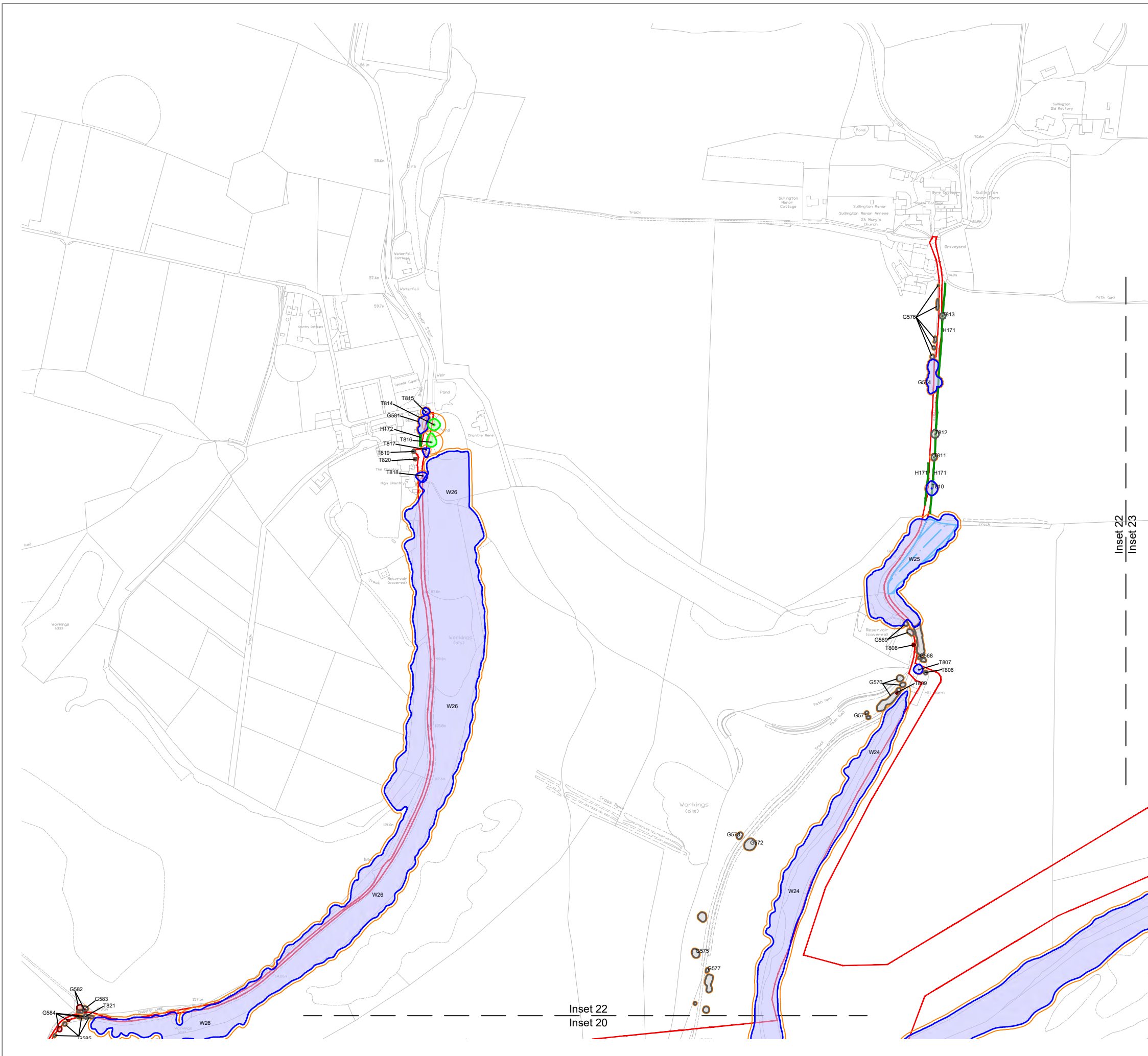
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Project
Rampion 2 Offshore Wind Farm

Title
Drawing 1: Arboricultural Constraints Plan - Inset 20 of 47

Drawing Number
D8685.001.20

Drawn	Checked	Approved	Scale	Date
RMG	HEE	JGS	1:5,000 @ A3	05/07/2023

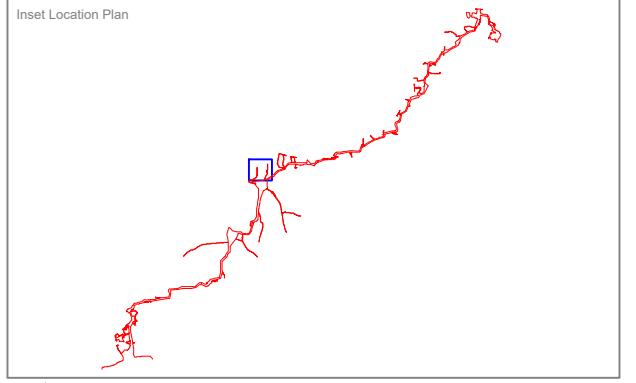


KEY
[This drawing must be reproduced in colour]

- T1/G1/W1 Trees
 - H1 Hedgerow
 - Root Protection Area (RPA)
 - ES Assessment Boundary
- Tree Quality Categorisation**
(Based on BS 5837:2012 Trees in relation to design, demolition and construction - Recommendations)
- Category A (High quality)
 - Category B (Moderate quality)
 - Category C (Low quality)
 - Category U (Unsuitable for retention)
 - Hedgerow (Not categorised)
 - Trees not surveyed in detail (Due to access availability)

- Designations**
- Veteran Tree Buffer
 - Ancient Woodland (ASNV and Replanted)
 - Traditional Orchard
 - Wood Pasture and Parkland
 - Tree Preservation Order

NOTES:
 This drawing should be read in conjunction with the respective Arboricultural Survey Data (Appendix A).
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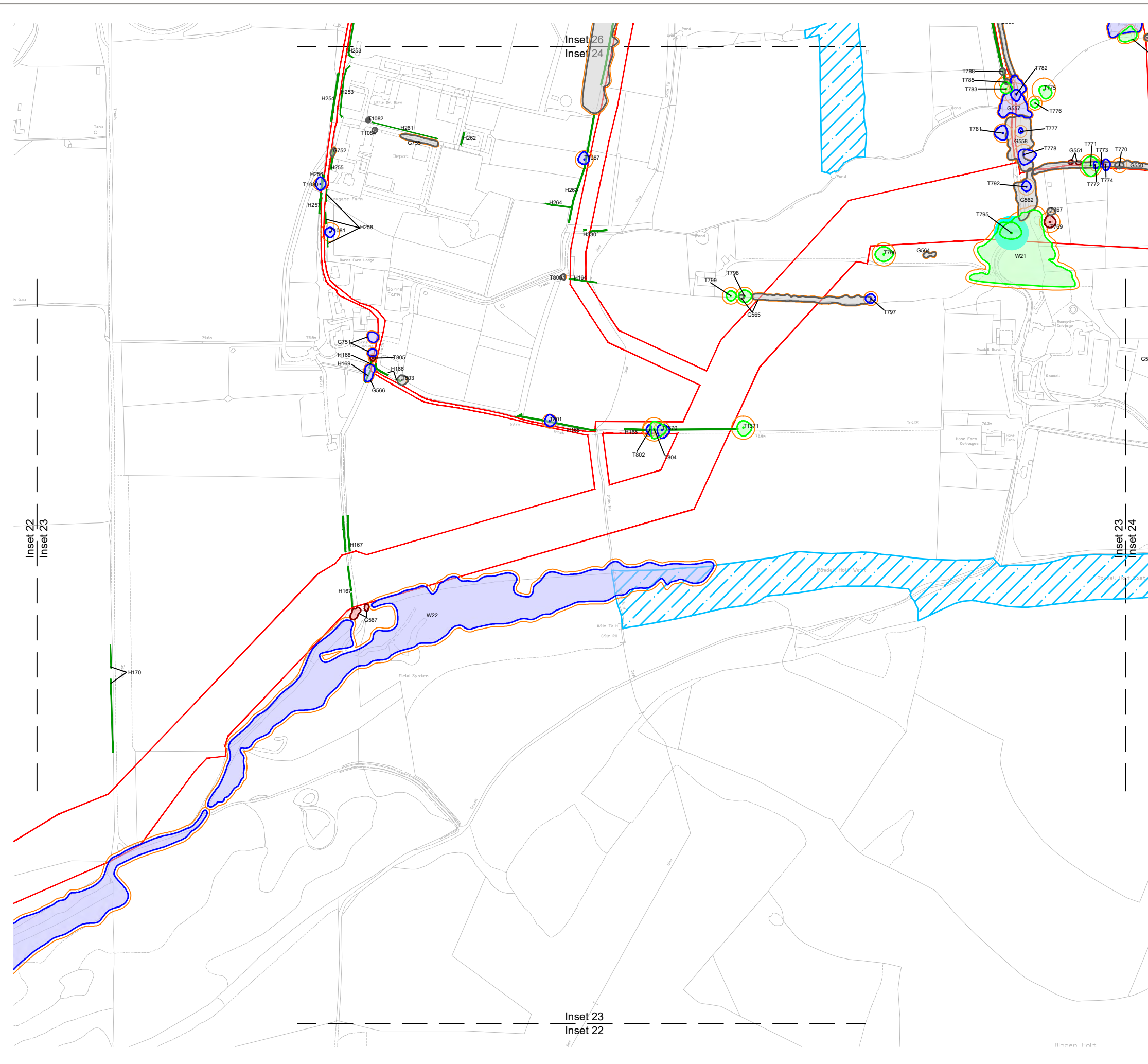
Title
Drawing 1: Arboricultural Constraints Plan - Inset 22 of 47

Drawing Number
D8685.001.22

Drawn	Checked	Approved	Scale	Date
RMG	HEE	JGS	1:5,000 @ A3	05/07/2023

Inset 22
Inset 23

Inset 22
Inset 20



KEY

[This drawing must be reproduced in colour]

- T1/G1/W1 Trees
- H1 Hedgerow
- Root Protection Area (RPA)
- ES Assessment Boundary

Tree Quality Categorisation
(Based on BS 5837:2012 Trees in relation to design, demolition and construction - Recommendations)

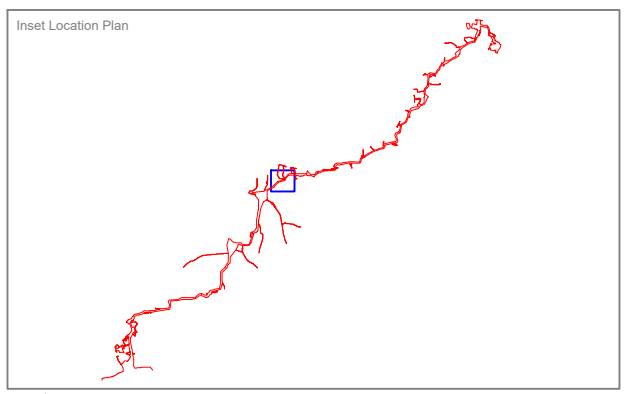
- Category A (High quality)
- Category B (Moderate quality)
- Category C (Low quality)
- Category U (Unsuitable for retention)
- Hedgerow (Not categorised)
- Trees not surveyed in detail (Due to access availability)

Designations

- Veteran Tree Buffer
- Ancient Woodland (ASNV and Replanted)
- Traditional Orchard
- Wood Pasture and Parkland
- Tree Preservation Order

NOTES:

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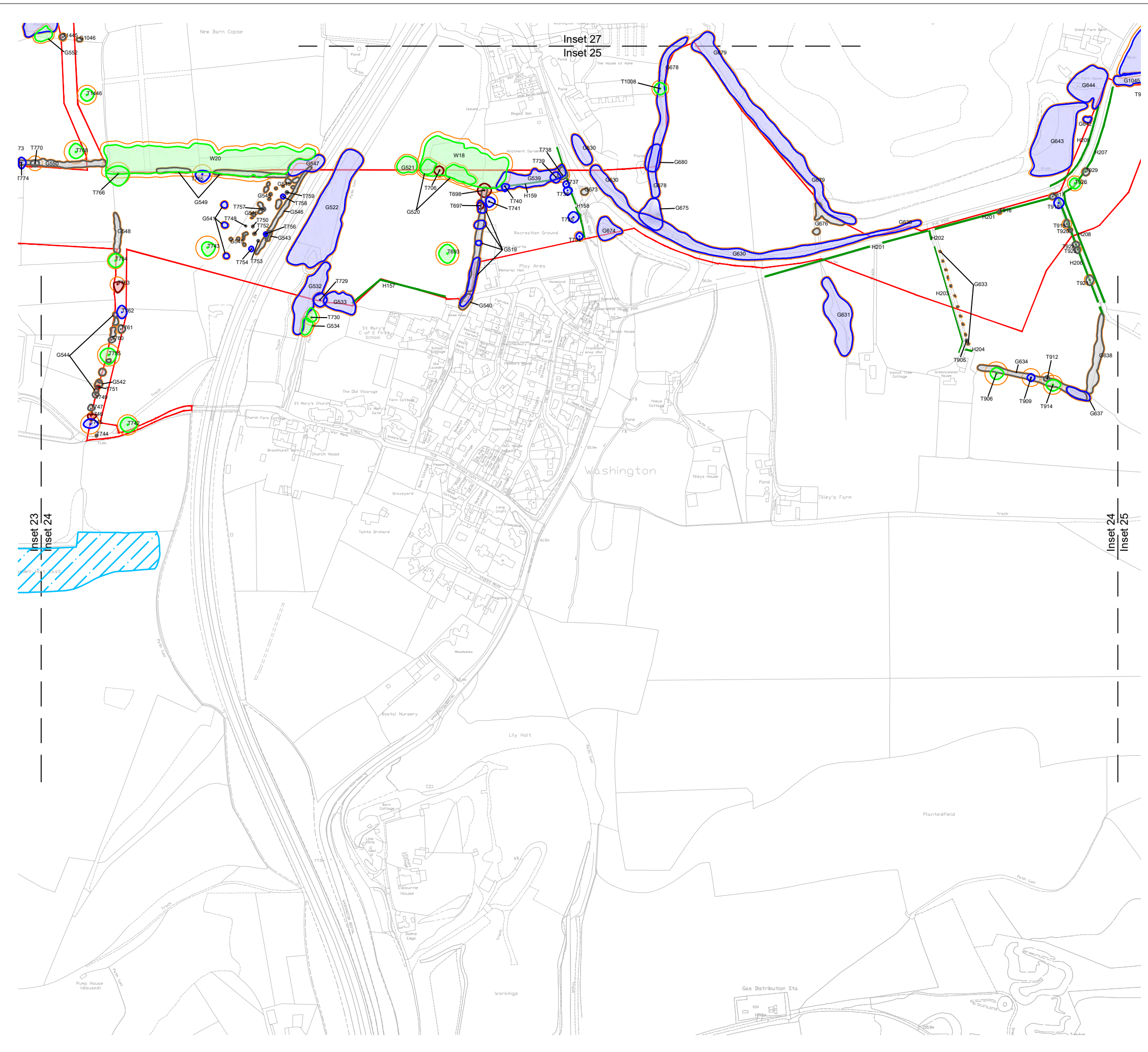
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Project
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Title
Drawing 1: Arboricultural Constraints Plan - Inset 23 of 47

Drawing Number
D8685.001.23

Drawn	Checked	Approved	Scale	Date
RMG	HEE	JGS	1:5,000 @ A3	05/07/2023



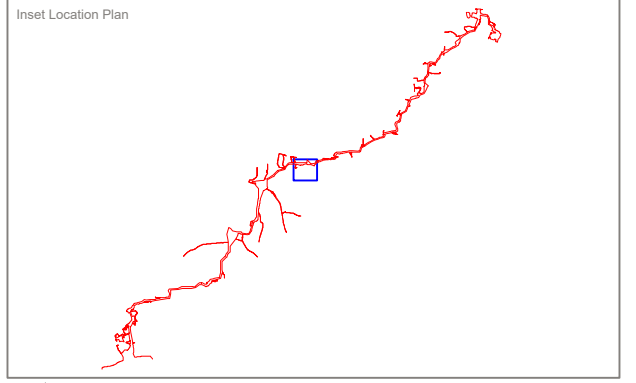
KEY
[This drawing must be reproduced in colour]

- T1/G1/W1 Trees
- H1 Hedgerow
- Root Protection Area (RPA)
- ES Assessment Boundary

- Tree Quality Categorisation**
(Based on BS 5837:2012 Trees in relation to design, demolition and construction - Recommendations)
- Category A (High quality)
 - Category B (Moderate quality)
 - Category C (Low quality)
 - Category U (Unsuitable for retention)
 - Hedgerow (Not categorised)
 - Trees not surveyed in detail (Due to access availability)

- Designations**
- Veteran Tree Buffer
 - Ancient Woodland (ASNW and Replanted)
 - Traditional Orchard
 - Wood Pasture and Parkland
 - Tree Preservation Order

NOTES:
 This drawing should be read in conjunction with the respective Arboricultural Survey Data (Appendix A).
 No topographical information was available during the survey. All features are plotted using a combination of aerial imagery and on-site observations.



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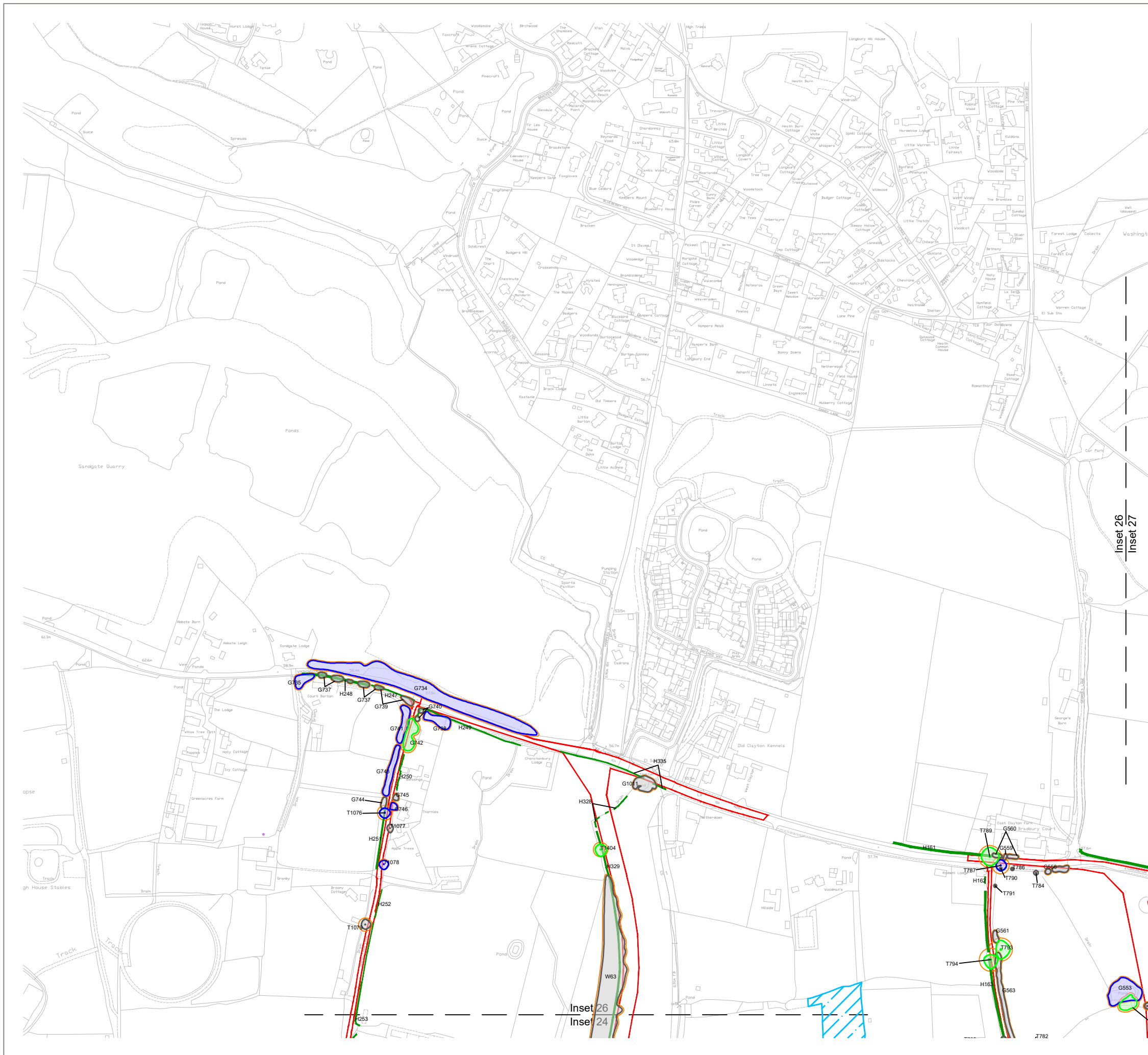
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Project
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Title
Drawing 1: Arboricultural Constraints Plan - Inset 24 of 47

Drawing Number
D8685.001.24

Drawn	Checked	Approved	Scale	Date
RMG	HEE	JGS	1:5,000 @ A3	05/07/2023





KEY
[This drawing must be reproduced in colour]

- T1/G1/W1 Trees
- H1 Hedgerow
- Root Protection Area (RPA)
- ES Assessment Boundary

Tree Quality Categorisation
(Based on BS 5837:2012 Trees in relation to design, demolition and construction - Recommendations)

- Category A (High quality)
- Category B (Moderate quality)
- Category C (Low quality)
- Category U (Unsuitable for retention)
- Hedgerow (Not categorised)
- Trees not surveyed in detail (Due to access availability)

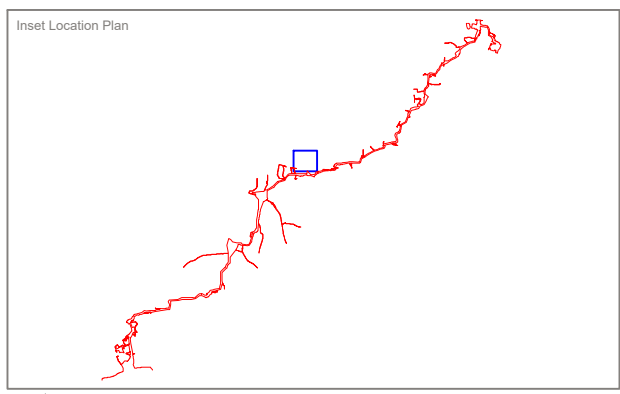
Designations

- Veteran Tree Buffer
- Ancient Woodland (ASNW and Replanted)
- Traditional Orchard
- Wood Pasture and Parkland
- Tree Preservation Order

NOTES:

This drawing should be read in conjunction with the respective Arboricultural Survey Data (Appendix A).

No topographical information was available during the survey. All features are plotted using a combination of aerial imagery and on-site observations.



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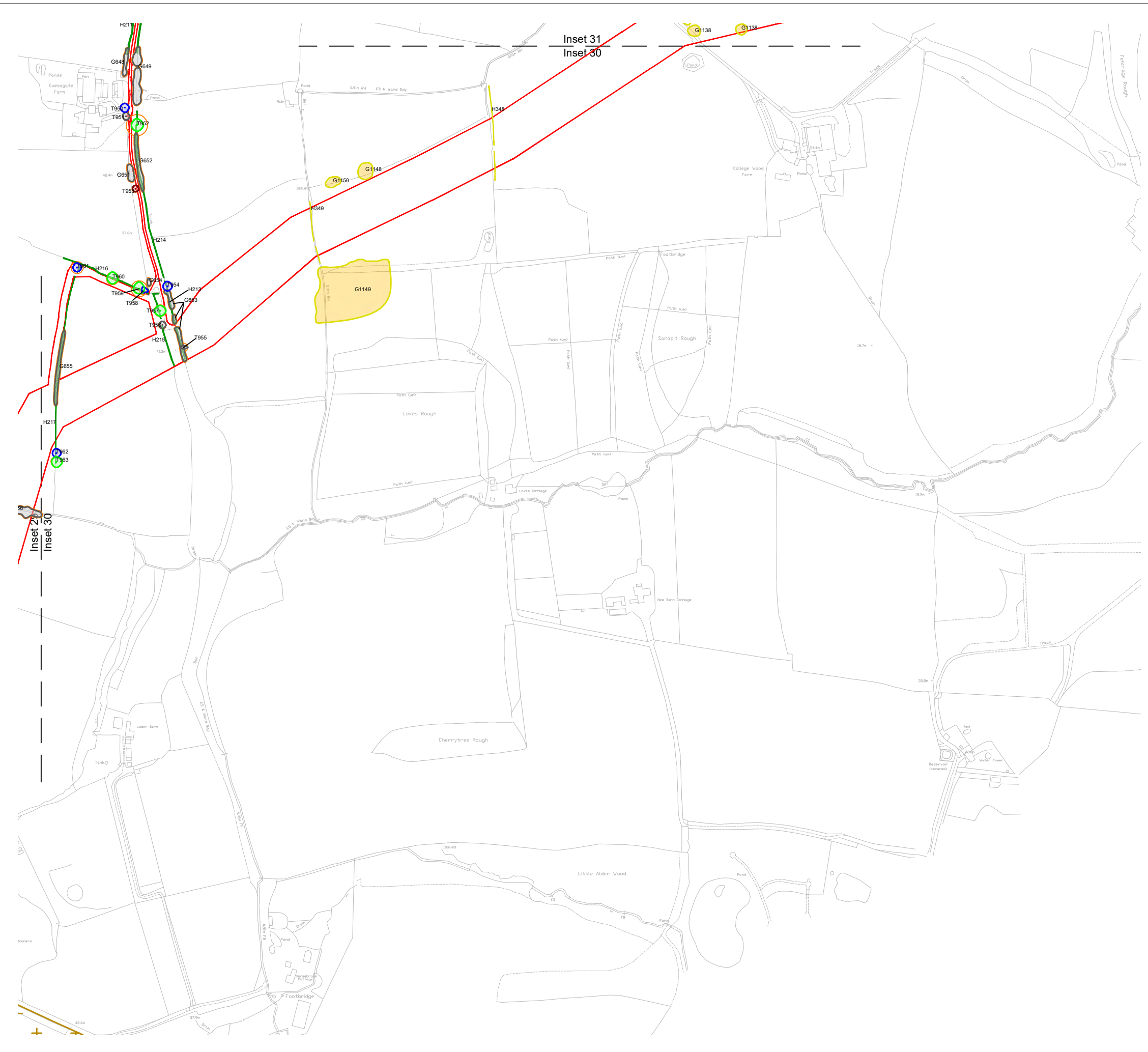
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Project
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Title
Drawing 1: Arboricultural Constraints Plan - Inset 27 of 47

Drawing Number
D8685.001.27

Drawn	Checked	Approved	Scale	Date
RMG	HEE	JGS	1:5,000 @ A3	05/07/2023



KEY
 [This drawing must be reproduced in colour]

- T1/G1/W1 Trees
- H1 Hedgerow
- Root Protection Area (RPA)
- ES Assessment Boundary

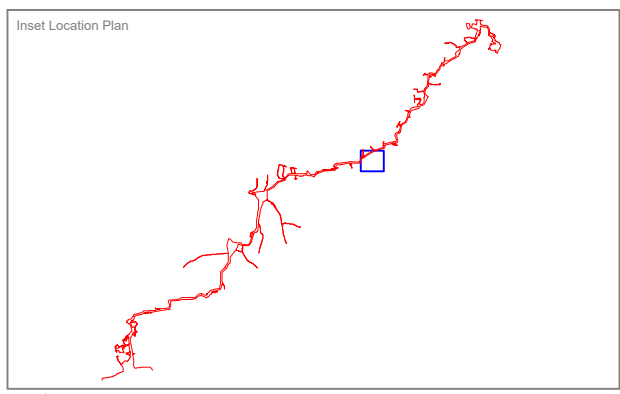
Tree Quality Categorisation
 (Based on BS 5837:2012 Trees in relation to design, demolition and construction - Recommendations)

- Category A (High quality)
- Category B (Moderate quality)
- Category C (Low quality)
- Category U (Unsuitable for retention)
- Hedgerow (Not categorised)
- Trees not surveyed in detail (Due to access availability)

Designations

- Veteran Tree Buffer
- Ancient Woodland (ASINW and Replanted)
- Traditional Orchard
- Wood Pasture and Parkland
- Tree Preservation Order

NOTES:
 This drawing should be read in conjunction with the respective Arboricultural Survey Data (Appendix A).
 No topographical information was available during the survey. All features are plotted using a combination of aerial imagery and on-site observations.



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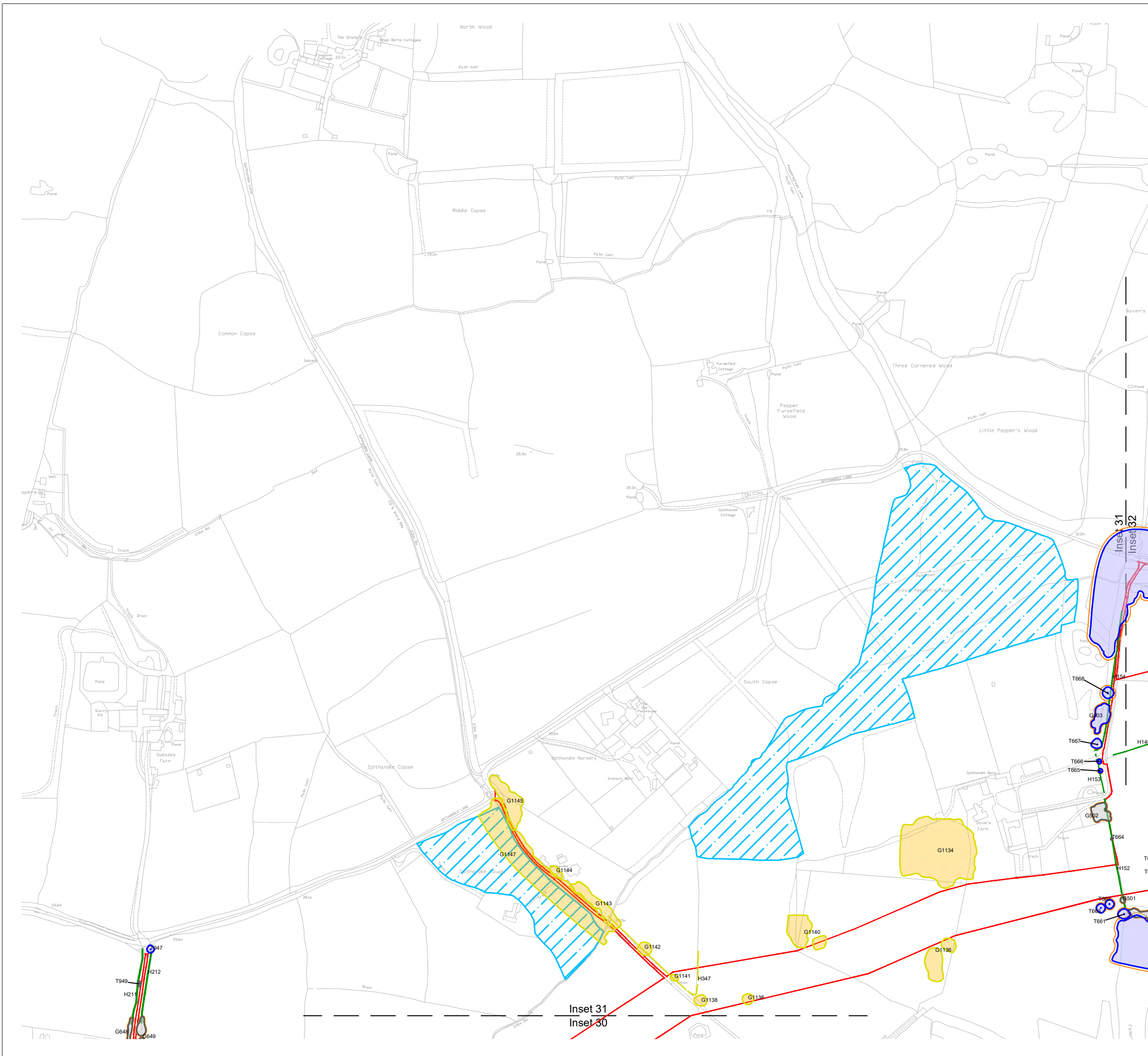
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Project
Rampion 2 Offshore Wind Farm

Title
Drawing 1: Arboricultural Constraints Plan - Inset 30 of 47

Drawing Number
D8685.001.30

Drawn	Checked	Approved	Scale	Date
RMG	HEE	JGS	1:5,000 @ A3	05/07/2023



KEY

[This drawing must be reproduced in colour]

- T1/G1/W1 Trees
- H1 Hedgerow
- Root Protection Area (RPA)
- ES Assessment Boundary

Tree Quality Categorisation
(Based on BS 5837:2012 Trees in relation to design, demolition and construction - Recommendations)

- Category A (High quality)
- Category B (Moderate quality)
- Category C (Low quality)
- Category U (Unsuitable for retention)
- Hedgerow (Not categorised)
- Trees not surveyed in detail (Due to access availability)

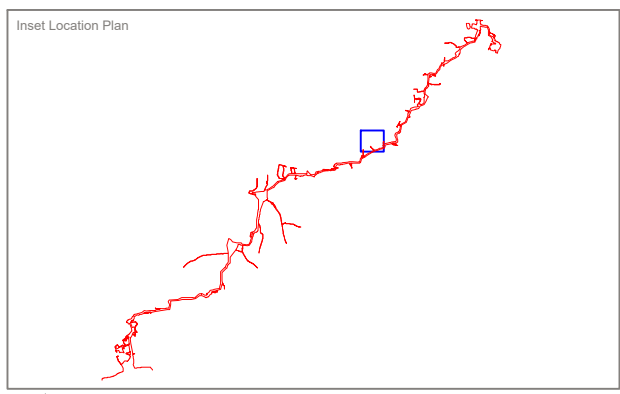
Designations

- Veteran Tree Buffer
- Ancient Woodland (ASNV and Replanted)
- Traditional Orchard
- Wood Pasture and Parkland
- Tree Preservation Order

NOTES:

This drawing should be read in conjunction with the respective Arboricultural Survey Data (Appendix A).

No topographical information was available during the survey. All features are plotted using a combination of aerial imagery and on-site observations.



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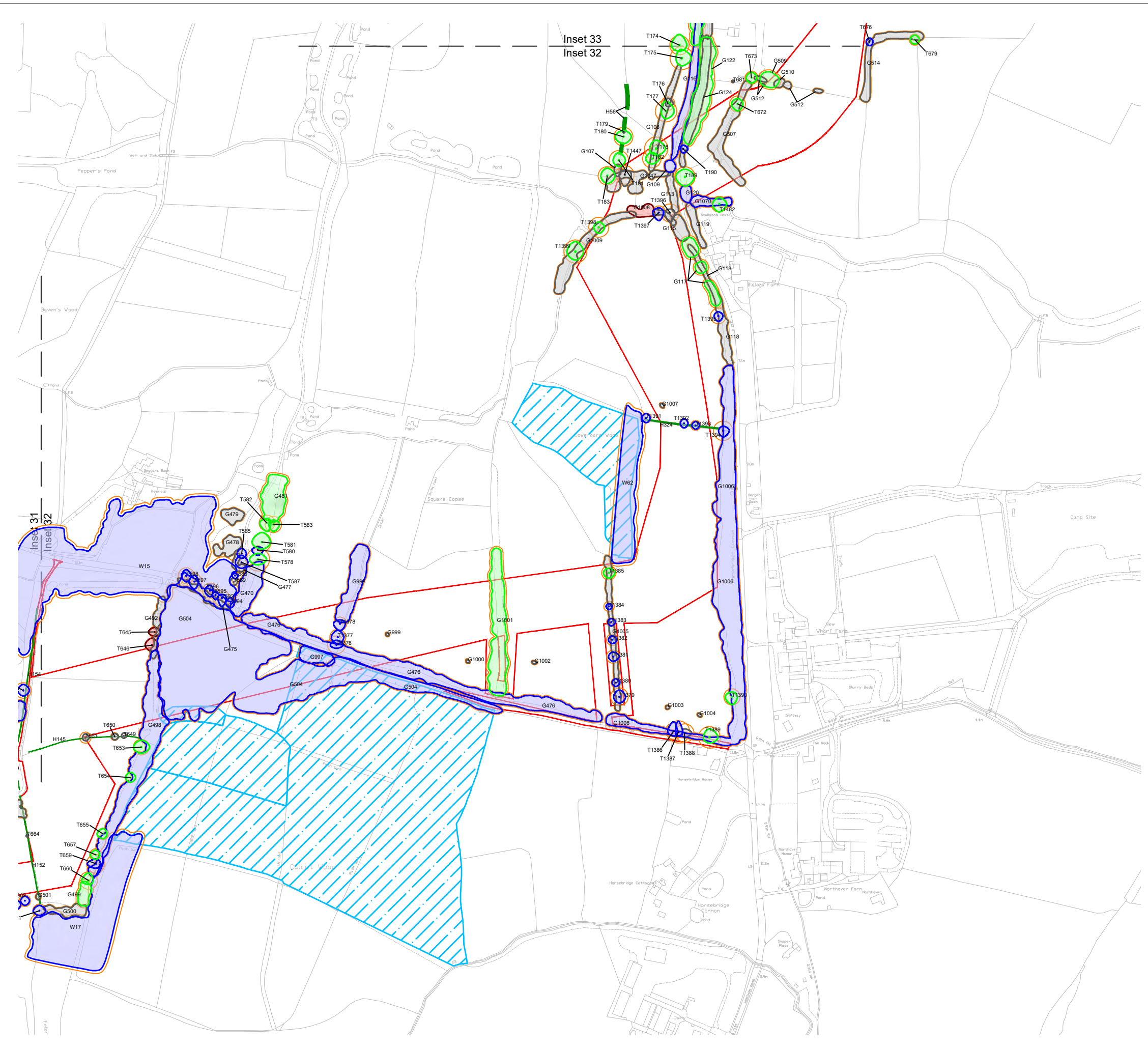
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Project
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Title
Drawing 1: Arboricultural Constraints Plan - Inset 31 of 47

Drawing Number
D8685.001.31

Drawn	Checked	Approved	Scale	Date
RMG	HEE	JGS	1:5,000 @ A3	05/07/2023



KEY
[This drawing must be reproduced in colour]

- T1/G1/W1 Trees
- H1 Hedgerow
- Root Protection Area (RPA)
- ES Assessment Boundary

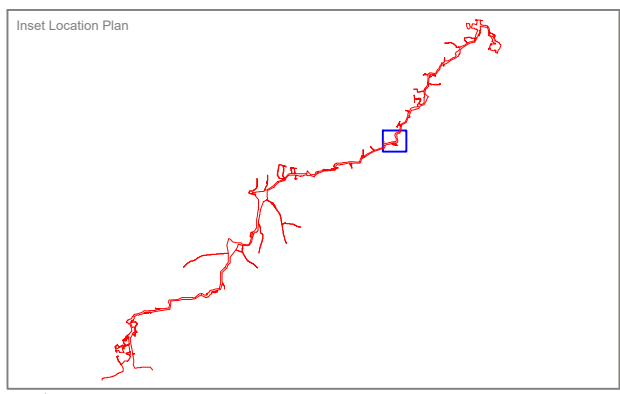
Tree Quality Categorisation
(Based on BS 5837:2012 Trees in relation to design, demolition and construction - Recommendations)

- Category A (High quality)
- Category B (Moderate quality)
- Category C (Low quality)
- Category U (Unsuitable for retention)
- Hedgerow (Not categorised)
- Trees not surveyed in detail (Due to access availability)

Designations

- Veteran Tree Buffer
- Ancient Woodland (ASNW and Replanted)
- Traditional Orchard
- Wood Pasture and Parkland
- Tree Preservation Order

NOTES:
 This drawing should be read in conjunction with the respective Arboricultural Survey Data (Appendix A).
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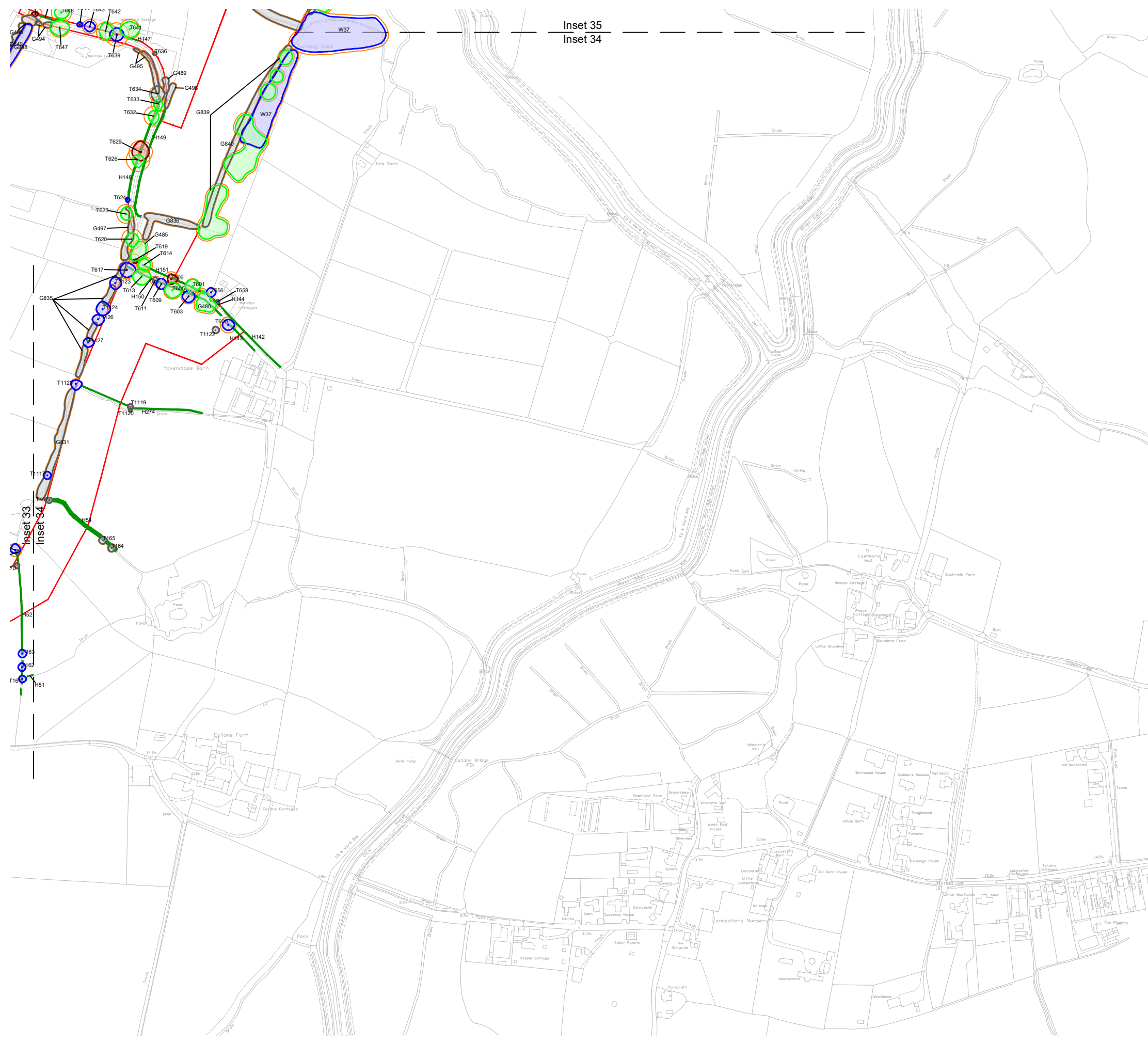
Project
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Title
Drawing 1: Arboricultural Constraints Plan - Inset 32 of 47

Drawing Number
D8685.001.32

Drawn	Checked	Approved	Scale	Date
RMG	HEE	JGS	1:5,000 @ A3	05/07/2023

Inset 35
Inset 34



KEY

[This drawing must be reproduced in colour]

- T1/G1/W1 Trees
- H1 Hedgerow
- Root Protection Area (RPA)
- ES Assessment Boundary

Tree Quality Categorisation

(Based on BS 5837:2012 Trees in relation to design, demolition and construction - Recommendations)

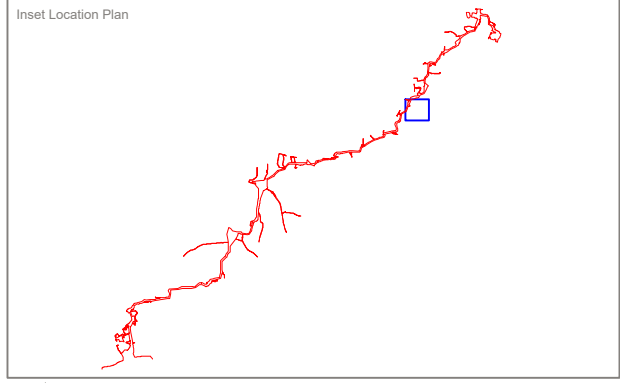
- Category A (High quality)
- Category B (Moderate quality)
- Category C (Low quality)
- Category U (Unsuitable for retention)
- Hedgerow (Not categorised)
- Trees not surveyed in detail (Due to access availability)

Designations

- Veteran Tree Buffer
- Ancient Woodland (ASNW and Replanted)
- Traditional Orchard
- Wood Pasture and Parkland
- Tree Preservation Order

NOTES:

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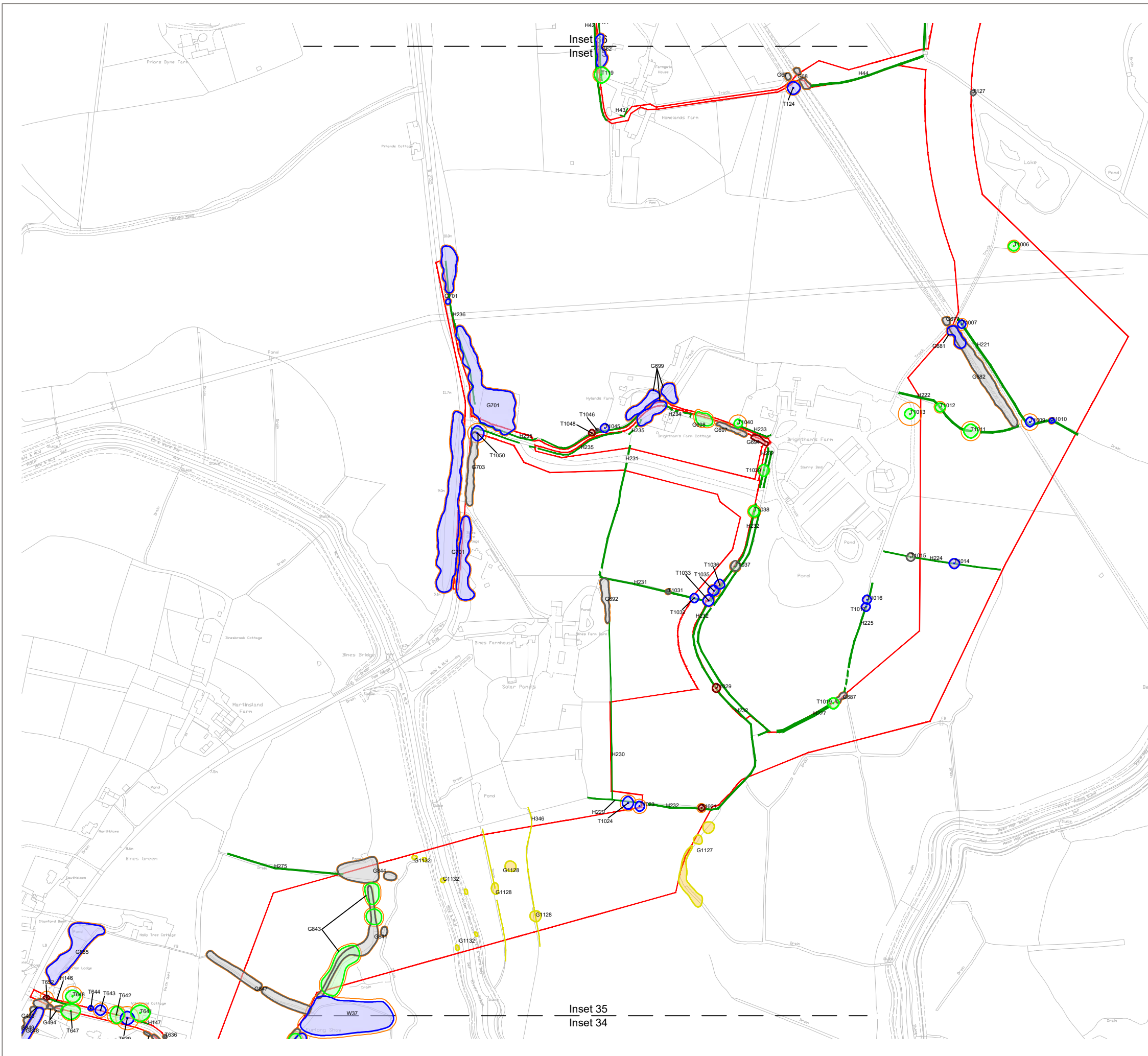
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Project
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Title
Drawing 1: Arboricultural Constraints Plan - Inset 34 of 47

Drawing Number
D8685.001.34

Drawn	Checked	Approved	Scale	Date
RMG	HEE	JGS	1:5,000 @ A3	05/07/2023



KEY
[This drawing must be reproduced in colour]

- T1/G1/W1 Trees
- H1 Hedgerow
- Root Protection Area (RPA)
- ES Assessment Boundary

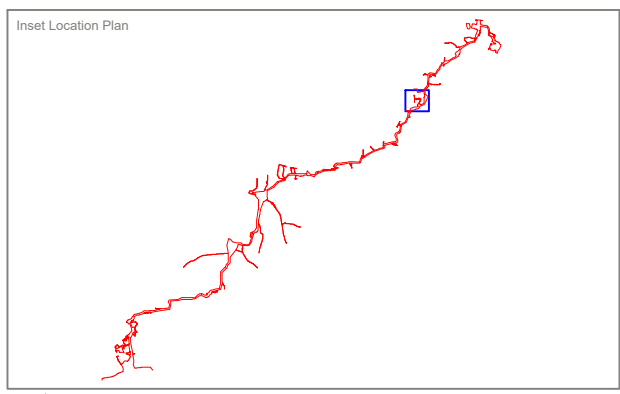
Tree Quality Categorisation
(Based on BS 5837:2012 Trees in relation to design, demolition and construction - Recommendations)

- Category A (High quality)
- Category B (Moderate quality)
- Category C (Low quality)
- Category U (Unsuitable for retention)
- Hedgerow (Not categorised)
- Trees not surveyed in detail (Due to access availability)

Designations

- Veteran Tree Buffer
- Ancient Woodland (ASNV and Replanted)
- Traditional Orchard
- Wood Pasture and Parkland
- Tree Preservation Order

NOTES:
 This drawing should be read in conjunction with the respective Arboricultural Survey Data (Appendix A).
 No topographical information was available during the survey. All features are plotted using a combination of aerial imagery and on-site observations.



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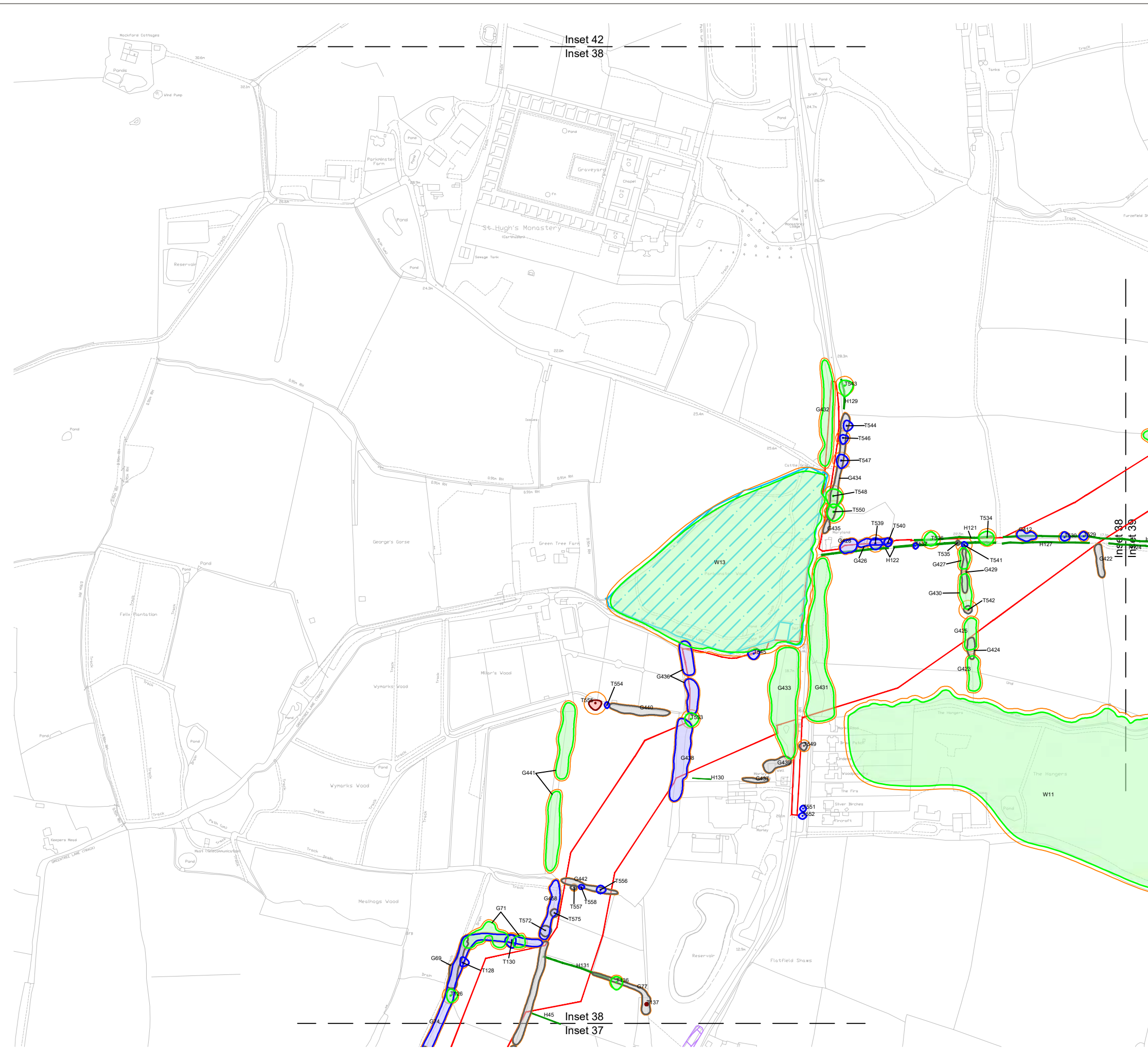
Project
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Title
Drawing 1: Arboricultural Constraints Plan - Inset 35 of 47

Drawing Number
D8685.001.35

Drawn	Checked	Approved	Scale	Date
RMG	HEE	JGS	1:5,000 @ A3	05/07/2023

Inset 35
 Inset 34



KEY
 [This drawing must be reproduced in colour]

- T1/G1/W1 Trees
- H1 Hedgerow
- Root Protection Area (RPA)
- ES Assessment Boundary

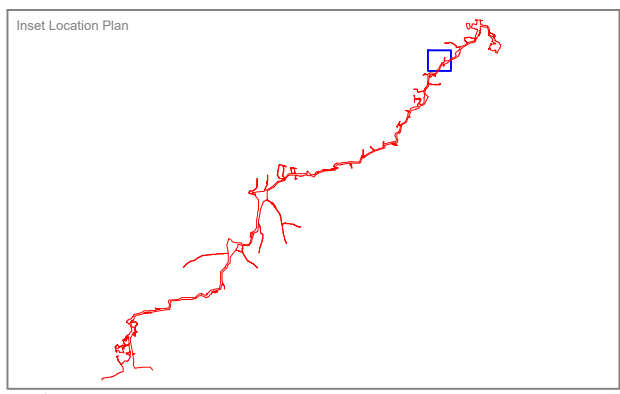
Tree Quality Categorisation
 (Based on BS 5837:2012 Trees in relation to design, demolition and construction - Recommendations)

- Category A (High quality)
- Category B (Moderate quality)
- Category C (Low quality)
- Category U (Unsuitable for retention)
- Hedgerow (Not categorised)
- Trees not surveyed in detail (Due to access availability)

Designations

- Veteran Tree Buffer
- Ancient Woodland (ASNW and Replanted)
- Traditional Orchard
- Wood Pasture and Parkland
- Tree Preservation Order

NOTES:
 This drawing should be read in conjunction with the respective Arboricultural Survey Data (Appendix A).
 No topographical information was available during the survey. All features are plotted using a combination of aerial imagery and on-site observations.



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Rev	Description	Drawn	Approved	Date

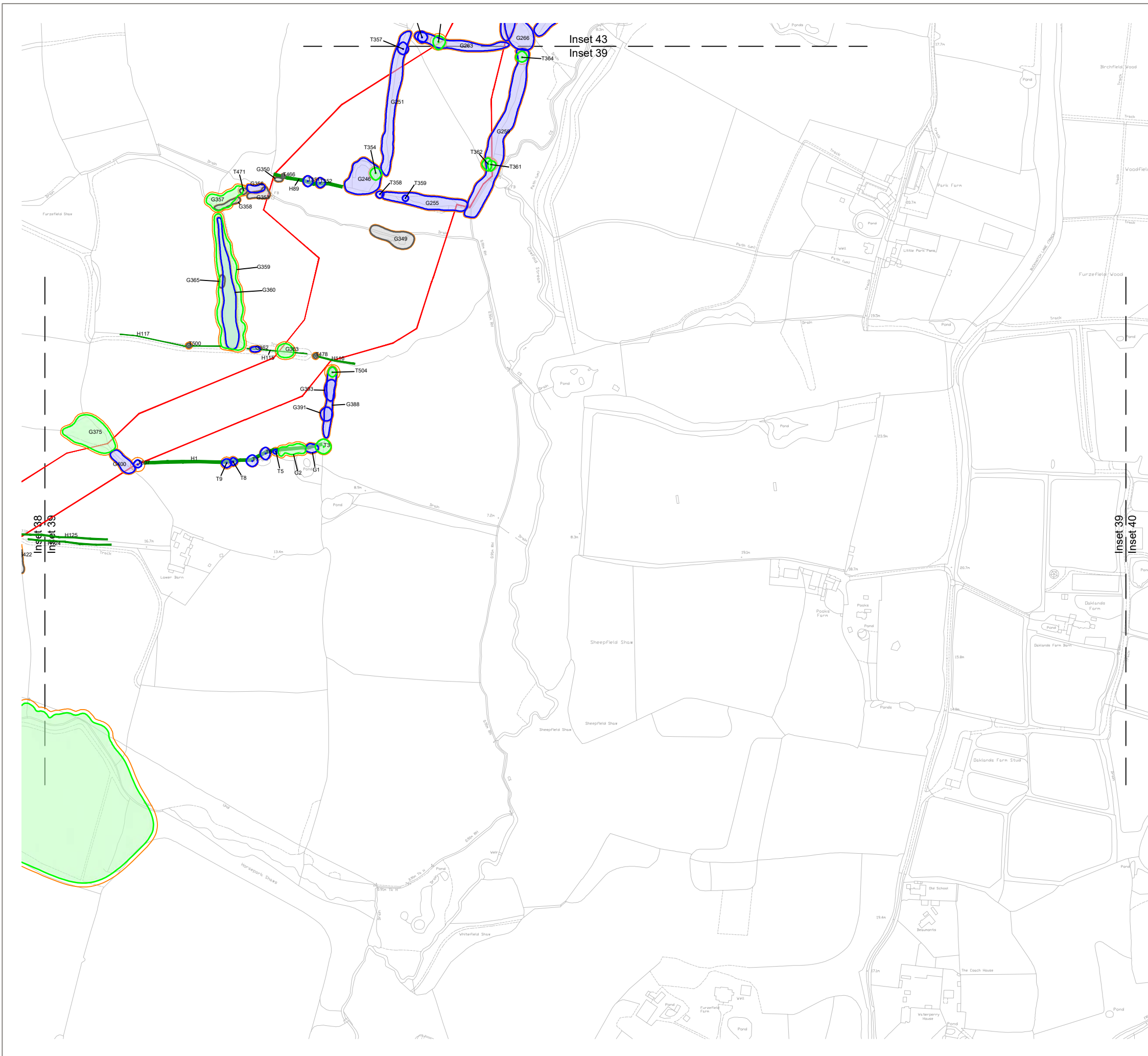
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Project
Rampion 2 Offshore Wind Farm

Title
Drawing 1: Arboricultural Constraints Plan - Inset 38 of 47

Drawing Number
D8685.001.38

Drawn	Checked	Approved	Scale	Date
RMG	HEE	JGS	1:5,000 @ A3	05/07/2023



KEY
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- T1/G1/W1 Trees
- H1 Hedgerow
- Root Protection Area (RPA)
- ES Assessment Boundary

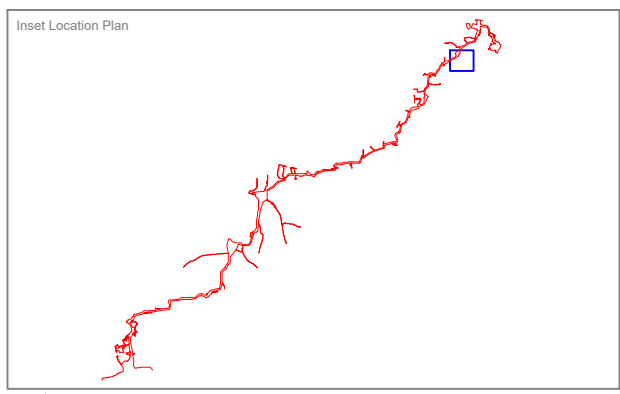
Tree Quality Categorisation
 (Based on BS 5837:2012 Trees in relation to design, demolition and construction - Recommendations)

- Category A (High quality)
- Category B (Moderate quality)
- Category C (Low quality)
- Category U (Unsuitable for retention)
- Hedgerow (Not categorised)
- Trees not surveyed in detail (Due to access availability)

Designations

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- Ancient Woodland (ASNV and Replanted)
- Traditional Orchard
- Wood Pasture and Parkland
- Tree Preservation Order

NOTES:
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Rev	Description	Drawn	Approved	Date

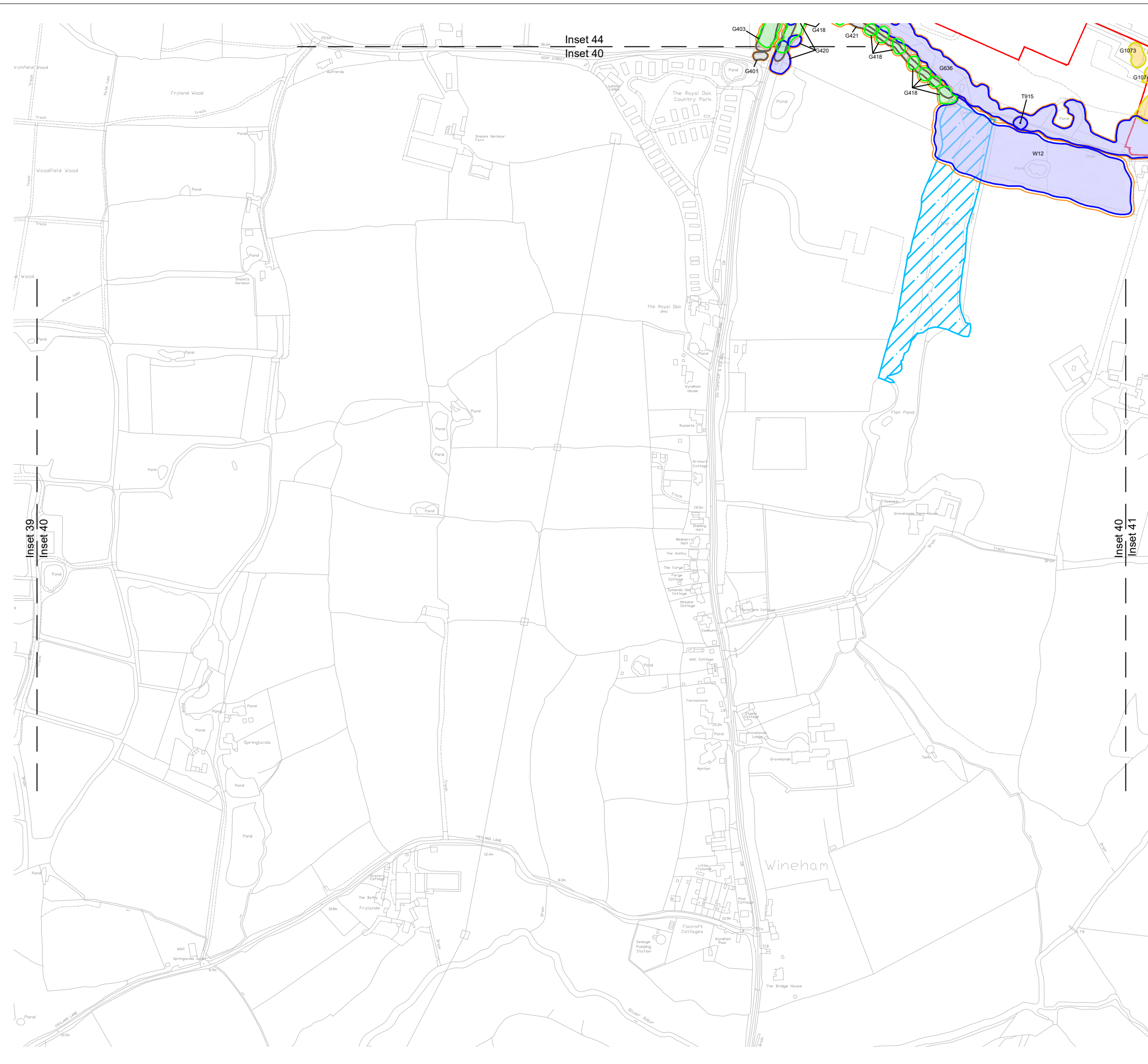
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Project
Rampion 2 Offshore Wind Farm

Title
Drawing 1: Arboricultural Constraints Plan - Inset 39 of 47

Drawing Number
D8685.001.39

Drawn	Checked	Approved	Scale	Date
RMG	HEE	JGS	1:5,000 @ A3	05/07/2023



KEY

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- T1/G1/W1 Trees
- H1 Hedgerow
- Root Protection Area (RPA)
- ES Assessment Boundary

Tree Quality Categorisation
(Based on BS 5837:2012 Trees in relation to design, demolition and construction - Recommendations)

- Category A (High quality)
- Category B (Moderate quality)
- Category C (Low quality)
- Category U (Unsuitable for retention)
- Hedgerow (Not categorised)
- Trees not surveyed in detail (Due to access availability)

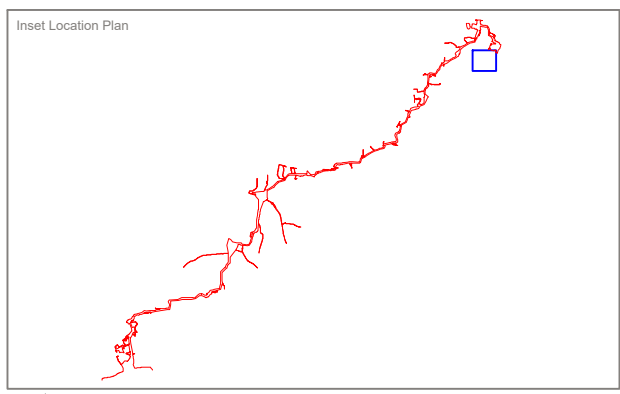
Designations

- Veteran Tree Buffer
- Ancient Woodland (ASNV and Replanted)
- Traditional Orchard
- Wood Pasture and Parkland
- Tree Preservation Order

NOTES:

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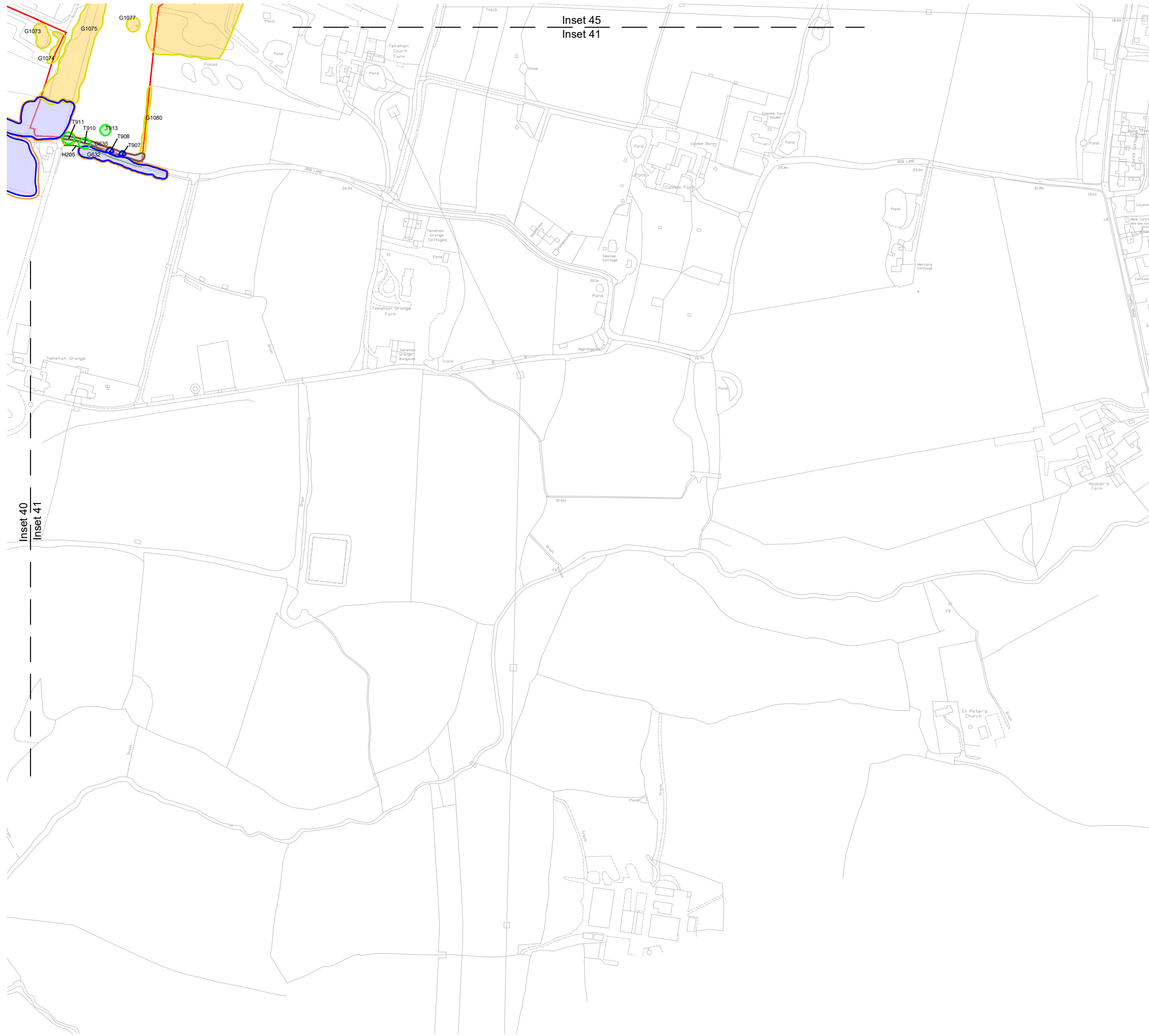
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Project
Rampion 2 Offshore Wind Farm

Title
Drawing 1: Arboricultural Constraints Plan - Inset 40 of 47

Drawing Number
D8685.001.40

Drawn	Checked	Approved	Scale	Date
RMG	HEE	JGS	1:5,000 @ A3	05/07/2023



KEY

[This drawing must be reproduced in colour]

- T1/G1/W1 Trees
- H1 Hedgerow
- Root Protection Area (RPA)
- ES Assessment Boundary

Tree Quality Categorisation

(Based on BS 5837:2012 Trees in relation to design, demolition and construction - Recommendations)

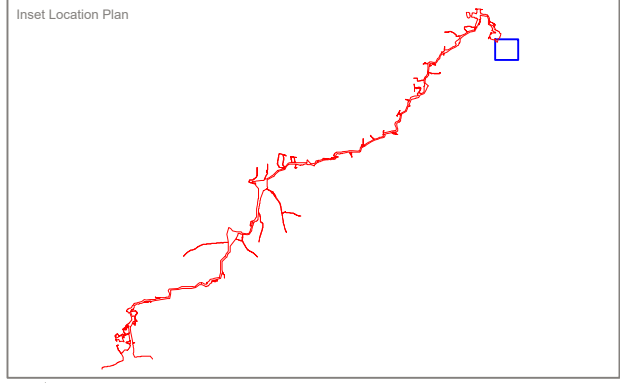
- Category A (High quality)
- Category B (Moderate quality)
- Category C (Low quality)
- Category U (Unsuitable for retention)
- Hedgerow (Not categorised)
- Trees not surveyed in detail (Due to access availability)

Designations

- Veteran Tree Buffer
- Ancient Woodland (ASINW and Replanted)
- Traditional Orchard
- Wood Pasture and Parkland
- Tree Preservation Order

NOTES:

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Project
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Title
Drawing 1: Arboricultural Constraints Plan - Inset 41 of 47

Drawing Number
D8685.001.41

Drawn	Checked	Approved	Scale	Date
RMG	HEE	JGS	1:5,000 @ A3	05/07/2023



KEY

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- T1/G1/W1 Trees
- H1 Hedgerow
- Root Protection Area (RPA)
- ES Assessment Boundary

Tree Quality Categorisation

(Based on BS 5837:2012 Trees in relation to design, demolition and construction - Recommendations)

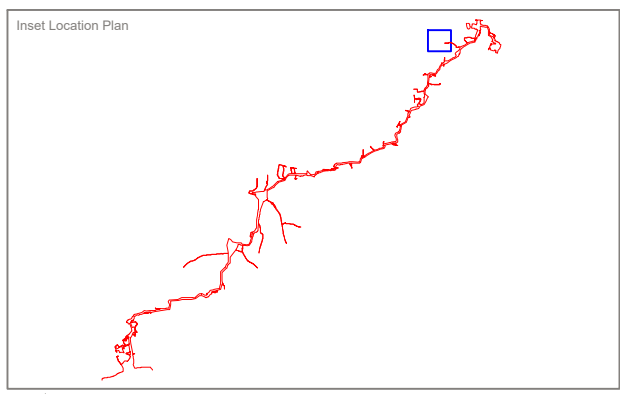
- Category A (High quality)
- Category B (Moderate quality)
- Category C (Low quality)
- Category U (Unsuitable for retention)
- Hedgerow (Not categorised)
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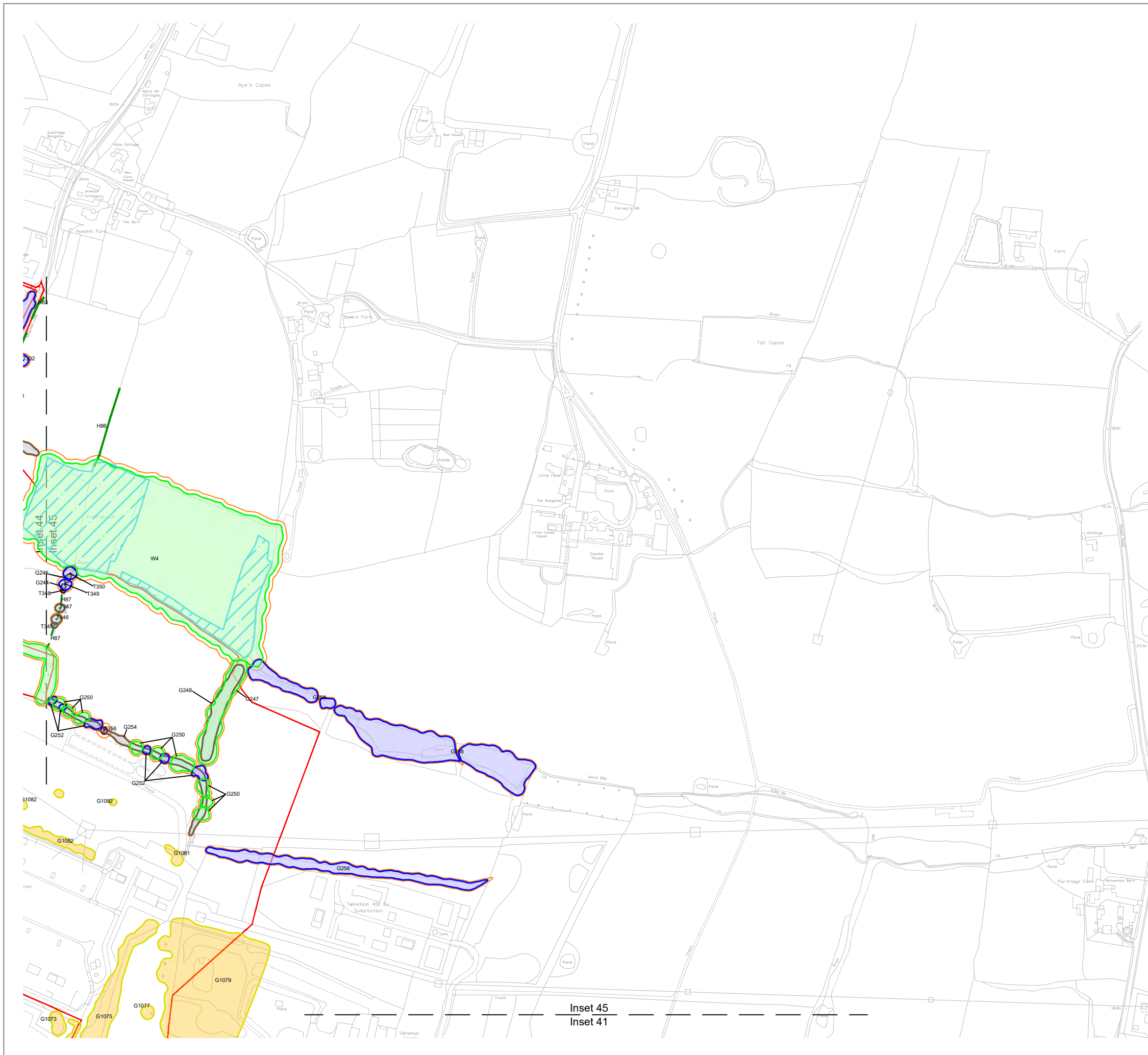
Project
Rampion 2 Offshore Wind Farm

Title
Drawing 1: Arboricultural Constraints Plan - Inset 42 of 47

Drawing Number
D8685.001.42

Drawn	Checked	Approved	Scale	Date
RMG	HEE	JGS	1:5,000 @ A3	05/07/2023

Inset 42
 Inset 38



KEY

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- T1/G1/W1 Trees
- H1 Hedgerow
- Root Protection Area (RPA)
- ES Assessment Boundary

Tree Quality Categorisation

(Based on BS 5837:2012 Trees in relation to design, demolition and construction - Recommendations)

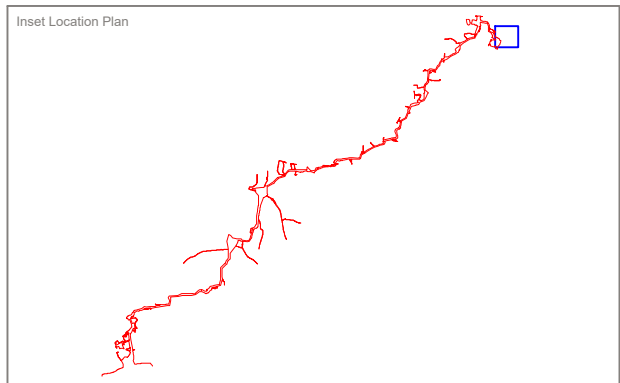
- Category A (High quality)
- Category B (Moderate quality)
- Category C (Low quality)
- Category U (Unsuitable for retention)
- Hedgerow (Not categorised)
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Designations

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NOTES:

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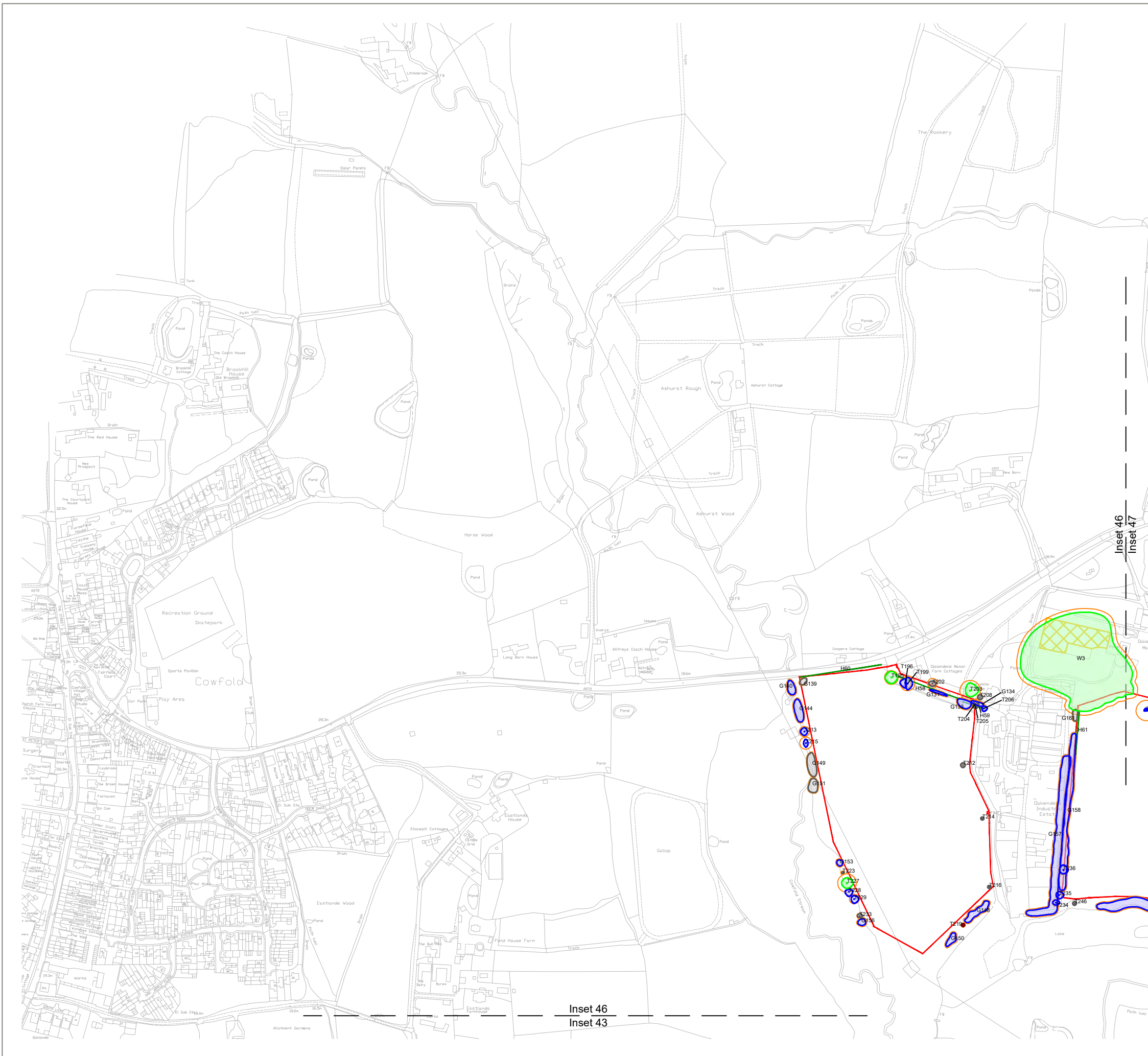
Project
Rampion 2 Offshore Wind Farm

Title
Drawing 1: Arboricultural Constraints Plan - Inset 45 of 47

Drawing Number
D8685.001.45

Drawn	Checked	Approved	Scale	Date
RMG	HEE	JGS	1:5,000 @ A3	05/07/2023

Inset 45
Inset 41



KEY

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- T1/G1/W1 Trees
- H1 Hedgerow
- Root Protection Area (RPA)
- ES Assessment Boundary

Tree Quality Categorisation
(Based on BS 5837:2012 Trees in relation to design, demolition and construction - Recommendations)

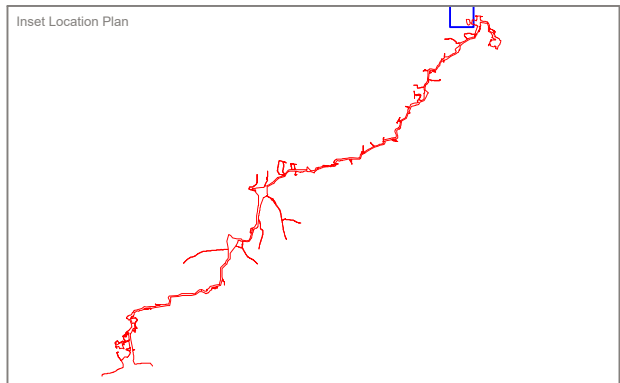
- Category A (High quality)
- Category B (Moderate quality)
- Category C (Low quality)
- Category U (Unsuitable for retention)
- Hedgerow (Not categorised)
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Designations

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NOTES:

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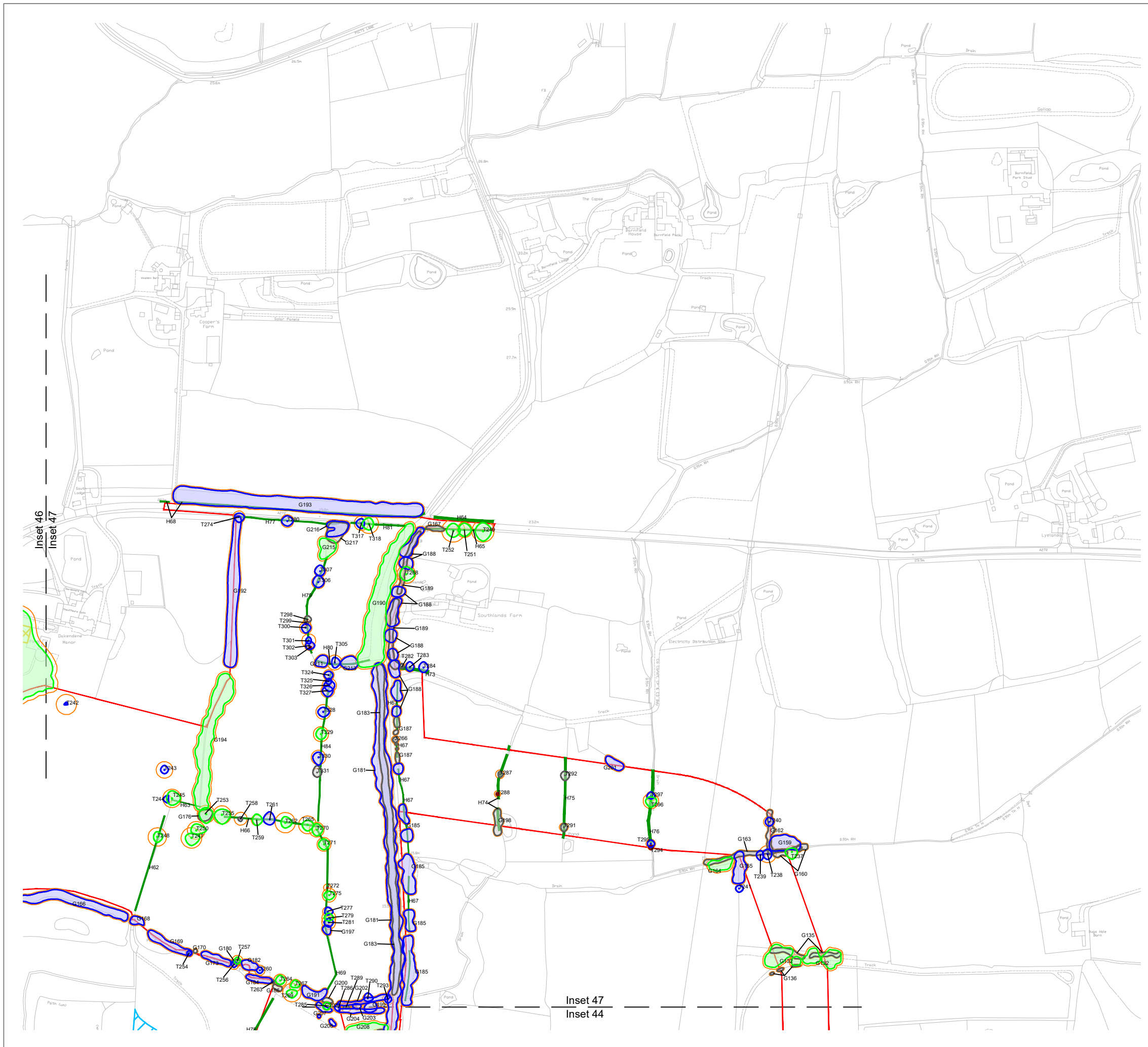
Project
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Title
Drawing 1: Arboricultural Constraints Plan - Inset 46 of 47

Drawing Number
D8685.001.46

Drawn	Checked	Approved	Scale	Date
RMG	HEE	JGS	1:5,000 @ A3	05/07/2023

Inset 46
Inset 43



KEY
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- T1/G1/W1 Trees
- H1 Hedgerow
- Root Protection Area (RPA)
- ES Assessment Boundary

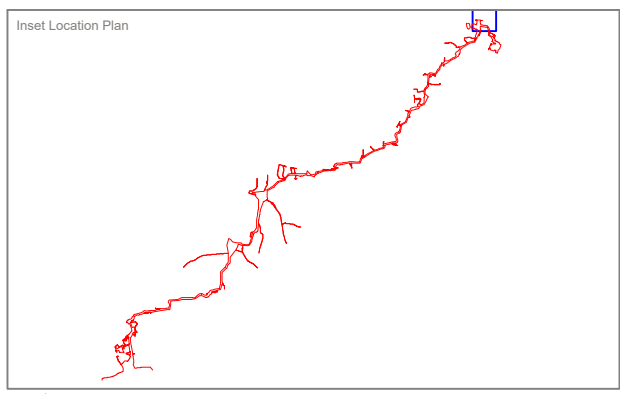
Tree Quality Categorisation
(Based on BS 5837:2012 Trees in relation to design, demolition and construction - Recommendations)

- Category A (High quality)
- Category B (Moderate quality)
- Category C (Low quality)
- Category U (Unsuitable for retention)
- Hedgerow (Not categorised)
- Trees not surveyed in detail (Due to access availability)

Designations

- Veteran Tree Buffer
- Ancient Woodland (ASNW and Replanted)
- Traditional Orchard
- Wood Pasture and Parkland
- Tree Preservation Order

NOTES:
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 No topographical information was available during the survey. All features are plotted using a combination of aerial imagery and on-site observations.



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Project
Rampion 2 Offshore Wind Farm

Title
Drawing 1: Arboricultural Constraints Plan - Inset 47 of 47

Drawing Number
D8685.001.47

Drawn	Checked	Approved	Scale	Date
RMG	HEE	JGS	1:5,000 @ A3	05/07/2023

Inset 47
 Inset 44

Arboricultural Survey Method

Rampion 2 (extract for consultee discussion)

Context

The following extract is taken from the draft Arboricultural Impact Assessment (AIA) for Rampion 2 which has yet to undergo final quality assurance and client approval. It is provided in good faith to facilitate pre-application discussion between the project arboriculturists (TEP) and consultees, namely representatives of Arun District Council and Horsham District Council. Any formal comments should be reserved and submitted as part of the Development Consent Order process when the text can be read in full context of the wider AIA document.

Defining the Study Area

The purpose of this assessment is to evaluate the impacts on trees and hedgerow of the Proposed Development. The study area must therefore include all trees that could be affected by the development and not just those within the development footprint itself.

The relationship between any tree and the proposed development is a function of the characteristics of that tree. These include its height; the spread of roots and branches; whether it casts shadow or blocks a sight line; and also its condition and therefore risks associated with working close by. Taken together, these characteristics can be used to define an influencing distance.

A judgement was made by surveyors during the survey as to whether trees outside the Order Limits could influence the working area, or vice versa. This typically captured trees up to a maximum of 30m from the Order Limits (based on the height of the tallest trees being the largest component of influencing distance), but in some circumstances tree group or woodland compartments were mapped at greater distances for context.

The initial survey was based on the Order Limits in the Preliminary Environmental Information Report (PEIR). Where the Order Limits have been reduced during the project design process, trees falling outside the revised Order Limits have been removed from the data to ensure simplicity of the final drawings. To ensure continuity, original feature references have been preserved but do not now always run sequentially.

Data Capture and Mapping

All survey data was captured digitally using proprietary software tailored specifically to BS 5837 surveys called TreePlotter. The software has embedded aerial imagery and GPS capability that was used to plot feature point and polygon locations. National Tree Map (NTM) was used where available and applicable to refine feature locations. Provided by Bluesky International Ltd the NTM is a comprehensive database of location, height and canopy/crown extents for every single tree 3m and above in height. It's derived from a combination of high-resolution aerial photography, terrain and surface data, and colour infrared imagery.

All woody vegetation with a stem diameter exceeding 75mm was recorded. Below this threshold, vegetation may also have been recorded at the discretion of the surveyor. Survey data underwent a post-survey review to identify any apparently missing or erroneous results.

Trees, Groups and Hedges

It was the responsibility of individual surveyors to identify the most expedient way to subdivide and record the tree stock into four feature types: Trees, Groups, Woodland and Hedges. This sum total of these decisions provides the 'resolution' of the survey data so a consistent approach is required.

The terms 'tree', 'woodland' and 'hedge/hedgerow' are used in common parlance and also by other environmental disciplines but with a variety of definitions. For example, a row of trees can be defined as a 'hedge' under the Hedgerow Regulations, 1997. Ecology Phase 1 surveys also follow a prescribed set of definitions for habitats, which include woodland and plantation types as well as scattered trees.

In arboriculture, features are generally categorised by form and management characteristics and not by species. For example, common hawthorn (*Crataegus monogyna*) can be grown as a specimen Tree; may be present in a shelter belt Group; may be present in Woodland; and can also be managed as a Hedge.

The following definitions apply in this survey:

- i. Tree: A single tree, normally with one conjoined rooting system, which is distinct from surrounding trees either by virtue of size, condition, species or location, such that it recording it individually would provide a meaningful differentiation in the survey data.
- ii. Group: Trees occurring collectively, but not necessarily in contact or immediate proximity, which have common function, form, management requirements, or purpose. Areas of tree cover that do not properly qualify as woodland, including plantation.
- iii. Woodland: Areas of tree cover, but not necessarily unbroken, that are more complex than 'Groups'. They tend to have features commensurate with a natural and self-sustaining arboreal habitat such as one or more of: a complex age structure; a complex species mix; woodland ground flora; good litter layer; good natural regeneration; complex fungal associations; evidence of woodland management; and ancient woodland indicator species.
- iv. Hedge: Woody species of whatever kind, which are managed as a hedge or are capable of being returned to management as a hedge. Hedges may contain larger standard trees but these were recorded separately as individual trees or groups. Where the lower parts of larger trees have been managed as a hedge, it is assumed that the uppermost parts could be removed while the hedge remained intact.

Hedgerows were generally defined according to existing patterns of connectivity (e.g. junctions with other hedges), land boundaries or where noticeable changes in species composition or management were noted. Hedgerow with small gaps (typically less than 10m in length), including existing access points were not necessarily recorded as separate features. Such gaps have however been considered during the design process, particularly in relation to the siting of access routes.

In certain instances relatively tall or bushy vegetation has been defined as hedgerow that might be commonly described otherwise. In such cases a judgement has been made with regard to species composition, form and past management and the definition infers the potential to recommence or begin management of that feature as a hedge by regular trimming or flailing. This provides a distinction between rows of trees that could readily be reduced in height and

those that could not, for example a row of Leyland cypress might be considered a hedge whereas a row of Silver birch could not.

Field Survey

Surveying was undertaken between May 2021 and January 2023 during daylight hours by a team of qualified arboricultural surveyors. Surveying ceased where weather conditions presented a risk to the surveyor or would have impaired the proper functioning of equipment. The lapse of time between survey commencement and completion was due to land access.

Survey Attributes

The plotting of a new feature within Tree Plotter opened an associated attribute table that was populated by the surveyor. The following data were recorded for each feature:

Reference Number

Trees, Groups, Hedges and Woodlands were automatically assigned a reference number in the format T1, T2, T3... Tn. Groups are referenced in the format Gn, hedges as Hn and woodlands as Wn. These reference numbers were allocated on the basis of survey sequence which was dictated by land access agreement; features do not therefore run sequentially in any one direction. Due to the removal of data as the Order Limits evolved some numbers are also missing from the sequence.

Species

The common name is given. Multiple species were recorded for groups, hedges and woodlands. Where tree condition or inaccessible locations prevented identification of trees to species level, genus was recorded.

Height

An estimated top height of the crown is given in metres. For groups, hedges and woodlands, the height range is given.

Canopy Ground Clearance

The height of the canopy above ground level is given in metres. For groups, hedges and woodlands, the average for the feature is given.

Stem Diameter

A measurement taken at 1.5 metres above ground level, or the nearest representative point below, in millimetres. For multi-stemmed trees a single figure is calculated according to BS5837 4.6. For Groups, Woodland and Hedgerows, the range of diameters is given.

Number of stems/Individuals

The number of stems arising below a height of 1.5 metres, or for Groups, Woodland and Hedgerows an estimate or count of the number of trees is given.

Crown Spread (Trees only)

The radial branch spread in metres at cardinal points (N, S, E, W) from the location of the Tree stem at ground level, with optional fields for NE, SE, NW, SW. For groups and woods, the edge of the crown of the group was mapped based on aerial photographs. For hedges, the modal average width was recorded.

Lowest Branch Height (Trees only)

The height of the first significant branch at the point of attachment is given in metres.

Lowest Branch Direction (Trees only)

The direction of growth of the first significant branch from the point of attachment is given in metres.

Maturity

The age of each feature was recorded as Young, Middle-aged or Mature (or for groups, hedges and woodlands only, Mixed). This field is used to describe the developmental stage of a tree or group of trees and is linked to life expectancy. For the purposes of this survey, the main distinction between age classes is tree size and the rate of growth.

It is not possible to attribute a numerical value to each age class in terms of years. because of the substantial differences between species. Some species such as oaks may be 'Mature' for well over half of the tree's lifespan. Other species such as willows may be 'Mature' for a relatively shorter time. By using the surveyor's observations as an indicator of physiological maturity (as opposed to age) it is possible to distinguish between trees that are relatively small for the species due to immaturity and those that are mature but stunted, windswept or otherwise unlikely to grow much taller.

- i. *Young:* Trees that are small and/or recently planted and could be relocated, or replaced on a like for like basis.
- ii. *Middle-aged:* Trees which are established and independent, within the growth stage of life, and with potential to continue increasing in height and/or spread.
- iii. *Mature:* Trees which have reached ultimate height and/or spread, given the location and surroundings; further increases will be slow or limited.
- iv. *Mixed:* Groups, Woodland and Hedgerows comprising all three maturity classes.

Condition

Condition is an overall assessment of a feature's physiological and structural state, informing longevity and quality categorisation, and supported by *Comments*.

- i. *Good:* Trees with vitality and resilience commensurate with species and age, and without significant defects or pathogens.
- ii. *Fair:* Trees with tolerable reduction of vitality and resilience, and/or remediable or tolerable defects and/or pathogens.
- iii. *Poor:* Trees with declining or significant loss of vitality and resilience, and/or significant and irreparable defects and/or pathogens.
- iv. *Dead:* Trees without photosynthetic or metabolic capacity, or moribund and in imminent terminal decline.
- v. *Mixed:* Groups and Woodland comprising more than one condition class.
- vi. *Veteran:* Trees of exceptional value, meeting the definition set by NPPF including age, size and characteristics. Classification is partly informed by the sustained presence of structural defects, physiological decline, and pathogens, and their contribution to biodiversity. Undesirable characteristics in ordinary trees may be desirable in veteran

trees, therefore *Veteran* can be understood as a superlative *Condition* that supersedes other categories (excluding *Dead*).

Quality Category

Tree quality was assessed and recorded as per the methodology in British Standard 5837:2012 Trees in relation to design, demolition and construction – Recommendations. This method attributes a quality category to each feature: Category A, B, C, or U.

Category A trees and groups of high quality and value have a life expectancy of over 40 years and will typically fulfil one or more of the following criteria:

- i. Trees that are good examples of their species, especially if rare or unusual.
- ii. Healthy young trees of good form and vitality.
- iii. Visually dominant individual or component of a larger group or avenue.
- iv. Trees that provide significant screening or softening of effect to the locality in relation to views.
- v. Trees that comprise a particular visual feature such as an avenue.
- vi. Trees that have particular historical, cultural, or conservation values.

Category B trees and groups of moderate quality and value have a life expectancy of over 20 years and will typically fulfil one or more of the following criteria:

- i. Trees that are good examples of their species, especially if rare or unusual but are downgraded due to remedial defects or previous poor past management.
- ii. Trees that form significant landscape features.
- iii. Trees that have clearly identifiable historical, cultural, or conservation values.

Category C trees and groups of low quality and value have a life expectancy of over 10 years but that do not qualify as A or B categories. It includes most, if not all, 'Young' trees that could be replaced without net loss of value or function.

Category U trees and groups unsuitable for long-term retention in the vicinity of a significant target such as roads, pedestrians, or buildings. They may be dead, dying, diseased, or have a serious structural defect. These trees may still provide important habitats and where significant targets do not exist their retention is often desirable.

Comments

A description of all significant characteristics of the feature and its context that are not described by other attribute fields; including observations to support the classification of Condition, Quality Category and Estimated Remaining Contribution as appropriate.

Management Recommendations

Recommendations for arboricultural works based on the current land use, in the interests of good arboricultural practice. These are incidental to the primary survey purpose, and not a comprehensive schedule in pursuit of any particular objective.

Estimated Remaining Contribution

A forecast of the durability of the feature in its current form and context, and therefore the reliance that can be placed on any benefits or functions it provides. This is influenced by Species and Condition and is not necessarily a forecast of life expectancy.

- i. Long: more than 40 years.
- ii. Medium: 20 to 40 years.
- iii. Short: 10 to 20 years.
- iv. Very Short: less than 10 years.

Desktop Searches and Data Handling

Tree Preservation Order information was obtained from Arun District Council and Horsham District Council in GIS format for analysis. Mid-Sussex District Council, the South Downs National Park Authority and West Sussex County Council confirmed that they have made no Tree Preservation Orders in respect of trees within or adjacent to the Order Limits.

Mapping information for Ancient Woodland and Habitats of Principal Importance was obtained from data layers published by Multi-Agency Geographical Information for the Countryside (MAGIC).

Ancient and Veteran Tree Assessment Criteria

Rampion 2 has committed to the avoidance of loss or harm to ancient and veteran trees (Volume 4, appendix 1.4 Commitments register, C-174). The tree survey was undertaken objectively and without bias towards this ambition to identify trees which meet the definition of 'veteran'.

EN1 does not provide a definition of veteran trees and it is therefore appropriate to defer to the definition provided by NPPF. This defines veteran trees are those which, because of age, size and condition, are of exceptional biodiversity, cultural or heritage value.

In order to reach a decision on whether the NPPF definition is met, it is necessary to determine whether the age, size and condition of a tree confers exceptional value for either biodiversity, cultural or heritage reasons. There is no prescribed method of determining how each of these factors is measured, nor a fixed threshold for contribution towards exceptional value. There is however some industry guidance that can complement the surveyors professional judgement.

Size

Size is a gateway characteristic for veteran trees. That is to say, trees that fail to meet the relevant minimum size threshold cannot be veterans within the NPPF definition.

Size can refer to the total biomass of a tree, as well as the spread of its aerial and underground parts. For the purposes of evaluating candidate veteran trees, both may be relevant. However, it is not straightforward, or always reliable, to make an assessment on these factors. Therefore, the size of the stem is used as the primary metric.

Stem diameter has been measured in accordance with BS 5837:2012 Annex C. The Standard provides a method of measuring the Diameter at Breast Height (DBH) for both single and multi-stemmed trees. The objective of DBH measurement is a reliable estimate of the accumulated cross-sectional area of the tree at the point which best represents the tree's size, in a way that can be compared to other trees of the same, or different species.

Having established tree sizes, in this case based on their respective stem diameter, we must compare them to some threshold to determine whether they are sufficiently large to be capable of veteran status. This amounts to a question: *is the tree large for its species, and if so, to what extent?* In this, it is not sufficient for a tree to simply be a typical mature example of the species. Exceptional value can only be derived from a combination of age, size and condition. Trees must therefore be in a small percentile at the upper end of what is possible for the species to achieve. If not exceptionally large for the species, veteran trees must at least be unusually large.

The Ancient Tree Forum produced guidance¹ on with respect to thresholds for size, as an indicator of life stage (age). It presents a graphical representation of 11 tree species as they pass through the *Locally notable*, *Veteran/Notable*, and *Ancient* life stages as a function of their size. **Table 7** provides the DBH threshold which unlocks Veteran/Notable and Ancient status for species recorded close to or exceeding these thresholds during the tree survey.

The term Veteran/Notable acknowledges that a tree that exceeds the stem size threshold may or may not be a veteran, depending on its condition. Notable trees in this context are those which meet only the age and size criteria for veteran classification, but not condition criteria. Notable trees have no specific protection in legislation or policy but are typically those that attract a high quality category in accordance with BS 5837 and they should therefore be prioritised for retention.

Table 1 Size Thresholds for Veteran and Ancient Status

Species	Veteran / Notable	Ancient
Common ash	>1,240mm dbh (3.6m girth)	>1,620mm dbh (5.1m girth)
Common beech	>1,240mm dbh (3.9m girth)	>1,620mm dbh (5.1m girth)
Field maple	>860mm dbh (2.7m girth)	>1,050mm dbh (3.3m girth)
Horse chestnut	>1,400mm dbh (4.4m girth)	>1,720mm dbh (5.4m girth)
Pedunculate Oak	>1,530mm dbh (4.8m girth)	>1,850mm dbh (5.8m girth)
London Plane	>1,620dbh (5.1m girth)	>2,000mm dbh (6.3m girth)
Whitebeam	>800mm dbh (2.5m girth)	>1,020mm dbh (3.2m girth)

Age

The White Method for Estimating the Age of Large and Veteran Trees in Britain was published by the Forestry Commission in 1998. It relies upon comparison of stem diameter (DBH) with lists of measurements of known date. From these the likely performance of various species in different locations on particular site types can be evaluated. Cross-referencing between individual specimens is credible because trees develop predictably through well-defined patterns of growth. Age can be calculated largely from annual ring areas within the stem, as determined by a simple stem diameter measurement.

Condition

¹ *Lonsdale, D. (ed.) (2013) Fig. 1.3. Ancient and other veteran trees: further guidance on management. The Tree Council, London 212pp*

For the purposes of assessing trees against the NPPF definition for ‘veteran’, condition refers to the *physical* attributes of a tree other than size and age. These attributes are often described collectively, or individually, by the term *Veteran Characteristics*. These characteristics include both the physical state of the tree (often as a result of physiological condition due to a mature life stage), and associations or relationships with other organisms, such as fungi.

The condition of the tree, and veteran characteristics, are almost exclusively a subset of biodiversity value. Where exceptional biodiversity value is the reason for veteran status, it must rest on the number, type and quality of veteran characteristics. Veteran characteristics are principally interesting and valuable because of their ecology, which can host particular associations with very old trees and are therefore rare.

Veteran characteristics do not suddenly appear overnight as a tree passes the theoretical age and size threshold for veterans of its species. They develop over time and must, by definition, be present well before a tree becomes a veteran; a tree without them cannot be a veteran and they take time to develop. Emerging and simple veteran characteristics are found on mature and middle-aged trees. It is the size, quantity, quality, complexity and functionality of the assemblage of features that marks a tree as a veteran.

The English Nature Specialist Survey Method² (SSM) tells us how to measure and record veteran characteristics. It lists approximately eighteen condition characteristics of which some are deemed by the author to be of primary importance in the classification of veteran trees. For the purposes of this assessment veteran trees were classified if meet the age and size thresholds and have four out of the five following features:

- i. sites associated with wounds which are decaying >400cm²
- ii. Holes and water pockets in the trunk and mature crown >5cm diameter
- iii. Dead branches or stems >15cm diameter
- iv. Any hollowing in the trunk or major limbs
- v. Fruit bodies of fungi known to cause wood decay

² *FAY, N. AND DE BERKER, N. (1997) Specialist Survey Method. Veteran Trees Initiative, English Nature.*



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BY EMAIL ONLY

Dear [REDACTED],

Discretionary Advice Service (Charged Advice)

Rampion 2 Wind Farm Piling Noise and Black Bream: Further information and Response Paper

Thank you for your consultation dated 03 March 2023.

This advice is being provided as part of Natural England's Discretionary Advice Service. RWE has asked Natural England to provide advice upon:

- Rampion 2 Wind Farm Piling Noise and Black Bream: Further information and Response Paper (1.0 Final Issue 03/03/2023).
- The discussion within the meeting on the 30/03/2023 (noting that we are yet to receive or agree the meeting minutes).
- Measurement of underwater noise emissions in the offshore wind farm "Kaskasi II": Interim report 1: Installation phase March/April 2022 for DEMA Offshore BV, version 3, Institute for Technical and Applied Physics (ITAP), August 2022
- Measurement of underwater noise emissions in the offshore wind farm "Kaskasi II": Interim report 2: Installation phase March/April 2022 for Seaway 7 BV, version 3, Institute for Technical and Applied Physics (ITAP), August 2022

Summary

Kingmere Marine Conservation Zone (MCZ)

Black seabream (*Spondyliosoma cantharus*) are a feature of Kingmere Marine Conservation Zone (MCZ). Natural England's advice is based on the conservation objectives of the site listed below and the best available evidence, which has been used to form our conservation advice.

5.—(1) The conservation objective is that, in relation to black seabream (*Spondyliosoma cantharus*)—

(a) the habitat used by members of that species for the purposes of spawning ("spawning habitat")—

- (i) so far as already in favourable condition, remains in such condition, and**
- (ii) so far as not already in favourable condition, be brought into such condition, and remain in such condition, and**

(b) the population (whether temporary or otherwise) of that species occurring in the Zone be free of disturbance of a kind likely significantly to affect the survival of its members or their ability to aggregate, nest, or lay, fertilise or guard eggs during breeding.

The objectives are achieved when, within the site boundaries, black seabream are protected from any anthropogenic impacts which would otherwise have significantly affected the survival of the fish, or their ability to aggregate (spawn), nest, or lay, fertilise or guard eggs during breeding. Underwater noise from piling of the array turbine foundations is one such anthropogenic pressure, that has the potential to impact on the behaviour and therefore, success of black seabream within the MCZ during the breeding season stated in the [conservation advice](#) (March to July inclusive). Natural England advise that disturbance from piling of foundations will elicit a behavioural response that could significantly impair their ability to undertake normal breeding behaviours during breeding season. Further to this, noise disturbance also has the potential to effect the physical condition and health of the bream.

Based on the evidence provided by RWE to date, Natural England considers that piling activities from 1st March to 31st July inclusive have the potential to hinder the conservation objectives of Kingmere MCZ in relation to black seabream. Noting RWE's preference to pile during the latter part of the restricted period (July), we advise that RWE will need to demonstrate in the Environmental Statement that the mitigation hierarchy has been followed in relation to underwater noise impacts from piling on black seabream. RWE should demonstrate how they have considered avoiding impacts in the first instance and, wherever possible, chosen options which reduce or eliminate such impacts. Where impacts are unavoidable, suitable/proven mitigation measures, accompanied by robust scientific evidence of their efficacy, should be proposed. Should RWE put forward piling during this period without adoption of suitable mitigation measures in their application, Natural England advise that a robust MCZ Assessment will be required due to the risk of the conservation objectives being hindered.

The MCZ Stage 1 Assessment process (as stipulated in the [MMO Guidance](#)) should determine whether:

- *there is no significant risk of the activity hindering the achievement of the conservation objectives stated for the MCZ;*

If this point cannot be met then the Stage 1 Assessment should determine whether:

- *there is no other means of proceeding with the act which would create a substantially lower risk of hindering the achievement of the conservation objectives stated for the MCZ. This should include proceeding with it (a) in another manner, or (b) at another location*

Natural England advise that consideration will need to be given as to whether a seasonal restriction is a means of proceeding with the proposal in another manner.

Natural England advise that based on the information provided to date, the seasonal restriction stipulated above appears to be the *only* option that would avoid the need for the decision-maker to proceed to the subsequent steps of the MCZ assessment process i.e. a Stage 2 Assessment. Therefore, RWE may consider it prudent, if minded not to include the restriction in its entirety in the Rampion 2 application, to begin development of a Measures of Equivalent Environmental Benefit (MEEB) proposal. It may also be worth contacting PINS to establish whether an 'in-principle' MEEB proposal should, given the circumstances, be included within the DCO application.

It should be noted that Natural England's remit differs to that of Cefas. Natural England's role is to advise on black seabream as a feature of Kingmere MCZ in the context of the conservation objectives, to ensure that the site fulfils its function and makes its due contribution to the Marine Protected Areas network. Cefas' role is to advise on how the development might interact with fish populations as a whole. This context should be considered when reading the advice of both organisations and is likely to be the reason for any perceived differences.

Rampion 2 Wind Farm Piling Noise and Black Bream: Further information and Response Paper

Natural England advise that the evidence presented does not demonstrate that the conservation objectives of Kingmere MCZ will not be hindered in relation to black seabream between March and July inclusive. We advise that where there is insufficient scientific evidence or elements of uncertainty exist, a precautionary approach to potential impacts should be taken.

Natural England highlights the following key points in relation to the additional information presented:

- Based on the evidence presented by RWE, Natural England does not support the threshold proposed within this paper of 141dB, or any of the other thresholds that have been previously proposed by RWE (for reasons stated in our advice throughout the ETG process including our advice letters of 02/11/2022 and 20/05/2022).
- Until such a time that a threshold can be agreed, we cannot advise further on the zoning approach to mitigation which is proposed. The zoning approach currently proposed is based on a 141dB threshold and therefore this is not something we can support.
- We welcome that RWE have proposed collecting additional ambient noise data over the breeding season. Whilst it may be useful to obtain this longer-term dataset to provide a more robust baseline, we note that Cefas have concerns about the methodology for possible selection of a threshold from such data and that this data will not include any consideration of behavioural response. Until Natural England have seen the data collected, we are unable to advise further on this. Natural England are concerned that the fully analysed dataset will only become available during the examination.
- We welcome the inclusion of data related to piling at Rampion 1, as this provides useful context. However, Natural England advise that any assessment should recognise the worst case scenario predicted for Rampion 2, and unless the worst case scenario values are reduced this information does not alter our previous advice. Additionally, we advise that the project parameters (such as pile size and hammer energy) differ between Rampion 1 and 2, and it cannot be assumed that the environmental parameters (such as current and ground conditions) will be equitable until data on these have been collected/analysed.
- We advise that it is useful that further information has been provided in relation to the efficacy of various noise abatement measures that were used for the construction of Kaskasi II project. However, we note the range of abatement levels achieved was variable, and that the only environmental condition discussed to compare this situation to Rampion 2 is depth. We understand from the meeting (30/02/2023) that information on other environmental conditions, such as current and benthic substrate that could affect the efficacy of noise abatement measures is not available. The limited information available to compare the environmental conditions at the two locations limits our confidence in an equivalent level of noise abatement being achievable for Rampion 2. Therefore, we advise that sufficient uncertainty remains regarding the efficacy of noise abatement measures in the Rampion 2 location, and therefore the achievability of a mitigation plan that can be relied upon to ensure the conservation objectives are not hindered in relation to black seabream.
- We note in the meeting to discuss this paper (30/03/2023) RWE proposed unrestricted piling in July. Natural England advise that the Conservation Objectives apply equally over the sensitive March-July period stated in the conservation advice and that it would not be acceptable to suggest a different approach for July.

Natural England defer to MMO/Cefas in relation to the Kaskasi II underwater noise emissions papers. However, based on the lack of comparison of key environmental parameters that would affect the efficacy of noise abatement measures employed, we advise that the data within the Kaskasi II papers is currently of limited use.

We have included further detailed comments in Annex A.

For any queries relating to the content of this letter please contact me using the details provided below.

Yours sincerely

[Redacted]

Marine Lead Advisor

[Redacted]

Annex A – Detailed comments

Section	Comment	Recommendations
General Comment	This document contains a summary written by RWE of discussions to date.	We advise that this text should accurately reflect the content of Natural England’s responses and Rampion 2 ETG meetings to date (including our advice letters 02/11/2022 and 20/05/2022). Therefore, we advise that it should be amended to ensure that this is the case. Given our previous advice still stands, we have not listed every incidence where the content of this paper runs contrary to our previous advice, or discussions have been inaccurately referenced. We advise that a comments log is produced, as opposed to the narrative in this document, so all comments are accurately recorded and any resolutions can be clearly tracked.
1.1.2	“A mitigation commitment was presented to utilise one or a combination of offshore piling noise abatement technologies to reduce noise at the Kingmere Marine Conservation Zone (MCZ) to a level where the risk of impact was low enough to avoid the potential for significant effects on breeding black seabream during the spawning (nesting) season (March to July)”.	Natural England advise there is insufficient evidence to support this statement, and for there to be sufficient confidence that the conservation objectives would not be hinder in relation to spawning black seabream within Kingmere MCZ, should piling occur from March to July inclusive. Unless an appropriate threshold can be agreed between all parties that any mitigation measures would need to achieve, no agreement on acceptable mitigation measures or a mitigation plan can be achieved.
1.1.3	“The proposed approaches to delivering mitigation for potentially significant effects were supported by information and examples of the types of equipment that may be used. Details of available mitigation technology were provided to evidence that the required levels of noise attenuation can be delivered (either through one of the examples given, or through other future potential mitigation technology) and that the committed measures can therefore be relied upon to avoid potentially significant effects that may arise during the spawning (nesting) period in the absence of mitigation”.	Please refer to Natural England’s previous advice (02/11/2022). We note that the information presented lacked evidencing and references. Natural England advise we have seen insufficient evidence to date to have confidence these measures can be relied upon in the specific environmental conditions experienced within the Rampion 2 red line boundary.
1.1.4 – 1.1.5	“suitable mitigation (noise abatement and zoning) could be designed”.	Unless a threshold can be agreed below which the conservation objectives will not be hindered, then there is insufficient information to implement a zoning approach. It is possible that collection of ambient noise levels might aid in trying to determine an appropriate threshold, however we note that Cefas have concerns about the methodology for possible selection of a threshold from such data and that this data will not include any

		<p>consideration of behavioural response.</p> <p>Should a threshold be agreed, then Natural England understand from Cefas that a zoning approach would be challenging to implement. We advise that the most effective form of noise abatement should be applied at all locations, rather than just those in closest proximity to the MCZ.</p>
1.1.5	<p>“In the absence of definitive empirical data, as is the case with behavioural responses of marine fish species, best use of relevant available data is required along with a proportionate level of precaution to address attendant uncertainties”.</p>	<p>Where there is a risk that the conservation objectives of an MCZ could be hindered, Natural England advise that the precautionary principle is applied in the absence of meaningful evidence, as opposed to using best available evidence, which in this case is neither sufficient or applicable.</p>
1.1.7	<p>“Natural England and the MMO (with Cefas) were still concerned about the evidence underpinning the value and associated uncertainty, preferring to maintain a piling restriction through the March to July period”.</p>	<p>Natural England’s position remains unchanged. We advise that there is insufficient species specific evidence to support a threshold of 141 dB SELss.</p>
1.1.8 - 1.1.9	<p>“As the restriction of piling through the entirety of the March to July period has such significant issues for the practical development of Rampion 2, from the perspectives of logistics, duration of construction phase and costs, RED evaluated an alternative approach to the setting of a quantified noise threshold to inform the assessment of a behavioural-level reaction risk, proposing the development of a threshold based on defining a noise level relative to (i.e., above) the existing background (ambient) soundscape at Kingmere MCZ”.</p> <p>“existing data from measured ambient noise levels at sea at the Rampion 1 site (Collett et al., 2012).....On this basis, 30 dB above the ambient noise at the site would therefore be 143 to 150 dB, which equates relatively closely to the thresholds for disturbance response developed from the studies noted above (i.e. 141-147 dB).”</p>	<p>We await the results of the ongoing ambient noise surveys, and will provide further comments when these are available. We defer to Cefas in relation to the possible methodology for selecting a background noise threshold from this data, and note Cefas have raised additional concerns regarding this data not including any consideration of behavioural response.</p> <p>We advise that should it be possible to determine a threshold from the ambient noise data (which as acknowledged above is likely to be challenging), it is not appropriate to then add a certain figure (such as the 30 dB proposed) to this background noise figure. This approach is not supported by appropriate scientific literature in this paper. Natural England does not support the use of the literature provided to date primarily due to it not being species specific to black seabream (see our advice throughout the ETG process including our advice letters 02/11/2022 and 20/05/2022). We also advise that the context needs to be considered i.e. the difference between continuous and impulsive noise, with impulsive noise from actual piling (as opposed to playback) likely to cause more disturbance.</p> <p>We advise the ambient noise data for Rampion 1 is outdated and</p>

		the more recent data collected in relation to Rampion 2, was collected over an insufficiently short timeframe. We understand that this is why further ambient noise data is currently being collected. See our further comment on 3.2.5- 3.2.11.
1.1.18	“studies on suitable proxy species”	Natural England maintain our advice that there is not a suitable proxy species that can be used in relation to the specific spawning <i>behaviours</i> of black seabream within Kingmere MCZ.
1.1.8	“An additional benefit was also potentially thought to accrue from this approach in that the relative value established might also serve to corroborate quantitative thresholds derived from available species-specific studies and proxy-species research data.”	Natural England advise that it is not appropriate to test this hypothesis in proximity to an MCZ during a sensitive season for one of its features.
2.1.2	“Natural England notes that piling noise over an extended period could lead to increased stress or changes in hearing response (i.e., Temporary Threshold Shift (TTS). This is acknowledged as a reasonable assertion, however again RED would highlight that the focus of the current discussions (and recent underwater noise assessment) on black sea bream is the identification of a risk of disturbance effect.”	Natural England’s concerns relate to any aspect of underwater noise impacts that have the potential to hinder the conservation objectives of Kingmere MCZ.
2.1.2, 2.1.6	“long term exposure also has the potential to result in habituation to noise immersion; in fact this is quite typical for long term exposures to relatively low-level noise”. “Longer exposures to constant, distant noise are more likely to lead to habituation than infrequent, irregular noise sources”	Natural England advise that habituation is not relevant to this situation. This is because by the point habitation might occur (if it did) there could already have been a significant impact on black seabream during the sensitive season. In addition, Natural England’s understanding of the evidence base suggests that habituation is predominantly recorded when the sound profile is constant and predictable. The sound profile of piling and the typical schedule of a windfarm installation means that the underwater noise is, by definition, variable and unpredictable.
2.1.2	“The proposed mitigation is targeted to avoid noise emission levels that could trigger a behavioural response, well below levels at which one might anticipate changes in hearing response or, given the propensity for fish to habituate to low level chronic noise exposure, physiological stress that could adversely affect reproduction effectiveness or the conservation objectives for Kingmere MCZ”.	Natural England advise that insufficient evidence is provided to support his point.
2.1.3	The text suggests red seabream as and proxy species and also states it is “reasonable to suggest that during breeding bream will be motivated to remain in the area even when subject to disturbance from underwater noise” and that levels will be “far below that at which any displacement	As stated in our previous advice we disagree that red seabream are a suitable proxy for black seabream, based on the fact they do not exhibit the same breeding behaviours. We advise that it is not “reasonable to suggest that during breeding bream will be

	from important spawning areas at Kingmere MCZ might be anticipated”.	<p>motivated to remain in the area even when subject to disturbance from underwater noise”. We highlight that this statement has not been based on scientific literature. We advise that it cannot be determined that levels will be “far below that at which any displacement from important spawning areas at Kingmere MCZ might be anticipated”.</p> <p>We advise such statements should be evidenced by scientific literature and where sufficient evidence is not available specific to black seabream a precautionary approach should be adopted.</p>
2.1.4	“Hearing sensitivity is not necessarily linked to a behavioural reaction, although the closer a stimulus sound is to the hearing threshold and thus absolute audibility, by definition the less likely a reaction will be.”	We note that this text appears to highlight key limitations of using proxy species.
2.1.5, 3.2.2	“recognising a longer dataset would provide a more robust baseline, RED is conducting a second (repeat) noise monitoring survey from March to July this year (2023).”	As noted in our main letter, this dataset could be useful in helping to get a more long-term picture of ambient noise levels. As opposed to the limited 15 day survey that was conducted in 2022. However, as discussed above we do have some concerns relating to using this data to determine a suitable threshold.
2.1.8	“Burbo Bank data were used as representing the best available data for the closest pile size and blow energy expected to be used at Rampion 2 at the time of writing. Rampion 1 noise measurement data has since been obtained and reference can therefore be made to those data in addition...The closest pile measured at Rampion 1 to the Rampion 2 site shows a noise level of 147 dB SELss at 4 km from the pile (approximately the closest distance to the MCZ from the Rampion 2 site). The noise level at Burbo Bank was 159 dB SELss, 12 dB higher. The comparator used (i.e., Burbo Bank) is evidently, therefore, a precautionary one (bearing in mind 3 dB is a doubling/halving in sound energy) and indications are that the ground at Rampion 2 will be much more comparable to Rampion 1 site conditions and thus the lower noise levels would be anticipated to result”.	Natural England advise that whilst it is useful to understand the construction reality that occurred for Burbo Bank, and Rampion 1, it should be acknowledged that the environmental conditions and the pile size, and hammer energies are likely to differ to those that are proposed in the worst case scenario proposed for Rampion 2. Whilst Rampion 1 is located in close proximity, without baseline data it cannot be assumed that aspects such as the underlying geology (which can influence the hammer energy required) are the same.
2.1.9 – 2.1.12	“Natural England note that Kastelein et al. (2017) shows that a 50% reaction initial response threshold was seen at a level of 131 dB SELss in smaller fish.....this in an initial reaction of concern for black seabream at Rampion 2 would need to be sufficient to elicit disturbance from an essential life activity such as nesting, to which they are likely to be highly	As noted here and stated in our response (02/11/2022) when considering the Kastelein et al. (2017) paper we advise bream should be considered within the smaller fish category. All our previous points regarding the use of this study remain valid.

	<p>motivated to pursue, and it is suggested that an ‘initial reaction’ in 50% of a test group should not be considered equivalent to this”.</p>	<p>We note that this study shows an initial reaction in 50% of a test group. There is insufficient evidence to provide reassurance that this initial reaction would not impact on breeding sea bream, nor that they would be sufficiently motivated not to flee if disturbed. Additionally, this study showed a 50% reaction at 131dB SELss, which means it is possible that less than 50% reacted at a lower sound level. Therefore, it is possible the conservation objectives of the MCZ could still be hindered below this level.</p>
3.2.1	<p>“considered to represent a relatively good worst case for comparison with introduced noise levels”.</p>	<p>Natural England disagree with this statement (see previous response 02/11/2022)</p>
3.2.4	<p>This paragraph suggests that the modelling is the worst case scenario and that the realistic scenario is likely to be less than this, therefore the modelling is a precautionary approach</p>	<p>Natural England advises that the worst case is considered because it might be required, and the DCO/dML will secure its potential use. Therefore this is not a precautionary approach. We understand from this paper that the worst case was achieved and then exceeded through a variation for Rampion 1.</p>
3.2.5- 3.2.11	<p>Rampion 2 Predicted Hammer energy 4400KJ – 12m diameter monopile 2500KJ – 3m diameter pin pile</p> <p>“Current modelling at the Rampion 2 north-west location (close to Kingmere) predicts a maximum noise level of 179.9 dB SELss at 750 m, albeit for a larger monopile”.</p> <p>Rampion 1 Modelling 2500KJ (subsequently varied in April 2015 to 3500 kJ) - 5m diameter monopiles.</p> <p>“5 m piles were installed on the west of Rampion 1 at a maximum of 169.4 SELss dB at 750 m”</p>	<p>We advise that given the difference in pile size and the predicted larger hammer energy required for Rampion 2, comparisons between Rampion 1 and Rampion 2 do not aid in alleviating our concerns.</p> <p>It is clear from Table 1 that a hammer energy of up to 3000 KJ was required for some Rampion 1 piles. Unless the worst case scenario is reduced from 4440KJ, it is necessary to assume this will be required in the locations closest to the MCZ.</p> <p>We also note RWE’s point relating to higher noise levels in deeper water, and that it should be considered that parts of Rampion 2 are likely to be in deeper water than Rampion 1.</p> <p>Natural England note that a variation for Rampion 1 was required to increase the hammer energies, which shows for Rampion 1 that the WCS was greater than modelled. We advise that this needs to be considered in relation to Rampion 2.</p>
3.2.9	<p>“Accepting that there is likely to be variation in hardness of ground types, sediment and substrate in the region, comparable ground type is expected across the Rampion 2 site closest to the MCZ”</p>	<p>We advise this is informed by data collected for Rampion 2 and not just assumed to be the case.</p>
3.2.19-	<p>“A critical environmental condition for the effectiveness of a bubble</p>	<p>We note depths at Kaskasi II were 18-25m, and the depths at</p>

3.3.22	curtain is water depth, which is typically recommended to be less than 50 m”..... As the projects are also comparable in terms of water depth (this being critical for bubble curtain efficiency)”.	<p>Rampion 2 stated here are between 17-44m. It should therefore be considered that the conditions at the Rampion 2 site are deeper than Kaskasi II. We advise that clarification is provided as to whether the depths stated here include consideration of the whole Rampion 2 red line boundary. We note other environmental conditions, such as current speed/strength, wave height and wind speed are likely to effect efficiency, but these are not considered. We advise a thorough comparison of all potential environmental conditions that could affect efficacy is undertaken.</p> <p>Additionally, could a citation be provided in relation to the 50m stated for maximum water depth.</p> <p>To test the efficiency of noise abatement measures, RWE could consider trialling and monitoring non-abated and abated piling <u>outside</u> of the sensitive season for black seabream. Should this be considered, RWE should seek further advice from Natural England and MMO/Cefas.</p>
Table 3.3	We note that the maximum reduction achieved is 19 dB SEL - 24dB SEL based on a combination of measures (Enhanced big bubble curtain, Hydrosound damper, Big bubble curtain).	Natural England request further information on what factors caused the variation in noise reduction achieved. If the variation is dependent on environmental factors, we advise RWE will need to provide further information on how this will be accounted for in any mitigation plan produced.
Figure 3.1	This figure implies a reduction of 25dB is possible, which is not evidenced by the Kaskasi data in table 3.3.	We advise evidence is provided to support a reduction of 25dB, or that this figure is amended to reflect the information presented.
3.2.24-3.2.25	“Using the 147 dB threshold a 16 dB reduction would require the piling to be approximately 5.2 km from the edge of the Kingmere MCZ. If th dB threshold is adopted, it is clear that achieving this level at the closest point to Kingmere is unlikely to be realistic (but again based on the worst case modelling assumptions).”“RED propose that even though, as noted earlier, these modelled levels and extents are demonstrably precautionary and represent an extreme worst case which is not anticipated to arise in reality based on Rampion 1 experience, additional conservatism will be applied through the design of a zoning plan for piling across the site. This reduces reliance on the highest noise	The impacts of the proposal and therefore Natural England’s advice needs to be based on the worst case scenario that arises from the Rochdale envelope of the proposal being submitted, and not what RWE consider a potential realistic scenario. It is not considered conservative to consider the worst case scenario, this is standard practice. Unless the worst case scenario changes as a result of the Rochdale envelope being adjusted, this has no impact on our advice, and should not be seen as adding additional precaution, as it is always possible the worst case scenario will occur. As noted in this paper, Rampion 1 did exceed

	<p>reductions, builds in additional spatial buffer from Kingmere MCZ, and provides further precaution to address residual concerns over uncertainties around setting specific threshold values, even if these are already at a level considered to be at low risk of eliciting any meaningful behavioural response.</p>	<p>its original predicted worst case criteria.</p> <p>Whether the zoning plan is precautionary or not depends on the details of that plan. A zoning plan that was based on a threshold of 147 dB or 141dB is not something we consider precautionary on the basis of the information provided. We have discussed that reducing noise levels to an agreed background noise level (provided this can be agreed between RWE, NE, MMO and Cefas), could possibly help to inform a zoning plan. However, this depends on the results of the ongoing surveys and the advice of Cefas in relation to the difficulties and uncertainties involved in putting together a zoned approach, being able to select an agreed baseline noise level (and therefore threshold) from the ambient noise data and this information not including any consideration of behavioural response.</p> <p>Natural England advise that it does not consider residual concerns are addressed or that there is a low risk of eliciting any meaningful behavioural response.</p>
<p>3.3.4</p>	<p>“RED’s intention is that the proposed mitigation package for the March to July period will form the basis of an offshore piling mitigation plan, which will be submitted for approval prior to the offshore construction of relevant elements or stages of the Rampion 2 works. Delivery of the plan and measures will be secured within the draft deemed Marine Licence as a “Site Integrity Plan” type document, to provide certainty to all stakeholders of the mitigation commitments made by RED in progressing the development of Rampion 2, whilst maintaining the flexibility required by RED in selecting the most appropriate options at the time of construction works”.</p>	<p>Natural England has concerns that this commitment attempts to push the issue into the post consent phase, at which point unless further evidence is presented, our position would still be that restricting piling to outside of March to July is the only option we are confident would not hinder the conservation objectives of the site based on the evidence currently available.</p> <p>At this stage, unless a seasonal restriction to piling is committed to in the application, Natural England foresees that our advice in the Examination in relation to the stage 1 MCZ Assessment will be that the conservation objectives of Kingmere MCZ will be hindered. Please refer to the main letter for further advice on the MCZ Assessment process.</p>



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Our reference: DCO/2019/00005

18 July 2023

Rampion 2 Offshore Wind Farm (OWF)

MMO's (Marine Management Organisation) Response to Further information and response paper for piling noise and Black Bream in relation to Rampion 2 Offshore Wind Farm (OWF).

At this stage of the planning process, Rampion Extension Development Ltd (RED) are conducting environmental and technical surveys and undertaking consultation with regulatory bodies, stakeholders and communities.

The currently proposed development is sited adjacent to the southeast and west of the existing Rampion OWF, approximately 13 kilometres (km) to 25km offshore, occupying an irregular elongated area. The wind farm array Area of Search has an approximate area of 315 kilometres squared (km²). The scoping area for the offshore export cables to connect the offshore wind farm area to the shore is approximately 74km².

Rampion 2 OWF is expected to comprise of no more than 116 wind turbine generators (WTGs) with a total generating capacity of 1200 Mega Watts (MW). In addition, there will be up to three offshore substations and up to 4 export cables which will carry generated power to landfall at Climping, Sussex.

The MMO and our scientific advisors from the Centre for Environment, Fisheries and Aquaculture Science (Cefas) attended an Expert Topic Group (ETG) meeting on 30 March 2023. Prior to this meeting the MMO were provided with the following documents for discussion:

- **Document 1** - Piling Noise and Black Bream: Further information and Response Paper, WSP Environment & Infrastructure Solutions UK Ltd, March 2023



[Doc reference: 42285-GOBE-CO-OF-RP-15-0001]

- **Document 2** - Measurement of underwater noise emissions in the offshore wind farm KASKASI II – Interim report 1: Installation phase March/April 2022 for DEME Offshore BV, version 3

[Document reference ENG Zwischenbericht 1_neu_Schallmessungen Installation phase MarzApril 2022 for DEME Offshore (ii4451755-)2)-1pdf – Adobe Acrobat Reader (32-bit).]

- **Document 3** - Measurement of underwater noise emissions in the offshore wind farm “KASKASI II – Interim report 2: Installation phase March/April 2022 for Seaway 7 B. V, version 3.

[Document reference: ENG_Zwischenbericht 2_neu-Schallmessungen Installationphase MarzApril 2022 fur Seaway 7 SHL (ii4451763).pdf]

The purpose of the meeting on 30 March 2023 was for RED to present additional data from pile installation at Rampion 1 to contextualise levels of precaution which are built-in to the predictive noise levels arising from piling. In addition, a further ambient noise monitoring study of the soundscape at Kingmere MCZ, which takes place over a longer period of time (March to July) has been commissioned by RED and is being undertaken. This was discussed. Potential noise abatement measures based on similar measures employed at the Kaskasi II OWF, located in the German North Sea were also discussed.

The RED team hopes that this additional data will provide more robust evidence to support an acceptable disturbance threshold for black seabream.

Meeting notes have not been provided by RED .

Approaches to dealing with uncertainty and the application of precaution.

1. Despite ongoing discussions there remains considerable uncertainty around minimising negative effects to black seabream from underwater noise as a result of piling at Rampion 2. Remaining sources of uncertainty are as follows:
 - i. Lack of agreement over the most suitable and appropriate behavioural threshold(s) to apply / model for black seabream
 - ii. Uncertainty with the Underwater noise (UWN) modelling, including where specifically in the array noise would be modelled, and the realistic achievability of the proposed noise abatement measures
 - iii. Uncertainty regarding the current ambient noise monitoring survey
 - iv. A lack of behavioural monitoring within the Kingmere Ambient Noise study means uncertainties remain as to what the likely behavioural effects of black seabream at different ambient noise levels might be
 - v. Whilst piling log data from Rampion 1 provide some context, the data are not truly reflective of Rampion 2 due to differences in pile size, hammer energy, and oceanographic conditions (tide, current, turbidity), and without geophysical surveys of the seabed for Rampion 2, it should not be assumed that the ground conditions are the same



- vi. Significant uncertainties surround how, and in what form, the most effective mitigation techniques (be it zoning or a combination of mitigation techniques and zoning) will need to be applied in order to ensure that impacts to black seabream are minimised.

Behavioural thresholds for UWN modelling

2. Currently, there are no established noise exposure thresholds that quantitatively assess fish behaviour. Through repeat consultations RED has sought agreement with stakeholders and regulators to identify a threshold where an effect/no effect boundary can be determined for black seabream. Several thresholds have been proposed, including a single strike sound exposure level (SELss) of 147 decibels (dB) (Radford *et al.*, 2016), 141 dB and 131 dB (Kastelein *et al.*, 2017) and 135 dB (Hawkins *et al.*, 2014). It should be noted that noise thresholds based on proxy species will inevitably introduce a level of uncertainty into the assessment. For example, whilst seabass and black seabream have some physiological and anatomical similarity, seabass do not exhibit the same breeding, spawning and nesting behaviours, and this combined with any physiological and behavioural effects from exposure to piling noise remains a concern.

Recognising these different ecological drivers and spawning behaviours, it is not possible to confidently infer whether wild black seabream will be affected in the same way that captive-bred seabass were in the Radford *et al.*, (2016) and Kastelein *et al.*, (2017) studies.

3. The threshold of 135 dB SELss, as per Hawkins *et al.*, (2014), could be considered a precautionary approach to modelling. However, this is still making inferences from a proxy species, the 135 dB threshold was based on a study of wild sprats i.e., clupeids with greater hearing sensitivity than seabass and black seabream.
4. The MMO understands there is no agreement between MMO, Natural England (NE) and RED on a noise threshold or proxy species for black seabream. If RED want to pursue a noise threshold route the MMO would expect to see more noise modelling based on the 135 dB threshold. However, even if this is provided the MMO is unlikely to agree a threshold approach for black seabream.
5. Please note in relation to advice on Black Bream the roles of MMO and NE differ and there may be a difference between advice from Natural England, as they provide advice on black seabream as a feature of Kingmere MCZ in the context of the conservation objectives, to ensure that the site fulfils its function and makes its due contribution to the Marine Protected Areas network, and advice from the MMO and Cefas as they would provide advice on how the development might interact with fish species as a whole.
6. In addition, the MMO would expect that noise modelling based on the 135 dB threshold is carried out as a standard practice to determine potential effects upon herring and herring spawning, given the location of Rampion 2 within the Eastern Channel region of the Downs herring spawning grounds.



UWN Modelling

7. Some uncertainty remains with regard to the noise modelling itself, for example, the noise modelling locations within the array have yet to be determined. RED have previously provided a technical note in which UWN modelling contours for 147 dB, 141 dB and 135 dB SELs were presented, without noise abatement measures, for piling at three locations within the array (a northwest, east and south location). These were based on the predicted worst-case scenarios for each location (northwest and east: 12m pile diameter, 4400kJ hammer energy, south: 3m diameter jacket pile, 2500kJ hammer energy). The MMO appreciates that these were indicative figures provided within a technical note for review by the ETG, however, we would highlight that the UWN contours for almost all thresholds, at all modelled locations (without noise abatement) show some degree of overlap with the Kingmere MCZ.

Approach to improving the rigour of the baseline soundscape data.

8. The ambient noise study commissioned by RED has potential to better characterise the soundscape at Kingmere MCZ during the black seabream spawning period. The MMO supports that the study covers a longer period of time (8 March – 31 July) and so will likely take into account noise from nearby dredging operations. There are several elements to this study which remain unresolved.
9. Firstly, the methodology and technical specification of this study has not been provided prior to commencement and so we are unable to comment on the robustness and appropriateness of the studies approach to monitoring, nor the expected data quality.
10. Secondly, the study is likely to be completed only after the application for Rampion 2 has been submitted. As noted in the ETG meeting on 30 March 2023, RED indicated that the utility of this data will be most relevant to the pre-construction mitigation plan which will be completed post-consent. With all of this in mind, the MMO is not able to comment further on the value of the ambient noise study without seeing the preliminary data, (which RED have advised will be available in late May to early June).
11. It is important to recognise that there is no behavioural component to the ongoing ambient noise study. Whilst the study will capture the soundscape of Kingmere MCZ over a longer period of time, this will be empirical data reflecting ambient noise levels only. Without corresponding behavioural or presence/absence data, for example to indicate whether black seabream flee or remain on their nests during periods of 'louder' ambient noise, it is difficult to know what the likely behavioural effects at different noise levels would be. There is also uncertainty in that behavioural responses do not always scale with received sound level and black seabream are very prone to being driven from their nests when subjected to other sources of disturbance (including from interference by other species, as well as lower-level marine activities, such as open-circuit scuba diving and angling).
12. In the ETG meeting, RED were hopeful that the additional ambient noise data would corroborate the use of a threshold between 141 dB and 147 dB. RED conclude that a restriction of piling through the entirety of the March to July period has such significant issues for the practical development of Rampion 2 that they have evaluated an alternative approach to the setting of a quantified noise threshold to inform the assessment of a behavioural-level reaction risk, proposing the development of a



threshold based on defining a noise level relative to (i.e. above) the existing background (ambient) soundscape at Kingmere MCZ (section 1.1.9 of Document 1 (Further information and Response Paper). The response paper further states:

“From the studies reviewed, an increase of 30 dB above ambient noise levels was considered to represent an appropriate benchmark and this was used to in conjunction with existing data from measured ambient noise levels at sea at the Rampion 1 site (Collett et al., 2012). The values from the Collett et al. (2012) study showed a baseline of 113 to 120 dB Root-Mean-Square Sound Pressure Level (SPLRMS) (Collett et al., 2012), which was recorded prior to wind turbine foundation installation. On this basis, 30 dB above the ambient noise at the site would therefore be 143 to 150 dB, which equates relatively closely to the thresholds for disturbance response developed from the studies noted above (i.e. 141-147 dB)” (section 1.1.9).”

13. Please note that despite the proposed approach to improve the rigour of the baseline soundscape data (and subsequently undertake additional ambient noise monitoring from March to July 2023), the MMO does not accept the proposed approach of using 30 dB above background levels as a threshold, due to a lack of scientific evidence to support it. Any behavioural disturbance threshold must be supported by appropriate, peer-reviewed evidence.
14. The MMO challenges the statement in para 1.1.9 of Document 1 (Further Information and Response Paper), that *“an increase of 30 dB above ambient noise levels was considered to represent an appropriate benchmark”*. Firstly, it is not clear where this value of 30 dB is derived from. Secondly, context is also very important; this is likely to be in the context of continuous noise (whereas impulsive noise will be more disturbing).
15. It is noted in para 1.1.10 of Document 1 (Further Information and Response Paper):
“additional information was obtained from the underwater noise monitoring survey at Kingmere MCZ in July 2022 (RED, 2022b), recording background noise levels, including SPLRMS (underlying noise level) and SPLpeak (highest noise level within sample period) over a 15-day period, at a resolution of one minute intervals. Clear cyclical variations were evident in the data, driven by tides: the periods of high tidal flow leading to the highest background noise in a day. A typical minimum background noise level during low tidal flow periods was 103 dB SPLRMS, whereas during periods of high tidal flow the background level commonly exceeded 120 dB SPLRMS. Peak noise levels naturally occurring were normally in excess of 140 dB SPLpeak and exceeded 160 dB SPLpeak at multiple times on any given day”.
The background noise measurement of 103 dB SPLrms during low tidal flow periods will likely be more representative (as there will be less contamination of flow noise). Thus, we would discard the measurement of 120 dB SPLrms. We would also discount the SPLpeak measurements of 140 dB and 160 dB as these may also be contaminated measurements.
16. Based on RED’s argument, 30 dB above the ambient noise at the site would therefore be 133 dB SPLrms (e.g., 103 dB + 30 dB) which is even lower than the disturbance/behavioural threshold based on the Hawkins study of 135 dB (SELss).



17. It is also worth highlighting that the 15-day noise monitoring survey report¹ which was reviewed in October/November 2022, stated that “a spot measurement taken during the Rampion 1 met mast installation of 117 dB SPLRMS had been presented to the SNCBs as an estimated background noise level. This survey shows that the estimated noise level was a reasonable estimate”. In fact, the 15-day survey suggests that this estimated noise level of 117 dB SPLrms is an over-estimate of the 103 dB measured in the study.

¹ Underwater Noise Study for Sea Bream Disturbance dated 10 August 2022. V 1.



Additional Context Provided from Rampion 1

18. In Document 1 (Further Information and Response Paper) and during the ETG meeting, RED have stressed that there are 'unavoidable' layers of precaution already built-in to the UWN models and assessments (paragraphs 3.2.3 and 3.2.4 of Document 1). Piling log data from Rampion 1 have been provided to contextualise that, whilst the UWN modelling presents a worst-case scenario using a maximum hammer energy, it may be the case that the majority of piles are installed using hammer energies lower than those modelled. Whilst the supplementary piling log data from Rampion 1 do provide some useful context, caution should be applied when equating this to Rampion 2.
19. Caution should be applied when making comparisons between Rampion 1 and Rampion 2 as the parameters used in the modelling are not wholly comparable. For example, UWN modelling for Rampion 2 is based on a maximum hammer energy of 4,400 kJ for a 12 m diameter monopile and 2,500 kJ for a 3 m diameter pin pile, whereas modelling for Rampion 1 was based on a maximum hammer energy of 2,500 kJ for 5 m diameter monopiles. It is also worth remembering that detailed geophysical studies of the seabed within the boundary for Rampion 2 are still pending, and therefore it is only assumed that the ground type (and therefore the resistance encountered when driving piles into the seabed, which will influence the hammer energy needed) at Rampion 2 will be equitable to that of Rampion 1.
20. It should also be noted that, whilst UWN modelling is based on a worst-case predictive scenario, these scenarios are derived from the maximum pile size and hammer energy predicted within the design envelope, as well as the expected environmental parameters (such as water depth, expected ground type and resistance etc). Therefore, these models are intended to reflect a realistic worst-case scenario. Whilst the MMO appreciates that there are inherent layers of precaution within the UWN model, referring to them as representing an "*extreme worst case*" is somewhat misrepresentative. For example, there have been instances in the past where a higher hammer energy than that initially modelled was required to install piles to the required depth, as is noted in Document 1 (paragraph 3.2.6) where Rampion 2 acknowledge that a variation was sought for piling at Rampion 1 in April 2015 to permit a higher hammer energy of up to 3500 kJ.
21. Overall, the additional context from Rampion 1 highlights some of the precautionary aspects/assumptions of the underwater noise modelling. However, the MMO does not believe that this would negate the requirement to model the realistic worst-case scenario.

Additional empirical evidence to support the efficacy of mitigation types.

22. Document 1 sets out to provide additional data to support the efficacy of the various noise abatement equipment, importantly including combinations of measures to deliver additive noise reductions. Empirical monitoring data has been obtained from measurements at the Kaskasi II project made in March and April 2022 by itap GmbH and DEME Offshore BV. The Kaskasi II study included assessment and monitoring of a series of mitigation options, which were compared to a no-mitigation reference. These were:
 - Big bubble curtain (BBC);



- Double big bubble curtain (dBBC);
- Enhanced big bubble curtain (eBBC) (in German verbesserter Großen Blasenschleier (VGBS), understood to be produced by Hydrotechnik Lübeck GmbH);
- Hydrosound damper (HSD); and
- Combinations of these.

23. In Document 2 (Kaskasi II Report 1), Table 8 provides the noise reductions achieved for various combinations of noise protection systems and system configurations of the Big Bubble Curtain used and the HSD, for the peak level (L_{peak}) and SEL05. Note that SEL05 is a metric used by German regulators for compliance monitoring, corresponding to the 95th percentile of single-strike SEL measurements of hammer blows in the piling sequence.

Table 8: Overview of the noise reductions achieved for various combinations of noise protection systems and system configurations of the Big Bubble Curtain used and the HSD network

Foundation	sound insulation combination	used air quantity [m ³ /(min*m)]	noise reduction for the SEL05 [dB]	noise reduction for the L _{Peak} [dB]
K07	VGBS, GBS + HSD	0,26 + 1,11	19 to 24	24 to 28
K01	VGBS, GBS + HSD	0,26 + 1,11		
K21	DGBS + HSD	0,52	20 to 22	25 to 27
K20	DGBS	0,52	14 to 17	17 to 22
K10	VGBS	1,24	16 to 18	16 to 21
K19	VGBS*1	1,24	10 to 15	12 to 19

24. It is plausible that a combination of measures, such as those deployed at Kaskasi II, will be effective at the Rampion 2 site. However, we cannot speculate too much at this stage. The actual (noise) reduction in dB will depend on the site conditions at Rampion 2, and the source spectra. Frequency is also an important component to consider. The efficacy of a noise abatement system to reduce the risk of impact depends on the frequency range at which sound energy is reduced and on the target species, as each species is sensitive to a certain frequency range. Fish, for example, are typically more sensitive to sound at low frequencies, where the noise reduction from noise abatement systems tends to be smaller.

25. The MMO recommends modelling the effect of noise abatement to ensure awareness of the risk reduction options available. It should be clear in the assessment which noise abatement measures, or combinations of measures, are being modelled. Ultimately, to determine the efficacy of such systems at Rampion 2, evidence will be required in the form of measurements of piling noise with and without noise abatement. We understand that the black seabream spawning (nesting) season is March to July. Therefore, we would recommend obtaining measurements of non-abated piling outside



of this window. However, the MMO maintain any further modelling may not change our position that a seasonal restriction (March – July) is required.

26. Section 3.2.19 of Document 1 states: *“A critical environmental condition for the effectiveness of a bubble curtain is water depth, which is typically recommended to be less than 50 m. Depths at Kaskasi II were 18-25m; depths in the north-western section of Rampion 2 in the vicinity of Kingmere are generally 17-30 m, with parts further south of this section down to 35 m and approximately 44 m at the deepest points. Most of the western side of the Rampion 2, in closest proximity to the Kingmere MCZ, is therefore at depths representative of Kaskasi II and within the recommendations for bubble curtain effectiveness”*. The MMO agrees that the water depths at Rampion 2 will be suitable for deploying a bubble curtain. However, wave height, current speed and wind speed will be other factors to consider.
27. Section 3.2.25 of Document 1 states that *“additional conservatism will be applied through the design of a zoning plan for piling across the site. This reduces reliance on the highest noise reductions, builds in additional spatial buffer from Kingmere MCZ, and provides further precaution to address residual concerns over uncertainties around setting specific threshold values, even if these are already at a level considered to be at low risk of eliciting any meaningful behavioural response”*. Section 3.3.3 further states: *“RED propose that Rampion 2 will utilise at least one or a combination of offshore piling noise mitigation technologies to deliver noise attenuation with the aim of reducing predicted impacts to sensitive receptors at relevant Marine Conservation Zones.... During March to July, the area of Rampion 2 close to the Kingmere MCZ will be avoided to minimise noise during nesting season, and the size and extent of this area will be determined in a zoning exercise on confirmation of suitable mitigation and its attenuation performance”*. Whilst we welcome the proposal to avoid the area of Rampion 2 closest to the Kingmere MCZ during the nesting season the MMO maintain the best approach is for a seasonal restriction. It should also be noted that designing a zoning plan is likely to be complex, with many risks and uncertainties and if this was proposed the MMO would like to comment.

Other comments on Document 1 “Further Information and Response Paper”

28. Section 2.1.2 states: *“It is important to highlight that at lower noise levels, such as those modelled at the Kingmere MCZ assuming a mitigation strategy can be agreed, long term exposure also has the potential to result in habituation to noise immersion”*. Please note that habituation is not necessarily a good thing as species may be at risk of Temporary Threshold Shift (TTS) if they are subject to noise over extended periods of time.
29. The main issue with Section 2.1.11 is that the pulses (from an impulsive sound) are not perceived in the same way as a continuous sound from which the audiogram was derived.

Does the new evidence presented alter our views?

30. The MMO does not believe that the additional information presented resolves our concerns with regard to agreeing a suitable and appropriate behavioural threshold(s) for black seabream.
31. Significant uncertainty, and a number of knowledge gaps, remain with respect to



ensuring that impacts to black seabream from the development of Rampion 2 are negligible. UWN modelling presented to date has indicated that it is likely that at least a portion of the Kingmere MCZ will be affected by UWN, somewhat regardless of the threshold modelled.

32. RED have put forward possible mitigation strategies, including combining mitigation techniques and adopting a zoning approach to construction, in order to reduce piling noise to an acceptable received level which will not create disturbance for black seabream. However, the effectiveness of the proposed combined mitigation in a site-specific context is yet to be evidenced and it remains to be seen whether the measures Rampion 2 propose will sufficiently reduce piling noise to an acceptable received level for black seabream.
33. In addition, it was discussed during the ETG meeting whether there would be any flexibility for Rampion 2 to undertake piling during July. black seabream are at their most sensitive when undertaking spawning and guarding their nests, and as a result, the conservation objectives of the Kingmere MCZ are of heightened importance during the spawning period. As we have clear evidence that black seabream continue to spawn and maintain their nests into and during July, we must consider that July is part of the spawning period. Therefore, it is necessary that any mitigation applied to Rampion 2 must be inclusive of July.
34. During the ETG, Rampion 2 indicated that they would not have sufficient reactivity during construction to undertake monitoring to determine the presence or absence of black seabream nests during July, and so would not be able to confidently determine whether the nests are abandoned or not. Given this context, we believe that any defined mitigation period must include the whole spawning period of March – July, inclusive.
35. With this in mind, we must maintain that a precautionary approach be taken and recommend that no piling be conducted during the whole breeding season for black seabream.

Conclusion

36. There are still a significant number of unknowns in the approach to minimising negative effects to black seabream from underwater noise as a result of piling at Rampion 2. In short, these include:
 - a lack of agreement over the most suitable and appropriate behavioural thresholds to model in the UWN assessment,
 - the utility of the Kingmere ambient noise study and contextual data from Rampion 1 and
 - the efficacy and achievability of possible noise abatement techniques at Rampion 2.
37. The proposed approach to improve the rigour of the baseline soundscape data (and subsequently undertake additional ambient noise monitoring from March to July 2023) does not alter our advice. The MMO would argue it is not appropriate for RED to define a behavioural threshold, since this is not supported by appropriate, peer-reviewed evidence. The MMO challenges that an increase in 30dB above ambient noise levels is considered to represent an appropriate benchmark.



38. It is plausible that a combination of (noise abatement) measures, such as those deployed at Kaskasi II, will be effective at the Rampion 2 site. However, the noise reduction in dB will depend on the site conditions at Rampion 2, and the source spectra, and so a best-case in terms of noise reduction cannot be assumed. Frequency is also an important component to consider. To determine the efficacy of such systems at Rampion II, evidence will be required in the form of measurements of piling noise with and without noise abatement. We understand that the black seabream spawning (nesting) season is March to July. Therefore, we would recommend obtaining measurements of non-abated piling outside of this window.

39. Even if UWN modelling of the thresholds is taken forward there are still uncertainties and gaps in the available data and necessary evidence. This makes it very difficult, at this stage, to determine what the most effective mitigation measure(s) might be in order to address concerns around disturbance to black seabream. For this reason, our recommendation for a full piling restriction during the spawning and nesting period of March – July, inclusive, remains.

Yours sincerely

[Redacted signature]

[Redacted name]

Marine Licensing Case Officer

[Redacted contact information]



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Date: 02 November 2022
Our ref: Consultation 407782 Case 10827



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Discretionary Advice Service (Charged Advice)

Rampion 2 Offshore Windfarm - Underwater Noise Study for Sea Bream Disturbance

Thank you for your consultation on the above dated 26 September 2022.

This advice is being provided as part of Natural England's Discretionary Advice Service. RWE has asked Natural England to provide advice upon:

- Underwater Noise Study for Sea Bream Disturbance (V1 10th August 2022).

Summary

Black seabream (*Spondyliosoma cantharus*) are a feature of Kingmere Marine Conservation Zone (MCZ). Underwater noise has the potential to impact on the behaviour of black seabream within the MCZ during the breeding season (including spawning, nest building, laying eggs and nest guarding). Part of the second conservation objective for Kingmere MCZ in relation to black seabream is:

'the population (whether temporary or otherwise) of that species occurring in the zone be free of the disturbance of a kind likely to significantly affect the survival of its members or their ability to aggregate, nest, or lay, fertilise or guard eggs during breeding'.

Natural England's conservation advice on the breeding season for black seabream within Kingmere MCZ is March to July (inclusive). This advice can be found online at <https://designatedsites.naturalengland.org.uk/>.

Underwater noise from the percussive piling of the array turbine foundations during the breeding season has the potential to create disturbance that could significantly affect the survival of black seabream. Such disturbance will elicit a behavioural response that could significantly impair their ability to undertake normal breeding behaviours such as: to aggregate, nest, lay, fertilise, or guard eggs during breeding season. Further to this, noise disturbance also has the potential to effect the physical condition and health of the bream. In the absence of suitable mitigation measures being put in place, this therefore has the potential to undermine the conservation objectives of Kingmere MCZ.

We welcome the further information provided by the Applicant in this report. However, having considered this document Natural England maintains that there is insufficient evidence to substantiate the proposed thresholds for behavioural disturbance to wild black seabream whilst in their reproductive phase. Detailed comments are contained within Annex 1, and below we summarise NE's advice on two main aspects of the report:

1. The evidence presented does not directly relate to the protected feature. The proposed thresholds are derived from suggested proxy species which only represent physical similarity; they do not represent the reproductive behaviours which define the protected feature. NE has highlighted this point in prior consultation responses and meetings with the Applicant, MMO and CEFAS also present. This includes in the underwater noise mitigation targeted meeting (24/02/2022) and subsequent comments on the minutes, as well as in our written response to the underwater noise technical note (20/05/2022). We recognise there is a scarcity of evidence to establish such a threshold, and this uncertainty is reflected in NE's advice to take a precautionary approach as per commitments under the OSPAR Convention and 1992 Rio Declaration on Environment, which establish that a lack of full scientific evidence must not postpone action to protect the marine environment. NE advises the Applicant that you have provided insufficient evidence to prove that the disturbance threshold presented would not risk hindering the achievement of the conservation objectives of the site.
2. We welcome the collection of site-specific background noise evidence, which could provide valuable information on the baseline conditions in which black seabream reproduce. However, the dataset provided is severely limited which hinders its usefulness in establishing a baseline against which impacts can be assessed. These limitations are outlined below, alongside suggested solutions:
 - a. **Limitation:** low sampling power (16 days, 1 location).
Solution: Conduct a power analysis to determine a sampling period/extent with high likelihood of being representative and statistically robust, accompanied by a qualitative review of similar studies to take into account the high potential for seasonal and inter-annual variations.
 - b. **Limitation:** the dataset does not represent typical black seabream conditions, as it only recorded for a short time at the very end of the season/process.
Solution: future evidence collection aims to capture all aspects of the breeding season, from incoming migration (March-April) through the spawning and nesting periods until outward migration (June-July).

Whilst it would be useful to obtain this longer-term dataset to provide a more robust baseline, Natural England advise that in isolation this is unlikely to resolve our concerns in relation to the paucity of evidence described in point 1.

Therefore, it remains Natural England's assertion, that based on the information provided, a piling restriction during the entirety of the breeding season is the only approach that provides sufficient certainty that long term exposure to underwater piling will not cause significant behavioural disturbance or physiological effects, and that the conservation objectives will not be hindered. Natural England's remit is to specifically advise on impacts to features of designated sites, and to advise beyond reasonable doubt whether there is the potential for an activity to hinder the conservation objectives of a site. We note that the remit within which our advice is provided differs to that of other stakeholders and therefore conclusion we draw will sometimes be different to theirs.

We are concerned that the issue regarding possible noise effects on bream and the Kingmere MCZ appears far from being resolved, yet we are fast approaching the date of your EIA submission. Having this level of uncertainty and lack of resolution could represent a significant risk to your application and will represent an undesirable level of complexity at examination. We note that in our last meeting (12/09/2022) on this topic you said you did not plan on further engagement on this topic until the EIA was submitted. We would urge that you continue working with us as a matter of urgency to find a solution where all parties can be confident that impacts to the MCZ will be acceptable.

For detailed comments please refer to Annex A below.

Yours sincerely

[REDACTED]

Marine Lead Adviser

[REDACTED]

The advice provided in this letter has been through Natural England's Quality Assurance process

The advice provided within the Discretionary Advice Service is the professional advice of the Natural England adviser named below. It is the best advice that can be given based on the information provided so far. Its quality and detail is dependent upon the quality and depth of the information which has been provided. It does not constitute a statutory response or decision, which will be made by Natural England acting corporately in its role as statutory consultee to the competent authority after an application has been submitted. The advice given is therefore not binding in any way and is provided without prejudice to the consideration of any statutory consultation response or decision which may be made by Natural England in due course. The final judgement on any proposals by Natural England is reserved until an application is made and will be made on the information then available, including any modifications to the proposal made after receipt of discretionary advice. All pre-application advice is subject to review and revision in the light of changes in relevant considerations, including changes in relation to the facts, scientific knowledge/evidence, policy, guidance, or law. Natural England will not accept any liability for the accuracy, adequacy, or completeness of, nor will any express or implied warranty be given for, the advice. This exclusion does not extend to any fraudulent misrepresentation made by or on behalf of Natural England.

Annex A Detailed Comments

Section/Page	Comment
General Comment	<p><u>Different life stages</u></p> <p>The conservation objectives of the MCZ require “the population (whether temporary or otherwise) of that species occurring in the zone be free of the disturbance of a kind likely to significantly affect the survival of its members”. Noting that the MCZ specifically protects bream during the reproductive phase of their life cycle this population will include larval stage fish and eggs. The studies and conclusions of the paper only make reference to adult fish which omits a key receptor.</p>
General Comment	<p><u>Stress response from long term exposure</u></p> <p>Notwithstanding the uncertainty regarding whether piling noise will cause disturbance to bream in the Kingmere MCZ we have concerns that the physiological effects and stress from chronic exposure to impulsive piling noise over consecutive months has not been well represented by the proposed noise limits. The conservation objectives of the MCZ state “For the spawning habitat of black seabream within the zone, favourable condition means that the habitat is of sufficient quality and quantity to enable individuals of this species using the habitat to survive, aggregate, nest, lay, fertilise or guard eggs during breeding”. Thus, for the habitats to be in favourable condition the soundscape must not cause any physiological impairment or alteration which effects their reproductive life cycle. As we discuss later in this response there is a possibility that exposure to piling noise could cause a TTS and furthermore other studies such as (Celi et al; 2016) have observed significant increases in the biometric stress response in gilt head bream (a similar size fish of the same family) after 10 days exposed to boat noise. It is therefore possible that piling at Rampion 2 could cause changes in the hearing response and increases in physiological stress indicators in bream at Kingmere, which are factors which could affect their ability to reproduce effectively and would make the habitat in the MCZ unfavourable for spawning.</p> <p>Celi, M. Filiciotto, F. Maricchiolo, G. Genovese L. Maria Quinci, E. Maccarrone, V. Mazzola, S. Vazzana, M. Buscaino, G. (2016) Vessel noise pollution as a human threat to fish: assessment of the stress response in gilthead sea bream (<i>Sparus aurata</i>, Linnaeus 1758). <i>Fish Physiology and Biochemistry</i> volume 42, pages 631–641</p>
General Comment	<p>We note that there are errors throughout the document in relation to the figure referencing in the text. ‘Error! Reference source not found..’ is frequently stated. Additionally, the Kojima et al. (2010) paper is not referenced, which limits our ability to comment where evidence is used from this.</p>
Section 2	<p>It is stated that ‘no known audiogram is available for black seabream. However, red seabream (<i>Pagrus major</i>) is in the same family, Sparidae. An audiogram (using Auditory Evoked Potential (AEP) and behavioural techniques) was measured by Kojima et al. (2010) for this species and provides the best available proxy’. No information is provided as to the ecology of red seabream, and whether this is similar to Black seabream, particularly in relation to nesting behaviours. As we have noted</p>

	with other papers the Kojima et al. (2010) paper entitled 'Acoustic pressure sensitivities and effects of particle motion in red sea bream <i>Pagrus major</i> ' (which we assume is what is being referred to in the document for review) is conducted on a different species, and not while the fish is exhibiting breeding behaviours similar to that of black seabream, so caution needs to be taken directly applying the findings to black bream in Kingmere.
Figure 1	How does this audiogram compare to that of seabass, is there a similar audiogram for seabass? This is important as section 5 uses studies which examine how seabass respond to noise as a proxy for bream. In these studies the sound increases the bass were exposed to were referenced as being above the ambient baseline, whereas in section 5 sound increases in respect to bream are referenced as being above the bream hearing threshold. It is important therefore to know what the difference is between the noise levels (at the audible frequencies) fish are exposed to in the Radford et al. (2016) and Kastelein et al. (2017) with respect to the hearing thresholds for seabass not just the ambient baseline.
Section 3	We note that this study was conducted over a short 16-day time period (4th July 2022 and 19th July 2022) at the end of the black seabream breeding season, therefore it may not be entirely representative of conditions over the breeding season as a whole.
Section 4, Figure 4	For how long on average did the buoy record the 'loud boat' and 'typical boat' noise spectra/level shown in figure 4 per day and for how long would this peak noise level occur during the passage of boat? These are transient events which represent the current peak noise exposure events in Kingmere, thus it is important to understand for how long these levels might occur each day? During piling bream could be exposed to levels of impulsive noise significantly exceeding these levels and which are continuous for many hours every day.
Section 4, page 8	What criteria have you used to surmise that a sound 25db above their hearing threshold would not be considered 'loud' to a bream? Is there a methodology to determine loudness and what does it mean for sound to be 'loud' to a fish? The 'loud boat' appears to represent the loudest sound that bream currently experience in this part of their range and occurs only occasionally on any given day, the majority of sound bream hear is far quieter. Furthermore Radford et al. (2016) which is referenced in the document shows that increases of a far smaller magnitude caused a significant increase in OBR in seabass. e.g., as a result of increases from 117 to 131db rms/141 to 158dB SPL: in the cohort exposed to seismic sound after moving from ambient conditions. Thus, it would be fair to assume bream consider an increase in 25dB due to a 'loud boat' as being 'loud' and we feel this statement regarding loudness is misleading.
Section 5., page 9	We note that pile strikes previously measured from monopile installation at the Burbo Bank Extension OWF have been used. Justification is needed in relation how the conditions at Burbo Bank are comparable to that within the area piling will take place for Rampion 2, to understand if this is an appropriate comparison.
Section 5, page 10	"Research by Kastelein et al. (2017) concluded that seabass exhibited an initial reaction to impulsive noise at levels of 141 dB SELss" and this conclusion is used to underpin a suggested noise threshold of 141dB SELss. However, the Kastelein et al. 2017 actually states that the 50% initial response threshold occurred at a mean SELss of 131 dB re 1 mPa2 s for small fish and 141 dB re 1 mPa2 s for large fish (small representing a mean 30.8cm and large being 44cm) meaning smaller fish are more acoustically sensitive compared to larger fish. Seabass are a larger fish than bream with the minimum landing size for bream being 23cm (36cm for seabass) so they are better compared to the results from the small fish cohort where initial reactions are more likely to occur at 131 db SELss. Consequently, a proposed 141 dB SELss threshold is not well supported

	by this research.
Section 5, page 10	<p>This section makes reference to a Radford <i>et al.</i> (2016) study showing a 'slight stress response at 147dB', however it is again Natural England's view that this study does not well support the proposed 141db noise limit. This is principally because:</p> <ol style="list-style-type: none"> 1. After 12 weeks of pile driving exposure in the Radford <i>et al.</i> (2016) study fish no longer showed a significant OBR response to other noise stimulus (not just piling) which they previously did i.e., seismic noise and the study identifies the change in response to noise could be due to a temporary threshold shift (TTS) not necessarily habituation. It goes on state "TTS could have the knock-on consequences of a reduced responsiveness to other, useful, sounds such as the acoustic cues and signals cues used by many fishes for orientation and settlement, detection of predators and prey, and for communication". Natural England's view is if these changes were to manifest in bream within the MCZ there could be impacts on the conservation objectives of the MCZ. 2. As acknowledged by Radford et al. (2016), the playback of pile driving noise into the tank does not represent well the effects of particle motion that would be expected as a result of pile driving in the open ocean. As several authors have identified particle motion becomes an important consideration close to acoustic boundaries such as the seabed, and it is close to the seabed where bream and their eggs will spend most of their time. 3. As Natural England have mentioned in previous responses Radford et al. (2016) states that fish show a significant OBR reaction to pile driving noise initially but then after 12 weeks show no response. It however does not say when within that 12-week window the fish stop showing a stress response. It would seem unrealistic to expect wild migratory fish when prospecting an area as a potential spawning site to both choose an area where noise levels are high enough to trigger a stress response and then voluntarily stay here for many weeks until they become insensitive to it. A likely response is that when exposed to a stressor prospecting fish will simply move to another location where conditions will not expose them or their offspring to physiological stress and such a location could be outside the protection of the MCZ as bream are also thought to breed in the wider area around the MCZ.
Section 5, page 10	<p>It is stated that at approximately 30 dB above the hearing threshold (a noise level of 141db SELss) it is anticipated that the risk of sustained disturbance is low. The evidence presented does not support this statement in that Kastelin et al (2017) observed disturbance at 131db and Radford et al (2016) noted increases in OBR due to noise increases which were less than 30dB above ambient levels. Caution should also be taken when comparing vessel noise i.e., the loud boat observed in the baseline survey to the effects of piling on fish, as impulsive noise such as piling has been observed in many animals to exhibit stronger reactions than continuous sound such as emitted from a vessel.</p>
Section 5, page 10	<p>As we have commented previously no literature or evidence has been provided to support the reductions possible in relation to the mitigation measures proposed. It is important that consideration is given to the local conditions, such as currents within the Rampion 2 area, when applying experiences in other locations.</p>

APPENDIX A: Arboricultural Survey Data Sheets



Surveyor [Redacted]
 Survey Date May 2021, September 2021, November 2021, December 2022, January 2023
 Site Rampion 2 Offshore Wind Farm
 Drawing Ref D8685.001.01-47

Italicised Feature Ref: Inspection of this feature was restricted
Italicised Values: Feature value was estimated
Feature references do not always run sequentially due to Order Limits evolution

Ref	Species	Height	Canopy Ground Clearance	Stem Diameter (or range)	No. of stems/ individuals	Crown Spread North	Crown Spread South	Crown Spread East	Crown Spread West	Lowest Branch Height	Lowest Branch Direction	Maturity	Condition	Comments on form, condition, health and significant defects	Management recommendations in current context	BS 5837 Quality Category	Estimated Remaining Contribution
		(m)	(m)	(mm)	arising below 1.5m	(m)	(m)	(m)	(m)	(m)	(N,S,E,W)	Young, Middle Age, Mature	Good, Fair, Poor, Veteran			A,B,C,U (1,2,3)	Long, Medium, Short, Very Short
Trees																	
T3	Pedunculate oak	15.0	6.0	860	1	10.0	9.0	9.5	11.0	3.0	S	Mature	Good	Third party tree. Excellent form and vigour. Broad Crown.		A ,1	Long
T5	Scots pine	13.0	11.0	470	1	3.0	3.0	1.5	4.0	11.0	S	Middle Age	Fair	High, asymmetric crown due to adjacent oaks. Third party tree to South of hedgerow		B ,1	Long
T6	Pedunculate oak	12.0	3.0	660	1	8.0	8.0	6.0	7.0	3.0	SW	Mature	Good	Third party tree located south of gap in hedgerow. On edge of pond. Squat crown broader than tall. Rope swings. Moderate dead wood		B ,1	Long
T7	Pedunculate oak	13.0	4.0	640	1	8.0	7.0	7.0	8.0	3.5	NE	Mature	Good	Third party tree to South of hedgerow. Broad Crown. Moderate dead wood. Small cavity holes on First branch. Bat potential. Hide in tree with rope ladder		B ,1, 3	Long
T8	Pedunculate oak	9.0	4.0	550	1	5.0	5.0	5.5	4.0	3.0	E	Middle Age	Good	Hedgerow tree. Limited inspection due to dense blackthorn to South. Good crown form. Minor and moderate dead wood		B ,1	Long
T9	Pedunculate oak	12.0	4.0	650	1	5.5	6.0	6.5	6.5	3.0	E	Middle Age	Good	Hedgerow tree. Limited inspection due to dense blackthorn to South. Good crown form. Minor and moderate dead wood		B ,1	Long
T35	European larch	14.0	2.5	360	1	3.5	1.0	3.0	3.5	3.5	SW	Middle Age	Fair	Tree within roadside group. Heavily ivy clad. Asymmetric canopy due to proximity of adjacent oak. Leader appears to have failed previously but is still attached.		C ,1	Medium
T36	Pedunculate oak	14.0	3.5	580	1	5.0	6.0	5.5	6.0	4.5	SW	Middle Age	Good	Tree within boundary group adjacent to road. Heavily ivy clad. Bifurcate at c. 3m. Southern canopy slightly suppressed by adjacent tree. Minor deadwood.		B ,1	Long
T41	Field maple	11.0	2.0	293	4	6.0	3.0	2.0	4.0	2.0	N	Middle Age	Fair	Multi-stemmed at c. 1.5m and at base. Lost mind failed as part of hedge. Minor Deadwood and dieback.		C ,1	Medium
T42	Pedunculate oak	8.0	2.0	488	2	8.0	5.0	6.0	6.5	2.5	NE	Middle Age	Fair	Bifurcate at 0.5m. Moderate deadwood. Minor dieback in places. Field boundary tree.		B ,1	Long
T50	Common ash	15.0	3.5	439	2	5.5	6.5	5.0	5.0	3.5	W	Middle Age	Fair	Field boundary tree within hedge immediately adjacent to ditch. Bifurcate at 1m. 1 stem heavily ivy clad. Minor dieback in canopy with associated deadwood and some previous limb failures.		B ,1	Medium
T53	Blackthorn	6.0	1.5	182	3	1.0	2.5	2.5	1.0	1.5	E	Middle Age	Fair	Roadside tree at end of hedge. Basally trifurcate. Heavily ivy clad.		C ,1	Medium
T54	Horse chestnut	13.0	1.0	752	3	6.5	7.5	7.5	7.5	2.0	NW	Mature	Good	Tree located at field boundary within third party land. Also adjacent to road to north. Trifurcate at 1m with included and fusing unions and stems. Occluding barbed wire evident. Rounded canopy form.		B ,1, 2	Long
T55	Pedunculate oak	14.0	2.0	850	3	7.0	9.5	9.0	2.0	2.5	S	Mature	Fair	Tree located with roadside field boundary hedge. Heavily asymmetrical canopy that has previously been suppressed to west by adjacent Ash, although this tree is now in significant decline. Previous long failures with occluding wound evident. Growing on ditch bank.		B ,1, 2	Long
T56	Common ash	15.0	2.0	900	3	7.0	8.5	4.5	7.5	2.5	W	Mature	Poor	Tree located within roadside field boundary hedge. Asymmetrical canopy to East due to proximity of adjacent oak. Tree is in significant decline and at category 4 of chalara ash dieback disease with little live footage remaining. Canopy overhangs Road. Multi-stemmed at c. 2.5m. Ivy clad stems.	Fell.	U	Very Short
T57	Pedunculate oak	15.0	2.0	750	1	5.0	10.0	8.0	8.0	3.5	S	Mature	Good	Roadside tree within boundary hedge. Asymmetrical canopy to north due to suppression from large oak on opposite side of road. No major defects noted.		A ,1, 2	Long
T58	Cherry plum	4.0	2.5	164	3	3.5	3.0	3.5	3.5	2.0	W	Middle Age	Fair	Hedgerow tree covered in bramble and ivy		C ,1	Long
T59	Pedunculate oak	16.0	2.0	820	1	7.0	9.5	9.5	8.5	3.0	E	Mature	Fair	Open grown form. Sparse crown in places with start of stag-headed form. Minor and moderate dead wood		B ,1, 2	Long
T60	Common ash	16.0	2.0	792	2	9.0	5.0	9.0	5.0	3.5	S	Mature	Fair	Mature ash tree on ditch bank at field boundary. Bifurcate at c. 0.5m with tight union. Slight lean to north-east. Some dieback and associated deadwood evident, although currently only in category 1 of chalara ash dieback disease. Moderate deadwood limbs.		B ,1, 2	Medium
T61	Common ash	14.0	2.0	826	4	10.0	8.0	6.5	6.5	3.0	SW	Mature	Poor	Mature ash tree on ditch bank at field boundary. Multi-stemmed at base with tight unions. Some dieback and associated deadwood evident, currently in category 3 of chalara ash dieback disease. Moderate deadwood limbs.		C ,1, 2	Short
T62	Pedunculate oak	16.0	4.0	790	1	6.5	8.0	8.0	7.0	3.0	S	Mature	Good	Slightly suppressed to north else excellent form and vigour		A ,1	Long
T63	Pedunculate oak	14.0	2.0	730	1	6.0	7.0	8.0	7.5	3.5	S	Mature	Fair	Slightly reduced vigour with small leaf flush. Minor and moderate dead wood.		B ,1	Long

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Ref	Species	Height	Canopy Ground Clearance	Stem Diameter (or range)	No. of stems/ individuals	Crown Spread North	Crown Spread South	Crown Spread East	Crown Spread West	Lowest Branch Height	Lowest Branch Direction	Maturity	Condition	Comments on form, condition, health and significant defects	Management recommendations in current context	BS 5837 Quality Category	Estimated Remaining Contribution
		(m)	(m)	(mm)	arising below 1.5m	(m)	(m)	(m)	(m)	(m)	(N,S,E,W)	Young, Middle Age, Mature	Good, Fair, Poor, Veteran			A,B,C,U (1,2,3)	Long, Medium, Short, Very Short
T64	Pedunculate oak	16.0	3.0	870	1	10.0	9.0	10.0	10.0	3.0	S	Mature	Poor	Large, spreading crown with reduced vigour. Minor and moderate dead wood		C ,1, 2	Medium
T66	Field maple	7.0	1.0	210	1	4.5	4.0	3.0	2.0	1.5	NE	Middle Age	Fair	Ivy clad tree, ivy stem nearly as big as tree. Gnarly stem with minor cavity		C ,2	Long
T67	Pedunculate oak	9.0	3.0	410	1	6.0	6.5	6.5	6.0	3.0	N	Middle Age	Good	Hedgerow tree with wide, squat crown. Good vigour		B ,1, 3	Long
T69	Pedunculate oak	14.0	3.0	460	1	7.0	6.5	2.0	8.0	4.0	W	Middle Age	Fair	Heavily asymmetric and weighted West due to adjacent tree. Minor and moderate dead wood		C ,2	Long
T70	Pedunculate oak	15.0	3.0	920	1	10.0	10.0	9.0	6.5	3.0	NW	Mature	Good	Hedgerow tree. Broad Crown with excellent form and vigour		A ,1	Long
T72	Common hawthorn	6.0	3.0	270	1	3.5	3.0	3.5	3.0	2.0	NE	Middle Age	Fair	Ivy clad hedgerow tree		C ,1	Long
T73	Pedunculate oak	17.0	4.0	1200	1	12.0	11.0	10.0	9.0	5.0	N	Mature	Good	Huge tree. Behind barb wire fenced off area. Part of wider area of tree cover. Excellent form and vigour. Bifurcated at 5m. Minor dead wood.		A ,1	Long
T74	Pedunculate oak	9.0	2.0	500	1	5.0	5.0	4.0	4.0	2.0	SW	Middle Age	Good	Tree at edge of copse. Heavily ivy clad. Pruned limbs with some remnant deadwood stubs fieldside. Inspection restricted by access and undergrowth.		B ,1, 2	Long
T75	Pedunculate oak	15.0	4.0	900	1	10.0	11.0	9.0	7.0	5.0	S	Mature	Good	Large Broad Crown, part of wider belt of tree cover. Minor and moderate dead wood. In fenced off area		A ,1	Long
T76	Pedunculate oak	15.0	4.0	900	1	8.0	7.5	6.0	7.0	5.0	S	Mature	Good	Part of wider belt of tree cover. Good form and vigour. Large dead wood with cavities and how. Bat potential. In fenced off area.		A ,1, 3	Long
T77	Pedunculate oak	16.0	2.5	800	1	8.0	8.0	8.0	9.0	3.5	S	Mature	Good	Tree within copse. Bifurcate in mid -canopy. Minor Deadwood. No major visible defects noted. Inspection restricted by access and undergrowth.		A ,1, 2	Long
T78	Common ash	14.0	4.0	400	1	7.0	4.0	5.0	3.0	5.0	N	Middle Age	Fair	Good crown vigour but slightly asymmetric and weighted crown to north due to adjacent oak. In fenced off area.		B ,2	Long
T79	Wild cherry	12.0	1.5	500	1	2.5	8.5	6.0	6.0	3.0	E	Mature	Fair	Tree at edge of copse. Northern canopy has previously been suppressed by now felled/fallen tree, causing an asymmetrical canopy that is biased to the south. Bifurcate at c. 4m. Previous large branch failure evident on lower stem. Inspection restricted by access and undergrowth.		B ,1	Medium
T80	Pedunculate oak	15.0	4.0	600	1	8.0	8.0	7.5	7.0	6.0	SE	Mature	Good	Part of wider belt of tree cover. In fenced off area. Bifurcated at 3m with tight included union. Minor and moderate dead wood		B ,1	Long
T81	Horse chestnut	6.0	2.0	530	1	6.0	5.0	8.5	3.5	2.5	E	Middle Age	Fair	Tree at edge of copse. Several stem and limb failures evident with some decay, reducing height of tree significantly. Multi-stemmed form. Horse chestnut bleeding canker evident on stem. Desiccated fungal fruiting body on ground beneath tree, unidentifiable at time of survey due to condition. Inspection restricted by access.		C ,1	Medium
T82	Pedunculate oak	16.0	5.0	620	1	4.0	10.0	6.0	9.0	3.0	S	Mature	Good	On edge of tree belt adjacent fencing. Crown weighted south. Some epicormic shoot growth in inner crown		B ,1, 2	Long
T83	Common ash	16.0	4.5	600	1	7.0	9.0	5.0	5.5	4.5	SW	Middle Age	Good	Tree at edge of copse. Trifurcate in upper canopy. Minor Deadwood. No significant signs of dieback currently. No major defects noted. Inspection restricted by access.		B ,1, 2	Medium
T84	Field maple	8.0	2.0	350	1	3.5	4.0	4.0	4.0	1.5	NE	Middle Age	Good	Tree with belt of trees. Bifurcate at c. 4m. No major visible defects noted. Inspection restricted by access and undergrowth.		B ,1	Long
T85	Pedunculate oak	11.0	2.0	530	1	6.0	6.0	6.5	6.0	2.0	SE	Middle Age	Good	Tree with belt of trees. Trifurcate at c. 5m. No major visible defects noted. Inspection restricted by access and undergrowth.		B ,1, 2	Long
T86	Pedunculate oak	17.0	6.0	950	1	10.0	9.0	10.5	11.0	4.0	SW	Mature	Good	Excellent form. Minor branch shoot tip die back in lower crown. Minor and moderate dead wood		A ,1, 2	Long
T87	Common ash	14.0	2.0	627	2	7.0	8.5	8.5	7.0	4.5	S	Middle Age	Fair	Tree with belt of trees. Bifurcate at c. 1m with further bifurcation above. Previous moderate limb failures evident. Ash flower gall mite evident. Minor tip dieback. Inspection restricted by access and undergrowth.		B ,1, 2	Medium
T88	Pedunculate oak	12.0	2.0	530	1	6.0	6.0	8.0	8.0	2.0	E	Middle Age	Good	Tree within belt of trees. Typical rounded form. Minor previous limb failures. No major defects noted. Inspection restricted by access and undergrowth.		A ,1, 2	Long
T89	Field maple	11.0	4.0	461	2	4.5	5.0	7.0	5.0	3.0	SW	Mature	Good	Twin stemmed at base on gnarly bole. Good crown form and vigour		A ,2	Long
T90	Pedunculate oak	11.0	6.0	550	1	5.0	5.0	6.5	6.5	5.0	NE	Middle Age	Good	Tree within belt of trees. Typical rounded form but with High canopy. Minor previous limb failures. No major visible defects noted. Inspection restricted by access and undergrowth.		A ,1, 2	Long

APPENDIX A: Arboricultural Survey Data Sheets



Surveyor [Redacted]
 Survey Date May 2021, September 2021, November 2021, December 2022, January 2023
 Site Rampion 2 Offshore Wind Farm
 Drawing Ref D8685.001.01-47

Italicised Feature Ref: Inspection of this feature was restricted
Italicised Values: Feature value was estimated
Feature references do not always run sequentially due to Order Limits evolution

Ref	Species	Height	Canopy Ground Clearance	Stem Diameter (or range)	No. of stems/ individuals	Crown Spread North	Crown Spread South	Crown Spread East	Crown Spread West	Lowest Branch Height	Lowest Branch Direction	Maturity	Condition	Comments on form, condition, health and significant defects	Management recommendations in current context	BS 5837 Quality Category	Estimated Remaining Contribution
		(m)	(m)	(mm)	arising below 1.5m	(m)	(m)	(m)	(m)	(m)	(N,S,E,W)	Young, Middle Age, Mature	Good, Fair, Poor, Veteran			A,B,C,U (1,2,3)	Long, Medium, Short, Very Short
T91	Pedunculate oak	11.0	2.0	900	1	7.0	9.0	7.0	7.0	1.5	S	Mature	Good	Tree within belt of trees. Attractive round canopy form. Occasional moderate to major limb failures with occluding wounds and bat potential. Moderate deadwood. No major visible defects noted. Inspection restricted by access and undergrowth.		A ,1, 2, 3	Long
T92	Common ash	15.0	3.5	1100	1	5.0	8.0	7.5	10.0	3.5	S	Mature	Poor	Moribund ash tree immediately adjacent to PRoW and overhanging track. Large dead stems and limbs. Cavities. Bat potential.		U	Very Short
T93	Common ash	15.0	5.0	850	1	8.0	8.0	8.0	7.0	4.0	NE	Mature	Fair	Large tree directly adjacent stone track. Small broken roots in track surface. Ivy clad stem. Heavy mast with reduced vigour. Cables through crown		B ,2	Medium
T94	Pedunculate oak	11.0	6.0	750	1	5.0	6.0	5.5	6.5	3.5	SE	Mature	Poor	Topped and lopped with very little crown regrowth. Large dead wood. In decline.		C ,3	Medium
T95	Pedunculate oak	14.0	5.0	900	1	6.5	7.5	7.0	6.0	3.0	E	Mature	Good	Hedgerow tree. Good form and vigour with no visible defects.		A ,1, 2	Long
T96	Pedunculate oak	14.0	2.0	800	1	6.0	7.5	8.0	5.0	2.5	S	Mature	Good	Large oak tree within trackside tree belt immediately adjacent to power lines. 1 major deadwood stub in lower canopy to north from previous limb failure. Branch socket cavities. Bat potential. Canopy Clearance over track c. 4m.		A ,1, 2, 3	Long
T97	Common ash	14.0	4.5	850	1	7.5	7.5	8.0	6.5	4.0	N	Mature	Fair	Hedgerow tree with ivy clad stem. Only just starting to flush. Minor and moderate dead wood.		B ,1, 2	Long
T98	Pedunculate oak	13.0	4.5	650	1	7.0	3.5	5.5	5.0	2.0	E	Mature	Fair	Hedgerow tree. Slightly reduced vigour and ivy clad		B ,1, 2	Long
T99	Pedunculate oak	14.0	4.5	700	1	4.5	7.0	6.0	6.0	4.0	W	Mature	Good	Hedgerow tree. Good form and vigour with no significant defects		A ,1, 2	Long
T100	Common ash	15.0	5.0	680	1	5.5	8.0	6.0	6.0	4.0	S	Mature	Poor	Wound on stem adjacent to track with minor decay and cavitation. Ivy on stem. Dense epicormic shoot growth in crown. Large dead wood in Central crown. Inonotus hispidus		C ,1, 3	Medium
T101	Pedunculate oak	14.0	5.0	850	1	9.0	8.5	9.0	7.5	4.0	SW	Mature	Fair	Large, Broad Crown with stag headed form and slightly reduced vigour. Hedgerow tree		B ,1, 2	Medium
T102	Pedunculate oak	11.0	4.5	600	1	6.5	4.0	7.0	6.0	2.5	W	Mature	Fair	Hedgerow tree. Ivy clad to lower crown. Slightly reduced vigour		B ,1, 2	Long
T103	Pedunculate oak	11.0	5.0	700	1	6.0	6.5	7.0	6.0	2.5	SW	Mature	Fair	Hedgerow tree. Ivy clad to lower crown. Reduced vigour with stag headed form. Large and moderate dead wood		C ,1, 2	Medium
T104	Common hawthorn	4.0	0.5	319	2	2.5	0.5	3.0	2.5	0.5	E	Mature	Fair	Ivy clad hedgerow tree.		C ,1, 3	Medium
T105	Pedunculate oak	14.0	5.0	800	1	10.0	8.5	9.5	10.5	5.0	NE	Mature	Fair	Broad Crown developing stag headed form with reduced vigour. Moderate dead wood		B ,1, 2	Long
T106	Pedunculate oak	14.0	5.0	750	1	7.0	7.5	9.5	6.0	3.0	S	Mature	Good	Hedgerow tree with Broad Crown. Crown raised over access track. Ivy clad lower stem		B ,1, 2	Long
T107	Common ash	8.0	2.5	429	5	3.0	2.5	3.0	2.5	2.5	W	Middle Age	Poor	Tree at end of tree belt adjacent to track and PRoW. Basally multi-stemmed. Category 2 Chalara ash dieback of upper canopy evident with associated moderate deadwood.	Fell.	C ,1	Very Short
T108	Pedunculate oak	14.0	2.0	850	1	12.0	6.0	8.0	7.0	2.0	E	Mature	Fair	Mature tree adjacent to track and PRoW. Large occluding wound from failures, some with cavities forming. Bat potential. Dieback of upper canopy evident. Large limb failures over track evident.		B ,3	Medium
T109	Pedunculate oak	18.0	6.0	720	1	9.0	10.0	4.0	8.5	5.0	W	Mature	Good	Hedgerow tree. Asymmetric crown to east due to adjacent tree, forming one larger crown with adjacent tree. Good vigour with minor dead wood		A ,1, 3	Long
T110	Pedunculate oak	18.0	6.0	840	1	11.0	11.0	4.0	10.0	4.5	SE	Mature	Good	Hedgerow tree. Forms one larger crown worth adjacent tree. Asymmetric crown to west.		A ,1, 3	Long
T111	Pedunculate oak	15.0	6.0	870	1	10.0	11.0	11.0	9.0	6.0	N	Mature	Fair	Hedgerow tree. Crown raised over track. Open, Broad Crown with slightly reduced vigour		B ,1, 3	Long
T112	Pedunculate oak	17.0	5.0	920	1	10.0	9.0	8.5	10.0	4.5	SW	Mature	Good	Hedgerow tree. Ivy clad to lower crown else excellent form and vigour		A ,1, 3	Long
T113	Common hawthorn	6.0	2.0	255	2	3.0	2.0	2.0	2.5	2.0	N	Middle Age	Good	Shrubby hedgerow tree. Twin stemmed at 0.5m		C ,1, 3	Long
T114	Sycamore	8.0	4.0	318	6	4.0	4.0	5.0	5.0	3.5	W	Middle Age	Fair	Self-set hedgerow tree. Slightly reduced vigour		C ,1, 3	Medium
T115	Pedunculate oak	12.0	1.0	820	2	11.0	11.0	8.0	8.0	2.5	W	Mature	Good	Mature tree adjacent to track and on pond bank. Previous moderate limb failures with occluding wounds. Moderate deadwood. Bifurcate at c. 1.5m. No major defects noted.		A ,1, 2	Long
T116	Pedunculate oak	9.0	1.0	630	1	2.5	2.5	4.0	3.5	2.5	SW	Middle Age	Fair	Tree on pond Bank and immediately adjacent to track. Occluding bark sounds from mechanical damage on lower stem. Fairly sparse canopy with some dieback of upper canopy evident. Moderate deadwood.		C ,1	Medium
T117	Pedunculate oak	12.0	5.0	500	1	5.0	5.0	5.0	5.0	4.0	N	Middle Age	Dead	Standing dead tree. Good habitat value		U	Very Short

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		(m)	(m)	(mm)	arising below 1.5m	(m)	(m)	(m)	(m)	(m)	(N,S,E,W)	Young, Middle Age, Mature	Good, Fair, Poor, Veteran			A,B,C,U (1,2,3)	Long, Medium, Short, Very Short
T118	Common beech	11.0	4.5	550	1	4.5	6.0	5.0	5.0	4.0	S	Middle Age	Good	Garden tree. Round crown with Good vigour. Forms larger crown with adjacent tree		B ,2	Long
T119	Pedunculate oak	14.0	6.0	900	1	10.0	11.0	11.0	9.0	4.0	SW	Mature	Good	Large tree adjacent ditch and track. Broad, spreading crown. Minor deadwood		A ,1, 2	Long
T120	Pedunculate oak	14.0	2.5	960	1	7.0	10.0	9.5	5.0	2.5	NW	Mature	Fair	Mature field boundary oak on small incline. Owl box on lower stem. Moderate deadwood. Occasional moderate limb failures. Some tip dieback evident and a slightly sparse canopy.		B ,1, 2	Long
T121	Common beech	11.0	4.5	500	1	6.0	4.5	5.0	5.0	4.0	S	Middle Age	Good	Garden tree. Round crown with Good vigour. Forms larger crown with adjacent tree		B ,2	Long
T122	Pedunculate oak	13.0	2.0	830	1	5.5	6.0	5.5	5.0	2.5	S	Mature	Fair	Mature field boundary oak on small incline. Moderate deadwood. Occasional moderate limb failures. Some tip dieback evident with a slightly sparse canopy.		B ,1, 2	Long
T123	Pedunculate oak	19.0	1.5	1310	1	11.0	11.0	10.0	10.0	2.0	SE	Mature	Good	Mature field boundary oak on small incline. Moderate deadwood. Occasional moderate limb failures. Minor tip dieback in some places but overall in excellent condition and form with no major defects noted. Burrow at base on South-west side.		A ,1, 2	Long
T124	Pedunculate oak	13.0	6.0	810	1	8.0	8.5	9.0	7.5	3.0	W	Mature	Fair	Kinked stem to North. Slightly reduced vigour. Ivy on stem. Small epicormic shoots over track. One dead branch over track	Remove epicormic shoots and dead branch over track	B ,1	Long
T125	Common ash	15.0	2.0	779	3	9.0	8.0	11.0	5.0	4.0	E	Mature	Fair	Basally trifurcate ash tree with boundary tree belt. Category 2 chalara ash dieback evident in canopy. Moderate deadwood and limb failures. 1 stem heavily ivy clad.		C ,1	Short
T126	Pedunculate oak	16.0	3.5	880	3	8.5	9.0	9.0	5.0	3.5	E	Mature	Good	Mature oak tree located at edge of tree belt within paddock. Moderate deadwood in lower to mid canopy. No major defects noted.		A ,1, 2	Long
T127	Pedunculate oak	6.0	1.0	160	1	3.5	3.5	3.5	3.5	1.0	NW	Middle Age	Fair	Self set, squat tree in waterlogged ground		C ,1	Long
T128	Field maple	12.0	1.5	612	6	7.5	5.0	8.5	3.0	2.5	E	Mature	Good	Tree at edge of tree belt. Land heavily to East and canopy is heavily biased in this direction. Basally multi-stemmed with some tight unions. Minor Deadwood.		B ,1, 2	Long
T129	Pedunculate oak	12.0	3.5	500	1	6.0	1.0	4.0	5.0	4.0	NW	Middle Age	Fair	Tree has been sided adjacent over head lines. Slightly reduced vigour		C ,2	Medium
T130	Common ash	15.0	2.0	816	4	7.0	10.0	5.0	9.0	2.5	S	Mature	Fair	Basally multi-stemmed tree at woodland margin. Moderate deadwood. Category 2 chalara ash dieback. Some previous moderate limb failures evident. Inspection restricted by access.		B ,1, 2	Medium
T131	Pedunculate oak	14.0	4.0	920	1	11.0	10.0	10.0	8.5	3.0	W	Mature	Good	Large pronounced basal flare on slightly raised ground. Broad, open grown crown. Minor cavities and holes. Bat potential		A ,1, 2	Long
T132	Pedunculate oak	17.0	4.0	1100	1	12.0	10.0	10.0	11.0	6.0	E	Mature	Fair	Located in dense blackthorn. Very large, broad crown with reduced vigour large snapped and broken branches. Minor and moderate dead wood		B ,1, 2	Medium
T133	Pedunculate oak	11.0	3.5	460	1	5.5	6.0	7.0	6.0	3.0	NW	Middle Age	Fair	Hedgerow tree adjacent waterlogged ditch. Broad crown with slightly reduced vigour. Some branch tip shoot die back		B ,2	Long
T134	Common ash	4.0	0.5	154	3	1.5	1.5	1.5	1.0	1.0	N	Middle Age	Poor	Hedgerow tree, self- set and nearly dead		U	Short
T135	Crack willow	6.0	1.0	231	3	5.0	4.0	5.0	2.0	0.5	E	Middle Age	Fair	Hedgerow tree growing from base of waterlogged ditch. Reduced vigour		C ,1	Medium
T136	Pedunculate oak	14.0	2.0	750	1	7.0	10.0	8.0	7.5	2.0	SE	Mature	Good	Tree within boundary group. Moderate deadwood. Rounded and attractive canopy form. No major defects noted.		A ,1, 2	Long
T137	Common ash	6.0	3.0	180	1	2.0	2.0	2.0	2.0	3.0	N	Middle Age	Poor	Moribund tree within boundary group adjacent to ditch.		U	Very Short
T141	Pedunculate oak	17.0	2.0	900	1	7.0	8.0	7.0	8.0	2.5	SE	Mature	Fair	Mature oak tree adjacent to boundary fence. Significant dieback of canopy evident with associated deadwood. Thick ivy vines on stem with bat potential. Moderate to major deadwood in canopy.		B ,1, 2	Medium
T142	Pedunculate oak	20.0	2.5	1100	1	11.0	10.0	10.0	10.0	2.0	S	Mature	Fair	Roadside tree in verge. Heavily ivy clad. Moderate to major deadwood in canopy. Multi-stemmed at c. 3.5m. Slightly sparse canopy in places.		A ,1, 2	Long
T143	Pedunculate oak	17.0	2.5	920	1	10.0	10.0	10.0	10.0	2.5	S	Mature	Fair	Roadside tree in verge on top of bank. Ivy growth on stem. Moderate deadwood in canopy. Minor to moderate dieback in canopy. Cavities with bat potential.		B ,1, 2	Medium
T144	Pedunculate oak	12.0	4.0	510	1	6.0	6.0	7.0	6.5	3.0	SW	Middle Age	Good	On edge of culvert. Good form and vigour. Minor dead wood		A ,1	Long
T145	Pedunculate oak	15.0	4.5	920	1	8.0	7.0	7.0	7.0	4.5	N	Mature	Fair	Roadside tree in verge. Moderate deadwood in canopy. Minor to moderate dieback in canopy. Cavities with bat potential. Fairly sparse canopy.		C ,1, 2	Medium

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		(m)	(m)	(mm)	arising below 1.5m	(m)	(m)	(m)	(m)	(m)	(N,S,E,W)	Young, Middle Age, Mature	Good, Fair, Poor, Veteran			A,B,C,U (1,2,3)	Long, Medium, Short, Very Short
T146	Sycamore	11.0	2.5	160	1	4.0	4.0	3.5	3.5	2.0	S	Middle Age	Fair	In grass verge. Bifurcated at 2m South fused Union. Cable through crown.		C ,1	Long
T147	Pedunculate oak	9.0	2.5	900	1	4.0	5.0	5.0	4.5	4.0	SW	Mature	Fair	Short, squat tree with former snapped out upper crown. Large branch stubs. Cracks and crevices. Possible future veteran. Good vigour. On edge of ditch and in hedgerow		B ,1, 3	Long
T148	Common ash	14.0	2.5	980	4	10.0	6.5	7.0	7.0	2.5	SE	Mature	Fair	Roadside tree in verge. Basally multi-stemmed. Moderate deadwood associated with category 3 chalara ash dieback. Dear ivy vines on stems.		C ,1, 2	Short
T149	Pedunculate oak	16.0	6.0	820	1	7.0	11.0	6.5	9.0	3.0	W	Mature	Good	Hedgerow tree with Broad Crown slightly suppressed to east due to adjacent tree. Minor dead wood. Cables through crown		A ,1	Long
T150	Crack willow	12.0	1.0	396	8	5.0	4.0	4.5	5.0	0.5	E	Middle Age	Fair	Densely multi-stemmed at base. Straggly crown. Cables through crown		C ,1, 2	Long
T151	Pedunculate oak	18.0	5.5	850	1	9.5	11.0	10.0	7.5	4.0	N	Mature	Fair	Third party tree being wooden post fencing. Large, Broad Crown. Start of stag-headed form with slightly reduced vigour in branch tips, more noticeable in large branch to north over farm track. Minor and moderate dead wood		A ,1	Long
T152	Pedunculate oak	20.0	3.0	1100	1	10.0	11.0	10.0	10.0	4.0	S	Mature	Fair	Roadside tree in verge. Moderate deadwood in canopy. Bifurcate at c. 4m. Slightly sparse canopy in places.		A ,1, 2	Long
T153	Pedunculate oak	11.0	3.0	270	1	2.5	5.0	4.5	1.5	4.0	SW	Middle Age	Fair	Leans to east. Suppressed to west due to adjacent tree		C ,1	Long
T154	Field maple	10.0	0.5	420	1	5.5	4.0	6.0	2.0	1.0	E	Middle Age	Good	Dense crown to ground, Hedged adjacent farm track. Cut away from cable to west. Good vigour		B ,1	Long
T155	Pedunculate oak	15.0	3.0	560	1	7.0	6.5	8.0	6.0	2.0	E	Middle Age	Good	Multi-stemmed from 3m with fairly upright branch structure. Crown extends over farm track. Good vigour		B ,1	Long
T156	Horse chestnut	9.0	1.0	336	3	4.5	5.0	4.5	4.5	0.5	N	Middle Age	Good	3 main stems but densely multi-stemmed from base. Dense, Round crown		B ,1	Long
T157	Pedunculate oak	12.0	3.0	800	1	2.5	5.5	5.0	3.0	2.5	S	Mature	Poor	Roadside tree in verge and boundary hedge. Power line pruned on North-west side. Significant dieback and deadwood in canopy. Dead ivy vines on stem.		C ,1	Short
T158	Pedunculate oak	15.0	4.0	1280	1	8.5	11.0	10.5	9.0	4.0	NE	Mature	Good	Very large open grown tree in grass verge adjacent farm track. Excellent form and vigour. Minor and moderate dead wood, cracks and crevices commensurate of age. Bat potential		A ,1, 2	Long
T159	Pedunculate oak	14.0	2.0	950	1	9.0	10.0	8.0	9.0	3.5	S	Mature	Good	Roadside tree in field. Moderate deadwood in canopy. Bifurcate at c. 4m. No major defects noted. Inspection restricted by access.		A ,1, 2	Long
T160	Pedunculate oak	15.0	3.0	950	1	7.0	9.0	7.0	7.0	4.0	S	Mature	Good	Roadside tree in field. Moderate deadwood in canopy. Bifurcate at c. 5m. Previous large limb failure evident. Inspection restricted by access and undergrowth on verge.		A ,1, 2	Long
T161	Common ash	12.0	2.5	389	2	4.5	4.5	5.5	4.0	0.5	N	Middle Age	Fair	Hedgerow tree rooted on top edge of ditch embankment. 2main stems but multi-stemmed at base with c.7 smaller stems. Reduced vigour		B ,1	Long
T162	Pedunculate oak	10.0	2.5	440	1	5.5	5.0	4.5	5.0	1.0	S	Middle Age	Good	Hedgerow tree. Good form and vigour, no significant defects		B ,1	Long
T163	Pedunculate oak	10.0	2.5	410	1	5.5	5.0	5.5	5.0	1.0	S	Middle Age	Good	Hedgerow tree. Good form and vigour, no significant defects		B ,1	Long
T164	Pedunculate oak	11.0	2.5	460	1	5.0	5.0	5.5	4.0	1.0	SE	Middle Age	Fair	Hedgerow tree. Formerly included union has now split out with smaller side of tree lying in adjacent hedgerow. Reduced vigour. Minor dead wood		C ,1	Medium
T165	Pedunculate oak	10.0	3.5	430	1	5.0	4.5	5.0	5.0	2.0	SE	Middle Age	Fair	Hedgerow tree. Reduced vigour due to some form of leaf scorch.		C ,1	Long
T166	Goat willow	7.0	2.0	509	8	7.0	6.0	5.5	5.0	2.0	SE	Middle Age	Fair	Tree within roadside grass verge. Basally multi-stemmed with stems all leaving in varying directions. Some tip dieback and canopy sparsity. Dear ivy vines on stems. Minor Deadwood.		C ,1	Medium
T167	Pedunculate oak	6.0	2.5	210	1	3.5	4.0	4.5	5.0	1.5	W	Middle Age	Good	Small, squat hedgerow tree. Good vigour		C ,1	Long
T168	Field maple	6.0	2.0	240	1	3.0	4.0	2.5	3.0	2.0	N	Middle Age	Fair	Small hedgerow tree. Ivy clad.		C ,1	Long
T169	Pedunculate oak	13.0	5.0	700	1	8.0	4.0	6.5	6.0	4.0	N	Mature	Good	Part of wider belt of tree cover. Crown cut away from overhead lines to South. Good vigour		B ,1	Long
T170	Pedunculate oak	6.0	2.5	190	1	3.0	4.0	3.0	3.5	1.5	S	Middle Age	Good	Small tree on edge of hedgerow. Good form and vigour.		C ,1	Long
T171	Silver maple	13.0	1.5	750	1	8.5	9.5	8.5	8.5	2.0	W	Mature	Good	Tree within roadside grass verge adjacent to pavement. Minor ivy growth on stem. Multi-stemmed at c. 2m with tight and included unions. Good rounded and attractive form. No major defects noted.		A ,1, 2	Long
T172	Crack willow	6.0	3.0	190	1	2.5	2.5	3.0	2.5	2.5	NE	Middle Age	Good	Tree within third party land adjacent to hedge and road. Overhangs Road with clearance at c. 4m.		C ,1	Long

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		(m)	(m)	(mm)	arising below 1.5m	(m)	(m)	(m)	(m)	(m)	(N,S,E,W)	Young, Middle Age, Mature	Good, Fair, Poor, Veteran			A,B,C,U (1,2,3)	Long, Medium, Short, Very Short
T173	Pedunculate oak	14.0	6.0	943	2	11.0	8.5	9.0	9.0	3.0	E	Mature	Good	Twin stemmed at base with one stem ivy clad. Second stem has occluded hollow, possibly from union of other stem as a younger tree. Broad, dense crown. Minor and moderate dead wood		A ,1, 2	Long
T174	Pedunculate oak	14.0	1.5	1040	1	14.0	8.0	9.5	10.5	2.0	S	Mature	Fair	Tree within field that slopes the south. Central leader has been pruned and now died leaving a large deadwood stub in the central canopy. Minor Deadwood throughout rest of canopy. Southern canopy slightly suppressed by adjacent oak.		A ,1, 2	Long
T175	Pedunculate oak	16.0	2.5	1620	1	11.5	10.0	12.5	7.5	3.0	SE	Mature	Fair	Exceptionally large specimen within field that slopes the south. Trifurcate at c. 5m. Western stem has failed previously leaving a large tearing wound in upper canopy. Other moderate to major limb failures also evident. Cavities and woodpecker holes with bat potential. Moderate to major deadwood throughout canopy. Pruned lower limbs. Northern canopy slightly suppressed by adjacent oak.		A ,1, 2	Long
T176	Pedunculate oak	10.0	3.0	730	1	7.0	4.0	7.0	3.0	3.0	SE	Mature	Fair	Tree within dense group in field that slopes to South. Significant dieback and associated moderate and major deadwood, particularly in southern canopy where the adjacent larger oak is growing over canopy. Previous moderate limb failures evident. Foliage is mostly lions tailing at end of limbs.		C ,1	Medium
T177	Pedunculate oak	16.0	2.5	1160	1	13.0	10.0	10.5	6.5	3.5	S	Mature	Good	Large tree within dense group in southerly sloping field. Crown lifted previously with occluding wounds. Fairly rounded canopy form. No major defects noted.		A ,1, 2	Long
T178	Pedunculate oak	16.0	2.0	1350	1	11.0	9.0	12.0	8.5	3.5	S	Mature	Good	Large tree within dense group in southerly sloping field. Crown lifted previously with occluding wounds. Fairly rounded canopy form. Moderate limb failures evident although occasional, 1 major previous failure.		A ,1, 2	Long
T179	Common hawthorn	3.0	1.0	75	1	2.0	2.0	1.5	1.5	0.5	N	Middle Age	Fair	Formerly part of adjacent hedgerow now small, standalone tree underneath canopy of larger oak.		C ,1	Long
T180	Pedunculate oak	17.0	3.0	1020	1	8.0	9.0	10.0	11.0	4.0	E	Mature	Good	Large, Broad Crown. Minor and moderate dead wood. Pronounced basal flare. Small cavities, cracks and holes		A ,1	Long
T181	Pedunculate oak	17.0	1.0	1050	1	10.0	8.0	8.5	7.5	4.0	S	Mature	Good	Large, Broad Crown. Small cavities, cracks and holes. Large branch to South snapped and dangling to floor.		A ,1	Long
T182	Pedunculate oak	13.0	2.0	1000	1	8.0	7.0	9.5	8.0	3.5	N	Mature	Good	Tree within dense group in southerly sloping field. Heavily ivy clad. Fairly rounded canopy form. Moderate limb failures evident although occasional. No major defects noted.		A ,1, 2	Long
T183	Pedunculate oak	17.0	2.0	990	1	10.0	10.0	10.0	8.5	4.0	E	Mature	Good	Large, Broad Crown. Small cavities, cracks and holes. Excellent form and vigour. Log pile stacked to base		A ,1	Long
T189	Pedunculate oak	15.0	1.0	1100	1	10.0	12.0	12.0	12.0	2.5	NE	Mature	Good	Tree within roadside verge. Heavily ivy clad. Attractive round form. Previous limb failure evident roadside. No other significant visible defects noted.		A ,1, 2	Long
T190	Pedunculate oak	14.0	6.0	470	1	5.0	5.0	6.0	4.0	4.0	E	Middle Age	Good	Directly adjacent roadside. Ivy clad. Some vehicular stem damage		B ,1	Long
T191	Horse chestnut	14.0	1.5	850	1	5.0	10.0	5.0	9.0	4.0	W	Mature	Fair	Tree at top of steep roadside bank. Significant dieback and associated moderate to major deadwood. Ivy growth on stem. Large previous limb failures evident. Reasonable amount of live canopy remaining currently.		C ,1	Short
T192	Horse chestnut	12.0	1.5	600	1	2.5	1.0	2.5	3.5	2.0	E	Middle Age	Dead	Dead tree at top of steep roadside bank. Cavities with bat potential.		U	Very Short
T195	Pedunculate oak	11.0	2.0	740	1	8.0	8.0	8.0	8.0	3.0	E	Middle Age	Good	Large oak located on field boundary with hardstanding to North. Some ivy growth to stem. Some typical deadwood. No major defects.		A ,1, 2	Long
T196	Pedunculate oak	10.0	2.0	610	1	5.0	7.0	1.0	7.0	2.5	W	Middle Age	Good	Hedgerow tree with hardstanding to North. Heavily suppressed to East by adjacent tree. Dense ivy on main stem. Some broken branches and stubs. Dead wood in crown		B ,1, 2	Long
T199	Pedunculate oak	12.0	1.5	780	1	8.0	8.0	6.5	3.0	2.5	S	Middle Age	Good	Field boundary tree with hardstanding to North. Forms single canopy with adjacent tree. Suppressed to West. Ganoderma resinaceum bracket to base. Dense ivy on main stem. Some tip dieback.		B ,1, 2	Long
T200	Goat willow	6.0	2.5	198	7	3.5	1.5	2.0	3.5	0.5	N	Middle Age	Fair	Multi stemmed at base. Half of crown nearly dead		C ,1	Medium
T201	Field maple	6.0	2.0	75	1	1.5	1.5	1.5	1.5	2.0	N	Young	Fair	Going self set tree in dense bramble		C ,1	Long
T202	Lawson cypress	9.0	1.5	531	2	3.0	4.0	4.5	5.0	1.0	W	Middle Age	Fair	Garden tree. Somewhat sparse canopy. Some dead wood		C ,1	Short

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 Drawing Ref D8685.001.01-47

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Italicised Values: Feature value was estimated
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Ref	Species	Height	Canopy Ground Clearance	Stem Diameter (or range)	No. of stems/ individuals	Crown Spread North	Crown Spread South	Crown Spread East	Crown Spread West	Lowest Branch Height	Lowest Branch Direction	Maturity	Condition	Comments on form, condition, health and significant defects	Management recommendations in current context	BS 5837 Quality Category	Estimated Remaining Contribution
		(m)	(m)	(mm)	arising below 1.5m	(m)	(m)	(m)	(m)	(m)	(N,S,E,W)	Young, Middle Age, Mature	Good, Fair, Poor, Veteran			A,B,C,U (1,2,3)	Long, Medium, Short, Very Short
T203	Turkey oak	16.0	2.5	1100	1	10.0	8.0	11.0	6.0	3.5	S	Mature	Good	Large oak in private garden. Ganoderma present at base. Gryptylla present on ground close by. Good form and canopy spread. No signs of major defects.		A ,1, 2	Long
T204	Cider gum	7.0	2.5	470	1	3.5	5.0	4.5	2.0	3.0	W	Middle Age	Fair	Within group of poplars. Rather sparse crown. Some dieback with small dead branches		C ,1	Medium
T205	Common ash	8.0	1.5	260	3	3.0	3.0	4.0	3.0	1.5	W	Middle Age	Fair	Small Ash located to boundary. Stem covered with ivy. Signs of dieback in canopy.		C ,1	Medium
T206	Crimson king Norway maple	7.0	1.0	270	1	3.0	4.0	4.5	2.5	1.5	SW	Middle Age	Fair	Amenity tree. Suppressed to West by adjacent poplars. Some pruning wounds and stubs. Occasional bark wounds		B ,2	Medium
T208	Crimson king Norway maple	9.0	1.5	310	1	3.0	3.0	3.5	3.0	2.0	SE	Middle Age	Fair	Located on private land adjacent to access road. Sparse canopy. Deadwood in canopy. Lichen and moss on stem.		C ,1	Medium
T212	Goat willow	4.0	2.0	180	1	3.0	3.0	3.0	3.0	2.0	S	Middle Age	Fair	Small tree in very dense undergrowth		C ,1, 3	Long
T213	Common alder	10.0	1.0	550	3	5.0	5.0	4.0	5.0	2.0	E	Middle Age	Good	Multi stem alder growing on river bank. No major defects.		B ,1, 2	Long
T214	Goat willow	4.0	2.0	140	1	2.0	2.0	2.0	2.0	1.0	S	Middle Age	Fair	Small tree in dense undergrowth		C ,1	Long
T215	Alder species	9.0	1.0	654	5	5.0	5.0	3.0	3.0	2.0	N	Middle Age	Good	Multi stem alder located along river bank. No major defects. Some epicormic growth .		B ,1, 2	Long
T216	Goat willow	3.0	2.0	140	1	2.0	2.0	2.0	2.0	1.0	S	Middle Age	Fair	Small tree in dense undergrowth		C ,1	Long
T217	Horse chestnut	14.0	2.0	740	1	5.5	6.0	5.0	8.0	2.0	W	Mature	Good	Broad Crown with multi stand branch structure from 2m. Slightly suppressed to east due to adjacent tree. Pronounced basal flare		B ,1, 2	Long
T218	Scots pine	11.0	4.0	560	1	3.5	4.0	5.0	4.5	5.0	E	Middle Age	Good	Good form and vigour with no significant defects		B ,1	Long
T219	Horse chestnut	4.0	1.5	220	1	2.0	2.0	2.0	2.0	1.5	E	Middle Age	Dead	Small dead tree		U	Very Short
T220	Pedunculate oak	20.0	5.0	1300	1	9.0	9.0	11.0	10.0	5.0	N	Mature	Good	Very large, old tree with Broad, spreading crown and excellent form and vigour for size and age. Minor and moderate dead wood in lower crown but no significant defects		A ,1, 2, 3	Long
T221	Pedunculate oak	18.0	5.0	1000	1	8.0	10.0	9.0	11.0	4.0	NW	Mature	Good	Very large, old tree with Broad, spreading crown and excellent form and vigour for size and age. Minor and moderate dead wood in lower crown but no significant defects		A ,1, 2, 3	Long
T222	Horse chestnut	11.0	2.0	610	1	6.0	7.0	5.0	5.5	3.5	S	Mature	Fair	Bifurcate at 2m with slightly included but fused stem union. Basal hollow with minor decay. Slightly reduced vigour and small leaves		B ,1	Long
T223	Common hawthorn	4.0	2.5	200	4	1.0	1.0	1.5	1.0	2.0	S	Middle Age	Poor	Poor quality hawthorn along field boundary. Some leaf and Berry growth but very limited canopy.		C ,3	Short
T224	Scots pine	9.0	2.0	570	1	6.0	5.0	6.5	3.5	2.0	S	Middle Age	Fair	Single stem tree forming longer linear tree belt. Broad Crown for species but slightly reduced vigour		B ,2	Long
T225	Horse chestnut	8.0	2.5	630	1	6.0	7.0	4.5	6.5	2.5	N	Mature	Fair	Single stem tree in wider linear tree belt. Short, squat but Broad Crown		B ,2	Long
T226	Common ash	9.0	2.0	376	2	3.5	4.5	4.0	4.5	2.0	S	Middle Age	Good	Twin stemmed at base with kinked and fused stems. Good crown form and vigour		B ,2	Long
T227	Pedunculate oak	10.0	3.0	1000	1	7.0	7.0	8.0	7.0	3.0	S	Middle Age	Fair	Large oak to field boundary. Large dead limb to West. Active hornet nest to main stem. Canopy slightly sparse. Numerous cavities and lifting bark.		A ,3	Long
T228	Common ash	11.0	2.5	390	1	3.0	6.0	5.0	5.0	3.0	W	Middle Age	Good	Field boundary tree next to stream. Several large broken limbs to West with stubs. Minimal Ash dieback.		B ,1	Medium
T229	Common ash	8.0	3.0	512	3	4.5	5.5	6.0	4.0	2.0	S	Middle Age	Fair	Multi stem Ash located to field boundary along stream. Some signs of Ash dieback in canopy. Sparse canopy but at least 75 percent remaining.		B ,1, 2	Medium
T230	Pedunculate oak	15.0	2.0	790	1	8.5	9.0	8.0	8.0	3.0	S	Mature	Fair	Broad round crown. Minor and moderate dead wood. Slightly reduced vigour but no visible issues as to why.		A ,1	Long
T231	Pedunculate oak	17.0	3.0	970	1	9.0	10.0	7.5	8.0	3.0	N	Mature	Good	Broad, dense round crown with excellent form and vigour		A ,1, 2	Long
T232	Pedunculate oak	14.0	2.0	710	1	6.5	7.0	6.0	3.5	4.0	N	Mature	Good	Good vigour but asymmetric form due to adjacent tree. Bifurcated at 4m. Minor and moderate dead wood		B ,1, 2	Long
T233	Pear species	5.0	1.5	300	1	3.0	2.0	4.0	3.0	2.0	E	Middle Age	Fair	Small tree on field edge. Numerous pruning wounds with dense and vigorous regrowth. Some minor dead wood in crown		C ,1, 3	Medium
T234	Cider gum	11.0	4.0	400	1	3.5	3.0	5.0	4.0	3.5	W	Middle Age	Fair	Individual tree within dense cypress hedge. High crown form. Some minor dead wood in canopy. Suppressed		B ,2	Medium
T235	Field maple	11.0	2.0	420	1	4.5	5.0	6.0	4.0	2.0	N	Middle Age	Good	Individual tree within cypress hedge. Bifurcate above 1.5m with Good union. Some pruning wounds and small stubs. Slightly suppressed		B ,1, 2	Long
T236	Cider gum	11.0	6.0	550	1	6.5	5.0	6.0	5.0	3.5	W	Middle Age	Good	Large individual tree within cypress hedge. High crown. Lower canopy suppressed. Some minor dead wood. Generally free from defects		B ,1, 2	Long

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		(m)	(m)	(mm)	arising below 1.5m	(m)	(m)	(m)	(m)	(m)	(N,S,E,W)	Young, Middle Age, Mature	Good, Fair, Poor, Veteran			A,B,C,U (1,2,3)	Long, Medium, Short, Very Short
T237	Pedunculate oak	18.0	3.0	680	1	5.0	9.5	7.0	9.0	5.0	S	Mature	Good	Stem located immediately adjacent dry steep ditch edge. Crown slightly weighted south else good form and vigour		A ,1	Long
T238	Pedunculate oak	12.0	4.0	930	1	6.5	7.0	5.5	6.5	4.0	S	Mature	Fair	Gnarled stem with Broad, squat crown. Minor shoot tip dieback and reduced vigour		B ,1, 2, 3	Long
T239	Pedunculate oak	13.0	4.0	495	2	6.0	7.0	4.0	5.5	3.5	S	Middle Age	Good	Twin stemmed at base with slightly included union. Good form and vigour		B ,1, 2	Long
T240	Pedunculate oak	13.0	4.0	600	1	6.0	5.5	6.0	5.0	4.0	N	Mature	Good	In dense lapsed hedgerow. Good form and vigour, no significant defects		B ,1, 2	Long
T241	Pedunculate oak	9.0	2.5	410	1	4.0	5.0	5.5	4.5	2.0	S	Middle Age	Fair	Hedgerow tree with small round crown and slightly reduced vigour		B ,1	Long
T242	Pedunculate oak	5.0	4.5	1100	1	3.0	0.5	2.0	3.0	4.5	N	Mature	Fair	Large oak. minimal remaining canopy but remaining vigorous leaf growth. Large fissure in trunk with large amount of cubicle brown rot. Potential for bird and bat nesting. Potential veteran tree with good character.		B ,3	Long
T243	Pedunculate oak	9.0	4.0	900	1	6.0	5.0	5.0	5.0	3.5	S	Middle Age	Fair	Large oak in field. Deadwood present throughout canopy. Slightly sparse canopy. Browning to leaves.		B ,1, 2	Long
T244	Pedunculate oak	7.0	2.5	400	1	5.5	5.0	0.5	6.5	3.5	S	Middle Age	Fair	Medium sized tree. Suppressed to East by larger tree. Some pruning wounds and stubs. Large amount of lichen on main stem. Some dead wood in crown		B ,1, 3	Medium
T245	Pedunculate oak	11.0	2.0	1000	1	10.0	9.0	11.0	7.0	3.0	NE	Mature	Good	Large open grown tree at edge of hedgerow. Broad Crown. Numerous dead branches including some well decayed pieces. Branch socket cavities. Large dead limb to East with flaking bark.		A ,1, 3	Long
T246	Horse chestnut	3.0	1.0	200	1	2.5	2.5	2.5	2.5	0.5	E	Middle Age	Fair	Small horse chestnut to Lake Edge. Browning to leaves. Symmetrical canopy. No major defects.		C ,1	Long
T247	Pedunculate oak	16.0	1.5	1120	1	6.0	10.0	11.0	8.0	3.0	S	Mature	Good	Very large open grown tree. Major limb failure to West with large tear out wound and decay. Several other failure points within crown. Large suspended dead limb in upper canopy. Large fungal fruiting bodies at base to South. Good vigour. Veteran characteristics but fails to meet the size threshold for exceptionally large set by NPPF.		A ,1, 2, 3	Long
T248	Pedunculate oak	12.0	3.0	1000	1	7.0	7.0	7.0	5.0	4.0	W	Middle Age	Good	Large oak along hedgeline to field boundary. Some deadwood visible. Some ivy growth to stem. Some epicormic growth. Dense canopy. No major defects visible.		A ,1, 2	Long
T249	Pedunculate oak	20.0	6.0	1200	1	11.0	13.0	11.0	10.0	4.0	S	Mature	Good	Roadside tree. Ivy clad stem. Huge, Broad Crown. Excellent form and vigour.		A ,1, 2	Long
T250	Pedunculate oak	12.0	2.0	968	2	8.5	5.0	13.0	7.0	3.0	NW	Mature	Good	Large tree, suppressed by adjacent. Some major limb failures with suspended dead wood. Bifurcate with almost horizontal second stem. Some cavities and decay.		A ,1, 3	Long
T251	Pedunculate oak	17.0	6.0	830	1	9.0	8.5	9.0	8.0	4.0	S	Mature	Good	Roadside tree. Ivy clad stem. Huge, Broad Crown. Excellent form and vigour.		A ,1, 2	Long
T252	Pedunculate oak	19.0	6.0	1300	1	9.5	8.5	9.0	9.0	4.0	S	Mature	Good	Roadside tree. Ivy clad stem. Huge, Broad Crown. Excellent form and vigour.		A ,1, 2	Long
T253	Pedunculate oak	13.0	2.0	960	1	8.5	12.0	9.0	9.0	3.0	S	Mature	Good	Large open grown tree on edge of ditch. Some large broken limbs with decay. Dead wood throughout. Numerous splits and cavities. Good vigour		A ,1, 3	Long
T254	Willow species	12.0	0.5	406	3	3.0	3.0	3.0	3.0	1.0	W	Middle Age	Good	Tall multi stem willow along river bank. Tight canopy. No major defects visible. Inspection restricted.		B ,1, 2	Long
T255	Pedunculate oak	12.0	2.0	990	1	7.5	12.0	11.0	10.0	2.5	E	Mature	Good	Large field boundary tree next to ditch. Numerous large dead limbs, some well decayed. Some broken branches and stubs. Ivy into Crown. Bifurcate above 1.5m with Good union		A ,1, 3	Long
T256	Common ash	10.0	3.5	550	1	4.0	4.0	4.0	3.0	3.0	N	Middle Age	Good	Large ash along field boundary. Some signs of dieback but at least 75 percent canopy remaining. Inspection restricted by brambles.		B ,1, 2	Medium
T257	Pedunculate oak	12.0	3.0	600	1	5.0	4.0	4.0	4.0	2.0	S	Middle Age	Good	Oak located to field boundary. Some deadwood visible. Lower canopy slightly crowded by understorey. No major defects noted.		A ,1, 2	Long
T258	Pedunculate oak	4.0	2.0	700	1	2.5	3.5	2.5	3.5	2.5	NW	Middle Age	Poor	Declining tree with small canopy. Likely historic failure at 3m with regrowth. Dense ivy. Small crown with lots of dead wood		C ,3	Short
T259	Pedunculate oak	11.0	2.0	580	1	8.0	7.0	7.5	5.5	2.5	S	Middle Age	Good	Good quality hedgerow tree next to ditch. Dead wood throughout. Some minor cavities. Ivy on main stem. Pruning wounds and stubs.		A ,1	Long

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T260	Common ash	10.0	4.0	550	1	4.0	4.0	4.0	4.5	4.0	S	Middle Age	Good	Ash located along field boundary. Some signs of dieback but around 75 percent canopy remaining. Woodpecker hole present on upper stem.		B ,1, 2	Medium
T261	Pedunculate oak	11.0	2.0	610	1	10.0	7.0	6.5	8.5	3.0	S	Middle Age	Fair	Hedgerow tree next to ditch. Somewhat sparse crown. Some large pruning wounds. Dead wood in crown		B ,1	Medium
T262	Pedunculate oak	11.0	3.0	1100	1	8.0	7.0	9.0	5.5	4.0	S	Mature	Fair	Large hedgerow tree next to ditch. Numerous cavities and splits throughout crown providing broad range of habitats. Large amount of dead wood including some full dead limbs. Good vigour overall. Veteran characteristics but fails to meet the size threshold for exceptionally large set by NPPF.		A ,3	Long
T263	Common hawthorn	6.0	1.0	224	5	2.0	2.0	2.0	2.0	1.0	W	Middle Age	Fair	Hawthorn located along field boundary. Limited leaf growth. Overcrowded by bramble and blackthorn growth.		C ,1, 2	Medium
T264	Pedunculate oak	12.0	3.5	700	1	7.0	5.0	6.0	6.0	3.0	N	Middle Age	Good	Oak located along field edge. Some deadwood present in canopy. Dead limb to West. No major defects noted.		A ,1, 2	Long
T265	Pedunculate oak	11.0	2.5	970	1	6.0	8.0	8.0	7.0	3.0	W	Mature	Good	Very large hedgerow tree. Large limb failure at 3m west with split and torn stub. Decay column with lifting bark on main leader. Several other large failed limbs and stubs. Some large cavities		A ,3	Long
T266	Pedunculate oak	9.0	3.0	420	1	3.5	3.5	3.5	3.5	2.5	S	Middle Age	Poor	Possible lightning strike damage. Reduced vigour and retrenching crown. Woodpecker holes		C ,2, 3	Medium
T267	Pedunculate oak	13.0	2.0	650	1	7.0	3.0	6.0	6.0	3.0	E	Middle Age	Good	Oak located along field edge. Some deadwood present. Dead limb to East at 3m. Asymmetric canopy caused by close proximity to adjacent oak to South.		A ,1, 2	Long
T268	Austrian pine	22.0	8.0	1000	1	10.0	8.5	11.0	8.0	6.0	E	Mature	Good	Third party garden tree prominent from roadside. Very large, Broad Crown with Good vigour		A ,1, 2	Long
T269	Pedunculate oak	13.0	3.0	1000	1	4.0	7.0	7.0	7.0	3.0	E	Middle Age	Good	Large oak located along river, set back from field edge. Some deadwood present in canopy. Asymmetric form due to adjacent oak in close proximity to the north.		A ,1, 2	Long
T270	Pedunculate oak	12.0	3.0	800	1	8.0	8.0	8.0	6.0	3.0	SW	Middle Age	Good	Oak located along field boundary. Some deadwood visible in canopy. No major defects noted.		A ,1, 2	Long
T271	Pedunculate oak	12.0	3.0	750	1	7.0	7.0	7.0	7.0	3.0	W	Middle Age	Good	Oak located along field boundary. Symmetrical canopy. Some deadwood present in canopy. No major defects noted.		A ,1, 2	Long
T272	Pedunculate oak	8.0	4.0	400	1	0.5	0.5	0.5	0.5	4.0	W	Middle Age	Dead	Small dead oak located along field boundary. Some areas of bark remaining at base.		U	Medium
T274	Pedunculate oak	10.0	2.0	650	1	5.0	7.0	7.0	6.0	3.0	E	Middle Age	Good	Large roadside tree within hedge. Crown raised to North to clear road. Some large dead stubs, well decayed. Minor dead wood throughout		B ,1, 2	Long
T275	Pedunculate oak	12.0	3.0	750	1	5.0	6.0	7.0	7.0	3.0	E	Middle Age	Good	Oak tree located along field boundary. Small amount of deadwood present in canopy. No major defects noted.		A ,1, 2	Long
T277	Pedunculate oak	10.0	4.0	550	1	6.0	4.0	7.0	4.0	3.5	N	Middle Age	Good	Oak tree located along field boundary. Some deadwood present in canopy. Some epicormic growth and ivy to stem. Canopy impeded to South by adjacent tree.		B ,1, 2	Long
T279	Pedunculate oak	12.0	4.0	750	1	6.0	4.0	6.0	6.0	4.0	S	Middle Age	Good	Oak located along field boundary. Some deadwood visible in canopy. Small weeping wound where lower branch has been removed. Canopy impeded to south by adjacent tree		A ,1, 2	Long
T280	Pedunculate oak	10.0	2.0	700	1	7.0	6.5	7.5	7.5	3.0	S	Middle Age	Fair	Roadside tree set back from hedge by 1m. Slightly sparse crown. Major and minor dead wood in crown, some well decayed. Some cavities and decay pockets. Broken branches and stubs		B ,1, 3	Long
T281	Pedunculate oak	12.0	3.0	750	1	5.0	6.0	6.0	6.0	4.0	W	Middle Age	Good	Oak located along field boundary. Some deadwood present in canopy. Some epicormic growth and ivy to stem. Canopy impeded by adjacent trees.		B ,1, 2	Long
T282	Pedunculate oak	8.0	2.0	370	1	4.5	2.0	2.5	2.5	2.5	N	Middle Age	Poor	Top of tree is dead with new crown regrowth from 2m to 5m.		C ,3	Short
T283	Pedunculate oak	11.0	3.0	550	1	7.0	5.5	5.5	5.0	4.0	N	Middle Age	Good	Limited inspection due to location. Good crown form and vigour.		B ,1	Long
T284	Pedunculate oak	11.0	3.0	550	1	7.5	6.5	6.0	6.0	4.0	N	Middle Age	Good	Limited inspection due to location. Good crown form and vigour.		B ,	Long
T285	Pedunculate oak	10.0	4.5	500	1	5.0	5.0	5.0	5.0	4.5	S	Middle Age	Good	Oak tree located along field boundary adjacent to river in scrubby area. Some deadwood present in canopy. No major defects noted.		A ,1, 2	Long
T286	Pedunculate oak	7.0	4.0	550	1	5.0	5.0	2.0	5.0	3.0	SE	Middle Age	Fair	Oak tree located in scrubby area along field boundary, adjacent to river. Uneven canopy growth. Some deadwood visible in canopy. Some epicormic growth and ivy to stem.		B ,1, 2	Long

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Surveyor [Redacted]
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 Site Rampion 2 Offshore Wind Farm
 Drawing Ref D8685.001.01-47

Italicised Feature Ref: Inspection of this feature was restricted
Italicised Values: Feature value was estimated
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Ref	Species	Height	Canopy Ground Clearance	Stem Diameter (or range)	No. of stems/ individuals	Crown Spread North	Crown Spread South	Crown Spread East	Crown Spread West	Lowest Branch Height	Lowest Branch Direction	Maturity	Condition	Comments on form, condition, health and significant defects	Management recommendations in current context	BS 5837 Quality Category	Estimated Remaining Contribution
		(m)	(m)	(mm)	arising below 1.5m	(m)	(m)	(m)	(m)	(m)	(N,S,E,W)	Young, Middle Age, Mature	Good, Fair, Poor, Veteran			A,B,C,U (1,2,3)	Long, Medium, Short, Very Short
T287	Pedunculate oak	9.0	4.0	470	1	3.5	4.0	4.0	2.5	3.5	S	Middle Age	Poor	Very little foliage remaining, nearly all branch epicormic shoots.		C ,3	Short
T288	Pedunculate oak	7.0	4.0	350	1	2.0	2.0	2.0	2.0	4.0	S	Middle Age	Dead	Standing dead tree in hedge.		U	Very Short
T289	Pedunculate oak	8.0	4.0	550	1	2.0	2.0	4.0	4.0	4.0	W	Middle Age	Poor	Predominantly dead oak located in scrubby area along field boundary, adjacent to river. One limb still with limited leaf growth. Remaining limbs dead. Extensive ivy growth to stem.		C ,2, 3	Long
T290	Pedunculate oak	12.0	3.0	550	1	7.0	4.0	7.0	5.0	4.0	S	Middle Age	Good	Oak located along field boundary. Deadwood present in canopy. Some epicormic growth and ivy to stem. Canopy impeded by adjacent trees to South.		B ,1, 2	Long
T291	Pedunculate oak	9.0	4.0	480	1	5.0	6.0	4.5	4.0	3.0	N	Middle Age	Fair	Hedgerow tree with reduced vigour, stag headed form to north and moderate dead wood throughout crown.		C ,1, 2, 3	Medium
T292	Pedunculate oak	12.0	4.0	450	1	5.5	7.0	6.0	5.5	4.0	N	Middle Age	Fair	Hedgerow tree with reduced vigour, stag headed form to north and moderate dead wood throughout crown.		C ,1, 2, 3	Medium
T293	Pedunculate oak	12.0	5.0	600	1	5.0	5.0	5.0	4.0	4.0	SW	Middle Age	Fair	Oak located in scrubby area adjacent to river. Some deadwood in canopy. Extensive ivy growth to stem and branches. Canopy impeded by adjacent trees.		B ,1, 2	Long
T294	Pedunculate oak	10.0	5.0	330	1	2.0	3.5	3.0	3.0	5.0	S	Middle Age	Dead	Standing dead tree.		U	Very Short
T295	Pedunculate oak	11.0	3.5	510	1	5.0	4.5	5.0	4.5	4.0	N	Middle Age	Good	Hedgerow tree with dense, Round crown. Minor dead wood		B ,1	Long
T296	Pedunculate oak	14.0	5.0	840	1	5.5	8.0	7.5	7.0	4.5	E	Mature	Good	Large hedgerow tree. Slightly asymmetric to north due to adjacent tree but otherwise excellent form and vigour		A ,2	Long
T297	Pedunculate oak	13.0	5.0	520	1	6.0	3.0	5.0	5.5	5.0	N	Middle Age	Good	Hedgerow tree suppressed to South and East due to adjacent larger tree. Ivy on stem		B ,2	Long
T298	Common ash	8.0	2.5	390	1	5.0	4.0	5.0	4.0	3.0	W	Middle Age	Fair	Hedgerow tree. 25-50% Ash dieback in canopy with numerous dead limbs.		C ,1, 3	Medium
T299	Pedunculate oak	7.0	2.5	420	1	2.0	2.5	2.0	2.5	2.5	S	Middle Age	Dead	Standing dead tree		U	Very Short
T300	Pedunculate oak	10.0	1.0	660	1	5.0	7.0	6.5	5.5	2.0	SE	Middle Age	Fair	Hedgerow tree. Suppressed to North. Some dieback in Crown. Dead wood throughout. Some failed limbs and torn stubs		B ,1, 2, 3	Long
T301	Pedunculate oak	6.0	2.0	750	1	5.0	4.0	3.5	4.0	2.0	W	Middle Age	Fair	Squat hedgerow tree. Dieback in Crown. Dead wood throughout canopy. Dense ivy on main stem. Epicormic growth throughout. Heavily burred main stem		B ,1, 3	Medium
T302	Pedunculate oak	9.0	2.5	510	1	6.0	5.0	7.0	5.0	2.5	SW	Middle Age	Fair	Hedgerow tree. Slightly sparse crown. Dead wood throughout. Ivy on main stem		B ,1, 3	Long
T303	Pedunculate oak	6.0	3.0	390	1	1.0	3.0	1.0	1.5	3.0	S	Middle Age	Dead	Standing dead tree		U	Very Short
T304	Pedunculate oak	19.0	6.0	1000	1	9.0	8.5	9.0	12.0	6.0	W	Mature	Good	Prominent tree to north of private drive on edge of wooded tree group. Fence attached to stem. Broad, open crown. Minor and moderate dead wood		A ,1, 2	Long
T305	Pedunculate oak	13.0	2.5	810	1	7.0	7.0	7.0	4.0	3.5	E	Mature	Fair	Large tree within linear group. Slightly sparse crown with some tip dieback. Dead wood throughout including some large well decayed pieces. Some splits and tears		B ,1, 2, 3	Medium
T306	Pedunculate oak	9.0	2.5	710	1	9.0	7.0	7.5	7.0	3.0	SE	Middle Age	Fair	Large hedgerow tree. Slightly sparse crown with tip dieback. Dead wood throughout canopy. Some small cavities and splits		B ,3	Medium
T307	Pedunculate oak	9.0	2.5	630	1	8.0	6.0	6.0	7.0	2.5	E	Middle Age	Fair	Large hedgerow tree. Slightly sparse crown with tip dieback. Dead wood throughout canopy. Some small cavities and splits		B ,3	Medium
T308	Pedunculate oak	15.0	4.0	1600	1	9.5	11.5	12.5	11.5	5.0	SW	Mature	Veteran	Very large stem diameter with pronounced basal flares. Ganoderma resinaceum brackets in one flare. Stag headed crown to north, remaining crown with Good vigour. Large, historic pruning cuts with Good occlusion wood. Minor and moderate dead wood		A ,3	Long
T309	Pedunculate oak	15.0	3.0	1000	1	7.0	8.0	7.0	7.0	4.0	N	Middle Age	Good	Tall oak tree located along field boundary. Some deadwood visible in canopy. No major defects noted.		A ,1, 2	Long
T310	Small-leaved lime	6.0	1.0	90	1	1.5	1.5	1.5	1.5	2.0	N	Young	Good	New planting becoming established.		C ,1	Long
T311	Small-leaved lime	6.0	1.0	90	1	1.5	1.5	1.5	1.5	2.0	N	Young	Good	New planting with reduced vigour and die back.		C ,3	Long
T312	Pedunculate oak	4.0	0.5	75	1	0.5	0.5	0.5	0.5	0.5	N	Young	Fair	Self set tree with narrow form		C ,3	Long
T313	Small-leaved lime	6.0	1.0	90	1	1.5	1.5	1.5	1.5	2.0	N	Young	Good	New planting with yellowing of leaves		C ,3	Long
T314	Small-leaved lime	5.0	2.0	110	1	2.5	2.5	2.5	2.5	1.5	SW	Young	Fair	New planting becoming established with slight yellowing of leaves		C ,1	Long
T315	Pedunculate oak	14.0	3.0	900	1	6.0	5.0	8.0	5.0	3.0	SW	Middle Age	Good	Tall oak tree located along field edge. Some deadwood visible in canopy. Canopy impeded slightly by adjacent trees. No major defects noted.		A ,1, 2	Long
T316	Small-leaved lime	5.0	2.0	110	1	2.0	2.0	2.0	2.0	1.5	SW	Young	Fair	New planting becoming established with slight yellowing of leaves. slight stem lean north east		C ,1	Long

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		(m)	(m)	(mm)	arising below 1.5m	(m)	(m)	(m)	(m)	(m)	(N,S,E,W)	Young, Middle Age, Mature	Good, Fair, Poor, Veteran			A,B,C,U (1,2,3)	Long, Medium, Short, Very Short
T317	Pedunculate oak	9.0	3.0	780	1	6.0	7.0	4.0	7.0	5.0	SW	Middle Age	Fair	Roadside tree within hedge. Crown raised to North. Dead wood throughout including some large well decayed pieces. Ivy on main stem		B ,1, 2	Long
T318	Pedunculate oak	14.0	2.0	1050	1	8.0	8.0	6.0	9.0	3.0	S	Mature	Good	Large prominent roadside tree. Upright form. Some dead wood in crown including large well decayed pieces. Some small cavities, possible woodpecker holes in upper canopy.		A ,2, 3	Long
T319	Pedunculate oak	17.0	3.0	1600	1	12.5	11.5	12.0	12.0	3.0	SE	Mature	Veteran	Large stem diameter with pronounced basal flare. Multi stemmed branch unions from 3.5m with very Broad spreading crown. Massive stem union supporting crown. Gnarly and twisted branches with excellent crown vigour		A ,3	Long
T320	Pedunculate oak	14.0	3.0	900	1	5.0	5.0	6.0	5.0	3.6	SW	Middle Age	Good	Tall oak tree located along field edge. Some deadwood present in canopy. No major defects noted.		A ,1, 2	Long
T321	Pedunculate oak	12.0	2.0	687	3	5.0	5.0	5.0	5.0	3.0	SE	Middle Age	Good	Multi stem Oak in wooded area. Symmetrical form. No major defects noted.		B ,1, 2	Long
T322	Common hawthorn	7.0	2.0	150	1	0.5	3.0	2.0	2.0	2.0	SE	Middle Age	Fair	Hawthorn located to edge of field. Canopy impeded by adjacent oak. Some deadwood visible in canopy		C ,2	Medium
T323	Pedunculate oak	12.0	2.0	900	1	7.0	7.0	6.0	7.0	3.0	SE	Middle Age	Good	Oak located along field edge. Some deadwood visible in canopy. Small cavity with signs of rot at tree base.		A ,1, 2	Long
T324	Pedunculate oak	10.0	1.0	590	1	5.0	6.0	5.5	6.0	2.0	W	Middle Age	Good	Hedgerow tree. Broken limb with reaction wood to west. Small cavity at 4m West. Some dead wood in crown. Good vigour		B ,1, 2, 3	Long
T325	Pedunculate oak	8.0	2.5	390	1	3.5	4.0	4.0	4.0	2.5	NW	Middle Age	Good	Small hedgerow tree. Even crown form. Minor dead wood in crown. Dense blackthorn to base		B ,1, 2	Long
T326	Turkey oak	10.0	2.0	770	1	6.0	8.0	7.0	7.0	2.0	S	Middle Age	Good	Large hedgerow tree. Minor dead wood in crown. Dense blackthorn to base. Two large broken branches to west		B ,1, 2	Long
T327	Turkey oak	10.0	2.0	740	1	6.0	8.0	7.0	7.0	2.0	S	Middle Age	Good	Large hedgerow tree. Minor dead wood in crown. Dense blackthorn to base. Two large broken branches to north-west		B ,1, 2	Long
T328	Pedunculate oak	9.0	2.0	800	1	6.0	6.5	8.0	7.0	3.0	N	Mature	Fair	Large field boundary tree. Slight crown retrenchment. Dead and dying limbs to North with cavity into horizontal branch. Broken branch with turn stub in upper crown		B ,1, 2, 3	Long
T329	Turkey oak	11.0	1.5	815	3	8.0	7.0	7.0	6.5	3.0	S	Middle Age	Good	Large hedgerow tree. Trifurcate at 1.5m with Good unions. Dead wood in crown. Some fusing limbs. Ni major defects		A ,1	Long
T330	Pedunculate oak	10.0	1.5	790	1	7.0	10.0	6.0	7.5	3.5	W	Middle Age	Good	Large field boundary tree. Numerous dead branches and broken limbs. Some stubs. Decay pockets and small cavities.		B ,1, 2, 3	Long
T331	Common ash	10.0	3.0	450	1	9.0	6.0	6.0	5.5	2.5	NE	Middle Age	Poor	Hedgerow tree. 50% Ash dieback and visible further decline. Dead wood throughout. Numerous lesions and splits on main stem.		C ,3	Short
T332	Pedunculate oak	15.0	3.0	780	1	7.5	7.5	7.5	7.5	3.5	S	Mature	Fair	Open grown tree. Minor grazing damage. Slightly reduced vigour in upper crown		B ,1, 2	Long
T333	Pedunculate oak	17.0	2.5	940	1	9.0	8.5	9.0	8.0	3.5	S	Mature	Good	Open grown tree. Pronounced basal flare. No significant defects for size and age		A ,1, 2	Long
T334	Pedunculate oak	12.0	3.0	550	1	5.0	6.0	5.0	3.0	3.0	S	Middle Age	Good	Oak tree located along field boundary. Some deadwood visible in canopy. Ivy present on stem. Canopy impeded to West by adjacent trees.		B ,1, 2	Long
T335	Pedunculate oak	12.0	1.5	600	1	7.0	7.0	5.0	5.0	2.5	S	Middle Age	Good	Oak tree located along field boundary. Some deadwood visible in canopy. Canopy impeded slightly to east and west by adjacent trees.		B ,1, 2	Long
T336	Pedunculate oak	8.0	3.5	450	1	4.0	5.0	4.0	4.0	2.0	S	Middle Age	Good	Small oak located along field boundary. Some deadwood visible in canopy. No major defects noted.		B ,1, 2	Long
T337	Pedunculate oak	15.0	1.5	1300	1	10.0	10.0	9.0	8.5	2.0	SW	Middle Age	Good	Large oak tree located along field boundary. Some deadwood present in canopy. Evidence of large limb loss at 3m height - some evidence of boring insects where bark lost.		A ,1, 2	Long
T338	Field maple	6.0	2.5	330	1	5.0	5.0	5.0	5.0	1.5	E	Mature	Fair	Short, Round crown with slightly reduced vigour		B ,1	Long
T339	Willow species	5.0	0.5	316	10	3.0	3.0	3.0	3.0	0.5	E	Middle Age	Good	Multistem willow in scrubby area along field boundary. No major defects noted.		B ,1, 2	Long
T340	Common ash	10.0	5.0	450	1	3.0	2.0	2.0	2.0	3.0	N	Middle Age	Poor	Predominantly dead Ash located in scrubby area to field boundary. Majority of limbs dead with very limited leaf growth remaining.		U	Short
T341	Cherry species	6.0	1.0	180	1	3.0	2.0	3.0	3.0	2.0	S	Middle Age	Fair	Prunus located in scrubby area along field boundary. Stem leaning North at top. Some leaf browning visible.		C ,1	Long
T342	Pedunculate oak	14.0	3.0	800	1	8.0	9.0	7.5	8.5	3.0	SE	Mature	Fair	Open grown tree with Broad Crown and slightly reduced vigour. Pronounced basal flare		B ,1, 2	Long
T343	English holly	9.0	1.5	330	1	2.0	4.5	3.0	3.0	1.0	NW	Middle Age	Fair	One main stem with the smaller fuse stems. Asymmetric and suppressed crown		C ,2	Medium

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		(m)	(m)	(mm)	arising below 1.5m	(m)	(m)	(m)	(m)	(m)	(N,S,E,W)	Young, Middle Age, Mature	Good, Fair, Poor, Veteran			A,B,C,U (1,2,3)	Long, Medium, Short, Very Short
T344	Pedunculate oak	6.0	5.0	350	1	2.0	3.0	2.0	2.0	4.0	S	Middle Age	Poor	Poor quality oak in scrubby area along field bound next to prow. Majority if branches dead with two small limbs still exhibiting leaf growth.		U	Medium
T345	Field maple	7.0	2.0	190	1	2.5	4.5	4.5	4.5	1.0	W	Middle Age	Fair	Hedgerow tree. Kinked and curved stem. Slightly reduced vigour		C ,2	Long
T346	Pedunculate oak	12.0	5.0	650	1	6.0	6.0	6.5	6.5	4.0	E	Mature	Poor	Hedgerow tree. In decline.		C ,2, 3	Medium
T347	Pedunculate oak	10.0	4.5	570	1	5.5	5.0	6.5	6.0	3.0	E	Mature	Poor	Hedgerow tree. In decline.		C ,2, 3	Medium
T348	Common ash	9.0	4.0	240	1	2.0	3.5	3.0	3.5	3.5	W	Middle Age	Poor	Nearly dead		U	Short
T349	Pedunculate oak	14.0	6.0	870	1	6.0	8.5	8.5	8.0	5.0	S	Mature	Fair	Large hedgerow tree worth Broad round crown and slightly reduced vigour. Minor and moderate dead wood		B ,1, 2	Long
T350	Pedunculate oak	15.0	6.0	830	1	9.0	7.5	8.5	9.0	4.0	S	Mature	Fair	Large hedgerow tree worth Broad round crown and slightly reduced vigour. Minor and moderate dead wood		B ,1, 2	Long
T351	Pedunculate oak	9.0	3.0	600	1	7.0	7.0	7.0	6.0	3.5	E	Middle Age	Good	Large tree within dense hedgerow, unable to access. Some dead wood in crown. Ivy on main stem. Some minor tip dieback		B ,1, 2, 3	Long
T352	Pedunculate oak	9.0	2.0	600	1	7.0	6.0	7.0	5.0	3.0	NW	Middle Age	Good	Large tree within dense hedgerow, unable to access. Some dead wood in crown. Ivy on main stem. Some minor tip dieback		B ,1, 2, 3	Long
T353	Common ash	15.0	3.0	600	1	8.0	6.0	7.0	7.0	2.5	N	Middle Age	Fair	Large Ash located along field boundary in group of smaller oaks. Signs of ash die back in canopy with around 50 percent canopy remaining. Black fungus present on stem at approx. 7m height.		B ,1, 2	Medium
T354	Pedunculate oak	11.0	3.0	750	1	7.0	9.0	8.0	7.0	3.0	E	Middle Age	Good	Large tree within group. Some dead wood including large well decayed pieces. Feathery lichen throughout crown. Some splits and tears		A ,3	Long
T355	Common ash	12.0	3.0	250	1	2.0	1.0	1.0	3.0	7.0	NW	Middle Age	Fair	Ash located along field boundary in group of oaks. Signs of dieback with limited remaining canopy of around 25 percent.		C ,2	Medium
T356	Common ash	12.0	4.0	800	1	4.0	5.0	4.0	4.5	3.0	S	Mature	Poor	Almost dead. Inonotus hispidus fruiting brackets on main stem union		U	Very Short
T357	Pedunculate oak	10.0	3.0	650	1	9.0	7.0	7.0	7.0	3.0	SE	Middle Age	Good	Large tree within dense group. Some dead wood including large well decayed pieces. Some splits and tears. Dense ivy into crown		B ,1, 2	Long
T358	Common ash	10.0	2.5	500	1	4.0	5.0	5.0	5.0	3.0	W	Middle Age	Good	Within dense hedgerow and unable to access. Minimal Ash dieback. Some minor dead wood		B ,1	Medium
T359	Pedunculate oak	7.0	3.0	380	1	4.0	4.0	4.0	4.0	3.0	E	Middle Age	Good	Small tree growing within very dense hedgerow. Unable to access. Minor dead wood in crown. No major defects		B ,1	Long
T360	Field maple	6.0	3.0	250	1	5.0	4.0	4.0	4.0	3.0	N	Middle Age	Good	Field maple located along field boundary. Some deadwood in canopy. No major defects noted.		C ,1, 2	Long
T361	Pedunculate oak	12.0	2.0	720	1	5.0	8.5	7.0	4.0	3.5	SE	Middle Age	Good	Large prominent tree within dense group. Slightly suppressed to North and west. Dead wood throughout crown with some well decayed pieces. Good vigour.		A ,1, 2, 3	Long
T362	Pedunculate oak	12.0	1.0	800	1	8.0	8.5	4.5	8.0	3.5	W	Mature	Good	Large prominent tree within dense group. Slightly suppressed to East. Dead wood throughout crown with some well decayed pieces. Good vigour. Canopy down to ground level west		A ,1, 2, 3	Long
T364	Pedunculate oak	12.0	1.5	770	1	8.0	6.0	7.0	8.0	2.5	E	Middle Age	Good	Large tree within dense outgrown hedge. Some large dead limbs, well decayed. Broad canopy. No major defects		A ,1, 3	Long
T365	Pedunculate oak	11.0	1.0	720	1	8.0	7.0	7.0	5.5	2.0	SE	Middle Age	Good	Large tree within dense group. Some minor dieback in upper canopy. Epicormic growth on main stem. Dead wood throughout		B ,1, 3	Long
T366	Pedunculate oak	15.0	2.0	900	2	8.0	10.0	9.0	7.0	4.0	E	Mature	Good	Very large prominent tree within group. Twin stemmed from base. Broad canopy. Large failed limb to East with stub and cavity formation. Well decayed dead wood throughout. No major defects		A ,1, 2, 3	Long
T367	Pedunculate oak	10.0	2.0	2000	1	6.0	6.0	6.0	5.0	2.0	S	Mature	Veteran	Veteran oak within tree line with very large stem diameter. Historically pollarded. Some deadwood in canopy. Good vigour. Evidence of boring insects in wound from lost limb. Main union not visible from ground.		A ,1, 2, 3	Long
T368	Austrian pine	21.0	8.0	950	1	11.0	10.0	9.0	8.0	8.0	S	Mature	Good	Large prominent private garden tree with excellent form and vigour		A ,1, 2	Long
T369	Pedunculate oak	13.0	1.0	950	1	9.0	9.0	9.0	8.5	3.0	SE	Mature	Good	Very large prominent tree within dense group. Dead wood throughout including well decayed pieces. No major defects		A ,1, 2, 3	Long

APPENDIX A: Arboricultural Survey Data Sheets



Surveyor [Redacted]
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 Site Rampion 2 Offshore Wind Farm
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Ref	Species	Height	Canopy Ground Clearance	Stem Diameter (or range)	No. of stems/ individuals	Crown Spread North	Crown Spread South	Crown Spread East	Crown Spread West	Lowest Branch Height	Lowest Branch Direction	Maturity	Condition	Comments on form, condition, health and significant defects	Management recommendations in current context	BS 5837 Quality Category	Estimated Remaining Contribution
		(m)	(m)	(mm)	arising below 1.5m	(m)	(m)	(m)	(m)	(m)	(N,S,E,W)	Young, Middle Age, Mature	Good, Fair, Poor, Veteran			A,B,C,U (1,2,3)	Long, Medium, Short, Very Short
T370	Pedunculate oak	13.0	1.0	950	1	8.0	8.0	8.0	9.0	3.0	SW	Mature	Good	Very large prominent tree within dense group. Dead wood throughout including well decayed pieces. Large failed limb to South-West with spiral crack. No major defects		A ,1, 2, 3	Long
T371	Common ash	10.0	3.0	600	1	3.0	5.0	6.0	3.0	3.0	SE	Middle Age	Poor	Total stem failure at 7m with massive tear out wound and hollow stem. Vigorous regrowth from failure point. Moderate Ash dieback		C ,3	Short
T372	Pedunculate oak	14.0	1.5	1000	1	8.0	8.0	8.0	7.0	3.0	NW	Mature	Good	Enormous tree almost totally obscured by dense group at base. No visible defects		A ,1, 2	Long
T373	Pedunculate oak	11.0	1.5	910	1	8.0	10.0	8.0	7.0	2.0	E	Mature	Good	Large oak within group. Dead wood in crown. Some small cavities. No major defects		A ,1, 3	Long
T374	Pedunculate oak	9.0	2.0	650	1	6.0	6.0	6.5	7.0	2.0	N	Middle Age	Fair	Boundary tree within dense group. Minor tip dieback. Dead wood in crown		B ,1	Long
T377	Pedunculate oak	10.0	2.0	900	1	7.0	7.0	5.0	7.0	2.0	E	Mature	Good	Large tree within rear garden. Unable to access. No visible defects		A ,1, 2, 3	Long
T378	Pedunculate oak	10.0	2.5	610	1	4.5	8.0	5.0	7.0	2.5	W	Middle Age	Good	Crooked main stem. Gap in canopy to North. Some rubbing and fusing branches. Minor dead wood in crown		B ,1, 2	Long
T379	Pedunculate oak	8.0	2.0	490	2	6.0	6.0	5.5	5.0	2.0	S	Middle Age	Good	Small twin stemmed tree next to track. Some minor dieback in upper crown but generally Good vigour		B ,1, 2	Long
T383	Pedunculate oak	13.0	2.0	870	1	8.0	9.0	10.0	8.0	3.0	E	Middle Age	Good	Oak located along field boundary. Large canopy spread. General vigour. Some deadwood present in canopy. Evidence of large limb loss to North. Major defects noted.		A ,1, 2	Long
T389	Pedunculate oak	10.0	1.5	600	1	7.0	6.0	7.0	6.0	2.0	SW	Middle Age	Good	Oak located along field boundary. General vigour. So e deadwood present in canopy.no major defects noted.		A ,1, 2	Long
T391	Common ash	11.0	3.0	280	1	3.0	3.0	3.0	3.0	1.5	S	Middle Age	Good	Ash located along field boundary. Generally Good condition with around 75 percent canopy remaining. Signs of dieback in canopy.		B ,1, 2	Medium
T392	Field maple	7.0	2.0	390	1	4.0	4.0	4.0	2.0	2.0	E	Middle Age	Fair	Field maple located along field boundary. Deadwood present in canopy. Top of canopy dead. General vigour in remaining branches. Canopy impeded to West by lapsed hedgerow.		C ,1, 2	Medium
T393	Common pear	11.0	2.0	620	1	7.0	6.0	4.0	6.0	2.0	E	Mature	Good	Large tree within dense group. Good upright form. Some minor dead wood in crown. No major defects		A ,1, 2	Long
T394	Pedunculate oak	9.0	4.0	590	1	5.0	5.0	5.0	5.0	2.5	NE	Middle Age	Dead	Dead oak along field boundary. Bark remaining.		C ,3	Long
T395	Pedunculate oak	9.0	4.0	740	1	5.0	5.0	5.0	5.0	2.5	N	Middle Age	Dead	Dead oak along field boundary. Bark missing to nearly entire tree. Signs of boring insects and some rot at base.		C ,3	Long
T396	Field maple	7.0	2.0	290	1	3.0	3.0	3.5	2.5	3.0	SE	Middle Age	Fair	Good small tree next to track. Dense ivy on lower stem		B ,1	Long
T397	Pedunculate oak	10.0	3.0	790	1	6.0	5.0	6.0	6.0	3.0	S	Middle Age	Good	Oak tree located along field boundary. Adjacent to road with branches overhanging to South. General vigour. Some deadwood present in canopy. No major defects noted.		A ,1, 2	Long
T398	Pedunculate oak	8.0	3.5	570	1	3.5	4.0	4.0	5.0	3.0	N	Middle Age	Poor	Moribund tree within group. Major dieback with only 10% live canopy		U	Very Short
T399	Pedunculate oak	13.0	3.0	840	1	7.0	7.0	7.0	7.0	4.0	N	Middle Age	Good	Oak located along road. Some deadwood present in canopy. General vigour. Ivy growth to stem. Overhanging Road to South. No major defects noted.		A ,1, 2	Long
T400	Field maple	4.0	1.5	164	2	3.0	2.0	2.0	2.5	2.0	S	Middle Age	Fair	Small twin stemmed tree next to road		C ,1, 2	Long
T401	Pedunculate oak	8.0	2.0	380	1	5.0	4.0	3.5	5.0	3.0	S	Middle Age	Good	Medium sized hedgerow tree next to track. Crown raised to South to clear cable and track		B ,1, 2	Long
T406	Pedunculate oak	13.0	6.0	800	1	3.0	8.0	9.5	6.0	5.0	S	Mature	Good	Large tree forming mutual crown with neighbour. Large pieces of well decayed dead wood. Well clear of road to South. No major defects		A ,1, 2	Long
T407	Pedunculate oak	13.0	5.0	800	1	6.0	3.0	8.0	9.0	5.0	E	Mature	Good	Large tree forming mutual crown with neighbour. Large pieces of well decayed dead wood. No major defects		A ,1, 2	Long
T408	Pedunculate oak	9.0	6.0	580	1	6.0	2.0	3.0	4.0	5.0	S	Middle Age	Dead	Standing dead tree. Large limb overhanging road		U	Very Short
T410	Pedunculate oak	12.0	5.0	560	1	6.0	4.0	5.0	4.0	5.0	W	Middle Age	Poor	Declining tree. Full dead limbs and only c.20% live canopy remaining. Numerous woodpecker holes providing Good habitat.		C ,3	Short
T413	Pedunculate oak	6.0	1.5	300	1	4.0	2.0	6.0	4.5	1.5	E	Middle Age	Fair	Small tree next to track. Cut back to South with stubs and broken branches		B ,2	Long
T417	Pedunculate oak	12.0	3.0	950	1	8.0	8.0	6.0	8.0	2.0	SE	Middle Age	Good	Oak located along field boundary adjacent to stream General vigour. Some deadwood visible in canopy. Some leaf tip die back. Small bracket fungus present on base.		A ,1, 2	Long
T422	Pedunculate oak	13.0	5.0	980	1	10.0	9.0	10.0	8.5	5.0	S	Mature	Good	Very large prominent tree on edge of garden. Overhanging but clear of track to North. Pruning wounds. Aerial dead wood throughout. Some small cavities		A ,1, 2	Long

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		(m)	(m)	(mm)	arising below 1.5m	(m)	(m)	(m)	(m)	(m)	(N,S,E,W)	Young, Middle Age, Mature	Good, Fair, Poor, Veteran			A,B,C,U (1,2,3)	Long, Medium, Short, Very Short
T423	Horse chestnut	8.0	1.5	566	8	5.5	6.0	5.0	6.0	3.0	W	Middle Age	Fair	Multistemmed at base, possible coppice. Numerous pruning wounds. Some rubbing and fusing limbs. Some small cavities. Minor dead wood		B ,2	Medium
T426	Field maple	6.0	4.0	350	1	3.0	3.0	3.0	3.0	2.0	NW	Middle Age	Good	Emergent field maple in hedgerow along access road. Some deadwood visible in canopy. No major defects noted.		B ,1	Long
T427	Pedunculate oak	9.0	1.5	580	1	10.0	5.0	8.5	7.5	3.0	N	Middle Age	Good	Garden tree with Broad spreading crown. Unable to access. Slight overhang if road. Broken branches and stubs		A ,2	Long
T429	Pedunculate oak	5.0	3.0	200	1	3.0	3.0	3.0	3.0	2.0	W	Middle Age	Good	Small garden tree, obscured by hedge. Overhangs track by 1.5m		B ,2	Long
T431	Pedunculate oak	11.0	4.0	990	1	7.0	8.5	8.5	7.5	4.0	S	Mature	Good	Very large tree by access gate. Broad spreading crown overhangs track, clearance 4m. Numerous well occluded pruning wounds. Moderate dead wood in crown		A ,1, 2	Long
T432	Common ash	9.0	4.0	300	1	4.0	4.0	4.0	4.0	4.0	SW	Middle Age	Good	Emergent Ash in hedgerow along access road and field boundary. Signs of dieback in canopy but around 75 percent remaining. Ivy growth to stem.		B ,1	Long
T433	Pedunculate oak	11.0	4.0	1200	1	10.0	11.0	12.0	12.0	4.0	E	Mature	Good	Huge tree growing on edge of pond. Broad spreading crown overhangs track, clearance 3m. Signs of vehicle impact on overhanging limbs. Numerous well occluded pruning wounds. Moderate dead wood in crown. Excellent tree		A ,1, 2	Long
T434	Common ash	8.0	5.0	250	1	3.0	3.0	3.0	3.0	4.5	NE	Middle Age	Fair	Emergent Ash in hedgerow along access road and field boundary. Signs of dieback in canopy with around 50 percent remaining. Ivy to stem.		B ,1	Medium
T436	Pedunculate oak	12.0	3.0	1050	1	8.0	8.0	9.5	10.0	2.0	SW	Mature	Fair	Very large tree within hedge. Large lower limbs removed to South with numerous vehicle impact wounds and decay. Some stag heading occurring but remaining canopy vigorous. Large dead wood in crown. Mostly clear of track by 3m		A ,3	Long
T437	Pedunculate oak	12.0	3.0	1200	1	10.0	10.0	9.0	10.0	2.5	W	Mature	Good	Huge tree by main road. Numerous well established small cavities throughout lower crown. Large dead wood in crown. Well clear of track to South. Excellent tree		A ,1, 2, 3	Long
T449	Common ash	16.0	2.0	602	2	8.0	8.0	7.0	7.0	3.0	N	Middle Age	Good	Large multi stem Ash along river bank. Some die back visible in canopy. At least 75 percent canopy remaining. Good canopy spread.		A ,1	Long
T450	Common ash	12.0	1.0	500	1	5.0	5.0	6.0	6.0	1.5	N	Middle Age	Good	Ash located along river bank. Signs of dieback in canopy. Around 75 percent canopy remaining.		B ,1, 2	Long
T466	Common ash	8.0	6.0	284	2	3.0	3.0	3.0	2.0	2.0	S	Middle Age	Fair	Ash located along field boundary. Extensive die back in canopy with around 25 percent remaining.		C ,1	Medium
T471	Common ash	12.0	4.0	580	2	3.0	5.0	5.0	5.0	3.0	S	Middle Age	Poor	Large predominantly dead Ash tree located behind dense blackthorn scrub along field boundary. Very small amount of foliage remaining.		C ,3	Medium
T478	Field maple	6.0	3.0	381	4	3.0	3.0	3.0	3.0	1.5	N	Middle Age	Fair	Emergent multi stem field maple in hedgerow along field boundary. Tight canopy. Some deadwood visible in canopy. Evidence of lower limb loss due to hedge cutting.		C ,1	Long
T500	Pedunculate oak	7.0	2.5	380	1	3.0	3.0	3.0	3.0	1.0	E	Middle Age	Fair	Small emergent oak in hedgerow along field boundary. Leaf tip die back. Some epicormic growth to stem. Evidence of lower limb loss due to hedge cutting. Historical topping meaning multi stemmed from about 1m height.		C ,2	Long
T504	Pedunculate oak	7.0	2.0	830	1	7.0	6.0	5.5	5.5	1.5	NW	Middle Age	Fair	Oak tree along field boundary. Some leaf tip die back present. Some deadwood in canopy. Some cavities with rot. Rupturing of bark on main stem. Cavity at tree base with signs of rot.		A ,1, 2, 3	Long
T507	Pedunculate oak	11.0	3.0	760	1	6.0	4.0	5.0	5.5	3.0	NW	Middle Age	Good	Oak tree located in field boundary. General vigour. So e leaf tip die back present. Some deadwood in canopy. Some epicormic growth to stem and branches .		B ,1, 2	Long
T529	Pedunculate oak	10.0	2.0	580	1	6.0	5.0	5.0	6.0	2.5	W	Middle Age	Fair	Hedgerow tree. Some upper crown dieback with large dead limbs. Pruned to South to clear track. Numerous broken branches and stubs.		B ,1, 3	Long
T530	Pedunculate oak	9.0	3.0	620	1	7.0	4.5	7.0	5.0	3.0	S	Middle Age	Fair	Hedgerow tree. Dieback in upper canopy. Large amount of dead wood. Several woodpecker holes. Other cavities and splits. Bark wounds to main stem		B ,3	Medium
T534	Pedunculate oak	12.0	3.0	950	1	8.0	10.0	9.0	11.0	4.0	W	Mature	Good	Large prominent hedgerow tree. Minor dead wood in crown with some well decayed pieces. Occasional broken branches and stubs. No major defects		A ,1, 2, 3	Long
T535	Field maple	6.0	1.0	276	3	3.0	3.0	3.0	2.0	1.0	S	Middle Age	Fair	Small multistemmed tree outgrown from hedge. Fusing stems		C ,3	Medium

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T536	Pedunculate oak	10.0	4.0	990	1	10.0	8.0	8.0	9.0	4.0	N	Mature	Good	Large hedgerow tree. Major limb failed to east with split and torn stub. Woodpecker hole at 3m South. Large diameter dead wood throughout crown		A ,2, 3	Long
T537	Pedunculate oak	7.0	3.0	350	1	3.5	4.0	4.0	2.5	2.0	SE	Middle Age	Fair	Small hedgerow tree. Epicormic over main crown. Telegraph pole 1m to West.		B ,1	Long
T539	Pedunculate oak	11.0	3.5	920	1	7.0	8.0	9.0	7.0	3.0	E	Mature	Fair	Large tree on edge of garden, overhangs track. Crudely crown raised to South. Large dead limb to north-east. Broken branches and stubs. Epicormic growth throughout		B ,2	Long
T540	Pedunculate oak	8.0	3.5	470	1	6.0	5.0	5.0	5.0	3.5	S	Middle Age	Good	Within dense group. Dead wood throughout. Crown raised to South to clear track. Some broken branches and stubs. Small decay pockets		B ,1, 2	Long
T541	Common ash	8.0	4.0	860	1	4.0	3.0	4.5	3.0	0.5	N	Middle Age	Fair	Oak located along field boundary next to hedgerow and access road. Sparse canopy. Epicormic growth to stem and branches. Nodules to stem and branches. Leaf tip die back visible in remaining foliage.		B ,1, 2, 3	Long
T542	Pedunculate oak	10.0	6.5	1000	1	5.0	5.0	5.0	6.0	4.5	S	Middle Age	Poor	Oak located along field boundary. Sparse canopy. Remaining leaves showing leaf tip die back. Epicormic growth to stem and branches. Overgrown by brambles at base.		C ,3	Long
T543	Pedunculate oak	14.0	3.0	1000	1	7.0	14.0	11.0	7.0	2.0	SW	Mature	Good	Huge roadside tree in hedgerow. Shallow ditch to West. Slight lean east. Large broken branch stub to North with splits and decay. Cavities throughout. Well decayed dead wood in crown. No major defects		A ,1, 2, 3	Long
T544	Common ash	16.0	7.0	580	1	7.0	7.0	8.0	4.0	8.0	N	Middle Age	Fair	Tall upright tree next to road. High crown form. Bifurcate at 6m with Good union. 25-50% dieback. Large dead limb to West. Old wound with cavity for action to south		B ,2, 3	Medium
T545	Pedunculate oak	10.0	2.5	680	1	4.5	7.5	7.5	7.5	2.0	S	Middle Age	Good	Oak tree located along access road. Lower branch removal over access road to North resulting in uneven canopy. General vigour. Some leaf tip die back. Some epicormic growth on branches. Lichen and moss on stem and branches. Some deadwood visible in canopy.		B ,1	Long
T546	Common ash	16.0	3.0	760	1	4.0	8.0	7.0	4.0	3.0	S	Middle Age	Fair	Tall upright tree next to road. Bifurcate at 4m with Good union. 25% dieback. Slight lean to west. Large pruning wounds in upper crown		B ,2, 3	Medium
T547	Pedunculate oak	15.0	3.0	900	1	8.0	10.0	9.0	6.0	2.0	SW	Mature	Fair	Large roadside tree with Broad Crown. Very dense ivy and undergrowth prevents detailed inspection. Numerous pruning wounds to West, Crown reduced to clear road. Dead wood throughout. Numerous cavities and splits		B ,1	Long
T548	Pedunculate oak	16.0	3.0	1110	1	9.0	15.0	12.0	9.5	3.0	S	Mature	Good	Huge roadside tree. Major limb removed to North with large wound slowly occluding and developing cavities. Other large cavities present. Some dead wood in crown.		A ,1, 2, 3	Long
T549	Pedunculate oak	14.0	5.0	630	1	4.0	6.0	4.0	6.0	4.0	S	Middle Age	Fair	Oak located adjacent to road. Sparse canopy. Reduced vigour. Ivy to stem. Fungi present at base. Evidence of lower branch removal. Epicormic growth on branches.		C ,1	Long
T550	Pedunculate oak	16.0	3.0	1200	1	10.0	12.0	12.0	8.5	3.0	S	Mature	Good	Huge roadside tree. Slightly sparse crown. Dense ivy on main stem with some severed. Some dead wood in crown. Generally free from defects		A ,1, 2, 3	Long
T551	Cherry plum	8.0	0.5	330	1	4.0	4.0	4.0	4.0	1.5	NW	Middle Age	Good	Located along road in strip of soft landscaping. General vigour. Busy canopy. Some epicormic growth. No major defects noted.		B ,1	Long
T552	Sycamore	8.0	1.5	340	1	4.0	4.0	5.0	5.0	1.5	E	Middle Age	Good	Located adjacent to road in strip of soft landscaping. Tidy canopy. General vigour. Evidence of lower limb removal. Occluding wounds. Extensive lichen growth to stem and branches.		B ,1	Long
T553	Pedunculate oak	12.0	1.0	990	1	8.0	10.0	10.0	8.0	2.0	S	Mature	Good	Large tree on end of group. Denys ivy with thick stems. Large branch removed to west leaving large stub. Large diameter dead wood in crown with some well decayed pieces.		A ,1, 3	Long
T554	Field maple	5.0	1.0	311	2	4.0	4.0	3.0	3.0	1.0	N	Middle Age	Good	Small twin stemmed tree in dense blackthorn thicket. Unable to see base. No major defects		B ,2	Long
T555	Pedunculate oak	9.0	4.0	1200	1	4.0	9.0	8.0	8.5	4.0	SW	Mature	Dead	Very large standing dead tree. Heavily pruned with signs of weak regrowth. Peeling bark on main stem		U	Very Short
T556	Pedunculate oak	8.0	1.0	400	1	6.0	4.5	7.0	5.0	4.0	E	Middle Age	Good	Small tree within dense group. Some dead wood in crown. No major defects		B ,1	Long

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T557	Pedunculate oak	9.0	2.0	400	1	3.0	3.0	3.0	5.0	3.0	E	Middle Age	Fair	Twisted main stem. Some dead wood in crown. Dense undergrowth at base. Livestock pens to south.		C ,1	Medium
T558	Wild service tree	9.0	2.0	280	1	3.0	3.0	4.5	3.0	2.0	E	Middle Age	Good	Wild service tree along field boundary behind dense bramble growth. Cavity visible on stem. Canopy impeded by adjacent oak to west.		B ,1, 3	Long
T559	Pedunculate oak	12.0	4.0	1000	1	7.0	5.0	7.0	7.0	2.0	SW	Middle Age	Good	Oak tree located adjacent to road on private land. Canopy raised to South due to road. Some deadwood visible in canopy. Small fungal fruiting body visible where large branch has broken off. Some ivy to stem.		A ,1, 2	Long
T560	Pedunculate oak	12.0	4.0	1000	1	6.0	5.5	7.5	7.5	3.5	E	Middle Age	Good	Oak located along road and footpath. Bifurcate at around 3.5m height with two large limbs spreading North East and South west along road. Ivy to stem. Some deadwood visible in canopy. Canopy over road to South.		A ,1, 2	Long
T561	Pedunculate oak	14.0	2.0	1000	1	10.0	11.0	7.0	9.0	3.5	SE	Mature	Good	Large field boundary tree. Numerous Inonotus dryadeus brackets at base. Some mechanical damage to root buttresses. Large broken stub to South with advanced decay. Cavities on old tear out wounds. Large amounts of major dead wood. Good vigour. Surveyed from path due to access not permitted		A ,1, 2, 3	Long
T562	Pedunculate oak	12.0	2.0	410	1	6.0	2.0	3.0	3.0	6.0	N	Middle Age	Fair	Tall narrow tree, suppressed to South. High crown with numerous small lower branches. Lots of small pruning wounds. Dieback in upper canopy. Some large pieces of dead wood. Surveyed from path due to access not permitted		C ,1	Medium
T563	Pedunculate oak	13.0	3.5	780	1	6.5	7.0	7.0	7.0	2.5	W	Middle Age	Good	Oak located in field adjacent to public path. General vigour. Extensive ivy to stem. surveyed from path as access not provided. Some deadwood visible in canopy. Some epicormic growth to branches. Dense canopy. No major defects noted.		A ,1, 2	Long
T564	Pedunculate oak	14.0	2.0	980	1	5.0	10.0	7.0	7.5	3.0	SW	Mature	Good	Large tree next to pond. Crown bias to South and West. Suppressed to North. Some very large pieces of dead wood. Good vigour. No major defects. Surveyed from path due to access not permitted		A ,1, 2, 3	Long
T565	Pedunculate oak	13.0	3.0	750	1	8.0	8.0	10.5	8.0	4.5	S	Middle Age	Good	Oak located in field adjacent to public path. Surveyed from path as access not provided. General vigour. Some deadwood visible in canopy. Evidence of large limb loss with deadwood remaining. Spreading canopy habit. No major defects noted.		A ,1, 2	Long
T566	Pedunculate oak	14.0	1.5	1010	1	12.0	10.0	10.0	7.5	3.0	N	Mature	Good	Very large roadside tree with Broad spreading crown. Clear over road to 5m. Dense ivy on main stem. Numerous pruning wounds. Dead wood throughout. No major defects		A ,1, 2	Long
T567	Pedunculate oak	12.0	4.5	700	1	6.0	7.0	6.0	7.0	3.5	NW	Middle Age	Good	Oak located to edge of group along access road. Slightly sparse canopy. General vigour. Some deadwood in canopy. Historic ivy growth to stem which has been severed at base. Some epicormic growth to branches. New ivy growth at base.		A ,1, 2	Long
T568	Pedunculate oak	9.0	1.5	700	1	6.0	6.0	5.5	5.5	2.0	SW	Middle Age	Good	Roadside tree on corner of garden. Dense ivy and hedge obscure stem. Broad Crown. Some minor dead wood. Generally free of defects		B ,1, 2	Long
T569	Pedunculate oak	8.0	1.0	570	1	5.5	5.5	5.0	5.0	3.0	S	Middle Age	Good	Small oak located in middle of field. General vigour. Some deadwood present in canopy. Dense canopy. Evidence of large limb loss. Small cavity at base and under tree.		B ,1	Long
T570	Pedunculate oak	13.0	3.0	1350	1	12.5	14.0	12.0	12.0	2.5	S	Mature	Good	Huge tree with Broad spreading crown. Some dead wood present. Small amount of tip dieback. No major defects. Excellent tree		A ,1, 2, 3	Long
T572	Common ash	12.0	2.0	572	3	6.0	8.0	8.0	7.0	3.0	E	Middle Age	Poor	Large multistemmed tree on woodland edge. Very sparse crown. Dead wood throughout. Several pruning wounds and stubs.		C ,3	Short
T575	Common ash	12.0	3.0	490	1	5.0	5.0	6.0	5.0	3.0	E	Middle Age	Poor	Woodland edge tree. Major dieback with sparse remaining crown. Dead wood throughout. Dense undergrowth prevents access		C ,2, 3	Short
T578	Pedunculate oak	16.0	2.0	1310	1	8.0	7.0	11.0	11.0	2.0	NE	Mature	Fair	Large bole with reasonable overall crown form. Earlier loss of central leader and large branch from Northern Crown leaving socket wound. Seam of stem decay emanating from dead central leader to ground, possible lightning strike.		A ,1, 2, 3	Long
T580	Pedunculate oak	11.0	1.5	480	1	4.0	7.0	7.0	8.0	2.0	W	Middle Age	Good	Vigorous tree with good potential. Part of a row of oaks.		B ,1, 2	Long

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 Site Rampion 2 Offshore Wind Farm
 Drawing Ref D8685.001.01-47

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Ref	Species	Height	Canopy Ground Clearance	Stem Diameter (or range)	No. of stems/ individuals	Crown Spread North	Crown Spread South	Crown Spread East	Crown Spread West	Lowest Branch Height	Lowest Branch Direction	Maturity	Condition	Comments on form, condition, health and significant defects	Management recommendations in current context	BS 5837 Quality Category	Estimated Remaining Contribution
		(m)	(m)	(mm)	arising below 1.5m	(m)	(m)	(m)	(m)	(m)	(N,S,E,W)	Young, Middle Age, Mature	Good, Fair, Poor, Veteran			A,B,C,U (1,2,3)	Long, Medium, Short, Very Short
T581	Turkey oak	15.0	1.5	1000	1	12.5	9.0	11.0	13.0	2.5	NW	Mature	Good	Vigorous tree with excellent form and condition. Well balanced with no significant visible defects. Earth mound under Northern canopy rising 1.5m from stem.		A ,1, 2	Long
T582	Pedunculate oak	15.0	2.5	850	1	6.0	11.0	5.0	9.5	4.5	S	Middle Age	Good	One of a pair of adjacent oaks contributing to a longer belt of maturing trees. Soil mound under Southern canopy, rising 0.5m from stem.		A ,1, 2	Long
T583	Pedunculate oak	15.0	2.0	880	1	6.0	9.0	8.0	6.0	3.5	E	Middle Age	Good	One of a pair of adjacent oaks contributing to a longer belt of maturing trees. Soil mound under Southern canopy, rising 0.5m from stem.		A ,1, 2	Long
T585	Pedunculate oak	11.0	1.5	470	1	7.0	6.0	6.0	6.0	2.0	N	Middle Age	Good	Well balanced tree. Reduced branching in lower south-west crown due to adjacent Hawthorne.		B ,1	Long
T587	Pedunculate oak	13.0	2.0	520	1	9.0	8.0	8.5	8.0	3.5	NE	Middle Age	Good	Well balanced tree. Reduced branching in lower southern crown due to adjacent Hawthorne.		B ,1	Long
T588	Common hawthorn	6.0	1.5	367	6	3.0	4.0	4.0	4.0	2.0	SE	Mature	Fair	Well balanced tree. Multi-stemmed from base branching again at 1.5m.		B ,1	Long
T589	Pedunculate oak	9.0	1.5	330	1	5.0	4.5	5.0	5.0	1.5	S	Middle Age	Good	Vigorous tree, possible turkey oak cross. Good future potential.		C ,1	Long
T592	Pedunculate oak	13.0	4.0	860	1	5.0	11.0	6.0	5.0	4.5	S	Mature	Fair	Larger roadside tree on woodland edge. Moderate shade deadwood in lower crown. Asymmetric, untidy form due to surrounding tree growth. Canopy extends across the road to South.		B ,1, 2	Medium
T594	Pedunculate oak	13.0	5.5	510	1	7.0	6.0	5.0	6.0	6.0	S	Middle Age	Fair	Larger roadside tree on woodland edge. Minor shade deadwood.		B ,1, 2	Long
T595	Pedunculate oak	13.0	5.5	540	1	5.0	6.0	4.0	4.0	5.0	SW	Middle Age	Fair	Larger roadside tree on woodland edge. Minor shade deadwood.		B ,2	Long
T596	Pedunculate oak	13.0	4.0	810	1	7.0	8.0	4.0	7.0	3.5	SW	Mature	Fair	Larger roadside tree on woodland edge. Moderate shade deadwood.		B ,2	Long
T597	Pedunculate oak	13.0	5.0	810	1	8.0	9.5	5.0	7.0	4.0	E	Mature	Fair	Larger roadside tree on woodland edge. Moderate shade deadwood.		B ,2	Long
T598	Common ash	17.0	7.0	868	3	8.0	8.0	6.0	6.0	7.0	N	Mature	Fair	Basally tri-stemmed with fluted firm due to lack of lower branches. Lightly ivy clad stems. Previous branch failures commensurate with age and species.		B ,2	Medium
T600	Pedunculate oak	12.0	2.0	850	1	7.0	7.0	8.0	7.5	2.0	SW	Mature	Fair	Large tree located immediately adjacent to access track. Previously happy ivy clad but ivy now dead due to severance at base, thick vine covering still remains. Moderate deadwood in canopy. Minor dieback evident in North-Eastern canopy. Canopy c. 3m clearance over track.		B ,1, 2	Long
T601	Pedunculate oak	14.0	2.0	800	1	9.0	7.0	10.0	9.5	4.0	SW	Mature	Good	Large tree immediately adjacent to access track. Heavily ivy clad restricting inspection. Previous limb failures evident with moderate and major deadwood evident in canopy. 1 large deadwood stub overhanging track. Canopy clearance over track c. 4m.		A ,1, 2	Long
T603	Pedunculate oak	13.0	2.5	800	1	7.5	8.0	8.0	8.0	3.0	SW	Mature	Fair	Large tree immediately adjacent to access track. Previous limb failures evident with moderate and major deadwood evident in canopy. Sparse Northern canopy. Canopy clearance over track >5m but large deadwood limb overhangs track.		B ,1, 2	Medium
T605	Pedunculate oak	14.0	2.5	950	1	10.0	10.0	12.5	10.0	3.5	SW	Mature	Fair	Large tree immediately adjacent to access track. Some ivy growth on stem. Previous limb failures evident with moderate deadwood evident in canopy. Branch socket cavities. Canopy clearance over track c. 3.5m. Wide spreading form.		A ,1, 2	Long
T606	Pedunculate oak	12.0	2.0	800	1	6.5	6.5	8.5	4.5	2.5	NE	Mature	Poor	Large moribund tree immediately adjacent to access track. Ivy clad. Heavy epicormic growth throughout canopy. Habitat value. Moderate deadwood throughout. Canopy clearance over track c. 4m.		U	Very Short
T609	Pedunculate oak	13.0	2.5	600	1	7.0	7.0	7.0	6.5	2.5	SW	Middle Age	Fair	Tree immediately adjacent to access track. Previous limb failures evident with moderate deadwood evident in canopy. Heavily ivy clad. Canopy clearance over track c. 3m.		B ,1, 2	Long
T611	Pedunculate oak	11.0	2.5	500	1	4.5	4.0	3.5	3.5	3.5	SE	Middle Age	Poor	Tree immediately adjacent to access track. Significant dieback of upper canopy evident. Previous limb failures evident with moderate to major deadwood evident in canopy. Ivy clad. Canopy clearance over track c. 3m.		C ,1	Long

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		(m)	(m)	(mm)	arising below 1.5m	(m)	(m)	(m)	(m)	(m)	(N,S,E,W)	Young, Middle Age, Mature	Good, Fair, Poor, Veteran			A,B,C,U (1,2,3)	Long, Medium, Short, Very Short
T613	Pedunculate oak	14.0	2.5	950	1	9.5	11.0	11.5	12.0	2.5	NE	Mature	Fair	Large tree immediately adjacent to access track. Heavily ivy clad. Moderate deadwood evident in canopy with moderate previous long failures. Canopy clearance over track c. 3m. Wide spreading form.		A ,1, 2	Long
T614	Pedunculate oak	14.0	2.0	850	1	8.0	8.0	8.0	8.5	3.0	SW	Mature	Fair	Large tree immediately adjacent to access track. Heavily ivy clad. Previous limb failures evident with moderate deadwood evident in canopy. Canopy clearance over track c. 3m. Bifurcate at c. 3.5m.		A ,1, 2	Long
T617	Pedunculate oak	20.0	2.5	950	1	9.5	9.5	11.5	8.5	3.0	S	Mature	Fair	Large tree adjacent to access track. Ivy clad. Previous limb failures evident. Dieback in places, particularly in northern canopy creating canopy gap, with moderate and major deadwood evident throughout canopy. Canopy clearance over track edge c. 4.5m, although does not overhang significantly.		B ,1, 2	Medium
T619	Pedunculate oak	15.0	2.5	630	1	1.0	4.5	4.5	2.0	2.5	SE	Middle Age	Poor	Moribund tree adjacent to access track. Significant deadwood limbs overhanging track. Clearance c. 3 to 4m. Branch socket cavities with bat potential.		U	Very Short
T620	Pedunculate oak	16.0	1.5	1100	1	8.0	10.0	8.5	8.5	2.5	S	Mature	Fair	Large tree immediately adjacent to access track. Heavily ivy clad. Bifurcate at c. 2m. Previous limb failures evident including large Central leader failure in Central canopy. Moderate deadwood evident in canopy. Canopy clearance over track c. 3.5m.		A ,1, 2	Long
T623	Pedunculate oak	16.0	2.0	1000	1	9.0	8.0	8.0	7.0	2.5	S	Mature	Fair	Large tree in field slightly overhanging track. Heavily ivy clad. Bifurcate at c. 2m. Previous moderate limb failures. Moderate deadwood evident in canopy. Canopy clearance over track c. 4m.		A ,1, 2	Long
T624	Pedunculate oak	5.0	2.0	250	1	2.5	3.0	3.0	2.5	2.0	W	Middle Age	Good	Tree within hedge adjacent to access track. Canopy overhangs track little. Squat form.		B ,1	Long
T626	Pedunculate oak	9.0	2.5	1250	1	6.0	10.0	7.5	7.5	3.5	SW	Mature	Good	Very large tree immediately adjacent to track within hedge. Heavily ivy clad restricting inspection. Multi-stemmed at c. 3.5m. Squat and wide spreading form. Moderate deadwood. Canopy clearance over track c. 3m.		A ,1, 2	Long
T629	Pedunculate oak	18.0	3.0	1300	1	14.0	11.0	11.0	11.0	3.5	W	Mature	Poor	Very large moribund tree immediately adjacent to two with large limbs previously removed and major dead limbs overhanging track. Little life canopy remaining although tree still has food habitat value due to its size, ages and species. Branch socket cavities with bat potential.	Monolith tree to create 4m habitat pole.	U	Very Short
T632	Pedunculate oak	15.0	3.0	1050	1	7.0	10.0	6.5	7.0	2.5	S	Mature	Good	Large tree adjacent to access track. Fairly wide spreading form. Branch socket cavities. Dog rose growing up into lower canopy. Moderate deadwood. Canopy clearance over track c. 4m.		A ,1, 2	Long
T633	Pedunculate oak	13.0	2.5	800	1	6.0	9.0	5.0	6.0	3.0	W	Mature	Fair	Tree adjacent to access track. Heavily ivy clad restricting inspection. Moderate deadwood with some overhanging track. Fairly squat form. Canopy clearance over track c. 3m.		A ,1, 2	Long
T634	Common ash	17.0	3.0	900	1	10.0	11.0	8.5	8.5	3.5	S	Mature	Fair	Tree adjacent to track in field. Trifurcate at c. 2.5m with tight and included unions. Ivy grown on stem. Moderate deadwood. Canopy is fairly sparse in places with some ash dieback symptoms present and likely cause of thinning. Canopy clearance over track c. 3m.		C ,1, 2	Short
T636	Common hazel	4.0	0.0	255	8	2.5	2.5	3.0	2.0	0.0	E	Middle Age	Good	Tree adjacent to access track. Basally multi-stemmed. Cut back previously trackside.		C ,1	Long
T639	Monterey cypress	17.0	1.0	1300	1	8.5	8.5	9.0	9.0	2.5	W	Mature	Fair	Large mature tree immediately adjacent to access track and parking area. Failed limbs still hung up in lower canopy evident and still attached in a lot of cases. Previous failures and tear outs in upper canopy also evident. Multi-stemmed at c. 4.5m, lower canopy and failures restricting inspection. Heavily ivy clad. Significant stem failure in Eastern canopy still attached to tree with foliage nearly touching floor.		B ,1, 2	Medium
T641	Pedunculate oak	19.0	1.0	1070	1	10.0	11.0	13.0	12.0	3.0	W	Mature	Good	Large tree adjacent to cottage and parking area. Canopy doesn't overhang track but does overhang parking area. Occluding pruning wounds evident. Satellite dish and large bat box attached to stem. Previous limb failures with occlusion. Moderate deadwood with occasional major deadwood stubs.		A ,1, 2	Long

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		(m)	(m)	(mm)	arising below 1.5m	(m)	(m)	(m)	(m)	(m)	(N,S,E,W)	Young, Middle Age, Mature	Good, Fair, Poor, Veteran			A,B,C,U (1,2,3)	Long, Medium, Short, Very Short
T642	Pedunculate oak	17.0	2.0	1000	1	11.0	11.0	10.0	8.0	2.5	SW	Mature	Good	Large tree adjacent to open outbuilding sorting cars. Occluding pruning wounds evident. Heavily ivy clad restricting inspection. Previous limb failures with occlusion. Moderate deadwood with occasional major deadwood stubs. Wide spreading form. Canopy clearance over track is c. 4m.		A ,1, 2	Long
T643	Horse chestnut	12.0	1.5	770	1	6.5	6.5	7.0	7.0	2.5	SW	Mature	Good	Tree adjacent to access track within grass verge. Heavily ivy clad. Bifurcate at c. 2m, union obscured by ivy. Squat form. Horse chestnut leaf miner present.		B ,1, 2	Long
T644	Horse chestnut	8.0	1.5	310	1	4.0	2.0	3.5	3.5	2.0	SE	Middle Age	Good	Tree adjacent to access track within grass verge. Bifurcate at c. 2.5m work included union. Horse chestnut leaf miner present. Previously cut back from track.		B ,1	Long
T645	Common ash	14.0	2.5	602	3	6.0	5.5	7.0	8.0	2.0	NW	Middle Age	Poor	Very little live foliage remaining. Assumed Chalara ash dieback disease.		U	Very Short
T646	Common ash	16.0	2.0	714	2	9.0	8.0	8.0	9.0	2.5	S	Middle Age	Poor	In decline with circa. 50% foliage remaining. Assumed Chalara ash dieback disease.		U	Very Short
T647	Horse chestnut	18.0	1.5	1060	1	9.0	11.0	12.5	13.0	2.0	SE	Mature	Good	Tree adjacent to access track within small and patch grass verge. Multi-stemmed at c. 3.5m. Horse chestnut leaf miner present. Canopy clearance over track c. 3m. Wide spreading form that is biased to East somewhat.		A ,1, 2	Long
T648	Field maple	14.0	2.0	1072	4	8.0	8.5	10.0	9.0	3.5	E	Mature	Fair	Large basally multi-stemmed maple immediately adjacent to informal parking area. Previous moderate limb failures with remnant stubs. High canopy that doesn't overhang track and that is slightly sparse in places.		A ,1, 2	Long
T649	Aspen	7.0	3.0	270	1	4.0	3.0	3.5	3.0	3.0	NE	Middle Age	Good	Vigorous well formed tree. Good potential.		C ,1	Long
T650	Turkey oak	7.0	2.5	430	1	4.0	4.5	5.0	4.0	2.5	SE	Middle Age	Fair			C ,1	Long
T651	Turkey oak	8.0	2.5	601	2	5.0	4.0	5.0	4.0	2.5	E	Middle Age	Fair	Reasonable overall form. Twin-stemmed at 0.5m with tight fork. Small lesions on main stems.		C ,1	Long
T652	Lawson cypress	10.0	1.0	700	1	3.0	3.0	3.5	4.5	1.0	S	Mature	Poor	Tree within garden adjacent to hedge and access track gate. Heavily ivy clad restricting inspection. Trifurcate at c. 4m. Moribund.		U	Very Short
T653	Pedunculate oak	15.0	2.5	850	1	9.0	8.0	11.0	10.0	3.5	W	Mature	Good	Good firm and condition. Larger tree within linear belt. No significant visible defects.		A ,1, 2	Long
T654	Pedunculate oak	14.0	2.5	540	1	7.0	6.0	7.0	6.0	3.5	N	Mature	Good	Good form and condition. No significant visible defects.		A ,1, 2	Long
T655	Pedunculate oak	13.0	2.0	620	1	7.0	6.0	5.0	8.0	2.5	NW	Middle Age	Good	Larger tree within belt. Stem lean and slight crown bias West due to adjacent woodland.		A ,1	Long
T656	Pedunculate oak	12.0	2.5	500	1	6.0	6.0	6.0	6.0	2.5	SE	Middle Age	Good	Tree within garden Close to track. Canopy doesn't overhang track. Rounded canopy form. Inspection restricted by access into garden. No major visible defects noted.		B ,1, 2	Long
T657	Pedunculate oak	13.0	3.0	660	1	6.0	6.0	5.0	7.0	2.5	W	Mature	Good	Larger tree within belt. Stem lean and slight crown bias West due to adjacent woodland.		A ,1	Long
T658	Apple species	5.0	2.0	150	1	2.5	2.5	2.5	2.5	2.0	N	Middle Age	Good	Tree within garden Close to track. Canopy doesn't overhang track. Inspection restricted by access.		C ,1	Long
T659	Pedunculate oak	15.0	4.0	1000	1	6.0	6.0	6.0	11.0	3.0	W	Mature	Fair	Larger tree within belt. Stem lean and slight crown bias West due to adjacent woodland. Moderate deadwood due to woodland location.		B ,2, 3	Long
T660	Pedunculate oak	17.0	2.5	950	1	10.0	5.0	6.0	9.0	2.5	SW	Mature	Good	Larger tree within belt. Crown bias West due to adjacent woodland. Shade deadwood in inner crown.		A ,1	Long
T661	Pedunculate oak	12.0	2.0	729	2	7.0	6.0	8.0	8.0	3.0	SE	Middle Age	Good	Basally twin-stemmed. Possibly two trees but forming a single crown. Good overall crown shape.		B ,1	Long
T662	Pedunculate oak	11.0	2.0	610	1	6.0	6.0	6.0	5.5	2.5	SW	Middle Age	Good	Good form with rounded, balanced crown. Minor deadwood.		B ,1	Long
T663	Pedunculate oak	9.0	2.0	560	1	5.5	6.5	5.5	6.0	2.5	SE	Middle Age	Good	Good form with rounded, balanced crown. Minor deadwood and basal stem wounding.		B ,1	Long
T664	Pedunculate oak	4.0	1.0	100	1	1.5	1.5	1.5	1.5	1.0	E	Young	Good	Vigorous self-set free growing within hedgerow.		C ,1	Long
T665	Field maple	7.0	1.5	300	1	3.0	2.5	3.0	2.5	1.5	W	Middle Age	Fair	Good overall form for species. Slightly reduced crown density.		B ,1	Long
T666	Field maple	6.0	2.0	306	2	3.0	3.0	2.5	3.0	1.5	W	Middle Age	Fair	Good form for species. Twin-stemmed at 1m.		B ,1	Long
T667	Pedunculate oak	8.0	3.0	550	1	8.0	5.0	6.0	8.0	2.0	SW	Middle Age	Fair	Good overall form. Slightly reduced leaf size. Minor deadwood and pruning stubs in lower crown.		B ,1	Long
T668	Pedunculate oak	12.0	3.0	850	1	8.0	7.0	8.0	7.0	3.5	S	Mature	Fair	Good overall form. Slightly reduced leaf size. Minor deadwood over access road. Small cavity opening visible on main stem at 4.5m at old branch attachment point. Fungal bracket on main stem at 3.5m, possibly <i>Fistulina hepatica</i> but not confirmed.		B ,1	Long

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Ref	Species	Height	Canopy Ground Clearance	Stem Diameter (or range)	No. of stems/ individuals	Crown Spread North	Crown Spread South	Crown Spread East	Crown Spread West	Lowest Branch Height	Lowest Branch Direction	Maturity	Condition	Comments on form, condition, health and significant defects	Management recommendations in current context	BS 5837 Quality Category	Estimated Remaining Contribution
		(m)	(m)	(mm)	arising below 1.5m	(m)	(m)	(m)	(m)	(m)	(N,S,E,W)	Young, Middle Age, Mature	Good, Fair, Poor, Veteran			A,B,C,U (1,2,3)	Long, Medium, Short, Very Short
T672	Pedunculate oak	13.0	1.5	860	1	7.0	9.0	7.0	8.0	3.5	SE	Mature	Good	Large tree on ditch Bank between fields. Moderate deadwood. Typical inner crown and branch structure with fairly wide spreading form.		A ,1, 2	Long
T673	Pedunculate oak	13.0	2.0	700	1	7.0	7.0	7.0	7.0	3.0	SE	Mature	Good	Large tree on ditch Bank between fields. Moderate deadwood. Typical inner crown and branch structure with rounded form. Inspections restricted by undergrowth around base.		A ,1, 2	Long
T676	Field maple	5.0	1.5	424	8	5.0	5.0	4.5	4.5	2.0	SW	Middle Age	Fair	Hedgerow tree that is multi-stemmed at 1m with some tight and included unions. Squat and flattened form. Canopy overgrown by bramble in places.		B ,1	Long
T679	Pedunculate oak	14.0	3.0	600	1	6.0	6.0	6.0	6.0	3.0	W	Middle Age	Good	Tree within dense boundary group restricting inspection. Appears in good health with rounded canopy form.		A ,1	Long
T681	Common hazel	4.0	0.5	158	10	1.5	1.5	1.5	1.5	0.5	E	Middle Age	Good	Small multi-stemmed tree in field.		C ,1	Long
T693	Pedunculate oak	20.0	0.5	1270	1	12.0	12.5	10.0	11.0	2.0	SE	Mature	Good	Open grown tree in field. Low canopy that is rounded and attractive. Typical inner crown structure. Moderate deadwood. No major defects noted. Significant feature in landscape.		A ,1, 2	Long
T697	Common ash	8.0	3.0	354	2	4.5	4.5	4.5	4.5	2.5	N	Middle Age	Poor	Tree within boundary group with base obscured by hedge. Significant ash dieback symptoms evident. Moribund.		U	Very Short
T698	Common ash	14.0	3.0	707	2	9.0	9.0	9.0	9.0	2.0	NW	Mature	Poor	Large tree within boundary group with base obscured by hedge. Significant ash dieback symptoms evident. Moribund. Assumed to be one tree growing from same rooting stock with leaning stems that have created the wide spreading canopy.		U	Very Short
T706	Pedunculate oak	12.0	2.0	750	1	5.5	7.0	5.5	7.0	2.0	SW	Mature	Dead	Large dead oak tree at woodland edge. Significant limbs overhanging field and close to desire line.	Monolith to 5m habitat pole.	U	Very Short
T715	Turkey oak	10.0	1.0	720	4	7.0	7.0	7.0	8.0	2.0	S	Mature	Good	Basally multi-stemmed oak within field boundary group. Squat and rounded form. Minor deadwood. Undergrowth obscuring view of base and stem unions. No major visible defects noted.		A ,1, 2	Long
T716	Common ash	12.0	1.5	693	2	6.0	6.0	6.0	6.0	3.5	NE	Mature	Fair	Tree within field boundary group. Appears to be basally bifurcate although group obscuring view of base restricting inspection. Thinning canopy and minor ash dieback symptoms.		B ,1	Medium
T717	Field maple	12.0	1.0	661	2	5.0	5.0	6.0	5.0	1.5	E	Mature	Fair	Basally multi-stemmed tree within field boundary group. Tight and included stem unions. Upright and fairly columnar form.		B ,1	Long
T719	Pedunculate oak	14.0	3.0	1400	1	10.5	8.0	10.5	10.0	2.5	S	Mature	Poor	Large oak tree at field boundary adjacent to public bridleway. Branch socket cavities with occlusion and deadwood still attached. Stag heading and major deadwood throughout. Lower canopy appears to be retrenching. Large burr on north-eastern lower stem. Bat potential. Ivy clad lower stem. Varying size and aged hen of the woods fruiting bodies around base.		B ,1, 3	Long
T720	Common ash	15.0	2.0	1300	1	7.0	8.5	7.0	7.0	1.0	N	Mature	Fair	Large ash tree within field boundary group adjacent to public bridleway. Heavily ivy clad. Ivy, undergrowth and group obscuring view of base, stem and into canopy and restricting inspection. Significant dieback of upper canopy on north and north-western side. Major deadwood in canopy. Located on steep slope down to bridleway. Very large stem failure previously leaving a large occluding stem cavity on the north side. Hollowing of stem around wound. Large buttress roots. Several regrowth stems out of base. Badger sett or similar around northern and eastern tree base with 6 entrances evident. Dieback of upper canopy potentially caused by badger sett and previous failure.		B ,3	Short
T724	Pedunculate oak	16.0	3.0	1100	1	8.5	9.0	7.0	8.0	5.0	SW	Mature	Good	Large oak on steep slope down to public bridleway. Located on west side of bridleway. Heavily ivy clad and lack of access onto adjacent land parcel restricting inspection, surveyed from bridleway. Previous moderate failures evident and moderate deadwood. Wide spreading form. Minor dieback in places.		A ,1, 2	Long
T725	Common ash	13.0	3.0	580	1	8.0	4.5	5.5	6.0	4.5	SW	Middle Age	Poor	Tree on steep slope down to public bridleway. Stems leans to north-west. Ivy clad. Sparse upper canopy with significant ash dieback symptoms present in canopy and associated deadwood. Inspection restricted due to lack of access into adjacent field, surveyed from bridleway.		U	Very Short

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		(m)	(m)	(mm)	arising below 1.5m	(m)	(m)	(m)	(m)	(m)	(N,S,E,W)	Young, Middle Age, Mature	Good, Fair, Poor, Veteran			A,B,C,U (1,2,3)	Long, Medium, Short, Very Short
T726	Pedunculate oak	16.0	3.0	800	1	10.5	5.0	8.0	9.0	4.0	NE	Mature	Fair	Tree on steep slope down to public bridleway. Located on west side of bridleway. Lack of access onto adjacent land parcel restricting inspection, surveyed from bridleway. Previous moderate failures evident and moderate deadwood. Sparse canopy in places. Significant bank erosion around stem base with large open gaps between buttresses evident. Base of stem biased to east but stem rights itself at c. 1.5m.		B ,1, 2	Long
T727	Common ash	13.0	2.5	812	3	5.0	9.0	3.0	5.5	1.5	N	Mature	Poor	Tree on steep slope down to public bridleway. Inspection restricted due to ivy, dense group canopies and lack of access into adjacent field, surveyed from bridleway. 3 stems growing from large stump. Heavily ivy clad. Significant ash dieback symptoms with little foliage remaining.		U	Very Short
T728	Holm oak	16.0	2.5	1100	1	9.5	8.0	7.0	8.0	3.5	E	Mature	Good	Large oak on steep slope down to public bridleway. Located on west side of bridleway. Lack of access onto adjacent land parcel restricting inspection, surveyed from bridleway. Previous moderate failures evident and moderate deadwood. Wide spreading and attractive form.		A ,1, 2	Long
T729	Common ash	17.0	2.5	878	3	9.0	9.0	9.0	9.0	4.5	NW	Mature	Fair	Large tree adjacent to public footpath. Trifurcate at c. 1.5m. Crown lifted previously with occluding wounds. Minor to moderate ash dieback symptoms with moderate deadwood throughout, some overhanging footpath. Stems lean to north-east. Large basal cavity on west side with some decay evident.		B ,1	Short
T730	Hybrid black poplar	25.0	4.0	850	1	12.5	6.0	7.0	6.5	5.5	NE	Mature	Good	Large mature poplar immediately adjacent to public footpath. Previously ivy clad but this has now been severed and dead vines remain. Stem leans heavily to north-east. No signs of limb failures typical of species at present.		A ,1, 2	Long
T734	Common lime	13.0	0.0	550	1	5.0	4.5	4.6	4.5	2.0	W	Middle Age	Fair	Open grown tree within playing field adjacent to brick bus shelter and close to pavement. Electrical wire running close to canopy on east side. Epicormic growth around base obscuring view of lower stem. Mechanical wounding of some limbs with associated tearing wounds evident. Multi-stemmed at c. 2m. Some tip dieback evident.		B ,1	Medium
T735	Weeping willow	12.0	0.0	590	1	7.0	7.0	7.0	7.0	3.5	N	Middle Age	Good	Open grown tree within playing field close to shallow ditch. Electrical wire running close to canopy on east side. Mechanical wounding of some limbs with associated tearing wounds evident. Multi-stemmed at c. 4m. Attractive weeping form.		B ,1	Long
T736	Pedunculate oak	8.0	2.0	409	4	4.5	6.0	6.0	5.0	1.5	W	Middle Age	Good	Open grown tree within playing field close to shallow ditch. Electrical wire running close to canopy on east side. Multi-stemmed at c. 1m. Attractive rounded albeit squat form.		B ,1	Long
T737	Pedunculate oak	8.0	1.0	390	2	4.0	5.0	4.0	4.0	1.5	SW	Middle Age	Good	Open grown tree within playing field close to shallow ditch. Electrical wire running close to canopy on east side. Bifurcate at c. 2m. More narrow and columnar form than adjacent oak.		B ,1	Long
T738	Common ash	16.0	2.5	783	4	11.0	5.5	7.0	6.0	2.5	SW	Mature	Fair	Basally multi-stemmed ash tree at field edge within hedge and boundary group. Ash dieback symptoms present affecting c. 30% of the canopy. Surface rooting within shallow ditch adjacent and some mower damage to those in grass. Moderate deadwood with some overhanging adjacent bench.	Remove deadwood 60mm diameter and above where it overhangs playing field, bench or pavement.	C ,1	Short
T739	Pedunculate oak	17.0	2.5	670	4	7.0	7.0	6.0	7.5	2.5	SW	Mature	Fair	Oak tree at field edge within hedge and boundary group. Stem kinks to west and then rights itself at 1.5m. Dead ivy vines on stem. Slight canopy asymmetry due to proximity of adjacent ash.		B ,1, 2	Long
T740	Yew	7.0	1.5	485	12	3.0	7.0	6.0	4.0	2.0	S	Middle Age	Fair	Yew tree growing of out group adjacent to shallow ditch that is heavily biased and leans to south into playing field. Lower limbs and stems removed previously. Some canopy thinning in places.		B ,1	Long
T741	Horse chestnut	13.0	2.0	960	1	6.0	7.5	8.0	4.0	2.0	SW	Mature	Fair	Mature open grown tree at edge of playing field close to ditch. Slight lean to north-east. Trifurcate at 2m, potentially bifurcate at lower point initially but now fused and unable to measure stems individually. Included limb and stem unions. Mechanical damage to lower limbs with associated tearing wounds evident. Horse chestnut leaf miner present. Occluding cavity on west side of stem. Crown lifted previously.		B ,1, 2	Long

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		(m)	(m)	(mm)	arising below 1.5m	(m)	(m)	(m)	(m)	(m)	(N,S,E,W)	Young, Middle Age, Mature	Good, Fair, Poor, Veteran			A,B,C,U (1,2,3)	Long, Medium, Short, Very Short
T742	Pedunculate oak	17.0	2.5	1100	1	10.0	9.5	12.0	9.5	4.5	S	Mature	Good	Fully mature and well formed. Previous loss of major limb in lower southern crown. Minor deadwood commensurate with age. Base obscured by materials.		A ,1	Long
T743	Pedunculate oak	16.0	2.0	1250	1	7.5	11.0	10.0	7.5	2.0	NE	Mature	Good	Large mature oak tree within paddock area. Typical inner crown structure and side spreading form. Occasional previous moderate limb failures and deadwood. Large buttress roots with occluding wounding from horses. No major defects noted.		A ,1, 2	Long
T744	Elder	4.0	1.0	170	8	2.0	1.5	1.5	1.0	1.0	S	Middle Age	Fair	Shrubby form. Retrenching crown with very little live foliage in upper half of crown.		C ,1	Short
T745	Sycamore	19.0	2.0	1050	1	7.0	5.0	10.0	9.0	2.5	W	Mature	Fair	Large stature with an open canopy due to several extending limbs. Slight stem lean and crown bias north. In very early stages of retrenchment. Large stem wound and basal decay on north Side.		B ,1	Medium
T746	Common ash	11.0	3.0	340	1	2.0	5.5	8.0	4.0	3.5	SW	Middle Age	Poor	Poor form with stem lean and crown bias south. Twiggy dieback throughout due to Chalara ash dieback disease.		U	Very Short
T747	Sycamore	7.0	1.5	300	1	5.5	2.5	5.0	4.0	2.0	N	Middle Age	Fair	Squat form with minor dieback in upper Central crown. Bark crack up main stem to 1.5m.		C ,1	Long
T748	Pine species	3.0	0.5	75	1	1.0	1.0	1.0	1.0	0.5	N	Middle Age	Good	Planted tree within meadow area. Fenced in.		C ,1	Long
T749	Sycamore	8.0	1.5	300	1	3.0	4.5	5.0	3.5	2.0	SE	Middle Age	Fair	Vigorous tree with Good future potential.		C ,1	Long
T750	Pine species	4.0	0.5	140	1	1.5	1.5	1.5	1.5	0.5	SE	Middle Age	Good	Planted tree within meadow area. Fenced in. Lower canopy overgrown by dog Rose.		C ,1	Long
T751	Common ash	8.0	2.5	310	1	1.5	3.0	3.0	3.0	3.0	S	Middle Age	Poor	Twiggy dieback throughout due to Chalara ash dieback disease.		U	Very Short
T752	Scots pine	3.0	1.0	210	3	1.5	1.5	2.0	2.0	0.0	W	Middle Age	Good	Tree within meadow area. Basally multi-stemmed.		C ,1	Long
T753	Japanese cedar	4.0	0.5	120	1	1.5	1.5	1.5	1.5	0.5	W	Middle Age	Fair	Planted tree within meadow area. Fenced in. Browning and dieback of foliage.		C ,1	Medium
T754	Scots pine	5.0	0.5	220	1	3.5	3.5	3.0	3.5	0.5	SW	Middle Age	Good	Planted tree within meadow area. Fenced in. Minor shade deadwood typical of species in lower canopy.		B ,1	Long
T755	Pedunculate oak	13.0	2.5	1200	1	9.0	12.0	10.0	11.0	3.0	N	Mature	Fair	Huge stature with large limbs extending south and east. Previous branch loss from lower canopy in south-East and North. Old Pseudoionotus dryadeus fungal brackets on floor at base on Eastern side.		A ,1, 3	Long
T756	Scots pine	5.0	0.5	250	1	2.5	3.0	2.5	2.5	0.5	SW	Middle Age	Good	Planted tree within meadow area. Fenced in. Minor shade deadwood typical of species in lower canopy.		B ,1	Long
T757	Atlas cedar	5.0	0.5	150	1	2.5	2.5	2.5	2.5	0.5	E	Middle Age	Good	Planted tree within meadow area. Fenced in. Lower canopy heavily overgrown by dog Rose.		C ,1	Long
T758	Scots pine	12.0	0.5	300	1	3.0	3.0	3.0	3.0	0.5	N	Middle Age	Good	Planted tree within meadow area. Fenced in. Lower canopy heavily overgrown by dog Rose.		B ,1	Long
T759	Scots pine	7.0	1.0	170	1	2.0	2.0	2.0	2.0	1.0	S	Middle Age	Good	Planted tree within meadow area. Fenced in.		C ,1	Long
T760	Sycamore	6.0	1.0	288	2	3.5	3.5	5.0	4.0	1.0	S	Middle Age	Fair	Vigorous tree. Basally twin-stemmed, possibly two trees forming a single canopy.		C ,1	Long
T761	Monterey pine	8.0	1.5	500	1	5.5	5.0	6.0	3.5	1.0	NE	Middle Age	Fair	One of several scattered pine of similar age. Squat form for stem size. Contorted stem base.		C ,1	Long
T762	Monterey pine	8.0	1.5	500	1	9.0	8.0	6.5	6.5	1.5	SW	Middle Age	Fair	One of several scattered pine of similar age. Larger and better form than tree to South.		B ,1	Long
T763	Pedunculate oak	8.0	0.0	800	1	3.0	11.0	8.0	5.0	2.0	E	Mature	Dead	Fallen dead tree propped up on its southern scaffold branches. Has flushed since the partial failure but subsequently died.		U	Very Short
T764	Pedunculate oak	10.0	2.0	880	1	9.0	9.0	10.0	9.0	2.0	SW	Mature	Good	Excellent form and condition. No significant visible defects.		A ,1	Long
T765	Pedunculate oak	16.0	2.0	1050	1	5.0	10.0	10.0	9.0	3.0	SW	Mature	Poor	Tree at edge of woodland belt and field. Occluding cavities with bat potential. Several large stem and limb failures previously with some occlusion. Asymmetry of crown to north due to previous failure. Dieback throughout upper canopy with associated moderate and major deadwood.		B ,2, 3	Medium
T766	Pedunculate oak	17.0	2.5	1250	1	10.0	16.0	14.0	16.0	3.0	S	Mature	Good	Impressive tree with huge crown span. Shade deadwood commensurate with age but in remarkably good condition. Possible Turkey Oak hybrid.		A ,1, 2, 3	Long
T767	Grey willow	7.0	1.0	405	3	5.0	4.5	7.0	4.0	1.5	N	Middle Age	Good	Well formed round canopy. Slight stem lean and crown bias east over paddock.		C ,1	Long

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		(m)	(m)	(mm)	arising below 1.5m	(m)	(m)	(m)	(m)	(m)	(N,S,E,W)	Young, Middle Age, Mature	Good, Fair, Poor, Veteran			A,B,C,U (1,2,3)	Long, Medium, Short, Very Short
T768	Pedunculate oak	17.0	1.0	1310	1	11.0	8.5	10.5	8.5	2.0	SE	Mature	Good	Large mature open grown oak tree in field. Large buttress roots evident with several Ganoderma sp. and beef steak fungus fruiting bodies evident around lower stem and protruding from buttresses. Moderate deadwood with small amount of major deadwood. Occasional previous moderate limb failures. Attractive form.		A ,1, 2	Long
T769	Pedunculate oak	14.0	5.0	1100	1	9.0	7.0	8.0	7.0	6.0	N	Mature	Dead	Long-standing dead tree. No bark remaining.		U	Very Short
T770	Common ash	7.0	1.5	800	1	4.5	4.5	5.5	6.0	2.0	W	Mature	Poor	Tree within boundary group that is severely dying back with large deadwood evident, dieback potentially caused in part by Ash dieback disease. Lower canopy overgrown by bramble. Woodpecker holes with bat potential on upper stem.		C ,3	Very Short
T771	Pedunculate oak	14.0	2.5	1200	1	12.0	14.0	11.0	11.0	2.5	N	Mature	Good	Good form and condition with Broad spreading crown. Minor shade deadwood commensurate with age. Second oak growing through north-Eastern crown. Old fungal fruiting bodies on ground on North side of trunk, possibly Pseudoinonotus dryadeus.		A ,1	Long
T772	Pedunculate oak	13.0	4.0	650	1	4.0	5.0	7.0	2.0	4.0	E	Middle Age	Fair	Suppressed form growing through north-Eastern crown of a dominant adjacent oak. Shade deadwood.		B ,1	Long
T773	Common ash	13.0	7.0	350	1	4.0	4.0	2.5	2.5	6.0	SW	Middle Age	Poor	Tree within boundary group between larger oak trees that is severely dying back with associated deadwood evident. Lower canopy overgrown by bramble.		U	Very Short
T774	Pedunculate oak	10.0	2.0	560	1	7.0	8.0	6.0	4.0	2.5	E	Middle Age	Good	Maturing tree with Good overall form. Slight crown bias east due to adjacent tree. Pruning stub in lower south-West crown.		B ,1	Long
T775	Pedunculate oak	14.0	2.0	1380	1	5.0	11.0	9.0	6.0	2.5	SE	Mature	Fair	Short fat bole with unusual pronounced buttress flare due to animal grazing. Retrenching crown with stag-headed deadwood. Large branch loss and bark wounds in Northern canopy. Large burr formation mid-Crown. Old Ganoderma fungal bracket on underside of buttress roots on north-West Side. Veteran characteristics but fails to meet the size threshold for exceptionally large set by NPPF.		A ,1, 2, 3	Long
T776	Common alder	15.0	1.0	758	2	5.0	6.0	5.0	6.0	1.5	W	Mature	Good	Excellent condition for age and species with balanced upright form. Twin-stemmed from 0.5m with tight fork that has semi-fused and appears strong.		A ,1	Long
T777	Scots pine	20.0	16.0	650	1	5.0	2.0	3.0	3.0	5.0	W	Mature	Fair	Very slender form due to the loss of all lower branches. Unusually straight trunk for species. Stone track 1m to West.		B ,1	Long
T778	Hybrid black poplar	24.0	1.0	1100	1	7.0	13.0	16.0	7.0	5.0	W	Mature	Fair	Hulking mass of a tree with heavy Crown bias and slight stem lean east. Two large branches lost from lower north-Eastern crown has left a hole.		B ,1	Medium
T779	Common ash	6.0	1.5	184	2	3.5	2.0	2.5	2.5	1.5	S	Middle Age	Fair	Roadside tree within grass verge. Bifurcate at c. 1.5m. Minor tip dieback evident.		C ,1	Short
T780	Field maple	7.0	2.5	566	4	3.5	4.5	2.5	5.0	2.5	W	Middle Age	Fair	2 stems from same rooting stock that are both bifurcate. Ivy clad. Previous limb failures with remnant stubs. At corner of woodland but area beyond has been cleared with some planting evident.		B ,1	Medium
T781	Pedunculate oak	15.0	2.0	1000	1	10.0	9.0	6.0	11.0	3.0	W	Mature	Good	Reasonable form. Asymmetric crown biased West due to adjacent trees. Large branch hung-up in southern crown creating a gap in the canopy. Shade deadwood.		B ,1	Long
T782	Horse chestnut	20.0	2.0	1200	1	6.0	9.0	6.0	7.0	5.0	S	Mature	Fair	Fully mature tree with narrow form for species. In the early stages of natural decline with retrenching crown and stag-head deadwood. Ivy clad lower stem. Large branch extending south over access track. 3.5m Road clearance.		B ,3	Medium
T783	Pedunculate oak	16.0	2.5	1300	1	9.0	6.0	8.5	7.0	2.5	N	Mature	Fair	Very large bole. In the early stages of crown retrenchment with a gappy mid-canopy. Large branch extending north with stem wounding and outer deadwood development. Large fracture stubs and decay pockets in Central Crown. Inspection restricted from track to East. Veteran characteristics but fails to meet the size threshold for exceptionally large set by NPPF.		A ,1, 2, 3	Long
T784	Norway maple	5.0	1.0	200	1	3.0	3.0	3.0	3.0	1.6	W	Middle Age	Good	Planted tree at field edge within fenced area. Slight lean to East. Rounded canopy.		C ,1	Long
T785	Common ash	19.0	6.0	820	1	4.5	2.5	5.0	3.0	7.0	W	Mature	Poor	Slender form with only a small portion of the crown remaining intact. Twin-stemmed at 8m with western stem snapped and died back. Woodpecker holes.		C ,3	Short

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		(m)	(m)	(mm)	arising below 1.5m	(m)	(m)	(m)	(m)	(m)	(N,S,E,W)	Young, Middle Age, Mature	Good, Fair, Poor, Veteran			A,B,C,U (1,2,3)	Long, Medium, Short, Very Short
T786	Crab apple	3.0	1.0	126	10	2.0	2.0	2.0	2.0	1.0	W	Middle Age	Fair	Tree at field edge within dense brambles. Some tip dieback. Heavily fitting which may be indicative of stress.		C ,1	Short
T787	Horse chestnut	13.0	2.0	907	2	7.5	7.0	7.5	6.0	1.5	SW	Mature	Fair	Mature roadside tree within grass verge adjacent to rough tarmac track. Basally bifurcate. Slight lean to north. Previously crown lifted with canopy clearance over road to north adequate. Ivy growth on stem. Horse chestnut leaf miner infestation present significantly browning foliage.		B ,1, 2	Medium
T788	Common ash	7.0	1.5	283	8	4.5	4.0	4.0	4.0	1.0	N	Middle Age	Fair	Basally multi-stemmed with rounded shrubby form.		C ,1	Long
T789	Pedunculate oak	19.0	2.5	1200	1	12.0	12.0	12.0	11.0	4.5	W	Mature	Fair	Large roadside tree within verge. Epicormic growth on lower stem flailed as part of hedge. Crown lifted previously with canopy clearance over road adequate. Typical inner crown structure. Large deadwood pieces in canopy on East and Southern Sides overhanging scrubby area. Phone lines running through canopy.	Remove deadwood 100mm and above where it overhangs on road or verge.	A ,1, 2	Long
T790	Elder	3.0	1.0	144	13	1.0	1.5	1.5	1.5	0.5	W	Middle Age	Fair	Tree within dense brambles. Dying back in places. Multi-stemmed form.		C ,1	Short
T791	Cherry laurel	4.0	0.0	150	1	2.0	2.0	2.0	1.5	0.0	W	Middle Age	Good	Tree within dense undergrowth.		C ,1	Medium
T792	Common ash	21.0	5.0	880	1	7.5	6.0	6.0	6.0	4.0	SW	Mature	Fair	Tree of great stature but in early stages of decline, likely to be accelerated by Chalara ash dieback disease. Branch fracture stubs and small cavities in Central Crown.		B ,3	Medium
T793	Pedunculate oak	16.0	1.0	1350	1	12.0	12.5	12.0	6.0	1.5	S	Mature	Good	Large mature oak tree located on East Side of track and ditch at field edge. Heavily ivy clad restricting inspection of stem and into canopy. Canopy asymmetry due to proximity of oak to south-west. Desiccated fungal fruiting body on North-day since of bad, potentially Eiffel tower fungus (Pseudoinonotus dryadeus). Small amount of moderate and major deadwood in North-eastern canopy. Canopy clearance over track c. 3.5m.		A ,1, 2	Long
T794	Pedunculate oak	19.0	2.0	1350	1	6.5	12.0	9.0	9.0	2.0	S	Mature	Good	Large mature oak tree located on west Side of track and on eastern ditch edge in grass verge. Heavily ivy clad restricting inspection of stem and into canopy. Canopy asymmetry due to proximity of oak to north-east. Small amount of moderate and major deadwood in North-eastern canopy. Slight lean to East. Canopy clearance over track c. 3m.		A ,1, 2	Long
T795	Horse chestnut	27.0	2.0	1420	1	14.0	8.0	13.0	15.0	2.5	SE	Mature	Veteran	Very large horse chestnut at woodland edge on steep north-westerly bank. Some soil erosion around base evident with surface damage to exposed roots. Large flared buttresses with some bark damage, likely caused by horses. Stem leans to north-west and becomes fluted mid-stem. Dieback throughout canopy. Bark wound on South-East Side of stem reveals mass of Black bootlaces which are likely caused by honey fungus infestation (Armillaria mellea) which is likely to have contributed to reduced vigour. Slight hollowing of stem when sounded around bootlace wound. Previous long failures of varying size. Moderate to major deadwood.		A ,3	Medium
T796	Pedunculate oak	16.0	1.0	1400	1	10.0	9.0	12.0	11.0	2.0	SE	Middle Age	Good	Excellent form and condition for age. Massive bole with branches to near ground level. Large fracture stum in South West crown but canopy has regenerated. Located with pig enclosure.		A ,1, 3	Long
T797	Common ash	15.0	3.0	750	1	6.0	6.0	6.0	7.0	2.0	N	Mature	Fair	Large ash tree on northerly slope within boundary group. Minor ash dieback symptoms present but appears relatively healthy at present. Inspection restricted by dense undergrowth obscuring view of stem.		B ,1, 2	Short
T798	Pedunculate oak	12.0	2.5	960	1	8.0	8.0	9.0	8.0	2.5	N	Mature	Good	Good form with attractive rounded crown. Basal stem wounding and bark damage from horse grazing.		A ,1	Long
T799	Pedunculate oak	14.0	1.0	890	1	6.5	6.5	7.5	5.5	2.0	N	Mature	Good	Reasonable form. Slight stem bias East. No significant visible defects.		A ,1	Long
T800	Common hawthorn	5.0	0.0	280	1	3.5	4.0	1.5	4.5	0.5	S	Mature	Fair	Shrubby form and maintained as hedge on Eastern side with field access. Bramble and dog rose growing throughout.		C ,1	Long
T801	Pedunculate oak	11.0	3.0	750	1	8.5	7.0	8.0	6.5	2.0	S	Mature	Good	Tree within hedgerow between fields. Heavily ivy clad. Rounded canopy form. Trifurcate at c. 2m. Thinning canopy and moderate deadwood.		B ,1, 2	Long
T802	Pedunculate oak	14.0	2.5	780	1	6.0	8.0	1.0	5.0	3.0	S	Middle Age	Fair	Suppressed to East by dominant Oak. Multiple lost and removed limbs on lower stem. Moderate shade deadwood.		B ,2	Long

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		(m)	(m)	(mm)	arising below 1.5m	(m)	(m)	(m)	(m)	(m)	(N,S,E,W)	Young, Middle Age, Mature	Good, Fair, Poor, Veteran			A,B,C,U (1,2,3)	Long, Medium, Short, Very Short
T803	Pedunculate oak	10.0	2.0	500	1	6.5	6.5	8.0	6.0	2.0	E	Middle Age	Fair	Tree at end of hedgerow on grassy slope. Adjacent to PRoW. Bifurcate at 2m with heavily included union that has failed and started to split the stem. Limb failure in Central canopy that is hung up. Rounded canopy.	Fell.	C ,1	Long
T804	Pedunculate oak	16.0	4.0	1500	1	10.0	12.0	16.0	5.0	2.0	NE	Mature	Good	Hulk of a tree with huge bole. Slightly congested central stem union and loss of multiple small low branches. Cavity on failed branch extending south-West.		A ,1, 3	Long
T805	Weeping ash	7.0	2.0	450	1	3.0	4.0	4.0	3.0	2.0	E	Middle Age	Poor	Weeping ash within garden adjacent to track. Significant dieback evident with little live footage remaining. Moribund.		U	Very Short
T806	Wych elm	4.0	1.5	260	1	2.0	3.0	2.6	2.5	2.0	N	Middle Age	Fair	Compact crown due to exposed location and loss of central leader. Longitudinal stem wound from dead leader to stem bade on south-East Side.		C ,1	Long
T807	Common ash	12.0	3.0	540	1	7.0	5.5	5.0	7.0	4.0	W	Middle Age	Good	Attractive balanced crown. Slight lean north.		B ,1	Long
T808	Common ash	5.0	3.0	220	1	2.0	2.0	2.0	2.0	1.0	W	Young	Poor	Growing on steep bank rising from track. In decline due to Chalara ash dieback disease.		U	Very Short
T809	Common ash	6.0	4.5	160	1	2.5	1.5	1.5	1.5	3.0	NE	Middle Age	Poor	Moribund tree.		U	Very Short
T810	Common ash	11.0	3.0	735	6	10.0	9.0	8.0	7.0	1.5	E	Middle Age	Fair	Basally multi-stemmed, likely to be more than one tree but forming a single canopy. Stems and scaffold branches heavily ivy clad. Base obscured by vegetation.		B ,1	Long
T811	Common hawthorn	6.0	0.5	423	7	4.5	4.5	4.0	3.0	1.0	N	Middle Age	Fair	Basally multi-stemmed with typical rounded form. Slightly reduced crown density.		C ,1	Long
T812	Common ash	7.0	2.0	365	3	6.5	5.0	5.0	5.0	2.0	S	Middle Age	Fair	Basally tri-stemmed but obscured by vegetation. Domed crown shape.		C ,1	Long
T813	Grey willow	7.0	2.0	300	1	4.5	4.0	4.0	4.0	1.5	NE	Middle Age	Fair	Unusual High canopy for species due to growth within hedge. Congested ivy clad central Crown. Slight crown bias birth.		C ,1	Long
T814	Western red cedar	16.0	1.0	1897	10	8.0	7.0	8.0	8.0	2.0	E	Mature	Good	An impressive tree. Basally multi-stemmed with attractive crown shape. Well suited to pond side location.		A ,1	Long
T815	Small-leaved lime	14.0	0.0	550	1	5.5	3.5	5.5	4.0	0.0	E	Middle Age	Fair	Tree adjacent to road between 2 access points into property. Heavy epicormic growth around base obscuring view. Branch socket cavities with bat potential. previous failure with treating wound in mid-canopy. Canopy clearance over track c. 5m.		B ,1	Long
T816	Western red cedar	16.0	1.5	1398	4	12.0	6.0	7.0	6.0	1.5	SE	Mature	Good	Basally multi-stemmed with Northern stem lying horizontally, effectively forming a separate tree. Well suited to pin side location.		A ,1	Long
T817	Yew	8.0	1.0	510	9	2.0	10.0	4.0	5.0	1.0	S	Middle Age	Fair	Poor form with congested branch structure and heavy crown bias south. Overhangs the road and verge providing 2.5		B ,1	Long
T818	Common ash	16.0	6.0	610	1	5.0	8.0	6.0	9.0	6.0	S	Mature	Fair	Good form and stature. Early leaf drop and twiggy deadwood indicative if Chalara ash dieback infection but not confirmed.		B ,1	Medium
T819	Wild cherry	4.0	2.0	226	8	2.5	2.0	2.0	2.5	1.0	S	Middle Age	Good	Basally multi-stemmed tree within retained planting bed adjacent to slate chip parking area.		C ,1	Medium
T820	Wild cherry	4.0	2.0	212	5	2.0	2.0	2.0	2.0	1.0	S	Middle Age	Good	Basally multi-stemmed tree within retained planting bed adjacent to slate chip parking area.		C ,1	Medium
T821	Common ash	4.0	0.0	240	5	3.5	3.0	3.0	3.0	0.0	N	Middle Age	Fair	Tree on small slope adjacent to road. Ash dieback symptoms present affecting c. 30% of the canopy.		C ,3	Very Short
T822	Common hawthorn	3.0	0.5	184	6	1.0	1.5	1.5	1.5	0.5	N	Middle Age	Fair	Compact form due to exposed location.		C ,1	Long
T823	Common hawthorn	2.0	0.5	147	6	1.0	1.5	1.0	1.5	0.5	SE	Middle Age	Fair	Compact form due to exposed location. Previously cut at 1m and regenerated.		C ,1	Long
T905	Norway spruce	7.0	0.0	130	1	1.5	2.0	2.0	1.5	0.5	N	Middle Age	Good	Next to access road. Typical conical form. Minor wound with resin bleed at base to west		C ,1, 2	Long
T906	Pedunculate oak	16.0	1.5	1390	1	7.5	8.0	9.5	8.0	3.0	E	Mature	Good	Very large field boundary tree. Erosion around buttresses with basal cavity and exposed heartwood but no decay. Large limb removed to north with stub. Dead wood in canopy, some well decayed. Ivy on main stem. Some broken branches and suspended snags. Excellent specimen		A ,1, 2, 3	Long
T907	Pedunculate oak	11.0	5.0	380	1	4.5	1.5	4.0	4.5	3.0	E	Middle Age	Fair	Roadside tree in dense group. Crown pruned away from cables. Minor dead wood		B ,1	Long
T908	Pedunculate oak	12.0	5.0	510	1	5.0	1.5	4.5	5.0	3.0	E	Middle Age	Fair	Roadside tree in dense group. Crown pruned away from cables. Minor dead wood. Ivy clad stem		B ,1	Long
T909	Pedunculate oak	10.0	4.0	970	1	5.0	5.0	5.0	5.0	3.5	W	Middle Age	Fair	Oak located along field boundary on slight bank. Occluding wounds on North of stem with signs of decay. Small cavity at 4m height to north. Historic limb failure to north. Deadwood typical of species. Fungal bracket located to southern side of stem base.		B ,1, 2	Long

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		(m)	(m)	(mm)	arising below 1.5m	(m)	(m)	(m)	(m)	(m)	(N,S,E,W)	Young, Middle Age, Mature	Good, Fair, Poor, Veteran			A,B,C,U (1,2,3)	Long, Medium, Short, Very Short
T910	Pedunculate oak	14.0	5.0	630	1	7.0	6.5	8.0	8.0	4.5	NW	Mature	Good	Roadside tree with Broad Crown, ivy clad stem and minor dead wood		A ,1	Long
T911	Pedunculate oak	16.0	5.5	750	1	8.5	6.5	7.5	8.0	5.0	N	Mature	Good	Roadside tree with Broad Crown, ivy clad stem and minor dead wood		A ,1	Long
T912	Common ash	12.0	3.0	706	2	4.0	3.0	3.0	5.0	4.0	W	Middle Age	Fair	Multi-stem ash located along field boundary. Bark inclusion at union. Symptoms of chalara ash dieback. Around 25-50 percent canopy remaining, predominantly on southern stem. Dead branches on northern stem up to 100m diameter. Historic bark damage and occluded wounds on northern stem. Southern stem leaning to East at 5m height.		C ,2	Short
T913	Pedunculate oak	14.0	4.0	550	1	7.0	7.0	7.0	7.0	4.5	W	Mature	Good	Viewed from Bob Lane. Good crown form and vigour. Limited access		A ,1	Long
T914	Pedunculate oak	16.0	2.0	1030	1	6.5	8.0	10.0	9.0	3.0	S	Mature	Good	Large field boundary tree. Erosion around base with exposed buttresses and basal cavity, minimal decay. Some small fungal fruit bodies, possibly Ganoderma resinaceum. Numerous pruning wounds with stubs in varying stages of decay or occlusion. Woodpecker hole at 5m to north-west. Dead wood throughout		A ,1, 2, 3	Long
T915	Pedunculate oak	17.0	6.5	810	1	8.0	8.5	9.0	9.0	6.0	W	Mature	Fair	Rooted adjacent Roadside. Ganoderma brackets on stem at base and 4m along wound of former lightning strike. Woodpecker holes along wound suggest internal decay.	Monitor.	B ,1	Long
T916	Sycamore	6.0	5.0	300	1	3.0	2.0	2.0	2.0	2.0	W	Middle Age	Fair	Sycamore located in hedge along field boundary, adjacent to road. Extensive ivy growth to stem and into canopy. Limited canopy spread. Deadwood in canopy. Overhanging Road slightly to North.		C ,2	Medium
T917	Sycamore	9.0	3.5	400	1	3.5	3.5	5.0	3.5	3.0	E	Middle Age	Fair	Roadside tree in hedgerow. Flail damage to north side. Dense ivy on main stem. Minor dead wood throughout. Small cavity at 3m to north		C ,2, 3	Medium
T918	Common ash	12.0	4.0	500	1	7.0	7.0	7.0	6.0	3.0	NE	Middle Age	Fair	Ash located in field boundary hedgerow along private driveway. Ivy growth to stem. Bifurcate at 3.5m height, inspection of union restricted by ivy growth. Small cavity on Eastern stem at 3m height. Large occluding wound to upper side of significant limb overhanging driveway to north east with signs of decay. Deadwood in canopy.		B ,1	Medium
T919	Common ash	8.0	3.0	520	1	6.0	4.0	3.5	4.0	3.0	N	Middle Age	Poor	Hedgerow tree. Numerous areas of decay including woodpecker holes. Inonotus hispidus brackets with visible decay columns. Dead wood throughout canopy. Sparse crown		C ,3	Short
T920	Common ash	7.0	3.0	300	1	1.5	3.0	3.0	2.5	3.0	NE	Middle Age	Fair	Hedgerow tree with High canopy and upright form. Numerous broken branches and stubs. Inonotus hispidus brackets present		C ,3	Short
T921	Common ash	11.0	4.0	600	1	6.0	7.0	5.0	5.0	3.0	S	Middle Age	Fair	Ash located in field boundary hedgerow along private driveway. Ivy growth to stem. Inspection of unions and stem restricted by ivy. Fungal fruiting bodies located on large branches to North. Woodpecker hole on branch in upper canopy. Deadwood in canopy.		C ,1	Medium
T922	Common ash	9.0	3.0	400	1	4.0	3.5	4.5	5.0	3.0	W	Middle Age	Fair	Hedgerow tree. Crown raised to East. Ivy on main stem. Somewhat congested crown. Dead wood throughout		C ,1	Medium
T923	Common ash	7.0	2.0	400	1	3.0	5.0	3.0	5.0	2.0	W	Middle Age	Fair	Hedgerow tree. Canopy bias West. Crown raised to East. Some areas of decay on main stem		C ,1	Medium
T924	Pedunculate oak	11.0	3.0	860	1	8.0	8.0	8.0	7.0	2.0	W	Middle Age	Good	Oak located along field boundary. Generally Good vigour. Epicormic growth to stem and branches. Deadwood typical of species. Dead hazard beam to west at 2m height.		A ,1, 2	Long
T925	Pedunculate oak	16.0	3.0	920	1	6.0	9.0	8.0	8.0	4.0	S	Mature	Good	Open grown tree with pronounced basal flare and minor grazing damage. Former stem failure to North leading to slightly asymmetric upper crown to North. Excellent vigour		A ,1	Long
T926	Pedunculate oak	14.0	3.0	810	1	7.0	7.0	7.0	7.0	3.0	S	Mature	Good	Prominent hedgerow tree. Numerous small broken branches and dead stubs. Overhangs Road to North. Large broken stub to South with early decay. Some small branch socket cavities		A ,1, 2	Long
T927	Sessile oak	12.0	3.0	550	1	8.0	8.0	8.0	7.0	3.0	N	Middle Age	Good	Oak located in field boundary group. Generally good vigour. Leaning slightly to east. Deadwood typical of species. No major defects noted.		B ,1, 2	Long

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		(m)	(m)	(mm)	arising below 1.5m	(m)	(m)	(m)	(m)	(m)	(N,S,E,W)	Young, Middle Age, Mature	Good, Fair, Poor, Veteran			A,B,C,U (1,2,3)	Long, Medium, Short, Very Short
T928	Sessile oak	16.0	5.0	1100	1	12.0	10.0	10.0	11.0	5.0	N	Mature	Good	Tree located between roadside and footpath. Heavily ivy clad stem. Crown extends over into site by approx. 5m. Excellent form and vigour		A ,1, 2	Long
T929	Sycamore	8.0	2.5	460	1	5.0	5.0	5.0	4.0	2.5	W	Middle Age	Fair	Hedgerow tree. Historic failure of main leader at 6m with vigorous regrowth. Decay and unidentified fungal fruiting body at wound.		C ,2	Short
T930	Pedunculate oak	14.0	3.0	700	1	7.0	4.0	6.0	3.0	4.0	E	Mature	Good	Surveyed from afar. Asymmetric and weighted crown to North East but good vigour		B ,1, 2	Long
T931	Pedunculate oak	15.0	3.0	750	1	8.0	7.0	7.0	6.5	4.0	E	Mature	Good	Surveyed from afar. Good form and vigour.		A ,1	Long
T932	Pedunculate oak	11.0	4.0	1300	1	10.0	9.0	8.0	5.0	4.0	S	Mature	Fair	Oak located along field boundary. Bifurcate at 2.5m height. Bark missing from upper side of large heavy limbs to North with exposed decaying wood and fern growth. Epicormic growth to branches. Canopy impeded by adjacent tree to west. Significant deadwood over 100mm diameter in canopy. Small fungal fruiting body on limb to South. Tree leaning slightly to east. Burrs on main stem. Some buttress decay visible. Veteran characteristics but fails to meet the size threshold for exceptionally large set by NPPF.		A ,1, 2, 3	Long
T933	Pedunculate oak	15.0	2.5	800	1	7.0	5.0	6.0	7.5	4.0	NW	Mature	Good	Surveyed from afar. Good vigour, forms larger crown with smaller, suppressed tree.		A ,1	Long
T934	Pedunculate oak	12.0	2.5	650	1	3.0	5.0	5.0	6.0	4.0	W	Mature	Good	Surveyed from afar. Good vigour, forms larger crown with larger, adjacent tree.		B ,1	Long
T935	Pedunculate oak	15.0	3.0	900	1	6.5	5.0	6.0	7.5	4.0	N	Mature	Good	Surveyed from afar. Good vigour, forms larger crown with smaller, suppressed tree. Minor grazing damage on buttress.		A ,1	Long
T936	Pedunculate oak	10.0	3.0	550	1	2.5	5.0	3.0	5.5	3.0	W	Mature	Good	Surveyed from afar. Good vigour, forms larger crown with larger, adjacent tree.		B ,1	Long
T937	Pedunculate oak	14.0	1.5	700	1	7.0	6.5	7.0	6.5	4.0	E	Mature	Good	Surveyed from afar. Good form and vigour but with minor cattle grazing damage		A ,1	Long
T938	Pedunculate oak	10.0	5.0	900	1	5.0	5.0	5.0	5.0	4.0	S	Middle Age	Poor	Oak located along field boundary behind fence. Predominantly dead in upper canopy with some epicormic regrowth in main stem. Bark missing from Southern side of main stem with decay visible. Significant deadwood.		C ,3	Medium
T939	Pedunculate oak	15.0	4.5	1000	1	7.0	8.5	8.0	9.0	4.5	W	Mature	Good	Pronounced basal flare with grazing damage and some Inonotus dryadeus fungal fruiting brackets. Burrs on stem. Forms larger canopy with adjacent tree.		A ,1, 2	Long
T940	Pedunculate oak	15.0	4.5	920	1	8.5	7.0	8.0	9.0	4.5	E	Mature	Good	Pronounced basal flare with grazing damage and some Inonotus dryadeus fungal fruiting brackets. Forms larger canopy with adjacent tree.		A ,1, 2	Long
T941	Pedunculate oak	10.0	3.0	800	1	7.0	7.0	7.0	7.0	2.0	W	Middle Age	Fair	Oak located along field boundary behind fence. Large limb failure to North leaving large occluding wound down entire length of stem with decay visible. Grifola frondose fungal fruiting body located to stem base. Deadwood typical of species. Epicormic growth to branches.		B ,2, 3	Long
T942	Scots pine	8.0	4.0	500	1	0.5	4.0	4.0	5.0	3.0	S	Middle Age	Poor	Scots pine located along field boundary behind fence. Large limb failure to North. Extensive decay visible in remaining stub and down into main stem. Dead lower branches and evidence of limb loss in surrounding landscape. Asymmetric canopy. Inspection of stem base restricted by bramble growth.		C ,2, 3	Short
T943	Common ash	12.0	3.0	710	6	5.0	7.5	7.0	6.0	4.0	S	Mature	Fair	Old outgrown coppice. Multistemmed with some stems removed. Areas of decay in coppice stool. Minimal Ash dieback. Cankering and flaking bark in Northern 2 stems.		B ,1, 3	Medium
T944	Scots pine	8.0	4.0	450	1	0.5	2.5	0.5	4.0	3.0	S	Middle Age	Poor	Scots pine located along field boundary behind fence. Large limb failures to North and east. Decay visible in remaining stubs and down into main stem. Dead lower branches and evidence of limb loss in surrounding landscape. Asymmetric canopy. Inspection of stem base restricted by bramble growth.		C ,2, 3	Short
T945	Pedunculate oak	7.0	2.0	370	1	4.0	4.0	4.0	4.0	2.0	E	Middle Age	Fair	Small oak located along field boundary behind fence. Generally good vigour. Some epicormic growth to seem ad branches. Minor deadwood typical of species.		B ,2	Long
T946	Common ash	12.0	5.0	669	2	6.0	4.5	8.5	6.0	5.0	E	Middle Age	Fair	Bifurcate at 1.5m with further bifurcation to Western stem at 2m. Minimal Ash dieback. Upright form. Numerous broken branches and stubs. Suppressed to north-west by woodland		B ,1, 2	Medium

APPENDIX A: Arboricultural Survey Data Sheets



Surveyor [Redacted]
 Survey Date May 2021, September 2021, November 2021, December 2022, January 2023
 Site Rampion 2 Offshore Wind Farm
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Ref	Species	Height	Canopy Ground Clearance	Stem Diameter (or range)	No. of stems/ individuals	Crown Spread North	Crown Spread South	Crown Spread East	Crown Spread West	Lowest Branch Height	Lowest Branch Direction	Maturity	Condition	Comments on form, condition, health and significant defects	Management recommendations in current context	BS 5837 Quality Category	Estimated Remaining Contribution
		(m)	(m)	(mm)	arising below 1.5m	(m)	(m)	(m)	(m)	(m)	(N,S,E,W)	Young, Middle Age, Mature	Good, Fair, Poor, Veteran			A,B,C,U (1,2,3)	Long, Medium, Short, Very Short
T947	Pedunculate oak	9.0	5.0	390	1	5.5	4.5	5.0	4.5	4.0	E	Middle Age	Good	Located adjacent access track. Minor bark wound occluding well.		B ,1	Long
<i>T948</i>	Pedunculate oak	10.0	2.0	<i>650</i>	1	8.0	9.0	<i>8.0</i>	9.0	3.0	S	Middle Age	Good	Oak located along field boundary to edge of ditch, behind fence. Bifurcate at 3m height. Large limb failure to South at 3m height with decayed stub. Deadwood typical of species. Some epicormic growth to branches. Dead limb over 100mm diameter in central crown.		B ,1, 2	Long
T949	Wych elm	9.0	4.0	210	1	3.5	3.5	2.0	2.0	3.0	N	Middle Age	Fair	Small hedgerow tree		C ,1	Long
T950	Common ash	13.0	4.0	494	4	5.5	6.0	5.5	6.0	4.0	S	Middle Age	Good	Multi stemmed at base. Good vigour with minor dead wood		B ,1	Long
T951	Common ash	8.0	3.0	357	3	5.5	5.0	4.5	4.5	2.0	S	Middle Age	Fair	Sprawling crown from multi stem base. Reduced vigour		C ,1	Medium
T952	Pedunculate oak	14.0	5.5	<i>1150</i>	1	8.5	8.0	8.5	7.0	3.0	E	Mature	Good	Very Broad Crown and large stem. Minor and moderate dead wood else excellent form and vigour		A ,1	Long
T953	Sycamore	9.0	4.0	380	1	4.5	4.0	4.5	4.0	2.0	N	Middle Age	Dead	Standing dead tree		U	Very Short
T954	Pedunculate oak	10.0	3.0	470	1	6.5	6.0	6.5	5.5	3.5	N	Middle Age	Good	Hedgerow tree with Good form and vigour		B ,1	Long
T955	Common ash	11.0	5.0	450	1	2.5	2.0	5.5	4.0	2.5	W	Middle Age	Poor	Hedgerow tree with severely reduced vigour and one large failed stem lying in hedge to west		C ,1	Short
T956	Pedunculate oak	8.0	3.0	410	1	5.0	4.5	4.5	4.0	2.0	E	Middle Age	Fair	Hedgerow tree with slightly reduced vigour and windswept upper canopy		C ,1	Long
T957	Pedunculate oak	13.0	3.5	630	1	7.0	7.0	7.5	7.5	3.0	E	Mature	Good	Hedgerow tree with excellent form and vigour		A ,1	Long
T958	Pedunculate oak	10.0	4.5	390	1	5.5	2.0	6.5	2.0	4.0	NE	Middle Age	Fair	Forms larger canopy with adjacent tree but heavily suppressed to North East.		B ,2	Long
T959	Pedunculate oak	12.0	4.0	860	1	9.0	6.5	7.0	7.5	3.0	S	Mature	Good	Large hedgerow tree with excellent form and vigour. Flared stem base		A ,1	Long
T960	Pedunculate oak	12.0	4.0	670	1	8.5	7.0	7.0	7.0	3.0	NE	Mature	Good	Large hedgerow tree with excellent form and vigour. Flared stem base		A ,1	Long
T961	Pedunculate oak	11.0	3.0	650	1	6.0	5.5	5.5	5.5	2.5	S	Mature	Good	Good form and vigour. Flared stem base with minor grazing damage		B ,1	Long
T962	Pedunculate oak	11.0	5.0	440	1	6.0	5.5	6.0	5.0	4.0	SW	Middle Age	Good	Hedgerow tree with good form and vigour		B ,1	Long
T963	Pedunculate oak	13.0	5.0	570	1	6.5	7.5	8.0	6.0	4.0	E	Mature	Good	Hedgerow tree with good form and vigour		A ,1	Long
T964	Pedunculate oak	14.0	5.0	710	1	7.0	8.0	7.0	8.5	5.0	E	Mature	Good	Good form and vigour with minor and moderate dead wood.		A ,1	Long
T965	Pedunculate oak	14.0	5.0	560	1	7.0	6.5	7.0	7.0	4.0	S	Mature	Good	Good form and vigour with minor and moderate dead wood.		A ,1	Long
T966	Pedunculate oak	18.0	5.0	700	1	8.0	8.0	7.5	7.0	5.0	E	Mature	Good	Good form and vigour with minor and moderate dead wood.		A ,1	Long
T967	Pedunculate oak	8.0	3.0	340	1	4.5	5.0	5.0	5.0	2.5	W	Middle Age	Good	Hedgerow tree with Good form and vigour		B ,1	Long
T968	Pedunculate oak	12.0	2.0	1070	1	8.0	10.0	10.0	7.0	3.0	SW	Middle Age	Good	Oak tree located in field. Generally good vigour. Historic leader failure leaving occluding wound and cavity at top of main stem. Historic large limb failure to north and west leaving exposed word with signs of decay. Deadwood typical of species. Epicormic growth on branches. Dead limb to South at 4m height, over 100mm diameter. Flared buttress with cavity at stem base to west.		A ,1, 2	Long
T969	Pedunculate oak	12.0	2.0	1250	1	14.0	10.0	10.5	<i>10.0</i>	2.0	SE	Mature	Good	Huge boundary tree next to ditch. Broad spreading crown. Numerous large dead branches with occasional decay pockets. Tear out wounds with stubs and splits. Typical condition for age, size and location. No major defects		A ,1, 2, 3	Long
T970	Pedunculate oak	8.0	1.5	970	1	4.0	5.0	4.0	4.0	2.0	W	Middle Age	Fair	Oak tree located in farm field. Bifurcate at 2m height. Epicormic growth to stem and branches. Significant deadwood in canopy. Stag heading in Upper Crown. Grifola frondosa bracket to base of tree to North. Small cavity on South of stem with Black ooze.		C ,2, 3	Long
<i>T971</i>	Pedunculate oak	10.0	3.0	<i>950</i>	1	6.0	8.0	8.0	8.0	3.0	E	Middle Age	Fair	Oak located in hedgerow along field boundary, adjacent to road. Extensive ivy growth to stem and inner crown. Epicormic growth to branches. Large historic limb failure to North over road, stub overgrown with ivy. Deadwood typical of species. Canopy overhanging Road to North.		B ,1, 2	Long
<i>T972</i>	Pedunculate oak	17.0	7.0	<i>750</i>	1	7.5	7.0	8.0	7.5	5.0	S	Mature	Good	Roadside tree with excellent form and vigour		A ,1	Long
T973	Pedunculate oak	15.0	2.0	1590	1	12.0	13.0	12.0	12.0	4.0	E	Mature	Good	Oak tree located along field boundary. Excellent example of species. Large canopy spread. Good vigour. Some epicormic growth to branches. Deadwood typical of species. Some significant deadwood in Crown over 100mm diameter. Large historic limb failure to south at 6m height.		A ,1, 2	Long
T974	Pedunculate oak	15.0	6.0	940	1	6.0	8.5	7.5	7.0	7.0	SW	Mature	Fair	Located adjacent tarmac layby. Minor and moderate dead wood to North Crown. Slightly reduced vigour		B ,1, 2	Long

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		(m)	(m)	(mm)	arising below 1.5m	(m)	(m)	(m)	(m)	(m)	(N,S,E,W)	Young, Middle Age, Mature	Good, Fair, Poor, Veteran			A,B,C,U (1,2,3)	Long, Medium, Short, Very Short
T978	Pedunculate oak	10.0	1.0	1030	1	8.0	9.0	7.0	8.0	3.0	SW	Middle Age	Fair	Oak located along field boundary. Generally good vigour. Significant deadwood over 100mm in diameter on southern side of lower crown. Some epicormic growth to branches. Cavity to stem base on northern side with signs of decay.		B ,1, 2	Long
T983	Pedunculate oak	11.0	2.0	1400	1	8.0	11.0	8.5	10.5	3.0	S	Mature	Fair	Very large tree with heavily burred main stem. Erosion around root buttresses with basal hollow but minimal decay. Large wound to North side at 3m with decay and cubic brown rot. Some large dead limbs. Some tip dieback		B ,1, 2, 3	Long
T985	Pedunculate oak	12.0	2.0	1400	1	8.0	12.0	10.0	8.0	3.0	S	Middle Age	Fair	Oak tree located along field boundary. Generally good vigour. Some epicormic growth to stem. Historic large limb failure to south, fungal fruiting bodies growing in cavity of remaining stub. Cavity at branch union to South at 3m height with signs of decay. Significant deadwood over 100mm in diameter in crown. Burr formation on stem. Cavity to Northern stem base with signs of decay. Ganoderma applanatum/australe fruiting body to southern stem base.		A ,1, 2, 3	Long
T991	Pedunculate oak	12.0	1.0	1300	1	7.0	10.0	7.0	7.0	3.0	S	Middle Age	Fair	Oak tree located along field boundary. Generally good vigour. Historic limb failure to south, remaining stub with signs of decay. Cavity on South Western side of main stem at 3m height. Significant deadwood over 100mm in diameter in crown. Burr formation on stem. Cavity to Northern stem base with signs of decay. Remnant fungal fruiting body on Eastern side of main stem at 1m height.		A ,1, 2, 3	Long
T992	Pedunculate oak	13.0	1.5	910	1	7.0	8.0	9.0	8.0	2.5	W	Mature	Good	Large open grown tree. Numerous cavities of varying sizes. Large limb failure in upper crown with heavily decayed stub and hollowing. Very small Ganoderma bracket at base. Epiphyte elder growing in cavity to East. Large vertical decay strip in upper scaffold limb with decay.		A ,3	Long
T993	Pedunculate oak	11.0	3.0	880	1	6.0	4.0	3.5	3.5	4.0	S	Middle Age	Fair	Oak located along field boundary. Reduced vigour, limited canopy spread. Stag heading in Upper Crown. Significant deadwood over 100mm in diameter. Epicormic growth to branches. Small cavities on southern side of stem where branches have been lost.		C ,2	Long
T994	Pedunculate oak	9.0	2.0	970	1	4.0	5.0	5.0	5.0	4.0	W	Middle Age	Fair	Oak located along field boundary to edge of stream. Leaning to South East. Evidence in surrounding landscape of potential historic root plate movement. Epicormic growth to branches and stem. Burr formation on stem. Deadwood typical of species. Cavities to stem base on northern and Eastern side with signs of decay.		C ,2, 3	Long
T997	Pedunculate oak	10.0	3.0	950	1	7.0	5.0	9.0	5.0	3.0	W	Middle Age	Fair	Oak located along field boundary to edge of stream. Reduced vigour. Epicormic growth to branches and stem. Burr formation on stem. Significant deadwood over 100mm in Crown. Historic ivy growth to stem. Flared buttress with cavity to Western side of stem base with signs of decay.		C ,2, 3	Long
T998	Field maple	6.0	0.5	260	1	0.5	4.5	2.5	3.5	0.5	S	Middle Age	Fair	Twisted tree outgrown from hedge. Heavily biased to South, flailed into hedge north. Numerous broken branches and stubs		C ,2	Medium
T1000	Pedunculate oak	13.0	1.5	770	1	7.5	7.5	7.0	7.0	4.0	SW	Mature	Fair	Tree next to stream. Large number of cavities of varying size. Small branch socket cavity of woodpecker hole at 2m North. Tear out wound to large side limb at 4m West with advanced decay. Failed limb and retained stub in upper canopy with decay		A ,3	Long
T1002	Pedunculate oak	12.0	8.0	800	1	6.0	8.0	5.0	8.0	4.0	S	Middle Age	Fair	Oak located along field boundary to edge of stream, adjacent to road. Ivy growth to stem. Epicormic growth on branches. Deadwood typical of species. Small cavities in large limb to South West. Canopy impeded to East by adjacent trees. Small cavity in main stem at 2m height on Southern Side with signs of decay.		B ,1, 2	Long
T1004	Elder	3.0	1.0	370	1	2.0	2.0	2.5	2.0	0.5	E	Middle Age	Poor	Typically tatty multistemmed elder. Numerous dead limbs. Areas of bark loss. Jelly ear fungus abundant. Congested crown		C ,3	Very Short

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		(m)	(m)	(mm)	arising below 1.5m	(m)	(m)	(m)	(m)	(m)	(N,S,E,W)	Young, Middle Age, Mature	Good, Fair, Poor, Veteran			A,B,C,U (1,2,3)	Long, Medium, Short, Very Short
T1005	Sycamore	7.0	1.8	540	1	5.0	5.0	5.0	4.0	2.0	S	Middle Age	Good	Sycamore located in field. Leaning slightly to east. Multi-stem from 2m height. Tight unions with some bark ridging. Bark cracking and loss to mainstem. Root girdling evident at stem base. Small cavity to stem base on Eastern side with some signs of decay. Slight bark canker and Black ooze on northern stem.		C ,1, 2	Long
T1006	Pedunculate oak	12.0	2.0	670	1	6.5	6.0	6.5	7.0	3.0	E	Mature	Good	Open grown tree in field with Good form and vigour		A ,1	Long
T1007	Pedunculate oak	11.0	4.0	640	1	5.5	5.0	5.0	5.5	3.0	SE	Mature	Fair	Hedgerow tree. Multi stemmed from 2.5m. Shade dead wood in crown to South over bridleway		B ,1	Long
T1008	Pedunculate oak	15.0	1.0	900	1	8.0	8.0	8.0	8.0	3.0	N	Middle Age	Good	Oak tree located along field boundary behind fence on adjacent land parcel. Growing next to small stream. Epicormic growth to branches. Deadwood typical of species. Ganoderma bracket located to base of stem. Large limb hanging off to south west. Large occluding wound from historic limb failure to south. Inspection restricted by access.		A ,1, 2	Long
T1009	Pedunculate oak	9.0	3.0	890	1	6.5	6.0	6.0	5.5	2.5	SW	Mature	Fair	Squat hedgerow tree with gnarly crown form, cracks, crevices and holes. Minor and moderate dead wood		B ,1, 3	Long
T1010	Pedunculate oak	8.0	3.0	370	1	3.5	3.0	4.5	3.0	2.5	E	Middle Age	Good	Hedgerow tree, Good form and vigour		B ,2	Long
T1011	Pedunculate oak	13.0	3.0	1040	1	9.0	9.0	9.5	9.0	3.0	N	Mature	Good	Broad Crown, wider than tall. Flared stem base with minor grazing damage. Good form and vigour		A ,1	Long
T1012	Pedunculate oak	11.0	3.0	630	1	5.5	6.0	7.0	6.0	2.5	E	Mature	Good	Hedgerow tree with Good form and vigour		A ,1	Long
T1013	Pedunculate oak	8.0	3.0	1210	1	7.0	6.5	6.5	7.0	3.0	S	Mature	Good	Open grown tree with fully retrenched, dome shaped crown. Large dead wood and branch tears, minor stags in upper crown above foliage. Large stem diameter and pronounced basal flare with minor grazing damage. Excellent vigour for size, age and defects. Veteran characteristics but fails to meet the size threshold for exceptionally large set by NPPF.		A ,1, 3	Medium
T1014	Pedunculate oak	10.0	3.5	410	1	6.0	7.0	7.0	6.5	3.0	S	Middle Age	Good	Hedgerow tree. Minor crown damage to North from agricultural vehicles. Minor dead wood		B ,1	Long
T1015	Pedunculate oak	7.0	3.0	380	1	6.0	5.0	5.5	5.5	2.5	S	Middle Age	Fair	Hedgerow tree with squat form and slightly reduced vigour		C ,1	Long
T1016	Pedunculate oak	10.0	4.0	360	1	6.0	5.5	5.5	6.0	2.5	S	Middle Age	Good	Located adjacent access track. One of two trees forming larger canopy. Minor dead wood		B ,1	Long
T1017	Pedunculate oak	10.0	4.0	370	1	5.0	6.0	5.5	6.0	2.5	S	Middle Age	Good	Located adjacent access track. One of two trees forming larger canopy. Minor dead wood		B ,1	Long
T1018	Pedunculate oak	12.0	3.0	700	1	10.0	8.0	8.0	5.5	3.0	E	Mature	Fair	Large roadside tree. Rather sparse crown with dieback throughout. Ivy on main stem. Unable to inspect.		B ,1, 2	Medium
T1019	Pedunculate oak	12.0	4.5	510	1	7.0	7.5	7.5	7.5	4.0	NW	Middle Age	Good	Hedgerow tree worth Good form and vigour. Minor dead wood		A ,1	Long
T1020	Common ash	13.0	4.0	800	1	11.0	7.0	9.0	9.0	5.0	E	Mature	Fair	Large roadside tree. Minimal ash dieback. Pruned to South to clear overhead cables. Minor dead wood throughout crown. Dense ivy on main stem. Some small cavities		B ,2	Medium
T1021	Common ash	8.0	2.5	492	3	4.5	4.0	4.5	4.0	2.0	W	Mature	Poor	Hedgerow tree, tri-stemmed at base on fat, hollow bole. Crown nearly dead		U	Short
T1022	Pedunculate oak	12.0	2.0	1390	1	12.0	12.0	11.0	12.0	2.5	NW	Middle Age	Good	Oak located along field boundary. Generally good vigour. Some epicormic growth to branches. Deadwood typical of species. Symmetrical canopy spread. Bark damage to northern side of stem base with some signs of decay.		A ,1, 2	Long
T1023	Pedunculate oak	12.0	5.0	770	1	6.5	6.5	6.5	5.5	4.0	W	Mature	Fair	Located adjacent gated field entrance. Stub cuts in crown over gate. Woodpecker holes. Minor bark wounds		B ,1	Long
T1024	Pedunculate oak	13.0	5.0	860	1	8.5	8.0	7.0	7.5	3.0	E	Mature	Fair	Hedgerow tree with Broad Crown. Included union with visible stem split and pronounced elephant ears at 2m. Minor dead wood		B ,1	Long
T1028	Pedunculate oak	10.0	3.0	1500	1	8.0	9.0	7.0	10.0	2.5	S	Mature	Fair	Oak located along boundary. Significant deadwood in upper canopy, stage head formation. Evidence of large limb removal to south, stub showing signs of decay. Tree leaning slightly to West creating asymmetric canopy. Electric cable lodged in bark at 1.5m height on southern side of stem. Fungal fruiting bodies located on stem base to north, adjacent to small cavity with signs of decay. Cavities visible under flared buttress/rootplate		B ,1, 2, 3	Long
T1029	Pedunculate oak	10.0	4.0	370	1	6.0	5.5	5.5	5.0	3.0	N	Middle Age	Dead	Standing dead tree in hedgerow		U	Short

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T1030	Pedunculate oak	10.0	3.0	1150	1	8.0	8.0	6.0	6.0	2.0	E	Middle Age	Fair	Oak tree located along field boundary. Tree has been struck by lightning, large section of main stem missing to west with charred heart wood. Small fungal fruiting bodies present on exposed wood. Significant deadwood in canopy over 100mm diameter. Epicormic growth to branches. Bifurcate at 2m height. Fungal bracket located present on southern stem at 4m height. Large limb to North showing signs of decay with cavity on upper surface.		C ,2, 3	Medium
T1031	Pedunculate oak	8.0	3.0	340	1	3.0	3.0	3.5	3.0	2.0	S	Middle Age	Good	Small, squat hedgerow tree		C ,1	Long
T1032	Pedunculate oak	10.0	3.0	460	1	6.0	6.0	5.5	5.5	2.0	S	Middle Age	Good	Hedgerow tree with Good form and vigour		B ,1	Long
T1033	Pedunculate oak	12.0	4.0	670	1	7.5	7.0	6.5	7.5	2.0	N	Mature	Fair	Hedgerow tree with gnarly, Broad crown form and minor stag headed tips with slightly reduced vigour.		B ,1	Long
T1034	Pedunculate oak	12.0	3.5	1000	1	6.0	7.0	6.0	9.0	4.0	W	Middle Age	Fair	Oak located along field boundary. Epicormic growth on branches. Significant deadwood in canopy over 100mm diameter. Bifurcate at 4m height. Large limb failure to East at 4.5m height, remaining stub with signs of decay and cavity formation. Large occluding wound from limb failure to West at 5m height. Brambles growing at base.		B ,1, 2	Long
T1035	Pedunculate oak	12.0	4.0	700	1	7.0	6.0	6.5	7.5	3.0	E	Mature	Fair	Hedgerow tree with gnarly, Broad crown form and minor stag headed tips with slightly reduced vigour.		B ,1	Long
T1036	Pedunculate oak	10.0	4.0	350	1	7.5	5.0	6.5	7.0	3.0	E	Middle Age	Fair	Hedgerow tree with Broad crown form and slightly reduced vigour.		B ,1	Long
T1037	Pedunculate oak	11.0	4.0	620	1	7.5	6.0	6.5	6.0	3.0	NE	Mature	Poor	Hedgerow tree with Broad crown form and severely reduced vigour.		C ,1	Short
T1038	Pedunculate oak	13.0	3.0	710	1	7.5	7.0	6.5	7.0	2.5	S	Mature	Good	Hedgerow tree, bifurcated at 2m with good stem union. Good crown form and vigour		A ,1	Long
T1039	Pedunculate oak	14.0	3.5	640	1	7.5	8.0	7.0	7.0	3.0	E	Mature	Good	Hedgerow tree. Good crown form and vigour. Ivy clad stem		A ,1	Long
T1040	Pedunculate oak	8.0	5.0	950	1	6.0	5.0	6.0	5.0	4.0	E	Mature	Good	Large three stems possibly fused at base. Ivy clad. Small squat crown grows over access track with 5m clearance. Gnarly growth. Characterful tree.		A ,3	Long
T1041	Pedunculate oak	12.0	2.0	870	1	9.0	8.0	9.0	8.0	3.0	N	Mature	Good	Large prominent roadside tree. Crown raised to South to clear road. Some signs of vehicle impact with wounds and broken branches. Various small cavities. Some large dead limbs in Northern part of canopy. No major defects noted		A ,1, 2	Long
T1042	Pedunculate oak	12.0	4.0	450	1	7.0	6.0	10.0	3.0	4.5	E	Middle Age	Fair	Oak tree located on steep slope adjacent to road. Reduced vigour. Epicormic growth to branches. Minor deadwood in canopy. Ivy growth to stem. Canopy impeded to West by adjacent tree, leaning over road to east.		C ,1, 2	Long
T1043	Pedunculate oak	10.0	4.0	650	1	8.0	6.0	5.0	8.0	4.0	W	Middle Age	Fair	Roadside tree. Major wound to main stem from base to 4m, possible vehicle impact. Decay and bark peeling. Unidentified fungal fruiting bodies at base. Dead wood in crown. Reasonable vigour.		C ,2	Short
T1044	Coast redwood	20.0	8.0	600	1	5.0	4.0	5.0	4.0	5.0	W	Middle Age	Good	Coast redwood located on steep slope adjacent to road. Generally good vigour. Deadwood typical of species. Cavity visible at base under footplate to East. Close inspection restricted by access.		A ,1, 2	Long
T1045	Pedunculate oak	9.0	2.0	340	1	6.0	5.5	5.5	6.0	1.5	N	Middle Age	Good	Small, squat, Broad Crown flailed to edge of track		B ,1	Long
T1046	Swamp cypress	9.0	3.0	200	1	2.0	1.5	2.5	1.5	3.5	N	Middle Age	Fair	Narrow conical form with reduced vigour		C ,1	Medium
T1047	Coast redwood	20.0	5.0	600	1	4.0	4.0	6.0	5.0	8.0	W	Middle Age	Fair	Coast redwood located on steep slope adjacent to road. Generally good vigour. Deadwood typical of species. Some snapped branches visible hanging in canopy. Two large limbs overhanging Road to East. Some ivy growth to stem. Close inspection restricted by access.		A ,1, 2	Long
T1048	Hybrid black poplar	15.0	6.0	360	1	5.0	3.0	4.0	4.5	5.0	N	Middle Age	Poor	Nearly dead		U	Short
T1049	Pedunculate oak	12.0	3.0	1290	1	9.0	8.0	8.0	8.0	3.0	S	Middle Age	Good	Oak located in group along field boundary. Generally Good vigour. Some epicormic growth to stem and branches. Large dead limb stub to East at 5m height. Cavity and signs of decay at Union of large limb to South. Deadwood typical of species.		A ,1, 2	Long
T1050	Pedunculate oak	17.0	6.0	1050	1	9.5	10.0	8.5	8.0	5.0	E	Mature	Fair	Huge tree rooted on raised ground adjacent farm track entrance. Reduced vigour thought crown and shoot tip die back with minor and moderate dead wood		B ,1, 2	Long

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		(m)	(m)	(mm)	arising below 1.5m	(m)	(m)	(m)	(m)	(m)	(N,S,E,W)	Young, Middle Age, Mature	Good, Fair, Poor, Veteran			A,B,C,U (1,2,3)	Long, Medium, Short, Very Short
T1051	Common ash	12.0	3.0	750	9	8.0	8.0	8.0	8.0	1.5	E	Middle Age	Fair	Multi-stem Ash located along field boundary. Displaying symptoms of chalara ash dieback. Approx 50-75 percent canopy remaining. Epicormic growth on stems. Dense bramble and bracken growth at base. Inspection of stem base and unions restricted.		B ,1	Medium
T1052	Pedunculate oak	13.0	1.0	1490	1	7.0	8.0	10.0	7.0	4.0	NW	Middle Age	Good	Oak located along field boundary. Leaning to East creating asymmetric canopy spread. Generally good vigour. Some epicormic growth to branches. Dead limb to West at 4.5m height. Deadwood typical of species. Large limb failure to East at 10m height leaving unoccluded wound.		A ,1, 2	Long
T1054	Pedunculate oak	12.0	4.0	1100	1	6.0	7.0	6.5	6.0	3.5	S	Middle Age	Fair	Oak tree located along field boundary. Generally good vigour. Epicormic growth to stem and branches. Historic large limb failure to South, remaining stub showing signs of decay. Significant deadwood in Crown measuring over 100mm diameter. Dead limb to South overhanging field.		B ,1, 2	Long
T1055	Pedunculate oak	12.0	4.0	1030	1	8.0	8.0	7.0	7.0	4.5	NW	Middle Age	Fair	Oak tree located along field boundary. Generally good vigour. Large dead limbs to South and South West at 4.5m height overhanging field. Significant deadwood in Crown measuring over 100mm diameter. Small piece of barbed wire occluded into bark on stem at 1m height to South East.		B ,1, 2	Long
T1075	Elder	6.0	0.5	350	1	4.5	4.5	4.0	4.0	0.5	N	Mature	Good	Large, mature tree for species. Crown to ground		B ,3	Long
T1076	Pedunculate oak	12.0	4.5	800	1	6.0	7.0	7.0	7.0	3.5	W	Middle Age	Good	Oak located in hedgerow along access road. Generally good vigour. Some ivy growth to stem. Deadwood typical of species. Significant deadwood over 100mm diameter present in upper crown. Epicormic growth on branches. Cavity in main stem at 5m height to east where historic limb failure has occurred. Canopy overhanging access road to east. Broken branch hanging over road.		B ,1, 2	Long
T1077	Cherry species	7.0	2.0	340	1	5.0	6.0	4.0	4.0	1.8	S	Middle Age	Fair	Cherry located on verge adjacent to access road. Canopy lifted over road to west. Reduced vigour. Extensive lichen growth to stem. Slight bulge at stem base. Canker on main stem at 2m height and on limb to South East with signs of decay. Minor deadwood in canopy.		C ,2	Medium
T1078	Common ash	12.0	5.0	550	1	5.0	7.0	6.0	6.0	3.0	S	Middle Age	Fair	Ash located in verge adjacent to access road. Bifurcate at 3m height, some bark ridging at Union. Displaying symptoms of chalara ash dieback. Approx. 75-100 percent canopy remaining. Occluding pruning wounds on stems. Slight lean to west. Root plate visible in surrounding landscape.		B ,1	Medium
T1079	Sycamore	9.0	4.0	720	1	7.0	6.0	7.0	5.0	4.0	SE	Middle Age	Fair	Overhanging track to East. Signs of vehicle damage. Dead leader with some decay. Ditch to West.		C ,2	Medium
T1080	Pedunculate oak	11.0	4.0	700	1	9.0	8.0	7.0	6.0	3.0	NE	Middle Age	Fair	Oak located behind hedgerow along access road. Extensive ivy growth to stem and inner crown. One epicormic growth on branches. Deadwood typical of species. Significant deadwood over 100mm diameter in upper crown. Canopy overhanging Road to East. Inspection restricted by access.		B ,1, 2	Long
T1081	Pedunculate oak	12.0	3.0	1000	1	6.0	7.0	6.0	7.0	3.0	E	Middle Age	Fair	Oak located at top of sloped bank, adjacent to access road. Bifurcate at 3m height. Historic large limb failure to East. Cavity to Northern side of stem at 2m height. Cavity under flared buttress roots to North with signs of decay. Large roots visible in surrounding landscape with mower wounds. Unoccluded pruning wound on western stem at 3m height with signs of decay. Deadwood typical of species. Small cavities in stem base on western side. Canopy lifted over road to 4-5m height.		B ,1, 2	Long
T1082	Common ash	6.0	2.5	220	3	3.0	3.0	3.0	3.0	2.0	E	Middle Age	Fair	Small multi-stem Ash located on grass verge adjacent to private access track. Tight unions with some bark inclusion. Minor deadwood in canopy. Symmetrical canopy form. Some signs of chalara ash dieback.		C ,1	Medium
T1084	Common ash	8.0	4.0	255	2	3.5	3.5	3.0	3.5	2.0	W	Middle Age	Fair	Small multi-stem Ash located on grass verge adjacent to private access track. Tight unions with some bark inclusion. Minor deadwood in canopy. Signs of chalara ash dieback.		C ,1	Medium
T1087	Pedunculate oak	12.0	2.5	950	1	10.0	6.0	6.0	8.0	2.5	W	Mature	Fair	Large hedgerow tree. Signs of decline with large area of dead crown. Numerous cavities of varying size.		B ,1, 3	Long

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		(m)	(m)	(mm)	arising below 1.5m	(m)	(m)	(m)	(m)	(m)	(N,S,E,W)	Young, Middle Age, Mature	Good, Fair, Poor, Veteran			A,B,C,U (1,2,3)	Long, Medium, Short, Very Short
T1108	Cider gum	17.0	1.5	1000	1	10.0	12.0	12.0	4.0	3.0	S	Middle Age	Good	Huge spreading tree within screening group. Suppressed to West. Multistemmed above 2m with tight unions. Large failed limb to North with wound and early decay. Numerous pruning wounds and some large stubs.		B ,1, 2	Long
T1109	Poplar species	10.0	1.0	670	1	5.0	5.0	5.5	4.0	1.0	S	Middle Age	Good	Poplar growing along edge of drainage ditch. Leaning slightly to east. Good form and vigour. Minor deadwood in canopy.		B ,1	Long
T1110	Hybrid black poplar	11.0	1.0	510	1	4.0	5.0	3.0	4.0	1.0	SE	Middle Age	Good	Open grown tree next to drainage ditch. Some broken branches and stubs. No major defects noted		B ,1	Long
T1111	Common hawthorn	5.0	0.0	220	1	2.5	2.5	2.5	2.5	0.5	N	Mature	Good	On edge of Brook, dense round down to ground		C ,1, 3	Long
T1112	Common hawthorn	5.0	0.0	130	4	3.0	3.0	2.5	2.5	0.5	N	Mature	Good	On edge of Brook, dense round down to ground		C ,1, 3	Long
T1113	Common hawthorn	5.0	0.5	220	6	1.5	1.5	3.0	2.5	0.5	W	Middle Age	Fair	Multi stemmed shrubby tree on edge of field ditch		C ,3	Long
T1114	Common hawthorn	5.0	0.5	271	15	1.5	1.5	3.0	2.5	0.5	W	Middle Age	Fair	Multi stemmed shrubby tree on edge of field ditch		C ,3	Long
T1115	Common hawthorn	5.0	0.5	212	7	1.5	1.5	3.0	2.5	0.5	W	Middle Age	Fair	Multi stemmed shrubby tree on edge of field ditch		C ,3	Long
T1116	Sycamore	8.0	2.0	380	1	4.5	5.0	5.0	4.5	1.5	SE	Middle Age	Good	Reasonable form and condition. Lower Eastern branch removed over gated access leaving stub. Base obscured by bramble.		B ,1	Long
T1117	Pedunculate oak	6.0	3.0	350	1	5.0	5.0	5.0	5.0	2.0	N	Middle Age	Fair	Located in dense outgrown hedgerow. Inspection restricted by access. Reasonable vigour. Symmetrical canopy spread.		B ,2	Long
T1118	Pedunculate oak	8.0	2.0	350	1	5.0	5.0	6.0	5.0	2.0	SE	Middle Age	Good	Well formed tree with Good future potential. Growing on edge of dense thorn thicket with consequential crown bias east. Base obscured by dense bramble.		B ,1	Long
T1119	Pedunculate oak	4.0	0.0	200	1	4.0	3.0	3.5	3.5	2.0	E	Middle Age	Fair	Emergent hedgerow tree. Canopy impeded to south by scrubby goat willow.		C ,2	Long
T1120	Goat willow	3.0	1.5	226	8	1.0	3.0	2.0	2.0	1.0	S	Middle Age	Fair	Emergent multi-stem hedgerow tree. Canopy impeded to north by adjacent oak tree.		C ,2	Medium
T1121	Pedunculate oak	14.0	3.0	580	1	8.0	6.0	7.5	4.0	2.0	E	Middle Age	Good	Good vigour, Crown slightly weighed to East. Minor shade dead wood to west		B ,1	Long
T1122	Common hawthorn	6.0	3.0	294	6	5.0	4.0	5.0	4.0	2.0	W	Mature	Fair	Located to edge of Farm track. Ivy growth to stems. Dense bramble growth at base.		C ,2	Medium
T1123	Pedunculate oak	12.0	3.0	550	1	8.0	8.0	8.0	7.0	3.0	E	Middle Age	Fair	Located in outgrown hedgerow. Good vigour. Minor deadwood throughout crown. Barbed wire damage to lower stem to east.		B ,1, 2	Long
T1124	Pedunculate oak	12.0	3.0	721	2	10.0	8.0	10.0	8.0	4.0	NE	Middle Age	Fair	Located in outgrown hedgerow. Bifurcate at 0.5m. Good vigour. Some large deadwood throughout crown and snapped hanging branch to south east. Barbed wire damage to lower stem to east.		B ,1, 2	Long
T1125	Sycamore	16.0	3.0	926	7	9.0	8.0	8.0	8.0	1.5	NE	Middle Age	Fair	Basally multi-stemmed creating a large bole but all rooted independently. Several stems ivy clad. Compound access recently created 5m east of stem; trees likely to have been removed but former ground conditions unknown.		B ,1	Long
T1126	Pedunculate oak	11.0	3.0	550	2	6.0	8.0	8.0	7.5	4.0	W	Middle Age	Fair	Located in outgrown hedgerow. Good vigour. Significant deadwood throughout crown. Tractor damage to branches on lower stem. Barbed wire damage to lower stem to east.		B ,1, 2	Long
T1127	Pedunculate oak	9.0	3.0	500	2	6.0	6.0	8.0	6.0	2.0	W	Middle Age	Fair	Located in outgrown hedgerow. Good vigour. Deadwood throughout crown. Barbed wire damage to lower stem to west.		B ,1, 2	Long
T1128	Pedunculate oak	10.0	3.0	550	2	5.0	8.0	8.0	6.0	2.0	S	Middle Age	Fair	Located in outgrown hedgerow, to edge of ditch. Limb failure to north. Minor deadwood in lower crown. Barbed wire damage to lower stem.		B ,1, 2	Long
T1142	Common hazel	5.0	3.0	438	30	3.0	3.0	2.0	3.0	2.0	N	Middle Age	Fair	Located in hedgerow along bridleway . pruning to Eastern crown.		C ,2	Medium
T1143	Pedunculate oak	9.0	3.0	750	1	3.0	5.0	6.0	6.0	2.0	SW	Mature	Fair	Located in hedgerow to edge of driveway. Bifurcate at 2m. Cavities and hollowing to western stem. Canopy impeded to north by adjacent tree. Electricity wire through lower crown. Reduced vigour. Deadwood throughout crown. Cavity and rot at old pruning wound on eastern stem at 2.5m.		B ,2, 3	Long
T1144	Pedunculate oak	9.0	3.0	650	1	2.0	2.0	2.0	2.0	3.0	W	Middle Age	Poor	Located in hedgerow next to driveway. Extensive ivy growth to stem and into crown. Only one remaining live limb to west. Significant deadwood in upper crown. Bark loss and decay on lower stem.		U	Very Short
T1145	Pedunculate oak	11.0	3.0	650	1	7.0	8.0	7.0	7.0	2.0	E	Middle Age	Fair	Located in hedgerow to edge of driveway. Ivy growth to stem. Deadwood throughout crown. Cavity in lower branch to north. Failed stem in upper crown.		B ,2, 3	Long

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T1146	Pedunculate oak	11.0	3.0	900	1	7.0	8.0	6.0	8.0	3.0	W	Mature	Fair	Located in hedgerow to edge of driveway. Extensive ivy growth to stem and branches. Significant deadwood throughout crown. Failed limb in lower crown. Electricity wire runs through lower crown.		B ,2, 3	Long
T1147	Pedunculate oak	12.0	3.0	650	1	5.0	5.0	6.0	4.0	3.0	E	Middle Age	Fair	Located in hedgerow to edge of driveway. Deadwood throughout crown. Failed limb in upper crown leaving exposed wood.		B ,2, 3	Long
T1148	Pedunculate oak	10.0	4.0	450	1	4.0	6.5	6.0	6.0	3.0	W	Middle Age	Fair	Located in group to edge of driveway. Minor deadwood throughout crown. Some larger deadwood in central and lower crown. Some ivy growth to stem and branches.		B ,2	Long
T1149	Hawthorn species	4.0	3.0	180	1	3.0	2.5	2.5	2.5	1.5	W	Middle Age	Fair	Located in grass verge to edge of driveway. Crown raised to 3m. Occluding pruning wounds on stem. Some epicormic basal growth.		C ,2	Medium
T1150	Pedunculate oak	10.0	4.0	450	1	6.0	6.0	5.0	6.0	3.0	E	Middle Age	Fair	Located in grass verge to edge of driveway. Ivy growth to stem and branches. Telephone wire through lower crown. Deadwood in lower crown over driveway.		B ,2	Long
T1151	Hawthorn species	6.0	4.0	200	1	2.5	5.0	4.0	2.5	2.0	W	Middle Age	Fair	Located in grass verge to edge of driveway. Canopy impeded by adjacent oak tree. Occluding pruning wounds on stem. Deadwood in lower crown.		C ,2	Medium
T1152	Hawthorn species	6.0	4.0	150	1	2.5	1.5	2.5	2.5	2.0	W	Middle Age	Fair	Located in grass verge to edge of driveway. Bifurcate at 2m with stems twisting round each other. Telephone wire through upper crown.		C ,2	Medium
T1153	Pedunculate oak	9.0	4.0	800	1	4.0	6.0	6.0	6.0	3.0	SW	Mature	Poor	Located to edge of public footpath. Reduced vigour. Extensive ivy growth to stem and branches. Stag heading. Significant deadwood throughout Crow.		C ,3	Short
T1154	Pedunculate oak	16.0	2.0	880	1	7.0	9.5	8.0	6.0	1.5	NW	Mature	Fair	Prominent roadside tree but with poor upper crown health. Stag-head deadwood in Central Crown with suspected shout tip dieback on southern branches. Seam of bark necrosis extending down main stem from large branch attachment mid-crown and on lower stem on North side. Rooted on shallow ditch bank.	Consider branch reduction over road.	B ,3	Long
T1155	Cherry species	8.0	3.0	380	1	5.0	4.0	4.5	4.5	1.5	NW	Middle Age	Fair	Located in grass verge to edge of road. Ivy growth to stem and into crown. Multi-stem at 1.5. Central limb failure with decay. Some basal growth. Sap bleeds throughout lower crown.		C ,2	Medium
T1156	Pedunculate oak	11.0	2.0	700	1	7.0	8.0	4.0	7.0	2.5	NW	Middle Age	Fair	Squat firm with dominant branch extending south over access road. Lightly ivy clad stem. Rooted atop shallow Brook bank. Minor deadwood commensurate with age.		B ,1	Long
T1157	Horse chestnut	4.0	3.0	184	6	1.0	2.0	1.5	1.5	1.5	E	Middle Age	Fair	Located in grass verge to edge of road. Canker to stems. Unseasonable bud burst.		C ,2	Medium
T1158	Pedunculate oak	15.0	5.0	420	1	6.0	7.5	6.5	6.0	3.0	N	Middle Age	Good	Rooted adjacent bridleway. Ivy clad stem. Good crown form and vigour		B ,1	Long
T1159	Horse chestnut	8.0	1.5	450	1	5.0	5.0	5.0	5.0	1.5	S	Middle Age	Fair	Located in grass verge to edge of road. Multi-stem at 1.5m. Tight unions. Canopy raised over footpath to souths. Poor pruning cuts. Hazard beam with decay in lower crown to South.		C ,2	Medium
T1160	Goat willow	12.0	4.0	409	4	5.0	4.0	8.0	4.5	1.0	E	Middle Age	Fair	Multi stemmed at base with one stem heavily leaning to East. Minor dead wood over bridleway		C ,1	Long
T1161	Pedunculate oak	15.0	2.0	920	1	7.0	6.0	5.0	5.0	2.0	NW	Mature	Fair	Reasonable but with poor upper crown health. Stag-head deadwood in Central and mid Crown. Previous branch loss from Eastern canopy. Ivy clad stem.		B ,1, 2, 3	Long
T1162	Pedunculate oak	12.0	2.0	1100	1	5.0	7.0	6.5	6.0	1.0	S	Mature	Fair	Located on southern bank of stream. Huge ivy clad stem. Large dead wood stubs within crown. Stag headed form. Excellent habitat value. Veteran characteristics but fails to meet the size threshold for exceptionally large set by NPPF.		B ,3	Long
T1163	Horse chestnut	1.0	0.0	450	1	0.0	0.0	0.0	0.0	0.0	S	Middle Age	Dead	Located in grass verge to edge of road. Dead standing stem, cut down to 1.5m. Decay development. Some epicormic shoots.		U	Very Short
T1164	Horse chestnut	15.0	1.5	781	2	6.0	6.0	7.0	6.0	2.0	N	Mature	Fair	Located along field boundary. Bifurcate at 1m with severe bark inclusion. Main stem failure to West leaving exposed wood with decay present and fungal fruiting bodies visible. Deadwood in upper crown. Limb failure to East with wood exposed.		B ,2	Long
T1165	Pedunculate oak	10.0	5.0	710	1	3.0	4.5	4.0	5.0	3.0	S	Mature	Poor	Large oak now in decline. Most of crown is dead wood with only live foliage to west. Large dead wood over bridleway		C ,1, 2, 3	Medium

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 Site Rampion 2 Offshore Wind Farm
 Drawing Ref D8685.001.01-47

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Ref	Species	Height	Canopy Ground Clearance	Stem Diameter (or range)	No. of stems/ individuals	Crown Spread North	Crown Spread South	Crown Spread East	Crown Spread West	Lowest Branch Height	Lowest Branch Direction	Maturity	Condition	Comments on form, condition, health and significant defects	Management recommendations in current context	BS 5837 Quality Category	Estimated Remaining Contribution
		(m)	(m)	(mm)	arising below 1.5m	(m)	(m)	(m)	(m)	(m)	(N,S,E,W)	Young, Middle Age, Mature	Good, Fair, Poor, Veteran			A,B,C,U (1,2,3)	Long, Medium, Short, Very Short
T1166	Pedunculate oak	18.0	3.0	900	1	7.0	5.0	6.0	6.0	3.5	NE	Mature	Good	One of several mature oaks of large stature lining edge of shelterbelt. Small branch failures and deadwood development commensurate with age. Bramble obscuring stem base.		A ,1, 2, 3	Long
T1167	Horse chestnut	15.0	1.5	1200	2	10.0	7.0	7.0	7.0	2.0	W	Mature	Fair	Located along field boundary. Trifurcate at 2m with severe bark inclusion. Stem to South has failed leaving large cavity with decay. Bleeds to lower stem. Limb failure to West in lower crown. Damage to lower stem to west with decay present.		B ,2, 3	Long
T1168	Pedunculate oak	19.0	5.0	1610	1	13.0	9.0	12.0	11.0	5.0	E	Mature	Good	Magnificent tree with huge stem and massive, Broad Crown. Minor and moderate dead wood as expected from tree this species, size and age. Located adjacent boundary fence and small ditch		A ,1, 2, 3	Long
T1169	Pedunculate oak	17.0	3.0	960	1	7.0	6.5	6.0	6.0	2.0	SE	Mature	Good	One of several mature oaks of large stature lining edge of shelterbelt. Small branch failures and deadwood development commensurate with age. Poaching of ground to west within horse paddock.		A ,1, 2, 3	Long
T1170	Pedunculate oak	17.0	2.5	940	1	7.0	7.0	9.0	7.0	2.5	W	Mature	Fair	One of several mature oaks of large stature lining edge of shelterbelt. Several large branches lost from lower crown leaving fracture stubs of High habitat value. Upper crown is in good health.		A ,1, 2, 3	Long
T1171	Pedunculate oak	17.0	4.0	1100	1	7.0	3.0	9.0	9.0	4.0	W	Mature	Fair	One of several mature oaks of large stature lining edge of shelterbelt. Western stem has historically failed at bifurcate Union leaving a fracture stub of High habitat value. The remaining western canopy us formed by a single branch. Eastern crown is in good health.		A ,2, 3	Long
T1173	Pedunculate oak	13.0	2.5	670	1	3.0	6.0	4.0	6.0	2.5	E	Middle Age	Fair	Growing on edge of wooded copse. Ploughing to within 3m on southern side. Crown lifted to 6m leaving stubs, now with epicormic shoot regrowth. Minor buttress decay.		B ,1, 2	Long
T1174	Pedunculate oak	17.0	4.0	1030	1	6.0	9.0	10.0	10.0	4.0	S	Mature	Good	Field boundary tree with large stem and Broad Crown. Ganoderma lucidium bracket on lower stem to East. No visible decay. Minor and moderate dead wood in crown. Excellent tree.		A ,1, 2	Long
T1175	Pedunculate oak	10.0	2.5	580	1	5.0	4.5	4.5	5.0	2.5	NW	Middle Age	Fair	Growing on edge of wooded copse. Ploughing to within 3m on Eastern and southern sides which gas led to stunted form and compact crown. Crown lifted to 6m leaving stubs, now with epicormic shoot regrowth. Unusual buttress bur on Eastern side, no visible signs of internal decay cavity.		B ,1, 2	Long
T1176	Pedunculate oak	19.0	5.0	1050	1	10.0	10.0	6.0	11.5	3.0	W	Mature	Good	Large stem and Broad Crown. Very large stem stub to East from historic partial crown failure. Good crown compensation growth although slightly reduced vigour. Excellent tree. Veteran characteristics but fails to meet the size threshold for exceptionally large set by NPPF.		A ,1, 2	Long
T1177	Pedunculate oak	17.0	3.5	880	1	5.0	4.5	5.0	5.0	4.0	N	Mature	Fair	Growing on edge of wooded copse. Compact crown form but no significant visible defects. Ivy clad stem and scaffold branches.		A ,1, 2	Long
T1178	London plane	20.0	3.0	1750	1	13.0	13.0	10.0	13.0	5.0	S	Mature	Good	Large mature tree located in grass verge to edge of driveway. Excellent form and vigour. Ivy growth to stem restricting inspection. Minor epicormic basal growth.		A ,1, 2	Long
T1179	Pedunculate oak	10.0	4.0	330	1	6.0	4.5	6.0	5.0	3.5	N	Middle Age	Good	Located to east of road in shrubby group. Crown raised over road with visible stubs. Ivy clad to lower crown. Good crown vigour		B ,1	Long
T1180	Common ash	9.0	5.0	380	1	5.0	5.0	4.5	4.0	2.5	S	Middle Age	Fair	Located in grass verge to edge of driveway. Bifurcate at 2.5m. Displaying symptoms of Ash die back disease with multiple cankers and lesions to stems.		C ,2	Short
T1181	Pedunculate oak	17.0	2.0	1300	1	8.0	7.0	13.0	12.0	2.0	E	Mature	Fair	Very large bole supporting a broad spreading crown. Early veteran characteristics including multiple branch failures from western Crown resulting in fracture stubs and decay of Hugh habitat value. Moderate deadwood development in Central canopy.		A ,1, 2, 3	Long
T1182	Pedunculate oak	11.0	4.0	410	1	7.0	6.5	6.0	7.0	3.0	S	Middle Age	Good	Third party tree adjacent road. Good form and vigour, Broad Crown, no significant defects		B ,1, 2	Long
T1183	Pedunculate oak	16.0	2.0	930	1	10.0	2.5	7.0	9.0	3.0	NW	Mature	Fair	Asymmetric form with stem lean and crown bias to the north-West due to large adjacent oak. Lightly ivy clad mid-stem. No significant visible defects.		A ,1, 2	Long

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T1184	Pedunculate oak	7.0	3.0	300	1	5.0	4.0	4.0	4.0	2.0	S	Middle Age	Good	Third party tree behind hedgerow. Good form and vigour		B ,1	Long
T1187	Common beech	23.0	5.0	1030	1	10.0	9.0	5.0	13.0	4.0	W	Mature	Good	Very large woodland tree in excellent condition		A ,1, 3	Long
T1189	Horse chestnut	13.0	2.0	550	1	6.0	9.0	10.0	5.0	2.0	E	Middle Age	Fair	One of a stand of chestnuts. Asymmetric crown due to dominant adjacent tree but in Good health. Minor grazing damage on lower stem.		B ,1, 2	Long
T1190	Common beech	23.0	10.0	1070	1	11.0	8.0	10.0	5.0	9.0	S	Mature	Good	Very large woodland tree in excellent condition.		A ,1, 3	Long
T1191	Horse chestnut	13.0	2.0	590	1	4.5	5.0	5.0	5.0	2.0	NE	Middle Age	Fair	One of a stand of chestnuts. Attractive balanced crown Grazing damage on lower stem but doesn't appear to have affected crown health.		A ,1, 2	Long
T1193	Common beech	21.0	6.0	980	1	9.0	10.0	8.0	9.0	5.0	S	Mature	Good	Very large woodland tree in excellent condition.		A ,1, 3	Long
T1194	Common beech	24.0	6.0	950	1	8.0	9.5	9.0	8.5	5.0	NW	Mature	Good	Very large woodland tree in excellent condition.		A ,1, 3	Long
T1195	Common beech	25.0	6.0	1260	1	11.0	9.0	10.0	9.5	5.0	W	Mature	Good	Very large woodland tree in excellent condition.		A ,1, 3	Long
T1197	Horse chestnut	8.0	2.0	540	1	5.0	6.0	6.0	5.5	2.0	SE	Middle Age	Good	Squat form with low spreading branch East. Located behind bramble covered fence but appears to be in Good condition.		B ,1	Long
T1199	Common ash	20.0	10.0	1570	1	8.0	10.0	10.0	9.0	5.0	NW	Mature	Veteran	Huge tree for species. Ivy on stem for 3m. Very large stem with fault at 4m to West from former branch failure. Good occlusion wood forming. Multiple large broken branches and stubs in lower crown. Broad Crown appears to be in healthy condition with Good bud growth. Moderate dead wood with woodpecker holes in mid crown		A ,3	Long
T1200	Sweet chestnut	15.0	1.5	1180	1	8.0	7.0	8.0	8.0	2.5	SW	Mature	Good	Excellent example of species. One if several well formed mature trees forming a small copse. Previously crown lifted south over field but now with regenerated lower branches. Attractive balanced form.		A ,1, 2, 3	Long
T1201	Sweet chestnut	13.0	1.5	1070	1	5.0	5.0	8.5	4.5	3.5	SE	Mature	Fair	One of several mature trees forming a small copse. Previous major failure at 6m resulting in the loss if the upper northern canopy and a substantial tear wound. Good habitat value.		B ,2, 3	Long
T1203	Common ash	16.0	7.0	1040	1	10.0	8.0	7.5	9.0	5.0	S	Mature	Fair	Large stem for species. Broad Crown South some reduced vigour and large branch failures due to Inonotus hispidus brackets. Moderate dead wood with wood pecker holes. Veteran characteristics but fails to meet the conditon threshold set by NPPF.		B ,3	Medium
T1205	Common beech	19.0	2.5	1100	1	6.0	18.0	6.0	10.0	2.5	S	Mature	Fair	Remnant mature tree in recently cleared woodland. Rooted atop bank with pronounced buttresses and exposed roots. Asymmetric form with long end-weighted limbs extending south and abrupt upright stems to East. Now in a very exposed location with increased likelihood of wind related stem/branch failure.		B ,1	Long
T1206	Common beech	14.0	2.0	500	1	5.0	6.0	6.0	4.0	2.0	E	Middle Age	Good	Remnant tree in area of cleared woodland. Location approximated and inspected from distance. Reasonable form with slight stem bow east.		B ,1	Long
T1207	Common beech	15.0	2.0	650	1	6.0	6.0	6.0	6.0	2.0	S	Mature	Good	Remnant tree in area of cleared woodland. Location approximated and inspected from distance. Good form with attractive balanced crown.		A ,1	Long
T1208	Pedunculate oak	12.0	7.0	1580	1	9.0	3.5	5.0	5.0	7.0	NE	Mature	Veteran	Huge bole with small cavity on south side at 1.5m. Primary branches on South side have failed resulting in fracture stubs and cracks that now support fungi. Large deadwood present in lower crown due in part to shading by adjacent large beech. Healthy upper crown biased north.		A ,1, 2, 3	Long
T1209	Elder	3.0	0.5	140	1	1.0	1.5	1.0	2.0	0.5	N	Middle Age	Fair	Self set shrubby tree		C ,3	Medium
T1210	Elder	3.0	0.5	136	2	1.0	2.0	2.0	1.0	0.5	N	Middle Age	Fair	Self set shrubby tree		C ,3	Medium
T1211	Common beech	26.0	3.0	1200	1	11.0	7.0	13.0	7.0	7.0	NE	Mature	Good	One of a pair of stunning beech trees. Good structural form, strong apical dominance and no significant visible defects.		A ,1, 2, 3	Long
T1212	Common ash	13.0	4.0	390	1	5.0	4.5	5.0	4.5	3.0	S	Middle Age	Fair	Good crown form but slightly reduced vigour.		B ,2	Medium
T1213	Common ash	13.0	4.0	409	4	5.0	5.0	5.5	4.5	3.0	N	Middle Age	Fair	Multi stemmed at base. Good crown form but slightly reduced vigour.		B ,2	Medium
T1214	Common beech	30.0	3.0	1190	1	10.0	9.0	7.0	10.0	4.5	N	Mature	Good	One of a pair of stunning beech trees. Good structural form, strong apical dominance and no significant visible defects.		A ,1, 2, 3	Long
T1215	Horse chestnut	19.0	1.0	830	1	9.0	8.0	8.0	8.0	2.0	SE	Mature	Fair	Remnant tree in recently cleared woodland, now very exposed. Primary branch failure in lower northern canopy leaving a large fracture stub. Reasonable firm if remaining tree.		B ,1	Long

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T1216	Horse chestnut	24.0	4.0	1050	1	7.5	8.0	12.0	7.0	2.5	N	Mature	Good	Very large tree with Broad Crown. Bifurcated at 6m with good stem union. Broken stems to Western canopy from recent tree feeling.		A ,1	Long
T1217	Common beech	10.0	3.0	520	1	2.5	9.0	8.0	3.0	6.0	S	Middle Age	Fair	Asymmetric upper crown due to former Ash tree that has since been felled.		B ,1	Long
T1218	Common beech	23.0	11.0	1150	1	6.5	4.0	5.0	5.0	13.0	SE	Mature	Fair	One of multiple mature beech within wood pasture. Twin stemmed at 4.5m but southern stem has been cut at c.11m.		B ,1, 2	Long
T1219	Common beech	15.0	1.0	640	1	6.5	7.0	6.5	7.0	3.0	S	Mature	Good	Dense crown with long sweeping branches. Lost central leader around 13m. Good crown form.		B ,1, 3	Medium
T1220	Common beech	27.0	0.5	1100	1	6.5	9.0	8.0	9.0	3.0	S	Mature	Good	One of multiple mature beech within wood pasture. Previous loss of codominant leader and scaffold branch but retains good overall form.		A ,1, 2	Long
T1222	Common beech	26.0	0.5	940	1	9.0	9.0	10.0	9.0	4.0	NW	Mature	Good	Excellent example of species with sweeping foliage to near ground level. One of multiple mature beech within wood pasture. No significant visible defects.		A ,1, 2, 3	Long
T1224	Common beech	18.0	0.5	790	1	2.0	13.0	7.0	8.0	4.0	SE	Mature	Fair	One of multiple mature beech within wood pasture. Stem lean and crown bias south due go adjacent dominant beech.		B ,1, 2	Long
T1225	Common beech	27.0	2.0	880	1	7.5	7.5	7.0	10.0	2.5	W	Mature	Poor	Good form but with retrenching canopy due to upper dieback. Porcelain fungus up main stem.		C ,1	Medium
T1226	Common beech	18.0	3.0	1210	1	8.0	10.0	13.0	9.0	3.0	E	Mature	Good	Very large tree with slight lean to East and canopy weighted East. Excellent vigour. Marvellous specimen		A ,1, 2	Long
T1227	Common ash	11.0	4.0	396	2	6.5	5.5	5.0	6.0	4.0	S	Middle Age	Fair	Hedgerow tree. Bifurcate at 1m with slightly included union. Ivy clad to lower crown. Reduced vigour		B ,3	Medium
T1228	Common ash	18.0	6.0	990	1	10.0	9.0	9.0	10.0	7.0	NE	Mature	Fair	Very large tree with slight decay wounds and cavities on main union and one stem. Good crown vigour but minor and moderate deadwood. Veteran characteristics but fails to meet the condition threshold set by NPPF.		B ,1, 2, 3	Long
T1229	Common ash	6.0	1.5	330	1	4.5	4.0	4.0	4.0	1.5	SE	Middle Age	Good	Establishing tree with Good future potential. Bud formation and crown health look good.		C ,1	Long
T1231	Common ash	8.0	2.5	330	1	4.0	4.0	4.0	4.0	3.0	SE	Middle Age	Fair	Well formed tree with attractive balanced crown shape. Small broken branch and twiggy shade deadwood. Crown health unknown due to season but bud distribution appears normal.		C ,1	Long
T1232	Wych elm	5.0	0.5	153	3	3.0	2.5	1.5	1.5	0.5	S	Middle Age	Fair	Self set tree with two further establishing suckers. Adjacent access track. Reduced vigour		C ,2	Medium
T1233	Horse chestnut	14.0	5.0	420	1	6.0	3.0	4.5	1.0	2.5	N	Middle Age	Poor	Almost dead. One stem to south failed with crown lying in adjacent woodland. Remaining crown to North almost dead. Decay fungus at base and on dead stem.	Fell and leave as habitat	U	Very Short
T1234	Poplar species	15.0	6.0	570	1	5.0	5.0	5.5	4.0	2.0	SW	Middle Age	Good	Located within field boundary screening group to edge of road. Good form and vigour. Poor pruning cuts to branches on lower stem. Deadwood in lower crown.		B ,1, 2	Long
T1235	Horse chestnut	15.0	5.0	376	2	3.5	5.5	6.0	2.0	2.0	N	Middle Age	Fair	Rooted in embankment adjacent access road. Bifurcated at 0.5m with slightly included stem union. Crown raised over road with Good clearance. Ivy clad stems		B ,2	Medium
T1236	Pedunculate oak	22.0	2.0	1400	1	10.0	10.0	13.0	7.0	2.5	S	Mature	Fair	Huge bole leading to large multi-stem union at 4m. Lower Western limb has recently failed leaving a large tear wound. Large deadwood in Central Crown leading to decay pocket in primary scaffold branch. Veteran characteristics but fails to meet the condition threshold set by NPPF.		A ,1, 3	Long
T1237	Poplar species	15.0	6.0	440	1	5.0	4.5	4.5	4.5	2.0	N	Middle Age	Good	Located within field boundary screening group to edge of road. Good form and vigour. Deadwood in lower crown.		B ,1, 2	Long
T1238	Poplar species	15.0	6.0	500	1	6.0	5.5	5.5	5.0	2.0	N	Middle Age	Good	Located within field boundary screening group to edge of road. Good form and vigour. Deadwood in lower crown.		B ,1, 2	Long
T1239	Pedunculate oak	14.0	7.0	850	1	5.0	6.0	6.5	6.0	5.0	S	Mature	Fair	Rooted at top of Eastern embankment of ditch adjacent car park. Crown raised over adjacent building with large stub cuts.		B ,1, 2	Long
T1240	Pedunculate oak	25.0	3.0	1050	1	9.0	10.0	9.0	8.0	4.0	S	Mature	Good	Columnar form for species and visually prominent due to height. Previous branch loss in upper southern crown resulting in cavity. Pruning stubs in lower crown.		A ,1, 3	Long
T1241	Common ash	10.0	5.0	631	2	7.5	5.5	5.5	5.5	2.0	S	Middle Age	Fair	Located in grass verge to edge of road, just north of screening block. Bifurcate at 0.5m with bark inclusion. Likely suffering from chalara ash due back disease. Significant deadwood in lower crown. Overhanging footway and road to North. Dead stub with fungal fruiting body at 1m to West.		C ,2	Medium

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T1242	Field maple	12.0	4.0	370	7	5.5	4.0	5.0	5.0	2.0	S	Middle Age	Fair	Rooted at top of Eastern embankment of ditch adjacent car park. Multi stemmed at base and heavily ivy clad.		C ,2	Long
T1243	White poplar	17.0	5.0	644	2	10.0	1.0	8.0	3.0	5.0	NE	Middle Age	Fair	Bifurcated at 1m with Southern stem removed leaving a 3m stub. Northern stem leans North east south crown weighted North east. Ivy on stem.		B ,2	Medium
T1244	Pedunculate oak	18.0	4.0	1100	1	10.0	11.0	11.0	9.0	4.0	W	Mature	Good	Very large tree with open Broad Crown. Minor and moderate dead wood. Excellent tree		A ,1, 2	Long
T1245	Lawson cypress	13.0	0.5	360	1	3.5	4.0	3.0	5.5	2.0	E	Middle Age	Good	Rooted to West of ditch. Lawson variety with weeping crown. Crown cut back away from access road with 4m clearance over road.		B ,2	Long
T1246	Common ash	10.0	5.0	530	2	6.0	4.5	5.0	4.5	2.0	NE	Middle Age	Fair	Located in grass verge to edge of road, just north of screening block. Likely suffering from chalarash due back disease. Significant deadwood throughout lower crown. Overhanging footway and road to North. Dead stubs with decay on lower stem.		C ,2	Medium
T1247	Common ash	11.0	5.0	640	2	7.5	6.5	6.5	6.5	2.0	SE	Middle Age	Fair	Located in grass verge to edge of road, just north of screening block. Likely suffering from chalarash due back disease. Significant deadwood throughout lower crown. Overhanging footway and road to North. Damage to bark at stem base to North, potentially from car collision. Earth mounded around base. Dead limb in lower crown to East with fungal fruiting brackets. Large fallen limb to West.		C ,2	Medium
T1248	Turkey oak	23.0	4.0	920	1	11.0	4.5	10.0	11.0	2.0	NE	Mature	Good	Fantastic example of its species. Dominant tree in surrounding woodland with well balanced form. Stem lightly ivy clad.		A ,1, 2	Long
T1249	Italian alder	11.0	1.0	380	1	4.5	6.0	5.0	6.5	3.0	E	Middle Age	Good	Bifurcate and kinked stem from 3m. Good upper crown form and vigour		B ,2	Long
T1250	Pedunculate oak	9.0	5.0	480	2	7.5	5.5	5.0	5.0	2.0	SW	Middle Age	Fair	Located in grass verge to edge of road, just north of screening block. Significant deadwood throughout lower crown. Overhanging footway and road to North. Occluding stubs on lower stem.		B ,1, 2	Medium
T1251	Lawson cypress	13.0	0.5	390	1	4.0	4.0	5.0	5.5	2.0	E	Middle Age	Good	Rooted to West of ditch. Lawson variety with weeping crown. Crown cut back away from access road with 4m clearance over road.		B ,2	Long
T1252	Pedunculate oak	16.0	4.0	969	2	11.0	7.0	14.0	9.0	4.0	SW	Mature	Good	Large, strong twin-stem union at 1m giving rise to a Broad Crown biased East over field. Largest tree in surrounding belt lining Decoy Lane. Lightly ivy clad stems.		A ,1, 2	Long
T1253	Common ash	10.0	5.0	380	1	3.0	3.0	3.5	3.0	3.0	N	Middle Age	Fair	Located being earth bank. Inspection restricted by access. Likely suffering from chalarash dieback disease. Crown raised to 5m. Ivy growth to stem.		C ,2	Short
T1254	Sessile oak	9.0	3.0	230	1	4.0	4.0	5.0	4.0	1.5	E	Middle Age	Fair	Good form but slightly reduced vigour in lower crown. Planted on raised mound with visible but minor root damage.		C ,1	Long
T1255	Common ash	10.0	5.0	550	1	3.0	5.0	5.0	5.0	3.0	S	Middle Age	Fair	Located to edge of field. Canopy impeded to north by adjacent tree. Likely suffering from chalarash dieback disease. Epicormic growth to stem. Ivy growth to stem. Bramble growth at stem base impeding inspection.		C ,2	Short
T1256	Red oak	12.0	3.0	430	1	6.0	6.5	6.0	6.0	3.0	E	Middle Age	Good	Well formed vigorous tree with Good future potential. Growing on grass verge between field access' with small Brook 1.5m East of stem.		B ,1	Long
T1257	Common ash	9.0	5.0	600	1	4.0	5.5	5.5	5.0	2.0	E	Middle Age	Fair	Located to edge of field. Canopy impeded to north by adjacent tree. Likely suffering from chalarash dieback disease. Epicormic growth at pruning cuts. Ivy growth to stem.		C ,2	Short
T1258	Pedunculate oak	10.0	4.0	450	1	3.5	3.5	5.5	5.5	4.0	SW	Middle Age	Fair	Located to edge of field. Canopy impeded to north and south by adjacent trees. Ivy growth to stem restricting inspection. Epicormic growth to stem.		B ,2	Long
T1259	Pedunculate oak	14.0	2.5	1300	1	7.0	5.0	6.0	8.0	2.5	E	Mature	Fair	Predates surrounding woodland with very large bole. Primary branch union at 2.5m but all 3 lower branches have failed leaving fracture stubs. Contorted upper crown containing moderate deadwood and cavities. Large plates of loose bark on lower Eastern side of stem. Heavily ivy clad. Veteran characteristics but fails to meet the size threshold for exceptionally large set by NPPF.		A ,1, 2, 3	Long

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 Site Rampion 2 Offshore Wind Farm
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Ref	Species	Height	Canopy Ground Clearance	Stem Diameter (or range)	No. of stems/ individuals	Crown Spread North	Crown Spread South	Crown Spread East	Crown Spread West	Lowest Branch Height	Lowest Branch Direction	Maturity	Condition	Comments on form, condition, health and significant defects	Management recommendations in current context	BS 5837 Quality Category	Estimated Remaining Contribution
		(m)	(m)	(mm)	arising below 1.5m	(m)	(m)	(m)	(m)	(m)	(N,S,E,W)	Young, Middle Age, Mature	Good, Fair, Poor, Veteran			A,B,C,U (1,2,3)	Long, Medium, Short, Very Short
T1260	Pedunculate oak	17.0	6.0	680	1	10.0	8.0	10.0	8.0	4.0	S	Mature	Fair	Large woodland tree adjacent access road. Ivy clad stems. Reduced vigour and minor dead wood in lower canopy, probably as a result of shading. Broad Upper crown.		A ,2, 3	Long
T1261	Norway spruce	14.0	3.0	320	1	3.0	3.5	3.5	2.0	2.5	SW	Middle Age	Fair	Tall narrow crown, good vigour		B ,1	Long
T1262	Common ash	12.0	6.0	410	1	4.5	5.0	4.0	4.5	5.0	S	Middle Age	Poor	Failed crown to North. Southern Crown mainly regen growth from lower down the stem. Reduced vigour		C ,2	Short
T1263	Pedunculate oak	17.0	6.0	550	1	9.0	8.0	9.0	8.0	4.0	S	Mature	Fair	Large woodland tree adjacent access road. Ivy clad stems. Reduced vigour and minor dead wood in lower canopy, probably as a result of shading. Broad Upper crown.		A ,2, 3	Long
T1264	Common ash	12.0	2.0	729	4	4.0	4.0	8.0	4.0	2.0	E	Mature	Fair	Located in group to edge of public footpath. Canopy impeded by adjacent trees and biased to east. Multi-stem at base. Barbed wire damage to one stem. Large adjacent tree to west has fallen and is now resting in canopy.		B ,2	Medium
T1265	Pedunculate oak	15.0	6.0	690	1	9.0	8.0	9.0	10.0	4.0	SW	Mature	Fair	Large woodland tree adjacent access road. Broad Upper crown with Good form and vigour		A ,1, 2, 3	Long
T1266	Pedunculate oak	14.0	4.0	310	1	5.0	5.0	1.5	7.0	3.0	W	Middle Age	Fair	Suppressed to East due to adjacent large oak. Crown weighted west		B ,2	Long
T1267	Common ash	15.0	2.0	699	3	8.0	4.0	8.0	4.0	2.0	NW	Mature	Fair	Located in group to Edge of public footpath. Canopy impeded by adjacent trees and biased to East. Multi-stem at base. Ivy growth to stems. Dead limb to East overhanging horse field.		B ,1, 2	Medium
T1268	Hybrid black poplar	24.0	8.0	590	1	8.0	8.0	8.0	7.5	1.0	W	Mature	Good	Tallest tree in vicinity with Broad Upper Crown. Good form and vigour		A ,1, 2	Long
T1269	Common ash	15.0	4.0	490	1	8.0	4.0	7.0	7.0	3.5	N	Middle Age	Good	Well formed tree but with stem lean and crown buss birth. Base buried by stable waste. Crown health unknown due to season but looks OK.		B ,1	Long
T1270	Lawson cypress	15.0	0.5	470	1	5.0	4.0	4.0	5.0	0.5	S	Middle Age	Good	Grows through canopy of adjacent poplar and oaks. Conical form. Pruned away from access road and up to 4m clearance.		B ,2	Long
T1271	Common ash	15.0	0.0	700	3	1.0	1.0	8.0	1.0	4.0	E	Mature	Poor	Located in group to Edge of public footpath. Root plate failure. Fallen and resting in adjacent tree. Ivy growth to stem	Remove limbs overhanging footpath and leave stem for habitat.	U	Very Short
T1272	Hybrid black poplar	16.0	5.0	390	1	5.0	7.0	7.0	6.0	1.0	E	Middle Age	Good	Tall woodland tree with no significant defects		B ,2, 3	Long
T1273	Pedunculate oak	15.0	2.5	1650	1	12.0	8.0	12.0	11.5	2.0	NE	Mature	Good	A hulk of a bole with a limb of enormous girth extending east. Minor deadwood and cavitation in Central Crown commensurate with age. An impressive tree.		A ,1, 2, 3	Long
T1274	Common ash	13.0	6.0	350	1	4.5	5.0	5.5	5.0	6.0	S	Middle Age	Fair	Broad Crown. Ivy clad to lower crown. Located on top of ditch edge adjacent field access		B ,2	Medium
T1275	Pedunculate oak	6.0	1.5	421	3	5.0	3.0	5.5	5.5	1.5	NE	Middle Age	Fair	Basally tri-stemmed. Possibly 2 separate trees but forming a single canopy. Evidence of historic stem loss leading to basal cavity in Northern stem.		C ,1	Long
T1276	Goat willow	5.0	0.5	495	4	6.0	6.0	5.0	6.5	0.5	N	Middle Age	Fair	Basally multi-stemmed with typical rounded crown shape. Central stem has canker at 1m.		C ,1	Medium
T1277	Turkey oak	12.0	1.5	510	1	8.0	7.5	7.5	8.0	2.5	W	Middle Age	Good	Excellent form and condition. Good future potential.		B ,1	Long
T1278	Pedunculate oak	9.0	2.0	260	1	4.5	3.0	4.5	4.5	2.0	W	Middle Age	Fair	Located to edge of footpath. Canopy impeded by adjacent trees. Ivy growth to stem. Minor deadwood in lower crown to North.		B ,2	Long
T1279	Pedunculate oak	28.0	3.0	1300	1	7.0	7.0	13.0	7.0	4.0	E	Mature	Good	Very thick stem leading to a large, congested union at 7m. Prominent in the landscape due to its size. Stem lean and crown buss east.		A ,1, 2, 3	Long
T1280	Common ash	12.0	2.0	725	3	6.0	6.0	6.0	5.5	3.0	S	Mature	Fair	Located to edge of field. Directly adjacent to stream. Likely suffering from Chalara ash dieback disease. Large limbs dropped in surrounding landscape. Several dead/hollowing stems in inner crown. Ivy growth to stem and bramble growth at base.		B ,2	Medium
T1281	Pedunculate oak	13.0	4.0	608	2	7.0	4.0	7.0	8.0	4.0	E	Middle Age	Fair	Basally twin-stemmed, possibly two trees but forming a single crown. Contorted form with abrupt stem bends. Minor shade deadwood.		B ,2	Long
T1282	Pedunculate oak	13.0	5.0	610	1	7.0	6.0	8.5	5.5	5.0	E	Mature	Good	Woodland tree on very corner of woodland. Good vigour, Crown slightly weighted east.		B ,1, 3	Long
T1283	Pedunculate oak	13.0	8.0	430	1	5.0	6.0	5.0	5.0	7.0	N	Middle Age	Fair	Top-heavy fluted form due to lack if lower branches, possibly due to LV powerline clearance.		B ,2	Long
T1285	Common ash	10.0	6.0	390	1	4.0	4.0	4.0	4.0	5.0	N	Middle Age	Fair	Fluted form. Foliar health unknown Due to season but suspected Chalara ash dieback disease infection.		C ,1	Short

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Ref	Species	Height	Canopy Ground Clearance	Stem Diameter (or range)	No. of stems/ individuals	Crown Spread North	Crown Spread South	Crown Spread East	Crown Spread West	Lowest Branch Height	Lowest Branch Direction	Maturity	Condition	Comments on form, condition, health and significant defects	Management recommendations in current context	BS 5837 Quality Category	Estimated Remaining Contribution
		(m)	(m)	(mm)	arising below 1.5m	(m)	(m)	(m)	(m)	(m)	(N,S,E,W)	Young, Middle Age, Mature	Good, Fair, Poor, Veteran			A,B,C,U (1,2,3)	Long, Medium, Short, Very Short
T1286	Field maple	8.0	0.5	351	4	4.0	4.0	4.5	3.0	0.5	E	Middle Age	Fair	Poor structural firm due to very low stem/branch union and no clear apical dominance. Very dense twiggy shoot tip growth, cause unknown.		C ,1	Long
T1287	Common ash	7.0	1.5	430	1	4.0	4.0	4.5	3.0	1.5	SW	Middle Age	Fair	Squat form. Foliar health unknown Due to season but suspected Chalara ash dieback disease infection.		C ,1	Short
T1288	Field maple	8.0	1.0	336	3	4.5	3.0	4.0	3.5	1.0	E	Middle Age	Good	Hedgerow tree. Multi stemmed at base with dense crown.		B ,2	Long
T1289	Pedunculate oak	12.0	6.0	680	1	7.0	1.0	6.0	2.0	3.5	W	Mature	Dead	Standing dead tree, only scaffold structure remaining.		U	Very Short
T1290	Pedunculate oak	5.0	1.0	430	1	5.0	3.5	4.5	4.0	1.0	S	Middle Age	Good	Hedgerow tree. Dense crown that has been topped under overhead lines		B ,2	Long
T1291	Common ash	14.0	5.0	493	5	9.0	6.5	6.0	8.5	3.0	W	Middle Age	Good	Hedgerow tree. Multi stemmed at base with one main stem. Crown raised over field access with visible stub cuts. Good crown vigour		B ,1, 2	Long
T1292	Pedunculate oak	14.0	2.0	1020	1	7.0	9.0	8.0	8.0	2.5	SE	Mature	Good	Good example if fully mature field oak. Minor deadwood and cavities commensurate with age. Ploughed to within 0.5m on West Side. Water filled drainage ditch 1m to East of stem.		A ,1	Long
T1293	Common ash	9.0	2.5	250	1	3.0	2.0	4.0	2.0	3.0	NW	Middle Age	Fair	Poor form due to loss of Northern stem. Crown health appear to be Good.		C ,1	Long
T1294	Pedunculate oak	10.0	2.5	440	1	4.0	2.0	5.0	5.0	2.5	SE	Middle Age	Fair	Asymmetric firm dye to adjacent trees. Minor deadwood in southern crown.		C ,1	Long
T1295	Pedunculate oak	11.0	4.0	523	2	6.0	5.0	3.0	5.0	2.0	S	Middle Age	Fair	Two trees but forming a single crown. Pruned back from powerlines to East leaving stubs.		C ,1	Long
T1296	Pedunculate oak	9.0	3.0	547	2	7.0	4.5	7.0	7.0	3.0	E	Middle Age	Good	Basally twin-stemmed, possibly two trees firming a single canopy.		C ,1	Long
T1297	Pedunculate oak	13.0	2.0	1000	1	9.0	7.0	11.0	5.0	2.0	E	Mature	Good	Very large bole supporting a Broad Crown biased East. Huge branch extending east from 1.5m. Inspected from distance dud to access restriction.		A ,1, 3	Long
T1298	Common hawthorn	5.0	3.0	367	6	4.0	2.0	4.0	4.0	2.0	W	Mature	Fair	Located to edge of field. Characterful, mature specimen. Crown raised to South. Fungal bracket on stem base to east.		B ,1	Long
T1299	Pedunculate oak	13.0	3.0	440	1	7.0	6.5	7.5	6.0	2.0	SE	Middle Age	Good	Roadside tree on sloped verge. Crown weighted East. Clearance of 6m over road. Minor and moderate dead wood		B ,2	Long
T1300	Common hawthorn	5.0	0.5	490	6	4.0	1.5	4.0	3.0	0.5	E	Mature	Fair	Large bole for species indicative of great age. Congested central stem union obscured by ivy that is smothering the upper crown. Ploughed to within 0.5m and flail pruned on South side	Sever ivy to prevent smothering.	B ,1	Long
T1301	Pedunculate oak	13.0	3.0	440	1	7.0	6.5	7.5	6.0	2.0	SE	Middle Age	Good	Roadside tree on sloped verge. Crown weighted East. Clearance of 6m over road. Minor and moderate dead wood		B ,2	Long
T1302	Pedunculate oak	8.0	2.0	240	1	5.5	4.0	4.0	4.5	1.5	S	Middle Age	Fair	Crown pruned up and away from road. Broken central leader		C ,2	Long
T1303	Pedunculate oak	7.0	2.0	290	1	6.0	5.5	4.5	5.0	2.0	S	Middle Age	Good	Short squat crown, lifted up and away from over road		C ,2	Long
T1304	Pedunculate oak	11.0	3.0	330	1	5.5	4.5	6.5	3.0	2.0	E	Middle Age	Good	Roadside tree on raised bank. Good form and vigour		B ,2	Long
T1305	Pedunculate oak	11.0	5.0	350	1	5.0	5.0	7.5	4.5	4.0	E	Middle Age	Fair	Roadside tree on raised bank. Ivy clad tree. Slightly reduced vigour.		B ,2	Medium
T1306	Pedunculate oak	5.0	1.0	130	1	2.5	2.5	2.5	2.5	1.5	W	Middle Age	Good	Small roadside tree with Good form and vigour		C ,2	Long
T1307	Pedunculate oak	9.0	4.5	270	1	5.0	3.5	4.0	2.0	2.5	E	Middle Age	Fair	Roadside tree with slightly reduced vigour and crown weighted east		C ,2	Long
T1308	Pedunculate oak	10.0	5.0	270	1	5.0	3.0	5.0	4.0	2.0	W	Middle Age	Fair	Roadside tree with slightly reduced vigour and crown weighted east over road but with Good clearance		C ,2	Long
T1309	Pedunculate oak	10.0	5.0	350	1	6.0	5.5	6.0	6.0	2.0	S	Middle Age	Good	Roadside tree with Good vigour and crown weighted east over road but with Good clearance		B ,2	Long
T1310	Pedunculate oak	6.0	2.0	120	1	3.0	2.5	3.5	1.5	1.0	E	Middle Age	Good	Small roadside tree on top of grass verge. No significant defects		C ,2	Long
T1311	Pedunculate oak	15.0	5.0	420	1	6.5	6.0	8.5	5.0	3.0	SE	Middle Age	Good	Large roadside tree on top of grass verge. Good form and vigour. Crown raised over road		B ,1, 2	Long
T1312	Common hawthorn	4.0	0.5	193	3	1.5	2.5	1.0	1.0	0.5	N	Middle Age	Fair	Shrubby multi-stemmed form. Growing out of ditch bank.		C ,1	Long
T1313	Pedunculate oak	15.0	5.0	420	1	6.5	6.0	8.5	5.0	3.0	SE	Middle Age	Good	Large roadside tree on top of grass verge. Good form and vigour. Crown raised over road		B ,1, 2	Long
T1314	Pedunculate oak	15.0	5.0	420	1	6.5	6.0	8.5	5.0	3.0	SE	Middle Age	Good	Large roadside tree on top of grass verge. Good form and vigour. Crown raised over road		B ,1, 2	Long
T1315	Pedunculate oak	8.0	2.0	620	1	6.0	5.0	5.0	2.0	2.0	NW	Middle Age	Poor	Likely lightning struck resulting in death of c.50 percent of cambial layer. Stag-headed deadwood in Eastern canopy.		C ,3	Medium
T1317	Common ash	9.0	5.0	300	1	3.5	3.0	3.0	1.0	4.0	N	Middle Age	Dead	Standing dead hedgerow tree		U	Very Short
T1319	Common beech	7.0	5.0	140	1	3.0	2.0	2.0	1.0	3.0	N	Middle Age	Good	Small Hedgerow tree. Good form and vigour		C ,1, 3	Long
T1320	Common beech	8.0	5.0	170	1	3.0	2.0	3.5	1.0	3.0	N	Middle Age	Good	Small Hedgerow tree. Good form and vigour		C ,1, 3	Long

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		(m)	(m)	(mm)	arising below 1.5m	(m)	(m)	(m)	(m)	(m)	(N,S,E,W)	Young, Middle Age, Mature	Good, Fair, Poor, Veteran			A,B,C,U (1,2,3)	Long, Medium, Short, Very Short
T1321	Common ash	18.0	7.0	1027	3	10.0	12.0	10.0	11.0	7.0	W	Mature	Fair	Basally multi-stemmed, possibly more than one tree forming a single crown. Broad spreading canopy. Southern-mist stem has snapped leaving large fracture spur. Inonotus hispidus brackets growing on northern stem, indicating further failures are likely.		B ,1, 3	Medium
T1322	Field maple	6.0	3.0	140	1	3.5	2.0	3.0	1.5	2.0	E	Middle Age	Good	Small hedgerow tree. Good form and vigour, no significant defects		C ,2	Long
T1323	Pedunculate oak	6.0	3.0	170	1	3.5	2.0	3.0	3.0	2.0	E	Middle Age	Good	Small hedgerow tree. Good form and vigour, no significant defects		C ,2	Long
T1324	Pedunculate oak	6.0	3.0	170	1	3.5	3.0	3.5	2.5	2.0	S	Middle Age	Good	Small hedgerow tree. Good form and vigour, no significant defects		C ,2	Long
T1325	Pedunculate oak	6.0	3.0	180	1	3.5	3.0	3.5	3.0	2.0	S	Middle Age	Good	Small hedgerow tree. Good form and vigour, no significant defects		C ,2	Long
T1326	Pedunculate oak	6.0	3.0	180	1	3.5	3.0	3.5	3.0	2.0	S	Middle Age	Good	Small hedgerow tree. Good form and vigour, no significant defects		C ,2	Long
T1327	Pedunculate oak	5.0	3.0	90	1	1.5	2.0	2.0	1.5	2.0	S	Middle Age	Good	Small hedgerow tree. Good form and vigour, no significant defects		C ,2	Long
T1328	Sycamore	12.0	4.0	793	3	9.0	10.0	9.0	9.0	3.5	N	Middle Age	Fair	Basally twin-stemmed breaking again at 0.5m. Good overall crown shape. Southern branches recently pruned over field leaving stubs.		B ,1	Long
T1329	Pedunculate oak	6.0	3.0	140	1	3.0	2.5	3.5	3.0	2.0	S	Middle Age	Good	Small hedgerow tree. Good form and vigour, no significant defects		C ,2	Long
T1330	Pedunculate oak	5.0	3.0	140	1	2.0	2.0	2.0	2.5	2.0	S	Middle Age	Good	Small hedgerow tree. Good form and vigour, no significant defects		C ,2	Long
T1331	Pedunculate oak	6.0	3.0	160	1	3.0	3.0	3.5	3.5	2.5	S	Middle Age	Good	Small hedgerow tree. Good form and vigour, no significant defects		C ,2	Long
T1332	Pedunculate oak	7.0	3.0	240	1	5.0	4.5	5.5	4.5	2.0	E	Middle Age	Good	Small hedgerow tree. Good form and vigour, no significant defects.		C ,2	Long
T1333	Pedunculate oak	6.0	3.0	150	1	3.0	3.5	4.0	3.0	2.5	S	Middle Age	Good	Small hedgerow tree. Good form and vigour, no significant defects		C ,2	Long
T1334	Pedunculate oak	6.0	3.0	160	1	3.0	2.5	3.0	1.5	2.5	S	Middle Age	Good	Small hedgerow tree. Good form and vigour, no significant defects		C ,2	Long
T1335	Pedunculate oak	6.0	3.0	180	1	3.0	3.5	3.5	3.0	3.0	S	Middle Age	Good	Small hedgerow tree. Good form and vigour, no significant defects		C ,2	Long
T1336	Pedunculate oak	6.0	3.0	180	1	3.0	3.5	3.5	3.0	3.0	S	Middle Age	Good	Small hedgerow tree. Good form and vigour, no significant defects		C ,2	Long
T1337	Pedunculate oak	11.0	2.0	740	1	8.0	6.0	8.0	6.0	2.5	E	Mature	Good	Reasonable firm, compact crown with slight buss north. Stem and scaffolds heavily ivy clad obscuring inspection and beginning to smother canopy.	Sever ivy.	B ,1	Long
T1338	Common hawthorn	7.0	3.0	240	1	5.0	4.5	5.5	4.5	2.0	E	Middle Age	Good	Small hedgerow tree. Good form and vigour, no significant defects.		C ,2	Long
T1339	Elm species	5.0	1.5	200	1	3.0	3.0	2.5	3.0	1.5	W	Middle Age	Fair	Shrubby elm located to edge of bridleway. Lower branches flailed to North over footpath.		C ,2	Short
T1370	Common ash	17.0	5.0	872	3	7.0	11.0	10.0	6.0	3.0	SE	Mature	Fair	Hedgerow tree. Multi stemmed at base. Large, broad spreading crown weighted East		B ,2, 3	Medium
T1371	Pedunculate oak	17.0	5.0	1280	1	9.0	11.0	11.0	8.0	4.0	E	Mature	Good	Large hedgerow tree. Broad, spreading crown. Excellent form and vigour. Big fracture stub on stem to northeast. Veteran characteristics but fails to meet the condition threshold set by NPPF.		A ,1, 2	Long
T1373	Pedunculate oak	16.0	2.5	1380	1	8.0	12.0	9.0	8.0	2.0	NE	Mature	Good	Large oak within tree belt. Power line pruned on north side, canopy biased to south. Moderate limb and deadwood failures. Trifurcate at c. 2.5m with wide unions. Significant tree within group.		A ,1, 2	Long
T1374	Pedunculate oak	16.0	3.5	1113	2	5.0	12.0	5.0	8.5	4.0	S	Mature	Good	Large basally bifurcate oak within tree belt. Good union on bifurcation point. Power line pruned on north side, canopy biased to south. Moderate limb and deadwood failures. Significant tree within group.		A ,1, 2	Long
T1375	Pedunculate oak	16.0	2.5	720	1	4.0	8.0	7.0	3.0	3.5	E	Mature	Good	Oak within tree belt. Power line pruned on north side, canopy biased to east and south. Slight canopy suppression to west due to adjacent tree. Small limb and deadwood failures.		B ,1, 2	Long
T1376	Pedunculate oak	13.0	1.5	960	1	6.0	4.5	9.0	8.0	2.0	SW	Middle Age	Fair	One of multiple oak trees lining internal field boundary. Reasonable form. slight suppression from adjacent tree. Twiggy deadwood in upper canopy. Small branch failures.		B ,2, 3	Long

APPENDIX A: Arboricultural Survey Data Sheets



Surveyor [Redacted]
 Survey Date May 2021, September 2021, November 2021, December 2022, January 2023
 Site Rampion 2 Offshore Wind Farm
 Drawing Ref D8685.001.01-47

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Ref	Species	Height	Canopy Ground Clearance	Stem Diameter (or range)	No. of stems/ individuals	Crown Spread North	Crown Spread South	Crown Spread East	Crown Spread West	Lowest Branch Height	Lowest Branch Direction	Maturity	Condition	Comments on form, condition, health and significant defects	Management recommendations in current context	BS 5837 Quality Category	Estimated Remaining Contribution
		(m)	(m)	(mm)	arising below 1.5m	(m)	(m)	(m)	(m)	(m)	(N,S,E,W)	Young, Middle Age, Mature	Good, Fair, Poor, Veteran			A,B,C,U (1,2,3)	Long, Medium, Short, Very Short
T1377	Pedunculate oak	14.0	4.0	860	1	9.0	8.5	8.0	8.5	4.0	N	Middle Age	Good	One of multiple oak trees lining internal field boundary. Good form and condition. woody bracket growing from old branch attachment point at 2.5m (possibly Daedalea quercina but not confirmed).		B ,1, 2	Long
T1378	Pedunculate oak	14.0	2.0	720	1	5.0	9.0	7.0	8.5	3.0	SW	Middle Age	Good	One of multiple oak trees lining internal field boundary. Reasonable form; slight suppression on north side from adjacent tree. Lightly ivy clad.		B ,1, 2	Long
T1379	Pedunculate oak	11.0	2.0	950	1	9.0	8.0	8.0	7.5	2.0	NE	Mature	Fair	One of multiple oak trees lining internal field boundary. Broad, squat form. Natural lion's tailing and signs of early retrenchment. Helical stem wound from ground to 6m (possible lightning strike). Small Ganoderma bracket present at base.		B ,2, 3	Long
T1380	Pedunculate oak	14.0	2.5	510	1	5.0	5.0	5.0	5.0	2.0	SE	Middle Age	Good	One of multiple oak trees lining internal field boundary. Vigorous tree with good form and condition.		B ,1, 2	Long
T1381	Pedunculate oak	13.0	2.5	710	1	6.0	6.0	8.0	6.0	3.0	N	Middle Age	Good	One of multiple oak trees lining internal field boundary. Good overall form. Last years leaves retained in lower canopy.		B ,1	Long
T1382	Pedunculate oak	12.0	2.0	620	1	5.0	5.0	6.0	5.0	2.5	NE	Middle Age	Good	One of multiple oak trees lining internal field boundary. Good form and balanced crown. Previous loss of central leader with decay extending into main stem union. Limb loss from lower northern canopy.		B ,2, 3	Long
T1383	Pedunculate oak	10.0	2.5	490	1	4.5	5.0	5.5	4.5	3.0	E	Middle Age	Good	One of multiple oak trees lining internal field boundary. Vigorous tree with good form and condition.		B ,1, 3	Long
T1384	Pedunculate oak	11.0	2.5	560	1	3.5	4.0	4.0	4.0	2.5	S	Middle Age	Good	One of multiple oak trees lining internal field boundary. Vigorous tree with good form and condition.		B ,1, 2	Long
T1385	Pedunculate oak	13.0	2.5	770	1	6.0	7.0	8.0	7.0	3.0	S	Mature	Good	Excellent for and condition. Minor deadwood commensurate with age. Minor inclusion seam at central twin-stem union.		A ,1, 2	Long
T1386	Pedunculate oak	16.0	3.0	900	1	12.0	6.5	4.5	8.0	2.5	SW	Mature	Fair	One of three closely spaced oak trees adjacent to Spithandle Lane. Asymmetric crown biased west. Moderate deadwood. Previous dieback of main leaders (possibly due to shading). Stubs and branch tear-outs on southern side.		B ,1, 2, 3	Long
T1387	Pedunculate oak	19.0	5.0	1210	1	14.0	5.0	5.5	4.0	2.5	S	Mature	Fair	One of three closely spaced oak trees adjacent to Spithandle Lane. Dominant tree in group with upright form arising from a large stem union at 5m. Large limb lost from lower northern crown. Branch stubs and failures in lower southern crown.		B ,1, 2	Long
T1388	Pedunculate oak	16.0	4.0	1000	1	5.5	6.0	9.0	3.5	3.0	NE	Mature	Poor	One of three closely spaced oak trees adjacent to Spithandle Lane. Subordinate tree to its western counterpart. several primary limbs have been lost on the northern side resulting in stem cavities. Multiple small bleeds on north side of lower stem attributed to acute oak decline.		C ,2, 3	Medium
T1389	Pedunculate oak	13.0	3.0	1170	1	11.0	7.5	11.0	8.0	2.5	N	Mature	Fair	Broad spreading crown with large bole. Slight crown bias west. slightly reduced upper crown density and dieback resulting in twiggy deadwood.		A ,1	Long
T1390	Pedunculate oak	18.0	2.5	880	1	6.5	10.0	7.0	9.0	3.5	S	Middle Age	Good	Vigorous tree in excellent condition. Slight asymmetry on north-east side due to adjacent tree belt. Lightly ivy clad mid-crown.		A ,1, 2	Long
T1391	Pedunculate oak	10.0	2.5	530	1	6.0	6.0	5.0	5.5	2.5	NE	Middle Age	Good	Good form and potential to develop into a high quality tree. No significant visible defects. Minor deadwood.		B ,1	Long
T1392	Pedunculate oak	8.0	2.5	500	1	6.0	6.0	5.0	5.0	2.0	S	Middle Age	Good	Good form and potential to develop into a high quality tree. No significant visible defects. Minor deadwood.		B ,1	Long
T1393	Pedunculate oak	11.0	3.5	540	1	5.0	5.0	5.0	5.0	2.5	SW	Middle Age	Good	Good form and potential to develop into a high quality tree. No significant visible defects. Healthy bud distribution.		B ,1	Long
T1394	Pedunculate oak	13.0	3.5	1050	1	6.0	8.0	8.0	6.0	2.5	S	Mature	Good	Historic partial root plate failure resulting in stem lean east and exposed roots on western side. Lesions on upper branches in central crown. Rot hole at 2.5m on north side of stem.		B ,1	Long
T1395	Pedunculate oak	13.0	4.0	840	1	5.5	7.0	6.0	5.5	5.0	N	Middle Age	Fair	Reasonable form but slightly fluted appearance due to loss of lower branches. several rot holes at old branch attachment points on south side. Multiple Fistulina hepatica brackets on floor at stem base.		B ,3	Long
T1396	Common ash	13.0	3.0	980	1	5.0	12.0	6.0	7.0	1.5	S	Mature	Poor	Asymmetric form with very large limb at 1.5m extending south. Ivy clad stem and scaffold branches. Poor crown health with extensive dieback and epicormic shoot growth.		C ,1	Medium
T1397	Pedunculate oak	15.0	2.5	710	1	6.0	10.5	6.0	8.0	2.5	S	Middle Age	Good	Reasonable form. Rooted on edge of brook. Minor deadwood.		B ,1	Long
T1398	Pedunculate oak	15.0	2.0	1080	1	7.0	8.0	7.5	6.5	3.0	E	Mature	Good	Reasonable form. Rooted on edge of brook. Heavily ivy clad stem and scaffold branches. Minor deadwood.	Sever ivy.	A ,1, 2	Long

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Surveyor Jonathan Smith, Robin Grimes, Angus Blankenstein, Heather Eilbeck, Ruth Chittock
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		(m)	(m)	(mm)	arising below 1.5m	(m)	(m)	(m)	(m)	(m)	(N,S,E,W)	Young, Middle Age, Mature	Good, Fair, Poor, Veteran			A,B,C,U (1,2,3)	Long, Medium, Short, Very Short
T1399	Pedunculate oak	21.0	3.0	1380	1	13.0	11.0	10.5	11.0	3.0	SW	Mature	Fair	Broad spreading tree with thick bole. Several limbs lost from lower canopy leaving fracture stubs. Moderate deadwood.		A ,1, 2	Long
T1400	Pedunculate oak	12.0	2.0	760	1	9.0	9.0	7.5	8.5	2.0	W	Middle Age	Good	Squat form. Lower branch broken in northern crown due to flailing. Large limb growing from stem base into lower western canopy.		B ,1	Long
T1404	Pedunculate oak	12.0	3.5	790	1	7.0	9.0	8.0	7.0	4.0	N	Mature	Good	Tree between 2 fields in ditch. Slight lean to south-east. Trifurcate at 3m with wide unions. Minor to moderate deadwood commensurate with age. Good form.		A ,1	Long
T1405	Common ash	10.0	1.0	709	2	7.0	7.0	7.0	8.0	2.5	S	Middle Age	Good	Attractive balanced crown. Strong twin-stemmed union at 0.5m. Dead lower branches due to animal browsing but canopy appears healthy.		B ,1	Long
T1406	Whitebeam	5.0	1.0	688	3	8.5	5.0	6.0	6.0	1.5	NW	Mature	Fair	Very large stem girth for species. Squat form with gap in central crown due to multiple stems. Early veteran characteristics but lacks overall assemblage of features. Cavity on buttress roots extending south. Branch cavity in central crown. Lichen growth on outer twigs.		A ,1, 3	Long
T1407	Whitebeam	6.0	1.0	575	3	4.0	5.0	5.0	5.0	2.0	NW	Mature	Good	Squat form but with attractive balanced form. Basally tri-stemmed with strong U-shaped union. Central dead stem with small cavity.		B ,1	Long
T1408	Common ash	11.0	2.5	787	3	6.0	7.0	6.0	6.5	3.0	NE	Middle Age	Poor	Large multi-stemmed union at 0.5m with inclusion. Formerly six stems but three are now decaying stubs. Upper canopy appears to be dying back; suspected Chalara ash dieback disease infection but not confirmed.		C ,3	Medium
T1409	Common ash	9.0	2.5	1052	3	7.0	8.0	7.0	6.0	3.0	W	Middle Age	Poor	Heavily ivy clad and beginning to smoother central canopy. Upper crown dying back with epicormic shoot growth on scaffold limbs.		C ,1	Short
T1410	Common hawthorn	3.0	1.0	198	8	2.5	2.5	3.5	2.5	0.5	S	Middle Age	Good	Typical rounded form arising from congested multi-stem union.		C ,1	Long
T1411	Common beech	10.0	2.5	632	2	6.0	6.0	4.0	4.0	4.5	N	Middle Age	Fair	Asymmetric form due to loss of eastern stem. Gap in central crown.		C ,1	Long
T1412	Common ash	6.0	2.0	370	1	4.0	1.5	3.5	2.0	2.0	N	Middle Age	Poor	Asymmetric form due to pruning over adjacent track. Poor crown health due to Chalara ash dieback disease.		U	Very Short
T1413	Common beech	14.0	2.5	880	1	8.0	5.0	7.0	5.0	3.0	NE	Mature	Good	Attractive tree with wind-swept crown due to exposed location. Dead ivy up stem, recently severed. Dead decaying primary branch/stem in south-west canopy.		B ,1, 3	Long
T1414	Common beech	12.0	3.0	490	1	4.0	2.0	2.0	2.0	2.5	N	Middle Age	Poor	Compact crown due to retrenchment of primary central stem. Decay cavities visible on lower stems but inspected from afar due to horse paddock.		C ,3	Medium
T1415	Common ash	6.0	3.0	400	1	1.0	2.0	3.0	1.0	3.0	NE	Middle Age	Poor	Compact crown. Heavily ivy clad stem, beginning to smoother canopy.		U	Short
T1416	Common ash	5.0	3.0	250	1	3.5	3.0	3.0	3.0	2.0	W	Middle Age	Good	Growing at gated farm access. Pruned on east side over access track.		C ,1	Long
T1417	Holm oak	11.0	2.5	750	1	6.0	7.5	4.0	6.0	2.5	W	Middle Age	Good	Good form and condition. Pruned on east side due to low voltage powerlines. Ivy clad stem.		B ,1	Long
T1418	Grey alder	9.0	2.0	480	1	3.5	3.5	3.5	3.5	2.0	S	Middle Age	Good	Vigorous tree with good form and condition. Ivy clad stem.		B ,1	Long
T1419	Field maple	6.0	3.0	250	1	2.5	2.5	2.5	2.5	2.0	N	Middle Age	Good	Vigorous tree with good form and condition. Ivy clad stem.		B ,1	Long
T1422	Pedunculate oak	7.0	3.0	680	1	7.5	6.0	6.5	7.0	2.5	W	Middle Age	Fair	Squat form due to exposed location but attractive balanced crown. Dead branch in central crown. Moderate basal wound but occluding well with strong rib growth.		B ,1	Long
T1423	Whitebeam	9.0	3.0	940	1	1.0	6.5	4.0	8.5	2.0	SW	Mature	Veteran	Very large stem girth for species. Twin-stem union at 2m but eastern stem has snapped with crown lying on the woodland floor. Split limbs in mid-canopy. Riddled with Ganoderma with multiple brackets growing around the entire stem.		A ,1, 2, 3	Long
T1424	Field maple	9.0	2.5	460	3	3.0	4.0	3.0	4.0	2.0	S	Middle Age	Fair	Slight asymmetry due to former tree to north-west, now removed. Ivy clad stem and scaffold branches.		B ,1	Long
T1425	Holm oak	10.0	2.5	809	3	5.0	5.0	4.5	4.5	2.5	N	Middle Age	Fair	Basally tri-stemmed. Squat form with little apical dominance. Heavily ivy clad. Snapped branch to west over track.	sever ivy.	B ,1	Long
T1426	Common ash	7.0	1.0	580	2	7.0	7.5	3.0	6.5	2.0	N	Middle Age	Good	Twin stem union at 0.5m, now with strong fusion. compact rounded crown. Overall health appears good.		B ,1	Long
T1427	Common ash	14.0	1.5	980	2	12.0	10.0	5.5	9.5	3.0	N	Mature	Good	Broad spreading tree with good form. Minor deadwood commensurate with age. Former limb loss from lower west crown leaving tear wound. Large surface root to south-east.		A ,1	Long

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T1428	Common ash	16.0	1.0	690	2	8.0	7.0	8.0	2.0	2.5	NE	Middle Age	Fair	Asymmetric due to adjacent dominant ash and loss of lower branches. Tear wounds and fracture stubs in lower canopy. Inonotus hispidus infection.		C ,1	Medium
T1429	Common ash	6.0	1.0	690	2	4.5	3.5	5.0	4.5	0.5	SE	Mature	Poor	Heavily cankered with prolific epicormic shoot growth throughout crown; suspected ash dieback disease. Multi-stemmed from 2m with rounded form.		C ,1	Short
T1430	Common ash	13.0	1.0	1000	2	12.0	6.0	7.5	7.5	1.5	N	Middle Age	Fair	Large bole due to flared tri-stemmed union at 1.5m. Reasonable overall form. several branch failures in central crown. Large low branch extending north.		B ,1	Long
T1431	Common ash	10.0	2.5	810	2	2.0	6.5	4.5	3.5	5.0	S	Mature	Poor	Compact secondary crown following loss of all major limbs leading to decay. Surrounded by dense bramble. Large canker covering eastern side of stem. Good habitat value.		B ,3	Medium
T1432	Common ash	15.0	2.0	1184	2	13.0	10.0	12.0	10.0	2.5	SW	Mature	Good	Two closely growing trees forming a single, sinuous canopy outline. Minor deadwood and branch failure commensurate with age. Failed, hung-up limb in lower south-east canopy.		A ,1	Long
T1433	Common hawthorn	4.0	1.0	285	10	2.5	3.0	3.0	3.0	1.0	E	Middle Age	Good	Attractive rounded form. Possibly a secondary crown formed from historic cutting at 1m.		C ,1	Long
T1434	Common beech	18.0	3.0	960	1	3.5	11.0	3.5	4.0	3.0	S	Mature	Poor	Poor form due to extensive crown retrenchment; upper canopy dead. Large wound at base with hollowing. Healthy crown formed by a single large branch extending south. Multiple polyporus squamosus fungal brackets on floor at base of stem.		U	Very Short
<i>T1443</i>	Pedunculate oak	<i>13.0</i>	<i>3.0</i>	<i>780</i>	<i>1</i>	<i>8.0</i>	<i>8.0</i>	<i>8.0</i>	<i>8.0</i>	<i>3.5</i>	<i>SE</i>	<i>Mature</i>	<i>Good</i>	Large open grown oak tree in field. Inspection restricted by lack of access, surveyed from roadside vantage point. Rounded crown and good form. Bifurcate at c. 4m. Appears to be in good health and vigour.		A ,1	Long
T1444	Pedunculate oak	15.0	3.0	1010	1	11.0	18.0	5.0	8.0	3.0	SE	Mature	Fair	Reasonable form. One of a pair of isolated field oaks. Moderate deadwood in lower crown. Basal cavities with Fistulina hepatica brackets and Cauliflower fungus.		B ,1, 3	Long
T1445	Common ash	8.0	2.0	450	7	4.0	4.0	4.0	4.0	2.0	E	Middle Age	Fair	Basally multi-stemmed. Rooted on bank of shallow Brook. Stems lightly ivy clad.		C ,1	Long
T1446	Pedunculate oak	17.0	2.0	1040	1	8.0	8.0	9.0	8.0	2.5	SW	Mature	Good	Isolated field oak with Good form. Deadwood and minor structural defects commensurate with age. Large fracture stub in lower north-East crown. Pronounced buttress flare due to browsing.		A ,1, 3	Long
T1447	Common ash	15.0	0.0	<i>1004</i>	2	6.5	<i>15.0</i>	8.5	7.0	1.5	SE	Mature	Poor	Large, basally bifurcate tree on field boundary. Westernmost stem has failed at union and is now on floor but still attached, hence heavily asymmetric canopy to south. Previous failures of large and moderate branches evident. Remaining stem appears in reasonable health with a slight lean to the north-east.		C ,2, 3	Medium
<i>T1482</i>	Pedunculate oak	<i>16.0</i>	<i>1.5</i>	<i>850</i>	<i>1</i>	<i>8.5</i>	<i>10.0</i>	<i>9.5</i>	<i>8.5</i>	<i>2.5</i>	<i>NE</i>	<i>Mature</i>	<i>Fair</i>	Large oak tree on boundary between field and residential property. Large branch failure evident in lower north-western canopy which is still attached and hanging down to ground level over field. Appears to be in reasonably good health and condition with exception of few failed branches. Inspection restricted by lack of access and field conditions.		A ,1, 2	Long
Groups																	
G1	Cherry plum	6 to 9	2.0	150 to 310	12							Mature	Fair	Third party Single and multi-stemmed trees to South of hedgerow. Leaning stems. Good crown vigour		B ,2	Long
G2	Pedunculate oak	12 to 15	4.0	610 to 720	4							Mature	Good	Third party trees to South of hedgerow. Good form and vigour. Located between hedgerow and pond.		A ,2	Long
G15	Common hazel, Elder	3.5 to 4	0.0	50 to 100	5							Middle Age	Good	Small understorey trees within roadside group. Basally multi-stemmed Hazel.		C ,2	Medium
G17	Field maple, Common hawthorn, Common ash, Crab apple, Blackthorn	3 to 12	0.0	75 to 350	6							Middle Age	Good	Linear group of field boundary trees within hedge adjacent to ditch. Predominantly in good condition except for the ash tree which is in fair condition due to the presence of some dieback.		B ,2	Long
G18	Field maple, Pedunculate oak	4 to 7	1.5	120 to 220	4							Middle Age	Poor	3 moribund and 1 dead trees located immediately adjacent to ditch. Significant dieback and associated deadwood in upper canopies.		U	Very Short
G19	Field maple, Blackthorn	3.5 to 5	2.0	140 to 230	3							Middle Age	Good	3 trees within field boundary hedge adjacent to ditch. Some ivy clad.		C ,2	Long
G20	Field maple, Yew	8 to 11	2.0	400 to 600	3							Middle Age	Good	3 third party trees within rear garden. Tight and included unions of multi-stemmed yew. Maple had a kinked stem that lands heavily to South over field.		B ,1, 2	Long

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G22	Common hawthorn, Blackthorn	4 to 6	1.0	100 to 200	5							Middle Age	Fair	Boundary trees that appear to be located within third party land. Some heavily ivy clad.		C ,2	Long
G23	Silver birch, Crab apple, Wild cherry	5 to 10	1.5	75 to 200	5							Middle Age to Mature	Good	Trees located within third party land. Some heavily ivy clad. Cherry located with field boundary hedge.		B ,2	Long
G24	White poplar	20 to 22	1.5	700 to 800	2							Mature	Good	2 third party poplar trees within fear Garden. Inspection restricted by lack of access and hedge. Both trees have multi-stemmed forms. 1 tree leans to north and the other to the south. Minor Deadwood. No major defects noted.		B ,1, 2	Long
G26	Pedunculate oak	9 to 9	2.0	530 to 530	2							Middle Age	Fair	2 field boundary oak trees located on either side of ditch. Heavily suppressed from above by large adjacent ash with heavily phototropic growth and bias to north. Moderate deadwood in canopies.		B ,1	Long
G27	Pedunculate oak	12 to 16	2.5	420 to 470	3							Middle Age	Good	3 trees forming one larger canopy. Located in dense group of shrubby lapsed hedgerow. One tree ivy clad with branch tip die back		B ,2	Long
G28	Field maple, Common hawthorn	2.5 to 6	1.5	75 to 280	18							Middle Age	Good	Field boundary trees on either side of ditch. Some basally multi-stemmed. Some suppression and phototropic growth caused by proximity of large adjacent trees.		C ,2	Long
G29	Common hawthorn, Blackthorn, Elder	1 to 4.5	0.5	50 to 150	500							Middle Age	Fair	Lapsed hedgerow forming linear understorey to larger tree belt		C ,2	Long
G30	Blackthorn	2.5 to 4	0.0	50 to 75	15							Middle Age	Good	Linear field boundary group of dense blackthorn overgrown with bramble.		C ,2	Long
G31	Pedunculate oak	11 to 14	4.0	240 to 310	3							Middle Age	Fair	3 suppressed trees due to adjacent, larger specimens. Slightly reduced vigour		B ,2	Long
G32	Field maple, Common hawthorn, Crab apple, Pedunculate oak	3.5 to 15	1.5	100 to 580	25							Middle Age	Good	Linear field boundary group adjacent to ditch. Some multi-stemmed maple and hawthorn. Landscape and habitat value. Moderate deadwood.		B ,1, 2	Long
G33	Pedunculate oak	13 to 15	3.0	580 to 820	4							Middle Age to Mature	Good	Part of wider tree belt. Located between two lapsed hedgerows and along edge of small stream. Good form and vigour		A ,2	Long
G34	Common hawthorn	6 to 11	2.0	120 to 270	100							Middle Age to Mature	Good	Lapsed hedgerow. Forms double row with adjacent group to South, either side of stream. Taller and better quality trees than those to South. Some gnarly and twisted stems		B ,2	Long
G35	Sessile oak, Pedunculate oak	12 to 17	2.0	200 to 790	25							Middle Age to Mature	Good	Prominent feature in locality. Row of single and multi-stemmed Oak along field boundary. Generally Good form and vigour		A ,2	Long
G37	Field maple	6 to 7	1.0	250 to 300	3							Middle Age	Good	3 multi-stemmed trees within field boundary group. Heavily ivy clad stems. No major defects noted.		B ,2	Long
G38	Common hawthorn, Blackthorn	3 to 5	0.5	100 to 210	50							Middle Age	Fair	Lapsed, shrubby hedgerow group		C ,2	Long
G39	Wild cherry	11 to 12	2.0	200 to 320	3							Middle Age	Good	3 trees at edge of copse between fields. Canopies merging to form 1 shape. No major defects noted. Inspection restricted by access and undergrowth.		B ,1	Long
G40	Common hawthorn, English holly, Pedunculate oak	12 to 16	2.0	100 to 600	50							Middle Age to Mature	Good	Oak plantation with Holly and hawthorn understorey. Part of wider area of tree cover.		B ,1, 2	Long
G41	Field maple, Hawthorn species, Common ash, English holly	10 to 14	2.0	250 to 450	8							Middle Age to Mature	Good	Forms wider belt of tree cover with larger oaks. Nature field maple shorter and broader than Ash. Generally Good form and vigour. No immediate signs of an dieback		B ,2	Long
G42	Common hawthorn, English holly, Elder	2 to 4	0.5	50 to 100	50							Young to Middle Age	Good	Understorey group		C ,2, 3	Long
G43	Common ash	14 to 15	3.0	450 to 550	2							Middle Age	Good	2 trees at edge of copse. Canopies merging to form 1 shape. 1 previously failed moderate limb evident. 1 basally trifurcate. No significant signs of dieback noted. Inspection restricted by access and undergrowth.		B ,1, 2	Medium
G44	Field maple, Common hawthorn, Common ash, Sessile oak, Pedunculate oak	6 to 18	1.0	100 to 1100	40							Middle Age to Mature	Good	Copse of mainly mature oak with smaller understorey trees. Generally Good form and vigour. Minor and moderate dead wood. Bat potential		A ,2, 3	Long
G45	Common hawthorn, Common ash, Blackthorn, Pedunculate oak	3 to 6	0.5	50 to 150	200							Middle Age	Good	Linear group, lapsed hedgerow.		C ,2	Long
G46	Common ash	12 to 14	4.0	320 to 500	2							Middle Age	Fair	2 ash trees at edge of tree belt. Tall narrow forms with category 3 chalarash dieback. Branch socket cavities. 1 tree is bifurcate at c. 4m with tight union.		C ,1	Short
G47	Field maple, Pedunculate oak	13 to 15	3.0	330 to 570	4							Middle Age	Good	3 trees - 2 Oak, 1 maple - forming one contiguous canopy in wider belt of tree cover. Excellent form and vigour		A ,2	Long

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		(m)	(m)	(mm)	arising below 1.5m	(m)	(m)	(m)	(m)	(m)	(N,S,E,W)	Young, Middle Age, Mature	Good, Fair, Poor, Veteran			A,B,C,U (1,2,3)	Long, Medium, Short, Very Short
G48	Field maple, Common hazel, Common hawthorn, Common ash, Elder	4 to 8	0.5	50 to 250	200							Young to Middle Age	Good	Linear understorey group. Shrubby trees.		C ,2	Long
G49	Common hazel, Common hawthorn, Common ash, Blackthorn, Elder	2.5 to 4	0.0	50 to 80	50							Young to Middle Age	Fair	Group of dense Road and trackside trees. Some ash with dieback. Area adjacent to track beyond gate comprises several sporadic ash trees overgrown with bramble.		C ,2	Medium
G50	Field maple, Common hawthorn, Common beech, White poplar	6 to 15	2.0	50 to 500	40							Middle Age	Good	Mixed deciduous screening h along edge of road and track. Good form and vigour		B ,2	Long
G51	Pedunculate oak	14 to 16	1.0	600 to 1100	5							Middle Age to Mature	Fair	Linear group of large oaks on north side of track and PRoW. Moderate to major deadwood throughout with some overhanging PRoW and a small amount over the track. Previous moderate to major limb failures evident. Canopies physiologically healthy. Cavities. Bat potential. Canopy clearance over track is generally between 3-5m. Significant landscape feature with screening and habitat value.		A ,1, 2, 3	Long
G52	Hybrid black poplar	23 to 25	7.0	700 to 800	2							Mature	Fair	2 large poplar trees within trackside tree belt. Tall narrow forms. 1 tree is heavily ivy clad. Previous moderate limb failures. Inspection restricted by ivy and vegetation.		B ,1, 2	Long
G53	Common hawthorn, Common ash	4 to 5	1.5	25 to 75	15							Young	Fair	Self-set shrubby trees in hedgerow		C ,2	Long
G54	Field maple, Horse chestnut, Common hawthorn, Common ash, Blackthorn, Pedunculate oak	3 to 12	0.0	75 to 450	70							Middle Age	Mixed	Linear boundary group of trees comprising smaller understorey species interspersed with middle age oak, Ash and horse chestnut. Ash trees with varying stages of dieback. Dense group with screening value.		B ,2	Long
G55	Field maple, Common hawthorn, Blackthorn	2.5 to 4	0.0	50 to 140	20							Middle Age	Fair	Lapsed hedgerow adjacent to track. Closer to power lines.		C ,2	Medium
G56	Field maple, Horse chestnut, Common ash, Pedunculate oak	8 to 15	1.0	350 to 1200	30							Middle Age to Mature	Mixed	Linear trackside belt of trees overhanging PRoW. Canopy clearance over track generally c. 4-5m. Trees generally in fair condition due to previous limb failures, moderate to major deadwood and some dieback evident in occasional trees. Some deadwood overhanging track and PRoW. Varying degrees of dieback in ash trees. Occasional moribund tree. Cavities. Bat potential. Significant landscape feature with habitat and screening value.	Remove deadwood 100mm diameter and above from Southern canopies where deadwood overhangs track and PRoW.	A ,1, 2, 3	Long
G57	Horse chestnut, Blue gum eucalyptus	10 to 15	3.0	200 to 350	12							Middle Age	Good	Third party garden trees behind hedgerow. Limited inspection		B ,2	Long
G58	Fastigiate hornbeam, Blue gum eucalyptus, Narrow-leaved ash, Small-leaved lime	12 to 16	4.0	200 to 400	15							Middle Age	Good	Garden trees behind hedgerow to South of track. Generally Good form and vigour. One dead branch on narrow leafed Ash hanging over track		B ,2	Long
G59	Field maple, Common hawthorn, Common ash, Blackthorn, Pedunculate oak	3 to 7	0.0	75 to 200	200							Middle Age	Good	Linear understorey group beneath canopies of larger trees. Predominantly hawthorn and blackthorn. Some parts flailed at sides. Screening value.		C ,2	Long
G60	Crack willow	5 to 7	1.0	130 to 250	15							Middle Age	Good	Small cluster of willow trees with tall too north. Little canopy overhanging track. Typical weeping forms.		B ,2	Long
G61	Common hawthorn, Pedunculate oak, Goat willow, Crack willow	3 to 6	0.0	75 to 200	40							Young to Middle Age	Good	Dense linear boundary group that is willow dominated.		C ,2	Long
G62	Field maple, Common hawthorn, Crab apple, Pedunculate oak	6 to 13	4.5	150 to 450	20							Middle Age	Fair	Garden trees along boundary. Single and multi-attended trees. One dead hawthorn, one maple with reduced vigour		B ,2	Long
G63	Field maple, Common hawthorn, Blackthorn	3 to 5	0.0	50 to 120	100							Middle Age	Good	Dense linear boundary group between 2 fields.		C ,2	Long
G64	Pedunculate oak	16 to 18	1.5	800 to 1250	4							Mature	Mixed	Group of 4 mature oak trees on pond Bank. Predominantly in Good condition with 1 tree in fair condition due to 3 large deadwood branches, previous moderate to major limb failures and fungal fruiting body brackets surrounding base with some stem hollowing when sounded. All trees are physiologically healthy. Bat potential. Significant landscape feature.		A ,1, 2, 3	Long
G65	Common hawthorn, Blackthorn	2.5 to 5	1.5	50 to 150	25							Middle Age	Good	Group of understorey trees on pond Bank beneath large oak trees.		C ,2	Long
G66	Common hawthorn, Blackthorn, Dog rose	2 to 7	0.0	50 to 200	40							Middle Age	Good	Dense linear boundary group between 2 fields forming understorey beneath larger oak trees.		C ,2	Long
G67	Common hawthorn, Blackthorn	3 to 5	0.5	25 to 100	20							Middle Age	Fair	Part of wider belt of tree cover along PRoW		C ,2	Long
G68	Common hawthorn, Blackthorn, Grey willow	2 to 6	1.0	25 to 150	50							Middle Age	Fair	Lapsed hedgerow either side of access gate and along edge of PRoW. Small bit adjacent gate recently cut and hedged. Shrubby trees.		C ,2	Long

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G69	Common ash	12 to 17	6.0	450 to 600	10							Middle Age	Poor	Linear group of ash trees within boundary tree belt. All displaying signs of category 3 to 4 chalara ash dieback. Some dead stems and large deadwood. Trees appear to be overhanging path/desire line in adjacent line.	Fell.	C ,1	Short
G70	Common hawthorn, Blackthorn, Pedunculate oak, Wych elm	5 to 8	0.0	50 to 200	500							Middle Age	Fair	Lapsed hedgerow in waterlogged ground. Mainly shrubby multi-stemmed trees with some taller individuals. Some dead elm		C ,2	Long
G71	Pedunculate oak	15 to 20	1.5	450 to 850	7							Middle Age to Mature	Good	Several oaks within woodland margin. Moderate deadwood. Branch socket cavities. Occasional pieces of major deadwood. All physiologically healthy with fairly rounded and attractive forms. Some ivy clad. Inspection restricted by access and undergrowth.		A ,1, 2	Long
G72	Pedunculate oak	16 to 17	5.0	710 to 880	3							Mature	Good	3 large, mature oak forming one canopy. All located on slickly raised ground with pronounced basal flare. Minor dead wood. Good form and vigour		A ,2	Long
G73	Blackthorn	1.5 to 4	0.0	10 to 50	75							Middle Age	Fair	Blackthorn shrubby clump		C ,3	Long
G74	Field maple, Common hazel, Common hawthorn, Common ash, Blackthorn, Pedunculate oak, Elder, Wych elm	2.5 to 14	0.0	75 to 400	200							Middle Age	Mixed	Linear group of trees along western and northern field boundary. Varying degrees of dieback evident in ash. Occasional dead or moribund stems, predominantly elder or Ash. Moderate deadwood. Screening and habitat value.		B ,1, 2	Long
G75	Blackthorn	1 to 4	0.0	10 to 50	200							Middle Age	Fair	Dense blackthorn clump		C ,3	Long
G76	Sycamore, Common hawthorn, Blackthorn	3 to 5	0.0	25 to 75	50							Middle Age	Fair	Lapsed hedgerow either side of access gate. Some self set sycamore		C ,2	Long
G77	Common hawthorn, Aspen, Blackthorn, Goat willow	2.5 to 6	0.0	50 to 200	200							Middle Age	Good	Dense boundary group. Predominantly blackthorn with some larger goat allows to East.		C ,2	Long
G84	Common hawthorn, Blackthorn, Goat willow	2.5 to 5	0.0	75 to 150	10							Young to Middle Age	Good	Small cluster of willow, hawthorn and blackthorn with wet area surrounded and overgrown by bramble.		C ,2	Long
G85	Goat willow	3 to 5	0.0	75 to 150	5							Young to Middle Age	Good	Small cluster of willow surrounded and overgrown by bramble.		C ,2	Long
G86	Elder	2 to 3	0.0	50 to 80	4							Young to Middle Age	Good	Small cluster of elder surrounded and overgrown by bramble.		C ,2	Long
G87	Goat willow, Elder	2.5 to 3	0.0	60 to 130	2							Young to Middle Age	Fair	Small cluster of elder and willow surrounded and overgrown by bramble. Small amount of tip dieback in elder.		C ,2	Long
G88	Goat willow, Elder	2 to 3	0.0	60 to 140	4							Young to Middle Age	Fair	Small cluster of elder and willow surrounded and overgrown by bramble. Small amount of tip dieback in 1 elder.		C ,2	Long
G89	Common hawthorn, Blackthorn	2 to 3.5	0.0	50 to 130	4							Young to Middle Age	Good	Small cluster of thorns surrounded and overgrown by bramble.		C ,2	Long
G90	Common hawthorn, Blackthorn, Goat willow, Elder	2.5 to 5	0.0	60 to 200	200							Middle Age	Good	Dense group of trees within field and along field boundary. Overgrown by bramble. Screening and habitat value.		C ,2	Long
G91	Goat willow, Elder	3 to 6	0.0	75 to 250	10							Middle Age	Good	Dense group of trees within field and closer to field boundary. Screening and habitat value. Overgrown by bramble.		C ,2	Long
G92	Pedunculate oak	10 to 14	1.5	480 to 820	3							Middle Age to Mature	Fair	3 field boundary oak trees. 2 northernmost trees appear to have sparse canopies. Minor to moderate deadwood. Signs of ground trampling from livestock on West Side of bases. Canopies growing as one shape. Smallest and northernmost tree is growing within canopy of adjacent oak and had a tall narrow form because of this. Southernmost tree is bifurcate at c. 2m.		B ,1, 2	Medium
G93	Pedunculate oak	14 to 17	1.5	730 to 1000	6							Mature	Fair	Linear group of oak trees on either side of wooden boundary fence. Large ivy vines on some trees. Moderate to major deadwood. Northernmost tree adjacent to pond. Significant landscape feature.		A ,1, 2	Long
G94	Blackthorn, Goat willow	2 to 6	0.0	60 to 300	40							Middle Age	Good	Boundary and sporadic trees within area of dense bramble. Multi-stemmed forms.		C ,2	Long
G95	Field maple, Common hazel, Common hawthorn, Blackthorn, Elder	2.5 to 5	0.0	75 to 200	40							Middle Age	Fair	Roadside group in verge. Some heavily ivy clad stems and leaning stems. Pruned and failed limbs.		C ,2	Long
G96	Common hazel, Wych elm	4 to 6	0.0	10 to 100	50							Middle Age	Fair	Shrubby multi-stemmed trees adjacent farm track		C ,2	Long

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G97	Common ash, Pedunculate oak, Goat willow	15 to 20	2.5	450 to 800	40							Middle Age to Mature	Mixed	Linear roadside group of trees that is predominantly oak. Heavily ivy clad stems. Canopies overhang Road at c. 4-5m. 1 willow to South of group is leaving heavily over road. Some pruned limbs and stems evident. Group is in predominantly Good condition except for Ash that have sparse caps and category 3 chalara ash dieback. Ash trees are set back from road. Group overall is a significant landscape features with screening and habitat value.		A ,1, 2	Long
G98	Common hawthorn	5 to 7	0.5	50 to 180	25							Middle Age	Fair	Possibly part of hedgerow now lapsed. Shrubby trees adjacent farm track		C ,2	Long
G99	Common ash, Goat willow, Elder	12 to 16	5.0	100 to 450	30							Middle Age	Fair	Mainly large multi-stemmed Ash from base adjacent small shallow water filled land depression with small self-set goat willow and elder understorey. Minor and moderate dead wood with broken branches, holes and crevices. Ash canker. Slightly reduced vigour and branch tip shoot die back, no visible signs of Chalara.		C ,1, 2	Medium
G100	Field maple, Sycamore, Common hawthorn, Common ash, English holly, Blackthorn, Pedunculate oak, Dog rose, Goat willow, Elder	2.5 to 8	0.0	75 to 300	200							Middle Age	Mixed	Linear group of trees adjacent to road forming understorey of larger trees within area. Some dense areas and some more spaced out areas. Some bluebells in understorey. Heavily ivy clad stems. Screening and habitat value.		B ,2	Long
G101	Pedunculate oak	12 to 12	2.5	590 to 700	2							Middle Age to Mature	Good	2 trees within roadside. One is bifurcate at c. 2.5m and the other is trifurcate at c. 3.5m, both with tight and included unions and some fusion of stems on trifurcate tree. Minor to moderate deadwood. Canopies meeting to form one shape.		A ,1, 2	Long
G102	Field maple, Common hazel, Common hawthorn, Blackthorn, Pedunculate oak, Goat willow	2.5 to 8	0.0	75 to 300	50							Middle Age	Mixed	Linear group of roadside trees within verge forming understorey of larger trees. Multi-stemmed forms. Some failed willow limbs and stems within group. Screening and habitat value.		B ,2	Long
G103	Pedunculate oak	14 to 15	2.5	600 to 800	3							Middle Age to Mature	Good	3 trees, 2 within verge and one within front garden of adjacent property. Moderate deadwood in canopies, 1 limb of which has failed previously and is now hanging over verge. Ivy growth 2 trees. No major defects noted. Inspection restricted to 1 tree due to lack of access into garden.		A ,1, 2	Long
G104	Lawson cypress, Blackthorn, Elder	2.5 to 10	0.0	75 to 650	30							Middle Age to Mature	Mixed	Linear group of predominantly cypress species on third party land adjacent to village hall car park. Dense screening group. Some shade deadwood typical of species in lower canopies, 1 tree (largest in group) at Southern end of group immediately adjacent to and overhanging driveway has significant dieback of upset canopy with associated moderate deadwood.	Remove deadwood 75mm diameter and above from largest tree to South of group.	B ,2	Long
G105	Common ash	5 to 5	2.0	80 to 90	2							Young	Good	Two, small, narrow self-set ash		C ,3	Long
G106	Common hazel, Common hawthorn, Blackthorn, Elder, Wych elm	3 to 6	0.0	25 to 200	1300							Middle Age	Good	Part lapsed hedgerow, part laid. Some Hazel coppice. Some gaps with shrubby trees. Wide, dense boundary feature		C ,2	Long
G107	Common hawthorn, Blackthorn	3 to 6	0.5	10 to 100	25							Middle Age	Fair	Lapsed hedgerow, shrubby trees		C ,2	Long
G108	Field maple, Common hazel, Common hawthorn, Blackthorn, Dog rose, Wych elm	3 to 6	0.0	50 to 200	200							Middle Age	Mixed	Dense linear field boundary group. Habitat and screening value. Some areas overgrown with bramble. Predominantly in Good condition with exception of some dead elm stems at Northern end of group.		C ,2	Long
G109	Balsam poplar	25 to 25	1.5	600 to 620	2							Mature	Good	2 large poplar trees in roadside verge. Tall narrow forms typical of the species. Minor limb failures evident, no signs of significant limb failures currently.		B ,1, 2	Long
G113	Common hazel, Common hawthorn, Common ash, Blackthorn	2.5 to 8	0.0	50 to 350	150							Middle Age	Mixed	Dense linear group of roadside trees. Heavily overgrown with bramble and ivy. Couple of larger ash trees in group with category 2 chalara ash dieback.		C ,2	Long
G115	Common hazel, Common hawthorn, Common ash, White poplar	5 to 15	1.0	50 to 300	100							Middle Age	Fair	Mixture of Ash and White poplar adjacent roadside with understorey of Hazel and hawthorn. Reduced vigour in taller trees.		C ,2	Medium
G116	Sweet chestnut, Common hazel, Common hawthorn, English holly, Wild cherry, Pedunculate oak, Wych elm	3 to 13	0.0	75 to 480	200							Middle Age	Mixed	Linear group of trees on western roadside verge and bank. Bank becomes steeper travelling north up the road. Dense and closely spaced group. Some understorey species such as Hazel and hawthorn, particularly at Southern end, with some larger chestnut and oak trees interspersed. Predominantly in good condition with occasional dead elm stems. Significant landscape feature with screening and habitat value.		B ,2	Long

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G117	Pedunculate oak	12 to 17	6.0	420 to 750	8							Middle Age to Mature	Good	Roadside trees located in dense Hazel and hawthorn understorey. Broad crowns over road. Good form and vigour		A ,2	Long
G118	Common hazel, Common hawthorn	4 to 7	0.5	10 to 150	200							Middle Age	Fair	Mainly Hazel coppice along roadside edge. Some shrubby hawthorn		C ,2	Long
G119	Field maple, Lawson cypress, Common hazel, Common hawthorn, Wych elm	4 to 8	0.5	50 to 250	200							Middle Age	Fair	Dense, shrubby roadside group		C ,2	Long
G120	Pedunculate oak	11 to 13	5.0	410 to 630	2							Middle Age	Good	2 trees in shallow ditch adjacent roadside. Good form and vigour		B ,2	Long
G121	Pedunculate oak	15 to 18	2.0	700 to 1100	8							Middle Age to Mature	Mixed	Trees within linear roadside boundary group on steep bank. Heavily ivy clad and bases obscured by undergrowth. Mostly located close to top of bank. Moderate to major deadwood and occasional limb failures. Significant landscape features. Inspection restricted by heavy ivy cladding, step bank and undergrowth in some places.		A ,1, 2	Long
G122	Common ash, Pedunculate oak	15 to 20	6.0	400 to 1040	25							Middle Age to Mature	Good	Mainly oak, occasional Ash. Large roadside trees on steep roadside embankment. Single and multi-stemmed. Large, Broad crowns. Minor and moderate dead wood		A ,2	Long
G123	Common hazel, English holly, Goat willow	7 to 11	5.0	50 to 200	50							Middle Age	Fair	Mainly Hazel coppice on steep roadside embankment with some self set Holly and willow		C ,2	Long
G124	Common hazel, Common hawthorn, English holly, Elder	4 to 11	4.0	50 to 150	500							Young to Middle Age	Fair	Dense shrubby understorey group along roadside edge to larger oak and ash		C ,2	Long
G130	Field maple, Pedunculate oak	10 to 15	4.0	450 to 900	4							Mature	Fair	Located to South of fence line along track. Slightly reduced vigour in largest Oak. All ivy clad		B ,1, 2	Long
G131	Poplar species	8 to 13	2.5	200 to 450	12							Middle Age	Good	Line of 13 poplars along access road. Some moss and lichen growth to stems. One tree dead at top with some side growth retained. Smallest tree has been topped. Typical tree form.		B ,2	Long
G132	Pedunculate oak	15 to 17	4.0	610 to 1050	12							Mature	Good	Located along either side of post and wire boundary fence forming wide, prominent field boundary feature. All 12 trees with Broad, spreading crowns and excellent form and vigour. Dense understorey of willow, field maple, Blackthorn and nettles in places. On undulating ground		A ,1, 2	Long
G133	Pedunculate oak	9 to 11	3.0	600 to 700	3							Middle Age	Fair	Line of 3 oaks along field boundary. Canopies suppressed. Some epicormic growth to stems. Some deadwood.		B ,1, 2	Long
G134	Lombardy poplar	9 to 14	2.0	220 to 670	6							Middle Age	Fair	Linear group of tall narrow trees. Suppressed forms. Some minor dead wood. Largest tree to Eastern end		B ,2	Medium
G135	Field maple, Common hawthorn, Blackthorn, Goat willow, Elder	4 to 8	0.5	50 to 120	200							Young to Middle Age	Fair	Multi attended shrubby trees under larger oaks. Possibly former hedgerow		C ,2	Long
G136	Common ash, Blackthorn, Goat willow	3 to 5	1.0	10 to 80	20							Young to Middle Age	Fair	Self set shrubby trees along fence line adjacent track		C ,2	Long
G139	Common alder	3 to 5	0.5	75 to 100	5							Young	Good	Group of young alder to field boundary. Dense stand with vigorous growth. No major defects.		C ,1, 2	Long
G140	Field maple, Alder species, Ash species	10 to 12	3.0	150 to 350	12							Middle Age	Good	Stand of alder, Ash and field maple next to river. Some signs of Ash dieback. No major defects.		B ,1, 2	Long
G141	Common ash, Pedunculate oak	15 to 19	3.0	450 to 550	25							Middle Age to Mature	Good	Very tall narrow trees forming section of wider, dense linear fields boundary group. Good form and vigour		B ,1, 2	Long
G142	Common ash, Pedunculate oak	15 to 19	3.0	450 to 600	75							Middle Age to Mature	Good	Very tall narrow trees forming section of wider, dense linear fields boundary group. Good form and vigour		B ,1, 2	Long
G143	Common hawthorn, Blackthorn, Pedunculate oak, Goat willow	3 to 7	0.5	25 to 150	500							Young to Middle Age	Fair	Understorey group to taller broadleaves. Low, shrubby multi stemmed forms. Cut low and maintained low under OHL		C ,1, 2, 3	Long
G144	Alder species	10 to 12	2.0	200 to 350	13							Middle Age	Good	Stand of alder along river. Good condition. No signs of major defects. Smaller alder under 75mm growing beneath canopy.		B ,1, 2	Long
G145	Pedunculate oak	12 to 16	3.0	470 to 830	7							Mature	Fair	Located on sloped banks of adjacent pond. Western canopies cut at from OHL. Some minor shoot tip die back and reduced vigour but generally dense crowns.		B ,1, 3	Long
G146	Field maple, Horse chestnut, Common hazel, Common hawthorn	3.5 to 6	0.5	10 to 180	50							Young to Middle Age	Fair	Understorey group located on sloped banks of adjacent pond		C ,2	Long
G147	Field maple, Common hazel, Common hawthorn	4 to 7.5	1.0	25 to 120	50							Middle Age	Good	Possibly lapsed hedgerow. Linear group of multi stemmed shrubby trees		C ,2, 3	Long
G148	Pedunculate oak	7 to 8	1.0	200 to 280	7							Middle Age	Good	Linear group of small trees, some twin stemmed. Some broken branches, pruning wounds and stubs. Minor dead wood in crowns		B ,1, 2	Long

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G149	Dogwood species, Ash species, Willow species	1 to 4	0.0	75 to 100	50							Young to Middle Age	Fair	Group of willow and dogwood along river bank with some young Ash. Dense growth.		C ,1, 2	Long
G150	Pedunculate oak	5 to 7	1.0	200 to 280	4							Middle Age	Good	Small group of small trees. Some broken branches, pruning wounds and stubs. Minor dead wood in crowns		B ,1, 2	Long
G151	Field maple, Common dogwood, Hazel species, Hawthorn species	2 to 6	0.0	75 to 150	50							Middle Age	Fair	located along field boundary. vigorous hazel and dogwood growth with some emergent hawthorn and field maple. hazel growth forcing hawthorn and maple canopies up.		C ,1, 2	Medium
G152	Common hawthorn, Blackthorn	3 to 5	1.0	70 to 80	2							Middle Age	Fair	Two shrubby trees in dense bramble		C ,2	Medium
G153	Field maple	4.5 to 4.5	1.5	200 to 240	2							Middle Age	Fair	Pair of small trees forming single canopy. On edge of stream. Some minor cavities. Northern Tree twin stemmed		B ,3	Long
G154	Common hawthorn, Blackthorn	4 to 5	0.5	25 to 120	50							Middle Age	Fair	Possibly lapsed hedgerow now longer belt of shrubby trees		C ,2, 3	Long
G155	Pedunculate oak	16 to 17	3.0	930 to 1100	3							Mature	Good	3 very large trees forming one singular canopy. Minor and moderate dead wood and occasional broken branches but expected defects in trees this size and age. Tree furthest south has large broken branch from 3m laying on floor but still attached to stem. No significant defects.		A ,1, 2	Long
G156	Field maple	8 to 9	3.0	160 to 300	5							Middle Age	Good	Group of field maple growing close together forming one canopy. Some deadwood present. No major defects. Some epicormic growth.		B ,1, 2	Medium
G157	Leyland cypress	10 to 12	0.5	250 to 350	100							Middle Age	Fair	Line of large trees along industrial estate boundary. Some deadwood in lower canopy. Crowded by adjacent field boundary trees. Inspection restricted along field boundary.		B ,2	Long
G158	Field maple, Sweet chestnut, Blue gum eucalyptus, Cherry species, Pedunculate oak	10 to 12	1.0	160 to 450	16							Middle Age	Good	Line of large trees along field boundary. Some deadwood visible in canopies but no major defects visible.		B ,1, 2	Long
G159	Field maple, Pedunculate oak	8 to 17	2.0	120 to 550	50							Middle Age to Mature	Good	Small copse of trees comprising 14 oaks with understorey of single and multi stemmed field maple. Generally Good form and vigour with one dead oak.		B ,2	Long
G160	Common ash	8 to 11	2.0	180 to 430	11							Middle Age	Fair	Single and multi stemmed trees along dried ditch edges. One dead tree, others with reduced vigour to varying degrees.		C ,2	Medium
G161	Field maple, Cherry species, Pedunculate oak	5 to 6.5	3.0	100 to 200	3							Middle Age	Fair	Small group along boundary behind hedge. Some browning to cherry foliage. No major defects visible. Stem inspection restricted		C ,2	Long
G162	Field maple, Common hawthorn, Blackthorn, Pedunculate oak	4 to 8	0.5	25 to 250	100							Middle Age	Fair	Dense shrubby trees of lapsed hedgerow with occasional hedgerow tree		C ,2	Long
G163	Field maple, Common hawthorn, Blackthorn, Pedunculate oak	4 to 8	0.5	50 to 300	1000							Middle Age	Fair	Dense shrubby trees of lapsed hedgerow with occasional hedgerow tree		C ,2	Long
G164	Pedunculate oak	14 to 18	4.0	620 to 940	4							Mature	Good	4 large trees forming one larger canopy along field boundary. Ivy clad stems else excellent form and vigour		A ,2	Long
G165	Pedunculate oak	13 to 17	3.0	470 to 920	5							Middle Age to Mature	Fair	Linear group of oaks along field boundary. All with slightly reduced vigour, broken branches, Minor bark wounds, Minor and moderate dead wood.		B ,2	Long
G166	Common alder, Willow species	4 to 9	0.0	75 to 150	100							Middle Age	Good	Group of alder and willow along lake Bank. Dense, vigorous growth.		B ,1, 2	Long
G167	Common ash	6 to 8	2.0	75 to 180	10							Middle Age	Fair	Single and multi stemmed trees in roadside hedgerow. Slightly reduced vigour		C ,2	Medium
G168	Alder species, Willow species	5 to 7	1.0	100 to 200	20							Middle Age	Good	Dense group of alder and willow along river bank. No major defects visible.		B ,1, 2	Long
G169	Alder species, Common dogwood, Willow species	4 to 9	0.5	75 to 200	50							Middle Age	Good	Group of alder and willow along river bank. Some dogwood also present. Vigorous growth. No major defects noted.		B ,1, 2	Long
G170	Blackthorn	3.5 to 3.5	0.5	75 to 100	10							Middle Age	Fair	3 small multistem blackthorn located along river bank. Forming one canopy. Some deadwood visible.		C ,1	Medium
G171	Pedunculate oak	15 to 20	5.0	670 to 1200	7							Mature	Good	Large, mature trees in and on roadside embankment. Large, Broad spreading crowns with Good form and vigour		A ,2	Long
G172	Pedunculate oak	15 to 20	5.0	570 to 930	15							Mature	Good	Large, mature trees in and on roadside embankment. Large, Broad spreading crowns with Good form and vigour		A ,2	Long
G173	Hazel species, Blackthorn, Pedunculate oak, Willow species	6 to 7	0.0	100 to 200	20							Middle Age	Good	Group of Hazel, willow and oak along field boundary. Some blackthorn growth beneath along base. Vigorous growth. No major defects noted.		B ,1, 2	Long
G174	Horse chestnut, Turkey oak, Pedunculate oak	13 to 19	4.0	450 to 900	25							Middle Age to Mature	Good	Large roadside trees in embankment and private property edges. Generally Good form and vigour		B ,1, 2	Long
G175	Field maple, Common hazel, Common hawthorn, Wych elm	3 to 6	0.5	40 to 150	500							Middle Age	Good	Lapsed hedgerow and shrubby understorey groups to larger trees		C ,2, 3	Long

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G176	Common hawthorn, Blackthorn	1.5 to 2.5	0.0	75 to 100	12							Middle Age	Fair	Outgrown hedgerow remnant surrounding large tree. Some multistemmed trees		C ,2	Long
G177	Field maple, Common hazel, Common hawthorn, Wych elm	3 to 6	0.5	40 to 150	500							Middle Age	Good	Lapsed hedgerow and shrubby understorey groups to larger trees		C ,2, 3	Long
G178	Turkey oak, Pedunculate oak	11 to 17	4.0	350 to 700	30							Middle Age to Mature	Fair	Roadside and field boundary trees. Majority have reduced vigour and minor or moderate shoot tip die back.		B ,2	Long
G179	Field maple, Common hazel, Common hawthorn, Common ash, Blackthorn, Wych elm	3 to 5	0.0	20 to 110	250							Middle Age	Fair	Lapsed hedgerow and understorey group to larger trees.		C ,2, 3	Long
G180	Field maple, Blackthorn	2.5 to 5	0.0	75 to 100	20							Middle Age	Fair	Scrubby blackthorn and field maple growth along field boundary. Overgrown with brambles.		C ,1, 2	Long
G181	Turkey oak, Pedunculate oak	11 to 18	3.0	250 to 850	150							Middle Age to Mature	Fair	Long linear belt of mainly pedunculate oak trees with occasional turkey oak. Located on raised and undulating roadside bund adjacent ditch. Generally Good form and vigour but with at least 50% of trees with shoot tip dieback and slightly reduced vigour.		B ,2, 3	Long
G182	Alder species, Willow species	6 to 10	0.0	75 to 150	30							Middle Age	Good	Stand of alder and willow along river bank to field boundary. Some deadwood present in largest alders but overall vigorous growth.		B ,1, 2	Long
G183	Field maple, Common hazel, Common hawthorn, Common ash, Blackthorn, Wych elm	3 to 5	0.0	20 to 110	250							Middle Age	Fair	Lapsed hedgerow and understorey group to larger trees.		C ,2, 3	Long
G184	Alder species, Willow species	5 to 7	0.0	75 to 150	15							Middle Age	Good	Group of alder and willow along river bank. Set back from field edge. Vigorous growth. Inspection restricted by bramble growth		B ,1, 2	Long
G185	Common ash, Turkey oak, Pedunculate oak	11 to 16	3.0	300 to 670	70							Middle Age to Mature	Fair	Long linear belt of mainly pedunculate oak trees with occasional turkey oak and ash. Located on raised and undulating roadside bund adjacent ditch. Generally Good form and vigour but with at least 50% of trees with shoot tip dieback and slightly reduced vigour		B ,2, 3	Long
G186	Field maple, Hazel species, Hawthorn species	3 to 5	0.0	75 to 100	20							Middle Age	Fair	Scrubby group along river. Set back from field edge. Crowded growth. No major defects noted but inspection restricted by bramble growth.		C ,1, 2	Medium
G187	Field maple, Pedunculate oak	5 to 9	2.0	50 to 220	15							Young to Middle Age	Fair	Single and multi stemmed hedgerow trees		C ,2	Medium
G188	Common ash, Turkey oak, Pedunculate oak	11 to 20	3.0	400 to 900	100							Mature	Fair	Long linear belt of mainly pedunculate oak trees with occasional turkey oak and ash. Located on raised and undulating roadside bund adjacent ditch. Generally Good form and vigour but with at least 50% of trees with shoot tip dieback and slightly reduced vigour. Majority of trees beyond fencing or gardens adjacent road		B ,2, 3	Long
G189	Field maple, Common hazel, Common hawthorn, Common ash, Blackthorn, Wych elm	3 to 5	0.0	20 to 110	250							Middle Age	Fair	Lapsed hedgerow and understorey group to larger trees.		C ,2, 3	Long
G190	Field maple, Common dogwood, Common hawthorn, Blackthorn, Pedunculate oak, Wych elm	5 to 20	2.0	50 to 1100	500							Mixed Age	Good	Long linear belt of trees with semi-woodland composition. Large Broad oaks with lower understorey running along slightly raised roadside mound. Coppice stools throughout		A ,1, 2	Long
G191	Alder species, Common hazel, Willow species	3 to 8	0.0	75 to 200	30							Middle Age	Good	Group of willow, alder and Hazel with some understorey blackthorn. Located along field edge next to river. Vigorous growth. No major defects noted.		B ,2	Long
G192	Common ash, Aspen, Blackthorn, Pedunculate oak	4 to 12	1.5	120 to 640	50							Mixed Age	Fair	Linear group of Ash and oak, dieback variable including some possibly resistant individuals. Dense understorey of blackthorn and bramble. Some multistemmed forms		B ,2	Medium
G193	Field maple, Common ash, Pedunculate oak, Wych elm	9 to 12	2.0	100 to 250	500							Middle Age	Fair	Roadside broadleaf linear plantation adjacent roadside		B ,2	Long
G194	Common hawthorn, Blackthorn, Pedunculate oak	3.5 to 15	1.5	120 to 800	60							Middle Age to Mature	Good	Linear group of large oaks with smaller hawthorn and blackthorn. Some moribund trees. Dead wood throughout. Cavities and splits. Good connectivity and screening.		A ,2, 3	Long
G197	Pedunculate oak	8 to 10	1.5	450 to 500	2							Middle Age	Good	Two small oaks located along field boundary, growing close together. Deadwood present in canopies. Epicormic growth and ivy to stems. Canopies impeded by adjacent trees.		B ,1, 2	Long
G198	Pedunculate oak	9 to 11	3.5	390 to 420	3							Middle Age	Fair	3 trees in dense hedge all with reduced crown vigour and moderate dead wood.		C ,1, 2, 3	Medium

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G199	Alder species	12 to 13	6.0	250 to 350	7							Middle Age	Good	Dense group of alders forming one canopy located in scrubby area adjacent to river. Ivy growth to some stems. No major defects noted		B ,1, 2	Long
G200	Hawthorn species, Common ash, Blackthorn	1.5 to 3	0.0	75 to 100	30							Middle Age	Fair	Dense understorey growth along field boundary. Vigorous growth.		C ,2	Long
G201	Common hazel, Blackthorn, Pedunculate oak	4 to 9	1.0	50 to 280	25							Young to Middle Age	Good	End of longer linear belt of tree cover in small land depression. single and multi stemmed form		B ,2	Long
G202	Field maple, Common hazel, Hawthorn species, Blackthorn	3 to 5	0.0	75 to 100	50							Middle Age	Good	Dense understorey growth along field boundary. Vigorous growth.		B ,2	Long
G203	Field maple, Pedunculate oak	6 to 8	4.0	150 to 150	2							Middle Age	Good	Small oak and field maple growing in scrubby area adjacent to river. Canopy pushed up by understorey growth. No major defects noted.		B ,1, 2	Long
G204	Alder species, Willow species	4 to 10	0.5	100 to 200	100							Middle Age	Good	Dense row of alder along southern Bank of River. Occasional willow growth also.		B ,1	Long
G205	Alder species, Willow species	4 to 8	0.5	100 to 150	30							Middle Age	Good	Dense row of alder and willow along southern river bank.		B ,1, 2	Long
G206	Willow species	6 to 6	0.5	75 to 150	20							Middle Age	Good	Small group of willow located to field edge. Vigorous growth.		B ,1, 2	Long
G207	Willow species	4 to 4	0.5	75 to 100	10							Middle Age	Good	Small group of willow located to field edge. Vigorous growth.		B ,2	Long
G208	Pedunculate oak	10 to 12	3.0	500 to 750	8							Middle Age	Good	Group of oaks along field edge. Some deadwood visible in canopies. Some canopies crowded by adjacent trees and understorey shrubs.		A ,1, 2	Long
G209	Field maple, Hawthorn species, Blackthorn	2 to 6	0.0	75 to 150	100							Middle Age	Fair	Dense scrubby blackthorn understorey beneath oaks. Some hawthorn and field maple present.		C ,2	Long
G210	Common ash	8 to 8	1.0	100 to 200	4							Middle Age	Fair	Small group of Ash forming one canopy. Signs of dieback in canopy and lesions on stems. 50-75 percent canopy remains.		C ,1, 2	Medium
G211	Pedunculate oak	11 to 12	1.5	580 to 750	3							Middle Age	Fair	Group of 3 large oaks, part of wider linear feature. Generally slightly sparse. Large pieces of dead wood throughout with some fully dead limbs. Some broken limbs and torn stubs		B ,2, 3	Long
G212	Field maple, Sycamore, Common dogwood, Common hazel, Common hawthorn, Common ash, White poplar, Pedunculate oak, Small-leaved lime, Common lime, Wych elm	10 to 18	1.0	50 to 750	1000							Mixed Age	Good	Large groups with small woodland composition either side of private drive entrance and road frontage. Coppice stools throughout. Larger trees are generally oak worth dense understorey in patches. Some dead trees. Lower canopy adjacent road is 'hedged'.		B ,1, 2, 3	Long
G213	Pedunculate oak	11 to 12	2.0	580 to 740	3							Middle Age	Good	Group of 3 trees forming part of larger feature. Some slightly sparse crowns. Dead wood throughout. Some small cavities.		B ,1, 2, 3	Long
G214	Field maple, Common hazel, Holly species	4 to 8	0.5	100 to 250	20							Middle Age	Good	Group growing under canopies of adjacent oaks. Vigorous growth. No major defects noted.		B ,1, 2	Long
G215	Pedunculate oak	10 to 11	2.0	650 to 750	3							Middle Age	Good	Group of 3 large trees near pond or wet area. Generally Good vigour with some minor structural defects. Large cavities observed. Some broken limbs with split stubs. Good habitat		A ,3	Long
G216	Pedunculate oak	8 to 12	2.0	250 to 350	10							Middle Age	Fair	Oak trees around wet area or pond. Dieback noted in most trees with some sparse crowns. Dead wood throughout		B ,2, 3	Medium
G217	Common hawthorn, Goat willow	2.5 to 5	0.0	100 to 140	30							Middle Age	Fair	Dense group below larger trees. Multistemmed forms.		C ,2	Medium
G218	Common lime	8 to 10	1.5	220 to 260	16							Middle Age	Good	Linear group of established new planting between fence line. Good form and vigour throughout		B ,2	Long
G219	Common hawthorn, Norway spruce, Blackthorn, Pedunculate oak	4 to 8	0.0	50 to 220	80							Middle Age	Fair	Former hedgerow now outgrown and supplemented with larger hedgerow trees.		C ,1, 2	Long
G220	Small-leaved lime	8 to 10	2.5	180 to 270	60							Middle Age	Good	Double row of trees planted either side of private driveway forming formal tree lined avenue. Generally Good form and vigour		B ,2	Long
G221	Field maple	7 to 7	2.0	100 to 150	4							Middle Age	Fair	Small row of field maple forming one canopy. Located to edge of field. Some dead wood present in canopy. Overgrown by brambles at bade.		C ,2	Long
G222	Field maple	10 to 10	3.0	350 to 400	5							Middle Age	Fair	Small group of field maple forming one canopy. Some deadwood visible in canopy. One tree has been felled and stump remains.		C ,2	Long
G223	Common ash, Pedunculate oak	10 to 12	2.0	350 to 600	13							Middle Age	Good	Group of oaks around small pond area located to edge of field boundary. Some deadwood visible in canopies. Some Ash present also with signs of dieback.		B ,1, 2	Long
G224	Hawthorn species, Blackthorn	2 to 5	0.0	75 to 150	50							Middle Age	Fair	Dense blackthorn and hawthorn growth under oaks along field edge.		C ,2	Long

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G225	Pedunculate oak	8 to 10	4.0	700 to 800	2							Middle Age	Fair	2 oaks located along field boundary. Reduced canopies with much deadwood present. Good leaf growth on remaining branches. Larger bracket fungus to base of one tree. Ivy growth to stems.		C ,1, 2, 3	Long
G226	Common ash, Pedunculate oak	13 to 15	4.0	370 to 720	8							Middle Age to Mature	Fair	Row of trees adjacent a pond. Slightly reduced vigour throughout Broad crowns		B ,2	Long
G227	Common hawthorn, Common ash, Blackthorn, Pedunculate oak, Grey willow	5 to 12	2.0	100 to 420	100							Middle Age	Fair	Large linear group of trees, former hedgerow now fully outgrown. Larger trees include mainly Ash and oak, all of which are either in decline or dead. Lower understorey trees of hawthorn, Blackthorn and willow also with reduced vigour		C ,2	Medium
G228	Field maple, Common hazel, Common ash	10 to 15	3.0	50 to 350	50							Middle Age	Good	Tall, narrow, linear group of trees immediately adjacent roadside. Hazel coppice stools throughout. Good screening		B ,2	Long
G229	Sycamore, Pedunculate oak	15 to 19	6.0	640 to 970	4							Mature	Good	Large woodland edge trees adjacent roadside. Crowns High over road		A ,2, 3	Long
G230	Pedunculate oak	15 to 19	6.0	630 to 920	7							Mature	Good	Large woodland edge trees adjacent roadside. Crowns High over road		A ,2, 3	Long
G231	Sycamore, Blackthorn	4 to 7.5	1.0	10 to 200	100							Middle Age	Fair	Canopies kept low under OHL with regular cutting		C ,2, 3	Medium
G232	Dogwood species, Hawthorn species, Spindle tree species, Blackthorn	2 to 4	0.0	75 to 100	100							Middle Age	Good	Scrubby growth along field boundary under canopies of taller trees. Vigorous growth.		C ,2	Long
G233	Pedunculate oak	6 to 7	1.0	100 to 200	11							Middle Age	Fair	Cluster of small oaks in scrubby area. Some cherry and willow present of similar age, height and quality. No major defects noted.		C ,1, 2	Long
G234	Sycamore, Hornbeam, Common hazel, Common ash, Wych elm	14 to 17	5.0	50 to 400	200							Middle Age	Fair	Double row of very tall narrow trees between road and field. Moderate Ash die back. Hazel coppice understorey. Ivy clad		B ,2	Medium
G235	Turkey oak, Goat willow	4 to 8	0.5	50 to 150	20							Middle Age	Fair	Single and multi stemmed trees forming small clump		C ,2	Long
G236	Field maple, Hawthorn species, Common ash	4 to 8	3.0	150 to 300	10							Middle Age	Fair	Group in scrubby area along field boundary next to prow. Deadwood visible in canopies. Crowded by understorey blackthorn. Ash showing signs of dieback.		C ,1, 2	Medium
G237	Grey willow	6 to 7	1.0	25 to 75	25							Middle Age	Fair	Dense clump of multi stem trees. Shrubby form		C ,2	Long
G238	Common ash, Austrian pine, White poplar, Pedunculate oak, Crack willow	10 to 14	3.0	120 to 430	50							Middle Age	Fair	Trees located around and small stable buildings. Limited inspection due to horses in field. Reduced vigour in an. Tall narrow forms		B ,2	Long
G239	Common hawthorn, Blackthorn, Elder	1 to 2	0.0	10 to 100	50							Middle Age	Fair	Small shrubby trees cut low under OHL		C ,2	Medium
G240	Field maple, Common hazel, Hawthorn species	4 to 6	2.0	75 to 250	10							Middle Age	Fair	Group located to field boundary along prow. Being overgrown at base by brambles		C ,1, 2	Long
G241	Common hazel, Common beech, Common ash, Pedunculate oak	6 to 20	3.0	50 to 1000	400							Middle Age to Mature	Good	Group of approximately 30-40 large oak along field boundaries with Good deciduous understorey canopy. Minor and moderate dead wood but generally no significant defects. Large pile of MOT crush and run under crowns in RPA of 5 large oaks to north of group		A ,2	Long
G242	Pedunculate oak	10 to 11	1.0	250 to 400	10							Middle Age	Good	Line of oak along field boundary. Some deadwood visible in canopy. No major defects noted.		B ,1, 2	Long
G243	Common hazel, Hawthorn species, Blackthorn	3 to 6	0.5	75 to 100	30							Middle Age	Good	Group of scrubby hawthorn, blackthorn and Hazel along field boundary. Brambles growing at base.		C ,2	Long
G244	Common ash, Pedunculate oak	5 to 10	3.0	130 to 210	4							Middle Age	Fair	4 hedgerow trees with suppressed forms growing close together		C ,2	Long
G245	Field maple	6 to 7	1.0	50 to 150	15							Middle Age	Fair	Lower crowns have been Hedged. Suppressed and asymmetric under larger oaks		C ,2	Long
G246	Field maple, Common hawthorn, Common ash, Blackthorn, Pedunculate oak, Crack willow, Elder	3 to 11	1.0	100 to 450	45							Middle Age	Fair	Dense group around pond or hollow. Blackthorn thicket at edge prevents access. Ash dieback variable but including some poor condition trees. Feathery lichen to East.		B ,2, 3	Long
G247	Pedunculate oak	16 to 20	5.0	710 to 1050	15							Mature	Good	Tree belt comprising large prominent oaks. Large, Broad crowns with Good form and vigour. Minor and moderate dead wood with occasional broken branches and woodpeckers holes.		A ,2	Long
G248	Common hazel, Common hawthorn, Common ash, Pedunculate oak	5 to 13	3.0	75 to 450	100							Young to Middle Age	Fair	Lower understorey group to oaks. Occasional dead Ash. Good screening.		C ,2, 3	Long
G249	Common ash, Pedunculate oak	10 to 12	2.0	250 to 350	15							Middle Age	Good	Group of oak along field boundary. Some dead wood present in canopies. General vigour. No major defects noted.		B ,1, 2	Long

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		(m)	(m)	(mm)	arising below 1.5m	(m)	(m)	(m)	(m)	(m)	(N,S,E,W)	Young, Middle Age, Mature	Good, Fair, Poor, Veteran			A,B,C,U (1,2,3)	Long, Medium, Short, Very Short
G250	Pedunculate oak	15 to 20	6.0	740 to 1040	12							Mature	Good	Prominent trees in wider belt of tree cover. Large open crowns with minor broken branches and dead wood. 2 trees have basal hollows extents unknown. Excellent by crown vigour		A ,2	Long
G251	Common hawthorn, Blackthorn, Pear species, Pedunculate oak	3.5 to 7	0.0	75 to 440	60							Middle Age	Fair	Very dense outgrown hedge with occasional emergent oaks. Multistemmed forms. Unlikely to be able to be brought back into management. Good habitat and connectivity		B ,2, 3	Long
G252	Field maple, Common ash, Pedunculate oak	7 to 14	4.0	250 to 450	25							Middle Age to Mature	Fair	Smaller trees in wider belt of tree cover. Single and multi stemmed form. Broken branches and dead wood with some woodpecker holes		B ,2	Long
G253	Hawthorn species, Common ash, Blackthorn, Goat willow	3 to 7	1.0	75 to 150	10							Middle Age	Good	Understorey growth along field boundary in group of oak and Ash.		C ,2	Long
G254	Common hazel, Common hawthorn, Blackthorn, Willow species, Elder	3 to 6	0.5	25 to 100	500							Young to Middle Age	Fair	Former hedgerow now outgrown comprising shrubby trees as understorey in wider belt of tree cover		C ,2	Long
G255	Green acacia, Field maple, Common hawthorn, Blackthorn, Pedunculate oak, Goat willow	3 to 7	0.0	75 to 280	80							Middle Age	Fair	Extremely dense and outgrown hedgerow. Unlikely to be possible to bring back into management. Multistemmed forms. Occasional larger field maple and oak		B ,3	Long
G256	Field maple, Common hawthorn, Common ash, Blackthorn, Pedunculate oak, Grey willow	8 to 14	0.5	50 to 450	1000							Middle Age	Good	Former hedgerow now outgrown comprising multi stemmed shrubby trees with occasional larger hedgerow oak, Ash or maple. Excellent screening for substation.		B ,2	Long
G257	Common hazel, Hawthorn species, Common ash, Blackthorn	2 to 6	0.0	75 to 150	50							Middle Age	Fair	Understorey blackthorn, Hazel, hawthorn and Ash under tree line along field boundary. Vigorous growth. Some leggy blackthorn has fallen over into field.		C ,2	Long
G258	Field maple, Common hazel, Common hawthorn, Common ash, Hybrid black poplar, Blackthorn, Pedunculate oak, Crack willow	6 to 17	0.5	50 to 850	2000							Mixed Age	Fair	Long, wide linear belt of tree cover along dried ditch and behind fenced off area. Comprising larger oak, Ash, maple and poplar with understorey of shrubby trees. Good habitat		B ,2, 3	Long
G259	Common hawthorn, Common ash, Blackthorn, Pedunculate oak, Goat willow	3 to 7	0.0	75 to 280	80							Middle Age	Fair	Extremely dense and outgrown hedgerow. Unlikely to be possible to bring back into management. Multistemmed forms. Occasional larger ash and oak		B ,3	Long
G263	Field maple, Common hawthorn, Blackthorn, Pedunculate oak	3 to 7	0.0	75 to 280	80							Middle Age	Fair	Extremely dense and outgrown hedgerow. Unlikely to be possible to bring back into management. Multistemmed forms. Occasional larger field maple and oak		B ,3	Long
G264	Pedunculate oak	8 to 12	2.0	480 to 800	10							Middle Age	Good	Line of oak along field boundary. Generally good vigour. Some deadwood present in canopies. Some leaf browning.		A ,1, 2	Long
G265	Common hawthorn, Common ash, Blackthorn	2 to 7	0.0	75 to 290	70							Middle Age	Fair	Dense outgrown hedgerow. Unlikely to be returned to management. Ash in group generally showing minimal dieback. Multistemmed forms		B ,2, 3	Medium
G266	Common hawthorn, Common ash, Blackthorn, Pedunculate oak, Crack willow	3 to 12	1.0	160 to 600	30							Middle Age	Fair	Group of larger oak and ash with dense understorey of thorn. Dead wood throughout including well decayed. Peeling bark in places. Some multistemmed forms		B ,2, 3	Long
G267	Field maple, Common hawthorn, Common ash, Blackthorn	3 to 7	0.0	75 to 210	100							Middle Age	Fair	Dense outgrown hedgerow. Some multistemmed forms. Occasional larger field maple		B ,2	Long
G268	Field maple, Common beech, Common ash, Pedunculate oak, Wych elm	10 to 15	5.0	150 to 390	80							Middle Age	Fair	Third party trees adjacent roadside. Tall narrow stems. Ivy clad. Good screening but slightly reduced vigour. Hedged to lower Western canopy		B ,2	Long
G269	Field maple, Common hawthorn, Common ash, Blackthorn, Pedunculate oak, Goat willow	3 to 12	1.5	100 to 590	25							Middle Age	Fair	Group of trees around pond. Large oaks to outer edge. Ash variable condition. Some failed trees. Multistemmed willow. Cavities and dead wood		B ,3	Long
G270	Common hawthorn, Blackthorn	3 to 5	0.0	75 to 120	40							Middle Age	Fair	Very dense blackthorn thicket. Outgrown hedge		C ,2, 3	Long
G271	Common ash	8 to 10	1.5	350 to 520	3							Middle Age	Fair	Small group of Ash. 25-50% dieback. Basal cavity and old hedge laid form to Eastern Tree. Dead wood in crowns		C ,2, 3	Medium
G272	Field maple, Common hazel, Common hawthorn, Common ash, Blackthorn, Pedunculate oak	3 to 14	1.5	100 to 600	150							Mixed Age	Fair	Very large boundary group. Larger oak and Ash with dense understorey. Some multistemmed forms. Dead wood throughout. Ash dieback variable, some poor trees		B ,2, 3	Long
G273	Common hawthorn, Common ash, Blackthorn	3 to 6	0.0	75 to 160	50							Middle Age	Fair	Dense outgrown hedge. Limited diversity		C ,3	Long
G274	Common hawthorn, Blackthorn	3 to 6	0.0	75 to 100	50							Middle Age	Fair	Dense outgrown hedge. Limited diversity		C ,3	Long
G275	Common ash	4 to 8	2.0	240 to 380	3							Middle Age	Fair	Small group of Ash. Minimal dieback. Cavity to small northern tree		C ,3	Medium

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G278	Field maple, Apple species, Blackthorn, Crack willow, English elm	3 to 8	0.0	90 to 210	30							Middle Age	Fair	Dense screening group near house. Some standing dead elm. Some multistemmed forms		C ,2, 3	Medium
G279	Common hawthorn, Blackthorn, English elm	2.5 to 8	1.0	80 to 200	8							Middle Age	Poor	Sparse screening group next to outbuilding. Dead and dying elm. Dense bramble and ivy		C ,3	Short
G280	Field maple, Common hawthorn, Blackthorn	3 to 5	0.0	75 to 150	100							Middle Age	Fair	Lapsed hedgerow under larger oaks and Ash along field boundary.		C ,2	Long
G284	Field maple, Common hawthorn, Apple species, Blackthorn, Elder, English elm	3.5 to 12	0.0	75 to 240	40							Middle Age	Fair	Dense group along track. Some multistemmed forms. Gaps in places		C ,2, 3	Long
G285	Pedunculate oak	10 to 12	2.0	500 to 750	7							Middle Age	Good	Large trees within dense undergrowth. Dead wood in crowns but generally free from defects		A ,2	Long
G286	Pedunculate oak	10 to 12	1.5	570 to 650	2							Middle Age	Good	2 oaks close together along field boundary forming one canopy. Some deadwood present in canopies. Some lower limbs dead. Lichen/fungus present on dead limbs of one tree. Some epicormic growth.		B ,1, 2	Long
G289	Common apple	4 to 5	2.0	280 to 300	2							Middle Age	Fair	Pair of apple trees next to track forming single crown. Eastern tree twin stemmed		C ,2	Medium
G290	Field maple, Common hawthorn, Common pear, Pedunculate oak, Wild service tree	2 to 10	0.0	75 to 520	80							Young to Middle Age	Good	Group along track. Larger oaks and field maple with dense understorey and lower crowns flailed. Good clearance over road. Some multistemmed forms. Dead wood throughout		B ,2, 3	Long
G291	Field maple, Common hawthorn, Blackthorn, Common pear, Pedunculate oak, Goat willow	2 to 12	3.0	90 to 480	25							Middle Age	Good	Trees around pond. Willows close to water's edge. Dense ivy throughout. Some multistemmed forms. Good clearance over track		B ,2, 3	Long
G292	Field maple	5 to 7	2.0	280 to 360	3							Middle Age	Fair	Small trees next to track. Some twin stemmed		C ,2	Long
G296	Pedunculate oak	8 to 12	1.0	450 to 600	9							Middle Age	Good	Line of single and multi stem Oak along field boundary adjacent to stream. Some deadwood visible in canopies. Some ivy growth to stems. General vigour.		A ,1, 2	Long
G298	Field maple, Common dogwood, Common hawthorn, Pedunculate oak, Wild service tree	2 to 12	2.5	75 to 750	40							Middle Age to Mature	Good	Large oaks alongside track with understorey of field maple and hawthorn. Some multistemmed including large twin stemmed oak to East. Some standing dead trees. Aerial dead wood throughout.		A ,2, 3	Long
G299	Blackthorn	1 to 3	0.0	50 to 75	100							Middle Age	Good	Scrubby blackthorn growth under oaks along field boundary.		C ,2	Long
G300	Blackthorn	3 to 4	0.0	50 to 100	75							Middle Age	Good	Dense scrubby blackthorn along field boundary.		C ,2	Long
G301	Pedunculate oak	10 to 12	1.0	420 to 660	3							Middle Age	Good	Two oaks growing along field boundary adjacent to stream. General vigour. Some deadwood visible in canopy. Some leaf tip die back present on one tree.		A ,1, 2	Long
G302	Blackthorn	3 to 4	0.0	50 to 100	75							Middle Age	Good	Dense scrubby blackthorn growth along field boundary.		C ,2	Long
G303	Field maple, Common hazel, Common hawthorn, Common ash, Pedunculate oak, Elder	2.5 to 12	3.0	75 to 520	150							Middle Age	Good	Linear group next to track. Larger oak and occasional Ash with field maple understorey. Some standing dead. Aerial dead wood throughout. Lower canopies and smaller trees show signs of flailing		B ,2, 3	Long
G304	Pedunculate oak	10 to 10	3.0	300 to 450	3							Middle Age	Fair	Group of oak along field boundary adjacent to stream. Deadwood visible in canopies. Leaf tip dieback visible. Inspection restricted by bramble growth.		B ,1, 2	Long
G306	Field maple, Pedunculate oak	9 to 12	2.0	290 to 570	7							Middle Age	Fair	Oak and field maple next to track. Some dead wood in crowns. Ivy on main stems		B ,2	Long
G308	Oak species	8 to 12	1.0	440 to 610	12							Middle Age	Good	Line of oak along field boundary adjacent to stream. General vigour. Some deadwood visible in canopies. Some ivy to stems. Some leaf tip die back visible.		A ,1, 2	Long
G309	Blackthorn	2 to 3	0.0	50 to 75	75							Middle Age	Good	Scrubby blackthorn growing under oaks along field boundary.		C ,2	Long
G310	Blackthorn	2 to 4	0.0	75 to 100	20							Middle Age	Fair	Dense thicket of multistemmed blackthorn. Southern edge managed		C ,2	Medium
G311	Hawthorn species, Blackthorn	3 to 4	0.0	50 to 150	20							Middle Age	Fair	Scrubby hawthorn and blackthorn growing under oaks along field edge. Some deadwood present in hawthorn bushes.		C ,2	Long
G314	Hawthorn species, Common ash, Blackthorn	2 to 4	0.0	50 to 100	30							Middle Age	Fair	Scrubby hawthorn and blackthorn growing along field boundary.		C ,2	Long
G315	Common hawthorn, Pedunculate oak	3 to 5	2.0	280 to 300	3							Middle Age	Fair	Squat and gnarled trees next to track. Southern edge managed. Multistemmed forms. Dense congested canopies		C ,2	Medium
G316	Common ash	6 to 9	2.0	150 to 450	7							Middle Age	Fair	Small group of Ash along field boundary. Generally in fair condition with signs of dieback present. One Ash present with advanced dieback. Overgrown by scrubby blackthorn and hawthorn.		B ,1, 2	Medium

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G318	Blackthorn	2 to 3	0.0	50 to 75	50							Middle Age	Good	Scrubby blackthorn growing under Ash trees along field boundary.		C ,2	Long
G319	Field maple, Common ash	6 to 12	4.0	150 to 350	15							Middle Age	Fair	Group along field boundary. Predominantly Ash with some field maple. All Ash showing signs of die back with generally 25 to 50 percent canopy remaining.		B ,1, 2	Long
G321	Field maple, Common hawthorn, Common ash, Blackthorn, English elm	2 to 6	0.0	75 to 200	25							Middle Age	Fair	Dense group of multistemmed trees.		C ,2	Medium
G326	Pedunculate oak	12 to 13	4.0	450 to 850	9							Middle Age	Good	Line of oak along access road. Some deadwood present in canopies. Some ivy to stems. Some leaf tip dieback. Some epicormic growth. Limbs overhanging Road.		A ,1, 2	Long
G327	Field maple, Common hawthorn, Wild cherry, English elm	5 to 8	2.0	110 to 260	16							Middle Age	Fair	Trees in and around private garden. Some dense ivy. Basal cavity to small trackside elm		B ,2	Medium
G332	Field maple	6 to 6	4.0	100 to 220	5							Middle Age	Fair	Small group of field maple forming one canopy. Located along access road and field boundary. Canopy impeded by adjacent Ash.		C ,1	Long
G334	Pedunculate oak	10 to 12	2.0	300 to 550	7							Middle Age	Good	Line of oak along field boundary. General vigour. Some deadwood visible in canopy. Some signs of leaf tip dieback.		A ,1, 2	Long
G335	Blackthorn	3 to 3.5	0.0	50 to 75	100							Middle Age	Fair	Scrubby blackthorn growth under line of oaks along field boundary.		C ,2	Long
G339	Common ash	14 to 16	3.0	350 to 500	6							Middle Age	Fair	Row of tall Ash along river bank. Signs of dieback in canopies. Generally around 50-75 percent canopy remaining. Some dead lower limbs.		A ,1, 2	Long
G340	Common ash	8 to 12	3.0	180 to 350	15							Middle Age	Fair	Group of Ash along field boundary. All trees showing signs of dieback. Generally 25-50 percent canopy remaining. Dead lower limbs.		B ,1, 2	Medium
G341	Field maple, Hawthorn species, Common ash, Blackthorn, Elder	3 to 7	0.0	100 to 180	50							Middle Age	Fair	Scrubby lapsed hedgerow along field boundary.		C ,2	Long
G344	Field maple, Blackthorn	1 to 3	0.0	50 to 100	5							Middle Age	Fair	Scrubby growth under Ash tree. Located along river bank to field edge.		C ,2	Long
G349	Field maple, Hawthorn species, Blackthorn, Willow species, Elder	3 to 7	0.0	50 to 150	50							Middle Age	Good	Scrub patch along field ditch. General vigour. Some deadwood visible.		C ,2	Long
G350	Pedunculate oak	8 to 8	3.0	170 to 170	2							Middle Age	Fair	Two small oak located to field boundary forming one canopy. Signs of leaf tip die back. Rupturing of bark on stems. Large area of bark missing on one stem.		C ,1	Medium
G353	Blackthorn	3 to 5	0.0	50 to 100	50							Middle Age	Good	Dense scrubby blackthorn growth along field boundary. Vigorous growth.		C ,2	Long
G356	Common ash	10 to 11	5.0	300 to 350	2							Middle Age	Fair	Two Ash growing behind scrubby blackthorn along field boundary. Signs of Ash dieback in canopy. Around 25-50 percent canopy remaining.		B ,1, 2	Long
G357	Pedunculate oak	10 to 12	3.0	300 to 550	10							Middle Age	Good	Group of oaks along field boundary. Part of wider wooded area. General vigour. Some deadwood present in canopies		A ,1, 2	Long
G358	Field maple, Dogwood species, Hawthorn species, Common ash, Blackthorn	3 to 7	0.0	50 to 150	50							Middle Age	Fair	Scrubby understorey growth under oaks along field boundary. Some taller emergent field maple. General vigour. Some deadwood visible in hawthorn and maple.		C ,2	Long
G359	Pedunculate oak	10 to 14	3.0	250 to 600	50							Middle Age	Good	Large group of oaks forming wooded strip along field boundary. General vigour. Leaf tip dieback present on some trees. Some deadwood visible in canopies.		A ,1, 2	Long
G360	Field maple, Hawthorn species, Wild cherry, Blackthorn, Elder	1.5 to 6	0.0	50 to 150	100							Middle Age	Good	Understorey forming part of wooded strip along field boundary. Generally vigorous growth. Some denser areas of blackthorn.		B ,2	Long
G362	Pedunculate oak	7 to 7	3.0	100 to 180	8							Middle Age	Good	Group of small oaks within field boundary hedgerow forming one canopy. General vigour. Some deadwood visible in canopies. Some lower limbs lost due to hedge cutting.		B ,1, 2	Long
G363	Pedunculate oak	12 to 12	4.0	530 to 680	4							Middle Age	Good	One multi stem and one single stem Oak forming one canopy. Located along field boundary. General vigour. Some leaf tip die back visible. Some deadwood in canopy. Some epicormic growth. Ivy present on one of the stems.		A ,1, 2	Long
G365	Pedunculate oak	10 to 12	5.0	400 to 450	5							Middle Age	Dead	Group of dead oaks in wooded area along field boundary. Missing most bark. Ivy growth to stems. Visible cavities in some stems.		C ,3	Long

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G375	Field maple, Common hawthorn, Blackthorn, Pedunculate oak, Goat willow, Crack willow, Wild service tree	3 to 13	3.0	110 to 1020	40							Mixed Age	Good	Trees around seasonal pond. Large oaks with Good range of smaller understorey species. Fallen trees and extensive dead wood. Unusual forms of willows that have grown in water. Cavities and decay. Interesting feature		A ,3	Long
G388	Field maple, Common hawthorn, Common ash, Blackthorn	3 to 6	0.0	50 to 100	100							Middle Age	Good	Lapsed hedgerow along field boundary. Dense, vigorous growth.		B ,2	Long
G391	Pedunculate oak	6.5 to 10	4.0	590 to 660	2							Middle Age	Good	Two oaks growing close together along field boundary. Some leaf tip dieback visible. Some deadwood in canopy. General vigour. Small amount of epicormic growth to one stem.		B ,1, 2	Long
G393	Pedunculate oak	8 to 10	3.0	450 to 600	3							Middle Age	Good	Group of oak along field boundary. General vigour. Some leaf tip die back visible. Some deadwood present in canopies. Some epicormic growth to stems and branches.		B ,1, 2	Long
G400	Field maple, Pedunculate oak	6 to 12	1.0	75 to 560	25							Middle Age	Good	Line of single and multi stem oaks along field boundary. Some understorey field maple and hawthorn but sparse. Some leaf tip die back in canopies. Some epicormic growth to stems. Some deadwood visible in canopies.		B ,1, 2	Long
G401	Common ash	10 to 13	5.0	120 to 250	12							Middle Age	Poor	Multi stemmed Ash adjacent roadside with moderate Ash dieback		C ,3	Medium
G402	Pedunculate oak	15 to 20	4.0	450 to 900	50							Mature	Good	Single and multi stemmed trees with Broad crowns forming dense group adjacent roadside. Many ivy clad. Minor dead wood		A ,2	Long
G403	Field maple, Common hawthorn, Blackthorn, Elder	3 to 6	0.0	10 to 130	250							Middle Age	Good	Dense shrubby understorey group. Hedged to lower canopies		C ,2	Long
G412	Pedunculate oak	8 to 9	3.0	560 to 620	3							Middle Age	Fair	Group of trees on field edge. All with various stages of dieback. Western Tree has large dead limbs to South. Numerous cavities and decay		B ,3	Long
G418	Pedunculate oak	14 to 20	5.0	600 to 900	50							Mature	Good	Prominent roadside and field boundary trees forming large, linear tree belt with understorey. Located on undulating ground near dry ditches. Generally Good form and vigour. Some ivy clad. Minor and moderate dead wood as expected of trees this size and age. Minor broken branches over road.		A ,2	Long
G420	Field maple, Common ash, Pedunculate oak	8 to 14	4.0	220 to 470	30							Middle Age	Fair	Larger understorey trees within wider roadside group. Single and multi stemmed. Ivy clad. Minor Ash dieback		B ,2	Long
G421	Field maple, Common hazel, Common hawthorn, Blackthorn, Elder	3 to 6	0.5	50 to 150	1000							Young to Middle Age	Good	Dense, shrubby understorey group adjacent roadside		C ,2	Long
G422	Field maple, Hawthorn species, Blackthorn, Pedunculate oak, Elm species	2 to 7	0.5	50 to 350	100							Middle Age	Fair	Lapsed mixed native hedgerow. Predominantly shrubby trees with blackthorn understorey. Signs of Dutch elm disease.		C ,2	Long
G423	Pedunculate oak	13 to 15	2.0	730 to 780	4							Middle Age	Good	Line of oak along field boundary. Some deadwood visible in canopies. Some leaf tip dieback present. Ivy growth to stems. General vigour.		A ,1, 2	Long
G424	Blackthorn, Pedunculate oak	3 to 5	0.0	50 to 180	50							Middle Age	Fair	Scrubby blackthorn growth along field boundary with some small oak mixed in. Vigorous, dense growth.		C ,2	Long
G425	Field maple, Blackthorn, Pedunculate oak	13 to 15	1.0	50 to 740	30							Middle Age	Good	6 Oak in row along field boundary with some shrubby field maple and blackthorn understorey. one small dead oak amongst group with bark missing and most limbs lost. Remaining oaks have some dead wood visible in canopy. Leaf tip die back present. General vigour.		A ,1	Long
G426	Field maple, Common hawthorn, Blackthorn, Common lime	2.5 to 9	3.0	75 to 450	30							Middle Age	Good			B ,2	Long
G427	Pedunculate oak	10 to 11	4.0	500 to 700	3							Middle Age	Good	Row of oaks along field boundary. General vigour. Leaf tip dieback present. Some deadwood visible in canopies.		A ,1	Long
G428	Pedunculate oak	10 to 12	2.0	780 to 800	2							Mature	Fair	Pair of large trees by residential driveway. Dead wood throughout including large pieces some well decayed. Numerous cavities and splits. Overhanging road		B ,2, 3	Long
G429	Field maple, Blackthorn, Elder	2 to 5	0.0	25 to 100	50							Middle Age	Fair	Dense scrubby growth under line of oaks along field boundary. Vigorous growth. Predominantly blackthorn with some shrubby field maple and elder.		C ,2	Long
G430	Pedunculate oak	10 to 13	1.0	510 to 890	6							Middle Age	Good	Line of oak along field boundary. General vigour. Leaf tip dieback present. Some deadwood visible in canopies. Some epicormic growth on stems and branches.		A ,1, 2	Long

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		(m)	(m)	(mm)	arising below 1.5m	(m)	(m)	(m)	(m)	(m)	(N,S,E,W)	Young, Middle Age, Mature	Good, Fair, Poor, Veteran			A,B,C,U (1,2,3)	Long, Medium, Short, Very Short
G431	Field maple, Common hazel, Hawthorn species, Common ash, English holly, Blackthorn, Pedunculate oak, Rhododendron species, Elm species	3 to 16	0.0	50 to 1100	500							Middle Age	Good	Large group located along field boundary adjacent to road. Predominantly consists of row of large oaks along boundary with dense understorey growth. Some other larger specimens such as Ash. Ash showings signs of dieback and elm exhibiting symptoms of Dutch elm disease. Oaks exhibiting General vigour with some signs of leaf tip dieback. Moss and ivy present on some larger oaks. Some deadwood visible in canopies.		A ,1, 2, 3	Long
G432	Field maple, Sycamore, Horse chestnut, Common hawthorn, Wild privet, Crab apple, Cherry laurel, Turkey oak, Pedunculate oak, Wild service tree	3 to 16	5.0	75 to 600	40							Middle Age	Good	Tall roadside trees with dense understorey. High crown forms to East. Numerous broken branches and stubs. Dead wood throughout.		A ,2, 3	Long
G433	Horse chestnut, Common hazel, Common hawthorn, Common ash, English holly, Blackthorn, Pedunculate oak, Elm species	3 to 15	0.0	50 to 750	100							Middle Age	Good	Group located along road. Predominantly consists of large oak and occasional Ash with dense understorey shrubs. Oaks displaying general vigour with some leaf tip dieback visible. Large dead pine at northern of group next to PROW with bark loss and woodpecker holes		A ,1, 2, 3	Long
G434	Field maple, Common hawthorn, Common ash, English holly, Blackthorn, English elm	3 to 6	1.0	75 to 290	50							Middle Age	Fair	Outgrown hedgerow now forming dense group		C ,2	Long
G435	Field maple, Lawson cypress, Pedunculate oak, Western red cedar	4 to 8	0.0	90 to 300	11							Middle Age	Fair	Screening group next to garden. Conifers rather sparse. Self set oak and field maple		C ,2	Long
G436	Common hawthorn, Pedunculate oak	4 to 12	1.5	100 to 590	11							Middle Age	Fair	Screening group between paddocks and field. High crowns to west and leaning to east. All slightly sparse. Some large pieces of dead wood in canopies.		B ,2	Long
G437	Blackthorn, Pedunculate oak	4 to 6	0.0	50 to 100	50							Middle Age	Fair	Dense scrubby blackthorn growth along boundary. Small oak present. Blackthorn tall and woody in places.		C ,2	Long
G438	Field maple, Common hawthorn, Scots pine, Blackthorn, Pedunculate oak, Smooth-leaved elm	4 to 12	1.0	120 to 620	50							Middle Age	Good	Screening group of mainly oak and pine. Some twin stemmed oaks. Smaller hawthorn and elm. Some standing dead wood and failed trees. Aerial dead wood throughout		B ,2	Long
G439	Leyland cypress, Common ash, Blackthorn	3 to 13	2.0	50 to 350	20							Middle Age	Fair	Group of predominantly ash with one cypress. Ash showing signs of dieback with around 50 percent canopy remaining. Dense scrubby blackthorn understorey. Located to field boundary adjacent to private garden. cypress canopy impeded by ash and deadwood in lower canopy.		C ,1, 2	Long
G440	Common hawthorn, Blackthorn, Pedunculate oak	2 to 6	0.0	25 to 100	100							Middle Age	Fair	Dense thicket of blackthorn along field boundary with some hawthorn and very small oak. vigorous growth. bramble growth also.		C ,2	Long
G441	Field maple, Common hazel, Common ash, Wild cherry, Pedunculate oak, Wild service tree	3 to 15	1.0	50 to 800	50							Middle Age	Good	Formally continuous line of oak along field boundary with understorey shrubs. General vigour. Some deadwood visible in oak canopies. Some less vigorous oaks providing Good habitat with evident woodpecker holes. Ash exhibiting symptoms of dieback with around 25 percent canopy remaining and numerous lesions on branches. Bramble growth along entire tree line.		A ,2, 3	Long
G442	Field maple, Common hazel, Aspen, Blackthorn	3 to 6	0.0	75 to 170	40							Middle Age	Fair	Dense thicket of blackthorn and aspen suckers. Overgrown with brambles. Some slightly larger trees to west		C ,2	Long
G443	Field maple, Common ash, Goat willow, Common lime	3 to 8	2.5	110 to 380	26							Middle Age	Fair	Roadside trees. Minimal Ash dieback. Some multistemmed forms. Crown raised over road to north		C ,2	Medium
G444	Field maple, Common ash, Cherry species, Blackthorn	9 to 11	3.0	25 to 300	20							Middle Age	Good	Small group along road. Ash in reasonable condition with around 75 percent canopy remaining. Signs of dieback present. Ivy growth to stems. Scrubby blackthorn growth beneath tree canopies. Ash overhanging Road.		B ,1, 2	Long
G445	Blackthorn	4 to 5	1.0	25 to 100	20							Middle Age	Good	Tall shrubby blackthorn along private boundary adjacent to footpath and road. Dense thicket.		C ,2	Long
G446	Field maple, Hawthorn species, Common ash	3 to 8	3.0	25 to 150	50							Middle Age	Fair	Shrubby understorey along road and private boundary. Mix of Ash, Hawthorn and field maple. General vigour. Some signs of Ash die back in canopies.		C ,2	Long

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G447	Field maple, Hawthorn species, Common ash, English holly, Blackthorn, Pedunculate oak, Elder	3 to 8	1.5	25 to 150	15							Middle Age	Fair	Group of small shrubby trees and bushes located around small pond. Adjacent to public footpath to West. General vigour. Ash exhibiting dieback symptoms.		C ,2	Long
G448	Common hawthorn, Common ash, Blackthorn	2 to 13	1.0	75 to 400	24							Middle Age	Fair	Small group of trees around pond. Tall narrow Ash with smaller multistemmed thorns below. Ash dieback variable. Dead wood throughout		C ,2, 3	Medium
G449	Pedunculate oak	8 to 10	4.0	390 to 850	12							Middle Age to Mature	Fair	Typical roadside oaks. Crown raised south to clear road. Kerb 1m South. Some bifurcate. 4th tree from West has some decline with stag heading. Ivy on main stems. Dead wood throughout.		A ,2, 3	Long
G450	Horse chestnut	7 to 8	2.0	400 to 450	2							Middle Age	Fair	Row of horse chestnut along field boundary, adjacent to public footpath and road. Leaf miner evident in canopy. General vigour. Some epicormic growth to branches. Surveyed from path as access not permitted.		B ,1, 2	Long
G451	Horse chestnut, Lime species	7 to 9	2.0	400 to 450	4							Middle Age	Fair	Row of horse chestnut and lime along field boundary, adjacent to public footpath and road. Leaf miner evident in horse chestnut canopies. General vigour. Some epicormic growth. Surveyed from path as access not permitted.		B ,1, 2	Long
G452	Pedunculate oak	10 to 11	2.0	300 to 460	6							Middle Age	Good	Small group of middle aged oaks. Some dead wood in crowns. No major defects. Surveyed from road as access not permitted		B ,1, 2	Long
G453	Boxelder, Horse chestnut, Common hawthorn, Common ash, Blackthorn, Pedunculate oak, Yew	2 to 13	1.0	75 to 480	20							Middle Age	Fair	Group of mixed species next to track and path. Minimal Ash dieback. Dense undergrowth. Some dead wood in crowns		B ,2	Long
G454	Sycamore, Common hawthorn, Privet species, Honeysuckle species, Elder	1 to 6	0.0	25 to 100	50							Middle Age	Fair	Shrubby outgrown hedgerow along footpath, adjacent to road. Vigorous growth. Some patch areas. General dense growth. Some emergent shrubby trees.		C ,2	Long
G455	Sycamore, Common hazel, Cypress species, English holly, Crab apple, Blackthorn, Pedunculate oak, Elder	2 to 16	1.5	75 to 420	25							Middle Age	Fair	Mixed tree species on edge of large garden. Cypresses showing dieback with one nearly dead. Some multistemmed forms. Dead wood in crowns		B ,2, 3	Long
G458	Common hawthorn, Leyland cypress, Common ash, Pedunculate oak, Goat willow, Crack willow	4 to 9	0.0	110 to 380	30							Middle Age	Fair	Woodland edge trees. Some dead wood in crowns. Ash dieback variable. Some multistemmed crowns. Dense undergrowth makes access difficult		B ,2, 3	Long
G470	Pedunculate oak	11 to 15	2.0	290 to 700	35							Middle Age	Good	Double row of maturing trees forming a prominent boundary feature lining access track. Downgraded due to individual tree age and form but nearing High quality as a collection.		B ,1, 2	Long
G475	Common hazel, Common ash, Pedunculate oak	5 to 12	0.5	180 to 300	45							Middle Age	Fair	Narrow belt between Spithandle Lane and pine plantation. Ash and oak with leggy form. LV power line running through mid-canopy parallel to the road.		C ,2	Long
G476	Common hazel, Pedunculate oak	13 to 15	1.0	220 to 640	300							Middle Age to Mature	Good	Linear row of maturing trees forming a prominent boundary feature lining Spithandle Lane. Downgraded due to individual tree age and form but nearing high quality as a collection. Predominantly hazel understorey.		B ,1, 2	Long
G477	Common hawthorn	4.5 to 6	1.0	240 to 350	8							Middle Age	Fair	A ring of evenly spaced trees around a central oak. All trees multi-stemmed.		C ,2	Long
G478	Common hawthorn, Blackthorn, Elder	2 to 6	0.0	100 to 220	15							Middle Age	Mixed	Dense thicket with sprawling blackthorn in poor condition.		C ,2	Medium
G479	Weeping willow, Grey willow	5 to 6	0.0	180 to 320	10							Middle Age	Fair	Shrubby group growing on pond Island. Crown bias South over water.		C ,2	Medium
G480	Pedunculate oak	12 to 15	2.5	800 to 1000	2							Mature	Fair	2 large trees adjacent to access track on South side. Largest tree is ivy clad. Moderate to major deadwood in both canopies with some overhanging track. Canopies over track are c. 3m clear. Easternmost tree growing slightly asymmetrically due to proximity of larger oak.		A ,1, 2	Long
G481	Turkey oak, Pedunculate oak	11 to 17	2.0	290 to 820	15							Middle Age to Mature	Good	Double row of maturing trees forming a prominent boundary feature lining access track.		A ,1, 2	Long

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G485	Pedunculate oak	15 to 16	2.0	1000 to 1010	2							Mature	Good	2 large trees immediately adjacent to access track. Both are bifurcate at c. 4m and are heavily ivy clad, particularly the northernmost tree. Previous moderate limb failures evident and moderate deadwood in canopies, some overhanging track. Canopy clearance over track c. 3.5m.		A ,1, 2	Long
G489	Field maple, Common hazel, Common ash, Pedunculate oak	2 to 6	0.0	40 to 290	8							Middle Age	Good	Small group of trees comprising 2 larger oak, 1 later maple and an understorey of predominantly hazel. Larger trees do not overhang track.		C ,2	Long
G492	Common hazel, Common ash, Pedunculate oak	5 to 12	0.5	180 to 300	30							Middle Age	Fair	Narrow belt between field and pine plantation. Ash and oak with leggy form. Ash displaying symptoms of Chalara ash dieback disease.		C ,2	Long
G493	Field maple, Common hawthorn, Common ash	3 to 10	0.0	75 to 450	10							Middle Age	Fair	Small cluster of trees adjacent to access road gate. 4 larger trees with hawthorn understorey. Ah dieback symptoms present in ash trees although fairly minor currently. Dieback also evident in maple. Canopy clearance over track c. 3m but only easternmost ash overhangs.		C ,2	Short
G494	Common hazel, Common hawthorn, English holly, Blackthorn	3 to 5	0.0	60 to 120	10							Middle Age	Good	Small sections of lapsed hedgerow adjacent to access track.		C ,2	Long
G495	Field maple, Common hazel, Common hawthorn, Blackthorn	3 to 5	0.0	60 to 150	50							Middle Age	Good	Lapsed boundary hedgerow adjacent to track.		C ,2	Long
G496	Common hazel, Blackthorn	3 to 5	0.0	60 to 150	40							Middle Age	Good	Lapsed boundary hedgerow adjacent to track.		C ,2	Long
G497	Field maple, Common hazel, Common hawthorn, Blackthorn, Dog rose	3 to 6	0.0	60 to 150	100							Middle Age	Good	Lapsed boundary hedgerow adjacent to track.		C ,2	Long
G498	Common ash, Aspen, Pedunculate oak	8 to 13	1.5	250 to 500	75							Middle Age	Mixed	Predominantly Oak forming an attractive belt between fields and pine plantation. Ash displaying varying degrees of Chalara ash dieback disease.		B ,1, 2	Long
G499	Pedunculate oak	13 to 16	3.0	450 to 600	6							Mixed Age	Good	Woodland edge trees forming a cohesive canopy. Closely spaced but of Good individual and collective form.		A ,1, 2	Medium
G500	Common hazel, Common hawthorn, Common ash	4.5 to 18	1.5	180 to 480	25							Middle Age	Mixed	A mixture of Ash High canopy and hawthorn and Hazel understorey. Ash in various stages of decline due to Chalara ash dieback disease. Some with Inonotus brackets present on main stem.		C ,2	Short
G501	English holly	5 to 5	1.5	90 to 140	5							Mixed Age	Fair	Outgrown from hedge. Crown lifted to east over field track.		C ,1	Long
G502	Green alder, Common ash, Pedunculate oak	6 to 8	2.0	140 to 330	10							Middle Age	Mixed	Small copse of planted trees within grassland. One Ash in a state of decline. Group extends further west than mapped.		C ,1, 2	Long
G503	Common ash, Pedunculate oak	11 to 13	2.5	240 to 510	10							Middle Age	Mixed	No trees with outstanding individual form. Ash in various stages of decline. Minor deadwood and pruning stubs over access road.		B ,2	Medium
G504	Pine species, Scots pine	14 to 20	7.0	350 to 650	450							Middle Age	Good	Commercial plantation. Bracken and bramble ground vegetation but no young trees. Extends further south and east than mapped.		B ,2	Long
G507	Common hazel, Common hawthorn, Common ash, Blackthorn, Goat willow, Elder	2.5 to 6	0.0	50 to 200	130							Middle Age	Good	Linear boundary group between fields. Dense and heavily overgrown with bramble. 1 ash in group towards northern end that is displaying ash dieback symptoms.		C ,2	Long
G509	Pedunculate oak	14 to 15	1.5	630 to 710	3							Middle Age to Mature	Good	3 oak trees growing together and creating one cohesive canopy form on ditch bank between fields. Previous moderate limb failures evident with moderate deadwood. Barbed wire occluding into stem of westernmost tree. Significant landscape feature.		A ,1, 2	Long
G510	Field maple	3 to 6	1.5	75 to 300	5							Middle Age	Fair	Small cluster of maple trees on ditch bank between fields. Previous failures in group. Central stem is growing from large burred stump. Moderate deadwood.		C ,2	Medium
G512	Field maple, Common hazel, Common hawthorn, Blackthorn, Pedunculate oak, Elder	2 to 4	0.0	40 to 150	30							Middle Age	Fair	Sporadic patches of trees on ditch bank between fields. Some previous failures and dieback in elder. Some parts overgrown with bramble.		C ,2	Medium
G514	Field maple, Common hazel, Common hawthorn, Blackthorn, Elder	2 to 5	0.0	50 to 200	100							Middle Age	Good	Dense boundary group between fields that is heavily overgrown by bramble. Some parts likely a former hedge and may be possible to bring sections back into formal management, however most has now lapsed. Occasional larger trees in group but predominantly blackthorn.		C ,2	Long

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G519	Field maple, Common hawthorn, Elder, Wych elm	5 to 8	2.0	200 to 400	20							Middle Age	Good	Group of trees along boundary between field and village hall. Inspection restricted by hedge obscuring view of bases. Screening value. Understorey also present that isn't managed as part of the adjacent hedge. Woodpile stored immediately adjacent to southernmost group compartment in field.		B ,2	Long
G520	Pedunculate oak	15 to 16	1.5	760 to 950	6							Mature	Good	6 oaks at the edge of woodland group. 4 easternmost and 2 westernmost trees are growing close together creating an area of cohesive canopy. Some burring of stems. Easternmost tree has had 2 previous large failures with large remnant stubs. Moderate deadwood throughout all canopies. Significant landscape feature.		A ,1, 2	Long
G521	Pedunculate oak	11 to 15	1.0	1040 to 1110	2							Mature	Good	2 standalone mature trees within field. Significant buttress roots on both trees, particularly western tree. Canopies creating one cohesive form. Occluding cavities with bat potential. Basal wounding with some stem hollowing around wound on eastern tree although this does not appear to significantly extend up stem. Moderate deadwood and previous moderate limb failures. Typical inner crown structures.		A ,1, 2, 3	Long
G522	Field maple, Sycamore, Hybrid black poplar, Turkey oak, Pedunculate oak, Goat willow, Yew	4 to 15	0.0	75 to 500	200							Middle Age	Mixed	Group of trees that is fairly dense for the most part, although there are areas of open canopy where trees have potentially been removed previously. Occasional dead standing stems. Predominantly field maple. Areas of dense undergrowth throughout. Inspection restricted by lack of access.		B ,2	Long
G524	Common ash	11 to 12	1.5	350 to 450	2							Middle Age	Fair	2 ash trees on boundary; 1 bifurcate and 1 multi-stemmed. Both displaying minor signs of ash dieback with canopies thinning and associated deadwood.		C ,1	Short
G525	Field maple	5 to 7	1.5	250 to 300	4							Middle Age	Good	4 field maples within field boundary group. Multi-stemmed forms. Easternmost tree is growing asymmetrically towards east due to proximity of much larger oak to west.		C ,1	Long
G526	Field maple, Common hazel, Common hawthorn, Common ash, English holly, Blackthorn	2.5 to 5	0.0	50 to 200	100							Middle Age	Good	Linear field boundary group. Some areas significantly overgrown by bramble. Parts of group have likely been a hedge formerly but now lapsed.		C ,2	Long
G527	Common hawthorn, Elder	2 to 5	0.0	75 to 250	5							Middle Age	Good	Small cluster of tree on field boundary.		C ,	Long
G529	Pedunculate oak	14 to 15	3.0	1100 to 1100	2							Mature	Fair	2 large mature oaks on steep slope down to public bridleway. Northernmost tree is heavily ivy clad and had varying sizes of Ganoderma sp. bracket around the base. Previous moderate limb failures in both and occasional large failures. Moderate to major deadwood. Canopies growing cohesively.		A ,1, 2	Long
G530	Field maple, Common hazel, Common hawthorn, Common ash, English holly, Blackthorn, Pedunculate oak, Elder, Elm species	3 to 10	0.0	75 to 400	75							Middle Age	Mixed	Linear understorey group on field boundary on and at top of steep slope down to public bridleway. Some failed limbs and stems with some stems also heavily leaning or growing prototropically. Screening and habitat value. Located on east side of bridleway. Parts overgrown by bramble, ivy and bracken. Occasional dead trees.		B ,2	Medium
G531	Field maple, Common hazel, Common hawthorn, Common ash, English holly, Pedunculate oak, Elder	3 to 12	0.0	75 to 400	75							Middle Age	Mixed	Linear understorey group on field boundary on and at top of steep slope down to public bridleway. Some failed limbs and stems with some stems also heavily leaning or growing prototropically. Screening and habitat value. Located on east side of bridleway. Parts overgrown by bramble, ivy and bracken. Occasional dead trees. Many multi-stemmed hazel in group.		B ,2	Medium
G532	Field maple, Common hawthorn, Cypress species, Common ash, English holly, Hybrid black poplar, Wild cherry, Pedunculate oak, Elder	4 to 13	1.0	100 to 450	60							Middle Age	Mixed	Group of tree in adjacent land restricting inspection. Fairly well spaced out within polytunnel area. Varying degrees of ash dieback evident. Minor to moderate deadwood. Screening value. Predominantly in good condition with exception of ash and occasional other tree with failures that are in fair condition.		B ,2	Long
G533	Field maple, Norway maple, Sycamore, Common hawthorn, Cypress species, Common ash, Hybrid black poplar, Rhododendron species, Goat willow, Elder	4 to 25	0.0	75 to 650	30							Middle Age	Good	Group of trees at edge of field within adjacent land restricting inspection. Minor ash dieback symptoms at present in ash. Poplars are the tallest trees in group. Dense understorey also restricting inspection. Previously pruned limbs evident where they overhang field.		B ,1, 2	Long

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G534	Common lime	15 to 17	0.0	650 to 850	3							Middle Age to Mature	Good	3 limes on west side of public footpath, 2 of which are have heavy epicormic growth around the base and up the stem into the canopy, restricting inspection. Southern and central tree are basally multi-stemmed, with the central tree comprising separate stems from the same rooting stock.		A ,1, 2	Long
G539	Common hawthorn, Common ash, Pedunculate oak, Goat willow, Damson	4 to 13	0.0	75 to 500	40							Middle Age	Mixed	Linear boundary group along northern playing field border. Ash with varying degrees of ash dieback symptoms evident. Some failed stems and moderate deadwood. Heavily overgrown by undergrowth throughout.		B ,2	Medium
G540	Field maple, Common hazel, Common hawthorn, Blackthorn	2 to 4	0.0	50 to 120	100							Middle Age	Good	Lapsed hedge at field boundary. Understorey for larger trees. West side flailed previously, but unlikely to be able to bring group back into formal hedgerow management.		C ,2	Medium
G541	Crack willow	10 to 11	2.0	300 to 400	3							Middle Age	Fair	3 trees within paddock field. All are bifurcate at c. 1.5m and lean to East slightly. Minor Deadwood. No major defects noted.		B ,1	Long
G542	Sycamore	6 to 9	2.0	260 to 500	3							Middle Age	Good	Closely spaced cluster of stems forming a single cohesive crown. Lush foliage.		C ,1	Long
G543	Common ash	5 to 5	1.5	180 to 200	3							Middle Age	Fair	3 ash trees on roadside grass verge. Ash dieback symptoms to varying degrees in all canopies.		C ,1	Very Short
G544	Common hawthorn, Elder, Yew	2 to 4.5	0.0	60 to 300	20							Middle Age	Fair	Shrubby trees growing amongst bramble.		C ,2	Medium
G545	Field maple, Dogwood species, Common hawthorn, Common ash, Blackthorn, Dog rose	2 to 5	0.0	40 to 80	40							Young to Middle Age	Good	Scattered and sporadic trees within meadow area.		C ,2	Medium
G546	Field maple, Common hawthorn, Common ash, Blackthorn, Dog rose	2.5 to 5	0.0	50 to 150	150							Middle Age	Good	Linear group of boundary trees screening field from adjacent road. Dense group. Occasional larger trees within.		C ,2	Long
G547	Hybrid black poplar	16 to 20	2.5	400 to 650	6							Middle Age to Mature	Good	Small cluster of poplar trees at Eastern end of woodland belt close to road. Inspection restricted by access into group and by denser undergrowth. Stems lean slightly to East. Easternmost trees appear to overhang road slightly. Forms part of landscape feature.		B ,1, 2	Medium
G548	Hornbeam, Common hawthorn, Blackthorn, Elder	3 to 5	0.0	60 to 120	20							Middle Age	Good			C ,2	Long
G549	Blackthorn	2 to 4	0.0	40 to 75	150							Middle Age	Good	Linear group at Edge of woodland belt overhanging fence and forming boundary feature.		C ,2	Medium
G550	Field maple, Common hawthorn, Common ash, Blackthorn, Dog rose, Elder	4 to 6	0.0	60 to 250	150							Middle Age	Good	Linear field boundary screening group. Densely overgrown with bramble, nettles and dog rose in places.		C ,2	Long
G551	Common ash	11 to 12	7.0	300 to 500	2							Middle Age	Dead	2 standing dead trees within dense field boundary group obscuring inspection. 1 heavily ivy clad.		U	Very Short
G552	Common alder, Pedunculate oak	15 to 17	1.5	430 to 800	3							Middle Age to Mature	Good	3 trees within small dense group. 1 alder and 2 oak. Alder is basally trifurcate with acute unions and is located within water-filled ditch. Branch socket cavities evident. Largest oak is heavily ivy clad which is restricting inspection. Smaller oak has had previous moderate limb failures and leans to East. Moderate deadwood.		A ,1, 2	Long
G553	Common alder, Common hawthorn, Common ash, English holly, Blackthorn, Crack willow	4 to 14	0.0	75 to 900	5							Middle Age to Mature	Fair	Group of predominantly crack willow and Ash that have all collapsed previously and are subsequently regrowing from failed stems. 1 willow stem growing against an stem with associated wounding. Vertical ash stem has an included stem union at c. 3m. Ash foliage appears healthy. Group has scattered smaller understorey trees around edge and throughout group, predominantly hawthorn and blackthorn.		B ,2	Long
G554	Common hazel, Common hawthorn, English holly, Pedunculate oak, Elm species	3 to 7	0.0	40 to 200	25							Middle Age	Good	Several small trees along pavement edge next to woodland clearing. Large ash stump in clearing behind trees. Some heavily overgrown with bramble. None overhanging road.		C ,2	Medium
G555	Pedunculate oak	14 to 16	5.0	500 to 600	13							Middle Age	Fair	Several oak trees at edge of woodland with 3 on North side of pavement adjacent to road in grass verge. Some dieback evident in easternmost roadside Oak with canopy of this tree also biased to north. Roadside trees overhang road, but adequate canopy clearance. Westernmost roadside tree has had 2 limbs removed on South side previously creating northerly biased canopy.		B ,1, 2	Long

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		(m)	(m)	(mm)	arising below 1.5m	(m)	(m)	(m)	(m)	(m)	(N,S,E,W)	Young, Middle Age, Mature	Good, Fair, Poor, Veteran			A,B,C,U (1,2,3)	Long, Medium, Short, Very Short
G556	English elm	2 to 8	0.5	60 to 250	40							Middle Age	Fair	Linear group of trees on either side of pavement. Closely spaced. Some shade deadwood in lower canopies. Heavily ivy clad stems.		C ,2	Medium
G557	Sycamore, Horse chestnut, Common alder, Common ash, Pedunculate oak	5 to 15	1.5	250 to 600	40							Middle Age	Good	Trees lining both side of access track growing on damp ground. Majority of stems ivy clad. Ash with early signs of Chalara ash dieback disease.		B ,1, 2	Long
G558	Horse chestnut, Common ash, White poplar	7 to 14	1.5	250 to 550	30							Middle Age	Poor	Well established roadside belt lining both sides of access road. Dominated by Ash in various stages of decline due to Chalara ash dieback disease.		C ,2	Short
G559	Cypress species	7 to 8	3.0	250 to 250	2							Middle Age	Fair	2 trees in verge closer to road. Canopy doesn't overhang road at present, although it has been crown lifted previously. 1 stem removed with 1m stump remaining.		C ,1	Medium
G560	Field maple, Common hawthorn, Blackthorn, Elder, Elm species	3 to 5	0.0	50 to 150	30							Middle Age	Fair	2 areas of shrub and scrubby trees on roadside verge. Heavily overgrown with bramble.		C ,2	Medium
G561	Field maple, Common hawthorn, Blackthorn, Elm species	3 to 5	0.0	75 to 150	6							Middle Age	Mixed	Small cluster of trees adjacent to track. Predominantly in Good condition with exception of elm which is dying back.		C ,2	Medium
G562	Sycamore, Common hawthorn, Common ash	4.5 to 10	1.5	170 to 330	15							Middle Age	Mixed	Well established roadside belt lining both sides of access road. Ash in various stages of decline due to Chalara ash dieback disease. Several stems heavily ivy clad.		C ,2	Long
G563	Field maple, Common hawthorn, Blackthorn, Dog rose, Elm species	2.5 to 4	0.0	75 to 150	100							Middle Age	Fair	Linear boundary group of trees adjacent to track and ditch that was likely formerly a hedge, but had now lapsed out of management. Heavily overgrown with bramble and dog rose in places.		C ,2	Medium
G564	Elder	2 to 3.5	0.0	60 to 100	2							Mixed Age	Fair	Self-set trees with shrubby form.		C ,2	Medium
G565	Bristlecone fir, Field maple, Common hawthorn, Common ash, Blackthorn, Elder	3 to 6	0.0	60 to 200	100							Middle Age	Mixed	Linear boundary group at top of northerly slope. Some ash and elder trees with dieback. Some parts overgrown with bramble.		C ,2	Medium
G566	Sycamore, Horse chestnut	8 to 10	2.0	450 to 550	3							Middle Age	Good	3 trees adjacent to track and PRow. Stems obscured by hedgerows. All apart to become multi-stemmed mid-stem. Minor dieback of Central Horse chestnut.		B ,2	Long
G567	Elder, Wych elm	2.5 to 4	0.5	80 to 140	10							Young to Middle Age	Poor	Shrubby trees around field margin in various stages of decline. Several of the elm are standing dead.		U	Short
G568	Damson	4 to 4.5	2.0	140 to 250	6							Middle Age	Mixed	Thought to be bullace plum. Early trees with area of Crown dieback, broken branches and small stem wounds.		C ,1	Medium
G569	Field maple, Common dogwood, Common hazel, English holly, Wych elm	3 to 6	0.0	75 to 180	35							Middle Age	Good	Dense thicket of trees lining the banks rising up from access track. Bramble and dog rose throughout making it largely impenetrable.		C ,2	Long
G570	Common hawthorn, Elder	3 to 5	0.0	75 to 150	25							Middle Age	Fair	Linear group adjacent to track. Heavily ivy clad stems that are also overgrown with dog rose and bramble. Some dog rose Hanging down low from canopies over track.		C ,2	Long
G571	Common hawthorn, Dog rose	3 to 3	0.0	75 to 130	2							Middle Age	Fair	2 small trees that are heavily overgrown with dog rose.		C ,1	Medium
G572	Common ash	9 to 12	2.0	350 to 520	2							Middle Age	Poor	2 ash trees located on steep easterly incline. Canopy does not overhang track, overhangs footpath that is adjacent to track. Both trees displaying significant chalara ash dieback symptoms with very sparse canopies.		C ,3	Very Short
G573	Common hazel, Common hawthorn	4 to 5	0.0	75 to 150	5							Middle Age	Fair	Small cluster of trees on steep easterly slope down to track. Canopies don't overhang track.		C ,2	Medium
G574	Common ash	7 to 13	3.5	280 to 550	8							Middle Age	Fair	A collection of roadside multi-stemmed Ash, all with slightly reduced crown density and twiggy deadwood. Likely early infection with Chalara ash dieback disease but not conclusive. Ivy clad stems.		B ,2	Medium
G575	Common hawthorn	3 to 4	0.0	75 to 220	6							Middle Age	Fair	2 small clusters of trees on steep easterly slope down to track. Canopies don't overhang track. Northernmost compartment of group is heavily overgrown.		C ,2	Medium
G576	Common hawthorn, Blackthorn, Elder	2 to 3.5	0.0	40 to 90	20							Young to Middle Age	Fair	Shrubby trees growing amongst bramble lining access track.		C ,1	Long
G577	Common hawthorn, Elder	3 to 4	0.0	75 to 170	8							Middle Age	Fair	Several sporadic trees with the majority on steep easterly incline. Canopies don't overhang track. Parts overgrown by bramble.		C ,2	Medium
G578	Elder	2 to 2	0.0	40 to 75	3							Middle Age	Good	Small cluster of elder in dense brambles.		C ,2	Medium
G579	Common hawthorn, Elder	2 to 5	0.0	40 to 200	20							Middle Age	Fair	Several clusters of hawthorn and elder on steep easterly incline down towards woodland belt. Most heavily overgrown by bramble.		C ,2	Medium

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G580	Common hawthorn, Elder	2 to 4	0.0	40 to 140	10							Middle Age	Fair	Several clusters of hawthorn and elder on steep easterly/northerly incline down towards woodland belt. Most heavily overgrown by bramble.		C ,2	Medium
G581	Sycamore, Scots pine, Small-leaved lime	14 to 20	2.5	400 to 650	4							Middle Age to Mature	Fair	4 trees adjacent to road that are heavily ivy clad restricting view of stems. Clearance over road is c. 4m at lowest point. Previous minor to moderate shade deadwood failures in pine. Southernmost lime has had lower limbs removed previously but ivy and epicormic growth obscuring view into canopy.		B ,2	Long
G582	Common ash	3 to 6	0.5	50 to 250	7							Young to Middle Age	Mixed	Several dead or moribund ash stems on either side of road.		U	Very Short
G583	Common hawthorn, Whitebeam	4 to 4	0.0	150 to 200	2							Middle Age	Good	2 trees adjacent to road and rough track on grassy hill.		C ,2	Long
G584	Common ash	4 to 7	0.5	150 to 250	2							Middle Age	Dead	2 dead ash stems on either side of road.		U	Very Short
G585	Common hawthorn, Apple species	4 to 4	0.0	75 to 200	2							Middle Age	Good	Shrubby trees adjacent to road on grassy slope.		C ,2	Long
G586	Goat willow	2 to 3	0.0	50 to 75	5							Young to Middle Age	Fair	Several small sporadic trees along fence.		C ,3	Medium
G630	Field maple, Sycamore, Common hawthorn, Common ash, Goat willow, Elder	3 to 12	2.0	100 to 500	100							Young to Middle Age	Fair	Extensive linear group along road. Some multistemmed forms. Occasional failed trees with gaps. Ash condition generally Good. Ivy in main stems. Dense undergrowth in places. Dead wood throughout		B ,2	Long
G631	Field maple, Hawthorn species, Willow species	3 to 8	0.0	75 to 350	50							Middle Age	Fair	Mixed group located in field. Larger willow trees with understorey hawthorn and field maple growth. Power lines running through canopies. Inspection restricted by access.		B ,2	Long
G632	Pedunculate oak	13 to 15	5.0	420 to 810	16							Middle Age to Mature	Good	Linear group of trees forming informal avenue to South of Bob Lane. Generally Good form and vigour. Minor dead wood.		B ,1, 2	Long
G633	Common ash	5 to 8	2.0	170 to 220	11							Middle Age	Fair	Linear group of Ash along driveway. Open grown forms. Up to 50% Ash dieback. Signs of management including some pruning wounds with tear outs. Occasional areas of decay		C ,2	Medium
G634	Hazel species, Hawthorn species, Cherry species, Blackthorn, Elder	2 to 4	0.0	50 to 100	50							Middle Age	Fair	Understorey mixed group located along field boundary, patchy cover, generally good vigour, minor deadwood in canopies.		C ,2	Long
G635	Field maple, Common hawthorn, Blackthorn	3 to 4.5	0.0	10 to 150	1000							Middle Age	Fair	Former hedgerow, now outgrown but still flailed to Roadside edge. Mainly blackthorn and field maple with occasional self set tree		C ,2	Long
G636	Field maple, Norway maple, Sycamore, Horse chestnut, Common hawthorn, Common ash, Hybrid black poplar, Aspen, Blackthorn, Pedunculate oak	8 to 15	1.0	75 to 550	1000							Mixed Age	Good	Dense but narrow Roadside plantation forming good screening to substation from Bob Lane. Some patches of new planting so with stem guards. Generally good vigour throughout apart from some patches of Ash dieback		B ,1, 2, 3	Long
G637	Common ash	8 to 11	3.0	460 to 500	4							Middle Age	Fair	Group of Ash along field boundary on slight bank. All trees exhibiting symptoms of chalara ash dieback. Around 50-75 percent canopy remaining. Deadwood in canopies. Large surface roots visible in surrounding landscape.		B ,2	Medium
G638	Field maple, Sycamore, Common dogwood, Common hazel, Common hawthorn, Common ash, Blackthorn, Goat willow	2.5 to 9	0.0	50 to 480	50							Middle Age	Fair	Lapsed hedgerow with some larger trees. Dense undergrowth. Multistemmed forms. Large tree failed into field. Some poor quality Ash with decay.		C ,2	Medium
G639	Field maple, Norway maple, Sycamore, Horse chestnut, Common hazel, Leyland cypress, English holly, Pedunculate oak	8 to 16	1.0	75 to 600	1200							Mixed Age	Good	Roadside established and maturing screen plantation. Good form and vigour throughout.		B ,1, 2, 3	Long
G640	Field maple, Common hawthorn, English holly, Pedunculate oak	10 to 18	1.0	150 to 850	250							Mixed Age	Good	Third party trees to west of Wineham Lane. Mainly large oak with understorey of smaller broadleaves, hedged to roadside. Most trees ivy clad but excellent form and vigour		A ,2	Long
G641	Hawthorn species, Common ash, Blackthorn, Pedunculate oak, Elm species	3 to 10	0.0	25 to 250	100							Middle Age	Good	Group of trees along field boundary. Emergent Oak, Ash and elm with understorey blackthorn and hawthorn. Ash exhibiting signs of chalara ash dieback. Some dead elm present. Generally good vigour.		B ,2	Long
G642	Silver birch	9 to 11	1.0	380 to 400	2							Middle Age	Good	Pair of trees in inaccessible area. Typical upright forms. Established basal suckers to Northern Tree. Minor dead wood in crowns. Generally free from defects		B ,1, 2	Medium

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G643	Field maple, Common alder, Silver birch, Common hawthorn, Goat willow, Elder	3 to 11	1.0	75 to 350	50							Young to Middle Age	Good	Area of establishing woodland. Unable to access. Good age and size structure developing. Dense undergrowth in places		B ,1, 2, 3	Long
G644	Sycamore, Silver birch, Lawson cypress, Common hawthorn, English holly, Pedunculate oak, English elm	3 to 12	2.0	75 to 400	40							Middle Age	Fair	Screening and amenity group next to road and in garden. Crown raised to East over road. Lower canopies flailed. Some multistemmed forms		B ,2	Long
G645	Sycamore, Hawthorn species, Spindle, Blackthorn, Guelder rose	2 to 3	0.0	25 to 75	200							Middle Age	Good	Lapsed hedgerow located along field boundary. Generally good vigour. Some gaps newer infill planting.		C ,2	Long
G646	Field maple, Common hazel, Common hawthorn, Common ash, Pedunculate oak, Goat willow	4 to 10	1.0	75 to 400	30							Middle Age	Good	Group of oak and Ash located around pond to field boundary behind fence. Some goat willow present also with field maple, hawthorn and Hazel understorey growth. Ash displaying symptoms of chalarash dieback. Oak with epicormic growth to stem and branches. Multi-stem Ash to North of group with large basal cavity and decay.		B ,2	Long
G647	Common hazel, Common hawthorn, Common ash	3 to 6	1.0	120 to 250	21							Middle Age	Fair	Old coppice forming linear group on field boundary. Large stools with vigorous growth.		B ,2, 3	Long
G648	Wych elm	4 to 6	1.0	50 to 120	20							Middle Age	Fair	Outgrown section of hedge		C ,2	Long
G649	Common ash, Wych elm	5 to 7	0.5	50 to 220	50							Middle Age	Fair	Outgrown section of hedge including some self set, multi stemmed Ash.		C ,2	Long
G650	Common ash, Blackthorn, Pedunculate oak, Goat willow, Elder	2 to 7	0.0	25 to 200	100							Middle Age	Good	Group located along field boundary. Predominantly shrubby goat willow to Northern end and blackthorn growth to southern end with some emergent oak and Ash.		C ,2	Long
G651	Pedunculate oak, Wych elm	4 to 5	1.0	20 to 180	20							Young	Fair	Linear, dense group on raised ground adjacent access track. Slightly reduced vigour and mildew		C ,2	Long
G652	Wych elm	6 to 8	3.0	75 to 180	50							Middle Age	Fair	Part of hedge that has been left to grow. Still managed as hedge to lower canopies		C ,2	Long
G653	Wych elm	4 to 7	2.0	50 to 150	200							Middle Age	Fair	Parts of hedgerow left to grow		C ,2	Long
G654	Wych elm	4 to 4.5	0.5	50 to 80	4							Young	Good	Self set trees		C ,2	Long
G655	Wych elm	6 to 7	2.0	50 to 180	100							Middle Age	Fair	Section of hedge left to outgrow, so managed to sides		C ,2	Long
G656	Field maple, Blackthorn, Goat willow	5 to 7	1.0	50 to 250	250							Middle Age	Fair	Outgrown hedge along ditch now comprising multi stemmed trees with gnarly forms		C ,1, 2	Long
G657	Common hazel, Common hawthorn, Blackthorn, Wych elm	3 to 5	0.0	10 to 100	500							Middle Age	Fair	Very dense and wide former hedgerow, now outgrown		C ,2	Long
G658	Goat willow	4.5 to 6	2.0	50 to 200	25							Middle Age	Fair	Multi stemmed trees from outgrown section of hedge		C ,2	Long
G659	Field maple, Common ash, English holly, Pedunculate oak	3 to 8	1.0	180 to 450	20							Middle Age	Fair	Linear group of squat twisted trees on steep bank next to road. Some multistemmed forms. Dense Holly and open grown oak. Dead wood in crowns. Main leader of one oak has died with some resultant decay		B ,2	Medium
G660	Field maple, Sycamore, Pedunculate oak, Wych elm	10 to 16	1.0	200 to 500	150							Middle Age	Good	Third party roadside group. Good screening		B ,2	Long
G661	Field maple, Sycamore, Pedunculate oak, Wych elm	8 to 14	1.0	150 to 500	80							Middle Age	Good	Third party roadside group. Good screening. Larger oaks with understorey trees		B ,2	Long
G662	Common beech, Pedunculate oak	4 to 5	1.0	160 to 180	2							Middle Age	Good	Pair of small trees on steep bank next to road. Some minor dead wood in crowns. Dense bracken at base		C ,2	Long
G663	Elder	2 to 4	0.5	25 to 75	30							Middle Age	Fair	Shrubby elder growth under oak canopies. Deadwood in canopies.		C ,2	Medium
G664	Horse chestnut, Common hawthorn, Spindle, Common beech, Common ash, Scots pine, Holm oak, Pedunculate oak, Elder, English elm	3 to 10	1.0	75 to 470	80							Middle Age	Fair	Roadside group with large number of species. Some multistemmed including large Holm oak. Some large cavities. Dead wood throughout. Standing dead elm. Understorey mainly elder		B ,2	Long
G666	Common hazel, Hawthorn species, Elder, Elm species	2 to 5	0.0	25 to 100	100							Middle Age	Fair	Mixed shrubby group located along field boundary, adjacent to stream. Some dead elm present.		C ,2	Long
G668	Field maple, Common hazel, Elder, Elm species	3 to 7	0.5	75 to 250	50							Middle Age	Fair	Mixed group located along field boundary to edge of drainage ditch. Some dead elm present. Leader has snapped off larger field maple in middle of group.		C ,2	Long
G671	Common beech, Scots pine, Pedunculate oak, Elder	3 to 11	1.5	80 to 650	100							Middle Age	Good	Scots pine plantation with occasional oak and beech. Elder understorey at edges. Tall upright forms. Some failed trees. Occasional multistemmed trees		B ,2	Long

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G672	Fir species, Horse chestnut, Blue Atlas cedar, Hazel species, Common beech, Common ash, Common walnut, Spruce species, Cherry species, Pedunculate oak, Elder, Coast redwood	3 to 12	1.0	75 to 500	200							Middle Age	Good	Mixed screening group located along field boundary, adjacent to road. Generally good vigour. Horse chestnut displaying symptoms of bleeding canker. Ash displaying symptoms of chalarash dieback.		B ,2	Long
G673	Field maple, Pear species, Pedunculate oak	2.5 to 4.5	0.5	75 to 140	8							Middle Age	Good	Group of small trees located to edge of road. Generally good vigour. Trees growing close together, some canopies impeded. Some epicormic growth.		C ,2	Long
G674	Common dogwood, Common hawthorn, Pedunculate oak, Goat willow	3 to 7	0.0	120 to 400	25							Middle Age	Fair	Mainly multistemmed willow in area of wet ground. Part of wider wet woodland. Dense undergrowth		B ,2	Long
G675	Sycamore, Hybrid black poplar	8 to 15	1.0	100 to 960	30							Middle Age	Good	Group consisting of three large poplar trees along road and row of smaller poplars along field boundary edge. Some shrubby sycamore growth also. Generally good vigour. Dense new growth.		B ,1, 2	Long
G676	Field maple, Sycamore, Common hawthorn, Blackthorn, Goat willow	3 to 6	0.0	75 to 180	40							Middle Age	Fair	Scattered small trees and dense scrub. Low canopies. Multistemmed forms		C ,2	Long
G677	Common hawthorn, Elder	3 to 5.5	0.0	10 to 120	10							Middle Age	Fair	End section of hedgerow adjacent gate access. Multi stemmed shrubby trees.		C ,2	Long
G678	Field maple, Common dogwood, Common ash, Blackthorn, Pedunculate oak, Goat willow	2 to 8	0.0	25 to 300	200							Middle Age	Good	Mixed group along field boundary. Shrubby growth with some emergent trees. Good vigour. Ash with signs of chalarash dieback. Dense blackthorn growth in some areas.		B ,2	Long
G679	Sycamore, Grey alder, Silver birch, Common hazel, Hybrid black poplar, Blackthorn, Pedunculate oak, Crack willow	2 to 18	1.0	75 to 680	100							Middle Age	Good	Screening group between field and quarry. Tall poplars with slower growing species below. Some multistemmed forms. Broken branches and stubs. Dead wood throughout		B ,2	Long
G680	Pedunculate oak	8 to 10	1.0	500 to 800	2							Middle Age	Fair	Two oak trees growing along field boundary behind fence, adjacent to stream. Some epicormic growth to beaches. Deadwood typical of species. Large dead limb hanging off tree to North. Canopy of tree to South impeded by adjacent tree.		B ,1, 2	Long
G681	Pedunculate oak	10 to 12	4.0	380 to 620	4							Middle Age	Good	Prominent trees in outgrown hedgerow belt. Good form and vigour		B ,2	Long
G682	Common hawthorn, Common ash, Blackthorn, Pedunculate oak, Goat willow, Elder	3 to 8	0.0	10 to 250	500							Middle Age	Good	Dense, shrubby shelterbelt, possibly former hedgerow now outgrown. Still managed to West Side. Mainly hawthorn and blackthorn with occasional, establishing self set Ash and oak.		C ,1, 2	Long
G683	Common hazel, Common hawthorn	5 to 7	2.0	75 to 120	5							Middle Age	Fair	Emergent shrubby hedgerow trees located along road. Generally good vigour.		C ,2	Long
G684	Common alder, Common hazel	4 to 12	1.0	75 to 500	50							Middle Age	Good	Group of predominantly multi-stem alder located along stream edge. Some multi-stem Hazel growth also. Generally good vigour. Minor deadwood in canopies. Tight unions with some bark inclusion. Strong landscape feature.		B ,1, 2	Long
G685	Sweet chestnut, Common hazel, Common beech, English holly, Scots pine, Wild cherry	5 to 20	1.0	75 to 760	50							Middle Age	Good	Belt of Scots pine along field boundary, growing on slope next to stream. Some larger beech and sweet chestnut trees also with understorey Hazel and Holly. Large fallen pine to west, uprooted rootplate has undermined an area of the slope. Strong landscape feature. Adjacent wooded area to North.		A ,1, 2	Long
G686	Sycamore, Common hazel, Common ash, English holly, Pedunculate oak, English elm	3 to 12	0.0	75 to 540	40							Middle Age	Fair	Roadside group, extends to North. Tall Ash and sycamore with Hazel, Holly and elm understorey. Some ivy on main stems. Minor dead wood throughout.		B ,2	Long
G687	Common hawthorn	3 to 4	0.5	210 to 240	3							Mature	Fair	Small section of outgrown hedgerow. 3 shrubby trees, 2 are covered in ivy		C ,2	Medium
G688	Common dogwood, Common hazel, Common hawthorn	2.5 to 5	0.5	25 to 100	50							Middle Age	Good	Mixed shrubby group located along field boundary. Predominantly multi-stem Hazel. Generally good vigour. Dense growth.		C ,2	Long
G689	Common hazel, Common hawthorn, Common ash	3 to 8	2.0	25 to 410	25							Middle Age	Fair	Shrubby Hazel and hawthorn growth along field boundary with two emergent multi-stem Ash. Ash displaying signs of chalarash dieback.		C ,2	Medium
G691	Field maple, Sycamore, Common hawthorn, Elder	3 to 7	0.5	50 to 100	30							Middle Age	Fair	Mixed group growing along field boundary. Predominantly large sycamore and field maple shrubby understorey elder and hawthorn. Generally good vigour.		C ,2	Long

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		(m)	(m)	(mm)	arising below 1.5m	(m)	(m)	(m)	(m)	(m)	(N,S,E,W)	Young, Middle Age, Mature	Good, Fair, Poor, Veteran			A,B,C,U (1,2,3)	Long, Medium, Short, Very Short
G692	Field maple, Silver birch, Lawson cypress, Scots pine, Pedunculate oak	6 to 8	1.0	75 to 200	50							Middle Age	Good	Third party trees alongside boundary hedge. Good screening		C ,1, 2	Long
G694	Common walnut	8 to 10	3.0	240 to 270	6							Middle Age	Dead	Row of dead trees adjacent farm track		U	Short
G695	Field maple, Common hazel, English holly	3 to 9	3.0	75 to 200	50							Middle Age	Good	Mixed group located along road. Predominantly multi-stem Hazel with some field maple and Holly. Good vigour, dense growth. Canopies overhanging road to East.		B ,2	Long
G696	Field maple, Sycamore, Common hawthorn, Common ash, Blackthorn, Pedunculate oak, Elder	3 to 10	0.0	75 to 350	150							Middle Age	Fair	Screening group next to road. Lower canopies and understorey flailed into hedge. Some multistemmed forms. Broken branches and stubs. Dead wood throughout.		B ,2	Long
G697	Common walnut	5 to 6.5	1.0	160 to 190	6							Middle Age	Good	Newish planting all with small round crowns and fenced off		C ,1, 2	Long
G698	Pedunculate oak	11 to 13	5.0	470 to 640	3							Middle Age to Mature	Good	3 trees adjacent farm track forming one larger linear canopy		A ,2	Long
G699	Common ash, Pedunculate oak	10 to 17	5.0	250 to 800	20							Middle Age to Mature	Good	Third party trees either side of access track. Good form and vigour. Ivy clad stems. Majority of trees on northern side of track located within unmaintained hawthorn groups		B ,1, 2	Long
G700	Field maple, Common hazel, Common ash, English holly, Scots pine, Elder	4 to 12	0.5	75 to 350	100							Middle Age	Good	Dense mixed group located along field boundary behind fence. Shrubby Hazel and Holly growth with emergent Ash and field maple. Good vigour. Western end less dense. Ash displaying symptoms of chalara ash dieback.		B ,2	Long
G701	Field maple, Common hawthorn, Common ash, Pedunculate oak, Wych elm	8 to 15	1.0	150 to 650	500							Mixed Age	Good	Roadside plantation shelterbelt. Predominantly Oak with well defined broadleaf understorey either side of highway verges		B ,1, 2	Long
G702	Field maple, Lawson cypress, Common ash, Pedunculate oak, False acacia species, English elm, Garden privet	3 to 10	1.0	100 to 380	60							Middle Age	Fair	Screening group on steep bank next to lumber yard. Lower canopy and understorey managed as hedge. Some multistemmed forms. Occasional failed trees. Some dead wood in crowns		C ,2	Medium
G703	Field maple, Common hazel, Common hawthorn, Blackthorn, Pedunculate oak	5 to 9	1.0	100 to 300	100							Middle Age	Good	Possibly former hedgerow now outgrown. Located in raised ground adjacent highway verge		C ,1, 2	Long
G704	English elm	5 to 6	1.0	75 to 100	30							Middle Age	Fair	Narrow linear group of elm next to road. Upright forms. Possible former hedge		C ,2	Short
G705	Common hazel, Common ash, Crack willow	4 to 13	1.0	90 to 440	30							Middle Age	Fair	Dense group of trees next to driveway. Multistemmed Hazel and taller Ash. Dense undergrowth restricts access		C ,2	Medium
G706	Common ash	9 to 9	3.0	100 to 290	14							Middle Age	Fair	Two multi-stem Ash located along field boundary. Growing close together and forming one canopy. Displaying symptoms of chalara ash dieback with approx. 75 percent canopy remaining. Large cavity in stem base to west with little remaining heartwood. Cavity to stem base to east with decayed matter visible. Tight unions with bark inclusion. Dense bramble and bracken growth to base restricting access.		C ,2	Medium
G709	Common hazel, Common ash, English holly	3 to 8	0.5	50 to 200	50							Middle Age	Fair	Dense Hazel growth along field boundary with emergent Ash. Ash displaying symptoms of chalara ash dieback. One dead multi-stem Ash present with daldinia fruiting body. Some Holly growth under oaks.		C ,2	Medium
G712	Pedunculate oak	11 to 12	4.0	930 to 970	2							Middle Age	Fair	Two oaks located along field boundary. Growing close together, forming continuous canopy. Epicormic growth on branches. Significant deadwood over 100mm diameter present in canopies. Evidence of severed ivy on ground nearby.		B ,1, 2	Long
G732	Sycamore, Common hawthorn	7 to 13	4.0	150 to 600	80							Middle Age to Mature	Fair	Single and multi stemmed trees either side of concrete access track forming enclosed canopy in areas. Minor and moderate dead wood		B ,2	Long
G733	Common hawthorn, Blackthorn	3 to 5	0.0	25 to 150	500							Mature	Fair	Outgrown hedge comprising shrubby trees along north edge of track		C ,2	Long
G734	Field maple, Sycamore, Common hawthorn, Common ash, European larch, Scots pine, Myrobalan Plum, Blackthorn, Pedunculate oak	2.5 to 12	1.0	90 to 420	100							Middle Age	Fair	Screening group between road and quarry. Mixed species including some conifers. Pruned to clear vehicles it overhangs road. Some wounds and stubs. Signs of vehicle damage. Some multistemmed forms		B ,2	Long
G735	Norway maple, Common ash, English holly, Yew	8 to 10	2.0	100 to 250	30							Middle Age	Good	Mixed group located next to road on private land behind fence. Generally good vigour. Canopies overhanging Road to North. Inspection restricted by access.		B ,2	Long

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		(m)	(m)	(mm)	arising below 1.5m	(m)	(m)	(m)	(m)	(m)	(N,S,E,W)	Young, Middle Age, Mature	Good, Fair, Poor, Veteran			A,B,C,U (1,2,3)	Long, Medium, Short, Very Short
G736	Common hawthorn	3 to 5	0.5	50 to 150	25							Middle Age	Fair	Scattered and unkempt trees along defunct field boundary.		C ,2	Long
G737	Sycamore, Horse chestnut, Cypress species, Yew, Elm species	7 to 12	3.0	100 to 500	15							Middle Age	Fair	Mixed group located along road in private garden behind close board fence. Inspection restricted by access. Some elm growth along pavement. Chestnut showing signs of bleeding canker. Standing monolith stem amongst group.		C ,2	Long
G738	Sycamore, Silver birch, Common hawthorn, Common ash, Scots pine, Wild cherry	4 to 11	2.0	100 to 380	16							Middle Age	Fair	Mixed amenity and ornamental trees in garden. Unable to access		B ,2	Long
G739	Common hazel, Common ash, Pedunculate oak, Elm species	6 to 10	5.0	50 to 250	10							Middle Age	Fair	Emergent shrubby hedgerow trees located adjacent to road and footpath. Canopies overhanging Road to North, evidence of vehicular damage to branches.		C ,2	Medium
G740	Common ash	9 to 11	2.0	260 to 280	2							Middle Age	Fair	Pair of hedgerow trees at top of bank. Northern tree bifurcate at 0.5m. Dense ivy on stems. Minimal Ash dieback		C ,2	Medium
G741	Field maple, Common hazel, Common hawthorn, Common ash, Holly species, Pedunculate oak, Willow species, Elm species	4 to 12	0.0	50 to 750	50							Middle Age	Good	Line of oaks growing on slope adjacent to road with shrubby understorey growth. Generally good vigour. Some ivy growth to oak stems. Some epicormic growth. Deadwood typical of species in canopy. Canopies overhanging access road. Significant dead branch over 100mm diameter overhanging road to east. Power cable running through group at approx. 6m height.		B ,1, 2	Long
G742	Field maple, Common hazel, Common beech, Blackthorn, Pedunculate oak	3 to 16	2.0	75 to 980	13							Middle Age to Mature	Good	Large oaks with Hazel coppice and other small shrub understorey. Southernmost tree showing signs of decline with dieback and large amounts of dead wood. Some cavities present. Regularly managed.		A ,2	Long
G743	Field maple, Sycamore, Horse chestnut, Common hazel, Elm species	4 to 11	0.0	50 to 450	100							Middle Age	Good	Dense group along access road with larger oak and field maple to southern end set back from road. Generally good vigour. Some ivy growth to tree stems. Power cable running through group at approx. 6m height.		B ,2	Long
G744	Common ash	9 to 11	7.0	100 to 200	9							Middle Age	Fair	Line of Ash located along access road behind hedge. Displaying symptoms of chalarash dieback. Approx. 25 percent canopies remaining. Some branches overhanging access road to east.		C ,2	Medium
G745	Field maple, Cherry laurel	3 to 4	0.0	75 to 120	5							Middle Age	Good	Dense cluster of amenity and ornamental planting		C ,2	Long
G746	Yew	6 to 7	0.0	310 to 460	2							Middle Age	Good	Pair of yews with lower crowns forming hedge to ground level. Leaning to west		B ,2	Long
G749	Blackthorn	3 to 5	0.0	10 to 80	200							Middle Age	Fair	Dense blackthorn scrub.		C ,3	Long
G750	Common hawthorn, Elder	3 to 5	0.5	75 to 220	100							Middle Age	Fair	Shrubby tree cover alongside brook and railway edges		C ,2, 3	Long
G751	Norway maple, Common fig, Pedunculate oak	4 to 9	1.5	160 to 280	5							Middle Age	Good	Small group of garden trees. Unable to access		B ,2	Long
G752	Common hawthorn	2 to 4	0.0	25 to 75	10							Middle Age	Fair	Shrubby hawthorn growth along access road behind mesh fence. Some ivy growth stems.		C ,2	Medium
G755	Common dogwood, Common hazel, Common ash, Blackthorn, Pedunculate oak	5 to 12	3.0	75 to 450	30							Middle Age	Fair	Group of Ash with some oak located along private access track. Understorey shrubby growth of blackthorn, Hazel and dogwood. Ivy growth to tree stems. Ash displaying symptoms of chalarash dieback. Canopies overhanging access track to north.		C ,2	Medium
G758	Sycamore, Common hazel, Common hawthorn, Leyland cypress, Pedunculate oak, Common lime, Wych elm	6 to 11	1.0	150 to 350	500							Middle Age	Fair	Linear screening along boundary with caravan park. Many trees ivy clad		C ,1, 2	Long
G769	Horse chestnut, Holm oak	12 to 15	2.0	200 to 600	6							Middle Age	Good	Group located in private garden behind fence, adjacent to road and public footpath. Generally good vigour. Minor deadwood in canopies. Canopies overhanging Road to West and footpath to South. Evidence of vehicle damage and historic pruning over road. Inspection of stems and bases restricted by access.		B ,2	Long
G770	Sycamore, Italian alder, Silver birch, Hornbeam, Lawson cypress, Common hawthorn, Common ash, Wild cherry, Goat willow, Crack willow	3 to 10	0.0	80 to 350	50							Young to Middle Age	Fair	Screening group along road. Some multistemmed forms. Dense crowns		C ,2	Long

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G771	Norway maple, Sycamore, Common beech, Common ash, English holly, Scots pine, Pedunculate oak, Rhododendron species, Yew	4 to 15	2.0	100 to 900	50							Middle Age	Good	Mixed group located in private garden behind fence. Large oak at northern end. Generally good vigour. Some canopies overhanging public footpath to South. Understorey rhododendron growth. Some sycamore growth along public footpath on other side of fence. Full inspection restricted by access.		B ,1, 2	Long
G772	Sycamore, Italian alder, Silver birch, Leyland cypress, Cider gum, Common beech, Wild cherry, Pedunculate oak, Crack willow, Elder	3 to 16	0.0	80 to 600	40							Young to Middle Age	Good	Screening group of variable species. Some multistemmed forms. Dense understorey in places, gappy others.		B ,2	Long
G774	Sycamore, Pedunculate oak, Goat willow, Elder	3 to 7	1.0	50 to 150	50							Middle Age	Fair	Sparse scrubby group located along public footpath. Extensive bramble growth and some reed growth.		C ,2	Long
G775	Sycamore, Hornbeam, Leyland cypress, Common ash, Wild cherry	3 to 14	0.0	80 to 470	30							Young to Middle Age	Good	Screening group of mixed species. Some dense undergrowth. Some multistemmed forms		B ,2	Long
G776	Italian alder, Silver birch, Hornbeam, Leyland cypress, Wild cherry	3 to 6	0.0	80 to 120	30							Young to Middle Age	Good	Small screening trees and dense scrub		C ,2	Long
G777	Sycamore, Hawthorn species, Common ash, Pedunculate oak	5 to 10	3.0	75 to 300	20							Middle Age	Fair	Group located along public footpath behind area of extensive bramble growth. Generally good vigour. Ash displaying symptoms of chalara ash dieback. Inspection restricted by access.		B ,2	Long
G778	Hornbeam, Lawson cypress, Common hawthorn, Common ash, Pedunculate oak, English elm	2 to 14	0.0	75 to 950	80							Mixed Age	Fair	Screening group along road. Some large oaks. Signs of amateur maintenance with large stubs and flush cuts. Dead wood throughout. Dense understorey		B ,2	Long
G779	Common hawthorn, Cypress species, Willow species	1 to 5	0.0	25 to 120	200							Middle Age	Fair	Mixed group located along public footpath. Small planted conifers with shrubby willow and hawthorn growth. Bramble and Reed growth also.		C ,2	Long
G780	Common hawthorn	3 to 5	1.0	25 to 100	30							Middle Age	Fair	Patches of scrubby hawthorn growth to field boundaries. Extensive bramble and Reed growth at bases.		C ,2	Medium
G781	Common hawthorn, Blackthorn, Goat willow, Elder	3 to 5	0.5	50 to 200	1000							Middle Age	Fair	Dense, outgrown hedgerow comprising low shrubby trees. Good screening		C ,2	Long
G782	Common hawthorn, Blackthorn, Elder	3 to 5	0.0	50 to 150	2000							Middle Age	Fair	Very dense patches of former hedgerow now outgrown along field boundaries.		C ,2, 3	Medium
G783	Common hawthorn	3 to 5	0.5	50 to 150	25							Middle Age	Fair	Scattered and unkempt trees along defunct field boundary.		C ,2	Long
G784	Common hawthorn, Blackthorn, Elder	3 to 5	0.0	50 to 150	2000							Middle Age	Fair	Very dense patches of former hedgerow now outgrown along field boundaries.		C ,2, 3	Medium
G785	Common hawthorn	2 to 3.5	0.5	10 to 80	25							Young to Middle Age	Fair	Hawthorn scrub along railway embankments		C ,3	Long
G786	Hybrid black poplar	15 to 18	7.0	510 to 620	7							Mature	Fair	Prominent trees in the locality. Minor and moderate dead wood and snapped branches typical of species. Tall, narrow crowns		B ,1, 2	Long
G787	Crack willow	6 to 12	0.0	280 to 480	5							Middle Age	Fair	Sprawling, layered and snapped branches, low, dense crowns		C ,2, 3	Long
G788	Common hawthorn, Elder	4 to 5.5	0.5	180 to 270	50							Mature	Fair	Outgrown and defunct hedgerow now shrubby trees		C ,2, 3	Long
G789	Poplar species	10 to 12	1.0	580 to 670	3							Middle Age	Good	Group of poplar located along edge of drainage ditch. Good form and vigour. Minor deadwood in canopies.		B ,1, 2	Long
G790	Elder	2 to 3.5	0.5	75 to 120	5							Middle Age	Fair	Shrubby trees		C ,3	Long
G791	Field maple, Common ash, Wild cherry, Pedunculate oak, Wych elm	7 to 9	1.0	75 to 140	50							Middle Age	Fair	Single and multi stemmed trees with low crowns located either side of access track and gated entrance		C ,2, 3	Long
G792	Field maple, Common ash, Wild cherry, Pedunculate oak, Wych elm	7 to 9	1.0	75 to 140	25							Middle Age	Fair	Single and multi stemmed trees with low crowns located either side of access track and gated entrance		C ,2, 3	Long
G793	Common hawthorn, Blackthorn	2 to 5	1.0	40 to 150	25							Middle Age	Fair	Single and multi stemmed trees and scrub with low crowns located either side of access track		C ,2, 3	Long
G794	Common hawthorn, Blackthorn, Elder	3 to 5	0.0	25 to 150	100							Middle Age	Fair	Shrubby trees adjacent railway embankment and along brook		C ,2, 3	Long
G795	Willow species	5 to 7	0.5	75 to 150	45							Middle Age	Good	Shrubby multi-stem willow growth located along edge of water channel. Good vigour. Some bramble and Reed growth.		C ,2	Long
G796	Common hawthorn, Common ash, Hybrid black poplar, Elder	2 to 16	1.0	80 to 400	70							Middle Age	Good	Linear group next to ditch. Effective weather screen. Tall upright poplars with mixed understorey. Some dead wood and broken branches		B ,2	Medium

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G797	Common hawthorn, Elder	3 to 5	0.0	25 to 100	100							Middle Age	Fair	Group of scrubby hawthorn located along water channel. Extensive bramble growth to stem bases and into canopies. Some elder growth also.		C ,2	Medium
G798	Common hawthorn, Elder	3 to 6	0.0	25 to 100	120							Middle Age	Fair	Group of scrubby hawthorn located along water channel. Adjacent to public footpath. Extensive bramble and ivy growth to stem bases and into canopies. Some elder growth also.		C ,2	Medium
G801	Field maple, Common alder, Common hawthorn, Cypress species, Wild cherry, Willow species, Elder	3 to 20	0.0	50 to 500	250							Middle Age	Fair	Screening block located around site compound. Mix of species. Dense cover. Generally good vigour. Some large cypress have been removed at the back.		B ,2	Long
G807	Common hawthorn, Wych elm	5 to 10	0.5	50 to 200	150							Middle Age	Good	Dense linear group of multi stemmed trees with good screening for adjacent school		C ,1, 2	Long
G808	Common hawthorn, Wild cherry, Blackthorn, Willow species	3 to 6	0.0	25 to 75	75							Middle Age	Good	Dense scrubby growth along edge of site compound, adjacent to public footpath. Bramble and Reed growth at stem bases		C ,2	Long
G809	Common alder, Common hawthorn, Elder	3 to 4	0.0	80 to 150	30							Middle Age	Fair	Outgrown hedge next to wet area. Gappy in places. Some multistemmed forms		C ,2	Medium
G810	White poplar	11 to 14	5.0	470 to 520	4							Mature	Good	Third party trees in adjacent school land with gnarly crowns extending south over public footpath		B ,2	Long
G812	Sycamore, Common alder, Common hawthorn, Common beech, Privet species, Wild cherry, Blackthorn, Pedunculate oak, Willow species	1.5 to 5	0.0	25 to 100	250							Middle Age	Fair	Line of small trees and shrubs planted along field boundary, adjacent to footpath. Good vigour. Patchy area of cover to North Western Corner of field. Bramble growth in areas.		C ,2	Long
G813	Common hawthorn, English elm	3 to 7	1.0	80 to 310	30							Young to Middle Age	Fair	Screening next to wet area. Some multistemmed forms. Occasional dead elms		C ,2	Medium
G814	Field maple, Common hawthorn, Hybrid black poplar	4 to 19	1.0	110 to 1050	11							Mixed Age	Fair	Large poplars with understorey of hawthorn. Some multistemmed forms. Broad crowns. Broken branches and stubs. Dead wood throughout		C ,2	Medium
G815	Common hawthorn, Goat willow, Elder	2 to 6	0.0	80 to 350	50							Young to Middle Age	Fair	Dense group of trees within wet area. Multistemmed willows. Crowns to ground level		C ,2	Medium
G816	Sycamore, Common hawthorn, Common ash, Crack willow, Common lime, Wych elm	7 to 13	1.0	150 to 520	100							Middle Age	Fair	Dense, copse of trees around small pond adjacent road junction. On sloped ground. Sense ground flora and bramble throughout. minor and moderate dead wood		B ,2	Long
G817	Common hawthorn, Crack willow, Wych elm	6 to 14	1.0	100 to 550	1000							Middle Age to Mature	Fair	Very dense shelter belt trees all with windswept form. Some large mature hawthorn within belt and some dead willow and elm else generally Good vigour		B ,2, 3	Long
G818	Field maple, Italian alder, Silver birch, Common dogwood, Hawthorn species, Hybrid black poplar, Goat willow, Crack willow	3 to 6	0.0	25 to 100	30							Middle Age	Fair	Scattered mixed group located along roadside. Generally good vigour. Bramble growth at stem bases.		C ,2	Long
G819	Italian alder, Silver birch, Common dogwood, Hawthorn species, Hybrid black poplar, Goat willow, Crack willow	3 to 6	0.0	25 to 100	30							Middle Age	Fair	Scattered mixed group located along roadside. Generally good vigour. Bramble growth at stem bases.		C ,2	Long
G820	Common hazel, Common hawthorn, Common ash, Elder, Wych elm	5 to 8	0.0	25 to 250	50							Middle Age	Fair	Very dense shrubby linear belt of mainly elm and hawthorn with occasional elder and Hazel. High proportion of dead or dying elm or ash.		C ,2, 3	Long
G821	Crack willow	5 to 7	0.0	100 to 150	20							Middle Age	Fair	Multi stemmed trees with low, shrubby crowns rooted into both sides of ditch embankments		C ,2, 3	Long
G822	Common hawthorn, Blackthorn	2.5 to 4	0.0	80 to 190	100							Mature	Fair	Outgrown hedgerow with twisted and windswept form. Multistemmed. Very dense		B ,3	Long
G823	Common hawthorn	2 to 3	0.5	80 to 120	8							Middle Age	Fair	Outgrown hedgerow remnants with windswept forms. Some multistemmed		C ,2	Medium
G824	Blackthorn	2 to 3	0.0	10 to 75	250							Young to Middle Age	Fair	Blackthorn scrub		C ,3	Medium
G825	Common hawthorn, Elder	1.5 to 3	0.0	25 to 100	15							Middle Age	Fair	Scattered scrubby hawthorn and elder located along water channel. Some bramble growth at stem bases.		C ,2	Medium
G826	White poplar, Blackthorn, Tamarisk species	4 to 8	0.5	150 to 500	800							Middle Age to Mature	Fair	Windswept gnarly trees either side of footpath. Excellent crown vigour. Mainly chunky tamarisk.		B ,2, 3	Long
G827	Tamarisk species	2 to 4	0.0	25 to 75	20							Middle Age	Fair	Group of tamarisk located along private boundary. Dense growth.		C ,2	Medium
G828	English elm	3 to 4	0.5	25 to 75	25							Middle Age	Fair	Outgrown hedgerow		C ,3	Long

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		(m)	(m)	(mm)	arising below 1.5m	(m)	(m)	(m)	(m)	(m)	(N,S,E,W)	Young, Middle Age, Mature	Good, Fair, Poor, Veteran			A,B,C,U (1,2,3)	Long, Medium, Short, Very Short
G829	Common hawthorn, Pedunculate oak, Wych elm	3 to 8	1.0	120 to 250	40							Young	Mixed	Predominantly elm with suspected symptoms of Dutch elms disease (isolated dead stems; bark loss on multiple stems). Thick bramble throughout and most stems ivy clad.		C ,2	Short
G830	Common hawthorn, Elder	1 to 4	0.5	80 to 220	40							Young to Middle Age	Fair	Scrubby group of scattered trees growing alongside horse paddocks. Nettles throughout. Several stem failures and scrappy elder.		C ,2	Medium
G831	Field maple, Common hawthorn, Blackthorn, Oak species, Goat willow	2 to 5	0.0	25 to 250	250							Middle Age	Fair	Dense outgrown hedgerow with some small emergent trees. Generally good vigour.		C ,2	Long
G832	Common hawthorn, Blackthorn	2 to 5	0.0	40 to 120	150							Middle Age	Good	Impenetrable thicket along field boundary. Bramble in places.		C ,2	Long
G833	Silver birch, Butterfly bush species, Cherry plum, Elder	2 to 5	0.5	75 to 180	20							Young to Middle Age	Fair	Scattered shrubby trees amongst former stables. Bramble beginning to smother several trees.		C ,2	Long
G834	Wild cherry	10 to 14	3.0	150 to 490	20							Middle Age	Good	Small stand of taller cherry within shrubby linear group. Generally Good form and vigour		B ,2	Long
G835	Field maple, Common hawthorn, Blackthorn	2 to 4	0.0	25 to 100	100							Middle Age	Fair	Outgrown field boundary hedgerow. Patchy in places under emergent oak trees.		C ,2	Long
G836	Common hazel, Common hawthorn	2 to 3.5	1.5	25 to 120	100							Middle Age	Fair	Outgrown field boundary hedgerow. Good vigour. Some bramble growth at base.		C ,2	Long
G837	Sycamore, Common hazel, Common hawthorn, Hybrid black poplar, Crack willow, Elder, Common lime	8 to 16	2.0	150 to 600	750							Middle Age	Good	Long linear screen planting adjacent highway. Generally Good form and vigour. Good screening.		B ,2	Long
G838	Common hazel, Common hawthorn, Crack willow, Common lime	8 to 14	2.0	150 to 550	100							Middle Age	Good	Long linear screen planting adjacent highway and cricket club. Generally Good form and vigour. Good screening.		B ,2	Long
G839	Pedunculate oak	12 to 14	5.0	500 to 1000	15							Middle Age to Mature	Fair	Located to field edge, behind outgrown hedgerow. Large, scattered middle age to mature oak trees. Deadwood throughout crowns. Good habitat value. Inspection restricted by access.		A ,1, 2, 3	Long
G840	Field maple, Common hawthorn, Blackthorn	2 to 5	0.0	25 to 150	250							Middle Age	Fair	Outgrown field boundary hedgerow. Good vigour.		C ,2	Long
G841	Field maple, Common hawthorn, Blackthorn, Goat willow	2 to 5	0.0	25 to 120	100							Middle Age	Fair	Outgrown hedgerow along field boundary with dense blackthorn spreading into wet area to edge of river.		C ,2	Long
G843	Common ash, Pedunculate oak	10 to 14	2.0	500 to 1200	10							Middle Age to Mature	Fair	Tree line located along field boundary to edge of wet area along river. Some large mature specimens with significant deadwood and stag heading. Attractive open grown landscape trees with good habitat value.		A ,1, 2, 3	Long
G844	Field maple, Common ash, Blackthorn, Pedunculate oak, Goat willow	2 to 8	0.0	25 to 200	100							Middle Age	Fair	Scrubby growth in wet area to edge of river. Ash displaying symptoms of Chalara ash dieback disease.		C ,2	Long
G847	Field maple, Common hazel, Common hawthorn, Blackthorn, Pedunculate oak, Goat willow	2 to 4	0.0	25 to 200	150							Middle Age	Fair	Outgrown field boundary hedgerow. Some emergent oak trees developing.		C ,2	Long
G848	Cypress species	10 to 12	1.0	150 to 350	20							Middle Age	Fair	Dense screening group located to edge of road. Good vigour.		B ,2	Long
G849	Field maple, Common ash, Goat willow	2 to 5	0.0	25 to 180	50							Middle Age	Fair	Scattered scrubby group located alongside screening group. Japanese knotweed present.		C ,2	Medium
G855	Field maple, Common hazel, Oak species, Goat willow	2 to 8	0.0	25 to 250	300							Middle Age	Good	Scrubby group set back from road. Growing around pond at northern end. Good vigour.		B ,2	Long
G856	Field maple, Common hazel, Pedunculate oak	4 to 8	3.0	25 to 250	100							Middle Age	Good	Row of multi-stem Hazel located to edge of driveway. Good vigour. Some field maple and oak to northern end.		B ,2	Long
G857	Norway maple, Sycamore, Common beech, Pedunculate oak	6 to 8	1.5	280 to 350	6							Middle Age	Fair	Small group planted to field edge. Generally good vigour. Bark inclusion at some stem unions.		B ,2	Long
G858	Field maple, Common hazel, Holly species, Elm species	2 to 5	0.0	25 to 250	250							Middle Age	Fair	Outgrown field boundary hedgerow located to edge of driveway. Some areas of hazel have been cut back. Patchy to northern end.		C ,2	Long
G859	Field maple, Common hazel, Common ash, Holly species, Pedunculate oak	3 to 10	3.0	25 to 400	50							Middle Age	Fair	Located along field boundary. Larger oak with understorey hazel and holly. Slight bend in oak to eastern end over driveway.		B ,2	Long
G860	Common hazel	3.5 to 6	1.5	25 to 150	40							Middle Age	Good	Two vigorous multi-stemmed hazels located to grass verge in centre of driveway.		B ,2	Long
G861	Field maple, Common hazel, Holly species, Pedunculate oak	3 to 7	2.0	25 to 300	200							Middle Age	Fair	Outgrown hedgerow to either side of footpath. Multi-stem hazel with some emergent trees and understorey Holly. Generally good vigour.		C ,2	Long

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		(m)	(m)	(mm)	arising below 1.5m	(m)	(m)	(m)	(m)	(m)	(N,S,E,W)	Young, Middle Age, Mature	Good, Fair, Poor, Veteran			A,B,C,U (1,2,3)	Long, Medium, Short, Very Short
G862	Horse chestnut, Common ash, Elm species	4 to 10	2.0	50 to 300	40							Middle Age	Fair	Located to grass verge along drainage ditch. Horse chestnut with canker to stem. Ash displaying symptoms of dieback. Scrubby elm growth.		C ,2	Medium
G863	Blackthorn, Goat willow	4 to 6	0.5	50 to 300	25							Middle Age	Fair	Shrubby, sense group of mainly multi stemmed goat willow either side of ditch and adjacent bridleway. Snapped and broken stems that are regrowing.		C ,2	Long
G864	Hawthorn species, Common ash, Blackthorn, Elm species	3 to 9	1.0	50 to 350	35							Middle Age	Fair	Shrubby field margin vegetation located in grass verge to edge of road. Ash displaying symptoms of dieback. Scrubby elm growth. Dense bramble growth at base.		C ,2	Medium
G865	Pedunculate oak	10 to 15	4.0	200 to 450	20							Middle Age	Good	Linear group of mainly oak with some sycamore adjacent to garden boundary. Good form and vigour with some minor dead wood Good screening.		B ,2	Long
G866	Common hawthorn, Blackthorn	2 to 3.5	0.5	25 to 100	15							Middle Age	Fair	Self set, shrubby, multi stemmed clump of trees.		C ,3	Long
G867	Horse chestnut	6 to 7	1.0	180 to 380	2							Middle Age	Fair	Located in grass verge to edge of road. Two trees growing in very close proximity. Stems rubbing and fusing. Crowns raised over footpath to South. Poor pruning cuts.		C ,2	Long
G868	Field maple, Common ash, Wych elm	3 to 10	1.0	100 to 280	45							Young to Middle Age	Mixed	Shrubby field margin vegetation. Chamara Ash dieback disease suspected in larger Ash. Elm appear healthy but likely to succumb to Dutch elms disease as they mature. Bramble and ivy throughout.		C ,2	Medium
G869	Common hawthorn, Common ash, Pedunculate oak	5 to 13	1.0	75 to 480	20							Middle Age	Good	Small stand of mainly oak with occasional ash and understorey of hawthorn. Generally Good form and vigour with many ivy clad stems		B ,1, 2	Long
G870	Sweet chestnut, Common ash	3 to 10	1.0	120 to 1000	11							Mixed Age	Mixed	Line of mature sweet chestnut in decline. Deadwood throughout canopies and stag heading. Ash to South displaying advanced symptoms of chalara ash dieback. Some sweet chestnut regen. Good habitat value.		C ,2, 3	Medium
G871	Elm species	2 to 6	1.0	10 to 120	20							Middle Age	Fair	Scrubby elm regen. Some dead and dying stems.		C ,2	Short
G872	Common hawthorn, Common ash, Pedunculate oak, Wych elm	6 to 18	2.5	100 to 750	500							Mixed Age	Good	Linear group of trees either side of muddy bridleway track forms informal green corridor. Comprising occasional large oaks interspersed in oak, Ash, elm and hawthorn. Good landscape and habitat value		B ,2, 3	Long
G878	Common hawthorn, Wych elm	4 to 7	1.5	10 to 190	25							Middle Age	Fair	Self set shrubby trees either side of road on slightly raised embankment		C ,2, 3	Long
G879	Common hawthorn	4 to 4.5	2.0	80 to 140	3							Middle Age	Fair	3 shrubby trees behind wire fence adjacent road		C ,2	Long
G880	Sweet chestnut, Hawthorn species, Common ash, English holly, Blackthorn	3 to 10	3.0	25 to 300	50							Middle Age	Fair	Located to edge of road. Bramble growth to base. Ash displaying symptoms of chalara Ash due back disease. Ash canopies overhanging footpath to South.	re-survey Ash when in leaf to determine vitality.	C ,2	Long
G881	Wych elm	3 to 4	1.0	75 to 120	16							Middle Age	Fair	Single and multi stemmed trees rooted on raised ground between road and field. Slightly reduced vigour		C ,2	Medium
G882	Cherry species	6 to 7	2.0	300 to 350	2							Middle Age	Mixed	Located in private garden. Extensive ivy growth to stems. Tree to East in worse condition with ivy growth into crown and limb failure with decay visible.		C ,2	Medium
G883	Sweet chestnut, Hawthorn species, Sorbus species, Elm species	2 to 6	2.0	25 to 280	75							Middle Age	Fair	Located to edge of road. Crowns raised over footpath to South. Ivy growth to stems and unto crowns. Some scrubby elm regen. Shrubby tree to east knocked over by car.		C ,2	Long
G884	Common hawthorn, Common ash, Common pear	6 to 14	4.0	150 to 500	20							Middle Age	Good	Third party garden boundary trees adjacent field. No visible defects. Good bud growth and vigour on ash		B ,2	Long
G885	Hawthorn species, Common ash, Blackthorn	2 to 4	0.0	25 to 200	75							Middle Age	Fair	Located to edge of road. Predominantly dense blackthorn.		C ,2	Long
G886	Hawthorn species, Common ash, Pedunculate oak, Sorbus species, Elm species	2 to 7	2.0	25 to 400	50							Middle Age	Fair	Located to edge of road. Ash displaying symptoms of chalara ash dieback disease. Scrubby hawthorn growth. Some dead elm stems. Crowns raised over footpath to South.		C ,2	Long
G887	Field maple, Common hazel, Common hawthorn, Common ash, English holly, Pedunculate oak, Elder	3 to 16	1.0	150 to 450	120							Mixed Age	Mixed	Finger of trees bisected by bridleway with woodland characteristics. High proportion if Ash with suspected Chalara ash dieback disease infection to varying degrees. Ground and multiple trees ivy clad.		B ,2	Long
G889	Sweet chestnut, Common beech, Common ash	9 to 16	2.0	150 to 340	75							Middle Age	Fair	Shelter planting on edge if much larger softwood plantation. All trees with slender form due to spacing density. Beech is most abundant species.		C ,2	Long
G891	Sweet chestnut, Common beech, Norway spruce, Western red cedar	18 to 26	6.0	400 to 550	800							Middle Age	Good	Commercial softwood plantation. Average 5m spacing. Beech planted along western edge.		B ,2	Medium

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G899	Field maple, Common hazel, Common hawthorn, Elder	4 to 7	1.0	75 to 350	300							Middle Age	Fair	Former hedgerow now completely outgrown forming linear group of trees along field boundary. Shrubby, multi stemmed trees.		C ,2, 3	Long
G901	Field maple, Common hawthorn, Common ash	4 to 13	2.0	100 to 350	100							Middle Age	Fair	Linear offshoot of adjacent woodland. Almost wood pasture composition. Mainly taller Ash with scattered understorey of hawthorn and field maple. Broken branches lying on ground.		B ,2	Long
G903	Common hawthorn	2.5 to 4	1.0	50 to 110	5							Middle Age	Poor	Small stand of almost dead trees		U	Short
G904	Common beech, Pedunculate oak	9 to 14	5.0	230 to 530	8							Middle Age	Fair	Remnant trees within recently cleared woodland. Slender form with poor structure due growing conditions. Now in a very exposed location.		B ,2	Long
G906	Common hawthorn, Common ash	4 to 13	1.0	75 to 350	250							Middle Age	Fair	Stand of trees on very hilly sloped ground comprising single and multi stemmed ash with hawthorn understorey. Reduced vigour throughout		C ,2, 3	Medium
G907	Common hawthorn, Elder	3 to 5	0.5	50 to 150	500							Middle Age	Fair	Former hedgerow now outgrown. Shrubby linear group		C ,2, 3	Long
G911	Horse chestnut	17 to 22	5.0	570 to 920	11							Mature	Good	Small stand of very tall horse chestnut trees on sloped ground. Cracks and crevices. Good habitat.		B ,2, 3	Long
G913	Common hawthorn, Common ash, Pedunculate oak	7 to 17	6.0	250 to 450	100							Middle Age	Fair	Open stand of mainly scattered Ash interspersed with occasional hawthorn and oak. Formerly part of much denser area of woodland cover now cleared of the majority of ash		B ,2	Medium
G914	Common hawthorn, Elder, Wych elm	4 to 6	0.5	50 to 150	20							Middle Age	Fair	Shrubby self set trees		C ,2	Medium
G915	Common beech	11 to 16	2.0	270 to 560	12							Middle Age	Good	Linear group of beech forming dense contiguous canopy with large Central tree. Generally Good form and vigour		B ,2	Long
G916	Common hawthorn	4 to 5	1.0	75 to 150	25							Middle Age	Fair	Former hedgerow now outgrown and gappy.		C ,2	Long
G918	Field maple, Common dogwood, Common hawthorn, Elder	4 to 8	1.0	75 to 150	100							Middle Age	Fair	Former hedgerow now outgrown and gappy. Covered in vine for most parts		C ,2	Long
G919	Common ash	15 to 20	6.0	420 to 580	7							Middle Age to Mature	Fair	Stand of Ash on edge of wood pasture. Varied condition, Central tree with central leader decline.		B ,2	Medium
G920	Common hawthorn, Elder, Wych elm	4 to 6	0.5	20 to 150	500							Middle Age	Fair	Former hedgerow now outgrown		C ,2, 3	Long
G921	Field maple, Wych elm	6 to 8	1.0	250 to 500	50							Mature	Good	Remnant hedgerow now comprising dense linear group of short statured but chunky trees.		B ,2, 3	Long
G922	Common hawthorn	2 to 3	0.0	50 to 90	100							Middle Age	Good	Outgrown hedge now forming a dense thicket. No evidence of ongoing management.		C ,2	Long
G923	Field maple, Common hawthorn, Common ash, Elder	3 to 10	0.0	100 to 160	40							Young to Middle Age	Mixed	Predominantly Ash with signs of Chalara ash dieback disease. Thick ivy throughout.		C ,2	Short
G925	Field maple, Birch species, Sweet chestnut, Hawthorn species, Common ash, Holly species, Cherry species, Oak species	3 to 10	1.0	80 to 350	150							Middle Age	Good	Screening block planted along northern field boundary to edge of road. Crowns raised to South next to field. Mixed species composition. Generally Good vigour.		B ,2	Long
G926	Common hawthorn, Common ash, Turkey oak, Pedunculate oak, Whitebeam, Yew	2.5 to 6	0.5	90 to 240	20							Young to Middle Age	Mixed	Alternate yew and broadleaved tree planting lining access track, some of which are struggling to establish. All trees faced up on trackside.		C ,2	Long
G927	Common beech	10 to 11	4.0	130 to 170	3							Middle Age	Good	3 self set trees with narrow slender form due to proximity of growth		C ,1, 2	Long
G928	Horse chestnut, Common ash, Pedunculate oak, Grey willow, Crack willow, Elder	4 to 11	1.0	120 to 740	45							Mixed Age	Fair	Mixed planting and natural colonisation of land within curtilage of farmstead. Pond located close to western edge next to an old regeneration Ash stem that has previously failed at 3m. Bramble throughout.		B ,2, 3	Long
G929	Common hawthorn, Spindle, Blackthorn	3 to 5	0.5	10 to 100	20							Middle Age	Fair	Shrubby group of multi-stemmed, dense trees on edge of car park entrance.		C ,2	Long
G930	Common beech, Pedunculate oak	10 to 10.5	4.0	250 to 400	2							Middle Age	Fair	Located to edge of field. Two trees growing in close proximity forming continuous canopy. Extensive ivy growth to stems restricting inspection. Epicormic growth to oak stem.		B ,2	Long
G931	English elm	10 to 11	2.0	110 to 130	2							Middle Age	Fair	Two trees with narrow form forming one larger tree under canopy of oak from across access road.		C ,2	Medium
G932	Lawson cypress, Norway spruce, Pedunculate oak, Swedish whitebeam	10 to 16	4.0	190 to 420	10							Middle Age	Good	Informal linear group of deciduous and coniferous trees adjacent access road. Cut back to road edge and up over road to 5m. Generally Good form and vigour.		B ,2	Long

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G933	Field maple, Common hazel, Common hawthorn, Common ash, Hybrid black poplar, Grey poplar, Crack willow, English elm	6 to 18	2.0	120 to 620	50							Middle Age	Mixed	Established group but vulnerable to disease (elm and ash) and structural failure due to species and slenderness. Ground and stems all ivy clad. Previous branch and stem failures.		B ,2	Medium
G934	Common ash, Pedunculate oak	8 to 12	3.0	150 to 250	7							Middle Age	Good	Smaller trees growing in, through and under canopies of larger adjacent trees. Located in grass verge adjacent access road.		C ,1, 2	Long
G935	Pedunculate oak	10 to 12	4.0	300 to 380	2							Middle Age	Fair	Located along public footpath. Canopy spread impeded by adjacent trees. Ivy growth to stems. Fallen tree leaning on stem to North.		B ,2	Long
G936	Field maple, Common hawthorn, Spindle, Common ash, Blackthorn, Wych elm	3 to 8	0.5	10 to 120	1000							Young to Middle Age	Fair	Possibly former hedgerow now unmanaged and out grown. Mix of shrubby, dense trees further north with more open, taller and narrow stems further south		C ,2	Long
G937	Common ash, Pedunculate oak	15 to 22	6.0	740 to 990	12							Mature	Good	Large woodland trees with Broad crowns adjacent to field edge. Mainly oak with 2 ash. All trees Broad crowns and excellent vigour. Minor and moderate dead wood as expected of trees this size and age in this setting.		A ,2, 3	Long
G938	Common hawthorn, Privet species, Blackthorn, Goat willow, Elm species	2 to 7	0.0	25 to 180	100							Middle Age	Fair	Shrubby field boundary vegetation located to edge of public footpath. Some dead elm stems to South. Dense bramble growth to North.		C ,2	Long
G939	Common hawthorn, Blackthorn, Elder, English elm	2 to 5	0.0	50 to 150	400							Middle Age	Good	Predominantly blackthorn forming a dense thicket ghost straddles a drainage duty. Largely impenetrable and containing the occasional Young elm and elder.		C ,2	Long
G940	Fir species, Sweet chestnut, Common hazel, Common ash, English holly, Goat willow	2 to 12	1.0	25 to 450	250							Middle Age	Fair	Mixed group located along public footpath. Stream running through centre. Larger oak and Ash with shrubby understorey goat willow and some Hazel. Several fallen stems. Fern and bramble ground flora.		B ,2	Long
G941	Common hawthorn, Pedunculate oak, Wych elm	8 to 14	1.0	100 to 450	1000							Young to Middle Age	Fair	Occasional larger oaks and elms. Mainly shrubby roadside plantation. Occasional dead elm. Generally Good vigour, good screening. Planted on sloped ground		B ,2	Long
G942	English holly, Wych elm	8 to 9	4.0	50 to 180	10							Middle Age	Fair	Woodland edge trees. Hedged to edge. Most lean to north.		C ,2, 3	Long
G945	Field maple, Pedunculate oak, English elm	3 to 5	0.0	40 to 120	150							Young	Fair	Predominantly elm forming a dense thicket of slender stems. Flail cut on southern side.		C ,2	Medium
G946	Common hawthorn, Elder, Wych elm	4 to 7	0.5	50 to 220	50							Middle Age to Mature	Fair	Dense shrubby linear group in overgrown vegetation. Good screening and habitat		C ,2, 3	Long
G948	Elder	3 to 5	0.5	10 to 90	20							Young	Fair	Self set multi stemmed shrubby trees		C ,3	Medium
G949	Common hawthorn, Pedunculate oak, Wych elm	5 to 6	0.5	50 to 200	500							Middle Age	Fair	Unmanaged outgrown hedgerow forming field boundary		C ,2, 3	Long
G951	Common hawthorn, Wych elm	3 to 5	1.0	10 to 90	100							Young to Middle Age	Fair	Linear group comprising mainly Wych elm with occasional hawthorn all covered in bramble. Located along ditch		C ,2, 3	Medium
G952	Common hawthorn, Blackthorn, Elm species	2 to 5	0.5	25 to 150	300							Middle Age	Fair	Dense shrubby boundary vegetation. Some dead elm stems. Good screening and habitat.		C ,2	Long
G953	Wych elm	4 to 6	1.0	100 to 400	5							Middle Age	Fair	Cut stumps with vigorous regrowth.		C ,2, 3	Medium
G954	Field maple, Dogwood species, Common hazel, Lombardy poplar, Willow species	2 to 10	0.5	25 to 200	500							Middle Age	Good	Dense, recently planted screening group located along boundary. Good vigour. Inspection restricted by access.		C ,2	Long
G955	Hybrid black poplar	1 to 5	1.0	250 to 600	15							Middle Age to Mature	Poor	All cut to 1m stumps with 3-4m regeneration crown growth		C ,3	Medium
G956	Blackthorn	2.5 to 3	0.0	20 to 60	50							Young	Good	Dense thicket growing along top of drainage ditch bank.		C ,2	Long
G957	Hybrid black poplar, Pedunculate oak	8 to 20	1.5	310 to 520	25							Middle Age	Good	Part of a much longer field boundary group of similar character. Poplar us the dominant species, both visually and by number. Oak with good long-term potential. Wide Brook runs parallel to group on Northern side, 1m from stems.		B ,1, 2	Long
G958	Common ash	13 to 15	4.0	150 to 350	25							Middle Age	Fair	Linear group of trees along field and track boundary edge. Most crowns weighed eastwards over field. Some reduced vigour. Minor and moderate dead wood. Ivy and bramble clad stems		B ,2, 3	Medium
G959	Common ash	10 to 15	5.0	150 to 400	15							Middle Age	Fair	Linear group of trees along field and track boundary edge. Most crowns weighed eastwards over field. Some reduced vigour. Minor and moderate dead wood. Ivy and bramble clad stems		B ,2, 3	Medium
G960	Wych elm	6 to 10	5.0	75 to 120	10							Middle Age	Poor	Part of wider linear group but all smaller and in much poorer condition than trees to South.		U	Short
G961	Sycamore, Common ash, English elm	5 to 16	1.0	120 to 600	65							Middle Age	Mixed	Small copse comprising trees that are at risk from disease, therefore longevity is likely to be reduced. Stem failure of large Central sycamore. Ground and stems ivy clad.		C ,2	Medium

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		(m)	(m)	(mm)	arising below 1.5m	(m)	(m)	(m)	(m)	(m)	(N,S,E,W)	Young, Middle Age, Mature	Good, Fair, Poor, Veteran			A,B,C,U (1,2,3)	Long, Medium, Short, Very Short
G962	Common ash, Pedunculate oak, English elm	2 to 4	0.5	80 to 140	25							Young	Good	Scattered self-set trees along bramble cover field boundary. Majority of stems ivy clad.		C ,2	Long
G996	Common hawthorn, Common ash, Pedunculate oak	5 to 16	0.0	75 to 580	250							Middle Age	Fair	Linear tree belt along north-western edge of field. Many ash within group have been historically cut with subsequent regrowth stems. Occluding cavities evident. Lower limbs flailed. Small ditch on south side of tree line. Significant landscape feature.		B ,1, 2	Long
G997	Pedunculate oak	14 to 16	3.0	490 to 810	6							Middle Age to Mature	Good	Single row of maturing trees forming a prominent boundary feature lining Spithandle Lane. Downgraded due to individual tree age and form but nearing high quality as a collection.		B ,2	Long
G998	Common hawthorn, English holly, Pedunculate oak	5 to 15	2.0	200 to 670	25							Young to Middle Age	Good	Maturing oaks forming a continuous canopy along internal field boundary. contains some individuals with good future potential but most trees have asymmetric form due to close spacing. Hawthorn understory formed from a defunct hedge.		B ,2	Long
G999	Pedunculate oak	3 to 3.5	1.0	60 to 120	3							Young	Good	Recently planted trees enclosed by post and wire fence. Closely spaced.		C ,2	Long
G1000	Common beech	3 to 3.5	0.5	40 to 80	3							Young	Good	Recently planted trees enclosed by post and wire fence. Closely spaced.		C ,2	Long
G1001	Field maple, Pedunculate oak	12 to 17	2.0	450 to 720	40							Middle Age	Good	Maturing oaks forming a continuous canopy along internal field boundary. Approximate 8m spacing between trees. Majority of trees with good form and condition; contains one dead tree towards southern end. Hawthorn understory formed from a defunct hedge.		A ,1, 2	Long
G1002	Pedunculate oak	3 to 3.5	0.5	40 to 60	2							Young	Good	Recently planted trees enclosed by post and wire fence. Closely spaced.		C ,2	Long
G1003	Sessile oak	3 to 3.5	0.5	40 to 60	2							Young	Good	Recently planted trees enclosed by post and wire fence. Closely spaced.		C ,2	Long
G1004	Sessile oak	3 to 3.5	0.5	40 to 60	2							Young	Good	Recently planted trees enclosed by post and wire fence. Closely spaced.		C ,2	Long
G1005	Common hawthorn, Common ash, Blackthorn, Pedunculate oak, Elm species	3 to 8	1.0	70 to 160	70							Young to Middle Age	Fair	Remnant hedgerow, now outgrown and containing gaps.		C ,2	Long
G1006	Common hazel, Common hawthorn, Pedunculate oak	13 to 15	1.0	220 to 640	300							Middle Age to Mature	Good	Linear row of maturing trees forming a prominent boundary feature lining Spithandle Lane. Downgraded due to individual tree age and form but nearing high quality as a collection. Predominantly hazel and hawthorn understory.		B ,1, 2	Long
G1007	Sessile oak	3 to 3.5	0.5	40 to 60	2							Young	Good	Recently planted trees enclosed by post and wire fence. Closely spaced.		C ,2	Long
G1008	Common ash	8 to 10	2.0	140 to 330	7							Middle Age	Mixed	Trees in various stages of decline. Majority of stems ivy clad.		U	Short
G1009	Common hazel, Common ash, Grey willow	4 to 6	1.0	100 to 260	100							Middle Age	Fair	Possibly an outgrown hedge, now formed from multiple hazel stools in the north and willow in the south.		C ,2	Long
G1011	Pedunculate oak, Goat willow	4 to 8	1.0	140 to 550	15							Middle Age to Mature	Mixed	Cluster of trees around edge of pond. Largely multi-stemmed willow. Some stem and branch failures evident and some limbs pruned.		C ,2, 3	Medium
G1012	Common hazel, Common hawthorn, Common ash, Elder	3 to 6	0.0	120 to 280	500							Middle Age to Mature	Mixed	Low lying vegetation forming dense cluster on steep slope. Some moribund trees. Some mature elder. Occasional ash with dieback.		C ,2, 3	Medium
G1013	Common hawthorn	2 to 3	0.5	160 to 220	6							Middle Age	Good	scattered isolated trees along fenced field boundary.		C ,1	Long
G1014	Field maple, Common ash, Elder	3 to 11	0.5	150 to 510	40							Young to Middle Age	Mixed	Predominantly ash with hawthorn understory. In various stages of physiological and structural decline due to Chalara ash dieback disease. Multiple cavities present. several trees appear to be outgrown coppice with multi-stemmed form.		C ,2, 3	Medium
G1015	Elder	1.5 to 2	0.5	70 to 160	3							Young to Middle Age	Fair	Shrubby trees with typical rounded form. Stunted shoot extension due to exposed location.		C ,2	Long
G1016	Common hawthorn, English holly, Elder, Whitebeam	3 to 8	0.5	140 to 260	60							Middle Age	Fair	An untidy, scrubby looking group containing gaps and some larger ash. Hawthorn forming dense thickets in places.		C ,2	Medium
G1017	Common ash, Whitebeam, English elm	5 to 13	1.0	100 to 340	50							Young to Middle Age	Mixed	Ash and elm dying back. The better quality trees growing towards the western end. Majority of trees heavily ivy clad.		C ,2	Medium
G1018	Common hawthorn	2 to 3	0.0	100 to 200	9							Middle Age	Fair	Shrubby trees enclosed by dense bramble growth.		C ,2	Medium
G1019	Common hawthorn	2 to 3	0.5	100 to 220	25							Middle Age	Fair	scattered self-set trees along fence line.		C ,2	Long

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G1020	Common beech	13 to 19	2.0	510 to 1400	18							Mature	Fair	A single row of trees with unusual multi-stemmed form; possibly due to historic coppicing but now outgrown. Clearly very old and one of several similar feature in the locality with high biodiversity and heritage value. Typical tight stem union an crossing limbs. Cavities, bark necrosis and small branch failures common throughout. Several fungal associations, including Ganoderma and Sterum. Majority of trees have good crown health.		A ,1, 2, 3	Long
G1023	Common hawthorn, Pedunculate oak, Elder	3 to 7	1.0	100 to 400	40							Middle Age to Mature	Mixed	Scattered trees, the majority with structural defects and deadwood development. Failed trees and deadwood strewn throughout. Good habitat value.		B ,3	Medium
G1024	Common hawthorn, Elder	2 to 4	0.0	80 to 150	40							Young to Middle Age	Good	Scrubby trees lining both sides of access track. Starting to form dense thickets.		C ,2	Long
G1025	Common hawthorn, Common ash	2 to 4	0.5	80 to 130	30							Middle Age	Fair	Scattered hawthorn along fence line and track. Heavily flailed and some trees recently cut at base.		C ,1	Long
G1026	Leyland cypress, Cypress species	3 to 7	0.5	260 to 430	4							Young to Middle Age	Good	Small planted row adjacent to horse training paddock.		C ,2	Long
G1027	Sycamore, Common ash	4 to 10	2.0	140 to 380	17							Middle Age	Fair	Roadside group. Pruned to east over track. Tres to south heavily ivy clad.		C ,2	Long
G1028	Common hawthorn, Common ash	5 to 8	1.5	160 to 340	15							Middle Age	Fair	4 larger ash with hawthorn understorey. At top of embankment to horse training paddock. Pruning stubs in lower crown of all trees.		B ,2	Long
G1029	Field maple, Common hawthorn, Common ash	3 to 6	0.0	200 to 400	70							Middle Age	Poor	Shrubby group growing under low voltage power lines. Almost all trees swamped by ivy.	Ivy management.	C ,2	Medium
G1031	Common hawthorn, Elder	2 to 4	0.5	80 to 150	13							Young to Middle Age	Fair	Scattered shrubby trees.		C ,2	Long
G1032	Common hawthorn, Common ash, Pedunculate oak	2 to 5	0.5	120 to 340	7							Middle Age	Mixed	Scattered shrubby trees. Single ash and oak to north in poor condition.		C ,2	Medium
G1033	Common hawthorn, Common ash	3 to 6	1.0	90 to 160	9							Young	Good	Dense cluster of young trees.		C ,2	Long
G1034	Common hazel, Common hawthorn, Elder, English elm	4 to 6	1.0	70 to 140	100							Young to Middle Age	Fair	Shrubby roadside group. Elm growing form cut parent stumps. Central section contains bramble.		C ,2	Medium
G1035	Common hazel, Common hawthorn, Elder, English elm	4 to 6	1.0	70 to 140	40							Young to Middle Age	Fair	Shrubby roadside group. Elm growing form cut parent stumps. Central section contains bramble.		C ,2	Medium
G1036	Common hawthorn	3 to 4	0.5	100 to 250	14							Middle Age to Mature	Mixed	Scattered remnants of former hedgerow. One tree almost dead. Small stem cavities.		C ,2	Long
G1037	Common ash	10 to 12	2.0	350 to 600	6							Middle Age	Mixed	A section of a large tree lined field boundary. all tree multi-stemmed with a scattered hawthorn understorey. Southern tree dying back with Daldinia concentrica infection.		B ,2	Long
G1038	Common hawthorn, Common ash, Elder	2 to 7	0.0	90 to 230	15							Young to Middle Age	Fair	Scattered trees within area of dense bramble.		C ,2	Long
G1039	Elder	1 to 3	0.0	70 to 160	25							Young to Middle Age	Good	Scattered scrubby trees.		C ,2	Long
G1045	Sycamore, Common hawthorn, Pedunculate oak, Elm species	3 to 10	0.5	100 to 500	50							Middle Age	Fair	Linear boundary group of trees on south side of track opposite pine plantation. Understorey of hawthorn and elm interspersed with some larger oak. Occasional branch failures. Minor deadwood. Some larger stems leaning.		B ,2	Long
G1046	Common hawthorn	1 to 3	0.0	50 to 90	4							Young	Fair	Self-set trees on birth side of shallow Brook. Minor browsing damage.		C ,2	Long
G1047	Field maple, Common hawthorn, Common ash, Goat willow	4 to 8	1.0	120 to 380	30							Middle Age	Mixed	Group of trees located predominantly on field boundary with smaller amount of trees located internally within the field. Internal trees generally growing within overgrown bramble areas. Some moribund and dead ash in group, likely as a result of Chalara ash dieback disease.		C ,2	Short
G1070	Silver birch, Common ash, Pedunculate oak, Goat willow	7 to 17	2.5	250 to 550	25							Middle Age	Fair	Group of trees on boundary between field and residential property. Failed branches evident with a failure of stem in the westernmost tree also evident. Screening value. Inspection restricted by lack of access and field conditions.		B ,1, 2	Long
G1071														Not surveyed in detail due to access restrictions			
G1072														Not surveyed in detail due to access restrictions			
G1073														Not surveyed in detail due to access restrictions			
G1074														Not surveyed in detail due to access restrictions			
G1075														Not surveyed in detail due to access restrictions			
G1076														Not surveyed in detail due to access restrictions			

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G1077														Not surveyed in detail due to access restrictions			
G1078														Not surveyed in detail due to access restrictions			
G1079														Not surveyed in detail due to access restrictions			
G1080														Not surveyed in detail due to access restrictions			
G1081														Not surveyed in detail due to access restrictions			
G1082														Not surveyed in detail due to access restrictions			
G1083														Not surveyed in detail due to access restrictions			
G1084														Not surveyed in detail due to access restrictions			
G1085														Not surveyed in detail due to access restrictions			
G1086														Not surveyed in detail due to access restrictions			
G1087														Not surveyed in detail due to access restrictions			
G1088														Not surveyed in detail due to access restrictions			
G1089														Not surveyed in detail due to access restrictions			
G1090														Not surveyed in detail due to access restrictions			
G1091														Not surveyed in detail due to access restrictions			
G1092														Not surveyed in detail due to access restrictions			
G1093														Not surveyed in detail due to access restrictions			
G1094														Not surveyed in detail due to access restrictions			
G1095														Not surveyed in detail due to access restrictions			
G1096														Not surveyed in detail due to access restrictions			
G1097														Not surveyed in detail due to access restrictions			
G1098														Not surveyed in detail due to access restrictions			
G1099														Not surveyed in detail due to access restrictions			
G1100														Not surveyed in detail due to access restrictions			
G1101														Not surveyed in detail due to access restrictions			
G1102														Not surveyed in detail due to access restrictions			
G1103														Not surveyed in detail due to access restrictions			
G1104														Not surveyed in detail due to access restrictions			
G1105														Not surveyed in detail due to access restrictions			
G1106														Not surveyed in detail due to access restrictions			
G1107														Not surveyed in detail due to access restrictions			
G1108														Not surveyed in detail due to access restrictions			
G1109														Not surveyed in detail due to access restrictions			
G1110														Not surveyed in detail due to access restrictions			
G1111														Not surveyed in detail due to access restrictions			
G1112														Not surveyed in detail due to access restrictions			
G1113														Not surveyed in detail due to access restrictions			
G1114														Not surveyed in detail due to access restrictions			
G1115														Not surveyed in detail due to access restrictions			
G1116														Not surveyed in detail due to access restrictions			
G1117														Not surveyed in detail due to access restrictions			
G1118														Not surveyed in detail due to access restrictions			
G1119														Not surveyed in detail due to access restrictions			
G1120														Not surveyed in detail due to access restrictions			
G1121														Not surveyed in detail due to access restrictions			
G1122														Not surveyed in detail due to access restrictions			
G1123														Not surveyed in detail due to access restrictions			
G1124														Not surveyed in detail due to access restrictions			
G1125														Not surveyed in detail due to access restrictions			
G1126														Not surveyed in detail due to access restrictions			
G1127														Not surveyed in detail due to access restrictions			
G1128														Not surveyed in detail due to access restrictions			
G1129														Not surveyed in detail due to access restrictions			
G1130														Not surveyed in detail due to access restrictions			
G1131														Not surveyed in detail due to access restrictions			
G1132														Not surveyed in detail due to access restrictions			
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G1135														Not surveyed in detail due to access restrictions			
G1136														Not surveyed in detail due to access restrictions			
G1137														Not surveyed in detail due to access restrictions			
G1138														Not surveyed in detail due to access restrictions			
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G1140														Not surveyed in detail due to access restrictions			
G1141														Not surveyed in detail due to access restrictions			
G1142														Not surveyed in detail due to access restrictions			
G1143														Not surveyed in detail due to access restrictions			
G1144														Not surveyed in detail due to access restrictions			
G1145														Not surveyed in detail due to access restrictions			
G1146														Not surveyed in detail due to access restrictions			
G1147														Not surveyed in detail due to access restrictions			
G1148														Not surveyed in detail due to access restrictions			
G1149														Not surveyed in detail due to access restrictions			
G1150														Not surveyed in detail due to access restrictions			
G1151														Not surveyed in detail due to access restrictions			
G1152														Not surveyed in detail due to access restrictions			
Woodlands																	
W2	Common hazel, Common hawthorn, Common ash, Blackthorn, Pedunculate oak	3 to 15		75 to 650	30							Mixed Age	Good	Trees at edge of woodland compartment margin adjacent to track. Understorey species with several larger trees. Mixed age and structure. Some bluebells in understorey, other parts overgrown by bramble. Canopies do not particularly overhang track much.		A ,1, 2	Long
W3	Field maple, Sycamore, Horse chestnut, Common hawthorn, Common ash, English holly, Cherry laurel, Pedunculate oak, Elder	3 to 15	1.0	100 to 900	100							Mixed Age	Good	Woodland outside site boundary. Good age and size structure. Some standing dead wood. Decayed and hollow trees. Unable to access		A ,1, 2, 3	Long
W4	Field maple, Sycamore, Common hazel, Common hawthorn, Common ash, Pedunculate oak	15 to 20	3.0	150 to 900	1000							Mixed Age	Good	Generally oak dominated woodland with some pockets of Ash and understorey of maple, Hawthorn and Hazel. Some Ash in severe decline or standing dead. Good canopy and understorey composition. Some open glades. Public footpath through centre.		A ,2, 3	Long
W5	Field maple, Hawthorn species, Common ash, Blackthorn, Pedunculate oak	4 to 15	1.0	100 to 600	100							Middle Age	Good	Wooded strip along field edge and onto adjacent land. Larger specimens including oak and Ash with understorey field maple and scrubby patches of Hawthorn, elder and blackthorn. Ash showing signs of dieback but generally retaining 50-75 percent canopy. Oak showing general vigour with some tip dieback and some deadwood visible in canopy.		A ,1, 2	Long
W6	Field maple, Wild cherry, Pedunculate oak	6 to 10	2.0	160 to 300	150							Middle Age	Good	Establishing woodland. Low species diversity and narrow age/size structure. Larger oaks to edges. Some dead wood present. Overhangs track to south-west		B ,2	Long
W11	Sycamore, Horse chestnut, Hawthorn species, Common ash, Blackthorn, Pedunculate oak, Goat willow, Elder	1 to 15	1.0	50 to 900	500							Middle Age	Good	Parcel of deciduous woodland along field boundary. Some large oak present. Dense understorey growth. Ash showing signs of dieback. Chestnut with rust to leaves. Generally vigorous growth.		A ,1, 2, 3	Long
W12	Field maple, Common hawthorn, Common ash, Blackthorn, Pedunculate oak	8 to 19	3.0	150 to 700	2000							Middle Age to Mature	Good	Dense Oak and Ash woodland to South of Bob Lane. Shrubby understorey. Moderate Ash dieback throughout. Lots of trees ivy clad		B ,2, 3	Long
W13	Horse chestnut, Common dogwood, Common hazel, Common hawthorn, English holly, Scots pine, Cherry laurel, Bird cherry, Pedunculate oak	3 to 16	5.0	100 to 850	1000							Mixed Age	Mixed	Woodland adjacent to road. Trees next to road tall and upright with High crowns. Dense understorey flail managed. Broken branches and stubs. Dead wood throughout. Some clearings		A ,2, 3	Long
W15	Common hazel, Common hawthorn, Common ash, Turkey oak, Pedunculate oak	4 to 16	1.5	250 to 850	1000							Middle Age to Mature	Mixed	Predominantly Oak and Ash as climax species over a hazel dominated understorey. Mature oaks lining Spithandle Lane and creating a closed canopy between woodland blocks. Connects to much larger broadleaved woodland in the west.		B ,1, 2, 3	Long
W17	Field maple, Common hazel, Common ash, Turkey oak, Pedunculate oak, Eastern hemlock	12 to 18	5.0	250 to 700	600							Middle Age	Good	Predominantly Oak, assumed planted due to similar age range. Hazel and field maple understorey with thick bramble ground cover. Ash in various stages of decline due to Chalara ash dieback disease.		B ,2, 3	Long

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		(m)	(m)	(mm)	arising below 1.5m	(m)	(m)	(m)	(m)	(m)	(N,S,E,W)	Young, Middle Age, Mature	Good, Fair, Poor, Veteran			A,B,C,U (1,2,3)	Long, Medium, Short, Very Short
W18	Field maple, Common hazel, Common hawthorn, Common ash, Blackthorn, Pedunculate oak, Goat willow, Elder, Wych elm	3 to 20		75 to 1060	300							Mixed Age	Mixed	A section of oak-dominated woodland that has several large and mature oaks within. Fallen and standing deadwood of various sizes within woodland. Some failed limbs and stems as expected on this type of habitat. Some restriction of inspection to east due to fencing. Canopy more open to west with dense thicket of mixed understorey species forming this area. Occasional dead tree. Wet ground conditions. Smaller amount of ash trees within woodland with varying degrees of ash dieback symptoms.		A ,1, 2, 3	Long
W20	Field maple, Common hazel, Common hawthorn, Common ash, English holly, Hybrid black poplar, Blackthorn, Douglas fir, Pedunculate oak, Dog rose, Elder	3 to 25		75 to 1000	300							Mixed Age	Mixed	Woodland belt along field edge. Dense and closely spaced particularly at western end where belt leads into a more extensive woodland compartment. Varying degrees of ash dieback evident. Varying density of understorey throughout. Occasional poplar in woodland but fairly oak-dominated. Fallen trees and deadwood within. Occasional standing dead trees. Moderate to major deadwood in some canopies. Significant landscape and habitat feature.		A ,2, 3	Long
W21	Sycamore, Horse chestnut, Common hazel, Common hawthorn, English holly, Pedunculate oak	6 to 24	1.5	250 to 1000	200							Middle Age to Mature	Mixed	Northern edge of a small mixed broadleaved woodland compartment that extends further south than mapped. Oak is the dominant species. With some exceptionally tall trees.		A ,1, 2, 3	Long
W22	Common beech, Common ash, Elder, Wych elm	6 to 17		220 to 800	1000							Middle Age to Mature	Mixed	A section of sinuous woodland lining a ridge. Prominent landscape feature but almost entirely Ash with Chalara ash dieback symptoms throughout.		B ,2, 3	Long
W23	Dogwood species, Common hazel, Common hawthorn, Common ash, Blackthorn, Elder, Wych elm	4 to 17		200 to 800	1000							Middle Age to Mature	Mixed	A section of sinuous woodland lining a ridge. Prominent landscape feature but significant amount of Ash with Chalara ash dieback symptoms throughout. Dense understorey of predominantly Hazel and dogwood.		B ,2, 3	Long
W24	Common hazel, Common hawthorn, Common ash, Blackthorn, Dog rose, Elder	4 to 15		150 to 800	1000							Middle Age to Mature	Mixed	Linear woodland belt that slopes heavily to the east within. Dense understorey of mixed species. Prominent landscape feature, but later trees are predominantly ash displaying varying degrees of chalara ash dieback disease. Standing dead trees within. Areas are densely overgrown with bramble and dog rose.		B ,2, 3	Long
W25	Field maple, Common hazel, Common hawthorn, Common beech, Common ash, Elder	4 to 15	4.0	200 to 800	150							Mixed Age	Good	Trees lining the steep banks of farm access track. Forms a closed canopy for the majority with suitable clearance for farm machinery. Some substantial Ash trees towards northern end. Woodland belt extends further west than mapped.		B ,2	Long
W26	Field maple, Sycamore, Common dogwood, Common hawthorn, Common ash, Elder, Whitebeam	2 to 14	1.0	150 to 350	2000							Middle Age	Mixed	A valuable landscape feature but predominantly Ash in decline due to Chalara ash dieback disease. Some better sycamore in Northern section and a more diverse shrub layer as in the higher southern section. The northern half forms a close canopy over Chancery Lane with an average 3.5m clearance.		B ,2	Medium
W29	Field maple, Sycamore, Common hazel, Common hawthorn, English holly, Sessile oak, Pedunculate oak	8 to 15	1.0	100 to 800	500							Mixed Age	Good	Dense woodland copse internal to fields along boundaries. Mainly oak in good condition. Restricted inspection		B ,1, 2	Long
W30	Field maple, Sycamore, Common hazel, Common hawthorn, Common ash, English holly, Sessile oak, Pedunculate oak	6 to 14	1.0	100 to 750	1000							Mixed Age	Good	Dense woodland internal to fields along boundaries and on sloped ground. Mainly oak in good condition. Some Ash dieback. Restricted inspection		B ,1, 2	Long
W31	Norway maple, Scots pine, Pedunculate oak, Red oak, Elder	3 to 12	2.0	50 to 380	100							Middle Age	Good	Pine plantation with occasional oak and elder understorey. Typical upright forms with mid stem bifurcations. Small section of mixed broadleaves near road		B ,2	Long
W32	Field maple, Sycamore, Common hawthorn, Common ash, Sessile oak, Pedunculate oak, Wych elm	10 to 18	1.0	150 to 950	1000							Mixed Age	Good	Predominantly Oak dominates woodland with some pockets of larger Ash. Well formed understorey. Ash trees on woodland edge that have succumbed to Ash dieback appear to be being removed.		A ,1, 3	Long
W34	Grand fir, Field maple, Sweet chestnut, Common hazel, Common hawthorn, Common ash, English holly, Pedunculate oak, Elder	3 to 16	1.0	90 to 850	100							Mixed Age	Good	Managed woodland. Worked Hazel coppice with oak and Ash standards. Occasional unusual species present. Good structure, fairly open. Overhangs file by up to 10m. Standing and aerial dead wood		A ,2, 3	Long

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W37	Field maple, Common hazel, Common ash, English holly, Cherry species, Pedunculate oak	2 to 12		25 to 600	350							Middle Age	Fair	Wooded area to edge of field. Emergent oak and ash with understorey hazel. Ash displaying symptoms of Chalara ash dieback disease. Lying deadwood retained for habitat value.		B ,2, 3	Long
W39	Sycamore, Pine species, Oak species	6 to 15	3.0	100 to 450	250							Middle Age	Fair	Block of plantation woodland. Some self-set sycamore. Small group of oaks to northern end. Generally good vigour. Some gorse understorey.		B ,2	Long
W42	Field maple, Common ash, Pedunculate oak, Grey willow	5 to 18	4.0	200 to 480	150							Middle Age	Mixed	Woodland copse with pond in south-East corner. Interior formed predominantly of Ash with slender form. Crown health not confirmed due to season but Chalara ash dieback infection suspected.	Would benefit from selective Ash removal and restocking to ensure successional tree cover once Ash dieback disease takes hold.	C ,2	Medium
W43	Common hawthorn, Pedunculate oak	5 to 12	4.0	75 to 380	25							Mixed Age	Good	Edge of wider woodland area adjacent road. Crowns over road but with good clearance. Lower canopies hedged to edge of road.		B ,2	Long
W44	Field maple, Common hazel, Common ash, Pedunculate oak, Rhododendron species, Elder	3 to 18	1.0	200 to 600	75							Middle Age to Mature	Mixed	A finger of mixed broadleaved woodland lining the steep banks a ravine. Most trees ivy clad. Rhododendron is not widespread but would benefit from removal.	Cut and treat rhododendron with herbicide to prevent regrowth.	B ,1, 2, 3	Long
W45	Common beech, English holly, Pedunculate oak, Yew	9 to 16	2.0	100 to 650	150							Mixed Age	Good	Predominantly beech but with Good understorey mix of oak, Holly and yew. Part of a much wider area of deciduous woodland bisected by track to East.		A ,2	Long
W47	Sycamore, Common hazel, Common beech, Common ash	7 to 25	2.0	250 to 550	2500							Middle Age	Good	Predominantly beech woodland composed of well spaced trees with Good future potential. Contains a pocket of younger sycamore dominated trees towards south-West Corner. Good public access.		B ,1, 2	Long
W49	Field maple, Silver birch, Common hazel, Common hawthorn, Common beech, Common ash, English holly, Pedunculate oak	8 to 21	2.0	150 to 950	10000							Mixed Age	Good	Mixed deciduous plantation. Predominantly beech with occasional ash and oak and understorey of hawthorn, Hazel and Holly. Generally Good condition throughout with some minor pockets of Ash clearance and broken stems and branches. Good future potential and good public access.		B ,2, 3	Long
W53	Sycamore, Common hazel, Common hawthorn, Pedunculate oak, Wych elm	6 to 14	4.0	75 to 400	50							Middle Age	Fair	Front edge of wider woodland area adjacent access road. Ivy clad tress. Crown pruned away and up over road to 4m.		C ,1, 2, 3	Long
W54	Field maple, Sycamore, Common hazel, Common ash, English holly, Turkey oak, Pedunculate oak, Wych elm	5 to 27	1.5	100 to 700	1000							Mixed Age	Good	Maturing woodland surrounding large pond. Contains some very Good individual oak. Ground and the majority of tree stems ivy clad.		A ,1, 2, 3	Long
W55	Sycamore, Common hawthorn, Common ash, Pedunculate oak, Elder, Wych elm	8 to 14	1.0	75 to 450	1000							Middle Age	Good	Linear woodland plantation. Dense, shrubby understorey with narrow, spindly stems.		C ,1, 2, 3	Long
W56	Common hazel, Common ash, Pedunculate oak, Wych elm	6 to 14	1.0	100 to 450	250							Middle Age	Good	Dense woodland with Good mix of understorey and canopy trees. Majority ivy clad		B ,2, 3	Long
W62	Common hazel, Common hawthorn, Common ash, Scots pine, Pedunculate oak	4 to 16	1.5	250 to 850	500							Middle Age to Mature	Mixed	Predominantly Oak and Ash as climax species over a hazel dominated understorey. Connects to oak plantation in the west.		B ,1, 2, 3	Long
W63	Common hawthorn, Common ash, English holly, Pedunculate oak	4 to 17		150 to 1000	200							Mixed Age	Mixed	Eastern edge of woodland copse. Many dying ash in woodland, likely as a result of ash dieback disease. Some moribund trees of other species with occasional better quality specimens but overall in fairly poor condition.		C ,2	Medium
W64	Common hawthorn, Common beech, Common ash, Elder	5 to 13	1.0	75 to 800	200							Middle Age to Mature	Mixed	Narrow woodland belt growing on sloped ground. Ash in various condition due to Chalara ash dieback disease.		B ,2	Long
W65	Sycamore, Common hawthorn, Common ash, Elder	4 to 14	1.0	180 to 560	300							Middle Age	Mixed	Predominantly ash and sycamore. ash in varied condition due to Chalara ash dieback disease. Some collapsed trees.		B ,2, 3	Long
W66	Norway maple, Common hawthorn, Common beech, Corsican pine	5 to 10	1.0	180 to 240	500							Middle Age	Mixed	Establishing woodland becoming dense in places. The pine are looking chlorotic with evidence of previous failures. Some small clearings due to tree losses.		B ,2	Long
Hedges																	
H1	Common hawthorn, Blackthorn	3 to 5	0.5	n/a	n/a							Middle Age	Good	Field boundary hedgerow. Unmanaged. Mainly hawthorn with some occasional blackthorn and small self-set oak		n/a	n/a
H15	Common hazel, Common hawthorn, Blackthorn	2.5 to 3.5		n/a	n/a							Middle Age	Fair	Lapsing roadside hedgerow.		n/a	n/a
H16	Field maple, Common hawthorn, Blackthorn	2 to 2.5		n/a	n/a							Middle Age	Fair	Field boundary hedgerow.		n/a	n/a

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H19	Blackthorn, Dog rose	1.5 to 3		n/a	n/a							Mature	Good	Fields boundary hedge adjacent to ditch. Some parts lapsing slightly in amongst trees.		n/a	n/a
H20	Field maple, Common hawthorn, Blackthorn, Dog rose	1.5 to 2.5		n/a	n/a							Middle Age	Good	Field boundary hedge adjacent to ditch. Some parts lapsing slightly in amongst trees.		n/a	n/a
H22	Field maple, Common hawthorn, Blackthorn, Dog rose	1.5 to 1.5		n/a	n/a							Middle Age	Good	Well maintained field boundary and roadside hedge.		n/a	n/a
H23	Common hawthorn, Blackthorn	2 to 2		n/a	n/a							Mature	Good	Well maintained field boundary hedge.		n/a	n/a
H24	Field maple, Common hawthorn, Blackthorn	2 to 2		n/a	n/a							Mature	Good	Well maintained field boundary hedge.		n/a	n/a
H25	Common hawthorn, Blackthorn	2 to 2		n/a	n/a							Mature	Good	Well maintained field boundary hedge adjacent to road.		n/a	n/a
H26	Common hawthorn	1 to 1		n/a	n/a							Middle Age	Good	Well-maintained.		n/a	n/a
H27	Blackthorn	1 to 1		n/a	n/a							Middle Age	Fair	Dense, wide, short hedge		n/a	n/a
H28	Common hawthorn, Blackthorn	1 to 1		n/a	n/a							Middle Age	Good	Well-maintained field boundary hedge		n/a	n/a
H30	Common hawthorn	1 to 1		n/a	n/a							Middle Age	Good	Well-maintained field boundary hedge		n/a	n/a
H31	Common hawthorn	1.5 to 1.5		n/a	n/a							Middle Age	Good	Well-maintained boundary hedge along edge of PRoW.		n/a	n/a
H32	Wild privet	1 to 1		n/a	n/a							Middle Age	Good	Boundary hedge along edge of track		n/a	n/a
H33	Common hawthorn, Wild privet	1.5 to 2		n/a	n/a							Middle Age	Fair	Maintained boundary hedge adjacent track		n/a	n/a
H34	Common hazel, Common hawthorn, Blackthorn, Dog rose, Wych elm	1.5 to 2		n/a	n/a							Middle Age	Good	Well-managed boundary hedge adjacent track along small ditch		n/a	n/a
H35	Common hazel, Common hawthorn, Blackthorn, Dog rose, Wych elm	1.5 to 2		n/a	n/a							Middle Age	Good	Well-managed boundary hedge adjacent track along small ditch		n/a	n/a
H36	Common hawthorn, Blackthorn	1.5 to 2		n/a	n/a							Middle Age	Good	Well-maintained field boundary hedge		n/a	n/a
H37	Common hawthorn	1.5 to 1.5		n/a	n/a							Middle Age	Fair	Boundary hedge. Gappy to Southern extents		n/a	n/a
H38	Common hawthorn, Wild privet, Honeysuckle species, Dog rose	1.5 to 2		n/a	n/a							Middle Age	Good	Garden boundary hedge		n/a	n/a
H39	Common hazel, Common hawthorn, Blackthorn, Wych elm	2 to 2.5		n/a	n/a							Middle Age	Good	Dense, garden boundary hedge		n/a	n/a
H40	Leyland cypress	2 to 2	0.5	n/a	n/a							Middle Age	Good	Topped and well-maintained garden boundary hedge		n/a	n/a
H41	Common hawthorn, Blackthorn	1.5 to 1.5		n/a	n/a							Middle Age	Good	Well-maintained garden boundary hedge		n/a	n/a
H42	Field maple, Common hawthorn, Dog rose	1 to 1.5		n/a	n/a							Middle Age	Good	Well-maintained boundary hedge adjacent track		n/a	n/a
H43	Common hawthorn	1 to 1		n/a	n/a							Middle Age	Good	Smaller part of longer garden boundary hedge		n/a	n/a
H44	Common hawthorn, Blackthorn	1.5 to 2		n/a	n/a							Middle Age	Good	Well maintained and wide field boundary hedge		n/a	n/a
H45	Field maple, Common hazel, Blackthorn, Goat willow	2.5 to 3		n/a	n/a							Young to Middle Age	Fair	Field boundary hedgerow that is lapsing and also had some more recently planted sections.		n/a	n/a
H46	Common hawthorn, Blackthorn	1.5 to 1.5		n/a	n/a							Middle Age	Good	Well maintained and wide field boundary hedge adjacent waterlogged ditch		n/a	n/a
H48	Common hawthorn	1.5 to 1.5		n/a	n/a							Middle Age	Good	Well-maintained, long and continuous field boundary hedge		n/a	n/a
H49	Common hawthorn	4.5 to 5		n/a	n/a							Middle Age	Good	Maintained to sides. Located along edge of private driveway off farm track		n/a	n/a
H50	Common hawthorn	1.5 to 1.5		n/a	n/a							Middle Age	Good	Part of longer hedgerow adjacent farm track		n/a	n/a
H51	Common hawthorn, Blackthorn	1.5 to 1.5		n/a	n/a							Middle Age	Fair	Remnants of longer hedgerow		n/a	n/a
H52	Common hawthorn	1.5 to 1.5		n/a	n/a							Middle Age	Good	Well-maintained field boundary hedge. Strengthened with post and wire fencing		n/a	n/a
H53	Common hazel, Common hawthorn, Blackthorn	2 to 2.5		n/a	n/a							Mature	Good	Maintained field boundary hedgerow.		n/a	n/a
H54	Field maple, Common hawthorn, Blackthorn	3 to 6		n/a	n/a							Middle Age	Fair	Formerly triple staggered dense hedgerow along ditch edges, now unmanaged and unkempt. Some leaf scorch.		n/a	n/a
H55	Blackthorn, Wych elm	1.5 to 2	0.5	n/a	n/a							Middle Age	Good	Mainly Wych elm. Well-managed	Extend	n/a	n/a
H56	Common hawthorn, Blackthorn	3 to 5	0.5	n/a	n/a							Middle Age to Mature	Fair	Densely stocked but gappy in places interspersed with mature trees. Managed to lower sides, left to grow on top		n/a	n/a
H58	Field maple, Hawthorn species, Ash species, Holly species, Privet species, Blackthorn	1 to 2.5		n/a	n/a							Middle Age	Good	Partially maintained hedgerow along access road.		n/a	n/a

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H59	Hawthorn species, Privet species	1.5 to 1.5	0.5	n/a	n/a							Middle Age	Fair	Managed hedge along boundary. Leggy specimens with little growth until 0.5m height. Ivy growth to stems.		n/a	n/a
H60	Field maple, Dogwood species, Common hazel, Hawthorn species, Ash species, Blackthorn	1 to 4		n/a	n/a							Middle Age	Good	Dense hedge along field boundary.		n/a	n/a
H61	Western red cedar	2 to 3.5		n/a	n/a							Middle Age	Good	Dense hedge along field boundary. Good growth. Healthy looking plants. No major defects present		n/a	n/a
H62	Dogwood species, Hawthorn species, Common ash, Blackthorn, Elder	2 to 5		n/a	n/a							Middle Age	Good	Mixed native hedgerow along field boundary. Vigorous growth		n/a	n/a
H63	Field maple, Dogwood species, Hawthorn species, Blackthorn	2 to 4		n/a	n/a							Middle Age	Good	Mixed native hedgerow along field boundary.		n/a	n/a
H64	Common hazel, Common hawthorn, Blackthorn	3 to 5	0.5	n/a	n/a							Middle Age	Fair	Shrubby roadside hedge		n/a	n/a
H65	Common hawthorn, Blackthorn	2 to 4	0.5	n/a	n/a							Middle Age	Fair	Road and field side boundary hedge. Small gaps in places		n/a	n/a
H66	Common hawthorn, Common ash, Blackthorn	1.5 to 2		n/a	n/a							Middle Age	Good	Partially managed boundary hedge		n/a	n/a
H67	Field maple, Common hazel, Common hawthorn, Blackthorn	3 to 5		n/a	n/a							Middle Age	Fair	Field boundary hedge. Well managed to sides. Gappy		n/a	n/a
H68	Field maple, Wych elm	3 to 3.5		n/a	n/a							Middle Age	Good	Part maintained roadside hedge		n/a	n/a
H69	Field maple, Common hazel, Hawthorn species, Common ash, Blackthorn	1 to 4		n/a	n/a							Middle Age	Good	Mixed native hedge to field boundary. Patchy in some places but generally vigorous growth.		n/a	n/a
H73	Blackthorn	3 to 4		n/a	n/a							Middle Age	Good	Part maintained boundary hedge adding edge of access track		n/a	n/a
H74	Blackthorn	2.5 to 4		n/a	n/a							Middle Age	Good	Well maintained inner fields boundary hedge with some gaps for access between fields		n/a	n/a
H75	Blackthorn	2.5 to 4		n/a	n/a							Middle Age	Good	Well maintained inner field boundary hedge.		n/a	n/a
H76	Common hazel, Blackthorn, Dog rose, Common willow	3 to 5		n/a	n/a							Middle Age	Fair	Unkempt field boundary hedge along ditch and fence line		n/a	n/a
H77	Common dogwood, Common hawthorn, Common ash, Blackthorn, Garden privet	2 to 2		n/a	n/a							Middle Age	Fair	Roadside hedgerow. Partially managed		n/a	n/a
H78	Field maple, Common hazel, Hawthorn species, Spindle tree species, Common ash, Privet species, Blackthorn	2.5 to 3.5		n/a	n/a							Middle Age	Good	Dense mixed native hedgerow along field boundary. Vigorous growth.		n/a	n/a
H79	Field maple, Common dogwood, Common hawthorn, Common ash, Blackthorn	1.5 to 2.5		n/a	n/a							Middle Age	Good	Partially managed field boundary hedgerow		n/a	n/a
H80	Field maple, Common hazel, Common hawthorn, Blackthorn	1 to 2.5		n/a	n/a							Middle Age	Fair	Unmanaged fragmentary hedgerow		n/a	n/a
H81	Common dogwood, Common hawthorn, Common ash, Blackthorn	1.5 to 2		n/a	n/a							Middle Age	Good	Partially managed boundary hedge		n/a	n/a
H82	Common dogwood, Hawthorn species, Blackthorn	2 to 3		n/a	n/a							Middle Age	Good	Dense mixed native hedgerow along field edge. Vigorous growth. Patchy under oak tree.		n/a	n/a
H83	Sycamore, Common ash, Blackthorn	2 to 3.5	0.5	n/a	n/a							Middle Age	Good	Possibly former row of trees now a well managed roadside hedge		n/a	n/a
H84	Field maple, Common hawthorn, Blackthorn	1 to 3		n/a	n/a							Middle Age	Fair	Unmanaged and fragmentary field boundary hedge		n/a	n/a
H85	Dogwood species, Hawthorn species, Blackthorn	1.5 to 3		n/a	n/a							Middle Age	Good	Dense native mixed hedgerow along field boundary. Vigorous growth. Patchy under oaks.		n/a	n/a
H86	Blackthorn	1 to 1.5		n/a	n/a							Middle Age	Good	Well maintained field boundary hedge		n/a	n/a
H87	Blackthorn	1.5 to 2		n/a	n/a							Middle Age	Fair	Gappy field boundary hedge		n/a	n/a
H88	Blackthorn	3 to 3		n/a	n/a							Middle Age	Good	Dense blackthorn hedge along field boundary. Suckering into adjacent field.		n/a	n/a
H89	Common hawthorn, Blackthorn	2 to 3		n/a	n/a							Mature	Fair	Heavily outgrown boundary hedge. Deliberately unmanaged for habitat		n/a	n/a
H92	Blackthorn	2 to 2		n/a	n/a							Middle Age	Good	Maintained hedgerow		n/a	n/a
H94	Field maple, Common hawthorn, Privet species, Blackthorn	2 to 2		n/a	n/a							Middle Age	Fair	Outgrown boundary hedge		n/a	n/a
H95	Common dogwood, Common hazel, Blackthorn	2 to 3		n/a	n/a							Middle Age	Good	Native mixed hedge to field boundary. Vigorous growth.		n/a	n/a

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		(m)	(m)	(mm)	arising below 1.5m	(m)	(m)	(m)	(m)	(m)	(N,S,E,W)	Young, Middle Age, Mature	Good, Fair, Poor, Veteran			A,B,C,U (1,2,3)	Long, Medium, Short, Very Short
H96	Field maple, Common dogwood, Common hazel, Common ash, Blackthorn, Elder	3 to 3.5		n/a	n/a							Middle Age	Good	Native mixed hedgerow along field boundary. Vigorous growth.		n/a	n/a
H100	Blackthorn	3 to 3.5		n/a	n/a							Middle Age	Good	Dense blackthorn hedge along field boundary. Vigorous growth.		n/a	n/a
H101	Field maple, Hawthorn species, Spindle tree species, Common ash, English holly, Blackthorn	1 to 5		n/a	n/a							Middle Age	Good	Semi managed hedgerow along access road underneath line of oaks.		n/a	n/a
H102	Field maple, Hawthorn species, Spindle tree species, Blackthorn, Pedunculate oak	3 to 3.5		n/a	n/a							Middle Age	Good	Native mixed hedgerow along access found to field boundary.		n/a	n/a
H103	Field maple, Butterfly bush species, Common dogwood, Common hawthorn	2 to 2		n/a	n/a							Middle Age	Good	Partially maintained garden hedge		n/a	n/a
H104	Field maple, Common hawthorn, Blackthorn, English elm	2 to 5		n/a	n/a							Middle Age	Fair	Maintained hedge with outgrown emergent elms and field maple		n/a	n/a
H105	Field maple, Common hawthorn, Blackthorn, Pedunculate oak	3 to 3.5		n/a	n/a							Middle Age	Good	Native mixed hedgerow along access road and field boundary.		n/a	n/a
H106	Field maple, Common dogwood, Common hawthorn, Common ash, Blackthorn, Pedunculate oak	1.5 to 2.5		n/a	n/a							Middle Age	Good	Well maintained boundary hedge		n/a	n/a
H107	Field maple, Common dogwood, Common hawthorn, Common ash, Blackthorn, Pedunculate oak	2 to 3		n/a	n/a							Middle Age	Good	Well maintained boundary hedgerow		n/a	n/a
H115	Field maple, Hawthorn species, Spindle tree species, Blackthorn	2 to 2.5		n/a	n/a							Middle Age	Fair	Mixed native hedgerow to field boundary. Patchy area under oak.		n/a	n/a
H116	Field maple, Spindle tree species, Blackthorn, Pedunculate oak	3 to 6		n/a	n/a							Middle Age	Fair	Mixed native field boundary hedgerow. Out of management. Some emergent oak and field maple.		n/a	n/a
H117	Field maple, Common hawthorn, Blackthorn	2 to 2.5		n/a	n/a							Middle Age	Fair	Managed mixed native hedgerow along field boundary with some small emergent field maple. Vigorous growth.		n/a	n/a
H121	Field maple, Common hawthorn, Common ash, English holly, Blackthorn, Pedunculate oak, Goat willow	2 to 2.5		n/a	n/a							Middle Age	Good	Well maintained boundary hedge		n/a	n/a
H122	Field maple, Common hawthorn, Spindle, Common ash, English holly, Blackthorn, Pedunculate oak, Goat willow	2 to 2.5		n/a	n/a							Mature	Good	Partially maintained mature hedge		n/a	n/a
H124	Common hazel, Common hawthorn, Wild privet	2 to 4		n/a	n/a							Mature	Good	Partially maintained mature hedge. Occasional outgrown tree		n/a	n/a
H125	Field maple, Common hawthorn, Wild privet, Blackthorn, Pedunculate oak, Crack willow	2 to 2.5		n/a	n/a							Mature	Good	Maintained mature hedge. Some large stems		n/a	n/a
H127	Field maple, Common hawthorn, Common ash, Wild privet, Blackthorn, Pedunculate oak	2 to 4		n/a	n/a							Mature	Good	Partially managed mature hedge. Some outgrown trees		n/a	n/a
H129	Field maple, Common dogwood, Common hawthorn, Common ash, Blackthorn	2 to 4		n/a	n/a							Middle Age	Fair	Fragmentary unmanaged hedgerow. Outgrown field maple		n/a	n/a
H130	Sycamore, Hawthorn species, Blackthorn, Elder	3 to 4		n/a	n/a							Middle Age	Fair	Overgrown mixed hedgerow along field boundary. Vigorous growth.		n/a	n/a
H131	Common hawthorn, Blackthorn	1.5 to 3		n/a	n/a							Middle Age	Fair	Partially managed boundary hedge		n/a	n/a
H132	Field maple, Hawthorn species, Leyland cypress, Privet species, Elder	2.5 to 2.8		n/a	n/a							Middle Age	Good	Managed hedgerow along road and private boundary.		n/a	n/a
H133	Field maple, Common hawthorn, Common ash, Blackthorn	1.5 to 1.5		n/a	n/a							Middle Age	Good	Well managed roadside hedge. Recently flailed		n/a	n/a
H134	Field maple, Hawthorn species, Common ash, Blackthorn, Elder	1 to 1.5		n/a	n/a							Middle Age	Fair	Mixed native managed hedgerow along road. Adjacent to public footpath. Patchy growth in some areas. Overgrown by brambles in some areas. Recently cut.		n/a	n/a

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H135	Field maple, Common dogwood, Common hazel, Hawthorn species, Holly species, Blackthorn	1 to 2		n/a	n/a							Middle Age	Fair	Managed mixed native hedgerow along public footpath and field boundary. General vigour with some patchy areas.		n/a	n/a
H136	Sycamore, Lawson cypress, Common hawthorn, Common ash, Cherry laurel, Goat willow, Garden privet	2 to 3	0.5	n/a	n/a							Mature	Fair	Mixed boundary hedge. Some overpruning of cypress		n/a	n/a
H142	Common hawthorn, Blackthorn	2.5 to 3.5		n/a	n/a							Middle Age	Good	Dense and slightly outgrown hedgerow adjacent to access track.		n/a	n/a
H143	Common hawthorn, Blackthorn, Dog rose	2.5 to 3		n/a	n/a							Middle Age	Good	Dense and slightly outgrown hedgerow adjacent to access track.		n/a	n/a
H144	Common hawthorn, Cypress species, Blackthorn	1.5 to 1.5		n/a	n/a							Middle Age	Good	Well maintained hedgerow adjacent to access track in front of garden.		n/a	n/a
H145	Common hawthorn, Blackthorn	1 to 2		n/a	n/a							Middle Age	Fair	Largely intact with a few small gaps.		n/a	n/a
H146	Common hazel, Common hawthorn, Common ash, Privet species	1.5 to 2		n/a	n/a							Middle Age	Good	Maintained boundary hedge adjacent to access track. Some parts overgrown by bramble and honeysuckle.		n/a	n/a
H147	Pedunculate oak	1.5 to 1.5		n/a	n/a							Middle Age	Good	Small section of maintained oak hedge. Mildew evident on leaves.		n/a	n/a
H148	Field maple, Common hazel, Common hawthorn, Blackthorn	3 to 5		n/a	n/a							Middle Age	Good	Outgrown trackside hedgerow.		n/a	n/a
H149	Common hazel, Common hawthorn, Blackthorn, Grey willow	3 to 5		n/a	n/a							Middle Age	Good	Outgrown trackside hedgerow.		n/a	n/a
H150	Field maple, Common hawthorn, Blackthorn	2.5 to 3.5		n/a	n/a							Middle Age	Good	Outgrown trackside hedgerow.		n/a	n/a
H151	Field maple, Common hawthorn, Blackthorn	2.5 to 3.5		n/a	n/a							Middle Age	Good	Outgrown trackside hedgerow.		n/a	n/a
H152	Field maple, Common hawthorn, Blackthorn, Grey willow	1 to 2		n/a	n/a							Middle Age	Fair	Largely intact with a few small gaps.		n/a	n/a
H153	Field maple, Common hawthorn, Blackthorn	1 to 2		n/a	n/a							Middle Age	Fair	Largely intact with a few small gaps.		n/a	n/a
H154	Common hazel, Common hawthorn, Blackthorn	1.5 to 3		n/a	n/a							Middle Age	Fair	Largely intact with a few small gaps. Predominantly Hazel.		n/a	n/a
H157	Field maple, Dogwood species, Common hawthorn, Blackthorn, Pedunculate oak, Goat willow	3 to 4	0.5	n/a	n/a							Middle Age	Good	Slightly outgrown field boundary hedge that has fairly recently been planted with most trees still protected by spiral guards.		n/a	n/a
H158	Common hawthorn	1.5 to 2		n/a	n/a							Middle Age	Good	Well maintained boundary hedge.		n/a	n/a
H159	Common hawthorn, Privet species, Blackthorn, Elm species, Damson	1.5 to 2		n/a	n/a							Middle Age	Good	Well maintained boundary hedge.		n/a	n/a
H160	Field maple, Common hawthorn, Common ash, Blackthorn, Wych elm	2.5 to 5		n/a	n/a							Middle Age	Fair	Mixed species roadside hedge. Some dieback evident in ash trees and some elms. Some trees a little outgrown but managed as a tall boundary hedge.		n/a	n/a
H161	Field maple, Common hawthorn, Common ash, Blackthorn, Wych elm	2.5 to 5		n/a	n/a							Middle Age	Fair	Mixed species roadside hedge. Some dieback evident in ash trees and some elms. Some trees a little outgrown but managed as a tall boundary hedge.		n/a	n/a
H162	Privet species	2 to 2		n/a	n/a							Middle Age	Good	Well maintained garden boundary hedge.		n/a	n/a
H163	Field maple, Common hazel, Common hawthorn, Blackthorn, Dog rose, Elm species	2.5 to 3.5		n/a	n/a							Middle Age	Good	Slightly outgrown but generally maintained trackside hedgerow adjacent to ditch.		n/a	n/a
H164	Common hawthorn, Elder	1.5 to 2		n/a	n/a							Middle Age	Fair	Predominantly bramble.		n/a	n/a
H165	Common hazel, Common hawthorn, Blackthorn	1.5 to 1.5		n/a	n/a							Middle Age	Good	Well maintained field boundary hedge on slope. Recently cut.		n/a	n/a
H166	Elder, Elm species	2 to 3		n/a	n/a							Middle Age	Good	Slightly outgrown boundary hedge adjacent to PRoW.		n/a	n/a
H167	Elder, Wych elm	2 to 2.5	0.5	n/a	n/a							Middle Age	Good	Predominantly elm with the occasional elder. A few small gaps towards Southern end.		n/a	n/a
H168	Yew	2 to 3		n/a	n/a							Middle Age	Good	Short stretch of outgrown hedge adjacent to track.		n/a	n/a
H169	Common ash, Blackthorn	1.5 to 2		n/a	n/a							Middle Age	Fair	Short stretch of outgrown hedge adjacent to informal track. Heavily overthrown by bramble in places.		n/a	n/a
H170	Common hawthorn, Blackthorn	1.5 to 2		n/a	n/a							Middle Age	Good	Slightly outgrown field boundary hedgerow adjacent to soft textile track.		n/a	n/a

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H171	Common hazel, Common hawthorn, Common ash, Blackthorn, Elder, Wych elm	1 to 2.5		n/a	n/a							Middle Age	Fair	Intermittently managed hedge with parts smothered by bramble.		n/a	n/a
H172	Privet species	2.5 to 2.5		n/a	n/a							Middle Age	Good	Also spotted laurel. Maintained shrubby hedgerow adjacent to road and metal boundary fence.		n/a	n/a
H201	Field maple, Sycamore, Hawthorn species, Blackthorn, Elm species	2 to 3		n/a	n/a							Middle Age	Good	Mixed native field boundary hedge, good vigour.		n/a	n/a
H202	Field maple, Sycamore, Hawthorn species, Blackthorn, Elm species	2 to 3		n/a	n/a							Middle Age	Good	Mixed native field boundary hedge, good vigour.		n/a	n/a
H203	Hawthorn species, Blackthorn	1 to 1.5		n/a	n/a							Middle Age	Fair	Low, managed hedge along located to field boundary along driveway. Some bramble growth.		n/a	n/a
H204	Barberry species	1.5 to 2		n/a	n/a							Middle Age	Good	Wide ornamental hedge adjacent to driveway, good vigour.		n/a	n/a
H205	Cherry laurel	0.5 to 1		n/a	n/a							Young	Good	New Roadside hedge planting		n/a	n/a
H206	Field maple, Common dogwood, Common hawthorn, Blackthorn	1.5 to 2.5		n/a	n/a							Middle Age	Good	Mixed native field boundary hedge, good vigour.		n/a	n/a
H207	Field maple, Sycamore, Hawthorn species, Common ash, Blackthorn, Elm species	2 to 3		n/a	n/a							Middle Age	Good	Mixed native field boundary hedge, good vigour.		n/a	n/a
H208	Field maple, Sycamore, Common dogwood, Common hawthorn, Blackthorn	1.5 to 2.5		n/a	n/a							Middle Age	Good	Mixed native field boundary hedge, good vigour.		n/a	n/a
H209	Common hawthorn, Blackthorn, Elder	1 to 1		n/a	n/a							Middle Age	Fair	Recently flailed hedge		n/a	n/a
H210	Sycamore, Common hawthorn, Common ash, Blackthorn, Pedunculate oak, Elder, English elm	1.5 to 3		n/a	n/a							Mature	Good	Well maintained mature hedgerow with some large stems		n/a	n/a
H211	Wych elm	2 to 2.5		n/a	n/a							Middle Age	Good	Well maintained hedgerow along edge of access track		n/a	n/a
H212	Wych elm	2 to 2.5		n/a	n/a							Middle Age	Good	Well maintained hedgerow along edge of access track.		n/a	n/a
H213	Wych elm	1 to 1.5		n/a	n/a							Middle Age	Good	Well maintained field and trackside boundary hedge		n/a	n/a
H214	Wych elm	1 to 1.5		n/a	n/a							Middle Age	Good	Well maintained field and trackside boundary hedge		n/a	n/a
H215	Wych elm	1 to 3		n/a	n/a							Middle Age	Fair	Field boundary hedge with some small outgrown sections that could be brought back into management		n/a	n/a
H216	Blackthorn, Wych elm	1 to 1.5		n/a	n/a							Middle Age	Good	Well maintained field boundary hedge		n/a	n/a
H217	Field maple, Blackthorn, Wych elm	1 to 1.5		n/a	n/a							Middle Age	Good	Well maintained field boundary hedge		n/a	n/a
H218	Common hawthorn, Blackthorn, Elm species	1.5 to 3		n/a	n/a							Middle Age	Fair	Field boundary hedge adjacent to road. Partially managed. Vigorous new growth. Some dead elm present.		n/a	n/a
H219	Field maple, Common dogwood, Common hawthorn, Spindle, Elder, English elm	2 to 3	0.5	n/a	n/a							Mature	Good	Well maintained mature boundary hedge. Some large stems		n/a	n/a
H221	Common hawthorn, Blackthorn	1.5 to 2		n/a	n/a							Middle Age	Good	Well maintained field boundary hedge		n/a	n/a
H222	Common hawthorn, Blackthorn	1.5 to 2		n/a	n/a							Middle Age	Good	Well maintained field boundary hedge.		n/a	n/a
H223	Common dogwood, Common hazel, Common hawthorn, Spindle tree species	2 to 3		n/a	n/a							Middle Age	Good	Dense mixed hedge located along road. Good vigour.		n/a	n/a
H224	Common hawthorn, Blackthorn	1.5 to 2	0.5	n/a	n/a							Middle Age	Fair	Part maintained and not stock proof field boundary hedge supplemented with post and wire fence		n/a	n/a
H225	Common hawthorn, Blackthorn	1.5 to 2.5		n/a	n/a							Middle Age	Fair	Unkempt field boundary hedge with occasional gaps to south		n/a	n/a
H226	Field maple, Common dogwood, Common hazel, Common hawthorn, Common ash, English holly, Blackthorn, Elder	1.5 to 3		n/a	n/a							Middle Age	Fair	Partially maintained roadside hedge. Somewhat outgrown		n/a	n/a
H227	Common hawthorn, Blackthorn	2 to 3.5		n/a	n/a							Mature	Fair	Large, laid and unkempt field boundary hedge along sloped ground.		n/a	n/a
H228	Common hazel, Common hawthorn	2 to 3.5		n/a	n/a							Middle Age	Good	Dense, managed hedge located along field boundary. Good vigour.		n/a	n/a
H229	Common hawthorn, Blackthorn	1.5 to 1.5		n/a	n/a							Middle Age	Good	Well maintained field boundary hedge		n/a	n/a
H230	Common hawthorn, Blackthorn	1 to 1.5		n/a	n/a							Middle Age	Good	Well maintained field boundary hedge		n/a	n/a
H231	Common hawthorn, Blackthorn	1 to 1.5		n/a	n/a							Middle Age	Good	Well maintained field boundary hedge		n/a	n/a

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H232	Common hawthorn, Blackthorn	1.5 to 2		n/a	n/a							Mature	Good	Well maintained field and farm track boundary hedge. Becomes predominantly double hedgerow either side of disused access track.		n/a	n/a
H233	Common hawthorn	1.5 to 2		n/a	n/a							Middle Age	Fair	Ivy covered hedgerow adjacent farm track		n/a	n/a
H234	Common hawthorn, Blackthorn	2 to 3		n/a	n/a							Middle Age	Good	Well maintained third party garden hedge		n/a	n/a
H235	Field maple, Common hazel, Common hawthorn, Blackthorn	1.5 to 2.5		n/a	n/a							Middle Age	Good	Well maintained hedgerow either side of farm access track		n/a	n/a
H236	Field maple, Common hawthorn, Blackthorn	1 to 1.5		n/a	n/a							Middle Age	Good	Well maintained roadside hedge		n/a	n/a
H237	Common hazel, Common ash, English holly	1.5 to 2.5		n/a	n/a							Middle Age	Fair	Unmaintained boundary hedge		n/a	n/a
H238	Field maple, Common hazel, English holly, Blackthorn	3 to 3.5	1.0	n/a	n/a							Mature	Good	Large hedge comprising mainly coppiced Hazel. Dense boundary feature		n/a	n/a
H239	Common dogwood, Common hawthorn, Spindle, English holly	2 to 3	0.5	n/a	n/a							Mature	Fair	Outgrown gappy hedge. Some large stems		n/a	n/a
H247	Common hazel, Common hawthorn, English holly, Privet species	3 to 4		n/a	n/a							Middle Age	Fair	Managed hedgerow along road, adjacent to footpath. Generally good vigour. Some ivy and bramble growth.		n/a	n/a
H248	Cypress species	3 to 5	1.8	n/a	n/a							Middle Age	Fair	Conifer hedge along private boundary behind fence. Hedge has been topped leaving woody growth.		n/a	n/a
H249	Horse chestnut, Common hawthorn, Common ash, English elm	1.5 to 1.5		n/a	n/a							Middle Age	Good	Maintained boundary hedgerow. Occasional outgrown areas		n/a	n/a
H250	Common hazel, Common beech, English holly, Honeysuckle species, Portugal laurel, Elder, English elm	1 to 3		n/a	n/a							Middle Age	Good	Well managed garden hedges		n/a	n/a
H251	Field maple, Common hazel, Common hawthorn, Blackthorn, Elm species	3 to 3.5		n/a	n/a							Middle Age	Good	Dense mixed native hedgerow located along access road. Good vigour.		n/a	n/a
H252	Common ash, Blackthorn	1 to 1.5		n/a	n/a							Middle Age	Fair	Low managed hedge along field boundary adjacent to access road. Predominantly bramble growth to Northern end.		n/a	n/a
H253	Field maple, Common hawthorn, Spindle, Blackthorn	1.75 to 2.5		n/a	n/a							Middle Age	Good	Managed mixed native hedgerow along field boundary and farmyard, adjacent to access road. Generally good vigour.		n/a	n/a
H254	Blackthorn	2 to 3		n/a	n/a							Middle Age	Fair	Blackthorn hedge located along access road. Vigorous new growth.		n/a	n/a
H255	Leyland cypress	1.75 to 2		n/a	n/a							Middle Age	Good	Dense hedge located along private boundary, adjacent to access road. Good vigour.		n/a	n/a
H256	Common hazel, Blackthorn	1.5 to 1.5		n/a	n/a							Middle Age	Fair	Very Broad well maintained hedge. Northern part mainly brambles		n/a	n/a
H257	Common hazel	2 to 2		n/a	n/a							Mature	Good	Large well maintained hedge. Some large stems		n/a	n/a
H258	Common dogwood, Common hazel, Common hawthorn	1 to 2		n/a	n/a							Middle Age	Fair	Mixed native hedge located along access road. Patchy growth. Some ivy and bramble growth.		n/a	n/a
H261	Field maple, Common hawthorn	2 to 2.5		n/a	n/a							Middle Age	Good	Mixed native hedgerow located along private access track. Good vigour.		n/a	n/a
H262	Blackthorn	2 to 2.5		n/a	n/a							Middle Age	Fair	Managed blackthorn hedge located along private access track. Generally good vigour.		n/a	n/a
H263	Common hazel, Hawthorn species, Blackthorn, Elm species	2 to 5		n/a	n/a							Middle Age	Good	Managed mixed native hedgerow along field boundary. Section of hedge has grown out at Southern end. Good vigour.		n/a	n/a
H264	Field maple, Common hazel, Common hawthorn, Blackthorn, English elm	1.5 to 1.5		n/a	n/a							Mature	Good	Well managed boundary hedge. Some large stems		n/a	n/a
H265	Wych elm	35 to 3	0.5	n/a	n/a							Mature	Poor	Unmanaged and unkempt roadside boundary hedge.		n/a	n/a
H271	Field maple, Norway maple, Common alder, Common dogwood, Common hazel, Spindle, Common beech, Privet species, Pedunculata oak, Willow species, Elm species	2.5 to 6		n/a	n/a							Middle Age	Good	Mixed hedge along field boundary with emerging shrubby trees. Good vigour.		n/a	n/a

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Feature references do not always run sequentially due to Order Limits evolution

Ref	Species	Height	Canopy Ground Clearance	Stem Diameter (or range)	No. of stems/ individuals	Crown Spread North	Crown Spread South	Crown Spread East	Crown Spread West	Lowest Branch Height	Lowest Branch Direction	Maturity	Condition	Comments on form, condition, health and significant defects	Management recommendations in current context	BS 5837 Quality Category	Estimated Remaining Contribution
		(m)	(m)	(mm)	arising below 1.5m	(m)	(m)	(m)	(m)	(m)	(N,S,E,W)	Young, Middle Age, Mature	Good, Fair, Poor, Veteran			A,B,C,U (1,2,3)	Long, Medium, Short, Very Short
H272	Field maple, Norway maple, Common alder, Common dogwood, Common hazel, Spindle, Common beech, Privet species, Pedunculate oak, Willow species, Elm species	2.5 to 6		n/a	n/a							Middle Age	Good	Mixed hedge along field boundary with emerging shrubby trees. Good vigour. Area of patchy cover to North Eastern corner of field.		n/a	n/a
H273	Wych elm	2.5 to 3	0.5	n/a	n/a							Middle Age	Fair	Unkempt roadside boundary hedge.		n/a	n/a
H274	Common hawthorn, Blackthorn	2 to 3.5		n/a	n/a							Middle Age	Fair	Unmanaged field boundary hedgerow.		n/a	n/a
H275	Blackthorn	1.5 to 2.5		n/a	n/a							Middle Age	Fair	Dense blackthorn field boundary hedgerow.		n/a	n/a
H276	Common hazel, Common ash, English holly, Elm species	2 to 4		n/a	n/a							Middle Age	Fair	Predominantly managed Hazel hedgerow with occasional emergent shrubby trees.		n/a	n/a
H277	Beech species	2 to 2.5	0.5	n/a	n/a							Middle Age	Good	Located to edge of driveway. Good vigour.		n/a	n/a
H278	Common hazel, Pedunculate oak	3 to 4	0.5	n/a	n/a							Middle Age	Good	Vigorous multi-stemmed hazel field boundary hedgerow. Currently out of management.		n/a	n/a
H280	Common hawthorn	2 to 2.5	0.5	n/a	n/a							Middle Age	Good	Well maintained field boundary hedge		n/a	n/a
H281	Common beech, Garden privet	2.5 to 2.5	0.5	n/a	n/a							Middle Age	Good	Well maintained hedge. Predominantly beech with occasional privet patches.		n/a	n/a
H282	Common beech, Elder	2.5 to 2.5		n/a	n/a							Middle Age	Good	Well maintained hedge. Predominantly beech with occasional elder, ivy and bramble.		n/a	n/a
H288	Common hazel, Common hawthorn, Bird cherry, Elder	2 to 2.5		n/a	n/a							Middle Age	Good	Well maintained hedge. Previously layed.		n/a	n/a
H289	Common hawthorn	2 to 2	0.5	n/a	n/a							Young	Good	Newly planted hedge supported by post and wire fence		n/a	n/a
H290	Common hazel	2 to 2.5		n/a	n/a							Middle Age	Good	Well maintained hedge cut regularly at 2m.		n/a	n/a
H293	Common hawthorn, Wych elm	2 to 3.5	0.5	n/a	n/a							Young	Fair	Fairly newly planted hedgerow but yet unmanaged.		n/a	n/a
H298	Common hawthorn	1.5 to 2.5		n/a	n/a							Middle Age	Poor	Fragments of a defunct hedge now becoming bramble smothered in places.		n/a	n/a
H299	Common hawthorn	2 to 3	0.5	n/a	n/a							Middle Age	Good	Well maintained field boundary hedge		n/a	n/a
H300	Field maple, Common hawthorn	2 to 3	0.5	n/a	n/a							Middle Age	Good	Well maintained field boundary hedge		n/a	n/a
H301	Field maple, Common hawthorn	2 to 3	0.5	n/a	n/a							Middle Age	Good	Well maintained field boundary hedge		n/a	n/a
H302	Field maple, Common hawthorn	2 to 3	0.5	n/a	n/a							Middle Age	Good	Well maintained field boundary hedge		n/a	n/a
H303	Hawthorn species, Elm species	2 to 3	0.5	n/a	n/a							Middle Age	Fair	Field boundary hedgerow. Predominantly hawthorn. Good vigour.		n/a	n/a
H324	Common hawthorn, Dog rose	1.5 to 2		n/a	n/a							Middle Age	Good	Intact hedge.		n/a	n/a
H325	Blackthorn	2 to 3		n/a	n/a							Middle Age	Good	Two small fragments of hedge.		n/a	n/a
H328	Common hawthorn	1.5 to 2		n/a	n/a							Middle Age	Fair	Sporadic patches of maintained field boundary hedge.		n/a	n/a
H329	Common hawthorn	2 to 2		n/a	n/a							Mature	Good	Maintained field boundary hedge. Some bramble patches.		n/a	n/a
H330	Common hawthorn	2 to 2		n/a	n/a							Middle Age	Good	2 patches of hedge on field boundary. Slightly outgrown.		n/a	n/a
H331	Common hawthorn	1 to 1		n/a	n/a							Middle Age	Good	Recently laid.		n/a	n/a
H332	Field maple, Common hawthorn	2 to 2		n/a	n/a							Middle Age	Good	well managed intact hedge.		n/a	n/a
H333	Common hawthorn, Elder	2 to 2		n/a	n/a							Middle Age	Good	Well maintained intact hedge. Ivy throughout.		n/a	n/a
H334	Common hawthorn, Elder	2 to 2		n/a	n/a							Middle Age	Good	Well maintained intact hedge. Ivy throughout.		n/a	n/a
H335	Common hawthorn	2 to 2		n/a	n/a							Mature	Good	Maintained field boundary hedgerow adjacent to pavement.		n/a	n/a
H336														Not surveyed in detail due to access restrictions			
H337														Not surveyed in detail due to access restrictions			
H338														Not surveyed in detail due to access restrictions			
H339														Not surveyed in detail due to access restrictions			
H340														Not surveyed in detail due to access restrictions			
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H348														Not surveyed in detail due to access restrictions			
H349														Not surveyed in detail due to access restrictions			

Rampion 2 Wind Farm

Piling Noise and Black Bream: Further information and Response Paper



Report for

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Contents

1.	Introduction	2
1.1	Background, context and aims of this document	2
2.	Responses to key issues	6
2.1	Responses to key issues raised in consultation responses (Natural England and MMO)	6
3.	Additional information on key issues and the Rampion 2 position	10
3.1	Overview	10
3.2	Additional observations and evidence on addressing uncertainty through the application of precaution in the assessment	10
	Approach to improving the rigour of the baseline soundscape data	10
	Precaution in the modelling	11
	Context provided by data from Rampion 1	11
	Additional empirical evidence to support the efficacy of mitigation techniques	14
3.3	Concluding remarks	18
4.	References	20

Tables

Table 3-1	Maximum single strike energy used for pile installation (Rampion 1)	12
Table 3-2	Maximum single strike energy used for pile installation in the north-west area of Rampion 1	13
Table 3-3	Measured reductions for noise abatement mitigations (Kaskasi II)	15

Figures

Figure 3-1	Modelled decreases in fish disturbance impact ranges using the criteria 141 dB, when using various mitigation options, at the North West (NW) noise modelling location	17
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1. Introduction

1.1 Background, context and aims of this document

- 1.1.1 As part of the Evidence Plan Process (EPP) for the Rampion 2 offshore wind farm (Rampion 2) Development Consent Order (DCO) Application, a series of technical discussions on underwater noise arising from the construction of the project and the risk of impact to noise sensitive receptors has been undertaken between Rampion Extension Development Limited (RED) and members of the fish and shellfish ecology Expert Topic Group (ETG). Key stakeholder members of the ETG for these discussions include Natural England, the Marine Management Organisation (MMO) and Centre for Environment, Fisheries and Aquaculture Science (Cefas), and the Sussex Inshore Fisheries and Conservation Authority (Sussex IFCA).
- 1.1.2 Following the statutory consultation on the Preliminary Environmental Information Report (PEIR) in 2021 (RED, 2021), ETG members provided feedback on the need to provide further information in regard to proposed construction and mitigation approaches to reduce the potential for impact on the sensitive features identified within and adjacent to the offshore array area. RED subsequently issued a technical note on proposed underwater noise mitigation for sensitive features (RED, 2022a). This technical note provided additional information and consideration of RED's proposed approaches to offshore piling noise reduction based on further engineering design work, underwater noise modelling, continuing evaluation of ecological data and assessment of practical mitigation options. A mitigation commitment was presented to utilise one or a combination of offshore piling noise abatement technologies to reduce noise at the Kingmere Marine Conservation Zone (MCZ) to a level where the risk of impact was low enough to avoid the potential for significant effects on breeding black seabream during the spawning (nesting) season (March to July).
- 1.1.3 The proposed approaches to delivering mitigation for potentially significant effects were supported by information and examples of the types of equipment that may be used. Details of available mitigation technology were provided to evidence that the required levels of noise attenuation can be delivered (either through one of the examples given, or through other future potential mitigation technology) and that the committed measures can therefore be relied upon to avoid potentially significant effects that may arise during the spawning (nesting) period in the absence of mitigation.
- 1.1.4 Further focused ETG meetings were conducted in February and September 2022 to discuss the technical note, as well as subsequent additional modelling outputs and the results of a baseline noise monitoring survey, undertaken with the aim of providing sufficient data to reach agreement on an appropriate noise threshold upon which suitable mitigation (noise abatement and zoning) could be designed. However, concerns remain due to the lack of definitive species-specific data on the behavioural responses of black seabream to noise during the spawning period and when the males are engaged in nest-guarding/nest maintenance activity, as

set out in the February and September focused ETG meeting minutes, the full ETG meeting in May 2022, and consultation response letters received from the MMO and Natural England (most recently November 2022).

- 1.1.5 In order to design a mitigation strategy for potentially significant effects on sensitive receptors, it is important to establish a level of noise below which the risk of an effect arising is reduced to an acceptable level. In the absence of definitive empirical data, as is the case with behavioural responses of marine fish species, best use of relevant available data is required along with a proportionate level of precaution to address attendant uncertainties.
- 1.1.6 RED initially proposed the use of a behavioural disturbance threshold 147 decibels (dB) SEL_{ss}¹ as appropriate to avoid the risk of significant disturbance to the fish species. This was based on research by Radford *et al.* (2016), which showed a stress response (increased ventilation) in seabass (of the same order as seabream) to simulated pile driving noise at 147 dB SEL_{ss}. Feedback from the February (focused) and May ETG meetings indicated this was not considered sufficiently precautionary, based on the limited data and the use of a proxy species to inform black seabream response. Responding to this feedback, RED evaluated a revised and more precautionary threshold based on research by Kastelein *et al.* (2017), which concluded that seabass exhibited an initial reaction to impulsive noise at levels of 141 dB SEL_{ss}, noting that the response was short lived and further that there was no evidence for any consistent sustained response at levels up to 166 dB SEL_{ss}. The study concluded that exposure to noise at this level was unlikely to result on any adverse effects on their ecology.
- 1.1.7 The findings of Radford *et al.* (2016) and Kastelein *et al.* (2017) may be considered to be different points along a spectrum of possible behavioural effects, with Radford *et al.* (2016) finding a slight physiological stress response at 147 dB and Kastelein *et al.* (2017) finding only an initial startle response at 141 dB. It seemed reasonable to suggest that the threshold at which a behavioural response could arise might lie somewhere between 141 and 147 dB. As a result, a revised noise level at the precautionary end of this scale, 141 dB SEL_{ss}, was proposed by RED as representing a more protective disturbance threshold. Following discussion on this proposal, ETG members Natural England and the MMO (with Cefas) were still concerned about the evidence underpinning the value and associated uncertainty, preferring to maintain a piling restriction through the March to July period.
- 1.1.8 As the restriction of piling through the entirety of the March to July period has such significant issues for the practical development of Rampion 2, from the perspectives of logistics, duration of construction phase and costs, RED evaluated an alternative approach to the setting of a quantified noise threshold to inform the assessment of a behavioural-level reaction risk, proposing the development of a threshold based on defining a noise level relative to (i.e., above) the existing background (ambient) soundscape at Kingmere MCZ. There is supporting information in the literature for the importance of context (as well as physiology/anatomy) in the hearing ability and potential reactivity of fish to noise

¹ SEL_{ss} : Sound Exposure Level (single strike)

impacts (e.g. Popper and Hawkins, 2019), particularly in behavioural studies; the key distinction being the difference between background noise and the received sound of interest, often referred to as a signal-to-noise ratio. It was considered that adopting this approach could serve to reduce the uncertainty around defining a threshold based on a low number of empirical studies, the majority of which are drawn from studies on suitable proxy species, by ensuring context relevance is factored in. An additional benefit was also potentially thought to accrue from this approach in that the relative value established might also serve to corroborate quantitative thresholds derived from available species-specific studies and proxy-species research data.

- 1.1.9 From the studies reviewed, an increase of 30 dB above ambient noise levels was considered to represent an appropriate benchmark and this was used to in conjunction with existing data from measured ambient noise levels at sea at the Rampion 1 site (Collett *et al.*, 2012). The values from the Collett *et al.* (2012) study showed a baseline of 113 to 120 dB SPL_{RMS} (Collett *et al.*, 2012), which was recorded prior to wind turbine foundation installation. On this basis, 30 dB above the ambient noise at the site would therefore be 143 to 150 dB, which equates relatively closely to the thresholds for disturbance response developed from the studies noted above (i.e. 141-147 dB).
- 1.1.10 Additional information was obtained from the underwater noise monitoring survey at Kingmere MCZ in July 2022 (RED, 2022b), recording background noise levels, including SPL_{RMS} (underlying noise level) and SPL_{peak} (highest noise level within sample period) over a 15-day period, at a resolution of one minute intervals. Clear cyclical variations were evident in the data, driven by tides: the periods of high tidal flow leading to the highest background noise in a day. A typical minimum background noise level during low tidal flow periods was 103 dB SPL_{RMS}, whereas during periods of high tidal flow the background level commonly exceeded 120 dB SPL_{RMS}. Peak noise levels naturally occurring were normally in excess of 140 dB SPL_{peak} and exceeded 160 dB SPL_{peak} at multiple times on any given day.
- 1.1.11 Following presentation of this approach to developing a meaningful threshold for assessment of the risk of disturbance to black seabream based on the baseline soundscape at Kingmere in the Technical Note (RED, 2022a) and discussion at the September (focused) ETG meeting, Natural England and the MMO noted that whilst the ambient noise monitoring was considered potentially useful, there were issues in regard to the robustness of the data obtained, being collected over a relatively short period, late in the spawning season (15 days in July 2022).
- 1.1.12 Additional evidence was also requested by Natural England on the efficacy of the noise abatement mitigation measures proposed by RED.
- 1.1.13 The aim of this technical note is to provide additional responses to issues raised in the most recent correspondence following the targeted ETG meeting (September 2022), received in November 2022, ahead of a further targeted ETG meeting (March 2023). Where it has been possible, additional information is provided in respect of some of the key issues raised, as noted above, specifically:
- Approaches to dealing with uncertainty and the application of precaution in the assessment;

- Approach to improving the rigour of the baseline soundscape data;
- Additional context from Rampion 1 construction; and
- Additional empirical evidence to support the efficacy of mitigation techniques.

2. Responses to key issues

2.1 Responses to key issues raised in consultation responses (Natural England and MMO)

- 2.1.1 In its letter (dated 2 November 2022), Natural England noted that the black seabream population will include larval stage fish and eggs, but the assessment considers solely adult fish. RED would clarify that the behavioural assessments presented in the recent technical notes focus on adult fish, however potential impacts to larvae and eggs are considered within the DCO Application Environmental Statement (ES). The ES draws upon available studies and information sources, notably Popper *et al.* (2014), which notes the literature available for larvae and eggs, albeit limited, shows that their relative risk is “low” at distances from the order of hundreds of metres for all impacts from behavioural effects to mortality.
- 2.1.2 Natural England notes that piling noise over an extended period could lead to increased stress or changes in hearing response (i.e., Temporary Threshold Shift (TTS)). This is acknowledged as a reasonable assertion, however again RED would highlight that the focus of the current discussions (and recent underwater noise assessment) on black sea bream is the identification of a risk of disturbance effect. The ES has included consideration of higher noise levels arising from piling and the potential effects that might accrue from exposure to these. It is important to highlight that at lower noise levels, such as those modelled at the Kingmere MCZ assuming a mitigation strategy can be agreed, long term exposure also has the potential to result in habituation to noise immersion; in fact this is quite typical for long term exposures to relatively low-level noise. A primary driver for the current discussions is the assessment of mitigation options to identify a threshold that would reduce the risk of disturbance from an acute stressor, and the expectation is that a reaction to a chronic exposure would therefore also be minimised. The proposed mitigation is targeted to avoid noise immersion levels that could trigger a behavioural response, well below levels at which one might anticipate changes in hearing response or, given the propensity for fish to habituate to low level chronic noise exposure, physiological stress that could adversely affect reproduction effectiveness or the conservation objectives for Kingmere MCZ.
- 2.1.3 Natural England question, and the MMO informs, the differences in spawning habit between red and black seabream, with red seabream being a broadcast spawner rather than exhibiting the nesting behaviour of black seabream. RED highlights that the use of red seabream as a proxy species is centred on the anatomical similarities in terms of hearing ability; red seabream is understood to be in the same overarching hearing category as black seabream, which offers perhaps the best available information in the absence of a specific black seabream audiogram. It is reasonable to use hearing ability similarity to inform likely behavioural response to noise stimuli between the two species of seabream, however the reaction of an individual is also influenced by motivation and although no studies

to definitively evidence the reaction of nesting black seabream to noise have been identified during the literature searches, it is also reasonable to suggest that a fish that is highly motivated to remain in an area (in this instance due to the drive to defend and maintain its nest), might be expected to do so when exposed to noise at a level well below that which would cause strong reactions. RED would highlight again that the noise threshold suggested is based on a very low benchmark to ensure it will be precautionary; a level at which an increased respiratory rate might be expected rather than a flee response. Importantly, such levels are considered to be far below that at which any displacement from important spawning areas at Kingmere MCZ might be anticipated.

- 2.1.4 Natural England question the comparison of the audiogram for red seabream to European sea bass. According to Ladich and Fay (2013) (red seabream) and Nedwell *et al.* Lovell (2004) (sea bass), both species have their maximum sensitivity between 200-400 Hz, and the red seabream used as a proxy for black seabream is approximately 15 dB more sensitive than seabass at the peak frequency of sensitivity. Hearing sensitivity is not necessarily linked to a behavioural reaction, although the closer a stimulus sound is to the hearing threshold and thus absolute audibility, by definition the less likely a reaction will be. Similarly, the level of stimulus noise above the absolute hearing threshold may be less important than the level of stimulus noise above the ambient noise (i.e., if the hearing threshold is 100 dB, the ambient noise is 120 dB and the stimulus is 130 dB, the increase in noise of 10 dB is less likely to cause a reaction than an introduced sound at, for example, 30 dB above ambient).
- 2.1.5 Both Natural England and the MMO note that the background noise survey at the Kingmere MCZ was undertaken over a short period (15 days), which therefore may not be representative of conditions over the breeding season as a whole. Whilst it is agreed that the relatively short period may not robustly represent conditions across the March to July period, it does provide useful baseline information on the soundscape at Kingmere MCZ and covered a full range of tidal states (Springs and Neaps) and showed comparable levels with previous data for ambient noise levels in the area as set out in the Underwater Noise Study for Sea Bream Disturbance report (RED, 2022b). However, recognising a longer dataset would provide a more robust baseline, RED is conducting a second (repeat) noise monitoring survey from March to July this year (2023). Additionally, the longer period data collection will address the concern of the MMO in respect of the inclusion of noise arising from aggregate dredging activities at adjacent licence areas to the Kingmere MCZ. It should be noted that although these data will not be available in time for the Rampion 2 DCO Application, the data will be provided post-Application and any relevant refinement of ambient noise level assumptions will be fed into the Examination process.
- 2.1.6 Natural England request duration of the exposure to noise from various boat types. This of course varies depending on the noise level, type and speed of the boat, but typically is of the order of a few minutes each time. Longer exposures to constant, distant noise are more likely to lead to habituation than infrequent, irregular noise sources, although this is a complex relationship to calculate.
- 2.1.7 Natural England query the use of the term 'loud', and the judgement of assuming 25 dB above the hearing threshold would indeed be considered 'loud' by a bream.

It is accepted that the terminology ‘loud’ is subjective. The perception of noise as ‘loud’ does, as described earlier in this document, very much depend on context and so the assertion that the typical upper limit of noise experienced in the area (what is described in the report as a ‘loud boat’) is therefore likely to be considered ‘loud’, is probably reasonable. RED would highlight that this was merely an attempt in the report to provide some context and description (by comparison, a typical office is 50-55 dB above human hearing threshold).

- 2.1.8 Natural England query the equivalence of the piling noise measured at Burbo Bank Extension (off Liverpool Bay) to the piling that would occur at Rampion 2 (in the English Channel). Burbo Bank data were used as representing the best available data for the closest pile size and blow energy expected to be used at Rampion 2 at the time of writing. Rampion 1 noise measurement data has since been obtained and reference can therefore be made to those data in addition. The closest pile measured at Rampion 1 to the Rampion 2 site shows a noise level of 147 dB SEL_{ss} at 4 km from the pile (approximately the closest distance to the MCZ from the Rampion 2 site). The noise level at Burbo Bank was 159 dB SEL_{ss}, 12 dB higher. The comparator used (i.e., Burbo Bank) is evidently, therefore, a precautionary one (bearing in mind 3 dB is a doubling/halving in sound energy) and indications are that the ground at Rampion 2 will be much more comparable to Rampion 1 site conditions and thus the lower noise levels would be anticipated to result.
- 2.1.9 Natural England note that Kastelein *et al.* (2017) shows that a 50% reaction initial response threshold was seen at a level of 131 dB SEL_{ss} in smaller fish. This puts the level even lower than the 135 dB SEL_{ss} noise level at which Hawkins *et al.* (2014) identified for the much more sensitive clupeids studied in a quiet lough. RED would reiterate that this is an initial reaction, the reaction of concern for black seabream at Rampion 2 would need to be sufficient to elicit disturbance from an essential life activity such as nesting, to which they are likely to be highly motivated to pursue, and it is suggested that an ‘initial reaction’ in 50% of a test group should not be considered equivalent to this.
- 2.1.10 Natural England note the complexities in interpreting the results of an academic study in the context of conditions in the wild. Natural England is correct to state that long-term exposure to noise could lead to TTS rather than habituation, particle motion levels could be different close to acoustic boundaries such as the seabed (although how this affects any reaction is unknown) and the presence of increased noise could affect spawning behaviour. There is obviously uncertainty around these issues, and for each, the opposite could equally be posited, however the modelling and assessments have been undertaken on a precautionary basis to address uncertainties (see further text in **Section 3** below) and seek to consider both the ‘risk’ of an effect arising and the mitigation measures that may be applied to manage such risks to an acceptably minimal level, based on research identifying mild reactions in comparable species.
- 2.1.11 In its letter of November 2022, the MMO, advised by Cefas, also responded to the “Bream Underwater Noise Study” (RED, 2022b) issued by RED and subsequent discussion in meetings, covering several similar issues as those responded to above. These included the comparability of red sea bream to black sea bream hearing sensitivity, the duration of the background noise study, and use of the term

'loud'. The MMO makes valid points regarding the comparability of nominally similar noise levels for impulsive and continuous noise in terms of disturbance potential. It is accepted that boat noise and piling are different noise types, and impulsive noise will tend to be more disturbing than non-impulsive. With all these studies RED's aim has been to provide a report of the existing conditions. Intermittent vessel noise is the source that represents the highest typical noise levels that were present during the survey, and as such were used as the only comparison with the introduction of piling noise that is site-specific. The piling spectra themselves (as referenced from 'Figure 4') are not SELs – the SEL descriptions in the legend are just that, descriptions, to help compare to modelled piling noise levels – and give a good indication of the comparability of the noise levels and their frequency with existing noise, noting that this is not ideal and they are of different types.

- 2.1.12 The MMO has also reviewed their initial support for the 141 dB threshold, on the basis that seabass of different lengths were shown in Kastelein *et al.* (2017) to have reactions at different noise thresholds. It is unknown whether this has any relevance to seabream. Of course, the inter-species comparability of noise thresholds is the main subject of discussion in this situation, and in the absence of directly applicable research, that is, whether breeding-age seabream in the wild abandon their nests or any spawning behaviour in the presence of a certain level of piling noise, it is probably not possible to confidently resolve this to the satisfaction of all parties. However, a principal concern is the potential for noise to impact upon spawning success for the black seabream stock at Kingmere MCZ, as this would have potential attendant impacts upon the conservation objectives for the site. As such, it is likely that the most relevant receptor would be adult fish, who will be active in spawning and nesting behaviours and it is thus most relevant to focus on adults, which will be larger individuals, in the consideration of impact risk.

3. Additional information on key issues and the Rampion 2 position

3.1 Overview

- 3.1.1 As discussed in the previous sections, it is acknowledged that Natural England and the MMO (as advised by Cefas) continue to have concerns regarding the potential of subsea piling noise to disturb black seabream within the Kingmere MCZ during the breeding season (March to July).
- 3.1.2 In acknowledging the risk to black seabream nesting, RED has set out mitigation to minimise underwater noise through direct noise abatement technologies and the zoning of piling activities during the March to July period, ensuring that sufficient separation is maintained to reduce any risk level of noise received at Kingmere MCZ below that at which a material response reaction would be anticipated.

3.2 Additional observations and evidence on addressing uncertainty through the application of precaution in the assessment

Approach to improving the rigour of the baseline soundscape data

- 3.2.1 As noted in **Section 1**, a background underwater noise monitoring survey was undertaken at the Kingmere MCZ in July 2022 in order to establish a baseline soundscape at the MCZ. The aim was to utilise these data in the evaluation, or setting, of a threshold for behavioural disturbance for black seabream. Although the survey collected data over a short (15 day) period towards the end of the spawning season, the data obtained provided information across a full range of neap and tidal states and thus provided potentially useful, and importantly site-specific, information on ambient conditions at the MCZ. Additionally, conditions during the survey were fairly calm and therefore captured a relatively low ambient noise for the area and as such was considered to represent a relatively good worst case for comparison with introduced noise levels.
- 3.2.2 However, ETG feedback received was clear in that the duration of the monitoring was too short to be a reliable representation of the soundscape at Kingmere during the spawning (nesting) season. As a result, RED have commissioned further continuous monitoring at the same location through the March to July period in 2023. The aim of this work is to provide for a longer period of monitoring to provide the insight into variations, maxima and minima of ambient noise levels in the vicinity of the MCZ and provide a more robust basis for developing and supporting an acceptable disturbance threshold for black seabream, specifically relevant to the Kingmere MCZ site.

Precaution in the modelling

- 3.2.3 It is important to highlight that the assessment of underwater noise has been undertaken using highly precautionary parameters, with the INSPIRE model used in the modelling using worst case maximum blow energies, pile diameters and drive times, which when layered together produce a highly conservative (i.e., extreme worst-case) scenario; a scenario considered highly unlikely to occur in practice.
- 3.2.4 In practice, when undertaking foundation installation, hammer energies will always commence at a low energy level and gradually increase as the pile is driven further into the seabed and as a result, the actual risk level, particularly in terms of cumulative exposure, is likely to be less than has been predicted by the model. If the pile is successfully installed at a lower hammer energy (as seems likely to be the case at Rampion 2 based on previous experience at Rampion 1 (see below)), then the higher energies would not be needed or employed. Using only the hammer energy required (rather than the maximum permitted) also delivers benefits to the Project as, from the design parameters of the steel piles themselves; each pile is engineered to withstand a finite number of blows during installation to maintain its structural integrity and long-term fatigue characteristics in supporting the turbine structure for the operational phase of the Proposed Development. The use of lower than maximum hammer energies therefore causes less fatigue in the pile and maximises operational lifespan. Even so, should the higher hammer energies be required for an individual pile, this energy level would only be used for a small percentage of the total piling time. The actual noise impact risk is thus clearly likely to be less than has been predicted by the model. The principal consideration here is that modelling at peak hammer energies provides a precautionary depiction of noise propagation radius and therefore of potential impact risk.

Context provided by data from Rampion 1

- 3.2.5 The precaution built-in to the predictive modelling of noise levels arising from piling, being based on a worst-case scenario, is evident from the adjacent Rampion 1 construction.
- 3.2.6 For Rampion 2, modelling has been undertaken using a maximum hammer blow energy of 4400 kJ for a 12 m diameter monopile and 2500 kJ for a 3 m diameter pin pile. These parameters, along with the water depth at and surrounding the pile, are the most critical to the level of underwater noise generated, with the deepest water leading to higher noise levels. In comparison, Rampion 1 used a maximum hammer energy in the modelling of 2500 kJ (subsequently varied in April 2015 to 3500 kJ) for 5 m diameter monopiles.
- 3.2.7 The piling log data for Rampion 1 is summarised below in **Table 3-1**. From these data it is clear that the vast majority of foundations were installed using hammer energies far below the maximum case modelled.

Table 3-1 Maximum single strike energy used for pile installation (Rampion 1)

Blow Energy (kJ)	Count	Percentage
<500	3	2.6%
500-750	17	14.7%
750-1000	16	13.8%
1000-1250	12	10.3%
1250-1500	22	19.0%
1500-1750	12	10.3%
1750-2000	15	12.9%
2000-2250	11	9.5%
2250-2500	4	3.4%
2500-2750	2	1.7%
2750-3000	2	1.7%
>3000	0	0%

3.2.8 The Rampion 1 data also provides informative data on the nature of the seabed in closest proximity to Kingmere MCZ, where piling activities potentially pose the greatest risk of noise-induced impacts to nesting black seabream. A subset of the piling log data presented above has been generated for the northwest corner of the Rampion 1 site (29 of 116 piles; 25% of the foundations), closest to both the Rampion 2 site and the Kingmere MCZ as shown below in **Table 3-2**.

Table 3-2 Maximum single strike energy used for pile installation in the north-west area of Rampion 1

Blow Energy (kJ)	Count	Percentage
<500	1	3%
500-749	17	59%
750-999	4	14%
1000-1249	3	10%
1250-1499	2	7%
1500-1749	0	0%
>1750	2	7%

- 3.2.9 The lower blow energies for successful installation of piles in this area than was modelled within the Rampion 1 ES is even more apparent). Some 86% of piles in this corner of the Rampion 1 site required less than 1250 kJ of energy at maximum, for the 5 m diameter piles. Most, 62%, required less than 750 kJ. Accepting that there is likely to be variation in hardness of ground types, sediment and substrate in the region, comparable ground type is expected across the Rampion 2 site closest to the MCZ, and although the maximum hammer energy at Rampion 2 has been modelled at 4400 kJ for a 12 m monopile (2500 kJ for a 3 m pin pile), the actual hammer energy required is anticipated to be well below this maximum as evidenced by the Rampion 1 data.
- 3.2.10 Noise monitoring of the first four piles at Rampion 1 was undertaken, in common with other offshore wind farm projects, and for Rampion 1, these included locations at the north-western end of the Rampion 1 boundary. This is useful for Rampion 2 as it was the locations closest to Kingmere in Rampion 1 that were measured, which are likely to be representative of the conditions at the north of the Rampion 2 site. Of the five monitored piles, the two installed at most western side of the Rampion 1 boundary, required the lowest energies of the monitored piles at a maximum of 569 kJ and 588 kJ.
- 3.2.11 Pre-installation piling underwater noise modelling could not be reliably compared to measurements as the blow energies on site were considerably lower than those initially predicted by the modelling, 500-1000 kJ max vs the modelled 2500 kJ. However, these lower hammer energies led to much lower noise levels on site: 5 m piles were installed on the west of Rampion 1 at a maximum of 169.4 SEL_{SS} dB at 750 m. Current modelling at the Rampion 2 north-west location (close to Kingmere) predicts a maximum noise level of 179.9 dB SEL_{SS} at 750 m, albeit for a larger monopile.
- 3.2.12 The distance from the closest point of the Kingmere MCZ to the Rampion 2 boundary is approximately 4 km. At this range, Rampion 1 measurements at the

west of the site were 147.0 to 156.2 dB SEL_{ss}. Current predictions are 166.0 dB SEL_{ss} at 4 km at Rampion 2 near Kingmere MCZ.

- 3.2.13 For these monitored Rampion 1 piles, the average noise level at 10 km was 138dB SEL_{ss}, with the closest pile to the MCZ boundary being 137.6 dB SEL_{ss} at 10km. It is worth noting that no direct noise mitigation was employed during Rampion 1 foundation installation.
- 3.2.14 The maximum diameter of piles at Rampion 2 is larger and the maximum hammer energy is also substantially higher (4400kJ), which based on modelling, would lead to an approximate increase in noise level of 2-2.5 dB. This would indicate a piling noise level for the larger piles, based on the measurements at the nearest pile at Rampion 1, of less than 150 dB SEL_{ss} at 4 km, or 140 dB SEL_{ss} at 10 km. Detailed underwater noise modelling, using worst case parameters for piling at Rampion 2 at maximum energy (but without availability of or reference to Rampion 1 data), predicted a noise level of 165.2-166.0 dB SEL_{ss} at 4 km (152.9 dB SEL_{ss} at 10 km). The data from Rampion 1 therefore show that, for the type of ground closest to the MCZ at Rampion 2, the modelled noise levels in the assessment are very likely to be an overprediction and should therefore be considered precautionary.
- 3.2.15 While the assumptions made in consenting must be worst case, this provides further evidence of the precautionary nature of the modelling outputs, representing greater evidence that the predicted conditions are very worst-case and unlikely to be reached in reality.
- 3.2.16 Underwater noise mitigation techniques are also proposed for the installation of foundation piles at Rampion 2, which will serve to further reduce noise levels. These are discussed in the following section.

Additional empirical evidence to support the efficacy of mitigation techniques

- 3.2.17 As set out in detail within the Rampion 2 Technical Note: Underwater noise mitigation for sensitive features (RED, 2022a), the design work undertaken by RED to inform practical mitigation for the foundation installation works has included investigation of the techniques that can be employed to reduce impact noise ranges, where this is required to address the potential for significant effects to arise. Details of potential mitigation options are not repeated here, however in response to requests from ETG members for additional evidence to support the noise reductions that can demonstrably be delivered by the noise mitigation measures, data has been acquired from the Kaskasi II project in the German North Sea. Additional data to support the efficacy of the various noise abatement equipment, importantly including combinations of measures to deliver additive noise reductions, and discussions on comparability of the projects are presented below.
- 3.2.18 Bubble curtains represent the most widespread systems for underwater noise reduction, and empirical monitoring data has been obtained from measurements at the Kaskasi II project made in March and April 2022 by itap GmbH and DEME Offshore BV.

- 3.2.19 A critical environmental condition for the effectiveness of a bubble curtain is water depth, which is typically recommended to be less than 50 m. Depths at Kaskasi II were 18-25m; depths in the north-western section of Rampion 2 in the vicinity of Kingmere are generally 17-30 m, with parts further south of this section down to 35 m and approximately 44 m at the deepest points. Most of the western side of the Rampion 2, in closest proximity to the Kingmere MCZ, is therefore at depths representative of Kaskasi II and within the recommendations for bubble curtain effectiveness.
- 3.2.20 The Kaskasi II study included assessment and monitoring of a series of mitigation options, which were compared to a no-mitigation reference. These were:
- Big bubble curtain (BBC);
 - Double big bubble curtain (dBBC);
 - Enhanced big bubble curtain (eBBC) (in German verbesserter Großen Blasenschleier (VGBS), understood to be produced by Hydrotechnik Lübeck GmbH);
 - Hydrosound damper (HSD); and
 - Combinations of these
- 3.2.21 The performance of these combinations is given below in **Table 3-3**:

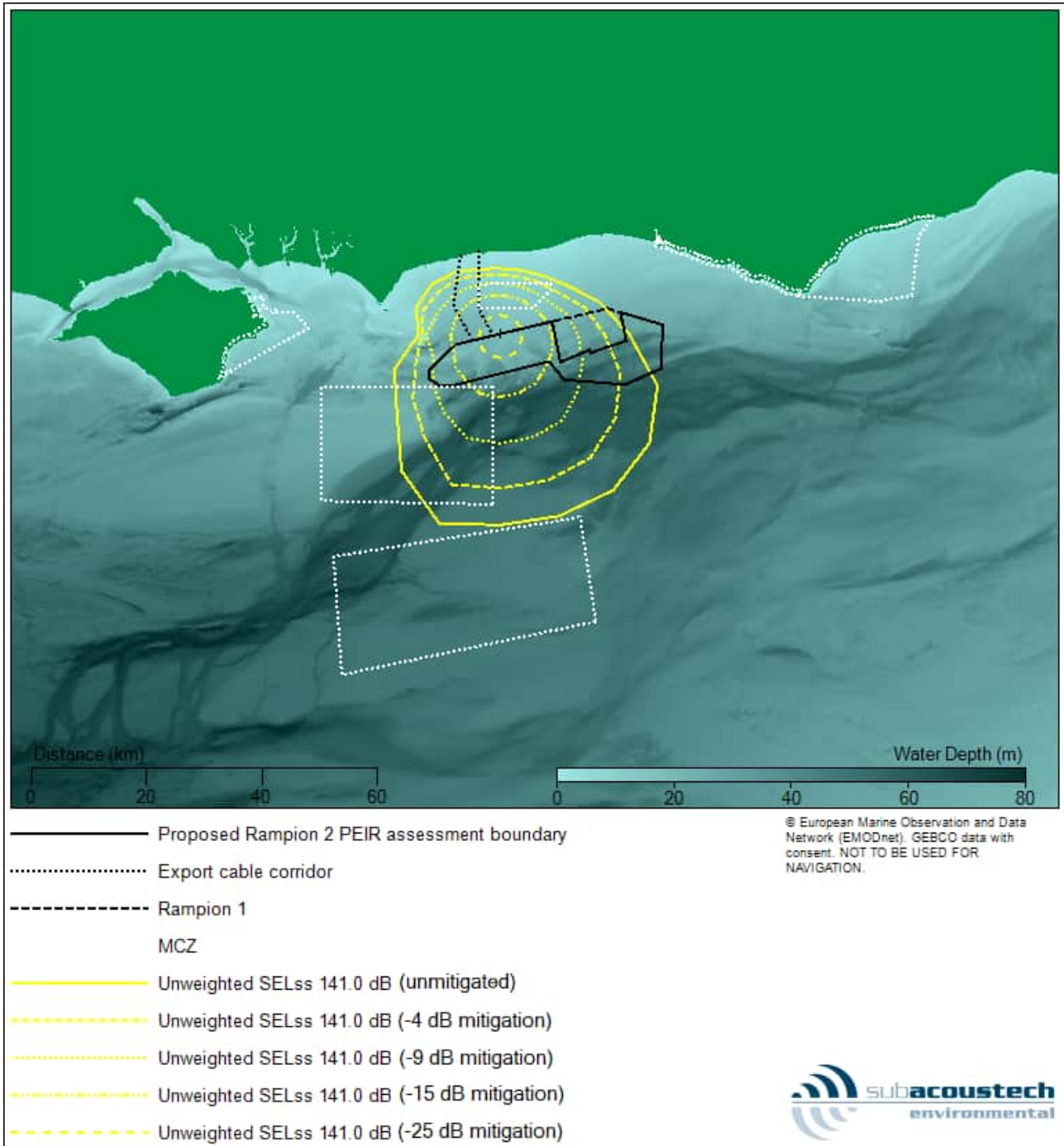
Table 3-3 Measured reductions for noise abatement mitigations (Kaskasi II)

Description	Used air quantity, m ³ /(min*m)	Noise reduction, dB SEL
eBBC, BBC, HSD	0.26 & 1.11	19-24
dBBC, HSD	0.52	20-22
dBBC	0.52	14-17
eBBC	1.24	16-18

- 3.2.22 Based on these data, it is clear that combinations of techniques are effective in delivering additive noise reductions, as set out previously (RED, 2022a). As the projects are also comparable in terms of water depth (this being critical for bubble curtain efficiency), it is reasonable to assume that noise reductions delivered through mitigation at Kaskasi II can be applied to Rampion 2. This being the case, a reduction of 19 dB from 166.0 dB SEL_{ss} (the modelled approximate noise level from piling near Kingmere at 4 km) would be required to reach a target of 147 dB SEL, with 25 dB attenuation required to achieve 141 dB SEL. Note that this is based on the highest predicted noise level from the use of the maximum hammer energy at the closest piling location to Kingmere MCZ.
- 3.2.23 The potential decreases in black seabream disturbance ranges using the 141 dB criteria when employing the range of mitigation options are illustrated for the

closest turbine foundation location for information (**Figure 3-1**). The MCZs in the area, including Kingmere MCZ, are denoted by white dotted lines.

Figure 3-1 Modelled decreases in fish disturbance impact ranges using the criteria 141 dB, when using various mitigation options, at the North West (NW) noise modelling location



- 3.2.24 It is acknowledged that for the closest locations to Kingmere MCZ, the highest levels of noise abatement (25 dB reductions) would be predicted to be required, based on worst case assumptions for hammer energy. A single eBBC can produce from 16 to 18 dB noise reduction. Using the 147 dB threshold, and based on recent Rampion 2 modelling (which is not specific to the eBBC and thus must only be a guide), a 16 dB reduction would require the piling to be approximately 5.2 km from the edge of the Kingmere MCZ. If the 141 dB threshold is adopted, it is clear that achieving this level at the closest point to Kingmere is unlikely to be realistic (but again based on the worst case modelling assumptions).
- 3.2.25 As a result, and in the interests of reaching a mutually comfortable position with the ETG members on a mitigation strategy for permitting piling to continue through the spawning period (March to July), RED propose that even though, as noted earlier, these modelled levels and extents are demonstrably precautionary and represent an extreme worst case which is not anticipated to arise in reality based on Rampion 1 experience, additional conservatism will be applied through the design of a zoning plan for piling across the site. This reduces reliance on the highest noise reductions, builds in additional spatial buffer from Kingmere MCZ, and provides further precaution to address residual concerns over uncertainties around setting specific threshold values, even if these are already at a level considered to be at low risk of eliciting any meaningful behavioural response.

3.3 Concluding remarks

- 3.3.1 RED would reiterate that through discussion under the EPP, the objective remains to gain agreement from ETG members that a suitable mitigation strategy can be designed to avoid significant residual effects arising from piling at any time of the year on the black seabream features within the Kingmere MCZ.
- 3.3.2 On the basis of the information provided to the ETG to date, and the additional information herein, it is hoped that agreement on a meaningful, proportionate and site-relevant behavioural disturbance threshold for black seabream can be reached, which sufficiently addresses uncertainties through the layered precaution in the assessment and modelling and the establishment of a robust baseline for ambient noise characteristics at Kingmere MCZ. Establishing a common ground on this will then allow the development of a mitigation plan, including both technologies for noise abatement and spatial zoning of piling activities away from the closest parts of the Kingmere MCZ boundary, to deliver protection to black bream and the Kingmere MCZ and enable an important project in the UK's goal of Net Zero to be taken forward.
- 3.3.3 RED propose that Rampion 2 will utilise at least one or a combination of offshore piling noise mitigation technologies to deliver noise attenuation with the aim of reducing predicted impacts to sensitive receptors at relevant Marine Conservation Zones and therefore avoid significant effects to such receptors. During March to July, the area of Rampion 2 close to the Kingmere MCZ will be avoided to minimise noise during nesting season, and the size and extent of this area will be determined in a zoning exercise on confirmation of suitable mitigation and its attenuation performance. RED maintains that all of the research identified for fish reactions to noise represent a mild and initial stress response that was not found

to be sustained in any of the research. To imply they represent a level of noise that would lead to a cessation of breeding behaviours does not accord with the conclusions of the research, and to enforce substantial restrictions on this basis would, we suggest, be disproportionate.

- 3.3.4 RED's intention is that the proposed mitigation package for the March to July period will form the basis of an offshore piling mitigation plan, which will be submitted for approval prior to the offshore construction of relevant elements or stages of the Rampion 2 works. Delivery of the plan and measures will be secured within the draft deemed Marine Licence as a "Site Integrity Plan" type document, to provide certainty to all stakeholders of the mitigation commitments made by RED in progressing the development of Rampion 2, whilst maintaining the flexibility required by RED in selecting the most appropriate options at the time of construction works.

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Rampion 2 Wind Farm

Underwater Noise Monitoring Survey Method Statement



Contents

1.	Underwater noise monitoring survey	3
1.1	Background	3
2.	Survey Scope	4
3.	Survey Locations	5
4.	Static Monitoring Equipment	6
4.2	Static Monitoring Equipment Specifications	6
5.	Deployment and Recovery Method	8
	Deployment:	8
	Recovery	9

Tables

Table 4.1	Component weights of proposed monitoring equipment	7
Table 5.1	Proposed deployment of equipment procedure and responsibilities.	8
Table 5.2	Proposed retrieval of equipment procedure and responsibilities.	9

Figures

Figure 3-1	Survey location for underwater noise monitoring station	5
Figure 4-1	Proposed Static Monitoring Equipment Set-up	6

1. Underwater noise monitoring survey

1.1 Background

- 1.1.1 The construction of the Rampion 2 offshore wind farm is proposed to include impact piling for the installation of piled foundations, and there remains concern from the SNCBs, particularly Natural England and the MMO, that the noise produced during piling will affect breeding/nesting black bream.
- 1.1.2 In order to progress discussions with the aim of achieving agreement on an appropriate way to define a threshold for disturbance, that can then be used to design mitigation measures, it is the view of the project that an appropriate approach would be to establish a level of noise increase above ambient levels to assess the risk of noise disturbance to sensitive fish receptors. As a concept, even a low level sound generated in quiet conditions could be perceived as loud; whereas in environments where the background noise level is higher, an introduced sound at the same level would be likely to lead to a lower reaction or even be inaudible. It is likely that under such conditions the disturbance effect will also be less.
- 1.1.3 In order to ensure an appropriate level of understanding to inform this approach, it is important to obtain data on ambient noise levels at a site, in addition to being able to predict noise increases as a result of the proposed piling activities. Although background noise readings were acquired at Kingmere Marine Conservation Zone (MCZ) in the summer of 2022, longer term empirical data collection, extending throughout the black bream spawning period (March to July), will provide a more robust dataset for the evidence base underpinning RED's proposed mitigation plans.
- 1.1.4 The following sections explain our proposed approach to collecting background noise data from the 2023 Black Bream breeding season to utilise in pursuing agreement on an appropriate threshold and, therefore, allow the design of appropriate mitigation measures to avoid significant effects arising.

2. Survey Scope

- 2.1.1 Monitoring of noise levels is proposed at a single location close to the Kingmere MCZ. This location is the same as that used in the 2022 noise monitoring survey and has been selected to be close to the designated site of concern, whilst also considering the wider offshore piling area, and local traffic limitations, to provide appropriate data in relation to the Kingmere MCZ for assessment of piling noise generation in relation to black bream.
- 2.1.2 The monitoring station has been placed close to, but not within, the MCZs in order to avoid disturbance to any sensitive features within the designated site. Any risk of interference from vessel traffic is to be avoided such that it does not pose a risk to navigation or disturbance.
- 2.1.3 A fixed monitoring station including a heavy seabed mooring and hydrophone suspended in the water column will be deployed at the monitoring site above (detailed Equipment spec is provided in Section 4 below). The monitor will be fully calibrated and configured to record underwater noise levels continuously for a period of up to 20 weeks between circa 1st March and 31st July: this would suitably capture the full range of minimum and maximum background noise over the period, across several full spring/neap tidal cycles and result in a comprehensive dataset for the black bream breeding season.
- 2.1.4 An acoustic release will be deployed for stability and recovery as an alternative to a requirement for a surface buoy presence. Personnel will only be present offshore during deployment and recovery and during a single mid-term service visit (at circa 0 + 80 days).

3. Survey Locations

3.1.1 The proposed survey location, depicted in Figure 3-1, is:

- Kingmere MCZ SE station = 50.705N, -0.420W

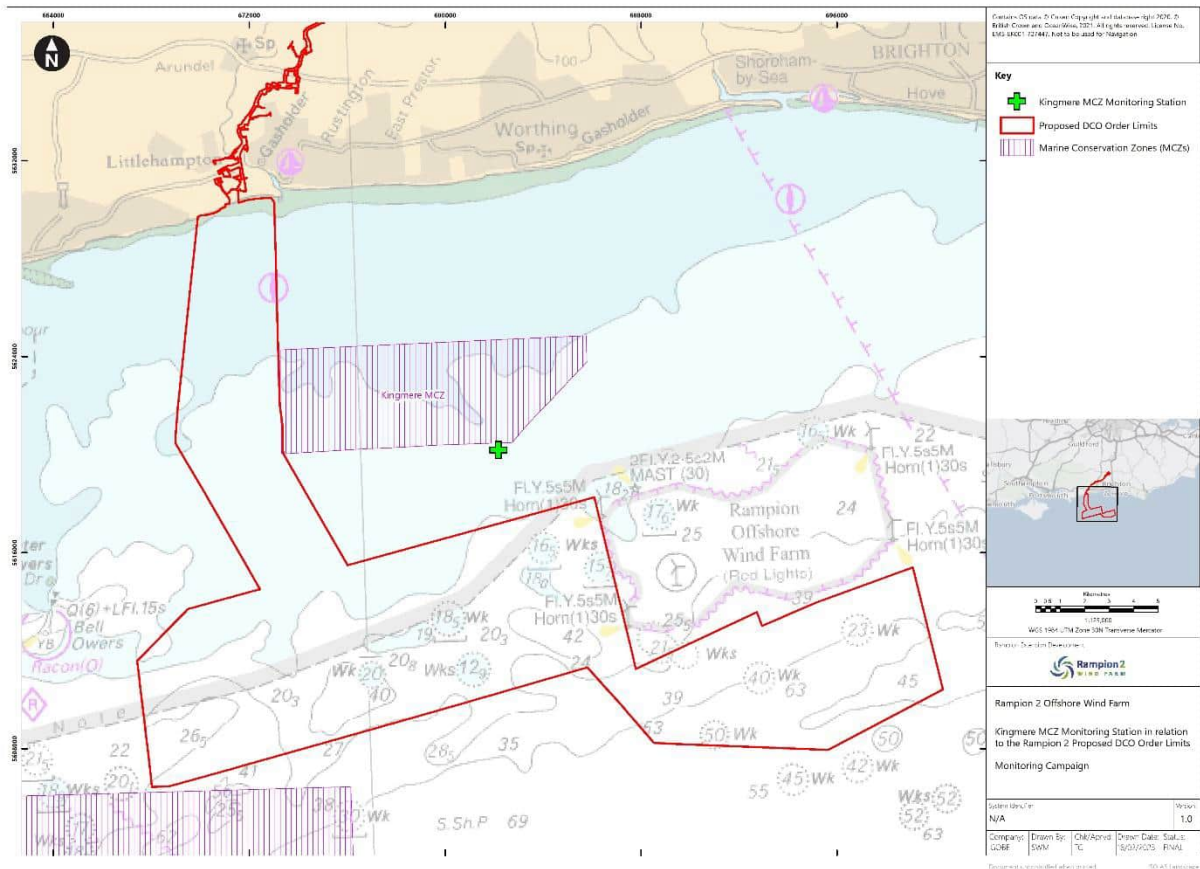


Figure 3-1 Survey location for underwater noise monitoring station

4. Static Monitoring Equipment

- 4.1.1 Static measurements will be taken using a remote monitoring hydrophone capable of undertaking calibrated autonomous measurements of the anticipated noise levels. This can be set up to monitor over an extended period of time and is powered by an internal battery supply.
- 4.1.2 The monitor will be deployed onto the seabed using a single line mooring together with acoustic releases (see Figure 4-1 below).

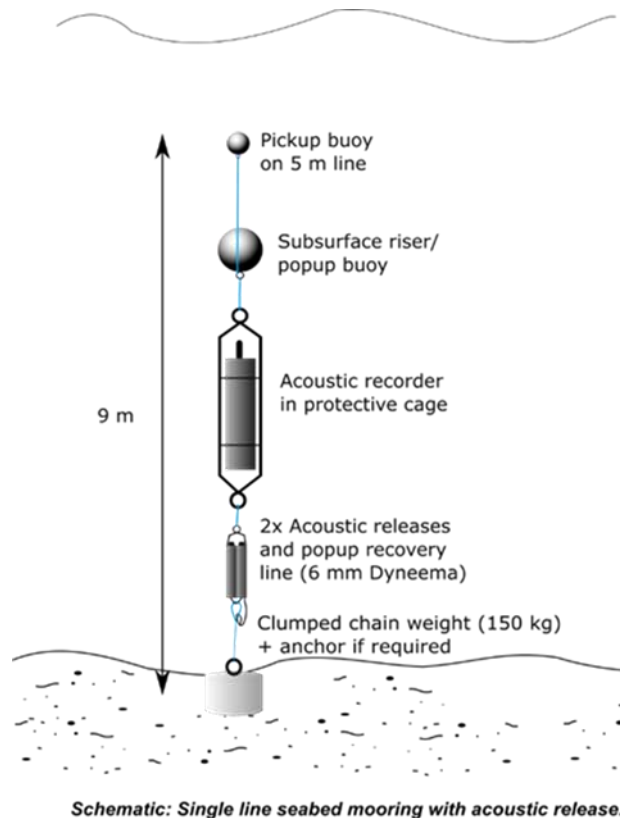


Figure 4-1 Proposed Static Monitoring Equipment Set-up

4.2 Static Monitoring Equipment Specifications

- 4.2.1 The autonomous acoustic recording device will be a Wildlife Acoustics SM3M acoustic recorder. Above the recorder will be a sub-surface riser buoy and a pickup buoy. Below the recorder will be two acoustic releases attached to a 150kg clump weight.
- 4.2.2 The total height of the single line deployment will be approximately 9 m with the height of the hydrophone above the sea floor at approximately 2 m.
- Equipment components:
 - ▶ Hydrophone: HTI 99 UHF
 - ▶ Recorders: Wildlife Acoustics SM3M

- ▶ Acoustic Releases: Sonardyne Lightweight Acoustic Release Transponder
- Footprint:
 - ▶ The clump weight referred to in Figure 4-1 will be represented by a mass of heavy gauge chain which will be tied up into a lump. The footprint of this on the seafloor will be no more than 1.5 * 1.5 m (2.25m²). Weights of the equipment components is given in Table 4.1 below.

Table 4.1 Component weights of proposed monitoring equipment

Component	Dry Weight (kg)
Clump weight	150
2 * Acoustic releases	5
1 * Acoustic recorder in protective cage	17.5
Subsurface riser buoy	5
Pick-up buoy	1
Lines	10
Total weight	188.5

5. Deployment and Recovery Method

5.1.1 The deployment and retrieval procedure requires coordinated activities between the vessel and survey crew; details as per Table 5.1 and Table 5.2 below.

Deployment:

Table 5.1 Proposed deployment of equipment procedure and responsibilities.

Item	Description	Responsibility
1	The deployment will be undertaken using a crane and inbuilt winch with the vessel holding position.	Vessel
2	The whole mooring arrangement will be laid out on the appropriate deck and visually inspected by Subacoustech personnel and vessel crew.	Vessel/Subacoustech
3	A third acoustic release, is added to the end of the deployment line, and attached immediately above the buoyancy on the mooring with pellet float and riser handled manually overboard.	Vessel
4	Using the crane and inbuilt winch, lift the mooring from the additional acoustic release until upright and then overboard (using a tag line to control the clump weight).	Vessel
5	Once in the water, remove the support tag lines and lower to the seabed until the line goes slack, then control the slack to avoid entanglement (recover 0.5 to 1m subject to sea swell).	Vessel
6	Interrogate both mooring acoustic releases using deck	Subacoustech

Item	Description	Responsibility
	controller to confirm they respond.	
7	Confirm the mooring is in the correct position then release the deployment acoustic release and recover using the winch.	Subacoustech/Vessel
8	If the equipment is deployed when not on DP, circle the location and interrogating the acoustic releases to identify ranges from at least three positions approximately 100m from the target and record range and GPS positions to triangulate an exact as laid position of the mooring on the seabed.	Vessel/Subacoustech

Recovery

Table 5.2 Proposed retrieval of equipment procedure and responsibilities.

Item	Description	Responsibility
9	Check the as found position prior to recovery. Circle the location at approximately 100m, interrogate each of the acoustic releases and record range and GPS to triangulate exact position.	Vessel/Subacoustech
10	Note the prevailing current and position of the vessel away from the location perpendicular to the current.	Vessel
11	Release one acoustic release and wait for the device to appear at the surface and for it to drift with the current to take up the slack on the pop-up line.	Subacoustech

Item	Description	Responsibility
	If it doesn't appear, release the second acoustic release.	
12	Approach the pickup buoy from down current and use a small throwing grapnel between the pickup pellet float and the main buoyancy. Once hooked, the assembly is light enough to be hand-hauled to the side of the vessel and brought aboard whilst the vessel transits slowly upstream.	Vessel
13	Slowly bring the vessel back to the pre-release or as found position which will allow additional slack on the line. Attach the pop-up line to winch or capstan line and detach the mooring assembly from the pop-up line. Haul the pop-up line (attached to the ballast) through a block on the end of the crane and haul in using a pre-arranged rope around a dedicated winch.	Vessel
14	With the crane outboard, winch/haul the equipment clear of the water and close to the block and lift on board, dropping this on the deck, ready for reconfiguration and deployment.	Vessel





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03 November 2022

Rampion 2 Offshore Wind Farm (OWF)

MMO's (Marine Management Organisation) Response to Underwater Noise Steering Group Minutes (12/9/2022), Slide Pack and Underwater Noise Study.

At this stage of the planning process, Rampion Extension Development Ltd (RED) are conducting environmental and technical surveys and undertaking consultation with regulatory bodies, stakeholders and communities.

The currently proposed development is sited adjacent to the southeast and west of the existing Rampion OWF, approximately 13 kilometres (km) to 25km offshore, occupying an irregular elongated area. The wind farm array Area of Search has an approximate area of 315 kilometres squared (km²). The scoping area for the offshore export cables to connect the offshore wind farm area to the shore is approximately 74km².

Rampion 2 OWF is expected to comprise of no more than 116 wind turbine generators (WTGs) with a total generating capacity of 1200 Mega Watts (MW). In addition, there will be up to three offshore substations and up to 4 export cables which will carry generated power to landfall at Climping, Sussex.

The MMO and our scientific advisors from the Centre for Environment, Fisheries and Aquaculture Science (Cefas) attended the noise mitigation steering group meeting on 12 September 2022. This meeting included a presentation of the results of a survey to record background noise at a location close to the Kingmere Marine Conservation Zone (MCZ).

On 29 September 2022 the MMO received the minutes of this meeting along with the noise study.



Consultation was undertaken with Cefas with particular focus on the following documents:

- *Bream Underwater Noise Study- FINAL.pdf*
- *R220912_Rampion_Underwater Noise BB_Minutes_V1.0.docx*
- *Rampion 2_Black Bream survey results meeting 12092022*

The MMO can confirm the minutes accurately capture the discussions held on 12 September 2022. Maria Gamaza, Cefas Fisheries Advisor also attended the meeting but has not been listed under the attendees present. Julia Stobie is listed as the case manager but should be listed as case officer. Dan Walker is listed as case officer but should be listed as case manager.

Points and concerns raised during the meeting are set out below.

Underwater Noise Study

Red sea bream as a proxy for hearing sensitivity.

1. The Underwater Noise Study for Sea Bream Disturbance noted that no known audiogram is available for black sea bream, but that an audiogram (using Auditory Evoked Potential (AEP) and behavioural techniques) was measured by Kojima et al. (2010) for red seabream (*Pagrus major*), which is in the same family (*Sparidae*) as black sea bream.¹
2. It was therefore proposed by you that red sea bream would be a suitable proxy and would be categorised as 'Group 3' in the hearing categories for fishes identified by Popper *et al.* (2014), i.e. fish with a swim bladder that is close, but not intimately connected to the ear, and which is both sensitive to particle motion and sound pressure. It was further noted that no particle motion audiogram is available for red sea bream or black sea bream.
3. The MMO agree that categorising red sea bream as 'Group 3' as per Popper *et al.* 2014 is appropriate and that it may be suitable to use the audiogram for red sea bream as a proxy for black sea bream in terms of their hearing ability to detect sound pressure. However, there are two notable limitations in the use of red sea bream audiogram:
4. Red sea bream (a non-UK species) eggs are pelagic, i.e., the species is a broadcast spawner, so, unlike black sea bream, they do not build nests or guard the eggs on the nests. Therefore, the behavioural responses associated with territorial nest guarding behaviour are not exhibited by red sea bream, so a behavioural response threshold for spawning and nesting behaviour in black sea bream cannot be derived from the audiogram for red sea bream.
5. From the meeting minutes and slides, it appears that the audiogram for red sea bream was established using observations of behavioural responses when red sea bream were exposed to vessel noise, i.e., a continuous noise source, rather than piling which is an impulsive noise. However, noting that we have not had sight of the Kojima *et al.* (2010) paper, this may be an incorrect assumption, but one which requires clarification by RWE.

¹ Please note that no reference was provided for this paper, so we have been unable to review it to support our comments.



Length of study

6. The background noise study at Kingmere MCZ was conducted over a 15-continuous day period, which provides only a short window of monitoring, occurring during the latter part of the black sea bream nesting period (July). A longer period of monitoring would have provided greater insight into the likely variations, maximums and minimums of ambient noise levels in the vicinity of the MCZ during the whole black sea bream breeding season as well as outside the breeding season.
7. To comprehensively characterise ambient noise levels in specific locations or regions, long term measurements are required. Short and medium- deployments do not generally sample the whole range of values of the ambient noise (*Good Practice Guide for Underwater Noise Measurement,, 2014*). Essentially a short term measure of the ambient noise should not be used as representative of the ambient noise at that location for any time other than the period of time during which the measurements were undertaken *Good Practice Guide for Underwater Noise Measurement, 2014*).
8. In particular, it is worth noting that aggregate dredging takes place within (Areas 453 and 488), and adjacent to (Areas 435 and 396), Kingmere MCZ, so will be a contributing source of noise to the ambient/background noise levels at the Rampion 2 and Kingmere MCZ sites. Dredging activity is not permitted under the existing marine licenses within Areas 488 or 453 between 1st April to 30th June each year, and no dredging is permitted in the east of Area 453 for an extended period into July. It is possible that such a short monitoring period may not have adequately captured the vessel and aggregate extraction noises generated by this activity. As already mentioned, aggregate dredging activity will contribute to the ambient background noise in the vicinity of Kingmere MCZ, however, the dredging restrictions included in the licence conditions for Area 453 and 488 will mean that dredging and vessel noises from dredging will have ceased during the black bream breeding season

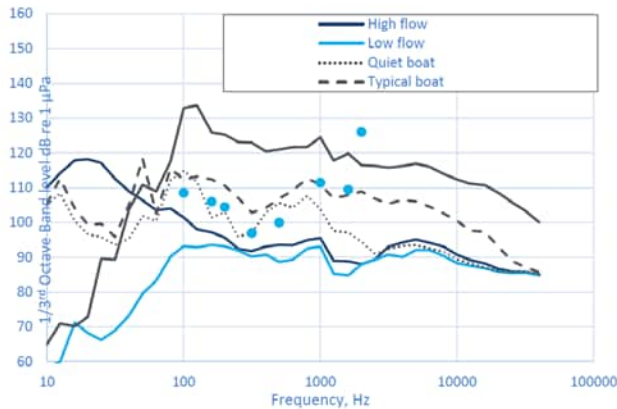
Soundscape at Kingmere MCZ

9. Please see slide 11, Fig. 3 (Fig 1 in the presentation pack “Rampion 2 Black Bream Underwater Noise, 12 September 2022”). This is included as Figure 1 below for reference. The MMO agrees with RWE that acoustic disturbance should only be considered for audible sound. At a minimum, an introduced noise must be (a) above the hearing threshold and (b) exceed the background noise (as per page 4 of the report). Nonetheless, and with reference to the following statement in Section 4: *“loud vessel” is approximately only 25 decibels (dB) above the seabream hearing threshold. This implies that as a result of the seabream sensitivity, the “loud vessel” would be audible to the fish but is unlikely to be perceived as “loud”,* we are unsure how this is relevant, especially as the concern is primarily with piling noise (not vessel noise). Furthermore, whether or not a sound is perceived as “loud” does not necessarily indicate its potential for behavioural disturbance.



Figure 1 Presentation slide 11 (for reference)

The existing noise at the Kingmere monitoring location was generally either caused by tidal flows or passing vessels. Critical to audible sound is not just overall level, but also frequency, and Figure 3 shows the spectra derived from events at Kingmere over the sampled period.



It is clear that the effect of the tides is at low frequency <100 Hz. Passing vessels increase noise across the spectrum, to 1000 Hz, and beyond if the source is loud.

Also included on this chart is the seabream behavioural audiogram. This shows that the low/high flow background noise in the absence of vessels is below the seabream hearing threshold, and therefore inaudible. More importantly, this means the reference for disturbance should rightly be the seabream hearing threshold rather than the background noise level.

The "loud vessel" is approximately only 25 dB above the seabream hearing threshold. This implies that as a result of the seabream hearing sensitivity, the "loud vessel" would be audible to the fish but is unlikely to be perceived as "loud".

Figure 3 – Typical noise spectra for various conditions at Kingmere
1/3rd octave band centre frequency

Impact of Piling Noise at Kingmere MCZ

- Figure 5 in the report (which is the equivalent of Figure 4 in the presentation pack on slide 12) is missing the spectra for loud boat noise and piling at 7,800m. We have included a copy of Figure 4 (Figure 2, below for reference which does show the different spectra.)

Figure 2 Kingmere "loud boat", seabream audiogram, and example measured pile stikes, 1/3rd Octave band centre frequency noise spectra

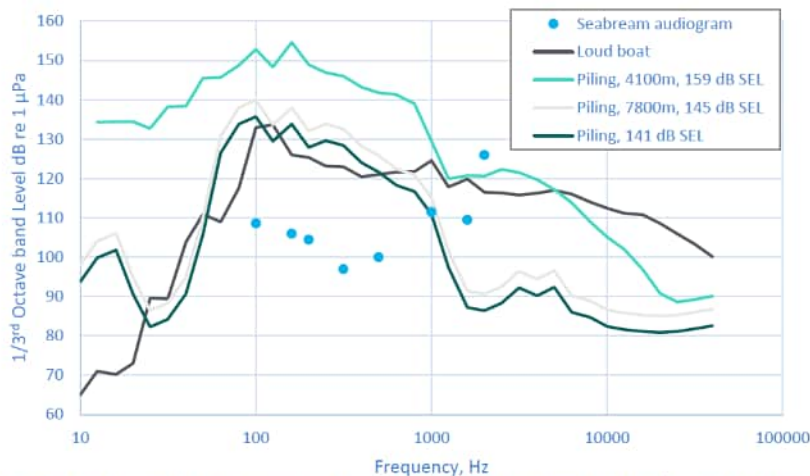


Figure 4 – Kingmere "loud boat", seabream audiogram, and example measured pile strikes, 1/3rd octave band centre frequency noise spectra

- Figure 4 (copied here as Figure 2 of this letter) erroneously equates measurements made using two different metrics: (1) the sound pressure level (SPLrms), for the seabream audiogram and "loud boat" noise; and (2) the single-strike sound exposure level (SELs), used for the piling measurements. SELs is a measure not of sound



pressure, but of sound energy. This fact invalidates the argument put forward by RWE², since an SELss of, e.g., 141 dB re 1 $\mu\text{Pa}^2 \text{s}$, may in fact include instantaneous sound pressure levels much greater than 141 dB re 1 μPa , hence exceeding the audiogram threshold. In other words, the piling noise levels are likely to exceed the seabream audiogram to a significantly greater extent than Figure 4 (Figure 2) suggests.

12. Secondly, while vessel noise is a continuous noise source, piling is impulsive, and so a direct comparison of their potential behavioural effects is invalid, since the temporal and pulsed characteristics of noise have a significant influence on behavioural effects, with pulsed and intermittent sound generally understood to have more severe effects. For example, as highlighted by Neo et al. (2014), intermittent sounds, such as from pile driving, may have a stronger behavioural impact on fish than continuous sounds, such as from drilling, even though the latter may have higher total accumulated energy. In this study, Neo et al. investigated whether sounds with different temporal structure resulted in different behavioural changes in European seabass. All sound treatments elicited similar behavioural changes, including startle responses, increased swimming speed, increased group cohesion and bottom diving. However, with all other sound conditions being the same, intermittent exposure resulted in significantly slower behavioural recovery to pre-exposure levels compared to continuous exposure.
13. What Figure 4 (Figure 2 above) does highlight is that piling noise has greatest energy at those frequencies at which red seabream are most sensitive (between ~100 and 1000 Hz), emphasising the risk of impact to this species, and thereby potentially to black sea bream
14. The MMO notes the further consideration of a 141dB threshold derived from Kastelein et al. (2017) which had previously been discussed and considered in consultation with Natural England and Cefas during previous Expert Topic Group meetings. Underwater noise modelling has been presented in Figure 6 of the Underwater Noise Study for Sea Bream Disturbance report based on the 141dB threshold which depicts impact ranges with and without the following mitigation options:
 - IHC Pulse Hammer (4-6 dB reduction)
 - MENCK MENCK Noise Reduction Unit (MNRU) hammer (P-11 dB reduction)
 - Double bubble curtain (potential 15dB reduction)
 - Double bubble curtain and MENCK MNRU hammer (potential 25 dB reduction).
15. It is not clear from the key in Figure 6, which reduction mitigation methods, or combinations of mitigation methods, are being represented by each of the impact range contours.
16. Given the physiological and anatomical differences between seabass and black sea bream and recognizing their different spawning behaviours, it is important to recognise there are a number of risks and uncertainties associated with the use of seabass as a proxy species for black sea bream which should be taken into account when establishing behavioural thresholds and determining mitigation measures.

² Page 10 (section 5) of the report states the following: “An additional frequency spectrum has been included on Figure 4 that adjusts the 7800m pile strike down to an equivalent noise level of 141dB SELss. It can be seen that this is only slightly higher than the “loud boat” spectrum. Therefore, at approximately 30dB above the hearing threshold, it is anticipated that the risk of sustained disturbance is low. The calculated noise level for this would be worst case (maximum hammer energy)”.



Thresholds

17. 141 dB SELss has been suggested as representing an alternative underwater noise piling disturbance threshold and it is stated that a full seasonal restriction on piling is not required across the entire Rampion 2, on the basis that noise generated would not be in excess of that what is naturally experienced by the breeding black sea bream on a regular basis. The following statement is made on slide 15 of the presentation pack: *“RWE propose that a full seasonal restriction on piling is not required across the entire offshore site, as if kept to within 141dB, noise generated would not be in excess of what is naturally experienced by the breeding black sea bream on a regular basis”*.
18. The above statement is incorrect and misleading, for at least two reasons as highlighted above in relation to Figure 4 contained within the slide pack. Firstly, the erroneous comparison of differing metrics in Figure 4. Secondly, the equating of impulsive and continuous sound sources (i.e. the risk of disturbance from pile driving vs. vessels).
19. RWE have recognized that owing to the proximity of the Rampion 2 site to Kingmere MCZ, additional mitigation may still be necessary to reduce the UWN to below 141 dB within the closest proximity array area to the MCZ. The MMO assumes you are referring to spatial mitigation which avoids piling in those areas closest to the MCZ but this is unclear.
20. Initially, Cefas had no major concerns regarding the evidence presented in support of the 141-dB threshold and stated this in the steering group meeting on 12 September 2022. However, upon review of the minutes and further internal discussions, due to the body length of black sea bream now consider a lower threshold from the same study would be more appropriate. Black sea bream are protogynous hermaphroditic species attaining asymptotic length (L_{inf}) of 48 cm, smaller than seabass. They mature as female and then change gender to male around age 2-8 (Benvenuto *et al.*, 2017; Neves *et al.*, 2017) with smaller fish generally being female and larger male. Though they can also be protandrous with males then transition back to females (generally larger than 40cm). Because of this, populations must have a balanced age structure in order to be reproductively successful and as black sea bream attain reproductive maturity at 30 cm, this body length should be taken into account.
21. Thus, based on the information presented above, the threshold of 131 dB re 1 mPa² s (SELss) (for 31 cm fish) would be the most appropriate threshold to adopt from the Kastelein paper in this instance for black sea bream.
22. However, it is recognised that the Kastelein study was undertaken in a pool environment, which is very different to how fish may respond in the wild. For this reason, Cefas has typically recommended a threshold based on a field study which observed behavioural changes at **135dB (SELss)** for a clupeid species. This study by Hawkins et al. (2014) exposed wild schooling sprat to short sequences of repeated impulsive playback sounds at different sound pressure levels, to resemble that of a percussive pile driver. Observed behavioural responses included the breakup of fish schools. The sound pressure levels to which the fish schools responded on 50% of the presentations were 163.2 and 163 dB re 1 μPa (peak-to-peak). The estimated single strike sound exposure level was 135 dB re 1 μPa² ·s. The study was carried out in Lough Hyne,



County Cork, on the southwest coast of Ireland.

23. It would have been useful to see the more conservative threshold (135dB) modelled to provide a visual representation of the impact range for behavioural responses in nesting black sea bream, however this would not necessarily remove the requirement for a seasonal restriction. The MMO believes that the single strike sound exposure level threshold of **135 dB** re $1 \mu\text{Pa}^2 \cdot \text{s}$, is more of a conservative indicator. We recognise that this is a conservative indicator as the Hawkins study was carried out in Lough Hyne, which is an enclosed, quiet coastal sea loch, where fish were not accustomed to heavy disturbance from shipping and other sounds (Hawkins et al., 2014). Further, sprat are a clupeid species and are known to be sensitive to underwater sound. From our high-level understanding, implementing spatial mitigation (if this option is being suggested) is likely to bring about further uncertainties in relation to the confidence of the effectiveness of defining boundaries in which piling can/cannot be carried out. With this in mind, a further, more conservative approach would be to ensure that any mitigation measures applied, are implemented across the whole Rampion 2 site.

Conclusion

A threshold of 141 based on Kastelein et.al (2017) is not sufficiently precautionary.

The MMO does not agree with all the information presented in Section 5 of the Underwater Noise Study for Sea Bream Disturbance.

It would have been useful to see modelling for 135dB as a potential noise threshold, however the MMO does not believe we can confidently agree this as a noise threshold as the evidence presented is not in connection with the MCZ species - black sea bream. At this stage the MMO does not believe enough evidence has been provided including information on any additional mitigation to agree the threshold approach and remove the requirement of a seasonal restriction.

The MMO does welcome the work and information provided by RWE thus far, however, to manage expectations at this stage even if further information/modelling in relation to 135dB is provided the removal of a restriction is unlikely to be agreed. A seasonal restriction is the most precautionary approach and will ensure the conservation objectives of the MCZ are not hindered along with the supporting population outside of the MCZ.

The MMO is committed to working with RWE and Natural England, along with our scientific advisors to review and discuss any further information provided.

Yours sincerely

[Redacted Signature]
[Redacted Name]
Marine Licensing Case Officer





References

Good Practice Guide for Underwater Noise Measurement, National Measurement Office, Marine Scotland, The Crown Estate, Robinson, S.P., Lepper, P. A. and Hazelwood, R.A., NPL Good Practice Guide No. 133, ISSN: 1368-6550, 2014.

Kastelein, R.A., Jennings, N., Kommeren, A., Helder-Hoek, L. and Schop, J. (2017). Acoustic dose behavioral response relationship in sea bass (*Dicentrarchus labrax*) exposed to playbacks of pile driving sounds. *Marine environmental research*, 130, pp. 315-324.

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Hawkins, A., Roberts, L and Cheesman, S. (2014). Responses of free-living coastal pelagic fish to impulsive sounds. *Acoustical Society of America*.pp. 3101-3116.

Popper, A.N., Hawkins, A.D., Fay, R.R., Mann, D.A., Bartol, S., Carlson, T.J., Coombs, S., Ellison, W.T., Gentry, R.L., Halvorsen, M.B., Løkkeborg, S., Rogers, P.H., Southall, B., Zeddis, D.G. & Tavolga, W.N. (2014). *Asa S3/Sc1.4 Tr-2014 Sound Exposure Guidelines for Fishes and Sea Turtles: A Technical Report Prepared by ANSI-Accredited Standards Committee S3/Sc1 a* (Springerbriefs in Oceanography).



Rampion 2. Onshore engagement. November 2022 – July 2023

Points to note:

- Aspect groupings have changed for subsequent rounds of ETGs in agreement with client
- On occasion a second, repeat, ETG meeting was required on the same subject for stakeholders unable to attend original date
- Support documents (except ES appendices noted) are saved here: [Rampion 2 EIA - Onshore Appendix D Documents - All Documents \(sharepoint.com\)](#)

DATE	TYPE	Discussion points	Notes
ETGs - NOVEMBER 2022			
08/11/22	ETG – Terrestrial Ecology	<ul style="list-style-type: none"> • Project update • Progress since November 2021 • Section 42 consultation discussion • Survey update and next steps • Mitigation measures and commitments • Biodiversity Net Gain • PEIR SIR discussion 	Minutes PM and RWE reviewed Minutes issued to stakeholders
10/11/22	ETG – LVIA and Historic Environment	<ul style="list-style-type: none"> • Project update • Progress since November 2021 • Survey update and next steps following PEIR SIR • Crossbush Archaeological Trial Trenching • PEIR SIR Commitments • Targeted consultation Q&A • Section 42 consultation discussion • Mitigation measures and commitments • PEIR SIR discussion 	Minutes PM and RWE reviewed Minutes issued to stakeholders
17/11/22	ETG - Noise and Vibration and Air Quality	<ul style="list-style-type: none"> • Project update • Progress since November 2021 • Survey update and next steps • Section 42 consultation discussion • Mitigation measures and commitments 	Minutes PM and RWE reviewed Minutes issued to stakeholders

		<ul style="list-style-type: none"> • PEIR SIR discussion 	
21/11/22	ETG – Soils and Agriculture and Ground Conditions	<ul style="list-style-type: none"> • Project update • Progress since November 2021 • Section 42 consultation discussion • Mitigation measures and commitments • PEIR SIR discussion • Targeted consultation Q&A 	Minutes PM and RWE reviewed Minutes issued to stakeholders
22/11/22	ETG – Water Environment	<ul style="list-style-type: none"> • Project update • Section 42 consultation discussion • Progress since November 2021 • Survey update • Hydrogeological Risk Assessment • Flood Risk Assessment • PEIR SIR discussion • Mitigation measures and commitments • Targeted consultation Q&A 	Minutes PM and RWE reviewed Minutes issued to stakeholders
25/11/22	ETG – Transport and socioeconomics	<ul style="list-style-type: none"> • Project update • Progress since November 2021 • Section 42 consultation discussion • Survey update and next steps • Mitigation measures and commitments • PEIR SIR discussion • PEIR SIR – Wider socio-economic effects • Targeted consultation Q&A 	Minutes PM and RWE reviewed Minutes issued to stakeholders
28/11/22	ETG – Transport and socioeconomics	<ul style="list-style-type: none"> • Project update • Progress since November 2021 • Section 42 consultation discussion • Section 42 consultation discussion - tourism • Survey update and next steps • Mitigation measures and commitments • PEIR SIR discussion 	2 nd ETG meeting for stakeholders not able to attend on 25/11/22 Minutes PM and RWE reviewed Minutes issued to stakeholders

		<ul style="list-style-type: none"> • Economic benefits • Onshore recreation • PEIR SIR – wider socio-economic effects • Targeted consultation Q&A 	
ETGs - FEBRUARY/MARCH 2023			
21/02/23	ETG – Transport and socioeconomics	<ul style="list-style-type: none"> • Project update • Onshore cable route selection • Onshore close out engagement/consultation • Progress since November 2022 • Consultation responses/comments • Survey update and data collection • Approach to the Environmental Statement • Statement of Common Ground 	Minutes PM and RWE reviewed Minutes issued to stakeholders
01/03/23	ETG – LVIA and Historic Environment	<ul style="list-style-type: none"> • Project update • Onshore cable route selection • Onshore close out engagement/consultation • Progress since November 2022 • LVIA viewpoint photography status – LACR01d • Proposed onshore viewpoints for LACR01d • PEIR SIR Consultation responses/comments • PEIR SIR methodology • Impacts to archaeology – comparing onshore cable route options • Further archaeological investigation • Access routes • Setting • Targeted stakeholder engagement • Survey update and data collection • Approach to the Environmental Statement • Statement of Common Ground 	Minutes PM and RWE reviewed Minutes issued to stakeholders

02/03/23	ETG – Noise and vibration, Air Quality, Soils and Agriculture and Ground Conditions	<ul style="list-style-type: none"> • Project update • Onshore cable route selection • Onshore close out engagement/consultation • Progress since November 2022 • PEIR SIR Consultation responses/comments • PEIR SIR reporting discussion • New commitments • Survey update and data collection • Approach to Environmental Statement • Statement of Common Ground 	Minutes PM and RWE reviewed Minutes issued to stakeholders
07/03/23	ETG – Terrestrial Ecology and Water Environment	<ul style="list-style-type: none"> • Project update • Onshore cable route selection • Stakeholder feedback onshore cable route selection • Discussion on consultation responses and comments • Progress since November 2022 • Survey update and data collection • Approach to ES and BNG • BNG Unit selection criteria • Landfall Food Risk Assessment • Poling and Hammerpot – Flood Risk Assessment • Hydrogeological Risk Assessment • Hydrogeological Risk Assessment – Conceptual Model • Karst Survey • Onshore substation Flood Risk Assessment • Existing Commitments • New Commitments • Statement of Common Ground 	Minutes PM and RWE reviewed Minutes issued to stakeholders
ETGs - JUNE 2023			

14/06/23	ETG – LVIA and Historic Environment	<ul style="list-style-type: none"> • Rampion 2 indicative timeline • Review of consultations • Onshore cable route selection • Update on progress since March 2023 • EIA considerations – final onshore cable route • Outstanding ETG actions • Approach to Environmental Statement – trenchless crossing mitigation • Approach to Environmental Statement – Residential Visual Amenity Assessment • Survey and data collection update • Statement of Common Ground 	<p>Minutes NOT PM or RWE reviewed Minutes NOT issues to stakeholders</p>
16/06/23	ETG – Air Quality, Noise and Vibration, Soils and Agriculture, Ground Conditions	<ul style="list-style-type: none"> • Rampion 2 indicative timeline • Review of consultations • Onshore cable route selection • Update on progress since March 2023 • EIA considerations – final onshore cable route • Survey and data collection update • Outstanding ETG actions • Bolney substation extension works – targeted consultation feedback • Approach to ES – Minerals safeguarding • DCO timetable and Statements of Common Ground 	<p>Minutes NOT PM or RWE reviewed Minutes NOT issues to stakeholders</p>
20/06/23	ETG – Transport and socioeconomics	<ul style="list-style-type: none"> • Rampion 2 indicative timeline • Review of consultations • Onshore cable route selection • Update on progress since March 2023 • EIA considerations – final onshore cable route • Survey and data collection update • DCO timetable and Statements of Common Ground 	<p>Minutes NOT PM or RWE reviewed Minutes NOT issues to stakeholders</p>

22/06/23	ETG – Terrestrial Ecology and Water Environment	<ul style="list-style-type: none"> • Rampion 2 indicative timeline • Review of consultations • Onshore cable route selection • Update on progress since March 2023 • EIA considerations – final onshore cable route • Trenchless crossings of designated sites • Ancient Woodland and veteran trees • Woodland • Hedgerows/treelines • Vegetation Retention Plan • Dormouse • Water vole • Bats • Wintering and migratory birds • Survey and data collection update • Outstanding ETG actions – Biodiversity Net Gain Provision criteria • EIA considerations – final route – Source Protection Zones • EIA considerations – final route – River Arun floodplain • EIA considerations – final route – onshore substation and Bolney substation extension works • DCO timetable and Statements of Common Ground 	<p>Minutes NOT PM or RWE reviewed Minutes NOT issues to stakeholders</p> <p>Documents shared with stakeholders:</p> <ul style="list-style-type: none"> • Appendix 22.2 – Terrestrial Ecology and Nature Conservation Desk study • Appendix 22.3 – Extended Phase 1 Habitat Survey • Appendix 22.4 – National Vegetation Classification Survey • Appendix 22.5 – Hedgerow Survey Report • Appendix 22.6 - Great Crested Newt survey • Appendix 22.7 – Fisheries Habitat Assessment • Appendix 22.8 – Bat Survey Report • Appendix 22.9 – Hazel Dormouse Survey • Appendix 22.10 – Terrestrial Invertebrate Survey • Appendix 22.11 – Badger, Otter, Water Vole Survey • Appendix 22.12 – Reptile Survey • Appendix 22.13 – Breeding Bird Survey • Appendix 22.14 – Winter Bird Survey
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			<ul style="list-style-type: none"> Appendix 22.17 – Bat Tree Ground Level Visual Assessment Report
TARGETED ENGAGEMENT – June/July 2023			
20/06/23	Targeted engagement – Ground Conditions – Minerals safeguarding	<ul style="list-style-type: none"> Approach to Minerals Safeguarding Baseline data Assessment methodology Summary of PEIR findings and S42 comments Discussion 	<p>Minutes PM and RWE reviewed Minutes issued to stakeholders</p>
29/06/23	Targeted engagement – Air Quality Emissions meeting	<ul style="list-style-type: none"> Final onshore cable route Sussex Air Quality and Emissions Mitigation Guidance How Rampion 2 meets the Sussex Air Quality Emissions Guidance criteria How Rampion does not meet the Sussex Air Quality and Emissions Guidance criteria Summary of Approach 	<p>Minutes NOT PM or RWE reviewed Minutes NOT issues to stakeholders</p> <p>Documents shared with stakeholders:</p> <ul style="list-style-type: none"> MEMO_Air Emissions Mitigation Strategy_060723
07/07/23	Targeted engagement – Arboriculture discussion meeting	<ul style="list-style-type: none"> Method and Approach – Veteran Trees Method and Approach – Ancient Woodland under 2 hectares Oakendene and Bolney substations 	<p>Minutes NOT PM or RWE reviewed Minutes NOT issues to stakeholders</p> <p>Documents shared with stakeholders:</p> <ul style="list-style-type: none"> Rampion 2 - Arboricultural Survey Method (extract for consultee discussion) Rampion 2 - Arboricultural Constraints Plan Rampion 2 Offshore Wind Farm - Arboricultural Survey Data - July 23
13/07/23	Targeted engagement – Transport meeting	<ul style="list-style-type: none"> Traffic modelling methodology Access numbering 	<p>Minutes NOT PM or RWE reviewed Minutes NOT issues to stakeholders</p>

		<ul style="list-style-type: none"> • Visibility splays 	<p>Documents shared with stakeholders:</p> <ul style="list-style-type: none"> • 18.8 Landscape elements along cable corridor • 23.14 Accesses used - onshore • 23.15 Strategic Access Routes construction phase • 23.18 Study Area 1 HGV Access Strategy
20/07/23	Targeted engagement – Transport meeting 2	<ul style="list-style-type: none"> • Data provision • Survey • Presentation of PRowMWP • Presentation of CTMP • Detail of proposals regarding Washington Road Pegasus crossing and other crossings of PRow • Detail regarding assessed impacts on the South Downs Way • Detail/status of Travel Plans – onshore and offshore workers • HGV routing in relation to Cowfold • Interaction of Proposed Development with Cowfold AQMA • Data requirements to enable DMRB risk assessments on all accesses • Detail of engagement with East Sussex County Council • AA35 • Details of provisions for NMUs where Proposed development crosses PRowS 	<p>Minutes NOT yet drafted Minutes NOT PM or RWE reviewed Minutes NOT issues to stakeholders</p>

Underwater Noise Study for Sea Bream Disturbance



Document Control

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Contents

1.	Introduction	4
2.	Black seabream and fish reactions	5
3.	Ambient underwater noise at Kingmere MCZ	6
4.	Soundscape at Kingmere MCZ	8
5.	Impact of piling noise at Kingmere MCZ	9

List of Figures

Figure 1. Red Seabream Audiograms	5
Figure 2. Kingmere MCZ Boundry and Recorded Hydrophone Location	6
Figure 3. Baseline Underwater Noise Levels	7
Figure 4. Typical Noise Spectra for Various Conditions at Kingmere	8
Figure 5. Kingmere MCZ ‘Loud Boat’, Seabream Audiogram and Example Measured Pile Strikes	9
Figure 6. Inspire Light Noise Modelling For 141 DB Pile Strike, with Various Mitigations	11

1. Introduction

There is continuing concern regarding the potential for materially significant disturbance to black seabream (*Spondyliosoma cantharus*) during their nesting season, caused by underwater noise produced during impact piling for turbine foundations at the Rampion 2 OWF.

Acoustic disturbance can only occur to an individual of a species when it is audible. At a minimum, an introduced noise must be:

- a) above the individual's hearing threshold, and
- b) exceeding the existing background noise.

Other context-dependent conditions will also apply.

It is recognised that noise from piling during the installation of foundations at Rampion 2 will create noise in the surrounding water and this could lead to disturbance. Background underwater noise monitoring was undertaken at the Kingmere MCZ, a known habitat for black seabream nesting. The establishment of a baseline, the typical ambient noise levels from existing noise sources, and the application of known and modelled pile driving noise together, combined with data from relevant noise impact articles in the literature, is intended to help identify an appropriate disturbance threshold

2. Black seabream and fish reactions

Black seabream hearing sensitivity

No known audiogram is available for black seabream. However, red seabream (*Pagrus major*) is in the same family, *Sparidae*. An audiogram (using Auditory Evoked Potential (AEP) and behavioural techniques) was measured by Kojima *et al.* (2010) for this species and provides the best available proxy. It is believed that this species would be in Group 3 of the hearing categories for fishes identified by Popper *et al.* (2014), fishes with swim bladders that are close, but not intimately connected, to the ear. These fishes are sensitive to both particle motion and sound pressure, but will be less sensitive to noise than those in Group 4. No particle motion audiogram is available for either species.

Behavioural audiograms tend to provide the best indication of the noise to which a fish is sensitive in practice. Seabream appear to have peak hearing sensitivity in the 300-500 Hz bands.

Fish reaction to noise

Studies over the last five to ten years have looked at reactions of fish to noise stimulus. Generally speaking these have shown reactions to a specific, controlled-level noise source but rarely with appropriate consideration of the stimulus noise level above the ambient noise present.

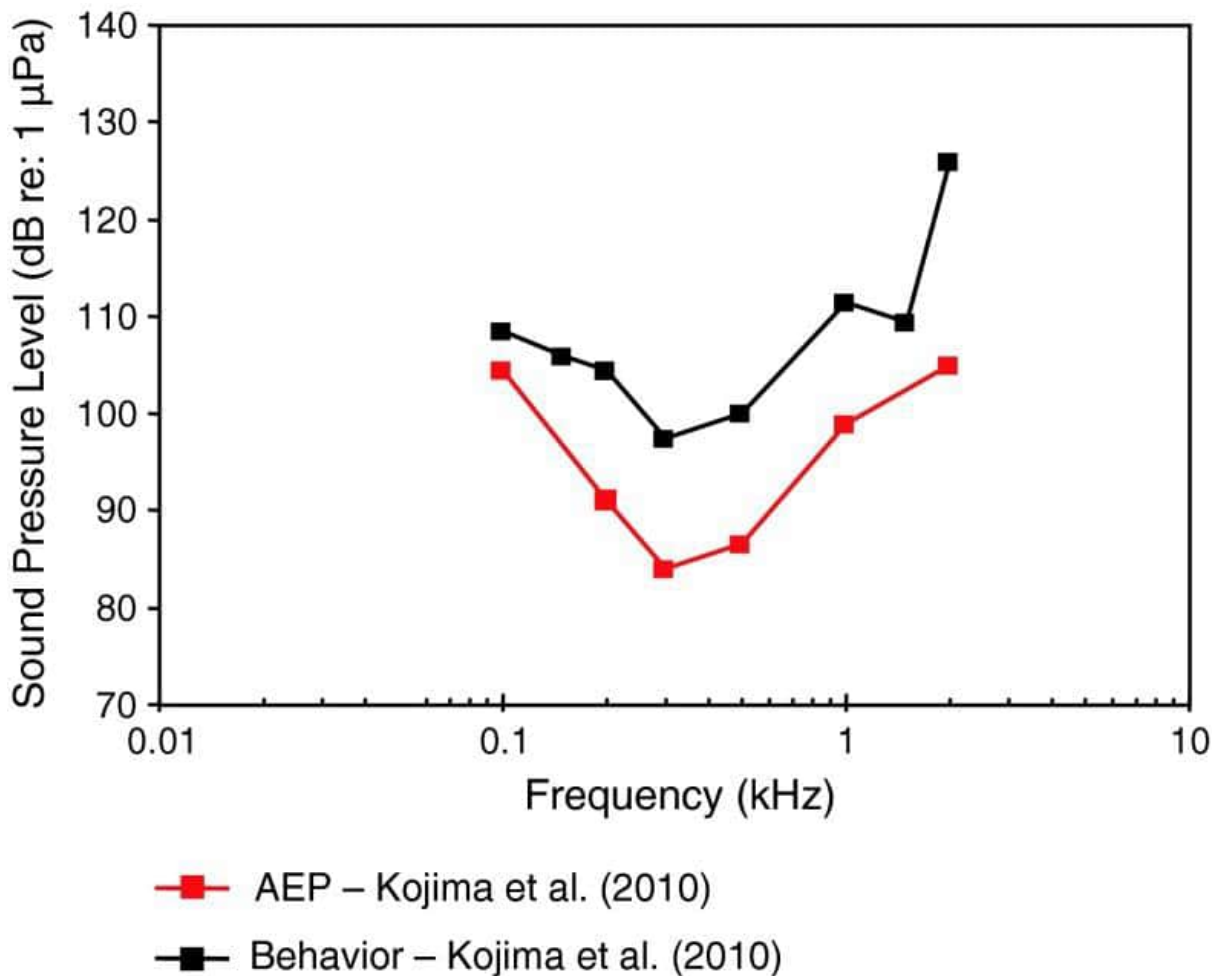


Figure 1- Red seabream audiograms, after Kojima et al (2010)

3. Ambient underwater noise at Kingmere MCZ

A 15-day continuous background noise survey was undertaken at the nearest edge of the Kingmere MCZ to the Rampion 2 boundary, representing the conditions at the point where in theory the noise from piling could be greatest. The survey was undertaken between 4th July 2022 and 19th July 2022 and captured the full range of high tides and low tides from springs to neaps. The location of the hydrophone for the survey is shown in **Error! Reference source not found.**

The purpose of this survey was to demonstrate the background noise levels to which resident seabream are already exposed, and to establish a baseline for any new noise (such as from impact piling).

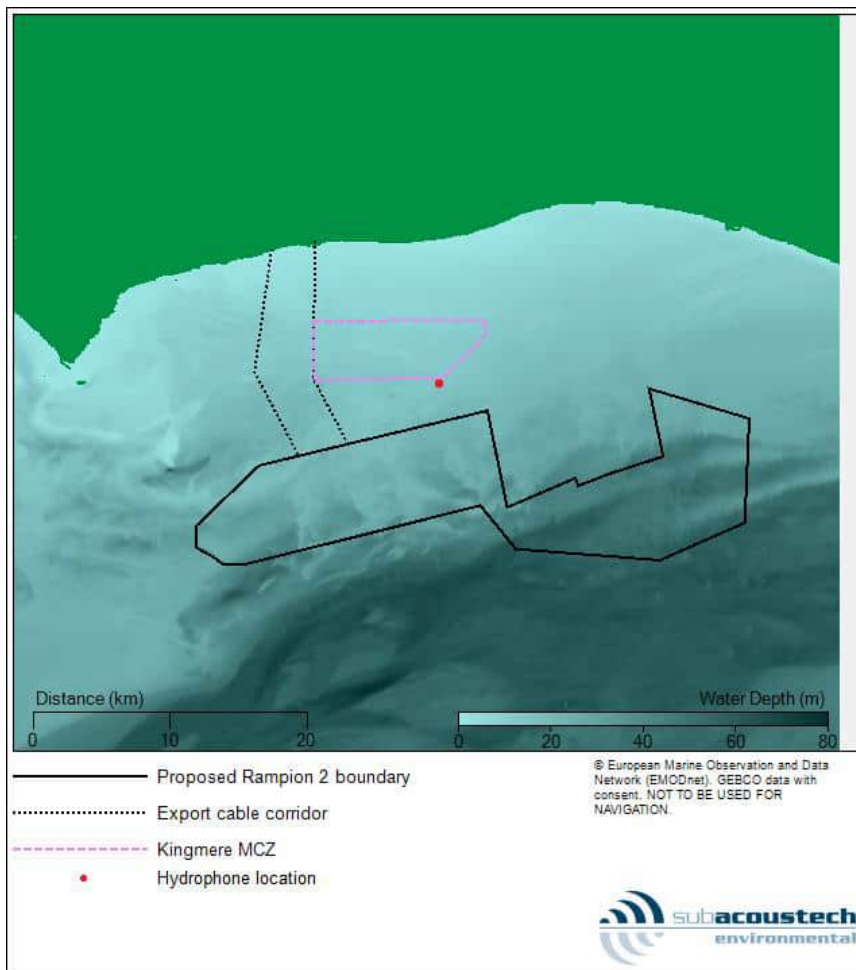


Figure 2 – Kingmere MCZ boundary and recorded hydrophone location

Error! Reference source not found. presents the background noise levels sampled over the 15-day period, with a 1-minute resolution. This includes the SPL_{RMS} (underlying noise level) and SPL_{peak} (highest noise level within sample period).

Clear cyclical variations can be seen in the data, driven by tides: the periods of high tidal flow lead to the highest background noise in a day. It is acknowledged that this will include some contribution from the currents acting on the mooring, the data was subjected to a 20 Hz high-pass filter to reduce this effect. A typical minimum background noise level during low tidal flow periods was 103 dB SPL_{RMS} , whereas during periods of high tidal flow the background level commonly exceeded 120 dB SPL_{RMS} .

As no underwater noise data has been previously collected at Rampion 2, a spot measurement taken during the Rampion 1 met mast installation of 117 dB SPL_{RMS} had been presented to the SNCBs as an estimated background noise level. This survey shows that the estimated noise level was a reasonable estimate.

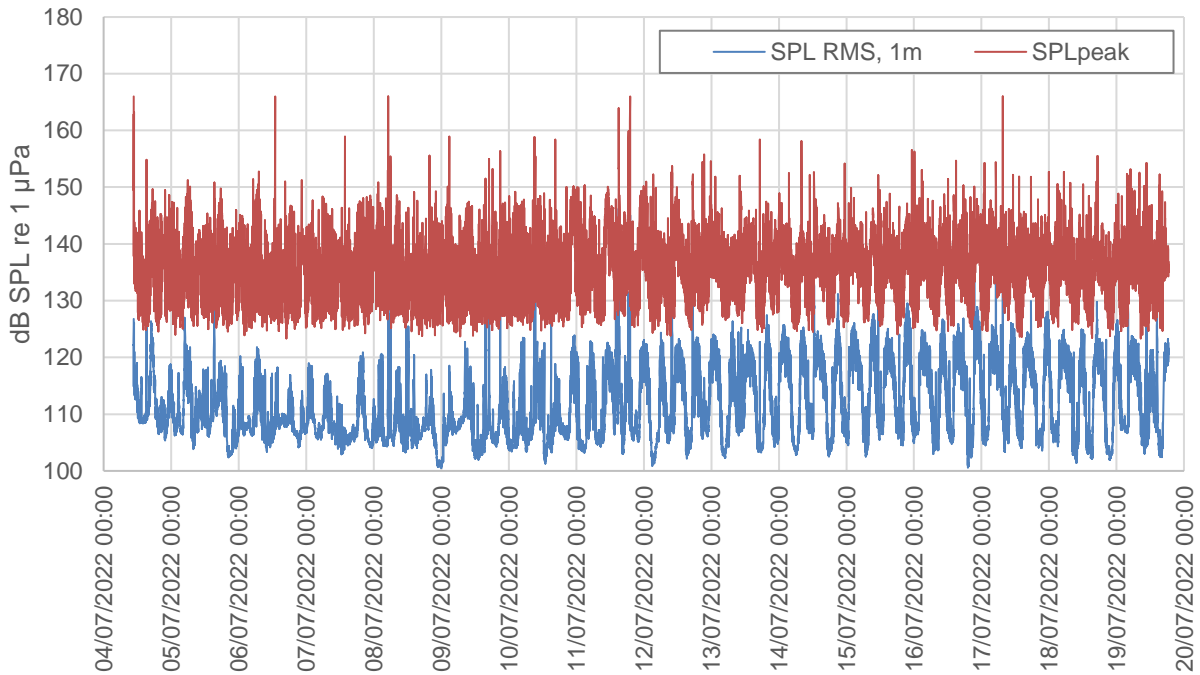


Figure 3- Baseline underwater noise levels

The peak noise levels naturally occurring were normally in excess of 140 dB SPL_{peak}, and exceeded 160 dB SPL_{peak} at multiple times on any given day.



4. Soundscape at Kingmere MCZ

The existing noise at the Kingmere MCZ monitoring location was generally either caused by tidal flows or passing vessels. Critical to audible sound is not just overall level, but also frequency, and **Error! Reference source not found.** shows the spectra derived from events at Kingmere over the sampled period.

It is clear that the effect of the tides is at low frequency <100 Hz. Passing vessels increase noise across the spectrum, to 1000 Hz, and beyond if the source is loud. Three spectra shown are for recorded vessels, likely of different types or distances from the hydrophone: the highest level is from a loud vessel of a sort that was observed passing through the region generating these noise levels once or twice a day on average. The 'typical boat' was seen four or five times a day; 'quiet boats' are frequently in the background. It is not possible to determine any specific information on the boats or their distance from this data.

Also included on this chart is the seabream behavioural audiogram. This shows that the low/high flow background noise in the absence of vessels is below the seabream hearing threshold, and therefore inaudible. More importantly, this means the reference for disturbance should rightly be the seabream hearing threshold rather than the background noise level.

The "loud vessel" is approximately only 25 dB above the seabream hearing threshold. This implies that as a result of the seabream sensitivity, the "loud vessel" would be audible to the fish but is unlikely to be perceived as "loud".

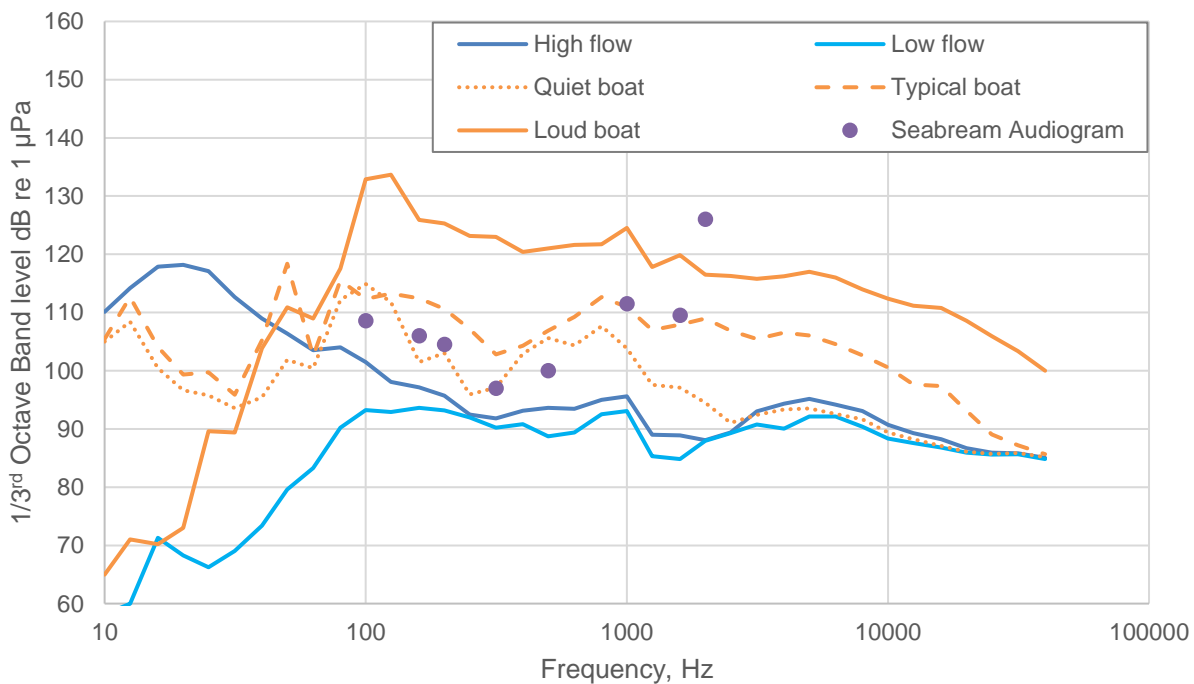


Figure 4- Typical noise spectra for various conditions at Kingmere

5. Impact of piling noise at Kingmere MCZ

In order to understand the potential impacts of noise from piling, the typical ambient noise levels from **Error! Reference source not found.** and overlaid pile strikes previously measured from monopile installation at the Burbo Bank Extension OWF from 4,100 m and 7,800 m (piling was unmitigated) were used. This is shown in **Error! Reference source not found.** 4,100 m was chosen as it represented the measured noise data that was closest to the distance of the actual closest point of the Kingmere MCZ to the Rampion 2 boundary, with 7,800 m close to double that distance. The seabream audiogram is also included.

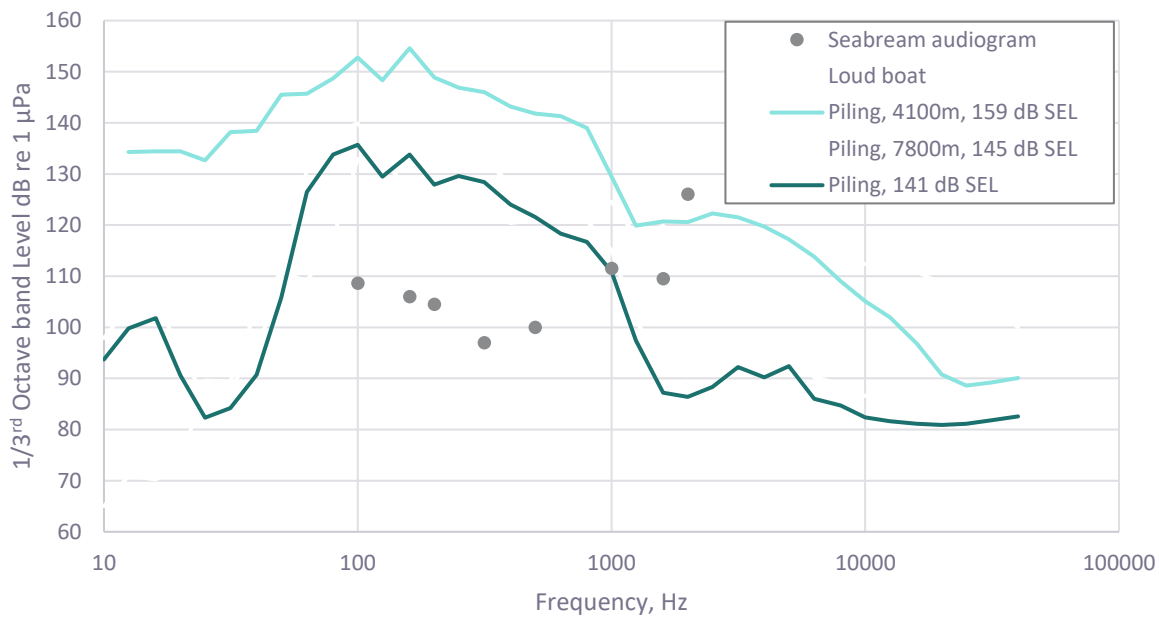


Figure 5- Kingmere MCZ “loud boat”, seabream audiogram, and example measured pile strikes, 1/3rd octave band centre frequency noise spectra

Typically, the SEL_{ss} is of a similar magnitude to the SPL over the same period so indicative comparisons between the SEL and audiogram can be made. The average single strike Sound Exposure Level (SEL_{ss}) of the strike spectrum at 4100 m was 159 dB SEL_{ss} and nearly 50 dB above the seabream hearing threshold. The pulse at 7800 m is roughly 14 dB quieter, 145 dB SEL_{ss} .

Rampion Extension Development (RED) have previously suggested that a mitigated piling noise level of 147 dB SEL_{ss} as appropriate to avoid the risk of significant disturbance to the fish species. This was based on research by Radford *et al.* (2016)¹ which showed a stress response (increased ventilation) in seabass (of the same order as seabream) to simulated pile driving noise at 147 dB SEL_{ss} . This proposed threshold was rejected by Natural England.

¹ Radford, A. N., Lebre, L., Lecaillon, G., Nedelec, S. L., and Simpson, S. D. (2016). Repeated exposure reduces the response to impulsive noise in European seabass. *Global Change Biol.* 22, 3349–3360, doi: 10.1111/gcb.13352

Research by Kastelein *et al.* (2017)² concluded that seabass exhibited an initial reaction to impulsive noise at levels of 141 dB SEL_{ss} but that this was short lived and there is no evidence for any consistent sustained response. The study concluded that there are unlikely to be any adverse effects on their ecology. As a result, 141 dB SEL_{ss} has been suggested as representing an alternative underwater noise piling disturbance threshold.

The findings of Radford *et al.* (2016) and Kastelein *et al.* (2017) may be considered to be at different points along a spectrum of possible behavioural effects, with Radford finding a slight physiological stress response at 147 dB and Kastelein finding only an initial startle response at 141 dB. It seems reasonable to suggest that the threshold at which a behavioural response would constitute a genuine disturbance may lie somewhere between 141 and 147 dB.

An additional frequency spectrum has been included on **Error! Reference source not found.** that adjusts the 7800 m pile strike down to an equivalent noise level of 141 dB SEL_{ss}. It can be seen that this is only slightly higher than the “loud boat” spectrum. Therefore, at approximately 30 dB above the hearing threshold, it is anticipated that the risk of sustained disturbance is low. The calculated noise level for this would be worst case (maximum hammer energy)

Underwater noise modelling has been undertaken to investigate the propagation of underwater noise from piling on the northern boundary of the Rampion 2 site. Various noise attenuations have been applied, representing noise mitigation devices. The results are shown in **Error! Reference source not found.**

Due to the vicinity of the edge of the site to Kingmere MCZ, mitigation may still be necessary to reduce the underwater noise to 141 dB SEL within the closest proximity array area to the MCZ.

Note the attenuations suggested are only intended as indicative targets to be determined with detailed future investigation based on site specific conditions and parameters.

The following generic performances of mitigation options being explored are offered as a guide (although other emergent technology and suppliers may also be considered, prior to any commitment to which if any mitigation would be applied):

- IHC Pulse hammer (4-6 dB reduction)
- MENCK MNRU hammer (9-11 dB reduction)
- Double bubble curtain (potential 15 dB reduction)
- Double bubble curtain and MENCK MNRU hammer (potential 25 dB reduction)

² Kastelein RA, Jennings N, Kommeren A, Helder-Hoek L, Schop J. Acoustic dose-behavioral response relationship in sea bass (*Dicentrarchus labrax*) exposed to playbacks of pile driving sounds. *Mar Environ Res.* 2017 Sep;130:315-324. doi: 10.1016/j.marenvres.2017.08.010. Epub 2017 Aug 31. PMID: 28874258.

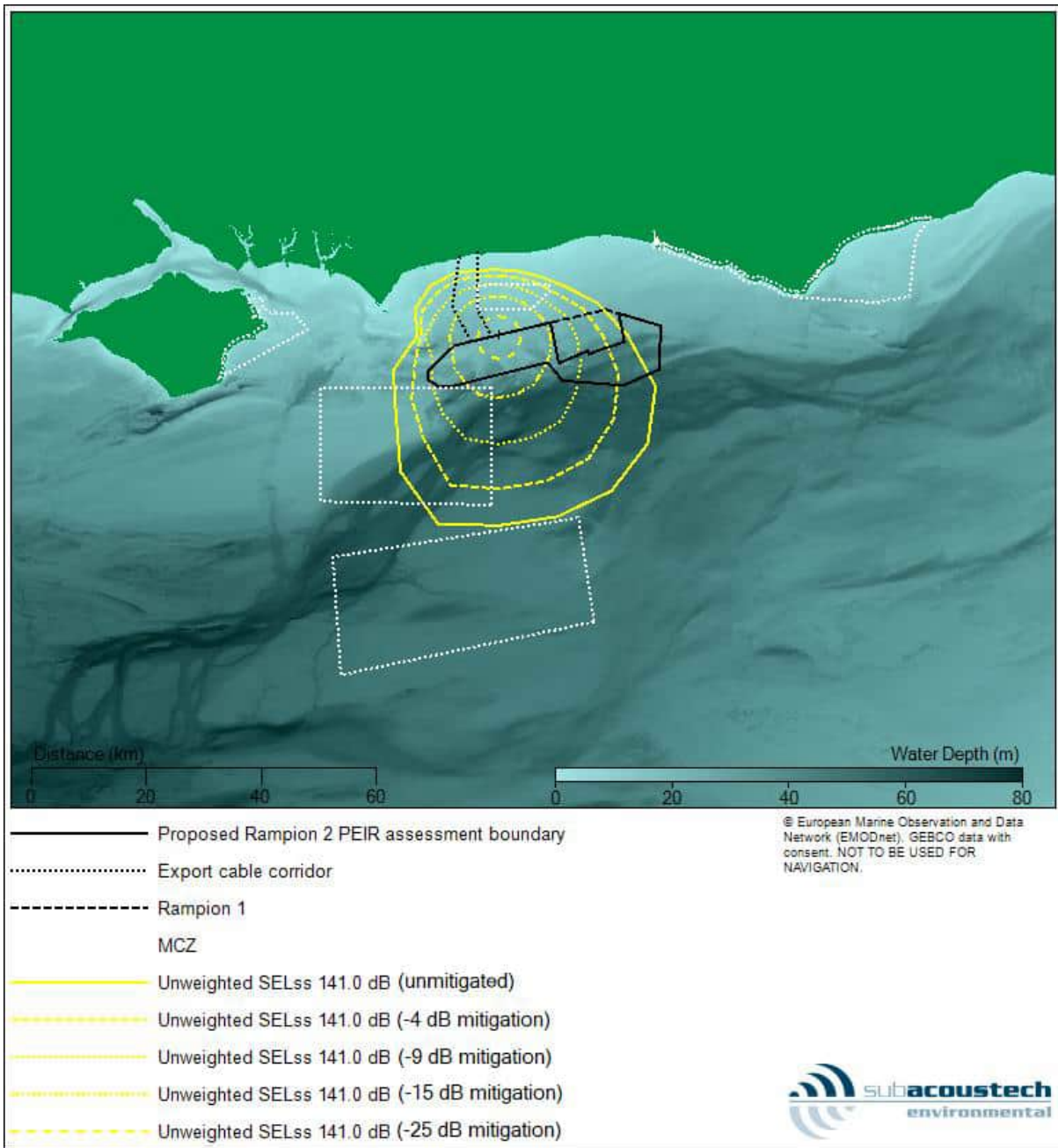


Figure 6– INSPIRE Light Noise modelling for 141 dB SEL pile strike, with various mitigations

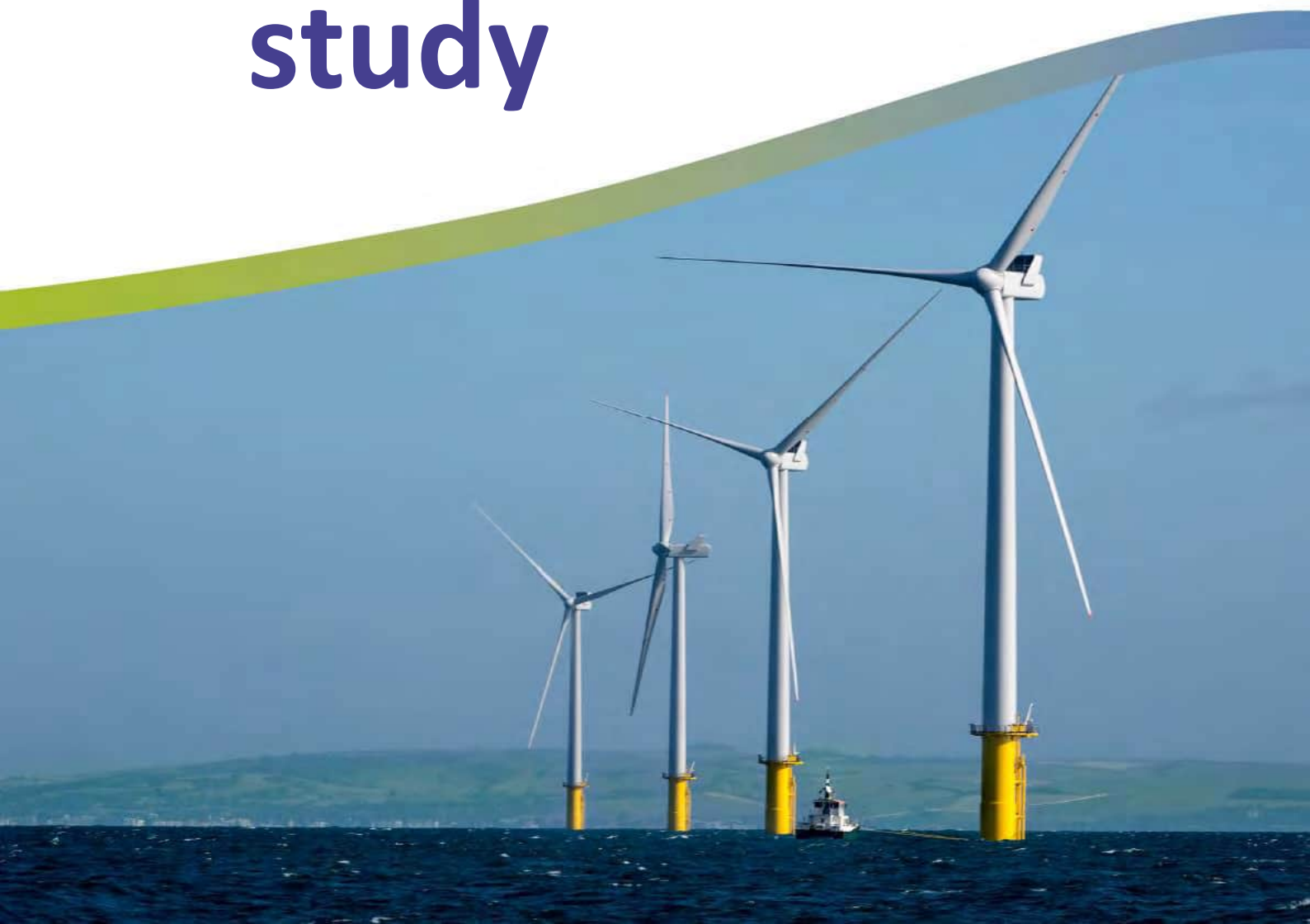


4.22.2



Volume 4, Appendix 22.2

Terrestrial ecology desk study



Contents

1.	Introduction	3
2.	Study Area	4
3.	Methodology	5
4.	Results	10
4.1	Statutory designated sites of nature conservation	10
4.2	Non-statutory designated sites of nature conservation	14
4.3	Habitats	25
	Habitats of Principal Importance and Ancient Woodland	25
	Waterbodies	26
	Vascular plants	26
	MAVES Ecological Survey Reports 2017 and 2018	28
4.4	Fauna (excluding birds)	28
	Mammals, reptiles and amphibians	28
	Invertebrates	34
	A27 Arundel Bypass Environmental Assessment Report	35
	MAVES Ecological Survey Reports 2017 and 2018	36
4.5	Ornithological records	36
	Overview	36
	A27 Arundel Bypass Environmental Assessment Report	41
	MAVES Ecological Survey Reports 2017 and 2018	42
4.6	Legally controlled species	42
	Overview	42
	MAVES Ecological Survey Reports 2017 and 2018	46
5.	Glossary	47
6.	References	49

List of Tables

Table 3-1	Key sources of terrestrial ecology and nature conservation sites	5
Table 3-2	Sources of desk study data	8
Table 4-1	Details of statutory designated sites of nature conservation	10
Table 4-2	Details of non-statutory designated sites of nature conservation within 5km of the proposed DCO Order Limits	15
Table 4-3	Priority Habitat and Ancient Woodland Inventory information	25
Table 4-4	Summary of legally protected and notable species (mammals, reptiles and amphibians)	28

Table 4-5	Summary of granted European Protected Species Licences 2013-2023, taken from MAGIC Website (Defra, n.d.)	34
Table 4-6	Schedule 1 breeding bird records 2013-2023, data provided by SOS	37
Table 4-7	Records of species of principal importance from Sussex Ornithological Society	38
Table 4-8	Summary of WeBS records showing peak annual counts 2014/15 – 2020/21 of species notified within the Arun Valley SPA or Arun Valley Ramsar and Pagham Harbour SPA / Ramsar designations.	40
Table 4-9	Legally controlled species within 5km of the proposed DCO Order Limits	42
Table 5-1	Glossary of terms and abbreviations	47

List of Figures

Figure 22.2.1	Not yet ready
Figure 22.2.2	Internationally and nationally designated sites of ecological importance
Figure 22.2.3	Nationally designated sites within 5km of the DCO Order Limits
Figure 22.2.4	Non-designated sites of ecological importance within 5km of the proposed DCO Order Limits
Figure 22.2.5	Ancient Woodland and Ancient replanted woodland within 500m of the DCO Order Limits
Figure 22.2.6	Priority Habitats within, and within 500m of the DCO Order Limits
Figure 22.2.7	Not yet ready
Figure 22.2.8	Not yet ready

1. Introduction

- 1.1.1 The “Biodiversity and Geological Conservation” section of Overarching National Policy Statement for Energy (EN 1) (Department of Energy and Climate Change, 2011) outlines the expectations of the United Kingdom (UK) Government regarding the consideration of biodiversity. Paragraph 5.3.3 recommends that the Applicant should ensure that details of “*internationally, nationally and locally designated sites of ecological or geological conservation importance, on protected species and on habitats and other species identified as being of principal importance for the conservation of biodiversity*” are provided to inform a proportionate assessment of the effects of a project (in this case Rampion 2 Offshore Wind Farm, hereafter referred to as ‘Rampion 2’ or the ‘Proposed Development’).
- 1.1.2 The purpose of this Appendix is to present the results of a desk study undertaken to identify statutory and non-statutory sites designated for their nature conservation importance, Habitats and Species of Principal Importance in England, and other legally protected, notable and controlled species relevant to the onshore elements of Rampion 2.
- 1.1.3 The results of this desk study have been used to support the Environmental Impact Assessment (EIA) process and the Habitats Regulations Assessment (HRA) for Rampion 2. This Appendix should be read in conjunction with **Chapter 22: Terrestrial ecology and nature conservation, Volume 2**.

2. Study Area

- 2.1.1 This desk study is based on the onshore elements of the proposed Development Consent Order (DCO) Order Limits as described in **Section 1.2** of **Chapter 1: Introduction, Volume 2** (Application Document Reference: X.X.X) of the Environmental Statement.
- 2.1.2 The 'Study Area' for this desk study comprises:
- Land within the proposed DCO Order Limits, as shown on **Figure 22.2.1**
 - areas of search (measured from the proposed DCO Order Limits) for sites designated for their nature conservation interest at the international / national site network, national and local levels;
 - an area of search for legally protected and notable ecological features; and
 - an area of search for any legally controlled species.
- 2.1.3 The extent of the areas of search (see **Table 3-1**) were determined based on best practice guidance and a high-level overview of the types of ecological features present, and the potential effects that could occur (see **Figures 22.2.2 - 22.2.4**).

3. Methodology

3.1.1 Data on internationally, nationally and locally designated sites for nature conservation, legally protected, notable and controlled species and habitats (see **Table 3-1** and **Table 3-2** for details) were obtained through data requests to a range of nature conservation organisations and interrogation of publicly available databases. These data sources are:

- A27 Arundel Bypass Environmental Assessment Report, Highways England (2019) (online reports interrogated May 2023);
- British Trust for Ornithology (BTO) – Wetland Bird Survey (WeBS) information (database interrogated May 2023);
- Mid Arun Valley Environmental Survey 2017 and 2018 (MAVES) (online reports interrogated May 2023);
- Multi Agency Geographic Information for the Countryside (MAGIC) database (interrogated May 2023) (Department for Environment, Food and Rural Affairs (Defra), n.d.);
- National Biodiversity Network (NBN) Gateway (interrogated May 2023);
- Royal Society for the Protection of Birds (RSPB) (through data request in 2021);
- South Downs National Park Authority (SDNPA) (provided through technical engagement);
- Sussex Biodiversity Records Centre (SxBRC) (through data request in May 2023); and
- Sussex Ornithological Society (SOS) (through data requests in 2021 and 2022).

Table 3-1 Key sources of terrestrial ecology and nature conservation sites

Ecological Feature	Example / Definition	Coverage of Study Area
Statutory sites designated under international conventions or the	Special Areas of Conservation (SAC), candidate SAC (cSAC), Special Protection Areas (SPA), proposed SPA,	SACs and possible ² SACs were searched for inside and within 12km of the proposed DCO Order Limits to reflect recommendations in the Draft Sussex Bat Special Area of

² MAGIC (Defra, n.d.) identifies possible SACs as a category, as opposed to candidate SACs. Possible SACs are sites that have been identified but have not been submitted to the European Commission for designation (cSACs are the same except they have been submitted but are not yet designated). There are no cSACs currently for the UK – possible SACs were included to ensure completeness.

Ecological Feature	Example / Definition	Coverage of Study Area
Habitats Regulations¹	Ramsar sites and proposed Ramsar sites.	<p>Conservation: Planning and Landscape Enhancement Protocol. (also known as the “<i>Draft Sussex Bat SAC Protocol</i>”) (SDNPA & Natural England 2018).</p> <p>SPAs, proposed SPAs, Ramsar sites and proposed Ramsar sites were searched for inside and within 10km of the proposed DCO Order Limits reflecting the upper foraging distances of dark-bellied brent geese <i>Branta bernicla bernicla</i> (Summers & Critchley, 1990) and Bewick’s swan <i>Cygnus columbianus bewickii</i> (Robinson <i>et al.</i> 2004) from roost locations. These species were identified as the species with the largest foraging distances for terrestrial habitats for any SPA features within the wider area.</p>
Statutory sites designated under national legislation	Sites of Special Scientific Interest (SSSIs), National Nature Reserves (NNRs) and Local Nature Reserves (LNRs)).	<p>SSSIs with bats listed on the citation were searched for inside and within 12km of the proposed DCO Order Limits.</p> <p>NNRs and all other SSSIs were searched for inside and within 5km of the proposed DCO Order Limits following precedent for other large infrastructure projects.</p> <p>LNRs were searched for within 1km of the proposed DCO Order Limits reflecting the purpose of their designation.</p>
Locally designated sites	In Sussex, these are termed as Local Wildlife Sites (LWS) and notable road verges (NRV).	LWS and NRV were searched for inside and within 5km of the proposed DCO Order Limits.
Habitats of Principal	HPIs and SPIs, species recorded on The	HPI and SPI, Red listed species and Legally protected species were

¹ Sites (for example, SPAs and SACs) that were formerly termed European sites are referred to within this Appendix as constituents of the national site network reflecting the Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019.

Ecological Feature	Example / Definition	Coverage of Study Area
Importance (HPI) and Species of Principal Importance (SPI)³, Red listed species and legally protected species.	International Union for Conservation of Nature (IUCN) Red List of Threatened Species and/or local Red Lists ⁴ for the UK or relevant sub-units (for example, regions or counties) and legally protected habitats and species include those listed on Schedules 1, 5 and 8 of the Wildlife and Countryside Act 1981 (those included on Schedules 2 and 5 of the Habitats Regulations. Badger and Hedgerows are provided protection under the Protection of Badgers Act 1992 and the Hedgerows Regulations 1997 respectively.	<p>searched for inside and within 5km of the proposed DCO Order Limits unless otherwise specified.</p> <p>Ornithological data provided by SOS is supplied by tetrad (a square containing four Ordnance Survey 1km grid squares). Data for all tetrads that are within or overlap with the Scoping Boundary⁵ have been obtained.</p> <p>Data on stone curlew <i>Burhinus oedicephalus</i> and lapwing <i>Vanellus vanellus</i> nesting locations and habitat creation measures (for example, stone curlew plots) supplied by the RSPB within the Scoping Boundary⁵ and within a 500m buffer of it.</p> <p>Summary WeBS data available from the BTO was obtained for all count sectors within the Scoping Boundary⁵ or within 1km of it at the closest point.</p>
Legally controlled species	Legally controlled species include those listed on Schedule 9 of the WCA Wildlife and Countryside Act 1981 (as amended).	Legally controlled species searched for inside the proposed DCO Order Limits and within 5km of it.

³ Habitats and Species of Principle Importance covered under Section 41 of the Natural Environment and Rural Communities (NERC) Act 2006.

⁴ The IUCN red list provides taxonomic, conservation status and distribution information on taxa that have been globally evaluated using the IUCN Red List Categories and Criteria. This system is designed to determine the relative risk of extinction, and the main purpose of the IUCN Red List is to catalogue and highlight those taxa that are facing a higher risk of global extinction - those listed as Critically Endangered, Endangered and Vulnerable (IUCN, 2021).

⁵ A wider area for bird records was searched to inform the Scoping Report (Rampion Extension Development Limited (RED), 2020). Given the structure of the data (provided as tetrads), it has not been tailored to the proposed DCO Order Limits however it is considered to be representative given the mobile nature of birds.

Ecological Feature	Example / Definition	Coverage of Study Area
Bat roosting locations	Bat roosting locations are considered separately from other species records in accordance with guidance (Collins, 2016).	Bat roosting locations were searched for inside and within 5km of the proposed DCO Order Limits.
Waterbody locations	Waterbodies may support species within the groups listed above (for example legally protected great crested newts).	Waterbody locations were searched for inside the proposed DCO Order Limits and within 250m of it.

Table 3-2 Sources of desk study data

Source	Summary of information provided
A27 Bypass Environmental Assessment Report (Highways England, 2019)	Data on legally protected and notable flora and fauna inside the proposed DCO Order Limits and within 5km of it.
Wetland Bird Survey Reports	Core count data (yearly peaks) for WeBS count sites within the proposed DCO Order Limits and within 1km of it.
MAGIC (Defra, n.d.)	Data on the location of statutorily designated sites, data from the Ancient Woodland and Priority Habitat Inventories, granted European Protected Species Licence locations (2013 to 2023) within 100m of the proposed DCO Order Limits and great crested newt eDNA survey outcomes from 2017-2019 effort by Natural England for district licensing purposes [accessed May 2023].
MAVES	Report data on legally protected and notable flora and fauna within the proposed DCO Order Limits and within 5km of it.
NBN Gateway	Information on legally protected and notable flora and fauna was interrogated within the proposed DCO Order Limits and within 500m of it.
RSPB	Data on stone curlew and lapwing breeding within the Scoping Boundary ⁵ and within 500m of it and location of habitat creation (for example, stone curlew plots) within this area.
SDNPA	Data on legally protected and notable fauna in the South Downs National Park, and information on the Sussex

Source	Summary of information provided
SxBRC	Study Area monitoring project on impacts of farming on flora and fauna of arable land inside the proposed DCO Order Limits and within 5km of it (provided as personal comments from ranger staff in 2021).
SOS	Data on species listed on Schedule 1 of the Wildlife & Countryside Act 1981 (as amended) and notable bird species within tetrads that overlap with the Scoping Boundary ⁵ . Additional information requested on lapwing nesting habitat and Bewick's swan foraging habitat locations.

3.1.2 In addition, a local resident provided field observations for the Cowfold Stream and surrounding area when within and close to the proposed DCO Order Limits.

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4. Results

4.1 Statutory designated sites of nature conservation

- 4.1.1 Statutory designated sites of nature conservation were identified from datasets available from [MAGIC](#) (Defra, n.d.) (a service managed by Natural England).
- 4.1.2 A total of six international / national site network sites are present within the areas of search identified in **Table 4-1**. There are a number of overlapping designations (e.g. the same geographic area is both a Ramsar site and an SPA) meaning that these six sites equate to four distinct geographical locations. None of these sites are within the proposed DCO Order Limits.
- 4.1.3 In addition, there are 14 SSSIs and one LNR identified within the relevant areas of search identified in **Table 4-1**. Climping Beach SSSI and West Beach LNR (overlapping designations) are within the proposed DCO Order Limits and Amberley Mount to Sullington Hill SSSI is directly adjacent to the proposed DCO Order Limits.
- 4.1.4 **Figure 22.2, Volume 3** illustrates the locations of international / national site network sites, whilst **Figure 22.3, Volume 3** shows the locations of sites designated via national legislation.

Table 4-1 Details of statutory designated sites of nature conservation

Site name	Designated features	Distance and direction from the proposed DCO Order Limits
International / national site network sites		
Arun Valley Ramsar site (overlaps with Arun Valley SAC, Arun Valley SPA, Amberley Wild Brooks SSSI, Waltham Brooks SSSI and Pulborough Brooks SSSI)	<ol style="list-style-type: none"> 1) Qualifies under Ramsar criterion 2 for seven wetland invertebrate species listed on the British Red Data Book, four nationally rare and four nationally scarce plant species; 2) Qualifies under Ramsar criterion 3 for a diverse and rich ditch flora; and 3) Qualifies under Ramsar criterion 5 for its assemblage of wintering waterfowl. 	4.8km north-west
Arun Valley SAC (overlaps with Arun Valley Ramsar site,	<ol style="list-style-type: none"> 1) Ramshorn snail <i>Anisus vorticulus</i>. 	4.8km north-west

Site name	Designated features	Distance and direction from the proposed DCO Order Limits
Arun Valley SPA, Amberley Wild Brooks SSSI, Waltham Brooks SSSI and Pulborough Brooks SSSI)		
Arun Valley SPA (overlaps with Arun Valley SAC, Arun Valley Ramsar site, Amberley Wild Brooks SSSI, Waltham Brooks SSSI and Pulborough Brooks SSSI)	1) Bewick's swan (non-breeding); and 2) Waterfowl assemblage (non-breeding): including shoveler <i>Anas clypeata</i> , teal <i>Anas crecca</i> , wigeon <i>Anas penelope</i> and Bewick's swan.	4.8km north-west
Duncton to Bignor Escarpment SAC	1) Asperulo-Fagetum beech forests.	8.3km north-west
Solent and Dorset Coast SPA	1) Sandwich tern <i>Sterna sandvicensis</i> (breeding); 2) Common tern; and 3) Little tern.	1.0km south-west
The Mens SAC	1) Atlantic acidophilous beech forests with Ilex and sometimes also Taxus in the shrublayer (Quercion roburi-petraeae or Ilici-Fagenion); and 2) Barbastelle <i>Barbastella barbastellus</i> .	11.2km north-west
National sites		
Amberley Mount to Sullington Hill SSSI⁶	3) CG2 – <i>Festuca ovina</i> – <i>Avenula pratensis</i> lowland calcareous grassland; 4) CG3 – <i>Bromus erectus</i> lowland calcareous grassland; 5) Juniper <i>Juniperus communis</i> ; 6) Fly honeysuckle <i>Lonicera xylosteum</i> ; <i>and</i>	Adjacent to the proposed DCO Order Limits

⁶ Amberley Mount to Sullington Hill SSSI and Arundel Park SSSI are also identified as groundwater dependent terrestrial ecosystems in [Chapter 26: Water environment, Volume 2 \(Application Document Reference: X.X.X\)](#).

Site name	Designated features	Distance and direction from the proposed DCO Order Limits
	7) Adonis blue butterfly <i>Polyommatus bellargus</i> .	
Amberley Wild Brooks SSSI	1) Redshank <i>Tringa tetanus</i> (breeding); 2) Bewick's swan (non-breeding); 3) Shoveler (non-breeding); 4) Teal (non-breeding); 5) Breeding bird assemblage – mixed lowland damp grassland, woodland 6) Invertebrate assemblage; 7) Lowland ditch system; 8) Outstanding dragonfly assemblage; 9) True fox-sedge <i>Carex vulpine</i> ; 10) Cut-grass <i>Leersia oryzoides</i> ; 11) S3 – <i>Carex paniculate</i> swamp; 12) S5 – <i>Glyceria maxima</i> swamp; 13) S7 – <i>Carex acutiformis</i> swamp; 14) Variety of wintering bird species; and 15) Vascular plant assemblage.	4.8km north-west
Arun Banks SSSI	1) <i>Schoenoplectus lacustris</i> sub-species <i>tabernaemontani x triqueter</i> ; 2) W5 – <i>Alnus glutinosa</i> – <i>Carex paniculate</i> woodland; and 3) W6 – <i>Alnus glutinosa</i> – <i>Urtica dioica</i> woodland.	2.8km north-west
Arundel Park SSSI	4) Breeding bird assemblage – mixed: scrub, woodland; 5) CG2 <i>Festuca ovina</i> – <i>Avenula pratensis</i> lowland calcareous grassland; 6) CG3 – <i>Bromus erectus</i> lowland calcareous grassland; 7) Invertebrate assemblage; 8) Field cricket <i>Gryllus campestris</i> ; and 9) Cut-grass.	2.3km north-west
Chanctonbury Hill SSSI	1) Breeding bird assemblage – mixed: lowland damp grassland, woodland; 2) CG2 – <i>Festuca ovina</i> – <i>Avenula pratensis</i> lowland calcareous grassland;	0.7km south-east

Site name	Designated features	Distance and direction from the proposed DCO Order Limits
	3) CG3 – <i>Bromus erectus</i> lowland calcareous grassland; 4) Great crested newt; and 5) W12 – <i>Fagus sylvatica</i> – <i>Mercurialis perennis</i> woodland.	
Chantry Mill SSSI	1) EA – Aptian – Albian.	0.7km north-west
Cissbury Ring SSSI	1) Breeding bird assemblage – mixed: scrub, woodland; 2) CG1 – <i>Festuca ovina</i> – <i>Carlina vulgaris</i> lowland calcareous grassland; 3) CG2 – <i>Festuca ovina</i> – <i>Avenula pratensis</i> lowland calcareous grassland; 4) CG3 – <i>Bromus erectus</i> lowland calcareous grassland; 5) CG4 – <i>Brachypodium pinnatum</i> lowland calcareous grassland; and 6) Adonis blue butterfly.	2.4km south-east
Climping Beach SSSI (overlaps with West Beach LNR)	1) Sanderling <i>Calidris alba</i> ; 2) SD1 – <i>Rumex crispus</i> – <i>Glaucium flavum</i> shingle community; 3) SD7 – <i>Ammophila Arenaria</i> – <i>Festuca rubra</i> semi-fixed dune community; and 4) SD8 – <i>Festuca rubra</i> – <i>Galium verum</i> fixed dune grassland.	Within proposed DCO Order Limits
Fairmile Bottom SSSI	1) Silver-washed fritillary <i>Argynnis paphia</i> , calcareous grassland, woodland.	4.5km north-west
Horton Clay Pit SSSI	1) ED – Aptian – Albian.	4.2km south-east
Hurston Warren SSSI	1) H2 – <i>Calluna vulgaris</i> – <i>Ulex minor</i> heath; 2) M1 – <i>Sphagnum auriculatum</i> bog pool community; and 3) M16 – <i>Erica tetralix</i> – <i>Sphagnum compactum</i> wet heath.	4km north-west

Site name	Designated features	Distance and direction from the proposed DCO Order Limits
Parham Park SSSI	1) Combinations of species – lichens; 2) Invertebrate assemblage; 3) W10 – <i>Quercus robur</i> – <i>Pteridium aquilinum</i> – <i>Rubus fruticosus</i> woodland; 4) W14 – <i>Fagus sylvatica</i> – <i>Rubus fruticosus</i> woodland; and 5) W15 – <i>Fagus sylvatica</i> – <i>Deschampsia flexuosa</i> woodland.	2.6km north-west
Sullington Warren SSSI	1) Breeding bird assemblage – mixed; scrub, woodland; and 2) H2 – <i>Calluna vulgaris</i> – <i>Ulex minor</i> heath.	0.7km north-west
West Beach LNR (overlaps with Climping Beach SSSI)	1) Sand flats, tide line, shingle, sand dunes and related fauna (part of Climping Beach SSSI).	Within proposed DCO Order Limits

4.2 Non-statutory designated sites of nature conservation

4.2.1 Non-statutory designated sites of nature conservation were identified within data provided by SxBRC.

4.2.2 **Table 4-2** provides the details of the LWS that are within the proposed DCO Order Limits and within 5km of it. There are four non-designated sites located fully or partially within the proposed DCO Order Limits, with a further 46 non-designated sites within 5km of it (see **Figure 22.2.4**).

Table 4-2 Details of non-statutory designated sites of nature conservation within 5km of the proposed DCO Order Limits

Site name	Description ⁷	Distance and direction from the proposed DCO Order Limits
Littlehampton Golf Course & Atherington Beach LWS	Littlehampton Golf Course is of outstanding importance botanically. Although much of its grassland has been improved there are patches of species-rich turf. The southern edge of the golf links includes an area of dry dune grassland, adjacent to the sand dune system of Climping Beach SSSI. The site also includes an area of vegetated shingle beach, a nationally uncommon habitat.	Within the proposed DCO Order Limits
Elmer Rocks LWS	Elmer beach is a fine example of vegetated shingle, an internationally rare habitat. The intertidal area supports a diverse community including intertidal sand and eight 'rock islands' constructed in the early 1990s in the mid-tide zone to form a coastal defence against the eroding coastline. The rock islands have provided a habitat type that is very rare, if not unique, in West Sussex. The rock pools are probably the best in the county.	Within proposed DCO Order Limits (below mean low water springs (MLWS))
Sullington Hill LWS	This stretch of the South Downs escarpment supports moderately species-rich chalk grassland on north and east-facing slopes. Some areas are maintained by grazing while others are no longer grazed and have become heavily scrub-invaded. The site includes small areas of semi-natural woodland.	Within the proposed DCO Order Limits.
Bines Green LWS	Bines Green is an area of common land that straddles the B2135 road. It is damp, unimproved, neutral grassland of considerable botanical interest with a small, overgrown pond to the west of the road.	Within the proposed DCO Order Limits (circa 10m ² of an existing surfaced track only)

⁷ Description is copied from the summary provided on the designation information provided for each site by SxBRC.

Site name	Description ⁷	Distance and direction from the proposed DCO Order Limits
Warningcamp Hill and New Down LWS	The steep, north-west facing slope of New Down supports herb-rich chalk grassland with extensive patches of burnet rose <i>Rosa pimpinellifolia</i> , an uncommon plant in West Sussex. Warningcamp Hill supports a very large population of the rare small-flowered buttercup <i>Ranunculus parviflorus</i> . The site also includes an old chalk pit and a small area of ancient, semi-natural woodland.	Adjacent to Order Limits (operational access only)
Long Furlong and Church Hill LWS	Long Furlong is a steep north and west-facing slope between the A280 and Clapham Woods, supporting rich chalk grassland and scrub. Church Hill is a complex mosaic of chalk grassland, species-rich scrub and woodland. Long Furlong and Church Hill form a large piece of contiguous habitat, so have been included as one site.	Adjacent to the proposed DCO Order Limits
Clapham Wood LWS	Clapham Wood is an extensive, ancient semi-natural woodland on the undulating dip slope of the South Downs. The ground flora is rich and includes a number of interesting species. The wood was moderately affected by the storm of October 1987 and unfortunately several large blocks of woodland were subsequently cleared for pasture. Much of the wood is not managed but some areas are still coppiced. Clapham Woods is an ancient woodland of County-wide importance.	0.4km south-east
Heath Common LWS	This site has moderately rich remnants of wet and dry heath, several ponds and some relics of ancient base-rich woodland rich in lichens and ferns. In recent years, the Sandgate Conservation Society has done excellent work in the management of this area as a nature reserve.	0.5km north

Site name	Description ⁷	Distance and direction from the proposed DCO Order Limits
Poling Copse LWS	Poling Copse is a large block of ancient, semi-natural woodland on the Coastal Plain south of the South Downs, just to the east of Arundel. It consists predominantly of Oak-Hazel woodland, a type typical of base-poor soils in the area. Sycamore woodland dominates on South Fields – a section which has probably regenerated on an old field.	0.5km north
Kithurst Hill LWS	This site lies on the steep, north-facing escarpment of the South Downs. Most of it is wooded. The lower slopes consist of ancient semi-natural woodland, mostly of ash and hazel. It is of interest for its epiphytic bryophytes. There are small areas of open grassland with species-rich swards.	0.6km north-west
Washington Chalk Quarry LWS	This area of open downland and scattered scrub lies at the western end of Chanctonbury Hill. It includes a collection of disused chalk pits which now support species-rich grassland. The flora and butterflies are both of great interest. Part of the site has recently been fenced and sheep grazing reinstated. The South Downs Way runs through the site.	0.7km south
Conyers Bank LWS	Conyers Bank is a small, isolated field of unimproved chalk grassland on a steep, north-facing hillside. Situated above the floodplain of the River Arun, it is surrounded by semi-natural woodland and improved water meadows. The site has a rich flora.	0.9km north-west
River Adur Water Meadows & Wyckham Wood LWS	Wyckham Wood, one of the few woodlands on the floodplain of the River Adur is of particular importance on account of its heronry. The water meadows have mostly been improved but some of the ditches are of great botanical interest. This wetland	0.9km south-east

Site name	Description ⁷	Distance and direction from the proposed DCO Order Limits
Arun Valley, Watersfield to Arundel Local Wildlife Site (LWS)	<p>area is also of importance to birds and dragonflies.</p> <p>This section of the River Arun and its floodplain forms an extensive tract of wetland, a nationally declining habitat. There is a good network of ditches, some of which are very important botanically. The site is important for birds, dragonflies, water beetles, snails, and plants, and supports many rare and declining species. The unimproved meadows of Watersfield Brooks are of great botanical interest.</p>	1.1km west
Wiston Ponds LWS	<p>This is a well-established pond within the grounds of Wiston Park. It is surrounded by trees and scrub and has well-developed marginal vegetation. Good populations of amphibians use this pond and also it supports a number of interesting bird species.</p>	1.4km south-east
The Gallops & No Man's Land LWS	<p>Contains a diversity of habitats including calcareous grassland, broadleaved woodland, rank grassland and dense scrub all in close proximity. Accessible to the public and adjacent to a local school.</p>	2.0km south
Titnore & Goring Woods Complex LWS	<p>Large area of lowland mixed deciduous woodland on edge of Worthing. Much is ancient and semi-natural. Includes wetland and grassland habitats.</p>	2.2km south-east
America & Gratwicke's Wood LWS	<p>An oak, ash, hazel woodland lying on the Weald Clay with wet areas supporting alder and aspen. The managed coppice provides a varied structure and together with paths and rides provides good habitats for birds and insects. The ground flora is rich, and the trees and shrubs include wild service and Midland hawthorn.</p>	2.2km north
Middleton Shingle LWS	<p>The site consists of a strip of vegetated shingle along the seafront at Middleton-on-</p>	2.2km west

Site name	Description ⁷	Distance and direction from the proposed DCO Order Limits
Binsted Wood Complex LWS	<p>Sea with a large population of Sea Radish <i>Raphanus raphanistrum ssp. Maritimus</i>, a plant that occurs in only three other sites in Sussex. The strip of vegetated shingle is backed by regularly mown grass and then housing.</p> <p>Binsted Wood is a complex of woodland sites which includes Hundredhouse Copse in the west and Stewards Copse to the east. There is a mixture of ancient woodland, recent woodland, conifer plantation, species rich pasture and old tracks and shaws. The mix of habitats and geology gives rise to a very rich and diverse flora. The paths and rides are especially species rich and Scotland Lane supports an outstanding wet ride flora that includes at least 11 species of sedge including Long-stalked Yellow-sedge <i>Carex viridula ssp. brachyrhyncha</i>, a county rarity at its only recorded West Sussex location. This is the largest block of ancient semi-natural woodland south of the South Downs in Sussex.</p>	2.3km north-west
Capite Wood LWS	<p>This is a large area of very diverse woodland comprising both broadleaved ancient semi-natural woodland and re-planted areas of coniferous and deciduous trees. The woodland has two small streams, species rich rides, wet flushes, banks, ditches, and a varied topography. It has suffered extensive storm damage and there is abundant deadwood. The woodland is rich in bryophytes.</p>	2.3km north
The Sanctuary, High Salvington LWS	<p>The site consists of a south-facing coombe and slope, located on the edge of High Salvington. The north and west part of the site is a mosaic of species-rich scrub, secondary woodland, and chalk grassland, which is managed bird sanctuary. The rest</p>	2.3km south-east

Site name	Description ⁷	Distance and direction from the proposed DCO Order Limits
	is open, herb-rich grassland. The site represents a scarce habitat in the Borough. Meadow Clary <i>Salvia pratensis</i> , a Red Data Book species, occur here in one of only two sites in West Sussex.	
Walden Close Meadow LWS	This site consists of a large meadow alongside the A272 and a small meadow to the north. Both fields are cut for hay and have species-rich swards. The smaller meadow is notably rich in invertebrates.	2.4km north-west
Highdown Hill and the Miller's Tomb LWS	Species rich relatively unimproved chalk grassland and scrub with botanical and faunal interest	2.5km south-east
West Wantley Farm Meadow LWS	Unimproved damp pasture meadow bounded by species rich hedgerow and ponds with notable populations of rare thistle. The site has a very large population of Meadow Thistle <i>Cirsium dissectum</i> which is very scarce in West Sussex.	2.5km north-west
Steyning Coombe & Steyning Round Hill LWS	Steyning Coombe and Steyning Round Hill are both important areas of unimproved downland on the escarpment above Steyning. Together these areas are extremely diverse, having steep slopes facing all directions, both short herb-rich sward and tall ungrazed sward, open grassland, and grassland with scattered scrub. The rich flora and invertebrate fauna includes several rare plants, snails and butterflies.	2.6km south-east
Henfield Common LWS	The site is a registered common; one of three commons around Henfield. It is of great importance for wildlife as it encompasses a mosaic of species-rich grassland, woodland and a reedbed, together with small areas of marshy grassland and heath. The site is being actively managed to enhance its value for wildlife.	2.6km south-east

Site name	Description ⁷	Distance and direction from the proposed DCO Order Limits
Peppering Down LWS	A species-rich strip of chalk grassland on a west-facing slope. There is a fair amount of scrub at the top of the slope in the south-east corner of the site.	2.8km north
Old Deer Park LWS	This site which lies in an old deer park, south of Leonardslee Gardens, is one of the best surviving relics of the formerly vast St. Leonard's Forest. In addition to moderately species-rich dry and wet heath, there is a very interesting bog. The ancient parkland trees have a fine assemblage of woodland epiphytic lichens. Today the park is grazed by a herd of wallabies.	2.8km north
Rewell Wood Complex LWS	Rewell Wood is a large ancient woodland complex. It has a diversity of habitats including ancient semi-natural woodland, worked Sweet Chestnut coppice, conifer plantation, Beech plantation and species-rich chalk grassland. Wide rides and glades support a rich flora and butterfly fauna. The disused gravel pits are of entomological importance.	2.9km north-west
Broadmare Common LWS	The site is a registered common, located just south of Henfield. It is predominantly poor fen and scrub, with several ponds and an area of woodland. It represents a rather scarce habitat which, although somewhat degraded, is now managed for wildlife. The location of the site amongst intensively farmed countryside and close to a small town increases its value for nature conservation.	3.0km south-east
Worthing & Hill Barn golf courses LWS	These sites consist of unimproved chalk and neutral grassland with areas of scrub and woodland with high botanical interest and rare butterflies.	3.0km south-east
Peppering Farm Dew Pond LWS	Peppering Farm dewpond is a small dried-up dewpond, situated adjacent to a main track on the Downs and surrounded by	3.2km north-west

Site name	Description ⁷	Distance and direction from the proposed DCO Order Limits
Kneppmill Pond, the River Adur & Lancing Brook LWS	arable. The area supports an exceptionally rich downland flora, including many uncommon plants. It is maintained by a small band of volunteers with permission from the estate and farmer. The major task is the removal of scrub, mainly Gorse and Hawthorn.	3.5km north-west
Ham Farm Wood LWS	This site is an ancient woodland in urban area with botanical, ornithological and recreational value.	3.5km south-east
Ferring Rife and Meadows LWS	Rife with rough grassland banks and notable population of nationally rare snail.	3.6km south
The Downs Link, Nutham Wood & Greatsteeds Farm Meadow LWS	The Downs Link, a dismantled railway line, has developed into an interesting moderately species-rich belt of shrubs. This supports a large colony of the rare Brown Hairstreak butterfly. A number of important wildlife sites lie adjacent to the old railway, notably a small, herb-rich meadow and small, stream-side, ancient semi-natural woodlands. Nutham Wood, in particular, has a very rich ground flora.	3.7km north-west
The Hanger LWS	Two main types of wood are present within this gill woodland site. Alder occurs along the streams and extends up the lower slopes in parts, with oak, hazel and ash on the upper slopes and the flat ground above. The wood supports a wide range of woodland plants, mosses and liverworts, a good bird community and a number of uncommon butterflies.	3.8km north-east
Hooklands Farm Meadow LWS	Hooklands Farm meadow is an excellent example of unimproved, damp grassland. It	3.8km north-west

Site name	Description ⁷	Distance and direction from the proposed DCO Order Limits
Hoe Wood LWS	<p>is very species-rich and supports plants typical of damp and slightly acidic soils. The site is surrounded by mature hedgerows and a stream runs through the meadow, creating a damp flush around an old pond in the south of the area.</p> <p>This ancient woodland is dominated by Oak, with frequent ash and birch over hazel coppice. It has a good assemblage of woodland plants and supports a diverse community of birds. The site includes a lake which boasts significant numbers of dragonfly and damselfly species as well as providing for good populations of amphibians. Also include is an unimproved meadow.</p>	3.8km south-east
Offington Cemetry	<p>This site is an unimproved herb rich chalk grassland with areas of scrub in urban area, providing refuge for wildlife and botanical interest.</p>	4.0km south-east
Boyds Wood & Furzefield Copse LWS	<p>Boyds Wood and Furzefield Copse are two botanically rich woodlands just outside the village of Nuthurst. They encompass a range of woodland types, both ancient semi-natural and more recent broadleaved plantation. Boyds Wood includes a particularly interesting stream valley or gill woodland.</p>	4.0km north-west
Tenants Hill and Reservoirs LWS	<p>This site is a species rich unimproved chalk grassland, scrub and dewpond with exceptional botanical interest.</p>	4.1km south-east
Tottington Wood LWS	<p>This wood is situated just north of the South Downs. It consists typically of scattered Oak and Ash standards over mainly Hazel and some Ash coppice. It supports a very species-rich ground flora and a good number of bryophytes have been recorded. There are species-rich rides and several small streams.</p>	4.2km south-east

Site name	Description ⁷	Distance and direction from the proposed DCO Order Limits
Oreham Common LWS	The site is a registered common, located close to Henfield. It consists of herb-rich damp grassland with areas of tall herbs and some scrub and woodland. It has a small pond in the western corner.	4.2km south-east
Pond Lye LWS	This site includes a pond with extensive areas of sedge swamp around the margins and a species-rich neutral grassland. A number of locally uncommon plants are found in the meadow. The pond is of great ornithological importance, particularly for its breeding birds.	4.3km east
Amberley Chalkpits & Hacketts Copse LWS	Amberley Chalkpits and the adjoining woodland contain a huge variety of habitats spanning the succession from bare chalk and spoil heaps to deciduous woodland. The varied aspects of the chalk pits add to the range of microhabitats present. The site has an extremely rich flora and fauna including typical chalk downland species and many rarities. The site is also of geological importance.	4.4km north-west
Monkmead Woods LWS	This is an area of wet heath, dry heath and woodland on the south west edge of West Chiltington Common, between Storrington and Pulborough. The site has scarce plants, a rare fungus and nearby sites have a very rare dragonfly that could colonise this site if management was appropriate.	4.4km north-west
Goring and Ferring Gap LWS	Arable fields, broadleaved plantation woodland, semi-improved neutral, and amenity, grassland. Noted for gull and wader roost.	4.5km south-east
Part of Wiggonholt Common LWS	This site is a habitat mosaic of dry heathland, semi natural woodland and acid grassland with botanical interest and notable rarity.	4.6km north-west

- 4.2.3 SxBRC also returned 34 records of notable road verges within 5km of the proposed DCO Order Limits, the locations of which are shown within **Figure 22.2.4**.

4.3 Habitats

Habitats of Principal Importance and Ancient Woodland

- 4.3.1 Habitats listed on the Ancient Woodland Inventory and the Priority Habitats Inventory (MAGIC website, NDefra, n.d.) were identified during the desk study.
- 4.3.2 Habitats within the proposed DCO Order Limits and within 500m of it identified from the Priority Habitats and Ancient Woodland Inventories are provided in **Table 4-3**, and their distribution shown on **Figure 22.2.5** and **Figure 22.2.6**.

Table 4-3 Priority Habitat and Ancient Woodland Inventory information

Habitat type	Listing	Area within proposed DCO Order Limits (ha)	Area within proposed DCO Order Limits plus 500m (ha)
Coastal and floodplain grazing marsh	Priority habitat inventory	17.19	375.70
Coastal vegetated shingle	Priority habitat inventory	2.17	8.55
Deciduous woodland	Priority habitat inventory	27.81	1240.15
Lowland calcareous grassland	Priority habitat inventory	4.67	110.41
Good quality Semi-improved grassland	Priority habitat inventory	37.29	341.92
Maritime Cliff and slope	Priority habitat inventory	0.31	6.35
No main habitat but additional habitats present	Priority habitat inventory	0.07	107.74
Ancient semi-natural woodland	Ancient woodland inventory	7.19	105.44
Ancient replanted woodland	Ancient woodland inventory	4.83	276.62

Habitat type	Listing	Area within proposed DCO Order Limits (ha)	Area within proposed DCO Order Limits plus 500m (ha)
Coastal saltmarsh	Priority habitat inventory	0.00	0.72
Coastal sand dune	Priority habitat inventory	0.00	18.69
Lowland dry acid grassland	Priority habitat inventory	0.00	0.10
Lowland fens	Priority habitat inventory	0.00	0.12
Lowland heath	Priority habitat inventory	0.00	0.14
Mudflats	Priority habitat inventory	0.00	1.50
Traditional orchard	Priority habitat inventory	0.00	3.41

Waterbodies

4.3.3 A total of 17 waterbodies have been identified within the proposed DCO Order Limits, with a further 264 within 250m of it. Waterbodies become more common in areas north and east of Washington; shape and size vary, although there are no particularly large waterbodies (for example, large drinking water reservoirs) with the vast majority being less than a hectare in extent. [Figures X.X and X.X](#), within [Appendix 22.7: Great Crested Newt Report, Volume 4 \(Application Document Reference: X.X.X\)](#) show the distribution of the waterbodies.

Vascular plants

4.3.4 A total of 1,360 records of vascular plants of 194 species that are legally protected or notable (some at a county level only) were identified within 5km of the proposed DCO Order Limits. Of these, 15 records of eight species were from within the proposed DCO Order Limits, comprising:

- One record of strawberry clover *Trifolium fragiferum* (GB Red List (2004); vulnerable, England Red List (2014); vulnerable, at Atherington, National Grid Reference (NGR) TQ00A;
- Two records of hound's-tongue *Cynoglossum officinale* (Red List GB (2004); Near Threatened). One record within Angmering Park at NGR TQ00T and one at TQ 0929 1199;

- One record of common valerian *Valeriana officinalis* (England Red List (2014): Near threatened) at NGR TQ 119131;
- Six records of yellow horned-poppay *Glaucium flavum* (Red List England (2014); near threatened). All records were from Climping Beach, with two records within Climping Beach SSSI;
- Two records of dune fescue *Vulpia fasciculata* (Nationally Scarce (Joint Nature Conservation Committee, 2018), Sussex Rare). Both records were from Climping Beach, one within the SSSI at TQ 01374 01008, one outside, at TQ 01293 00987;
- One record of stiff saltmarsh-grass *Puccinellia rupestris* (Nationally Scarce, Sussex Rare), recorded at NGR TQ 0102 0094;
- One record of bulbous Meadow-grass *Poa bulbosa* (Nationally Scarce, Sussex Rare) recorded at NGR TQ 0119 0096; and
- One record of musk stork's-bill *Erodium moschatum*: (Sussex Rare) at NGR TQ 01440 01026.

4.3.5 Records of vascular plants within 5km of the proposed DCO Order Limits include⁸:

- Six species listed on Schedule 8 of the Wildlife and Countryside Act 1981 (as amended) including: Alpine catchfly *Silene suecica*, bluebell *Hyacinthoides non-scripta*, cut-grass *Leersia oryzoides*, holly-leaved naiad *Najas marina*, Jersey cudweed *Helichrysum luteoalbum* and monkey orchid *Dracula simia*;
- 23 species listed as SPI; basil thyme *Clinopodium acinos*, chalk eyebright *Euphrasia pseudokerneri*, chamomile *Chamaemelum nobile*, common juniper *Juniperus communis subsp. Communis*, corn buttercup *Ranunculus arvensis*, cornflower *Centaurea cyanus*, cut-grass *Leersia oryzoides*, divided sedge *Carex divisia*, English sticky eyebright *Euphrasia officinalis subsp. anglica*, field fleawort *Tephrosieris integrifolia subsp. Integrifolia*, fly orchid *Ophrys insectifera*, frog orchid *Dactylorhiza viridis*, grape-hyacinth *Muscari neglectum*, greater water-parsnip *Sium latifolium*, holly-leaved naiad *Najas marina*, lesser butterfly-orchid *Platanthera bifolia*, marsh stitchwort *Stellaria palustris*, monkey orchid *Orchis simia*, musk orchid *Herminium monorchris*, purple milk-vetch *Astragalus danicus*, sharp-leaved pondweed *Potamogeton acutifolius*, tubular water-dropwort *Oenanthe fistulosa* and white helleborine *Cephalanthera damasonium*;
- 64 threatened species (Critically Endangered, Endangered and Vulnerable) in England and/or Great Britain (Stroh et al., 2014; Cheffings et al., 2005);
- 11 nationally rare species;
- 44 nationally scarce species; and
- 109 Sussex rare species.

⁸ Vascular plants are grouped according to the highest level of legislative or conservation status afforded to each species, however, may be listed under multiple criteria (for example, Cornflower is listed as an SPI and as a Sussex rare species).

MAVES Ecological Survey Reports 2017 and 2018⁹

- 4.3.6 Thirteen notable vascular plants species (including two Red List England (2014): Vulnerable), and three notable fungal species (one SPI and two Sussex rare) were recorded during surveys undertaken on behalf of MAVES. In addition, six noteworthy local and / or uncommon vascular plants were recorded in the area. Specific locations are not provided.

4.4 Fauna (excluding birds)

Mammals, reptiles and amphibians

- 4.4.1 Records of legally protected and notable species were provided directly by SxBRC. Further information was gathered from the NBN Gateway, A27 Arundel Bypass Environmental Assessment Report, MAVES and MAGIC (Defra, n.d.).
- 4.4.2 Summary details of mammals, amphibians and reptiles within the proposed DCO Order Limits and within 5km of it are provided in **Table 4-4**. The summary details are of records provided by SxBRC, these have been reconciled where possible with other data sources where a high degree of overlap can be recognised.

Table 4-4 Summary of legally protected and notable species (mammals, reptiles and amphibians)

Species	No. of records	Date range of records	Distance and direction from the proposed DCO Order Limits
Adder <i>Vipera berus</i>	61	2013-2022	0.4km north
Alcathoe bat <i>Myotis alcathoe</i>	42 (Not including roost records)	2014-2021	Adjacent to proposed DCO Order Limits
Alcathoe bat <i>Myotis alcathoe</i>	Two roost records	May 2021	3.2km north-west
Badger <i>Meles meles</i>	Present throughout proposed DCO Order Limits – individual records not provided due to confidentiality		
Bat (unspecified species)	128 (not including roost records)	2013-2022	0.3km north-west
Bat (unspecified species)	11 roost records: one “maternity roost”, two “hibernacula roosts”, four “unspecified roosts”, two	2013-2021	0.6km south

⁹ The Mid Arun Valley Ecological Report update 2018 - [RPS Report \(aruncountryside.org\)](https://www.aruncountryside.org)

Species	No. of records	Date range of records	Distance and direction from the proposed DCO Order Limits
	“unspecified roosts with droppings” and two records of “droppings”		
Barbastelle <i>Barbastella barbastellus</i>	74 (not including roost record)	2013-2021	Adjacent to proposed DCO Order Limits
Barbastelle <i>Barbastella barbastellus</i>	One roost record. One adult male roosting.	May 2019	4.5km south-east
Bechstein’s bat <i>Myotis bechsteinii</i>	60 (not including roost records)	2015-2021	0.1km north-east
Bechstein’s bat <i>Myotis bechsteinii</i>	Four roost records. Each roost had one juvenile female present	2015-2019	2.4km north-west
Brandt’s bat <i>Myotis brandtii</i>	11 (no records of roosts)	2015-2021	2.6km north-west
Brown hare <i>Lepus europaeus</i>	89	2013-2022	Within proposed DCO Order Limits
Brown long-eared bat <i>Plecotus auritus</i>	283 (not including roost records)	2013-2022	Within proposed DCO Order Limits
Brown long-eared bat <i>Plecotus auratus</i>	42 roost records: Three “maternity roosts”, one “maternity roost with droppings”, two “hibernacula roosts”, two “feeding roosts”, 24 “unspecified roosts”, five “unspecified roosts with droppings” and five records of “droppings”	2013-2022	50m south
Common lizard <i>Zootoca vivipara</i>	135	2013-2022	50m north
Common pipistrelle <i>Pipistrellus pipistrellus</i>	330 (not including roost records)	2013-2022	Adjacent to the proposed DCO Order Limits

Species	No. of records	Date range of records	Distance and direction from the proposed DCO Order Limits
Common pipistrelle <i>Pipistrellus pipistrellus</i>	63 roost records: Five “maternity roosts”, one “feeding roost”, 49 “unspecified roosts”; four “unspecified roosts with droppings” and four records of “droppings”	2013-2022	Adjacent to proposed DCO Order Limits
Common toad <i>Bufo bufo</i>	117	2013-2022	0.1km north-west
Daubenton’s bat <i>Myotis daubentonii</i>	92 records (not including roost records)	2013-2022	0.1km south
Daubenton’s bat <i>Myotis daubentonii</i>	13 roost records: Three “maternity roosts”, five “hibernacula roost/unspecified roost” and five “hibernacula roosts”	2013-2019	0.6km south
Eptesicus Bat species	7 (no records of roosts)	2018	1km west
Grass snake <i>Natrix helvetica</i>	113	2013-2022	0.3km north
Great crested newt (GCN) <i>Triturus cristatus</i>	155	2013-2022	Within proposed DCO Order Limits
Greater horseshoe bat <i>Rhinolophus ferrumequinum</i>	2 (no records of roosts)	2019 – 2021	3.9km north-west
Harvest mouse <i>Micromys minutus</i>	14	2015-2020	0.1km east
Hazel dormouse <i>Muscardinus avellanarius</i>	143	2013-2022	0.2km south
Hedgehog <i>Erinaceus europaeus</i>	423	2013-2022	0.1km north-west

Species	No. of records	Date range of records	Distance and direction from the proposed DCO Order Limits
Leisler's bat <i>Nyctalus leisleri</i>	13 (no records of roosts)	2018-2020	1km west
Myotis bat (unspecified species)	103 (not including roost records)	2013-2022	0.1km north-west
Myotis bat (unspecified species)	Four roost records: three " <i>unspecified roosts</i> ", one record of " <i>droppings</i> "	2016-2019	2.0km north-east
Nathusius' pipistrelle <i>Pipistrellus nathusii</i>	22 (no records of roosts)	2014-2021	0.1km east
Natterer's bat <i>Myotis nattereri</i>	168 records (not including roost records)	2013-2021	Adjacent to proposed DCO Order Limits
Natterer's bat <i>Myotis nattereri</i>	18 roost records: Two " <i>maternity roosts</i> ", six " <i>hibernacula roosts</i> ", six " <i>hibernacula roosts; unspecified roosts</i> ", two " <i>unspecified roosts</i> ", one " <i>unspecified roost with droppings</i> " and one record of " <i>droppings</i> ".	2013-2020	0.6km south
Noctule <i>Nyctalus noctula</i>	105 (not including roost records)	2013-2022	20m north-east
Noctule <i>Nyctalus noctula</i>	3 roost records: two " <i>unspecified roosts</i> ", one " <i>unspecified roost with droppings</i> "	2016-2021	0.2km north
Nyctalus species	9 (no records of roosts).	2018-2021	1km west
Otter <i>Lutra lutra</i>	Historic records only (from the NBN Gateway) most recent record 2011	1964-2011	2011 record 1km north

Species	No. of records	Date range of records	Distance and direction from the proposed DCO Order Limits
Pipistrelle bats (species unspecified)	41 records (not including roost records)	2014-2022	0.2km east
Pipistrelle bats (species unspecified)	12 roost records: one “maternity roost; feeding roost”, one “feeding roost”, four “unspecified roosts”, four “unspecified roosts with droppings” and two records of “droppings”	2013-2019	0.2km east
Polecat <i>Mustela putorius</i>	22	2014-2022	Within proposed DCO Order Limits
Sand lizard <i>Lacerta agilis</i>	4	2014-2018	0.1km south-west
Serotine <i>Eptesicus serotinus</i>	108 (not including roost records)	2013-2022	Adjacent to proposed DCO Order Limits
Serotine <i>Eptesicus serotinus</i>	15 roost records: one “maternity roost; feeding roost”, one “maternity roosts with droppings”, one “maternity roost”, one “feeding roost”, seven “unspecified roosts”, three “unspecified roosts with droppings” and one record of “droppings”	2013-2019	0.2km north
Slow worm <i>Anguis 32ragilis</i>	224	2013-2022	Within proposed DCO Order Limits
Soprano pipistrelle <i>Pipistrellus pygmaeus</i>	298 (not including roost records)	2013-2022	30m north-east
Soprano pipistrelle <i>Pipistrellus pygmaeus</i>	45 roost records: One record of “maternity roost; mating/swarming	2013-2022	0.2km south

Species	No. of records	Date range of records	Distance and direction from the proposed DCO Order Limits
	<i>site; droppings</i> ", two records of " <i>maternity roost; droppings</i> ", two records of " <i>maternity roost</i> ", one record of " <i>hibernacula roost</i> ", 37 records of " <i>unspecified roosts</i> " and two records of " <i>unspecified roost with droppings</i> "		
Water vole <i>Arvicola amphibius</i>	227	2013-2022	Within proposed DCO Order Limits
Whiskered bat <i>Myotis mystacinus</i>	76 (not including roost records)	2014-2021	0.7km west
Whiskered bat <i>Myotis mystacinus</i>	Three roost records: one " <i>maternity roost</i> ", one " <i>unspecified roost</i> " and one record of " <i>droppings</i> "	2017-2019	2km north-east
Whiskered bat / Brandt's bat <i>Myotis brandtii</i>	23 (not including roost records)	2013-2022	Adjacent to proposed DCO Order Limits
Whiskered bat / Brandt's bat <i>Myotis brandtii</i>	Five roost records: three records of " <i>hibernacula roost; unspecified roost</i> " and two records of " <i>unspecified roost</i> "	2014-2019	0.7km south

4.4.3 The data show that the majority of the protected and notable species listed in **Table 4-4** are widespread and occur in a number of locations. As would be expected from the area the majority of species identified are commonly associated with woodland, grassland or aquatic habitats. **Figure X.X** within **Appendix 22.8: Passive and Active Bat Activity Report, Volume 4 (Application Document Reference: X.X.X)** provides the distribution of bat records provided by SxBRC. **Figure X.X** within **Appendix 22.8: Passive and Active Bat Activity Report, Volume 4 (Application Document Reference: X.X.X)** showing the location of roosts identified. **Figure 22.2.7** shows the distribution of records of herpetiles. **Figure 22.2.8** provides the distribution of mammal records (excluding bats) provided by SxBRC.

- 4.4.4 A search of the MAGIC website (Defra, n.d.) for granted European Protected Species Licences (EPSL) within 100m of the proposed DCO Order Limits, extended to 500m for Great Crested Newt returned five granted licences between 2013 and 2023. **Table 4-5** below summarises these licences.

Table 4-5 Summary of granted European Protected Species Licences 2013-2023, taken from MAGIC Website (Defra, n.d.)

Species	Licence Summary	Licence number	Distance and direction from proposed DCO Order Limits
GCN	Damage or destruction of resting place	2014-1948-EPS-MIT-1	Within proposed DCO Order Limits
GCN	Damage or destruction of resting place	2016-24405-EPS-MIT-1	25m south
Common Pipistrelle	Destruction of resting place	2017-32179-EPS-MIT-1	70m west
GCN	Damage or destruction of resting place	2014-1236-EPS-MIT-1	125m north
GCN	Damage or destruction of resting place	2014-3421-ESP-MIT-1	130m east

Invertebrates

- 4.4.5 A total of 18,493 records of 692 species of invertebrates were returned by SxBRC within 5km of the proposed DCO Order Limits, with particular emphasis on lepidoptera and coleoptera. Of these, 10 records of eight species were identified within the proposed DCO Order Limits, including:
- one record of a stag beetle *Licanus cervus* (Habitats Directive Annex II, Wildlife and Countryside Act 1981 Schedule 5, nationally scarce, Sussex rare);
 - one record of several chalk hill blue *Polyommatus coridon* (Red List GB (2001): Nationally Threatened);
 - one record of brown hairstreak *Thecla betulae* (SPI);
 - one record of white admiral *Limnitis Camilla* (SPI).
 - one record of a beetle *Harpalus attenuates* (Nationally scarce, Sussex rare);
 - three records of a beetle *Psilothrix viridicoerulea* (Sussex rare);

- one record of a beetle *Cryptocephalus aureolus* (Sussex rare); and
- one record of a beetle *Olibrus Corticalis* (Sussex rare).

4.4.6 Four species of invertebrate that are of particular interest due to being listed as Annex II species¹⁰ have been identified within the Study Area (all except a single record of Stag beetle are outside of the proposed DCO Order Limits), these are:

- Desmoulin's whorl snail *Vertigo moulinsiana* (one record);
- Jersey tiger *Euplagia quadripunctaria* (38 records);
- Southern damselfly *Coenagrion mercurial* (two records); and
- Stag beetle *Lucanus cervus* (272 records).

4.4.7 There are 46 species of butterfly considered to be on the "Sussex list" (Butterfly Conservation Sussex Branch¹¹, 2023) with records of 15 of these species provided for the Study Area including 11 records of Swallowtail, which is listed on WCA Sch.5 and is considered Near Threatened on Red list GB (2001) and Sussex county rare. There were nine records of large tortoiseshell, a species not considered within the Sussex list due to rarity. Large tortoiseshell is listed on WCA Sch. 5 and is considered Regionally Extinct on Red list GB (2001) and Sussex rare.

A27 Arundel Bypass Environmental Assessment Report

4.4.8 Additional records within 5km of the proposed DCO Order Limits were obtained for the A27 Arundel Bypass Project (Highways England, 2019), identified the presence of the following:

- amphibians: one pond with significant numbers of common toad;
- badger: present – individual records not provided due to confidentiality;
- bat roosts: six alcathe bat, two barbastelle bat, five Bechstein's bat, seven brown long-eared bat, five common pipistrelle, one Daubenton's bat, six Natterer's bat, four soprano pipistrelle, four whiskered bat, and three unknown bat species;
- dormouse: presence recorded across seven sites with a peak count of two;
- invertebrates: 41 terrestrial species regarded as notable across 15 sites, and three aquatic species regarded as notable across five sites;
- otter: signs recorded across three ponds and six ditches in the form of potential holts and laying up sites;
- reptiles: one adder, 12 grass snakes, 68 common lizards and 157 slow worms across 10 sites; and

¹⁰ The Conservation of Habitats and Species Regulations 2017 (also known as the Habitats Regulations). A4 = Annex IV species. A2 = Annex II species.

¹¹ Sussex branch of Butterfly Conservation identify records of 52 species with seven considered to be rare or occasional visitors only

- water vole: signs recorded across four ponds and 37 ditches in the form of latrines, feeding remains, pathways, splashing sounds and burrows.

MAVES Ecological Survey Reports 2017 and 2018

4.4.9 A review of the 2017 and 2018 MAVES ecological survey reports identified the presence of the following protected and / or notable species within 5km of the proposed DCO Order Limits, to the east and south of Arundel:

- Amphibians: widespread common toad records including more than 1,000 individuals breeding within Madonna Pond in 2017;
- Badger: present – individual records not provided due to confidentiality;
- Bats: records of 13 species of bat, including Bechstein's and barbastelle. Eight of these species may have maternity colonies within the Binstead Woods Complex, including Bechstein's and alcatheo. A total of four alcatheo roosts and three Bechstein's roosts have been recorded;
- Dormouse: eleven dormouse nests were recorded within Binstead Woods Complex and connected habitat, including a record of 16 dormice within one box;
- Invertebrates: 30 butterfly species including purple emperor *Apatura iris*, dingy skipper *Erynnis tages*, white admiral *Limenitis camilla* and purple hairstreak *Favonius quercus*; 40 species of moth including seven SPI; 17 species of dragonfly and damselfly; and 230 species of beetle including stag beetle and one Red Data Book species and 10 nationally scarce species. Specific survey work in 2016 / 2017 recorded 29 nationally scarce species, three SPI and six Red Data Book species;
- Mammals (excluding bats): records of the SPIs brown hare, hedgehog and harvest mouse;
- Reptiles: four records of adder and numerous records of common lizard, grass snake and slow worm; and
- Water vole: signs including burrows, feeding remains, latrines and footprints within the vicinity of Binstead Rife.

4.5 Ornithological records

Overview

- 4.5.1 Ornithology records were provided by SOS (see **Figure 23.2, Volume 3 (Application Document Reference: X.X.X)** for all tetrads that are within or overlap with the Scoping Boundary⁵ and from the RSPB. Further information was gathered from SxBRC and the BTO website¹².
- 4.5.2 **Table 4-6** provides details of breeding Schedule 1 birds of the Wildlife and Countryside Act 1981, compiled by SOS in the last 10 years. Thirteen species of

¹² <https://www.bto.org/our-science/projects/wetland-bird-survey/data> [accessed May 2023]

Schedule 1 of the Wildlife and Countryside Act 1981 were identified as breeding in the area, with some of these being relatively frequent and widespread, whilst others have only been noted occasionally.

Table 4-6 Schedule 1 breeding bird records 2013-2023, data provided by SOS

Species	No. of records	Notes
Quail <i>Coturnix coturnix</i>	4	All records from Wepham and Burpham area.
Garganey <i>Anas querquedula</i>	3	The locations were associated with the Arundel Wildfowl and Wetlands Trust (WWT) reserve and the Henfield Levels.
Mediterranean gull <i>Larus melanocephalus</i>	11	The records are all reported from the Arundel WWT reserve.
Goshawk <i>Accipiter gentilis</i>	1	Record from woodland between Crabtree and Bolney.
Marsh harrier <i>Circus aeruginosus</i>	3	The records are all reported from the Arundel WWT reserve.
Red kite <i>Milvus milvus</i>	44	Observations across a wide area including Angmering, Amberley and Burpham.
Barn owl <i>Tyto alba</i>	120	Observations across a wide area including Burpham, Partridge Green, Henfield, Steyning, Twineham Green and Sayers Common.
Kingfisher <i>Alcedo atthis</i>	12	Observations all linked to the Arun Valley.
Hobby <i>Falco Subbuteo</i>	7	Observations widely spread from Angmering, Burpham and Twineham Green.
Peregrine <i>Falco peregrinus</i>	42	Observations widely spread including around Washington, Storrington, Arundel, Wepham Down and Twineham.
Woodlark <i>Lullula arborea</i>	2	Both records were from Twineham Grange.
Cetti's warbler <i>Cettia cetti</i>	336	Widespread across the area within the Scoping Boundary.

Species	No. of records	Notes
Firecrest <i>Regulus ignicapillus</i>	53	Records reported in the Arundel area, Chanctonbury Ring and woodland around Angmering.

4.5.3 SOS also provided extensive records of birds listed as SPI (including breeding and non-breeding records) recorded in the last ten years. A total of 23,792 records of 38 species were received; these records are summarised in **Table 4-7**.

Table 4-7 Records of species of principal importance from Sussex Ornithological Society

Species	Number of records
Bewick's swan	352
Bittern	25
Black-tailed godwit	52
Bullfinch	899
Common cuckoo	366
Common scoter	69
Corn bunting	501
Dark-bellied brent goose	129
Duncock	2,609
Eurasian Curlew	73
European greater white-fronted goose	10
Grasshopper warbler	27
Greater scaup	8
Grey partridge	633
Hawfinch	189
Hen harrier	249
Herring gull	2,851
House sparrow	1,525

Species	Number of records
Lesser redpoll	133
Lesser spotted woodpecker	23
Linnet	1,336
Marsh tit	297
Nightjar	4
Northern lapwing	2,487
Reed bunting	1,612
Ring ouzel	95
Skylark	1,483
Song thrush	2,195
Spotted flycatcher	123
Starling	1,983
Stone curlew	6
Tree pipit	31
Tree sparrow	1
Turtle dove	180
Woodlark	3
Wood warbler	9
Yellow wagtail	142
Yellowhammer	1,082

- 4.5.4 RSPB supplied one record of displaying stone curlew recorded in the last 10 years within the Scoping Boundary. This record was in the area between Amberley and Burpham, in arable habitat.
- 4.5.5 RSPB supplied 194 records of breeding lapwing recorded in the last 10 years including adults nesting, displaying and feeding and chicks and juveniles. Birds were noted in both grassland and arable habitats and were widespread across the area. SOS provided a further 323 breeding records of lapwing in the last 10 years, many of these records are associated with the Wildfowl and Wetlands Trust

reserve at Arundel. The tetrads that are known to support breeding lapwing are shown on **Figure 22.10, Volume 3** (Application Document Reference: X.X.X).

- 4.5.6 A local resident living in the vicinity of the Cowfold Stream provided records of breeding nightingale in areas of scrub adjacent to the watercourse and within the wider flood zone.
- 4.5.7 The BTO have five WeBS count sites (see **Table 4-8**) in the proposed DCO Order Limits or within 1km of it that have been counted consistently between 2014/15 and 2020/21. These count sites support large numbers of birds over the winter and passage periods. Wildfowl including gadwall and shelduck, whilst waders such as lapwing, black-tailed godwit, grey plover, ringed plover and sanderling are common. The presence of certain species changes with the location and type of habitat present in each count site.
- 4.5.8 **Table 4-8** shows the peak annual counts (taken from WeBS data) between 2014/15 and 2020/21 for species notified on the Arun Valley SPA or Arun Valley Ramsar, and Pagham Harbour SPA / Ramsar designation that are likely to occur onshore. Tern species associated with the Pagham Harbour designations have been discounted from these tables as they do not occur during the winter months (during WeBS counts) and do not utilise onshore habitats that will be affected by the development.

Table 4-8 Summary of WeBS records showing peak annual counts 2014/15 – 2020/21 of species notified within the Arun Valley SPA or Arun Valley Ramsar and Pagham Harbour SPA / Ramsar designations.

Species	Count Site	Species peak count
Bewick's swan	Climping	0
Dark-bellied brent goose	Climping	1,400
Shoveler	Climping	0
Teal	Climping	0
Wigeon	Climping	0
Ruff	Climping	0
Bewick's swan	River Arun – Arundel to Littlehampton	11
Dark-bellied brent goose	River Arun – Arundel to Littlehampton	0
Shoveler	River Arun – Arundel to Littlehampton	3
Teal	River Arun – Arundel to Littlehampton	33
Wigeon	River Arun – Arundel to Littlehampton	160

Species	Count Site	Species peak count
Ruff	River Arun – Arundel to Littlehampton	1
Bewick's swan	Arun Valley	30
Dark-bellied brent goose	Arun Valley	0
Shoveler	Arun Valley	404
Teal	Arun Valley	2,157
Wigeon	Arun Valley	5,048
Ruff	Arun Valley	12
Bewick's swan	Henfield Rye Farm	0
Dark-bellied brent goose	Henfield Rye Farm	0
Shoveler	Henfield Rye Farm	240
Teal	Henfield Rye Farm	300
Wigeon	Henfield Rye Farm	200
Ruff	Henfield Rye Farm	4
Bewick's swan	Henfield Brooks	4
Dark-bellied brent goose	Henfield Brooks	0
Shoveler	Henfield Brooks	11
Teal	Henfield Brooks	123
Wigeon	Henfield Brooks	410
Ruff	Henfield Brooks	0

A27 Arundel Bypass Environmental Assessment Report

- 4.5.9 Additional records obtained for the A27 Arundel Bypass project by Highways England, when within 5km of the proposed DCO Order Limits, identified the presence of one active barn owl roost.

MAVES Ecological Survey Reports 2017 and 2018

4.5.10 A review of the 2017 and 2018 MAVES ecological survey reports identified the presence of the following within the MAVES study area¹³:

- Wildlife and Countryside Act 1981 Schedule 1: nine species;
- BoCC¹⁴ Red Listed: 21 species;
- BoCC Amber Listed: 21 species; and
- Seventeen bird species have Biodiversity Actions Plans.

4.6 Legally controlled species

Overview

4.6.1 Records of non-native invasive species that are listed on Schedule 9 of the Wildlife and Countryside Act 1981 (as amended) were returned by SxBRC within 5km of the proposed DCO Order Limits.

4.6.2 For the purposes of this Appendix, invasive species records have been divided into botanical and faunal records. Only records above mean high water springs (MHWS) are here reported. A total of 219 botanical records of 24 species and 9,213 faunal records of 22 species were identified. Of these, three floral species and five faunal species were recorded within the proposed DCO Order Limits. These records have been summarised in **Table 4-9** below.

Table 4-9 Legally controlled species within 5km of the proposed DCO Order Limits

Species	No. of records	Date range of records	Distance and direction from the proposed DCO Order Limits
Flora			
Canadian waterweed <i>Elodea canadensis</i>	7	2013-2022	1.9km north-west
Cotoneaster sp.	6	2014-2021	0.02km north
Curly waterweed <i>Lagarosiphon major</i>	4	2014-2016	2.2km south-east

¹³ Only summary information on the birds recorded as part of the MAVES ecological assessment is available within these reports. These results cannot be extrapolated further.

¹⁴ Birds of Conservation Concern (BoCC) 5 – Stanbury *et al.*, 2021.

Species	No. of records	Date range of records	Distance and direction from the proposed DCO Order Limits
False Virginia creeper <i>Parthenocissus inserta</i>	3	2013-2015	2.2km north-west
False-acacia <i>Robinia pseudoacacia</i>	2	2013-2017	3.2km north
Few-flowered garlic <i>Allium paradoxum</i>	4	2013-2019	0.6km south-east
Floating pennywort <i>Hydrocotyle ranunculoides</i>	1	2014	0.1km north-west
Giant hogweed <i>Heracleum mantegazzianum</i>	1	2014	Within proposed DCO Order Limits
Hybrid knotweed <i>Fallopia japonica x sachalinensis = F. x bohemica</i>	1	2013	0.1km south
Himalayan balsam <i>Impatiens glandulifera</i>	35	2013-2022	0.2km north-west
Himalayan cotoneaster <i>Cotoneaster simonsii</i>	4	2013-2018	0.3km east
Japanese knotweed <i>Fallopia japonica</i>	20	2013-2020	0.1km south
Japanese rose <i>Rosa rugosa</i>	8	2014-2019	Within proposed DCO Order Limits
Montbretia <i>Crocsmia pottsii x aurea = C. x crocosmiiflora</i>	22	2013-2019	0.03km east
New Zealand pygmyweed <i>Crassula helmsii</i>	8	2013-2022	Within proposed DCO Order Limits
Nuttall's waterweed <i>Elodea nuttallii</i>	3	2014-2020	2.8km south-east
Parrot's-feather <i>Myriophyllum aquaticum</i>	2	2015-2020	2.5km north-west
Rhododendron ponticum	26	2013-2021	0.02km north

Species	No. of records	Date range of records	Distance and direction from the proposed DCO Order Limits
Three-cornered garlic <i>Allium triquetrum</i>	22	2013-2022	0.01km north-east
Tibetan Cotoneaster <i>Cotoneaster conspicuus</i>	2	2013-2014	0.3km north-east
Variiegated yellow archangel <i>Lamiastrum galeobdolon subsp. argentatum</i>	11	2013-2018	0.03km east
Virginia creeper <i>Parthenocissus quinquefolia</i>	3	2016-2017	0.8km north
Wall cotoneaster <i>Cotoneaster horizontalis</i>	23	2013-2021	0.02km north-west
Yellow Azalea <i>Rhododendron luteum</i>	1	2015	3.4km north-west
Fauna			
American mink <i>Neovison vison</i>	24	2014-2022	1.9km south-east
Bar-headed goose <i>Anser indicus</i>	66	2013-2021	0.01km south
Barnacle goose <i>Branta leucopsis</i>	123	2013-2021	Within proposed DCO Order Limits
Black swan <i>Cygnus atratus</i>	52	2014-2022	Within proposed DCO Order Limits
Canada goose <i>Branta canadensis</i>	5,397	2013-2022	Within proposed DCO Order Limits
Chinese muntjac <i>Muntiacus reevesi</i>	2	2015-2019	3.5km north-west
Egyptian goose <i>Alopochen aegyptiacus</i>	1648	2013-2022	Within proposed DCO Order Limits
Emperor goose	2	2019	2.4km north-west

Species	No. of records	Date range of records	Distance and direction from the proposed DCO Order Limits
European pond terrapin <i>Emys orbicularis</i>	1	2013	4.9km south
Golden pheasant <i>Chrysolophus pictus</i>	1	2015	4km west
Grey squirrel <i>Sciurus carolinensis</i>	215	2013-2022	Within proposed DCO Order Limits
Lesser Canada goose <i>Branta canadensis subsp. parvipes</i>	10	2014-2015	2.4km north-west
Mandarin duck <i>Aix galericulata</i>	1587	2013-2022	0.7km east
Marsh frog <i>Pelophylax ridibundus</i>	4	2013-2020	3.9km south-east
New Zealand flatworm <i>Arthurdendyus triangulatus</i>	1	2014	1.8km north-west
Red-crested pochard <i>Netta rufina</i>	24	2014-2019	0.8km north-west
Ring-necked parakeet <i>Psittacula krameri</i>	33	2013-2022	0.03km west
Ruddy duck <i>Oxyura jamaicensis</i>	9	2013-2021	2.4km north-west
Ruddy shelduck <i>Tadorna ferruginea</i>	6	2014-2019	2.4km north-west
Snow goose <i>Chen caerulescens</i>	1	2018	4km north-west
Wall lizard <i>Podarcis muralis</i>	2	2013-2014	1.4km west
Wood duck <i>Aix sponsa</i>	5	2014-2020	2.4km north-west

MAVES Ecological Survey Reports 2017 and 2018

- 4.6.3 A review of the 2017 and 2018 MAVES ecological survey reports identified records of rhododendron within 5km of the proposed DCO Order Limits.

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5. Glossary

Table 5-1 Glossary of terms and abbreviations

Term (acronym)	Definition
BoCC	Birds of Conservation Concern
BTO	British Trust for Ornithology
cSAC	candidate Special Area of Conservation
Environmental Impact Assessment (EIA)	The process of evaluating the likely significant environmental effects of a proposed project or development over and above the existing circumstances (or 'baseline').
Habitats Regulation Assessment (HRA)	The assessment of the impacts of implementing a plan or policy on a European Site, the purpose being to consider the impacts of a project against conservation objectives of the site and to ascertain whether it will adversely affect the integrity of the site.
Habitats Regulations	EC Council Directive 92/43/EEC, known as the Habitats Directive, was transposed in the UK by the Habitats Regulations 1994 (as amended). The Habitats Regulations apply to UK land and territorial waters and act to ensure biodiversity of natural habitats and of wild flora and fauna through a range of measures including designation of SACs.
HPI	Habitats of Principal Importance
IUCN	International Union for Conservation of Nature
LNR	Local Nature Reserve
Local Wildlife Site (LWS)	Local Wildlife Sites are non-statutory designations conferred by local planning authorities and given weight through local planning policy. These sites are selected through a selection of criteria (criteria are area dependent) aimed at identifying "substantive nature conservation value".
m	metres
MAVES	Mid-Arun Valley Environmental Survey
NBN	National Biodiversity Network

Term (acronym)	Definition
NERC Act	Natural Environment and Rural Communities Act
NNR	National Nature Reserve
NPS	National Policy Statement
NRV	Notable Road Verges
RSPB	Royal Society for the Protection of Birds
Scoping Report	A report that presents the findings of an initial stage in the Environmental Impact Assessment process.
SDNPA	South Downs National Park Authority
Site of Special Scientific Interest (SSSI)	Sites designated at the national level under the Wildlife & Countryside Act 1981 (as amended). They are a series of sites that are designated to protect the best examples of significant natural habitats and populations of species.
SOS	Sussex Ornithological Society
Special Area of Conservation (SAC)	International designation implemented under the Habitats Regulations for the protection of habitats and (non-bird) species. Sites designated to protect habitats and species on Annexes I and II of the Habitats Directive. Sufficient habitat to maintain favourable conservation status of the particular feature in each member state needs to be identified and designated.
SPI	Species of Principal Importance
SxBRC	Sussex Biodiversity Records Centre
The Applicant	Rampion Extension Development Limited (RED)
The Proposed Development / Rampion 2	The onshore and offshore infrastructure associated with the offshore wind farm comprising of installed capacity of up to 1,200MW, located in the English Channel in off the south coast of England. The development that is subject to the application for development consent, as described in Chapter 4.
UK	United Kingdom
WeBS	Wetland Bird Survey

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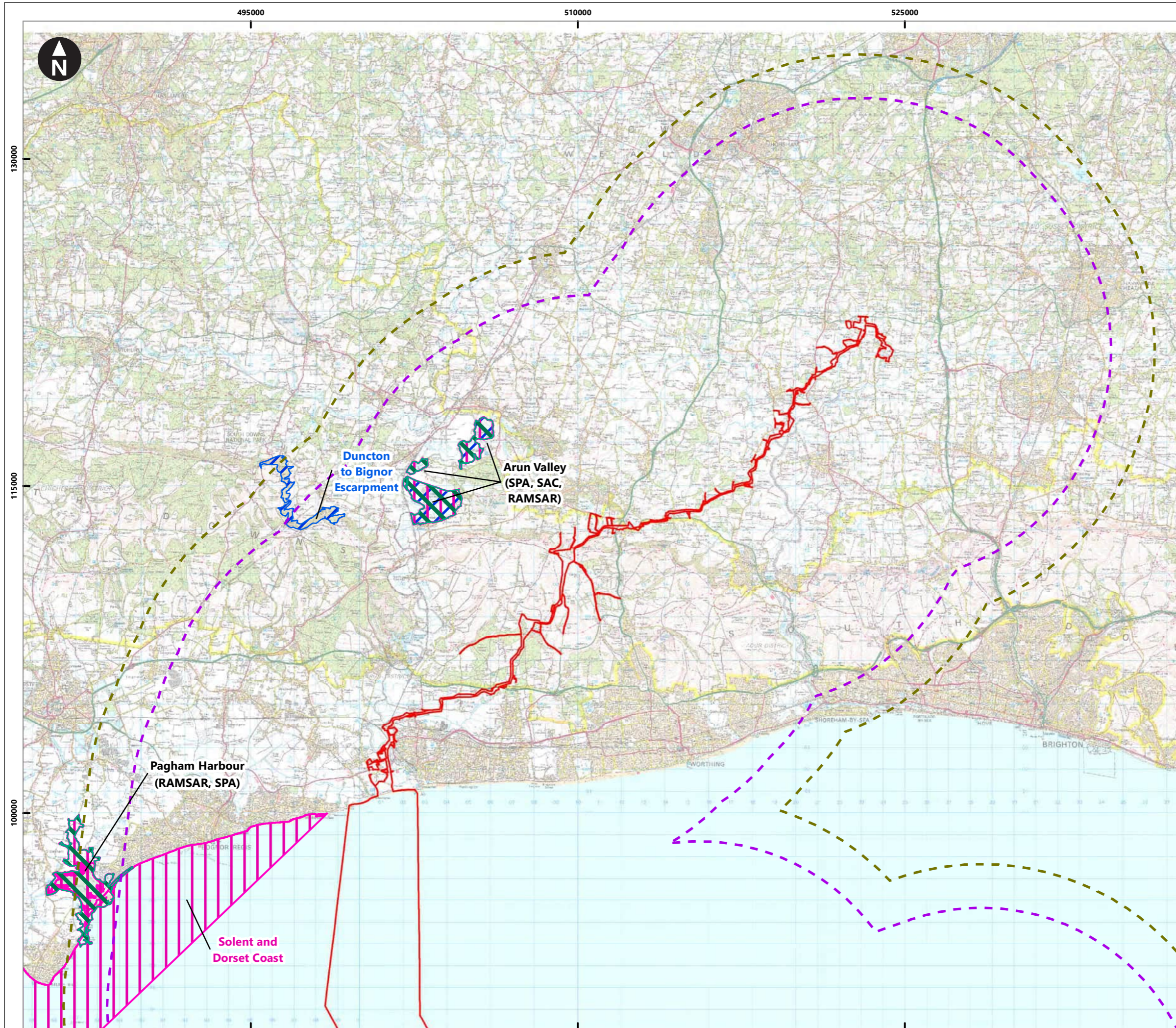
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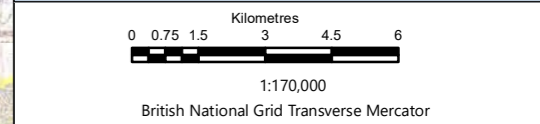
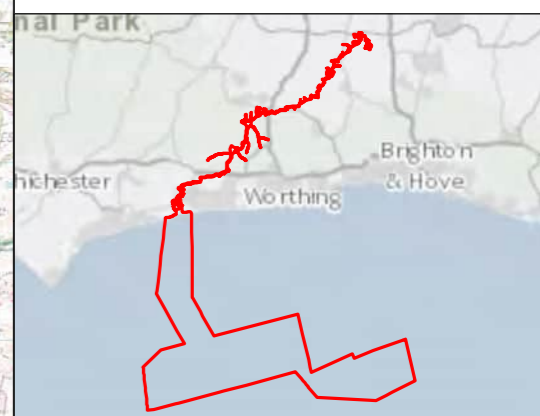
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Key

- Proposed DCO Order Limits
- 10km Buffer
- 12km Buffer
- RAMSAR
- Special Protected Areas (SPA)
- Special Areas of Protection (SAC)

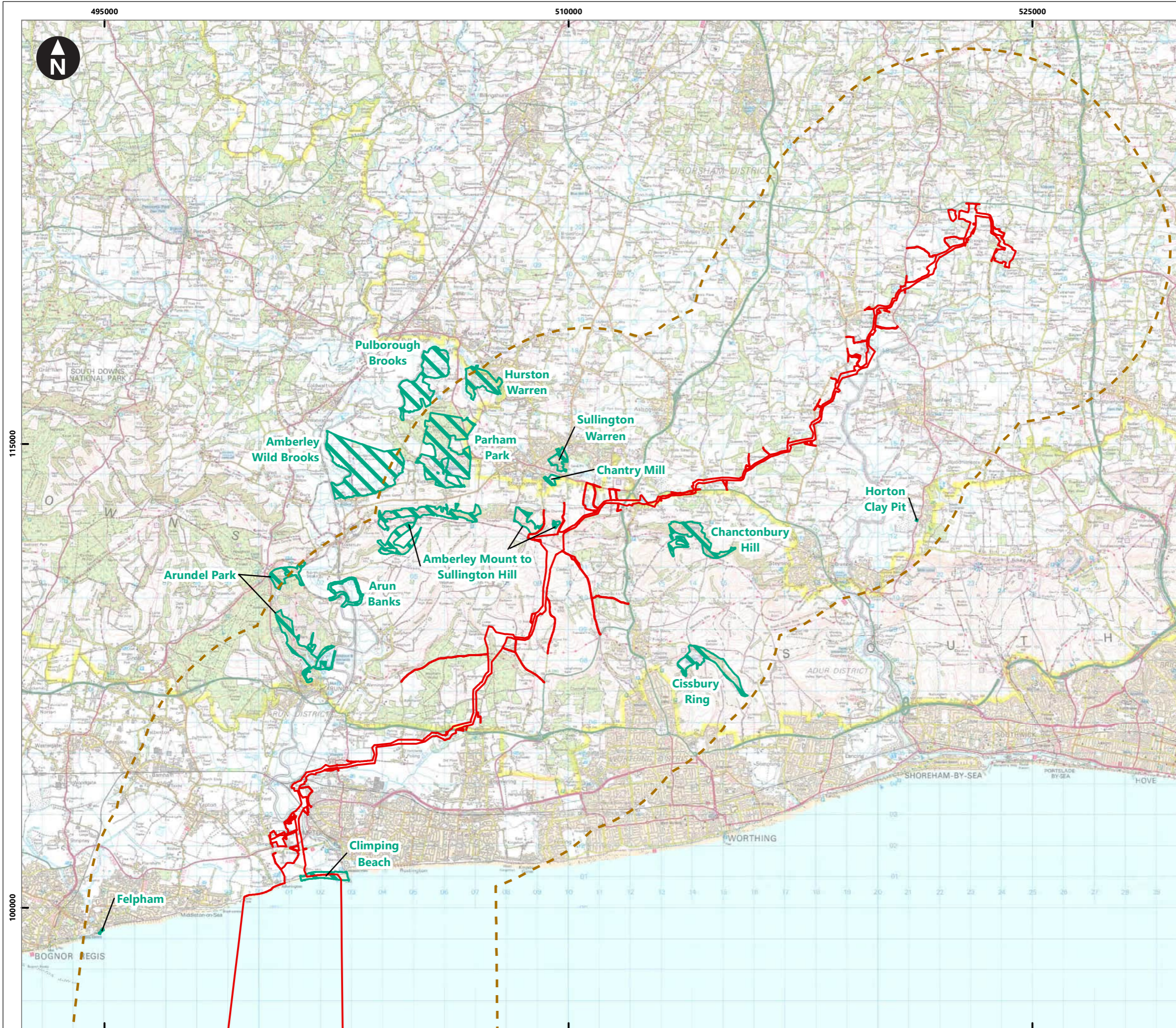


Rampion Extension Development

Rampion 2 Offshore Wind Farm

Figure 22.2
 Internationally Designated sites within 10km
 of the Proposed DCO Order Limits

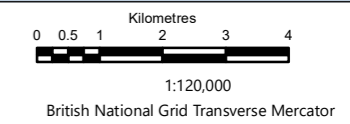
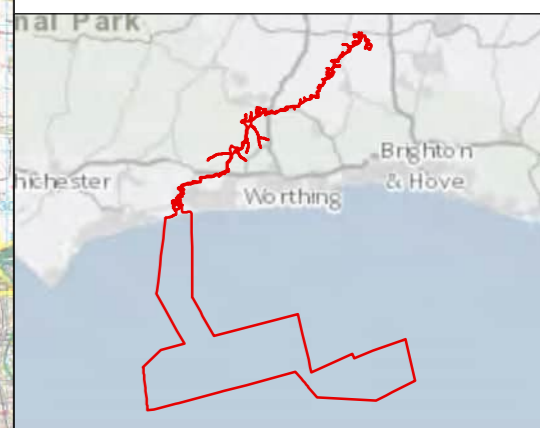
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Key

- Proposed DCO Order
- 5km
- Site of Special Scientific Interest (SSSI)



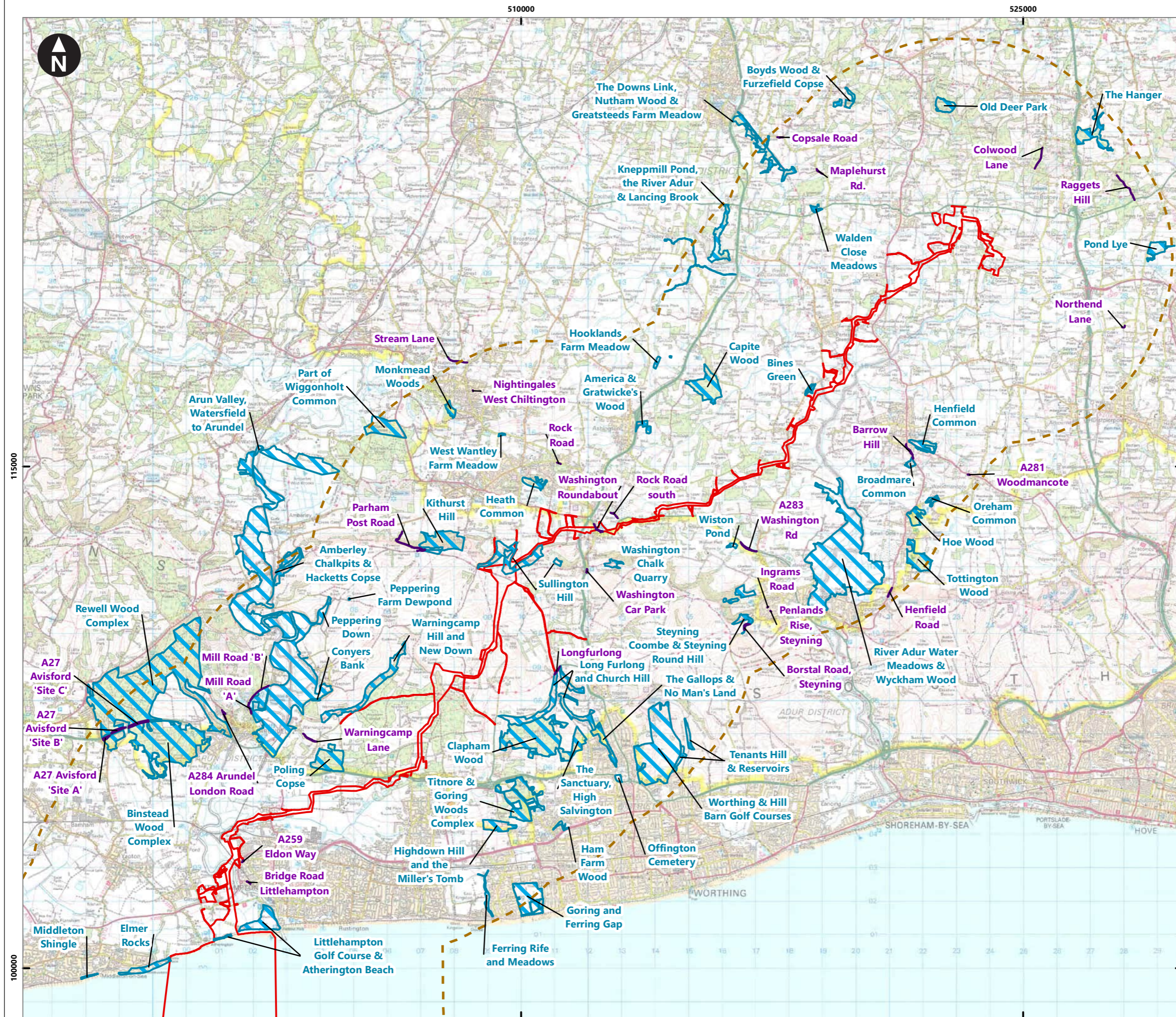
Rampion Extension Development



Rampion 2 Offshore Wind Farm

Figure 22.3
 Nationally designated sites within 5km of the Proposed DCO Order Limits

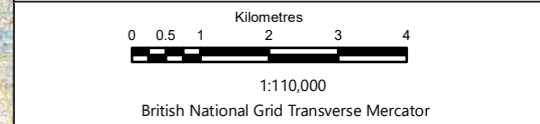
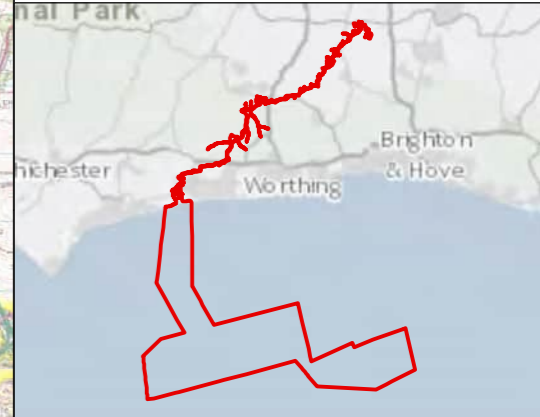
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Key

- Proposed DCO Order Limits
- 5km buffer
- Notable road verges
- Local Wildlife Sites (LWS)

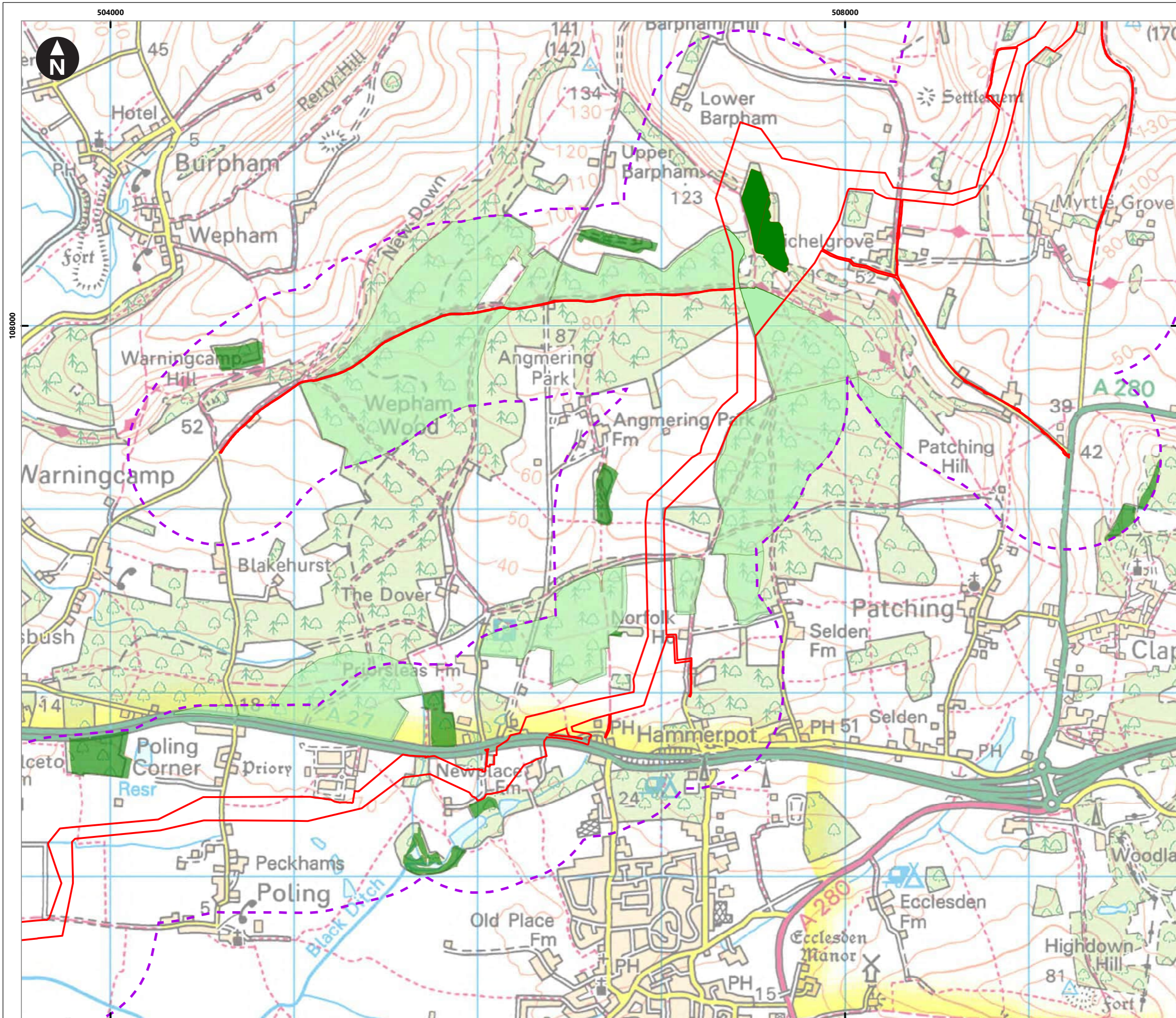


Rampion Extension Development

Rampion 2 Offshore Wind Farm

Figure 22.4
 Non designated sites within 5km of the Proposed DCO Order Limits

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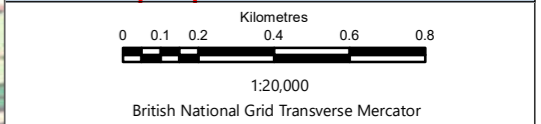
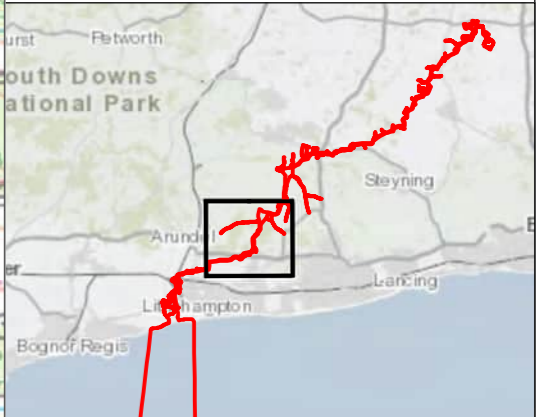
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Key

- Proposed DCO Order Limits
- 500m buffer

Ancient woodland type

- Ancient & Semi-Natural Woodland
- Ancient Replanted Woodland



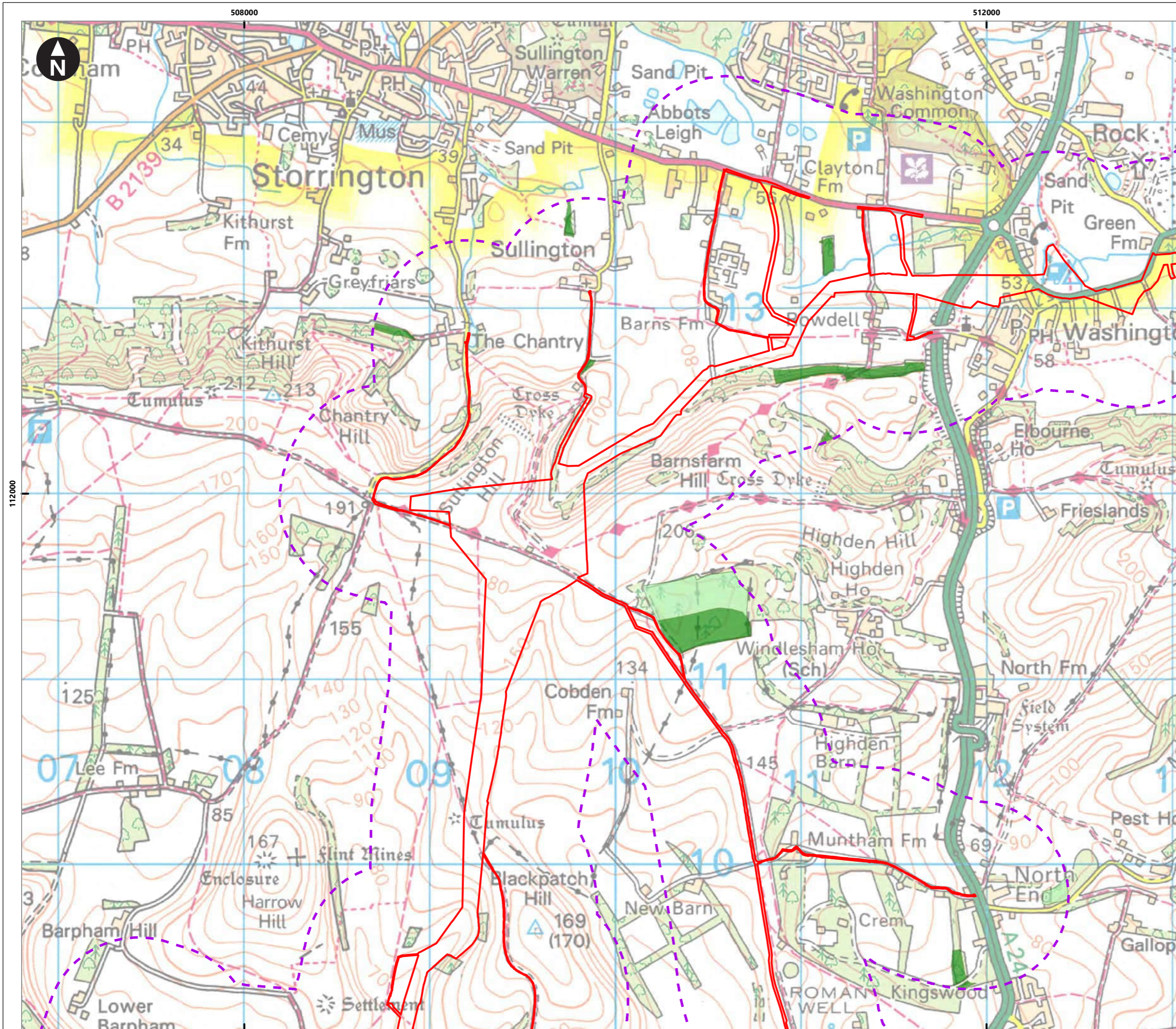
Rampion Extension Development

Rampion 2 Offshore Wind Farm

Figure 22.6 Ancient woodland and ancient replanted woodland within 500m of the Proposed DCO Order Limits

Page 1 of 4

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Company: WSP	Drawn By: HADJE	Chk/Prvd: SUTET	Drawn Date: 09/06/2023	Status: Final



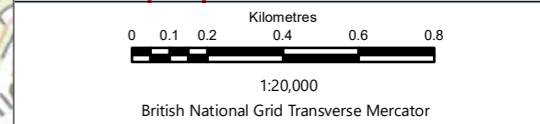
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Key

- Proposed DCO Order Limits
- 500m buffer

Ancient woodland type

- Ancient & Semi-Natural Woodland
- Ancient Replanted Woodland



Rampion Extension Development



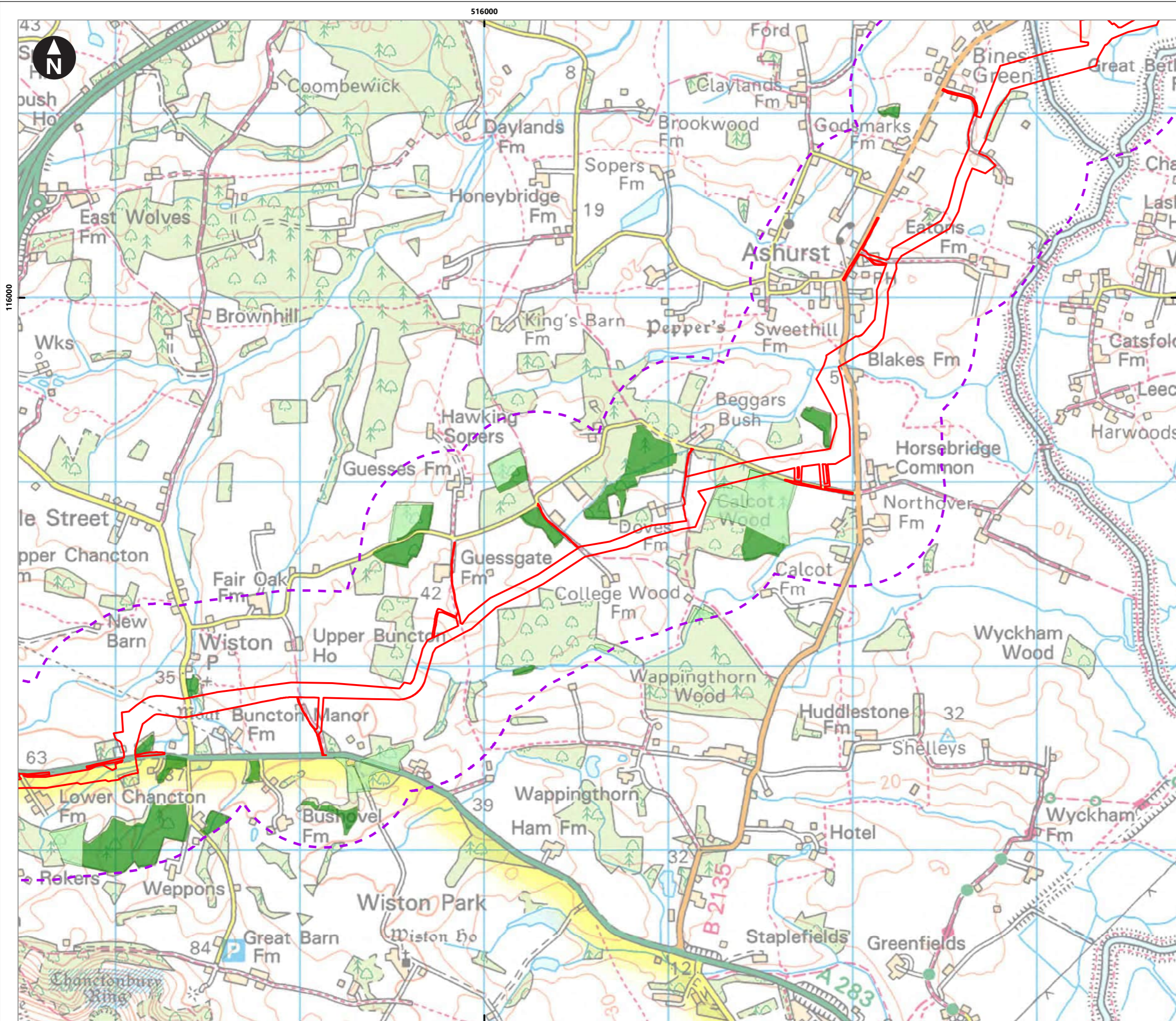
Rampion 2 Offshore Wind Farm

Figure 22.6 Ancient woodland and ancient replanted woodland within 500m of the Proposed DCO Order Limits

Page 2 of 4

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Key

- Proposed DCO Order Limits
- 500m buffer

Ancient woodland type

- Ancient & Semi-Natural Woodland
- Ancient Replanted Woodland

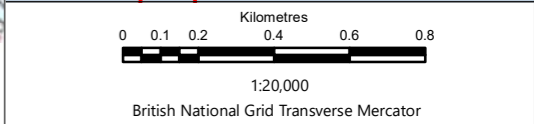
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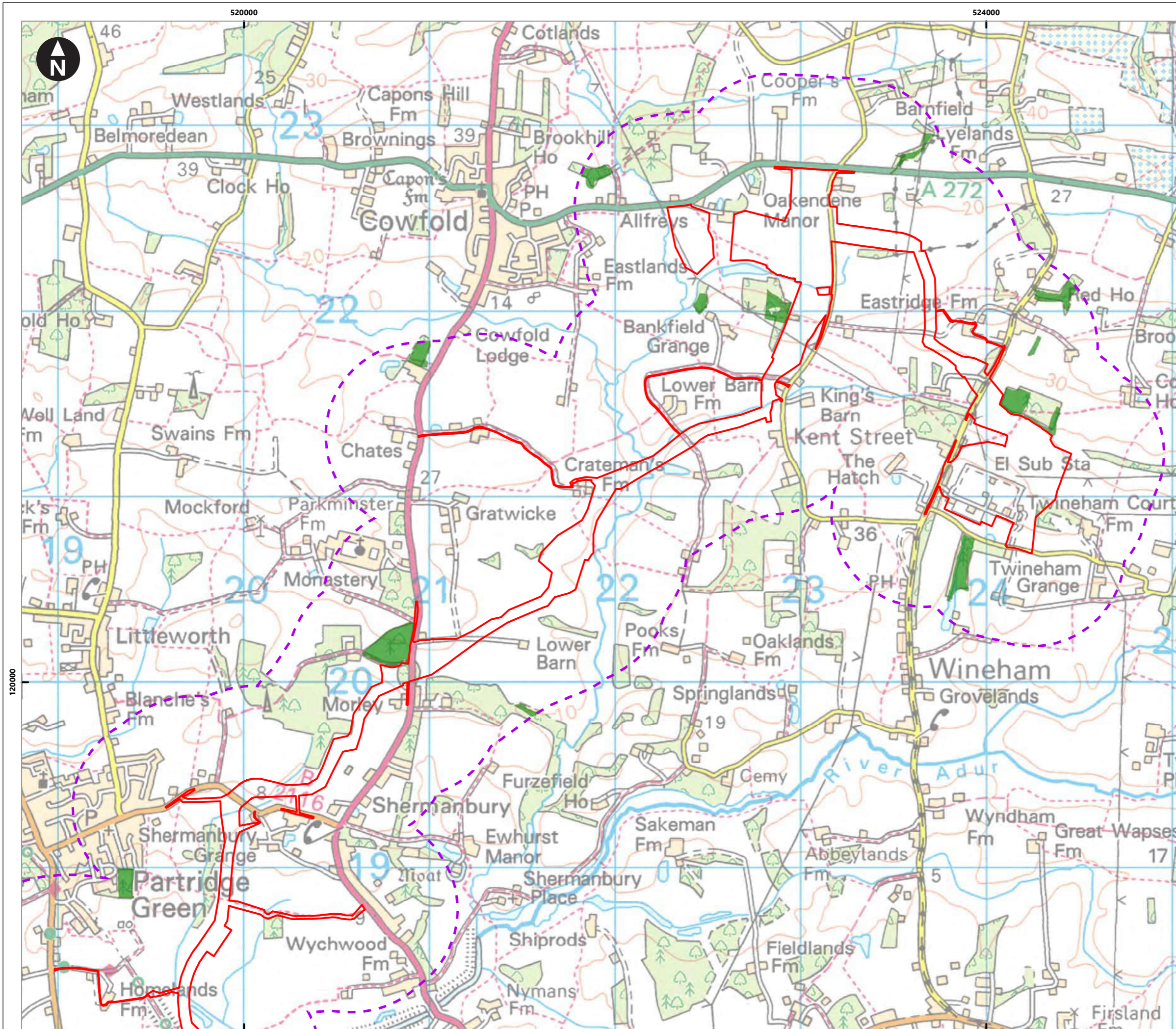
Rampion 2 Offshore Wind Farm

Figure 22.6 Ancient woodland and ancient replanted woodland within 500m of the Proposed DCO Order Limits

Page 3 of 4

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Key

- Proposed DCO Order Limits
- 500m buffer

Ancient woodland type

- Ancient & Semi-Natural Woodland
- Ancient Replanted Woodland

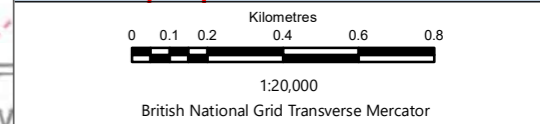
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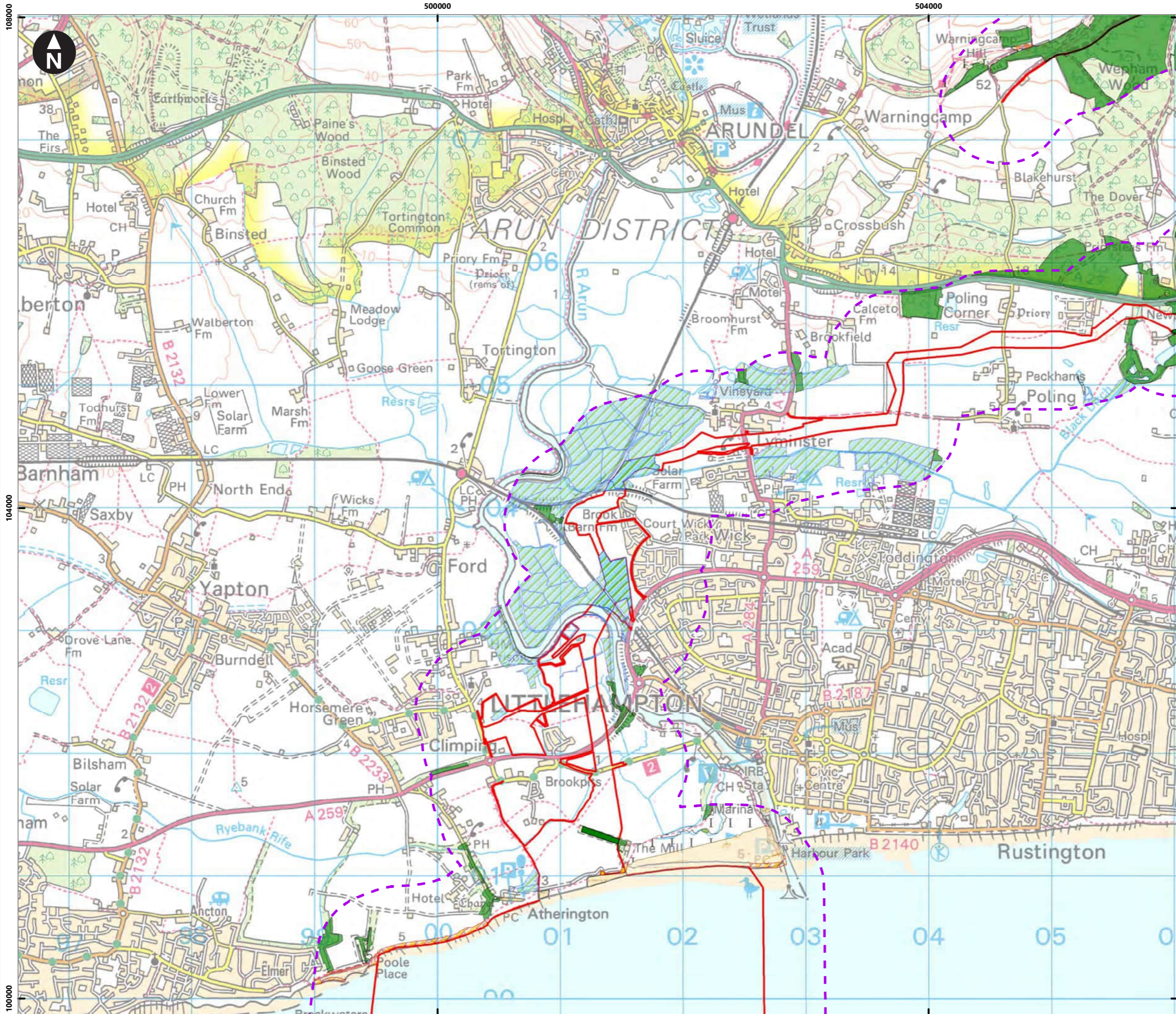
Rampion 2 Offshore Wind Farm

Figure 22.6 Ancient woodland and ancient replanted woodland within 500m of the Proposed DCO Order Limits

Page 4 of 4

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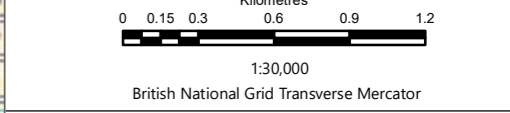
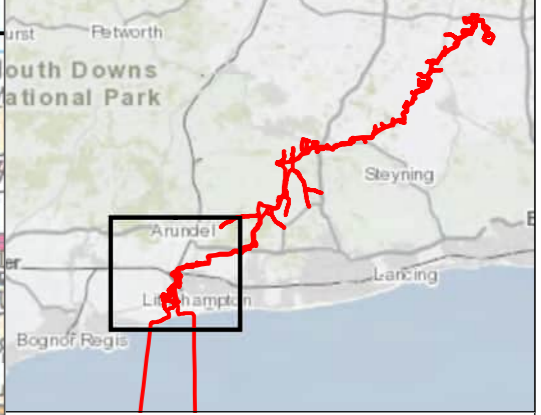
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Ordnance Survey 0100031673

Key

- Proposed DCO Order Limits
- 500m buffer

Priority habitat types

- Coastal and floodplain grazing marsh
- Coastal saltmarsh
- Coastal sand dunes
- Coastal vegetated shingle
- Deciduous woodland
- Good quality semi improved grassland
- Lowland calcareous grassland
- Lowland dry acid grassland
- Lowland fens
- Lowland heathland
- Maritime cliff and slope
- Mudflats
- No main habitat but additional habitats present
- Traditional orchard



Rampion Extension Development

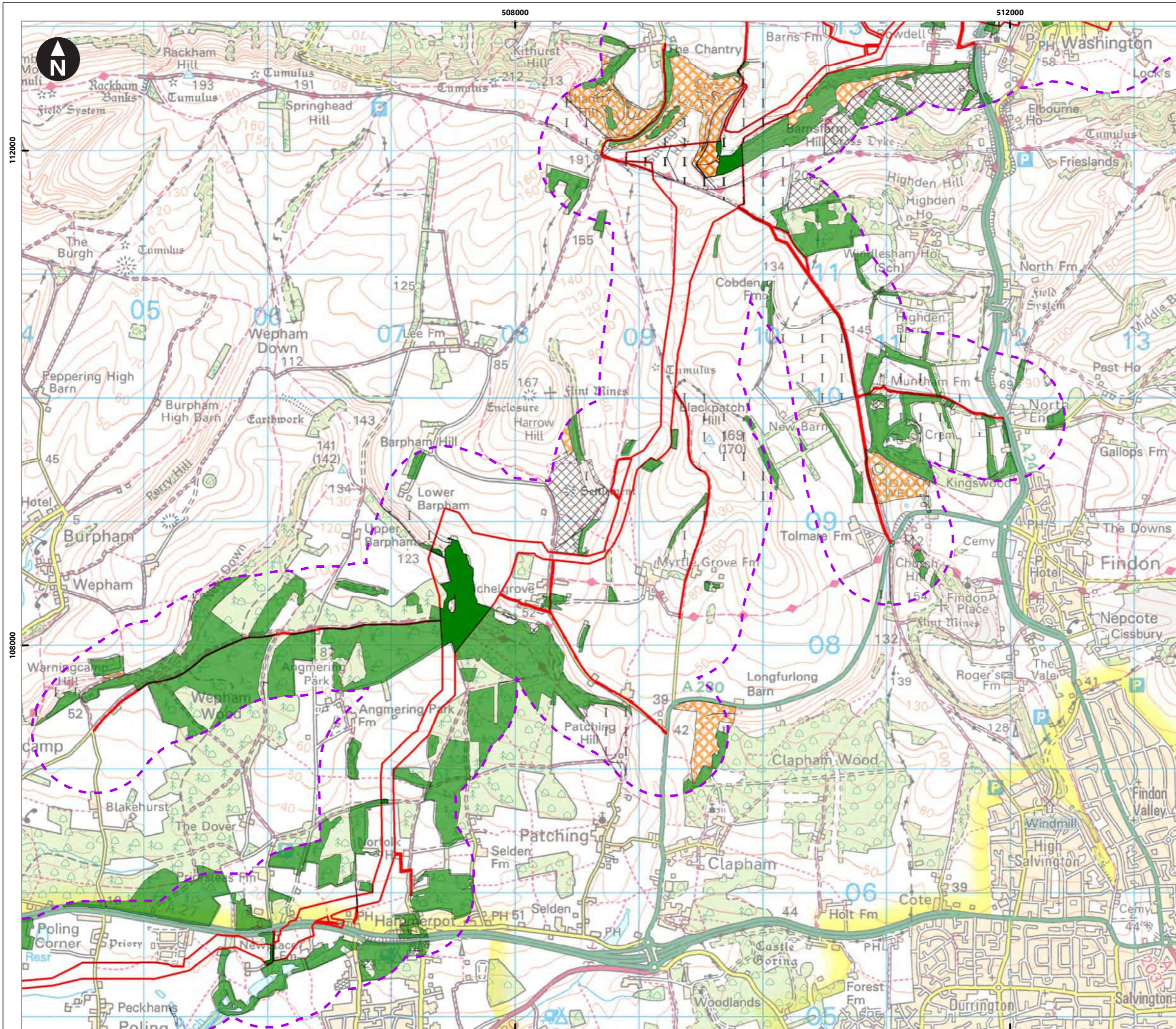


Rampion 2 Offshore Wind Farm

Figure 22.5 Priority Habitats within 500m of the Proposed DCO Order Limits.

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 Ordnance Survey 0100031673

Key

- Proposed DCO Order Limits
- 500m buffer

Priority habitat types

- Coastal and floodplain grazing marsh
- Coastal saltmarsh
- Coastal sand dunes
- Coastal vegetated shingle
- Deciduous woodland
- Good quality semi improved grassland
- Lowland calcareous grassland
- Lowland dry acid grassland
- Lowland fens
- Lowland heathland
- Maritime cliff and slope
- Mudflats
- No main habitat but additional habitats present
- Traditional orchard

0 0.15 0.3 0.6 0.9 1.2
 Kilometres
 1:30,000
 British National Grid Transverse Mercator

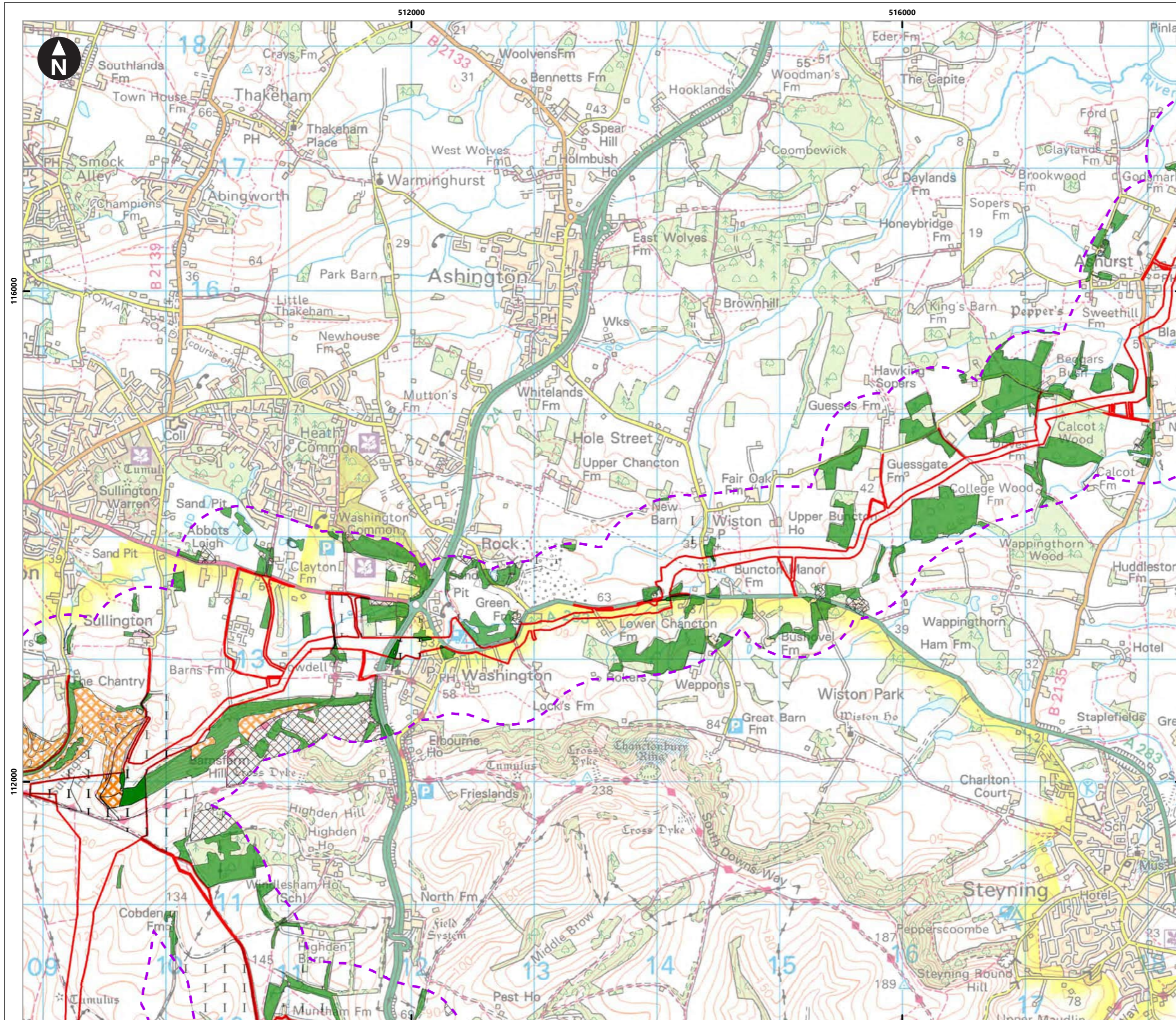
Rampion Extension Development

Rampion 2 Offshore Wind Farm

Figure 22.5 Priority Habitats within 500m of the Proposed DCO Order Limits.

Page 2 of 4

System Identifier: 42285-WSP-ES-ON-FG-OO-4749		Version: 2.0
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Key

- Proposed DCO Order Limits
- 500m buffer

Priority habitat types

- Coastal and floodplain grazing marsh
- Coastal saltmarsh
- Coastal sand dunes
- Coastal vegetated shingle
- Deciduous woodland
- Good quality semi improved grassland
- Lowland calcareous grassland
- Lowland dry acid grassland
- Lowland fens
- Lowland heathland
- Maritime cliff and slope
- Mudflats
- No main habitat but additional habitats present
- Traditional orchard

Scale: 0 0.15 0.3 0.6 0.9 1.2 Kilometres
 1:30,000
 British National Grid Transverse Mercator

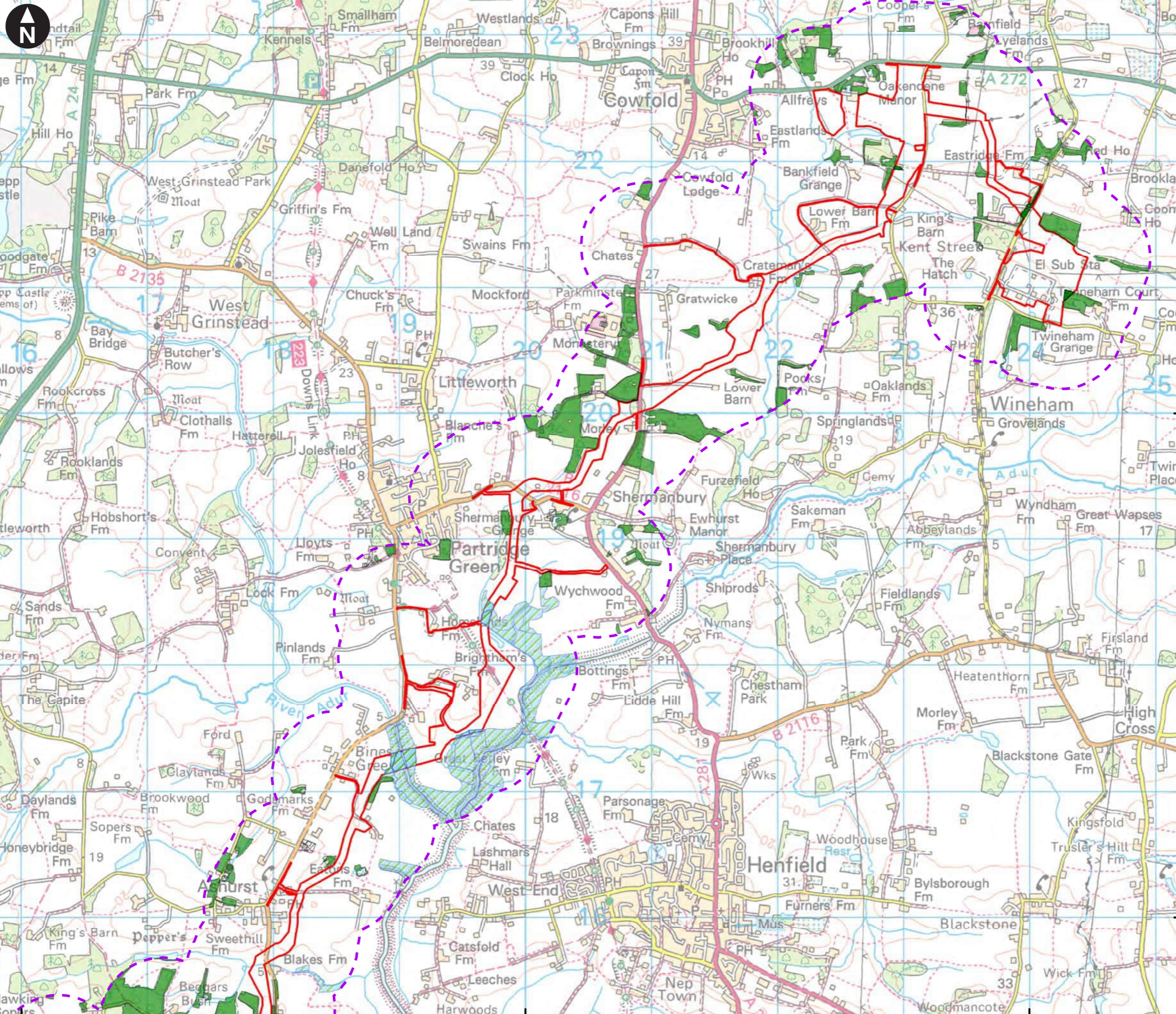
Rampion Extension Development

Rampion 2 Offshore Wind Farm

Figure 22.5 Priority Habitats within 500m of the Proposed DCO Order Limits.

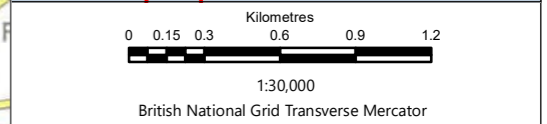
Page 3 of 4

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Company: WSP	Drawn By: HADJE	Chk/Prvrd: SUTET
Drawn Date: 09/06/2023	Status: Final	



Key

- Proposed DCO Order Limits
- 500m buffer
- Priority habitat types**
- Coastal and floodplain grazing marsh
- Coastal saltmarsh
- Coastal sand dunes
- Coastal vegetated shingle
- Deciduous woodland
- Good quality semi improved grassland
- Lowland calcareous grassland
- Lowland dry acid grassland
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- Lowland heathland
- Maritime cliff and slope
- Mudflats
- No main habitat but additional habitats present
- Traditional orchard



Rampion Extension Development



Rampion 2 Offshore Wind Farm

Figure 22.5 Priority Habitats within 500m of the Proposed DCO Order Limits.

Page 4 of 4

System Identifier:		Version:	
42285-WSP-ES-ON-FG-OO-4749		2.0	

Company:	Drawn By:	Chk/Prvd:	Drawn Date:	Status:
WSP	HADJE	SUTET	09/06/2023	Final



4.22.3



Volume 4, Appendix 22.3

Extended Phase 1 Habitat Survey Report



Contents

1.	Introduction	4
1.1	Background	4
1.2	Survey site selection	4
1.3	Purpose of this Annex	5
1.4	Structure of this Annex	5
2.	Methods	6
2.1	Phase 1 Habitat Survey	6
	Legally controlled species	7
3.	Results	8
3.2	Arable	8
3.3	Improved grassland	8
3.4	Woodland	9
3.5	Broadleaved woodland -semi-natural	22
3.6	Broadleaved woodland- plantation	23
3.7	Coniferous woodland- plantation	23
3.8	Mixed woodland- semi-natural	23
3.9	Mixed woodland- plantation	24
3.10	Neutral grassland-semi-improved	24
3.11	Poor semi-improved grassland	24
	Scrub- Dense/continuous or scattered	25
3.12	Hedgerows	25
3.13	Parkland and scattered tree - broadleaved	26
	Parkland and scattered tree – mixed	26
	Hardstanding	27
3.14	Amenity grassland	27
	Quarry	27
	Bare ground	27
3.15	Calcareous grassland -unimproved	27
	Shingles/cobbles	27
	Intertidal – mud/sand	28
3.16	Marsh/marshy grassland	28
3.17	Neutral grassland unimproved	28
3.18	Tall ruderal vegetation	28

3.19	Calcareous grassland - semi-improved	28
	Coastal grassland	29
	Ephemeral/short perennial	29
	Buildings	29
3.20	Dry ditch	29
3.21	Other habitats	29
3.22	Priority Habitats	30
3.23	Waterbodies/ watercourses	31
3.24	Protected and rare plant species	31
	Notable Species	31
3.25	Legally controlled plant species	32
3.26	Legally protected species	32
3.27	Deviations, constraints and limitations	33
4.	Summary	35
5.	References	37

List of Tables

Table 3-1	Woodland Description	9
Table 3-2	Waterbodies and Watercourses recorded during field survey	31
Table 3-3	Invasive plant species recorded during field survey	32
Table 3-4	Habitat types of suitability to legally protected species that are present within the proposed DCO Order Limits	33

Annexes

Annex A	Figures
Annex B	Scientific species names

1. Introduction

1.1 Background

- 1.1.1 This Annex should be read in conjunction with **Chapter 22: Terrestrial ecology and nature conservation, Volume 2** of the Environmental Statement (ES) which is provided in support of the delivery of an Environmental Impact Assessment (EIA) associated with the Rampion 2 Offshore Wind Farm, hereafter referred to as the 'Proposed Development' or 'Rampion 2'.
- 1.1.2 This Annex describes the survey method and summarises the results of the Extended Phase 1 surveys undertaken between 2021 and 2023.

1.2 Survey site selection

- 1.2.1 The onshore elements of the Proposed Development refer to works landward of Mean High Water Springs (MHWS) and will comprise the following key components:
- A temporary onshore cable corridor, approximately 39.5km in length from the landfall at Climping to a new onshore substation at Oakendene, and from the new onshore substation to the existing National Grid Bolney substation, approximately 40m in width (20m either side of a centreline) within which the following will be located:
 - ▶ Permanent infrastructure including High voltage Alternating Current (HVAC) transmission cables and associated joint bays; and
 - ▶ Temporary infrastructure including Horizontal Directional Drilling (HDD) trenchless crossing areas.
 - Temporary construction compounds and access roads;
 - A new onshore substation;
 - A new connection to National Grid's Bolney substation.
- 1.2.2 A detailed project description can be found in **Chapter 4: Project Description, Volume 2**.
- 1.2.3 Above MHWS the Proposed Development consists of permanent new above ground infrastructure at the location of the substation and at the connection point to National Grid's Bolney substation only.
- 1.2.4 The approach to the Phase 1 habitat survey was discussed with Natural England in April 2020, and again within a variety of forums with stakeholders including South Downs National Park Authority, West Sussex County Council and the Sussex Wildlife Trust (see **Section 22.3 of Chapter 22: Terrestrial ecology and nature conservation, Volume 2**), with agreement to the approach minuted.

1.3 Purpose of this Annex

- 1.3.1 The proposed DCO Order Limits cross through habitats with the potential to support priority habitats, irreplaceable habitats and legally protected and notable vascular plant species. Data gathered on animal species during the Extended Phase 1 habitat survey is presented in individual reports. This Annex outlines the methodologies used, and summarises the results gathered as part of an Extended Phase 1 habitat survey within the proposed DCO Order Limits (as defined in **Chapter 4: Project Description, Volume 2** of the ES) and a 30m buffer, hereafter referred to as the Study Area (shown on **Figure A-1, Annex A**).

1.4 Structure of this Annex

- 1.4.1 This Annex is structured as follows:
- **Section 2:** Methods;
 - **Section 3:** Results;
 - **Section 4:** Summary;
 - **Section 5:** References;
 - **Annex A:** Figures; and
 - **Annex B:** Scientific species names

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2. Methods

2.1 Phase 1 Habitat Survey

- 2.1.1 'Phase 1' habitat survey is an established field-scale vegetation survey method that classifies land parcels into various habitat categories. In line with the Joint Nature Conservation Committee (JNCC) Phase 1 Habitat survey methodology (JNCC. 2010). A Phase 1 habitat survey was undertaken between April 2020 and March 2023 of all accessible habitats within the proposed DCO Order Limits and within a 30m buffer of it. This is collectively referred to as the Study Area.
- 2.1.2 Within the Study Area distinct habitats were identified and any conservation-notable habitats or interest features that were too small to map were subject to a more detailed description, presented in the results. As the standard Phase 1 habitat survey methodology is largely concerned with vegetation communities only, the survey was 'extended' in accordance with the Guidelines for Baseline Ecological Assessment (IEA 1995) to include:
- Preliminary searches for evidence of protected or conservation-notable species / species-groups (including dormice; bats; great crested newts; badger; water voles; reptiles; and otters), and for habitats or features likely to support them if direct evidence is absent;
 - Hedgerow assessments¹, aimed at identifying hedges that might be classified as 'important' based on the relevant ecological and structural criteria set out in The Hedgerows Regulations 1997 (refer to the [Appendix 22.4 Rampion 2 Hedgerow Survey Report](#)).
 - The identification of other constraints (e.g. non-native invasive plant species) or opportunities (e.g. opportunities for micro-siting or enhancement) that may be present at the site; and
- 2.1.3 Preliminary information on habitat condition to assist with initial Biodiversity Net Gain (BNG) calculations (see [Appendix 22.15 Biodiversity Gain Information](#)).
- 2.1.4 It should be noted that while every effort has been made to provide a comprehensive description of the Study Area, this survey did not constitute a full botanical survey.
- 2.1.5 The nomenclature for the vascular plants in this report follows Stace (2019) for both scientific and English names, see **Annex B**.

¹ Based broadly on the methods set out in the *Hedgerow Survey Handbook*, DEFRA 2002.

Legally controlled species

- 2.1.6 The presence of any legally controlled, non-native, invasive plants, such as Japanese knotweed and Himalayan balsam, was recorded during the Phase 1 habitat surveys.

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3. Results

- 3.1.1 The following sections describe the Phase 1 habitat types recorded between 2020 and 2023 within and adjacent to the proposed DCO Order Limits. The distribution of habitats present is shown in **Annex A, Figure A-1** and are described below in order of prevalence within the Study Area.
- 3.1.2 A total of 90.75% of the Study Area was subject to Phase 1 habitat survey. Areas that were not accessible or could not be observed adequately from Public Rights of Way are described in **Section 3.27**.

3.2 Arable

- 3.2.1 This habitat type was the most prevalent recorded within the Study Area. A total of 368 ha of this habitat was recorded across the Study Area. A total of 12.58ha or 3.4% of this habitat type could not be accessed for survey and notes were made from adjacent accessible land including Public Rights of Way. This habitat type was recorded throughout the proposed DCO Order Limits from the southernmost extent at Climping to Hammerpot; between stands of woodland at Michelgrove. From Wiston and Ashurst north to Bolney arable land uses were recorded occasionally with a few larger fields noted to the east of Oakendene Industrial Estate at the northern limit.
- 3.2.2 In general, arable fields were noted to be intensely farmed with limited to no field margins recorded; however, in a number of locations conservation headlands, pollinator strips and winter bird cover had been established. There was evidence of fertilizer run-off to adjacent habitats such as woodlands and other grasslands due to the presence of nutrient tolerant plant species such as common nettle and broadleaved dock.
- 3.2.3 The shape and extent of many of the arable fields present are likely to be a product of hedgerow removals in previous decades. This has led to the majority of arable fields being large, especially between the landfall and the A27, and across the plateau of the South Downs National Park.
- 3.2.4 Crops planted at the time of survey included oats, wheat, maize and barley. Depending on the time of year and crop rotation, fields were noted to have been recently sown, cropped, ploughed or fallow at the time of survey.

3.3 Improved grassland

- 3.3.1 This habitat type was the second most prevalent recorded within the proposed DCO Order Limits. This habitat type was scattered in 223 locations throughout the Study Area over a total of 324.8ha, habitat type was recorded sporadically from Climping to Lyminster; in numerous locations around Hammerpot and Michelgrove; the southern slopes of Sullington Hill, and a significant number of fields extending from Bines Green to the northernmost extent of the proposed DCO Order Limits. In general, coarse grasses dominated this habitat type, with

perennial rye grass, Italian rye grass, cock's foot, Timothy, rough meadow grass, false oat grass and Yorkshire fog recorded most frequently. Forbs were less frequently recorded within improved grassland with those that were common being associated with agriculturally managed grasslands such as broad leaved dock, yarrow, common ragwort, dandelion, white clover, spear thistle, ribwort plantain, creeping buttercup and cut-leaved crane's-bill.

- 3.3.2 Towards the north and east of the proposed DCO Order Limits, the fields appear to be more characteristic of the historic field patterns, whilst elsewhere larger tracts of grazing have been created through the removal of boundary features. Current boundary features comprised a mixture of hedgerows, tree lines, ditches and fence lines; with hedgerows being the most common form of separation. Habitat use was recorded as either for silage / hay production or for livestock grazing. Grazing animals recorded at the time of survey included cattle, sheep and horses. Many fields were noted to be very dry at the time of survey, particularly where the sward was grazed low to the ground.
- 3.3.3 A total of 7.65 ha of improved grassland across 8 locations within the proposed DCO Order Limits is also identified as coastal and floodplain grazing marsh on the Priority Habitats Inventory (see **Figure A-2, Annex A**). These fields are located within the Arun Valley and Adur Valley and are largely used for grazing livestock. **Section 3.2** provides further detail on HPI.

3.4 Woodland

- 3.4.1 This habitat type was recorded throughout the Study Area, across a total of 29.38ha, in 118 blocks (a single woodland location may be represented by multiple blocks). A total of 0.86ha of woodland could not be fully accessed for survey; instead, notes were taken from adjacent accessible land including Public Rights of Way and from a review of satellite imagery.
- 3.4.2 **Table 3-1** below provides a summary of woodland blocks by type and retention category, from south to north:

Table 3-1 Woodland Description

Unique ID	Extent ² (ha)	Description	Retention category
Broadleaved woodland- semi-natural			
W2341	0.1	Small stand of willow, alder, English elm and elder woodland south of Ferry Road in Climping, with another 0.2ha lying beyond the proposed DCO Order Limits to the southeast.	Retained

² Within proposed DCO Order Limits

Unique ID	Extent ² (ha)	Description	Retention category
W193	0.09	Small stand of willow, alder, English elm and elder woodland south of Ferry Road in Climping, with another 0.5ha lying within Order Limits to the southeast (not accessed).	Retained
W194	0.09	Small stand of willow, alder, English elm and elder woodland south of Ferry Road in Climping, to the west of W193 and south of W2341. Another 0.2ha of woodland lies within the proposed DCO Order Limits.	Retained
W1327	0.07	Small stand of willow, English elm, elder and hawthorn woodland located north of Ferry Road in Climping. Half of the stand lies within the proposed DCO Order Limits, with another ~0.0.7ha lies to the west.	Retained
W1298	0.06	Small stand of woodland close to River Arun in Climping, not accessed for survey. A further stand of woodland ~0.14ha in extent exists within the proposed DCO Order Limits.	Retained
W38	0.05	Small strip of woodland/overgrown tree line adjacent to ditch, not accessed for survey. South of A27/ Arundel Road at Chestnut Tree House, Hammerpot.	Cleared to 6m (for haul road ³)
W39	0.05	Small strip of woodland/ overgrown tree line adjacent to ditch and W38, not accessed for survey, entirely within the proposed DCO Order Limits. A larger stand of woodland lies to the south, beyond the proposed DCO Order Limits~ 1.4ha in extent, connected to further larger woodland stands, to the south. South of A27/ Arundel Road at Chestnut Tree House, Hammerpot.	Cleared to 6m (for haul road ³)
W40 and W41	0.08	Small strip of woodland/ overgrown tree line adjacent to ditch and W39, not accessed for survey. South of A27/ Arundel Road at Chestnut Tree House, Hammerpot. A larger stand of woodland lies to the south, beyond the proposed	Cleared to 6m (for haul road ³)

³ To be confirmed: there may be a need for a haul road at this location.

Unique ID	Extent ² (ha)	Description	Retention category
		DCO Order Limits~ 1.4ha in extent, connected to further larger woodland stands, to the south.	
W42	0.01	Small stand of woodland/ overgrown tree line south of W38, not accessed for survey. A larger stand ~0.49 ha in extent continues to the south, beyond the proposed DCO Order Limits. South of A27/ Arundel Road at Chestnut Tree House, Hammerpot.	Retained
W46	0.09	Small strip of woodland/ overgrown tree line lying entirely within the proposed DCO Order Limits; dominated by beech, oak, hawthorn, blackthorn, ground flora dominated by ivy. East of Decoy Land and W50; south of A27/ Arundel Road at Chestnut Tree House, Hammerpot.	Cleared to 6m (for haul road ³)
W49	0.01	Continuation of parcel W46 lying entirely within the proposed DCO Order Limits; beech, oak, hawthorn, blackthorn, ground flora dominated by ivy. East of Decoy Land and W46. South of A27/ Arundel Road at Chestnut Tree House, Hammerpot.	Cleared to 6m (for haul road ³)
W50	0.19	Small strip of woodland/ overgrown tree line of which a further ~0.4ha lies within the proposed DCO Order Limits to the south and west (but was not accessed for survey). Dominated by beech, oak, hawthorn, blackthorn, ground flora dominated by ivy. West of Decoy Land and W46. South of A27/ Arundel Road at Chestnut Tree House, Hammerpot.	Retained
W45	0.06	Small stand of woodland, within the proposed DCO Order Limits, with a further ~0.3ha extending south beyond the proposed DCO Order Limits. South of A27/ Arundel Road at Chestnut Tree House, Hammerpot.	Retained
W4	0.17	Hazel, ash, holly, oak, butcher's broom, hawthorn. Ancient woodland of ~5.58ha in extent lies immediately to the west beyond the proposed DCO Order Limits.	Cleared to 30m

Unique ID	Extent ² (ha)	Description	Retention category
W5	0.08	Hazel, ash, holly, oak, butcher's broom, hawthorn. Ancient woodland of ~5.58ha in extent lies immediately to the west beyond the proposed DCO Order Limits.	Cleared to 30m
W9	0.77	Margin of woodland located along access route between Angmering Park and Michelgrove Lane. Predominantly beech with pedunculate oak, silver birch, cedar, elder and holly with ground flora of bracken, ivy. Linked to plantation woodlands W6-W30.	Retained
W28	0.77	Woodland located to the west of Michelgrove; predominantly composed of pedunculate oak with hazel, and sycamore. Further extensive woodland lies to in all directions within the proposed DCO Order Limits, and beyond.	Retained
W17	0.06	Woodland predominantly composed of pedunculate oak with hazel, and sycamore. Further extensive woodland lies to in all directions within the proposed DCO Order Limits, and beyond. Located to the east of W28	Retained
W15	0.05	Woodland located to the west of Michelgrove; predominantly composed of pedunculate oak with hazel, and sycamore. Further extensive woodland lies to in all directions within the proposed DCO Order Limits, and beyond. Located to the north of W17 and south of W18, W19 and W31	Retained
W19	3.37	Woodland located to the west of Michelgrove; pedunculate oak with beech and hazel, with patches of scrub. Further extensive woodland lies to in all directions within the proposed DCO Order Limits, and beyond. Located to the north of W17 and east of W18 and west of W31.	Retained
W31	0.4	Woodland located to the west of Michelgrove; pedunculate oak with beech and hazel, with patches of scrub. Further extensive woodland lies to in all directions within the proposed DCO Order Limits, and beyond. Located to the north of W17 and east of W18 and W31.	Retained

Unique ID	Extent ² (ha)	Description	Retention category
W21	0.4	Woodland located to the west of Michelgrove; pedunculate oak with beech and hazel, with patches of scrub. Further extensive woodland lies to in all directions within the proposed DCO Order Limits, and beyond. Located to the north of W31 and east of W19.	Retained
W20	0.21	Woodland located to the west of Michelgrove; pedunculate oak and ash woodland with hawthorn. Further extensive woodland lies to the south within the proposed DCO Order Limits, and beyond. Located to the northwest of W19.	Retained
W24	0.038	Woodland located to the west of Michelgrove, comprising of ash, hawthorn, blackthorn, holly, with grassland. Located between arable fields to the south and further woodland within the proposed DCO Order Limits, to the north (W22) and east (W19).	Retained
W22	0.29	Woodland located to the west of Michelgrove, comprising of ash, hawthorn, blackthorn, holly, with grassland. Located between arable fields to the north and south and further woodland to the west beyond the proposed DCO Order Limits, and within the proposed DCO Order Limits, to the east (W20 and W19).	Retained
W5284	2.34	Woodland located on the southern slope of Sullington Hill. Ancient hazel coppice with hawthorn, ash, blackthorn, elder. Woody species comprised honeysuckle, dog rose. Ground flora dog's mercury, lords and ladies, ivy, common nettle, spear thistle, primrose, and bluebell. Much of the ground flora is degraded due to pheasant rearing. Further extensive woodland located to the east beyond the proposed DCO Order Limits.	Retained
W1416	0.51	Woodland located on the southeastern slope of Sullington Hill. Remnant ancient woodland significantly degraded from pheasant rearing pens. Ancient woodland indicators present and ancient hazel coppice present. Further woodland located to the north beyond the proposed DCO Order Limits.	Retained

Unique ID	Extent ² (ha)	Description	Retention category
W1364	3.43	Woodland stand located south of Storrington Road and west of the A24 near Washington, between arable fields, connected to larger stand to the south (approximately 12ha in extent), and tree lines and hedgerows to the north and east. Canopy dominated by mature pedunculate oak, with abundant ash and occasional horse chestnut, shrub layer of field maple, understory thick with field maple, elder, occasional holly and hazel, spindle. Ground flora dominated by common nettle and fern species, occasional colt's foot, ground ivy, and hogweed. Further woodland lies immediately beyond and to the south of the proposed DCO Order Limits, approximately 1.59ha in extent	Cleared to 30m
W1234	3.81	Woodland located to the east of the A24 outside of Washington; sycamore and pedunculate oak abundant, frequent field maple and silver birch; yew recorded occasionally. London plane rarely recorded. Within the understorey field maple was dominant, yew and holly rarely recorded. The ground flora was dominated by common nettles, ground ivy was frequent. A stand of plantation woodland lies to the west (W5877). Further concurrent woodland that was not accessed for survey is located to the south of this stand within proposed DCO Order Limits, approximately 0.36ha in extent.	Retained
W1282	0.04	Located between the A24 and The Pike near Washington, to the north of an arable field, west of W1234. Woodland dominated by mature pedunculate oak, open understorey with blackthorn, elder, hawthorn, hazel coppice. Goat willow was dominant in the west. Ground flora: common nettle was dominant, enchanter's nightshade, bent and rush species recorded occasionally. Further woodland lies immediately to the north, approximately 0.83ha in extent, beyond the proposed DCO Order Limits,	Retained
W5792	2.1	Stand located between arable fields, located north of Daisy Lane, and Washington Road (A283), southeast of Wiston. Canopy species comprised of	Cleared to 30m

Unique ID	Extent ² (ha)	Description	Retention category
		pedunculate oak; ash was frequent. Understorey species recorded included abundant hazel with holly and elder frequent. Ground flora was dominated by ivy; common nettle and bramble were recorded occasionally. Further woodland lies immediately to the north, approximately 0.58ha in extent, beyond the proposed DCO Order Limits.	
AW 5822	0.34	Small stand of broadleaved woodland on southern limit of coniferous plantation (W591), south of Spithandle Lane; access was limited. Extensive woodland (approximately 21 hectares of predominantly coniferous plantation) lies to the southeast, beyond the proposed DCO Order Limits.	Retained
W596	0.75	Small strip of semi natural woodland located along Spithandle Lane along the northern limit of coniferous plantation (W591). English Elm was dominant, a limited understorey was recorded with occasional bracken, mostly leaf litter present. Field horsetail, brome, bramble, lords and ladies recorded rarely. Further woodland not accessed for survey lies immediately west beyond the proposed DCO Order Limits approximately 0.53ha in extent. Extensive woodland (approximately 21 hectares of predominantly coniferous plantation) lies to the southeast, beyond the proposed DCO Order Limits.	Retained
W503	0.19	Located west of W4751 on the western side of the A281 (Henfield Road) and south of Greentree Lane. Canopy dominated by pedunculate oak, ash occasional. Understorey blackthorn dominant, rare hazel, goat willow and spindle. Ground flora: herb-Robert abundant, common nettle, pendulous sedge, rush species and docks occasional.	Retained
W4751	0.12	Woodland west of W503 on the eastern side of the A281 (Henfield Road). Located pedunculate oak with sub storey of hawthorn, blackthorn, bramble. bluebell, cleavers, broadleaved dock, common spotted orchid formed the ground flora.	Retained

Unique ID	Extent ² (ha)	Description	Retention category
AW 5818	0.03	Margin to a larger stand of woodland (~4.36ha) located beyond the proposed DCO Order Limits, North of Greentree Lane and to the west of A281 (Henfield Road).	Retained
W5863	0.14	Overgrown line of trees located along field margins to the west of Cowfold Stream, located east of Monastery. Not accessed for survey. Further woodland, treelines and scrub are located to the west and east beyond the proposed DCO Order Limits. Not accessed for survey.	Retained
W689	0.1	Small stand of woodland located along field margins to the west of Cowfold Stream and W5863, located east of Monastery. Canopy dominated by pedunculate oak; ash rare. Shrub layer of abundant blackthorn and hawthorn. Understorey: common nettle and wood brome abundant. Possible dry pond in centre according to landowner, but not accessed for survey. Further woodland, treelines and scrub are located to the west and east beyond the proposed DCO Order Limits.	Retained
W713	1.6	Small stand of woodland located along a field margin west of Kent Street, southeast of Oakendene Industrial Estate. Pedunculate oak dominated woodland, with frequent young, planted oaks. Beyond the proposed DCO Order Limits. To the west and south is extensive woodland (~4.5ha) and a pond, scrub, and neutral grassland	Retained
W1413	0.29	Overgrown tree line along Kent Street; opposite a tree line linked to W1409. Pedunculate oak dominated canopy; shrub layer of hazel, blackthorn bramble, hawthorn. ground flora of bluebells, ivy, docks, cleavers, cow parsley, herb Robert, dog's mercury.	Retained
W1409	0.27	Overgrown tree line along Kent Street; opposite a tree line linked to W1413. Pedunculate oak dominated canopy; shrub layer of hazel, blackthorn bramble, hawthorn. ground flora of bluebells, ivy, docks, cleavers, cow parsley, herb Robert, dog's mercury.	Retained

Unique ID	Extent ² (ha)	Description	Retention category
W738	1.36	Overgrown tree line along Kent Street; opposite a tree line. Not accessed for survey.	Retained
W791	1.69	Overgrown tree line along Kent Street; opposite a tree line. Not accessed for survey.	Retained
W792	2.0	Woodland strip at the northern limit of Kent Street. Pedunculate oak dominated woodland oak with hawthorn and field maple under, dog's mercury and leaf litter with celandine, garlic mustard, bluebell, primrose and false oat-grass.	Retained
W1338	0.31	Margin of woodland located between fields to the east of Kent Street. Pedunculate oak dominated woodland with hawthorn scrub.	Retained
W736	0.75	Small stand of woodland between Cowfold and Bolney, west of Wineham Lane. Links to network of treelines and small woodland stands, beyond which lie larger stands beyond the proposed DCO Order Limits located to the northeast and south. Dominated by mature oak with margin of hawthorn dominated hedges either side with scattered elder.	Cleared to 20m
W785	0.53	Overgrown line of trees along field boundary to the east of Kent Street. Pedunculate oak dominated woodland, ash occasional; shrub layer of hawthorn, with dense ground flora of common nettle, ground ivy, and docks.	Retained
W397	1.72	Woodland located along Wineham Lane; canopy of pedunculate oak, occasional horse chestnut and ash. Understorey of hazel frequent, holly, sycamore occasional. ground flora of ivy, dog's mercury, and common nettle occasional.	Retained
W843	1.74	Woodland located north of W864, to the north of Wineham Lane. Canopy oak dominant, occasional horse chestnut. Understorey hazel frequent, holly occasional. ground flora of ivy, dog's mercury and nettles occasional.	Retained
W864	0.67	Woodland located along Wineham Lane linked to W843. Canopy oak dominant, occasional horse chestnut. Understorey hazel frequent, holly	Retained

Unique ID	Extent ² (ha)	Description	Retention category
		occasional. ground flora of ivy, dog's mercury and nettles occasional.	
W385	1.15	Woodland located to the south of Wineham Lane opposite W864. Not accessed for survey.	Retained
W865	0.60	Woodland located to the south of Wineham Lane opposite W864. Not accessed for survey.	Retained
W857	0.72	Woodland located to the south of Wineham Lane to the south of W865. Not accessed for survey.	Retained
W479	0.75	Small stand of woodland located between Partridge Green and Shermanbury along a field boundary, linking to further stands to the northwest, and east. Pedunculate oak and ash, elder, hazel, blackthorn, hawthorn, bluebell. Larger area of woodland (~5.18ha) located to the north beyond proposed DCO Order Limits.	Cleared to 20m
W384	2.21	Woodland strip located along field margins Links to W479 to the north. Not accessed for survey.	Retained
W387	1.04	Woodland strip along field margin to the east of Wineham Lane north of Bolney substation, dominated by pedunculate oak, with frequent ash, hawthorn; hazel formed the understorey. The ground flora comprised of bluebell, wood avens, stitchwort, primrose, and wood false-brome.	Cleared to 20m
W3712	4.49	Woodland located to the south of Bolney substation, that is partially within the proposed DCO Order Limits in the margins. Canopy of ash and pedunculate oak. Shrub layer comprised field maple, hazel, hawthorn, blackthorn. Ground flora comprised lords and ladies, dog's mercury, bluebell, coltsfoot, bramble, dog rose, chickweed, dock, ivy, garlic mustard, primrose, wood anemone, and lesser celandine. Larger area (~5.45ha) lies to the south extending across Bob Lane.	Permanent loss- to ~0.05ha within the northern extent
W5855	0.34	Located to the east of Wineham Lane, south of Bolney substation. Not accessed for survey.	Retained

Broadleaved woodland, plantation

Unique ID	Extent ² (ha)	Description	Retention category
W47	0.15	Woodland stand along southern embankment of the A27 (Arundel Road) highway near Hammerpot; highway woodland. Not accessed for survey	Retained
W44	0.18	Woodland stand along southern embankment of the A27 (Arundel Road) highway near Hammerpot; highway woodland. Immature trees comprising ash, cherry, hawthorn, holly and pedunculate oak Located to the west of W47	Retained
W6-W7, W10-W14, W16, W23, W25-W29, W30.	11.99	Fourteen parcels of adjoining woodland stands located between Angmering Park and Michelgrove Lane. Canopy dominated by beech, hazel, pedunculate oak, occasional silver birch, cedar, holly and sycamore. No shrub layer recorded, bramble, bracken and ivy form the ground flora. Extensive woodland lies to the east (~159ha in extent) and west (~560ha in extent) of the proposed DCO Order Limits. Also includes W9.	Retained
W5877	0.14	Woodland strip located along the A24 near Washington. Further woodland lies within the proposed DCO Order Limits (W1234). Not accessed for survey.	Retained
W1002	0.23	Woodland strip located along an access track / Public Right of Way (PRoW) east of B2135 (Bines Road) north of Bines Green and west of the River Adur. Dominated by pedunculate oak, elder blackthorn, willow, bramble, rose and ash.	Notched ~4m- for change to PRoW
Coniferous woodland-Plantation			
W1206	0.02	Woodland located to the east of the A283 (The Pike), east of Washington. Scot's pine dominant. Shrub layer of sycamore abundant, occasional goat willow and elder. Ground flora composed of common nettle and ground ivy abundant, occasional bramble, coltsfoot, and herb Robert. An extensive area of woodland (~0.97ha) lies to the northwest, beyond the proposed DCO Order Limits.	Retained

Unique ID	Extent ² (ha)	Description	Retention category
W1149	0.0006	Margin of plantation woodland located along Daisy Lane, north of 283 (Washington Road), overlapping with the boundary of the proposed DCO Order Limits, with the remaining extensive (~0.96ha) woodland beyond to the west. Scot's pine plantation with an elder understory and bracken and bare earth at ground. Bramble and nettle at woodland margins.	Retained
W591	1.28	Woodland located to the south of Spithandle Lane, south of Ashurst, located immediately to the north of AW 5822. Not accessed for survey. A further stand of plantation woodland (~0.49ha in extent) is located to the north beyond the proposed DCO Order Limits.	Retained
Mixed woodland- Semi-natural			
W1238	0.0004	Margin of woodland located to the west of the A24, south of Storrington Road, to the west of Washington. The main stand located (~9.08ha in extent) immediately to the north of the proposed DCO Order Limits. Pedunculate oak frequent, plus a conifer species. Ash and sycamore occasional; the understorey was dominated by hazel, with Hawthorn and holly frequent. Ash saplings rarely recorded. Ground flora comprised abundant wood false brome and bramble, Enchanter's nightshade, and herb Robert.	Retained
W1064	0.37	Strip of woodland located to the south of The Pike, east of Washington. Further woodland (~2.18 ha in extent) lies to the south of the proposed DCO Order Limits. Woodland comprised of ash, Californian redwood, bird cherry and red beech. Hazel and elder understory with bramble and nettle shrub layer which extends to the road. Standing and fallen deadwood present. Stock proof fencing was noted but was defunct with rabbit presence recorded.	Retained
W505	0.68	Strip of woodland located along a field margin to the northeast of Partridge Green and Shermanbury. Dominated by pedunculate oak, occasional Hawthorn and English elm, frequent	Cleared to 30m

Unique ID	Extent ² (ha)	Description	Retention category
		willow, Scots pine and ash were recorded rarely. Ground flora was dominated by dock species, bramble, ivy, and grasses, and slender tare was recorded occasionally.	
Mixed woodland- Plantation			
W1203	0.03	Margins of woodland lying to the north of The Pike, east of Washington, with the majority lying beyond the proposed DCO Order Limits. Not accessed for survey.	Retained
W8	0.19	Strip of mixed plantation woodland recorded on the southern margin of a larger stand of broadleaved plantation (of which 13 stands lie within the proposed DCO Order Limits: W6-W30). Located to the west of Michelgrove. Dominated by hazel, elder, European larch, hawthorn, and pedunculate oak. Extensive woodland lies to the east (~159ha in extent) and west (~560ha in extent) of the proposed DCO Order Limits.	Retained
W2, W3, W32-W36	0.0003	Margins of woodland overlapping with an existing access route of the proposed DCO Order Limits extending west from Angmering Park; Extensive woodland lies to the east (~159ha in extent) and west (~560ha in extent) of the proposed DCO Order Limits. Predominantly beech with pedunculate oak, silver birch, cedar and holly with ground flora of bracken, and ivy.	Retained
W1103	0.1	Woodland strip located to the west of Water Lane, south of Wiston. An NVC survey was undertaken within this woodland, known as Workhouse Copse. This woodland strip contained a mixture of mature coniferous and broadleaved trees dominated by Scot's pine and sweet chestnut. A single veteran Scot's pine was also recorded. The understory contained beech, sycamore and cherry and occasional holly, elder English elm and field maple. Coppiced hazel was frequent. The field layer was dominated by bluebell and wood anemone with lesser celandine frequent, occasional dog's mercury, lords-and-ladies, hard	Retained

Unique ID	Extent ² (ha)	Description	Retention category
		shield-fern, primrose, white dead-nettle and red campion.	
W1415	0.0002	Margin of woodland on the boundary of the proposed DCO Order Limits, with ~0.12ha lying beyond to the west along the eastern boundary of Oakendene Industrial Estate. An overgrown line of cypress with occasional sycamore, cherry and field maple. Bare ground beneath.	Retained

Other woodland: Broadleaved woodland- semi-natural: recently felled

W18	0.66	Recently cleared woodland dominated by ash, with pedunculate oaks, and hazel. Further extensive woodland lies to in all directions within the proposed DCO Order Limits, and beyond. Located to the north of W15 and west of W19 and W31	Retained
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3.5 Broadleaved woodland -semi-natural

- 3.5.1 Clusters of broadleaved semi natural woodland were recorded in locations across 77 locations over a total of 40.73ha as follows:
- South west of the River Arun around Climping;
 - South facing slopes of Sullington Hill and discrete stands west of Washington, east of Wiston and south of Ashurst; and
 - Between Shermanbury and Monastery, and north of Wineham, and between Cowfold and Bolney with concentrations along Kent Road and Wineham Lane.
- 3.5.2 Dominant canopy species included pedunculate oak, ash, beech or sycamore. Occasional species such as English elm, hornbeam, white poplar, and horse chestnut were also recorded. In addition, non-native tree species such as holm oak, cedar and London plane were occasionally recorded in the canopy. Lime species were recorded rarely.
- 3.5.3 Typically, the sub-canopy included silver birch, goat willow, alder and aspen. The shrub layer species usually comprised of dominant field maple or bramble, with frequent elder, hawthorn, blackthorn, and hazel. In addition, occasional guelder rose, rowan, holly, dog rose, gorse, dogwood, apple and spindle were also recorded.
- 3.5.4 Ground flora species included ivy, common nettle, ground ivy, common hogweed, pendulous sedge, broadleaved dock, garlic mustard, red campion, enchanter's

nightshade and germander speedwell. Oak saplings were recorded frequently. Grass species included barren brome, false oat-grass, cock's foot. Other species recorded that were indicative of ancient woodland (AWIs) included dog's mercury, butcher's broom, Lords-and-ladies, bluebell, yellow archangel, primrose, wood-false brome, lesser celandine, wood avens, hairy brome, wood spurge, and wood melick. Bracken was recorded in only four stands and was only occasionally present. Furthermore, either standing dead wood or fallen dead wood was recorded in many woodland stands. Approximately 1.7ha was not accessible for detailed survey.

- 3.5.5 Six of the stands surveyed were also noted to have ancient characteristics, in addition to the presence of AWIs: W713, W1416, W5284, AW5818, AW5822. A total of 0.22ha of this broadleaved semi-natural woodland is also identified as Ancient woodland on the Priority Habitats Inventory (see **Figure A-2, Annex A**). A total of seven stands were also noted to meet the criteria for Lowland mixed deciduous woodland. **Section 3.2** provides further detail on HPI.

3.6 Broadleaved woodland- plantation

- 3.6.1 This habitat type was also recorded scattered throughout the Survey Area, across a total of 51.66ha, in 23 locations.
- 3.6.2 Stands were typically young to semi-mature in age, and less than 1ha in extent. Often trees had been planted into an existing woodland. Species that dominated the canopy included species such as pedunculate oak, ash, sycamore, beech, cherry, willow. In addition, non-native plantation was also recorded: horse chestnut, white poplar, and red oak.
- 3.6.3 The shrub layer was typically dominated by hazel, hawthorn, field maple, English elm, rose, elder, with occasional holly and rowan also recorded.
- 3.6.4 Woodland ground flora was not recorded in many of the stands due to shading and lack of woodland management. The ground flora of often recorded to be bare ground or leaf litter. However, some woodland plantations did support a species-poor ground flora, comprising ground-ivy, dog's mercury, silverweed, cleavers and bluebell. A total of 13 stands were also noted to meet the criteria for Lowland mixed deciduous woodland. **Section 3.2** provides further detail on HPI.

3.7 Coniferous woodland- plantation

- 3.7.1 This habitat type was also recorded, across a total of 1.31ha, in 3 locations. Species recorded comprised a canopy dominated by Scot's pine, with occasional Douglas fir and spruce. Ground flora species included bracken, bramble and common nettle.

3.8 Mixed woodland- semi-natural

- 3.8.1 This habitat type was recorded across a total of 0.43ha, in 3 locations within the central section of the Survey Area, near Washington.

- 3.8.2 Mixed woodland was recorded in small stands in the general vicinity not exceeding 0.8ha in extent. Species comprised ash and pedunculate oak with occasional sycamore. Coniferous species were recorded rarely and included Scot's pine Douglas fir and spruce species. The understorey was generally comprised of hawthorn, English elm, hazel, blackthorn and bird cherry.

3.9 Mixed woodland- plantation

- 3.9.1 This habitat type was recorded across a total of 0.32ha, in 12 locations between Climping and Littlehampton and between Shermanbury and Wineham.
- 3.9.2 Typically, these stands were less than 1ha in extent and tended to be dominated by broadleaved species such as pedunculate oak, sycamore, poplars, ash, beech and lime with some coniferous/pine species including Leyland cypress and Scot's pine. Ground flora species frequently included common nettle, wood false-brome and bramble. In addition, occasional enchanters' nightshade, bluebell, cleavers and herb-Robert were also recorded. One stand was also noted to meet the criteria for Lowland mixed deciduous woodland. **Section 3.2** provides further detail on HPI.

3.10 Neutral grassland-semi-improved

- 3.10.1 This habitat type was recorded across 70.8ha, in 11 locations, clustered at the Sussex Downs National Park, Lyminster and around Partridge Green.
- 3.10.2 Grasses dominated this habitat type with species including perennial ryegrass, Yorkshire fog, false oat-grass, creeping bent, annual meadow grass, cock's foot, meadow foxtail, crested dog's tail, smaller cat's-tail, and soft brome.
- 3.10.3 Forbs included white clover, docks and thistle species, ribwort plantain, field bindweed, creeping cinquefoil, autumn hawkbit, common nettle, bird's foot trefoil, cuckoo flower, great willowherb, bugle, red clover, meadow buttercup, common fleabane, speedwell species, dandelion species, hawkweed species, fat hen, greater plantain, tufted vetch, black knapweed, cut-leaved crane's-bill, bristly ox-tongue, hogweed, grass vetchling and red bartsia. In damper areas, water mint and creeping buttercup were more dominant.
- 3.10.4 A total of 0.004 ha of semi-improved neutral grassland within the proposed DCO Order Limits is also identified as coastal and floodplain grazing marsh on the Priority Habitats Inventory (see **Figure A-2, Annex A**). This habitat was located near landfall, surrounded by arable fields. **Section 3.2** provides further detail on HPI.

3.11 Poor semi-improved grassland

- 3.11.1 This habitat type was scattered in 55 locations throughout the Study Area over a total of 64.51ha, between Climping and Hammerpot, Washington, Ashurst to Shermanbury, with the greatest areas recorded east of Monastery and Cowfold.
- 3.11.2 Poor semi-improved grassland was dominated by grasses such as Yorkshire fog, cock's foot, tall fescue, false oat grass, meadow foxtail, red fescue, perennial rye-

grass, soft brome, barren brome, Timothy, bent species, annual meadow grass, small cat's-tail, sweet vernal-grass, rough meadow grass and wall barley.

- 3.11.3 Forbs included broad-leaved dock, common fleabane, white and red clover, redshank, burdock, docks, common toadflax, creeping thistle, teasel, smooth bedstraw, common nettle, dandelion, sheep's sorrel, creeping buttercup, ragwort species, agrimony, cinquefoil, stitchwort, common sorrel, slender tare, spear thistle, bird's-foot trefoil, common knapweed, field bindweed, hemp agrimony, pineappleweed, spear thistle, yarrow, ox-eye daisy, white campion, red campion, smooth bedstraw, cow parsley, lesser stitchwort, ground ivy, pennyroyal, hogweed, greater plantain and burdock. Some swards were noted to be dominated by rushes or broadleaved dock.
- 3.11.4 In general, poor semi-improved grassland was associated with farmland that has been left fallow or is inaccessible to machinery in recent years. Thereby, allowing the described species above to naturally colonise. In many of these habitats, the vegetation cover was patchy and fragmented with no obvious signs of grassland management recorded.
- 3.11.5 A total of 0.003 ha of poor semi-improved grassland within the proposed DCO Order Limits is also identified as coastal and floodplain grazing marsh on the Priority Habitats Inventory (see **Figure A-2, Annex A**). This habitat was located near landfall, surrounded by arable fields. **Section 3.2** provides further detail on HPI.
- 3.11.6 A total of 0.38ha of this habitat type recorded within the proposed DCO Order Limits was not fully accessed for survey.

Scrub- Dense / continuous or scattered

- 3.11.7 This habitat type was scattered throughout the Study Area across a total of 22.04ha, in 78 locations and tended to be located at field margins. Species recorded within this habitat type comprised hawthorn, blackthorn, bramble, goat willow, dogwood, elder, hazel, field rose, field maple, holly, and traveller's joy. Herbs associated with this habitat type included bindweed, common nettle, dandelion, hogweed, couch grass, creeping thistle, and ragwort species.
- 3.11.8 Scattered scrub was often recorded as a linear feature which was the remnant of a hedge, dominated by bramble and hawthorn.
- 3.11.9 Young black poplar was recorded within 2 lines of scrub (HS48 and HS5803) in Climping.

3.12 Hedgerows

- 3.12.1 A total of 236 hedgerow were recorded within the Study Area equating to a total of 50.26km.
- 3.12.2 Full details of hedgerow assessment can be found within at [Appendix 22.3 Hedgerow Survey Report](#). This Annex details findings of hedgerow surveys undertaken for all hedgerows that were accessed within the Study Area.
- 3.12.3 In summary, all six hedgerow types were recorded within the Study Area:

- Intact hedge: native, species-rich;
- Intact hedge: native, species-poor;
- Defunct hedge; native, species-rich;
- Defunct hedge: native, species-poor;
- Hedge with trees: native, species-rich; and
- Hedge with trees: native, species-poor.

3.12.4 In general, hedgerows were either dominated by hawthorn or blackthorn. In addition, frequently observed species such as elder, dogwood, ash, oak, English elm, hazel, field maple willow, holly, rose and spindle were also recorded.

3.12.5 Hedgerows were recorded at arable field margins, improved grassland margins, along roadsides and associated within boundaries to private gardens. Most hedgerows were degraded due to lack of good quality management, such as replanting or stock-proofing. However, many of the hedgerows provided suitable habitat to a range of protected and notable species. The ground flora associated with the hedges was frequently species-poor, and reflective of enrichment due to adjacent agricultural land management; species recorded included common nettle, broadleaved dock, spear thistle, bristly ox-tongue, hogweed and creeping thistle.

3.12.6 For several hedges the flora was more representative of more mature and species-rich hedges, and the ground flora comprised of a more woodland-type species complement such as herb-Robert, primrose, spindle saplings, lords-and-ladies, including the ancient woodland indicators primrose, bluebells, and dog's mercury.

3.12.7 Young black poplar was recorded within Hedgerow H19, in Climping, south of the River Arun.

3.13 Parkland and scattered tree - broadleaved

3.13.1 This habitat type was recorded across 56 locations spread throughout the Study Area across a total of 21.90km included scattered broadleaved trees and tree lines. Species recorded included pedunculate oak, ash, horse chestnut, field maple, sycamore, lime. In addition, poplar, occasional apple, silver birch, hawthorn, Norway maple, goat and grey willow were also recorded. Young black poplar was recorded within two tree lines (W52 and W388) in Climping, south of the River Arun.

Parkland and scattered tree – mixed

3.13.2 Again, this habitat type included scattered trees and tree lines but conifers were recorded only occasionally. Species recorded were pedunculate oak, yew, sycamore, Scot's pine, lime and ash. In addition, occasional horse chestnut, yew, Leyland cypress, pine species, aspen, blackthorn and hawthorn were also recorded. This habitat was recorded across six locations over a total of 1.4km.

Hardstanding

- 3.13.3 Hardstanding was recorded over 14.55ha, in 99 locations, as access roads/tracks, railway sidings and lines, within residential areas, and industrial areas of farms. It was not possible to access this habitat type in many locations, and notes were made from PRow and mapping undertaken from a review of satellite imagery.

3.14 Amenity grassland

- 3.14.1 Amenity grassland was recorded in six locations across 1.36 ha and was associated with road verges and residential areas. Species included perennial ryegrass, dandelion, red fescue, Yorkshire fog, yarrow, self-heal, ragwort species, white clover, ground ivy, bird's-foot trefoil. Example habitat use include campsites, church grounds and private gardens.

Quarry

- 3.14.2 This habitat type was recorded in one location to the north of Washington. It was noted to be an active site, dominated by bare earth with early colonising ruderal species emerging in less disturbed areas. Trees species such as silver birch was noted to be growing at the banks and slopes.

Bare ground

- 3.14.3 Bare ground constituted access tracks, bare areas within horse paddocks, carparks, and footpaths.

3.15 Calcareous grassland -unimproved

- 3.15.1 This priority habitat was recorded in two locations across 7.2ha within the proposed DCO Order Limits; both within the South Downs National Park. One compartment was 7.06ha in area located on the south western aspect of Sullington Hill, with the second location located along Chantry Lane being 0.14ha in extent; associated with the Amberley Mount to Sullington Hill SSSI.
- 3.15.2 These grasslands supported calcareous grassland species such as bird's foot trefoil, common milkwort, common knapweed, parsley piert, small-flowered buttercup and thyme leaved sandwort.
- 3.15.3 This habitat is also identified as lowland calcareous grassland on the Priority Habitats Inventory (see **Figure A-2, Annex A**). **Section 3.2** provides further detail on HPI.

Shingles / cobbles

- 3.15.4 This habitat was recorded across a total of 3.66ha, as sparsely vegetated shingle along Climping beach in two locations.

Intertidal – mud / sand

- 3.15.5 This habitat was recorded in three locations across 2.67ha; one was recorded on Climping beach and two lay along the southwest bank of the River Arun near Climping, is also identified as intertidal mudflats on the Priority Habitats Inventory (see **Figure A-2, Annex A**).

3.16 Marsh/marshy grassland

- 3.16.1 This habitat type was recorded across 1.7ha, in six locations and tended to be a linear feature associated with drainage ditches that were dominated by tussocky uncut grasses, and unmanaged margins of fields. A total of 1.67ha of this habitat type could not be fully accessed for survey.
- 3.16.2 A total of 1.51 ha of marshy grassland within the proposed DCO Order Limits is also identified as coastal and floodplain grazing marsh on the Priority Habitats Inventory (see **Figure A-2, Annex A**). These habitats were located mainly within the Arun Valley and Adur Valley, with three smaller land parcels located east of Partridge Green and Cowfold. The grasslands were typically unmanaged, lower lying field margins and located between to areas of improved grassland that were used for grazing and drainage ditches and streams. **Section 3.2** provides further detail on HPI.

3.17 Neutral grassland unimproved

- 3.17.1 This habitat type was recorded in one location across a total of 0.0001 ha as part of an area of grassland that lies beyond the proposed DCO Order Limits along the southern bank of the River Adur near Climping. This habitat was also identified as coastal and floodplain grazing marsh on the Priority Habitats Inventory (see **Figure A-2, Annex A**). The grassland was typically unmanaged, lower lying field margins and located between to areas of improved grassland that were used for grazing and drainage ditches and streams. **Section 3.2** provides further detail on HPI.

3.18 Tall ruderal vegetation

- 3.18.1 This habitat was recorded across a total of 0.37ha, in 10 locations. Species recorded within this habitat type comprised common nettle, creeping thistle, bristly ox-tongue, hogweed, buttercups, Canadian fleabane, willowherbs, cow parsley, cleavers, curled and broadleaved dock, and bramble.

3.19 Calcareous grassland - semi-improved

- 3.19.1 This habitat was predominantly recorded within the central section of the Study Area associated within the Sussex Downs National Park, in four locations comprising a total of 0.25ha. The largest extent – 0.23ha- was recorded in a field margin located south of Chantry Lane.

- 3.19.2 Plant species recorded that are indicative of calcareous soil included bird's-foot trefoil, yellow rattle, lady's bedstraw, black knapweed, greater knapweed, toadflax and common poppy.
- 3.19.3 Other plant species recorded at this habitat also include perennial rye-grass, red fescue, crested dog's tail, Yorkshire fog, soft brome, false oat-grass, cock's-foot, and Timothy, four seeded vetch, ribwort plantain, greater plantain, white clover, red clover, yarrow, broad-leaved dock, ragworts, self-heal, creeping buttercup, silverweed, common daisy, crosswort, wild strawberry, cut-leaved crane's-bill, hogweed, ground ivy, speedwells, creeping thistle, white and red campion, shepherds' purse, smooth sow thistle, dove's-foot crane's-bill, greater burdock, spear thistle, sheep's sorrel, lesser stitchwort, agrimony, great willowherb, hairy willowherb, teasel, tufted vetch, and cowslip.
- 3.19.4 This habitat is also identified as lowland calcareous grassland on the Priority Habitats Inventory (see **Figure A-2, Annex A**). **Section 3.2** provides further detail on HPI.

Coastal grassland

- 3.19.5 This habitat type was recorded in one area, 0.15ha in extent, located along the southern bank of the River Arun, near Climping.

Ephemeral/short perennial

- 3.19.6 This habitat type was recorded across a total of 0.04ha, in one location Between an arable field and the southern bank of the River Arun. Species included ground ivy, bramble, cinquefoil species, speedwell, and cow parsnip.

Buildings

- 3.19.7 Building structures were recorded in two locations within the proposed DCO Order Limits and comprised a wooden shelter for livestock and an open barn.

3.20 Dry ditch

- 3.20.1 This habitat type was recorded across the Study Area, over a total of 7.26km, in 27 locations. Common reed was the dominant plant species with frequently recorded rosebay willowherb, common nettle, field bindweed, hogweed, purple loosestrife, sedges, reedmace, gypsywort, reed canary grass, bulrush, great willowherb and agrimony. This habitat type was associated mainly with networks of arable fields and also featured as a component of the Coastal and flood plain grazing marsh Priority habitat type near Climping and Bines Green (see **Figure A-2, Annex A**).

3.21 Other habitats

- 3.21.1 The 'Other habitats' category was recorded in several locations within the Study Area. This habitat type was predominantly located at industrial areas. Example

habitat types that were recorded under this include spoil, brick/stone walls and fences.

3.22 Priority Habitats

3.22.1 The following Priority habitats (or Habitats of Principal Importance) were recorded within the Study Area:

- Coastal and floodplain grazing marsh - there were 16 areas of grassland that were characteristic of the priority habitat type 'flood plain grazing marsh', refer to Figure A-2, Annex A. This priority habitat type was recorded as follows:
 - ▶ CFGM153 and CFGM229- strips of grassland along the boundary of the proposed DCO Order Limits near Climping Street;
 - ▶ CFGM5841 within the proposed DCO Order Limits along the southern bank of the River Adur in Climping;
 - ▶ CFGM1420, CFGM1590, CFGM2022, CFGM2238 in the proposed DCO Order Limits in Climping north of the River Adur;
 - ▶ CFGM3010, CFGM3004, CFGM3002, CFGM3016, CFGM3001 and CFGM1846 - all located within the proposed DCO Order Limits around the Black Ditch north of Climping;
 - ▶ CFGM999 -the margin of a field located immediately south of the proposed DCO Order Limits to the east of Bines Green;
 - ▶ CFGM5835 and CFGM5842 located in the proposed DCO Order Limits between the B2135 and A281, south of Partridge Green and Shermanbury, close to streams connecting to the River Adur;
- Lowland mixed deciduous woodland - areas characteristic of this priority woodland were recorded across 21 stands, over a total 16ha within the Study Area. This priority habitat type was recorded as follows:
 - ▶ W50 and W46, W45 near Hammerpot;
 - ▶ Numerous concurrent stands of woodland to the west of Michelgrove/ east of Wepham (W6-W8, W10-W14, W16, W23, W25-W29, W30); and
 - ▶ W5284 and W1416 on the southwestern slope of Sullington Hill.
- Lowland calcareous grassland – a small number of fields were recorded to support this priority habitat type. These were recorded in three locations across 0.25ha as follows:
 - ▶ CG1187- the margins to a field located at the base of Chantry Lane, with a larger field located to the north beyond the proposed DCO Order Limits;
 - ▶ CG1310 – a strip of grassland located between large arable fields, 0.5km south of CG1187; and
 - ▶ CG1329- field margin located to the south of Chantry Lane opposite CG1187.

- Intertidal Mudflats - this habitat was recorded in two locations on Climping beach and a further area lay along the southwest bank of the River Arun near Climping; and
- Hedgerows – all 236 hedgerows recorded within the proposed DCO Order Limits were characteristic of the Hedgerows priority habitat type.

3.23 Waterbodies / watercourses

3.23.1 Waterbodies/watercourses were recorded intersecting the entire Study Area. Waterbody types recorded included ponds, lakes, river, streams/brooks, and ditches. **Table 3-2** describes these further.

Table 3-2 Waterbodies and Watercourses recorded during field survey

Type	Description
Ponds	Ten waterbodies classed as ponds were recorded within the proposed DCO Order Limits.
Lakes	No waterbodies classed as lakes were recorded within the proposed DCO Order Limits.
Rivers	Two major rivers were recorded within the Study Area. These were the River Arun and River Adur. In addition, many tributaries of these rivers extend throughout the proposed DCO Order Limits.
Streams/brooks	A total of four streams/brooks were recorded within the Study Area. In order of south to north these were the Ryebank Rife, Black Ditch, Pepper Pond, and Cowfold Stream.
Ditches⁴	A total of 38 ditches were recorded, totalling 12km in length, with running or stagnant water. These were located in the main to the north of the South Downs National Park; from south to north this habitat type was recorded around Climping and Littlehampton, around Washington, and from Wiston to the northern limit of the proposed DCO Order Limits.

3.24 Protected and rare plant species

Notable Species

3.24.1 The following protected and rare plant species were recorded within the Survey Area:

⁴ Note, this figure represents individual ditches that were not associated with a hedgerow. Refer to the hedgerow report for ditches associated with hedgerows.

- bluebell (Schedule 8 of the Wildlife and Countryside Act 1981);
- black poplar (Sussex BAP Species);
- small-flowered buttercup (locally common); and
- rough poppy (locally common).

3.25 Legally controlled plant species

3.25.1 Invasive plant species were recorded in five discrete locations. A summary is presented below in **Table 3-3**.

Table 3-3 Invasive plant species recorded during field survey

Species	Distance and direction	Extent / notes
Cotoneaster	Within proposed DCO Order Limits to the east of Water Lane	Within hedgerow H208.
Himalayan balsam	Within proposed DCO Order Limits to the east of Water Lane	Within hedgerow H208, along bank of stream.
Japanese knotweed	Within the proposed DCO Order Limits - to the east of Water Lane, east of Washington.	Within a strip of improved grassland G1306.
Rhododendron	Within the proposed DCO Order Limits- to the west of Wineham Lane near the junction with Bob Lane	Recorded within broadleaved plantation woodland W561.
Snowberry	Within the proposed DCO Order Limits along the northern and southern verges of King's Lane near the junction with Kent Street.	Small patches within hedgerows H481 and H484.

3.26 Legally protected species

3.26.1 **Table 3-4** indicates habitat suitability of the phase 1 habitats recorded within proposed DCO Order Limits to legally protected species.

Table 3-4 Habitat types of suitability to legally protected species that are present within the proposed DCO Order Limits

Legally protected species	Suitable phase 1 habitat type to this species / group
Badger	All woodland types, all grassland types, arable fields and scrub.
Bats	Broadleaved woodland, semi-improved grassland, hedgerows, tree lines and standing and running water.
Breeding and wintering birds	Broadleaved woodland, hedgerows, scrub, arable fields and their margins, running water, ditches and reedbeds.
Hazel dormouse	Broadleaved woodland, hedgerows and scrub.
Riparian mammals	River and ditches.
Reptiles	Unimproved grasslands, semi-improved grassland, poor semi-improved grassland, dense scrub, tall ruderal vegetation, marginal areas of ponds, rivers and ditches.
Great crested newts	Unimproved grasslands, semi-improved grassland, poor semi-improved grassland, hedgerows, broadleaved woodland, ponds and ditches.
Invertebrates	Unimproved grasslands, semi-improved grassland, poor semi-improved grassland, broadleaved woodland, hedgerows, scrub, rivers, ditches and ponds.

3.27 Deviations, constraints and limitations

- 3.27.1 During the 2021-2022 suite of Phase 1 habitat surveys, occasionally these were undertaken at a sub-optimal time of year i.e., during autumn / winter, when plant species are generally less apparent/visible and cannot be identified. Although it was possible to record the broad habitat types within the Phase 1 Study Area the list of those species documented should not be treated as exhaustive. These seasonal constraints can also lead to invasive species being missed.
- 3.27.2 The dense nature of some areas of scrub/hedgerow and the presence of vegetation may have reduced the visibility and presence of protected species' field signs. Areas have been described as having potential for protected species where the habitat was assessed as suitable, but field signs were not observed often due to dense scrub or limited access.

- 3.27.3 Access was limited in certain locations, which is acknowledged by habitat type above.
- 3.27.4 For watercourses where access was limited, detailed habitat-based assessments were carried out from the nearest accessible point.

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4. Summary

- 4.1.1 The Extended Phase 1 habitat surveys undertaken between 2020 – 2022 recorded the presence of a range of habitat types. Several of these are characteristic of priority habitats, these were:
- Ancient woodland;
 - Lowland mixed deciduous woodland;
 - Rivers;
 - Ponds;
 - Floodplain and coastal grazing marsh;
 - Hedgerows;
 - Lowland calcareous grassland;
 - Lowland neutral grassland; and
 - Intertidal mud flats.
- 4.1.2 Further botanical assessment of these priority habitats was undertaken. Full details of habitat assessment and classification can be found within the NVC report [Appendix 23.4 National Vegetation Classification Survey Report](#).
- 4.1.3 Full hedgerow assessment of hedgerow importance can be found within report [Appendix 23.5 Hedgerow Survey Report](#).
- 4.1.4 Bluebell and black poplar were the only legally protected plant species recorded within the Study Area. In addition, locally common species such as small-flowered buttercup was also recorded on Sullington Hill in very low abundance. Rough poppy was also recorded during the surveys, in field margins within locations outside of the proposed DCO Order Limits.
- 4.1.5 Invasive non-native plant species were recorded scattered within the proposed DCO Order Limits. These species were as follows:
- Cotoneaster;
 - Japanese knotweed;
 - Rhododendron; and
 - Snowberry.
- 4.1.6 A range of habitat suitable to support the following protected species was present as follows:
- Badger;
 - Bats;
 - Breeding and wintering birds;

- Hazel dormouse;
- Water vole;
- Otter;
- Widespread reptiles;
- Great crested newt; and
- Protected and rare invertebrate species.

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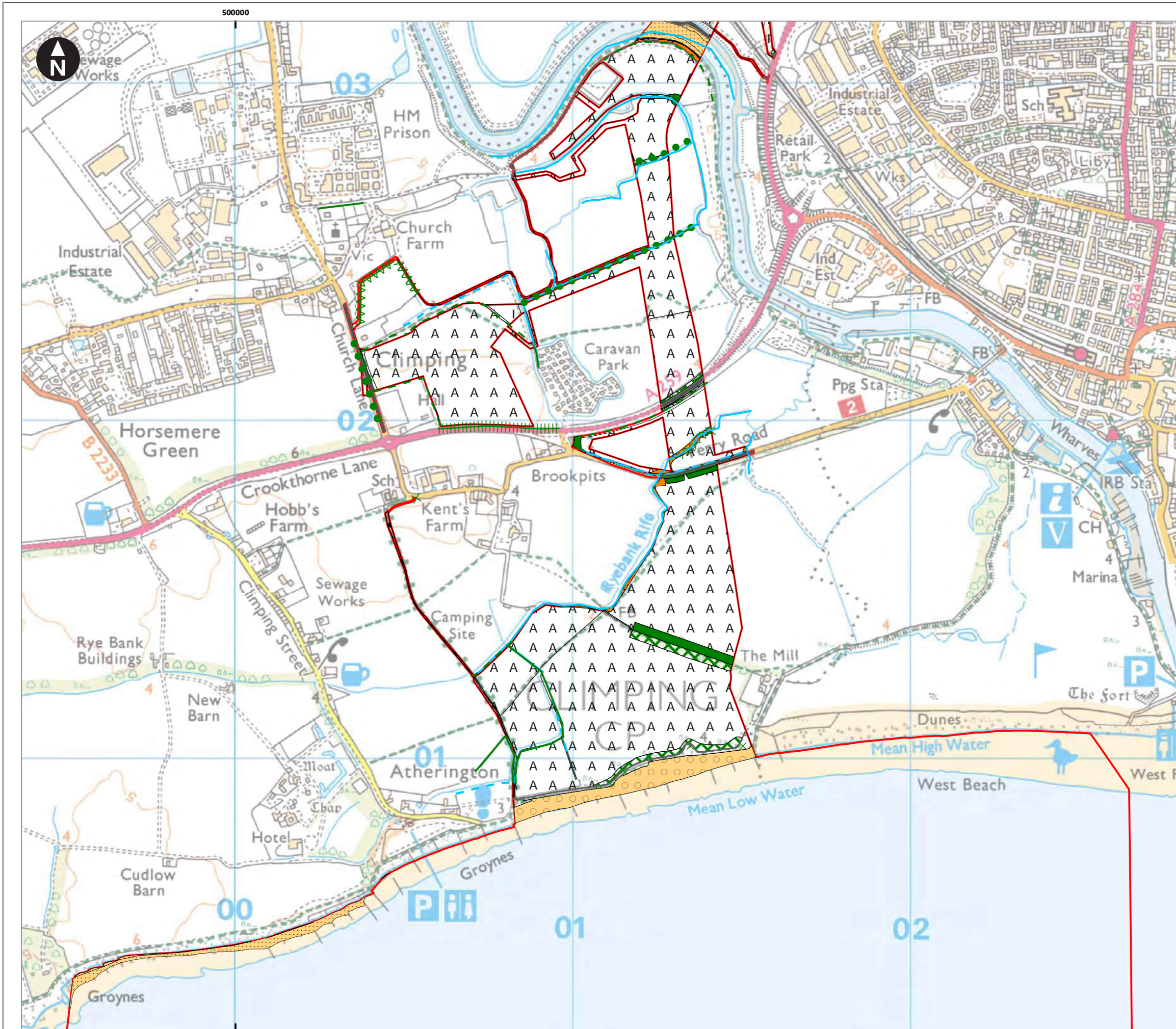
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Annex A

Figures

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Ordnance Survey 0100031673

Key

Proposed DCO Order Limits	A1.1.2: Broadleaved woodland - plantation
Phase 1 point	A1.2.2: Coniferous woodland - plantation
A1.1.1: Broadleaved woodland - semi-natural	A1.3.1: Mixed woodland - semi-natural
A2.2: Scrub- Scattered	A1.3.2: Mixed woodland - plantation
A3.1: Parkland and scattered trees- broad-leaved	A2.1: Scrub- Dense/Continuous
Phase 1 linear	A2.2: Scrub- Neutral grassland - semi-improved
J2.1.1: Intact hedge native species-rich	B3.1: Calcareous grassland - unimproved
J2.1.2: Intact hedge native species poor	B3.2: Calcareous grassland - semi-improved
J2.2.1: Defunct hedge native species	B4: Improved
J2.2.2: Defunct hedge native species poor	B5: Marsh/marshy grassland
J2.3.1: Hedge and trees native species-rich	B6: Poor semi-improved grassland
J2.3.2: Hedge and trees native species poor	C3.1: Tall
Not	G1: Standing
A2.1: Scrub, dense/continuous	G2: Running
A2.2: Scrub- Scattered	H1.1: Intertidal - mud/sand
A3.1: Parkland and scattered trees- broad-leaved	H1.2:
A3.3: Parkland and scattered trees- mixed	H8.4: Coastal
G1: Standing water	J1.1:
G2: Running water	J1.2: Amenity
J2.6: Dry	J1.3: Ephemeral/short perennial
Phase 1 area	J2.6: Dry
A1.1.1: Broadleaved woodland - semi-natural	J3.6:
	J4: Bare

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Kilometres

1:11,000
British National Grid Transverse Mercator

Rampion Extension Development

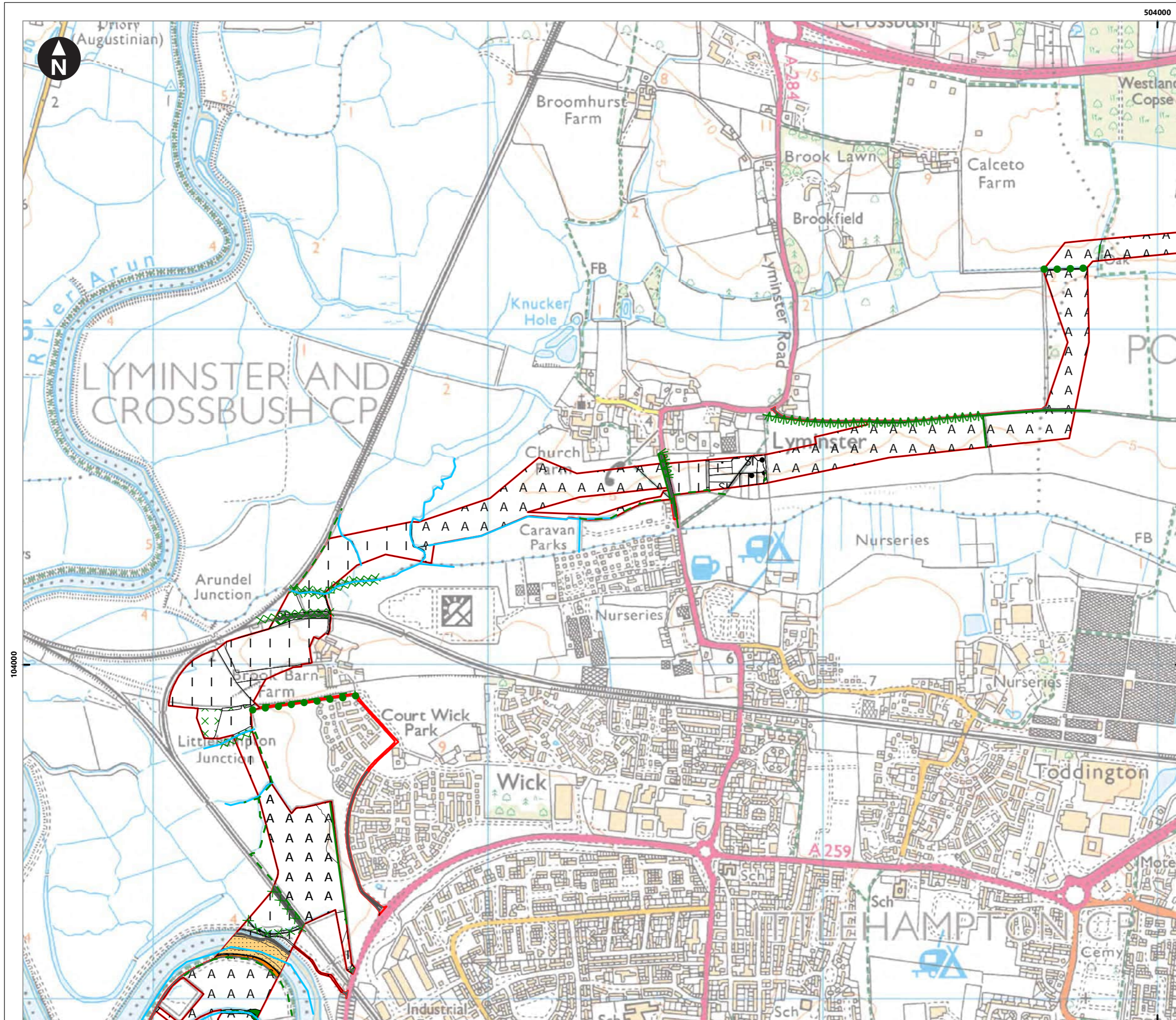
Rampion 2 Offshore Wind Farm

Figure 3.1 Phase 1 Habitat Survey

Page 1 of 12

Extended Phase 1 Habitat Survey Report

System Identifier: 42285-WSPE-ES-ON-FG-OO-3517	Version: 2.0			
Company: WSP	Drawn By: HADJE	Chk/Aprvd: SUTET	Drawn Date: 20/06/2023	Status: Final



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 Ordnance Survey 0100031673

Key

Proposed DCO Order Limits	A1.1.2: Broadleaved woodland - plantation
Phase 1 point	A1.2.2: Coniferous woodland - plantation
A1.1.1: Broadleaved woodland - semi-natural	A1.3.1: Mixed woodland - semi-natural
A2.2: Scrub- Scattered	A1.3.2: Mixed woodland - plantation
A3.1: Parkland and scattered trees- broad-leaved	A2.1: Scrub- Dense/Continuous
Phase 1 linear	A2.2: Scrub- unimproved
J2.1.1: Intact hedge native species-rich	B2.2: Neutral grassland - semi-improved
J2.1.2: Intact hedge native species poor	B3.1: Calcareous grassland - unimproved
J2.2.1: Defunct hedge native species	B3.2: Calcareous grassland - semi-improved
J2.2.2: Defunct hedge native species poor	B4: Improved
J2.3.1: Hedge and trees native species-rich	B5: Marsh/marshy grassland
J2.3.2: Hedge and trees native species poor	B6: Poor semi-improved grassland
Not	C3.1: Tall
A2.1: Scrub, dense/continuous	G1: Standing
A2.2: Scrub- Scattered	G2: Running
A3.1: Parkland and scattered trees- broad-leaved	H1.1: Intertidal - mud/sand
A3.3: Parkland and scattered trees- mixed	H1.2: H1.2:
G1: Standing water	H8.4: Coastal
G2: Running water	J1.1:
J2.6: Dry	J1.2: Amenity
Phase 1 area	J1.3: Ephemeral/short perennial
A1.1.1: Broadleaved woodland - semi-natural	J2.6: Dry
	J3.6:
	J4: Bare

South Downs National Park

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 Kilometres
 1:11,000
 British National Grid Transverse Mercator

Rampion Extension Development

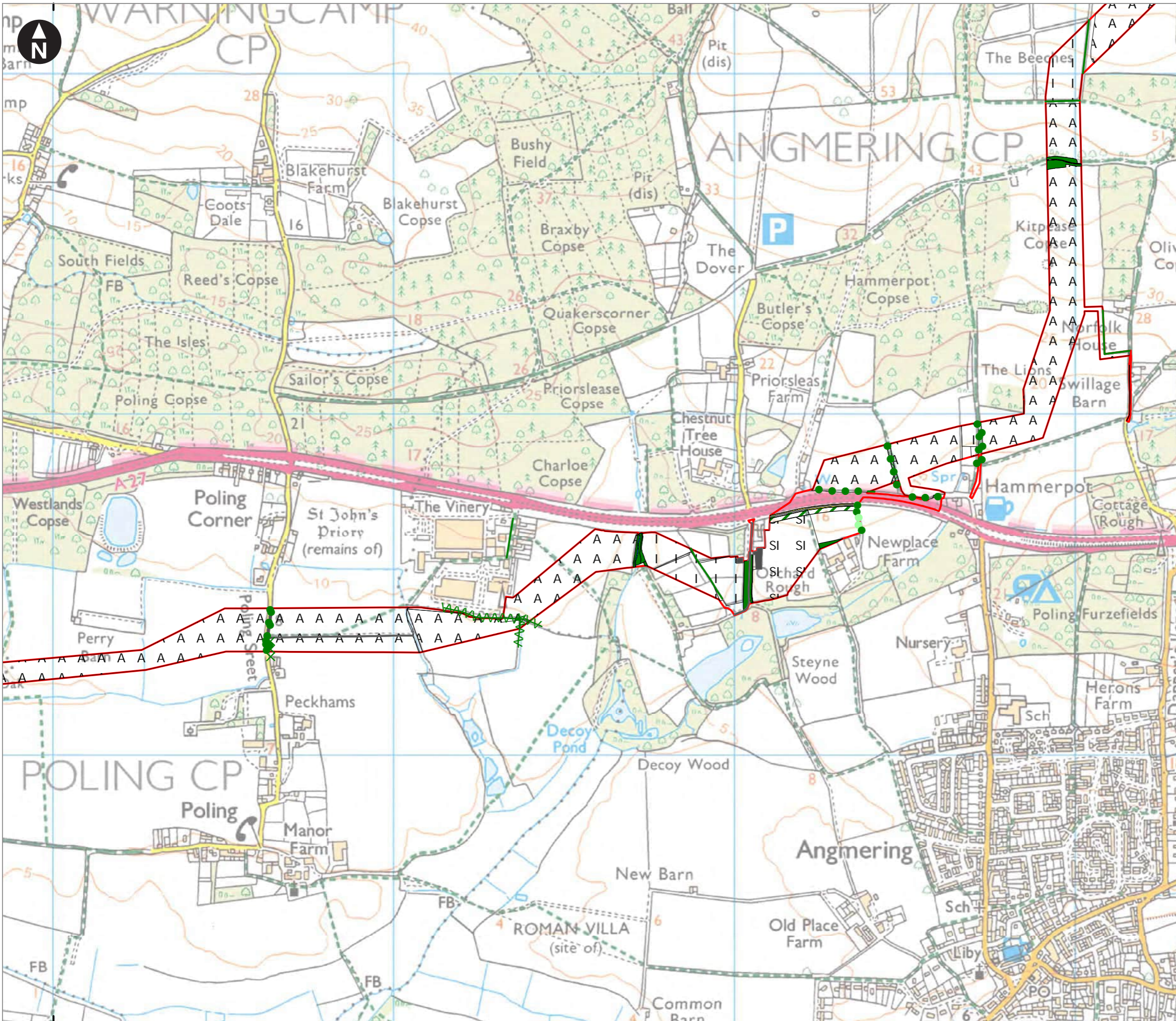
Rampion 2 Offshore Wind Farm

Figure 3.1 Phase 1 Habitat Survey

Page 2 of 12

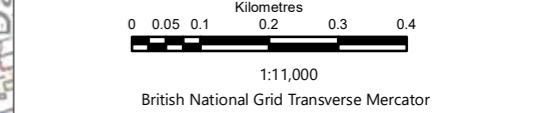
Extended Phase 1 Habitat Survey Report

System Identifier: 42285-WSP-ES-ON-FG-OO-3517	Version: 2.0			
Company: WSP	Drawn By: HADJE	Chk/Prvrd: SUTET	Drawn Date: 20/06/2023	Status: Final



Key

- Proposed DCO Order Limits
- Phase 1 point**
 - A1.1.1: Broadleaved woodland - semi-natural
 - A2.2: Scrub- Scattered
 - A3.1: Parkland and scattered trees- broad-leaved
- Phase 1 linear**
 - J2.1.1: Intact hedge native species-rich
 - J2.1.2: Intact hedge native species poor
 - J2.2.1: Defunct hedge native species
 - J2.2.2: Defunct hedge native species poor
 - J2.3.1: Hedge and trees native species-rich
 - J2.3.2: Hedge and trees native species poor
 - Not
 - A2.1: Scrub, dense/continuous
 - A2.2: Scrub- Scattered
 - A3.1: Parkland and scattered trees- broad-leaved
 - A3.3: Parkland and scattered trees- mixed
 - G1: Standing water
 - G2: Running water
 - J2.4: Fence
 - J2.6: Dry
- Phase 1 area**
 - A1.1.1: Broadleaved woodland - semi-natural
 - A1.1.2: Broadleaved woodland - plantation
 - A1.2.2: Coniferous woodland - plantation
 - A1.3.1: Mixed woodland - semi-natural
 - A1.3.2: Mixed woodland - plantation
 - A2.1: Scrub- Dense/Continuous
 - A2.2: Scrub- Neutral grassland - semi-improved
 - A2.3: Scrub- unimproved
 - B3.1: Calcareous grassland - unimproved
 - B3.2: Calcareous grassland - semi-improved
 - B4: Improved
 - B5: Marsh/marshy grassland
 - B6: Poor semi-improved grassland
 - C3.1: Tall
 - G1: Standing
 - G2: Running
 - H1.1: Intertidal - mud/sand
 - H1.2: Intertidal - mud/sand
 - H8.4: Coastal
 - J1.1: J1.1: J1.2: Amenity
 - J1.3: Ephemeral/short perennial
 - J2.6: Dry
 - J3.6: J3.6: J4: Bare

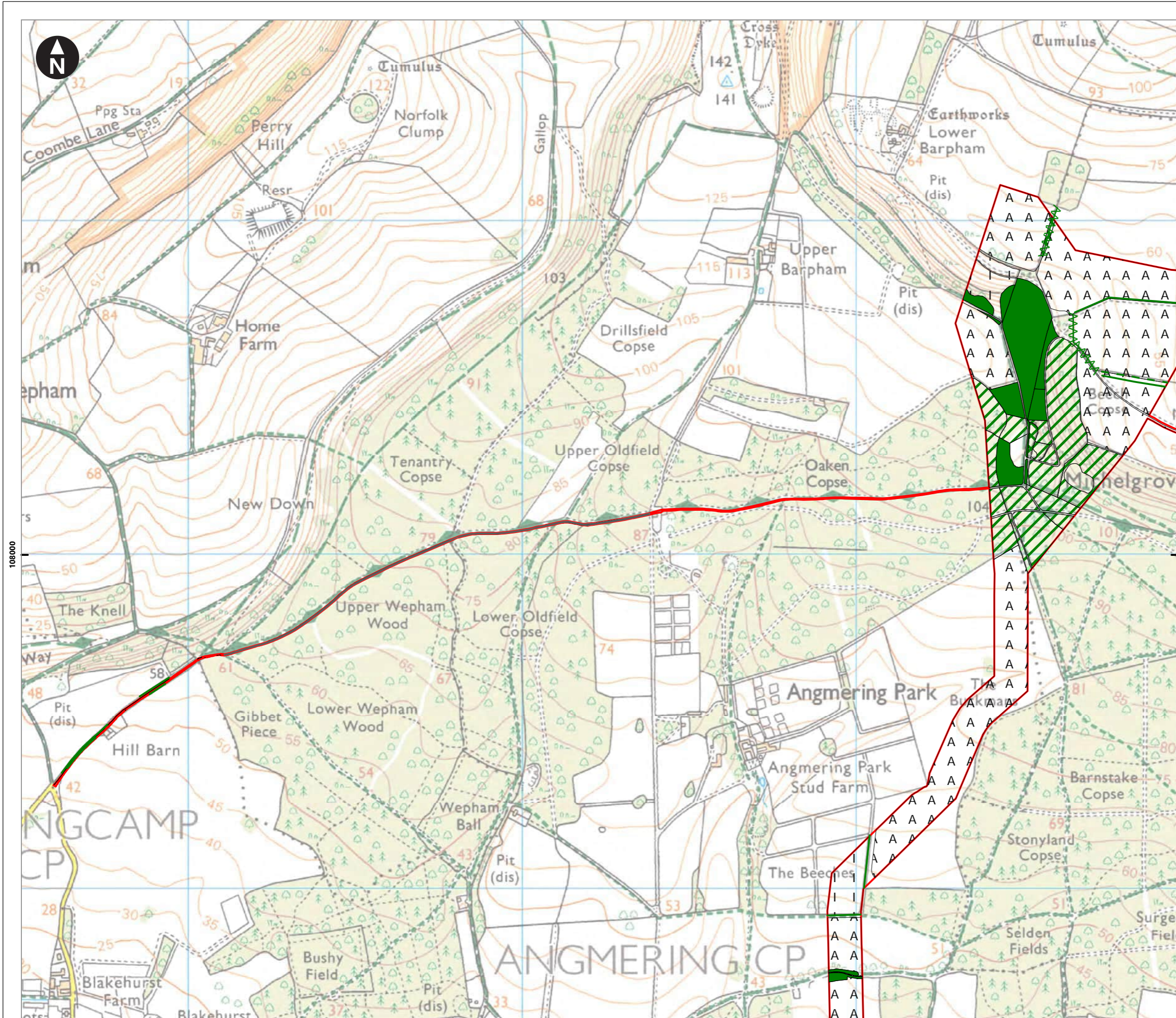


Rampion Extension Development

Rampion 2 Offshore Wind Farm
 Figure 3.1 Phase 1 Habitat Survey
 Page 3 of 12
 Extended Phase 1 Habitat Survey Report

System Identifier: 42285-WSP-ES-ON-FG-OO-3517
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Key

Proposed DCO Order Limits	A1.1.2: Broadleaved woodland - plantation
Phase 1 point	A1.2.2: Coniferous woodland - plantation
A1.1.1: Broadleaved woodland - semi-natural	A1.3.1: Mixed woodland - semi-natural
A2.2: Scrub- Scattered	A1.3.2: Mixed woodland - plantation
A3.1: Parkland and scattered trees- broad-leaved	A2.1: Scrub- Dense/Continuous
Phase 1 linear	A2.2: Scrub- Neutral grassland - semi-improved
J2.1.1: Intact hedge native species-rich	B3.1: Calcareous grassland - unimproved
J2.1.2: Intact hedge native species poor	B3.2: Calcareous grassland - semi-improved
J2.2.1: Defunct hedge native species	B4: Improved
J2.2.2: Defunct hedge native species poor	B5: Marsh/marshy grassland
J2.3.1: Hedge and trees native species-rich	B6: Poor semi-improved grassland
J2.3.2: Hedge and trees native species poor	C3.1: Tall
Not	G1: Standing
A2.1: Scrub, dense/continuous	G2: Running
A2.2: Scrub- Scattered	H1.1: Intertidal - mud/sand
A3.1: Parkland and scattered trees- broad-leaved	H1.2: H1.2:
A3.3: Parkland and scattered trees- mixed	H8.4: Coastal
G1: Standing water	J1.1:
G2: Running water	J1.2: Amenity
J2.4: Fence	J1.3: Ephemeral/short perennial
J2.6: Dry	J2.6: Dry
Phase 1 area	J3.6:
A1.1.1: Broadleaved woodland - semi-natural	J4: Bare

South Downs National Park

0 0.05 0.1 0.2 0.3 0.4 Kilometres

1:11,000

British National Grid Transverse Mercator

Rampion Extension Development

Rampion 2 Offshore Wind Farm

Figure 3.1 Phase 1 Habitat Survey

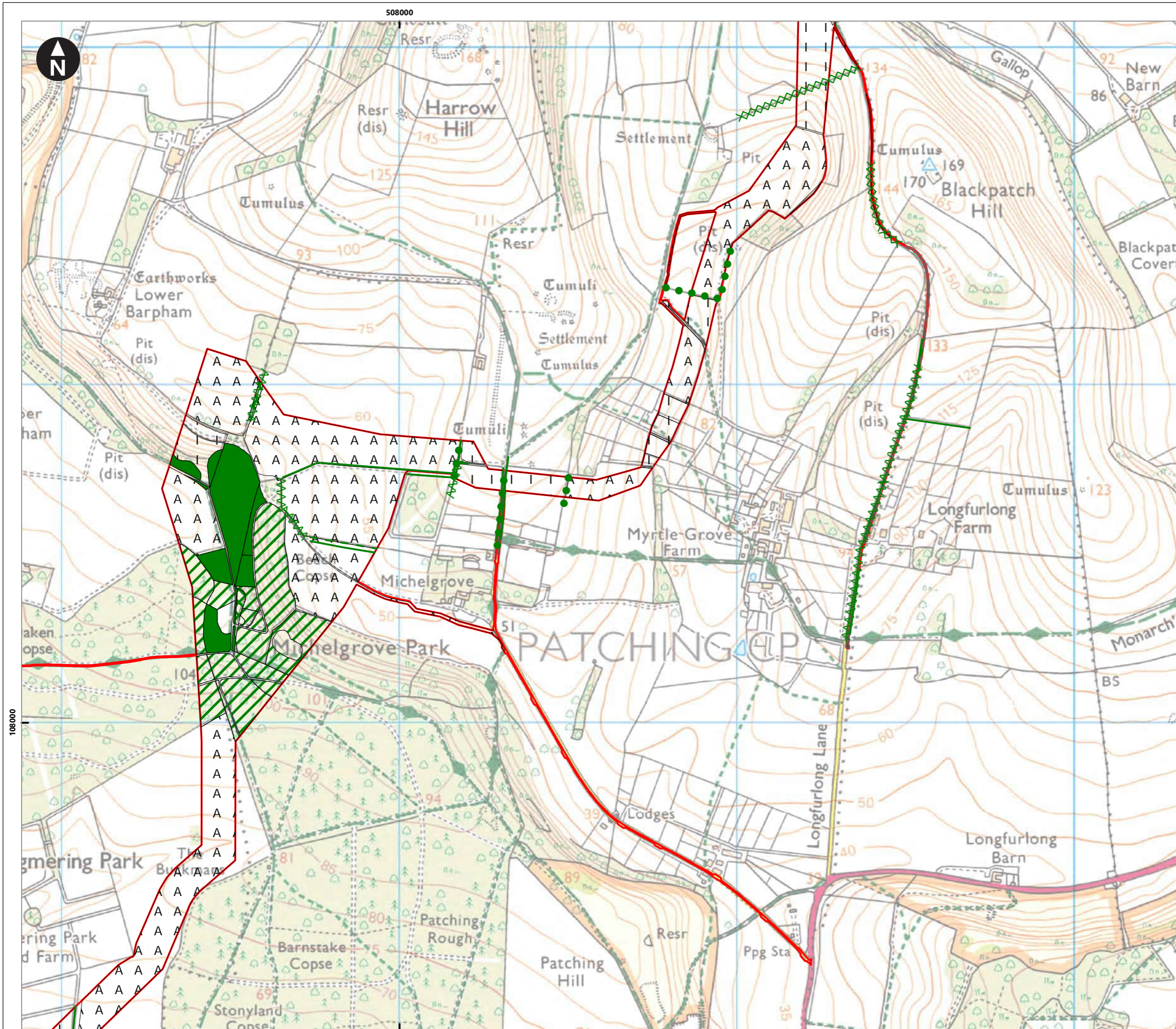
Page 4 of 12

Extended Phase 1 Habitat Survey Report

System Identifier: 42285-WSP-ES-ON-FG-OO-3517

Version: 2.0

Company: WSP | Drawn By: HADJE | Chk/Prvrd: SUTET | Drawn Date: 20/06/2023 | Status: Final



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Ordnance Survey 0100031673

Key

Proposed DCO Order Limits	A1.1.2: Broadleaved woodland - plantation
Phase 1 point	A1.2.2: Coniferous woodland - plantation
A1.1.1: Broadleaved woodland - semi-natural	A1.3.1: Mixed woodland - semi-natural
A2.2: Scrub- Scattered	A1.3.2: Mixed woodland - plantation
A3.1: Parkland and scattered trees- broad-leaved	A2.1: Scrub- Dense/Continuous
Phase 1 linear	A2.2: Scrub- Neutral grassland - semi-improved
J2.1.1: Intact hedge native species-rich	B3.1: Calcareous grassland - unimproved
J2.1.2: Intact hedge native species poor	B3.2: Calcareous grassland - semi-improved
J2.2.1: Defunct hedge native species	B4: Improved
J2.2.2: Defunct hedge native species poor	B5: Marsh/marshy grassland
J2.3.1: Hedge and trees native species-rich	B6: Poor semi-improved grassland
J2.3.2: Hedge and trees native species poor	C3.1: Tall
Not	G1: Standing
A2.1: Scrub, dense/continuous	G2: Running
A2.2: Scrub- Scattered	H1.1: Intertidal - mud/sand
A3.1: Parkland and scattered trees- broad-leaved	H1.2:
A3.3: Parkland and scattered trees- mixed	H8.4: Coastal
G1: Standing water	J1.1:
G2: Running water	J1.2: Amenity
J2.4: Fence	J1.3: Ephemeral/short perennial
J2.6: Dry	J2.6: Dry
A1.1.1: Broadleaved woodland - semi-natural	J3.6:
	J4: Bare

Phase 1 area

A1.1.1: Broadleaved woodland - semi-natural

0 0.05 0.1 0.2 0.3 0.4
Kilometres

1:11,000
British National Grid Transverse Mercator

Rampion Extension Development

Rampion 2 Offshore Wind Farm

Figure 3.1 Phase 1 Habitat Survey

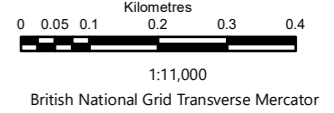
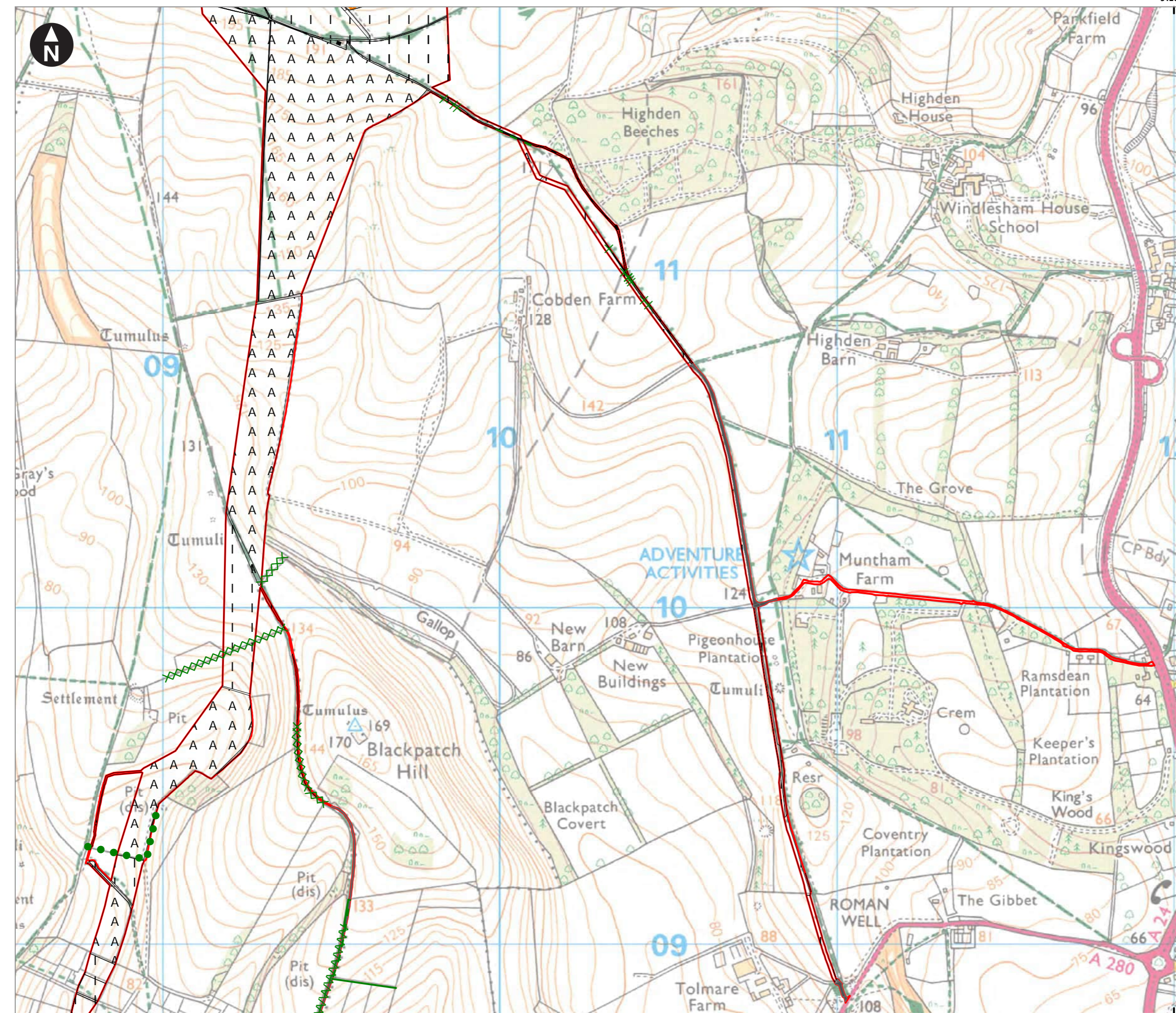
Page 5 of 12

Extended Phase 1 Habitat Survey Report

System Identifier: 42285-WSP-ES-ON-FG-OO-3517	Version: 2.0			
Company: WSP	Drawn By: HADJE	Chk/Prvd: SUTET	Drawn Date: 20/06/2023	Status: Final

Key

	Proposed DCO Order Limits		A1.1.2: Broadleaved woodland - plantation
	Phase 1 point		A1.2.2: Coniferous woodland - plantation
	A1.1.1: Broadleaved woodland - semi-natural		A1.3.1: Mixed woodland - semi-natural
	A2.2: Scrub- Scattered		A1.3.2: Mixed woodland - plantation
	A3.1: Parkland and scattered trees- broad-leaved		A2.1: Scrub- Dense/Continuous
	Phase 1 linear		A2.2: Scrub- unimproved
	J2.1.1: Intact hedge native species-rich		B2.2: Neutral grassland - semi-improved
	J2.1.2: Intact hedge native species poor		B3.1: Calcareous grassland - unimproved
	J2.2.1: Defunct hedge native species		B3.2: Calcareous grassland - semi-improved
	J2.2.2: Defunct hedge native species poor		B4: Improved
	J2.3.1: Hedge and trees native species-rich		B5: Marsh/marshy grassland
	J2.3.2: Hedge and trees native species poor		B6: Poor semi-improved grassland
	Not		C3.1: Tall
	A2.1: Scrub, dense/continuous		G1: Standing
	A2.2: Scrub- Scattered		G2: Running
	A3.1: Parkland and scattered trees- broad-leaved		H1.1: Intertidal - mud/sand
	A3.3: Parkland and scattered trees- mixed		H1.2: H1.2:
	G1: Standing water		H8.4: Coastal
	G2: Running water		J1.1:
	J2.6: Dry		J1.2: Amenity
	Phase 1 area		J1.3: Ephemeral/short perennial
	A1.1.1: Broadleaved woodland - semi-natural		J2.6: Dry
			J3.6:
			J4: Bare

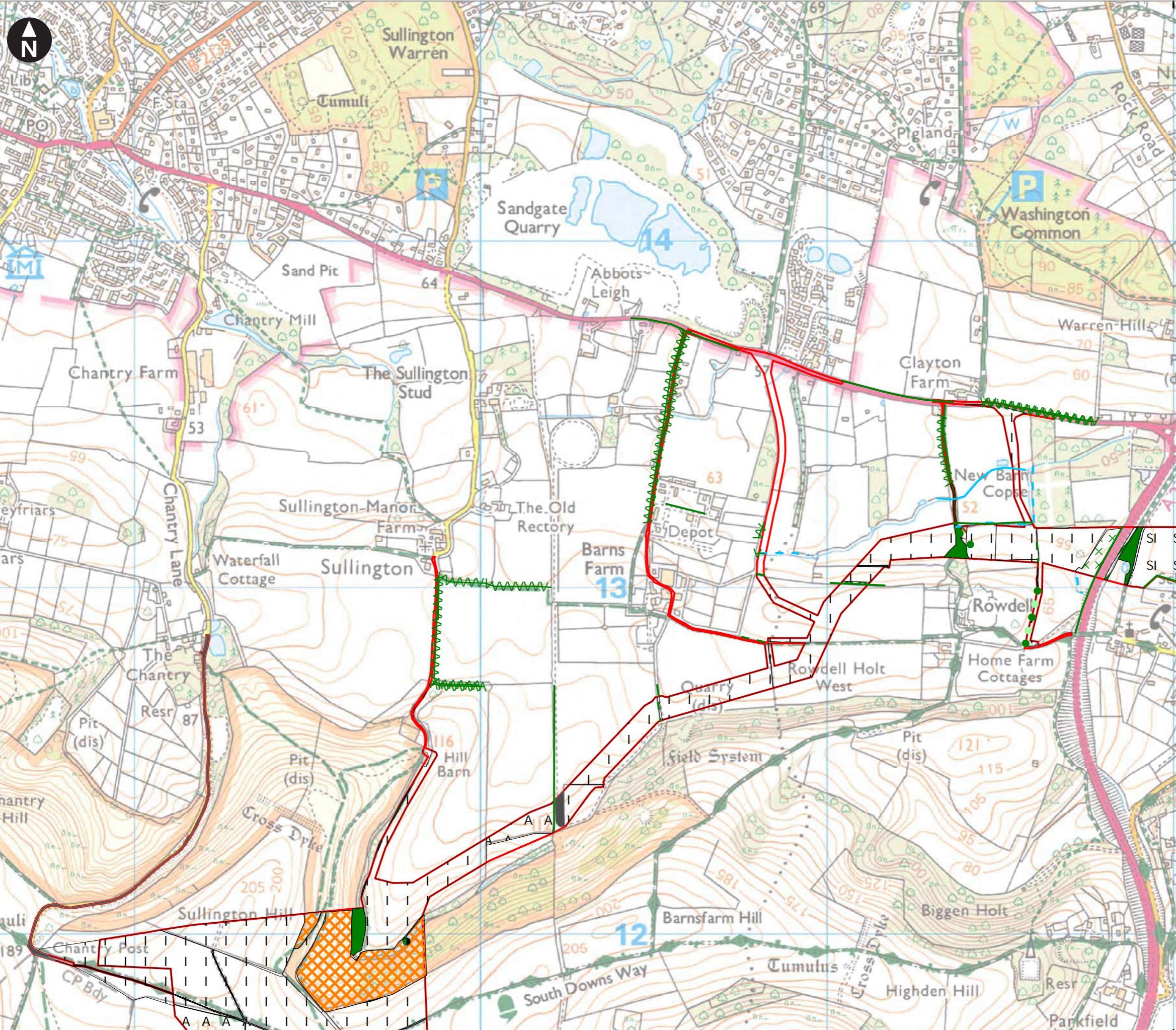


Rampion Extension Development

Rampion 2 Offshore Wind Farm
 Figure 3.1 Phase 1 Habitat Survey
 Page 6 of 12
 Extended Phase 1 Habitat Survey Report

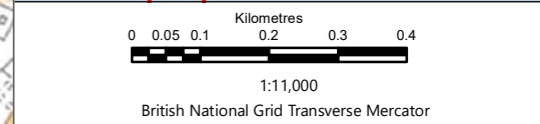
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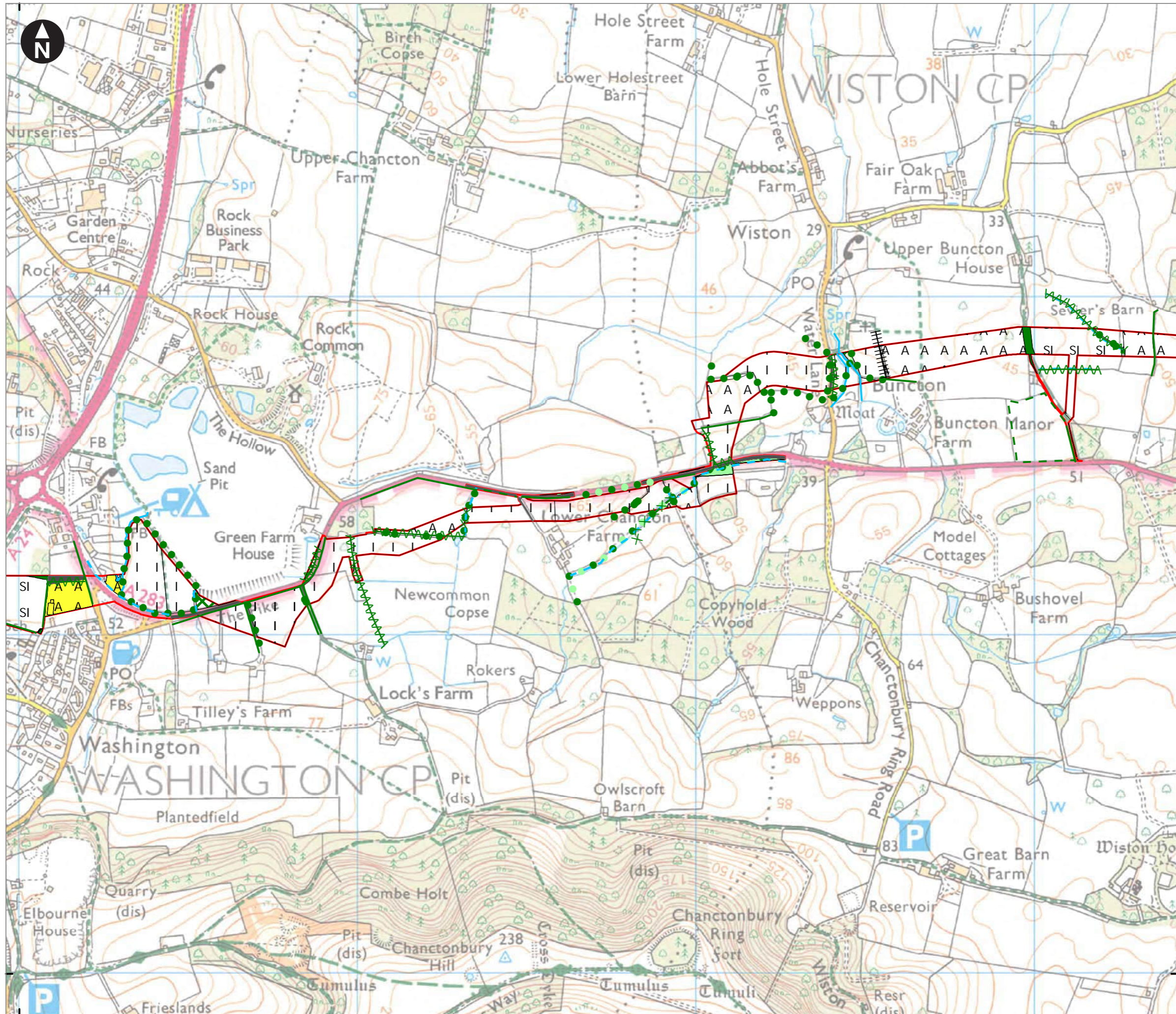
- Proposed DCO Order Limits
- Phase 1 point**
 - A1.1.1: Broadleaved woodland - semi-natural
 - A2.2: Scrub- Scattered
 - A3.1: Parkland and scattered trees- broad-leaved
- Phase 1 linear**
 - J2.1.1: Intact hedge native species-rich
 - J2.1.2: Intact hedge native species poor
 - J2.2.1: Defunct hedge native species
 - J2.2.2: Defunct hedge native species poor
 - J2.3.1: Hedge and trees native species-rich
 - J2.3.2: Hedge and trees native species poor
 - Not
 - A2.1: Scrub, dense/continuous
 - A2.2: Scrub- Scattered
 - A3.1: Parkland and scattered trees- broad-leaved
 - A3.3: Parkland and scattered trees- mixed
 - G1: Standing water
 - G2: Running water
 - J2.4: Fence
 - J2.6: Dry
- Phase 1 area**
 - A1.1.1: Broadleaved woodland - semi-natural
 - A1.1.2: Broadleaved woodland - plantation
 - A1.2.2: Coniferous woodland - plantation
 - A1.3.1: Mixed woodland - semi-natural
 - A1.3.2: Mixed woodland - plantation
 - A2.1: Scrub- Dense/Continuous
 - A2.2: Scrub- Neutral grassland - semi-improved
 - B2.2: Neutral grassland - semi-improved
 - B3.1: Calcareous grassland - unimproved
 - B3.2: Calcareous grassland - semi-improved
 - B4: Improved
 - B5: Marsh/marshy grassland
 - B6: Poor semi-improved grassland
 - C3.1: Tall
 - G1: Standing
 - G2: Running
 - H1.1: Intertidal - mud/sand
 - H1.2:
 - H8.4: Coastal
 - J1.1:
 - J1.2: Amenity
 - J1.3: Ephemeral/short perennial
 - J2.6: Dry
 - J3.6:
 - J4: Bare



Rampion Extension Development

Rampion 2 Offshore Wind Farm
 Figure 3.1 Phase 1 Habitat Survey
 Page 7 of 12
 Extended Phase 1 Habitat Survey Report

System Identifier: 42285-WSP-ES-ON-FG-OO-3517		Version: 2.0
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Drawn Date: 20/06/2023	Status: Final	

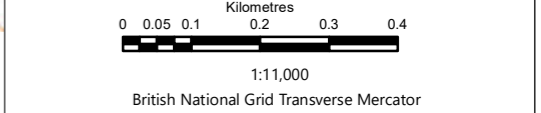
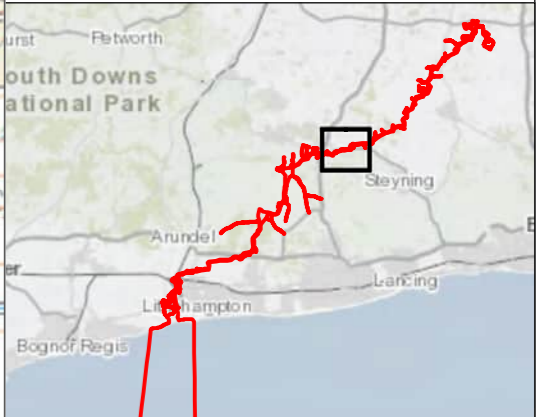


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Ordnance Survey 0100031673

Key

- Proposed DCO Order Limits
- Phase 1 point**
- A1.1.1: Broadleaved woodland - semi-natural
- × A2.2: Scrub- Scattered
- A3.1: Parkland and scattered trees- broad-leaved
- Phase 1 linear**
- ∩∩∩∩ J2.1.1: Intact hedge native species-rich
- ∩∩∩∩ J2.1.2: Intact hedge native species poor
- ∩∩∩∩ J2.2.1: Defunct hedge native species
- ∩∩∩∩ J2.2.2: Defunct hedge native species poor
- ∩∩∩∩ J2.3.1: Hedge and trees native species-rich
- ∩∩∩∩ J2.3.2: Hedge and trees native species poor
- Not
- × A2.1: Scrub, dense/continuous
- × A2.2: Scrub- Scattered
- A3.1: Parkland and scattered trees- broad-leaved
- A3.3: Parkland and scattered trees- mixed
- G1: Standing water
- G2: Running water
- J2.4: Fence
- J2.6: Dry
- Phase 1 area**
- A1.1.1: Broadleaved woodland - semi-natural
- A1.1.2: Broadleaved woodland - plantation
- A1.2.2: Coniferous woodland - plantation
- A1.3.1: Mixed woodland - semi-natural
- A1.3.2: Mixed woodland - plantation
- A2.1: Scrub- Dense/Continuous
- A2.2: Scrub-
- B2.2: Neutral grassland - semi-improved
- B3.1: Calcareous grassland - unimproved
- B3.2: Calcareous grassland - semi-improved
- B4: Improved
- B5: Marsh/marshy grassland
- B6: Poor semi-improved grassland
- C3.1: Tall
- G1: Standing
- G2: Running
- H1.1: Intertidal - mud/sand
- H1.2:
- H8.4: Coastal
- J1.1:
- J1.2: Amenity
- J1.3: Ephemeral/short perennial
- J2.6: Dry
- J3.6:
- J4: Bare



Rampion Extension Development

Rampion 2 Offshore Wind Farm

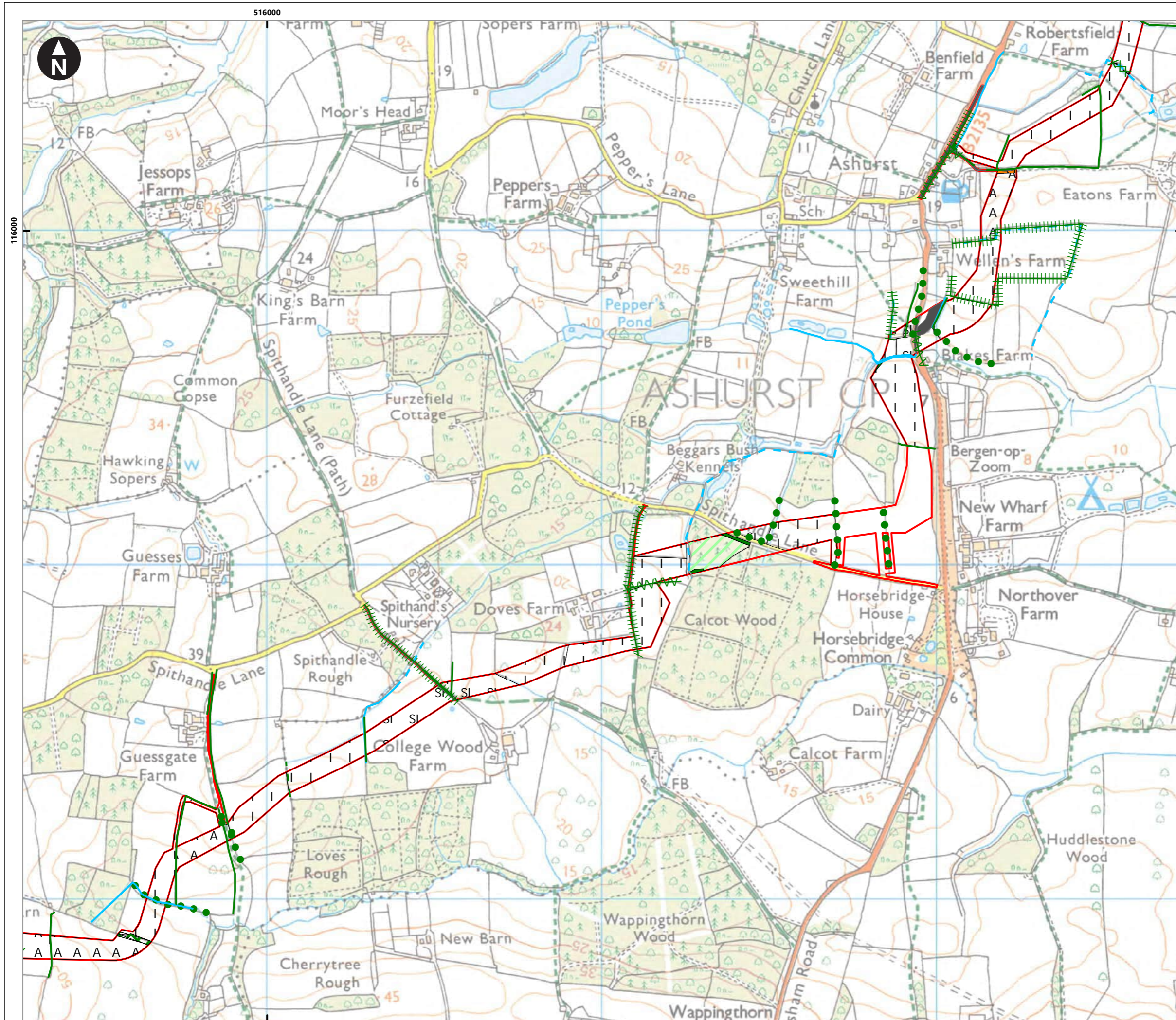
Figure 3.1 Phase 1 Habitat Survey

Page 8 of 12

Extended Phase 1 Habitat Survey Report

System Identifier:	Version:
42285-WSP-ES-ON-FG-OO-3517	2.0

Company:	Drawn By:	Chk/Prvd:	Drawn Date:	Status:
WSP	HADJE	SUTET	20/06/2023	Final



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Ordnance Survey 0100031673

Key

Proposed DCO Order Limits
 Proposed DCO Order Limits

Phase 1 point

- A1.1.1: Broadleaved woodland - semi-natural
- A2.2: Scrub- Scattered
- A3.1: Parkland and scattered trees- broad-leaved
- A3.3: Parkland and scattered trees- mixed

Phase 1 linear

- J2.1.1: Intact hedge native species-rich
- J2.1.2: Intact hedge native species poor
- J2.2.1: Defunct hedge native species
- J2.2.2: Defunct hedge native species poor
- J2.3.1: Hedge and trees native species-rich
- J2.3.2: Hedge and trees native species poor
- A2.1: Scrub, dense/continuous
- A2.2: Scrub- Scattered
- G1: Standing water
- G2: Running water
- J2.4: Fence
- J2.6: Dry

Phase 1 area

- A1.1.1: Broadleaved woodland - semi-natural
- A1.1.2: Broadleaved woodland - plantation
- A1.2.2: Coniferous woodland - plantation
- A1.3.1: Mixed woodland - semi-natural
- A1.3.2: Mixed woodland - plantation
- A2.1: Scrub-Dense/Continuous
- A2.2: Scrub-
- B2.2: Neutral grassland - semi-improved
- B3.1: Calcareous grassland - unimproved
- B3.2: Calcareous grassland - semi-improved
- B4: Improved
- B5: Marsh/marshy grassland
- B6: Poor semi-improved grassland
- C3.1: Tall
- G1: Standing
- G2: Running
- H1.1: Intertidal - mud/sand
- H1.2:
- H8.4: Coastal
- J1.1:
- J1.2: Amenity
- J1.3: Ephemeral/short perennial
- J2.6: Dry
- J3.6:
- J4: Bare

South Downs National Park

0 0.05 0.1 0.2 0.3 0.4
Kilometres

1:11,000
British National Grid Transverse Mercator

Rampion Extension Development

Rampion 2 Offshore Wind Farm

Figure 3.1 Phase 1 Habitat Survey

Page 9 of 12

Extended Phase 1 Habitat Survey Report

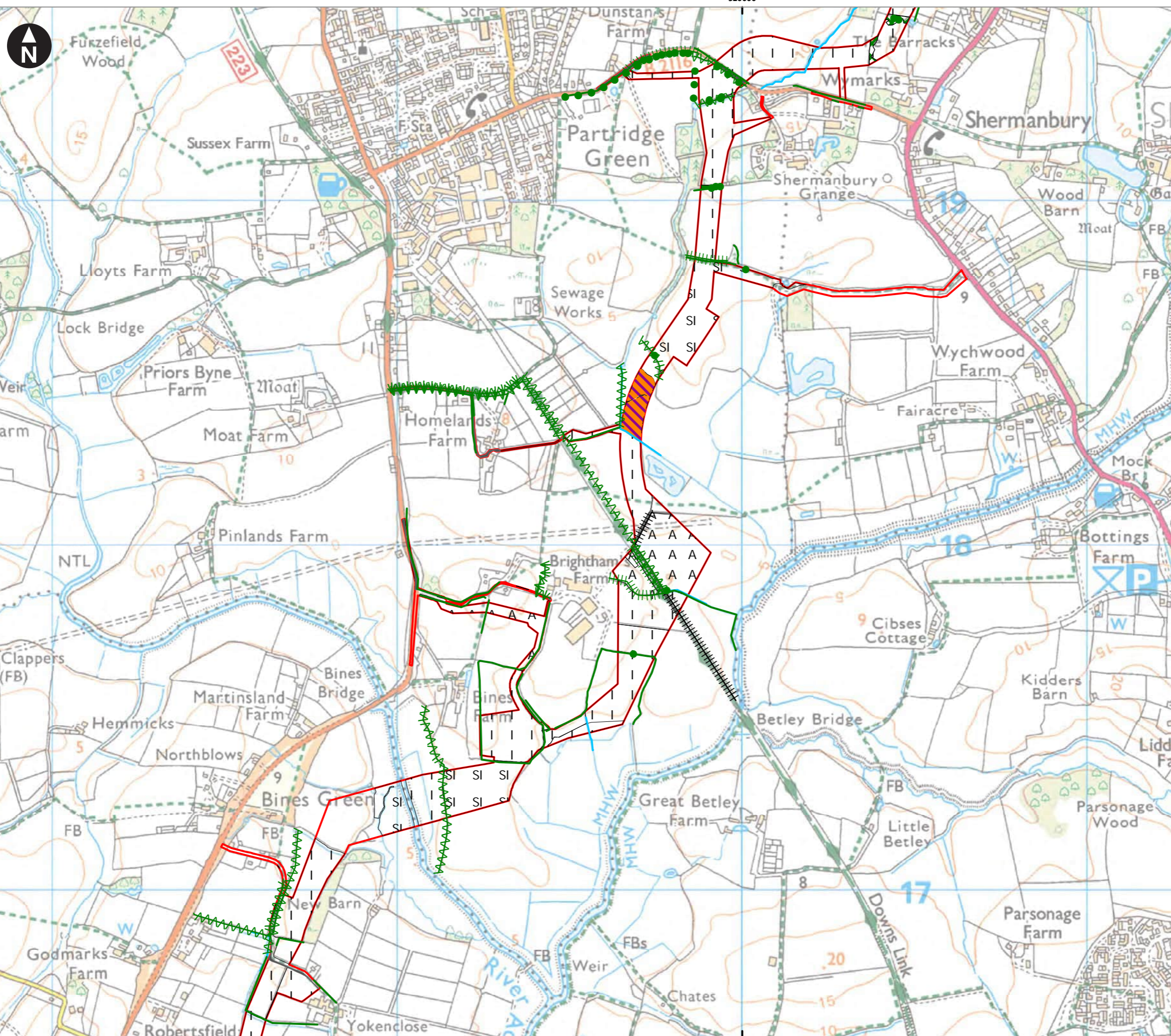
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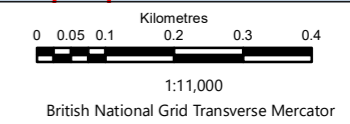
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Ordnance Survey 0100031673



Key

- Proposed DCO Order Limits
- Phase 1 point**
- A1.1.1: Broadleaved woodland - semi-natural
- × A2.2: Scrub- Scattered
- A3.1: Parkland and scattered trees- broad-leaved
- Phase 1 linear**
- ~ J2.1.1: Intact hedge native species-rich
- ~ J2.1.2: Intact hedge native species poor
- ~ J2.2.1: Defunct hedge native species
- ~ J2.2.2: Defunct hedge native species poor
- ~ J2.3.1: Hedge and trees native species-rich
- ~ J2.3.2: Hedge and trees native species poor
- Not
- × A2.1: Scrub, dense/continuous
- × A2.2: Scrub- Scattered
- A3.1: Parkland and scattered trees- broad-leaved
- A3.3: Parkland and scattered trees- mixed
- G1: Standing water
- G2: Running water
- J2.6: Dry
- Phase 1 area**
- A1.1.1: Broadleaved woodland - semi-natural
- A1.1.2: Broadleaved woodland - plantation
- A1.2.2: Coniferous woodland - plantation
- A1.3.1: Mixed woodland - semi-natural
- A1.3.2: Mixed woodland - plantation
- A2.1: Scrub- Dense/Continuous
- A2.2: Scrub-
- B2.2: Neutral grassland - semi-improved
- B3.1: Calcareous grassland - unimproved
- B3.2: Calcareous grassland - semi-improved
- B4: Improved
- B5: Marsh/marshy grassland
- B6: Poor semi-improved grassland
- C3.1: Tall
- G1: Standing
- G2: Running
- H1.1: Intertidal - mud/sand
- H1.2:
- H8.4: Coastal
- J1.1:
- J1.2: Amenity
- J1.3: Ephemeral/short perennial
- J2.6: Dry
- J3.6:
- J4: Bare



Rampion Extension Development

Rampion 2 Offshore Wind Farm

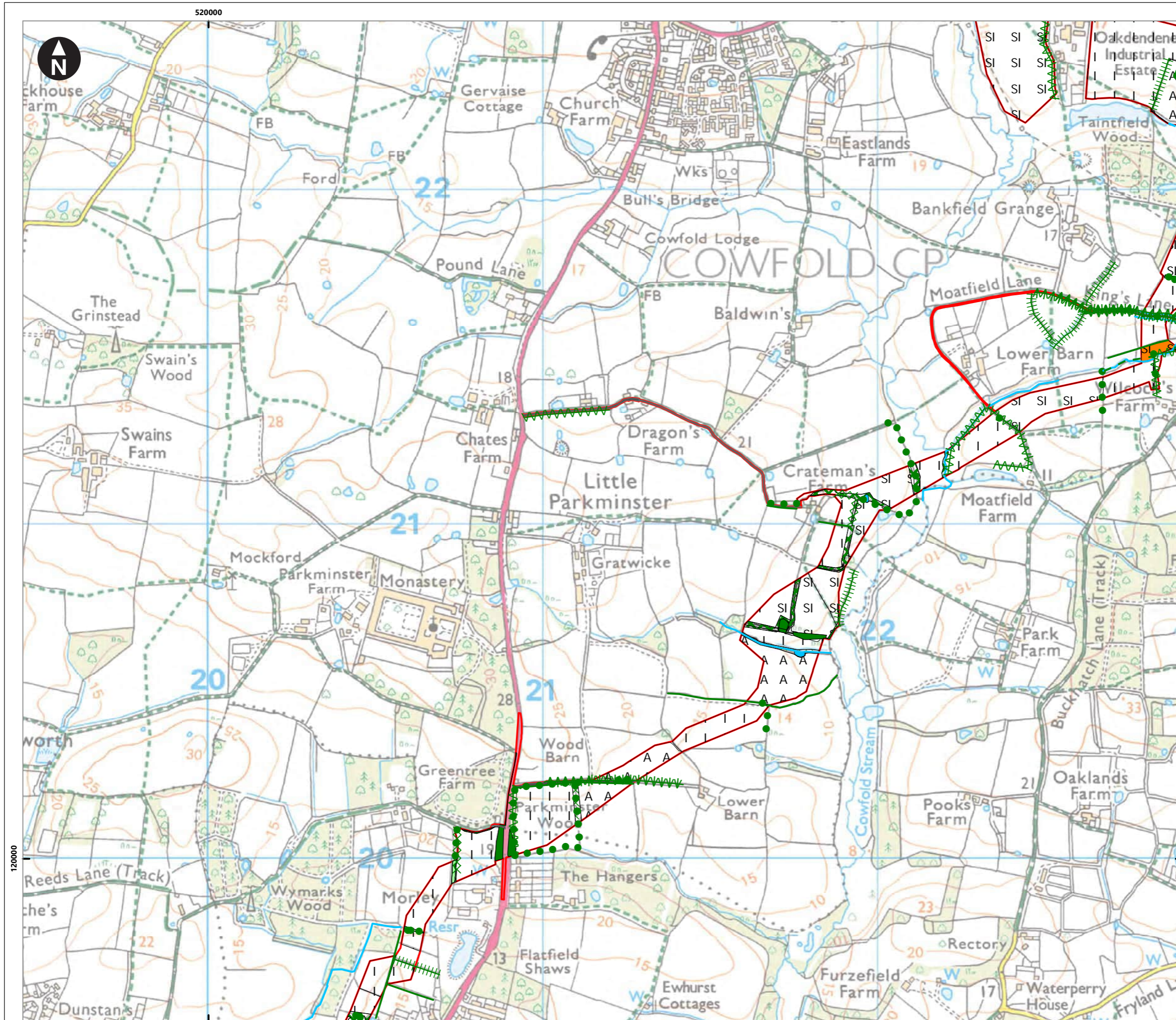
Figure 3.1 Phase 1 Habitat Survey

Page 10 of 12

Extended Phase 1 Habitat Survey Report

System Identifier: 42285-WSP-ES-ON-FG-OO-3517 Version: 2.0

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Key

Proposed DCO Order Limits
 [Red line symbol]

Phase 1 point
 ● A1.1.1: Broadleaved woodland - semi-natural
 × A2.2: Scrub- Scattered
 ● A3.1: Parkland and scattered trees- broad-leaved

Phase 1 linear
 [Green wavy line symbol] J2.1.1: Intact hedge native species-rich
 [Green dashed line symbol] J2.1.2: Intact hedge native species poor
 [Green wavy line symbol] J2.2.1: Defunct hedge native species
 [Green dashed line symbol] J2.2.2: Defunct hedge native species poor
 [Green wavy line symbol] J2.3.1: Hedge and trees native species-rich
 [Green dashed line symbol] J2.3.2: Hedge and trees native species poor
 [Green cross symbol] A2.1: Scrub, dense/continuous
 [Green cross symbol] A2.2: Scrub- Scattered
 [Green dot symbol] A3.1: Parkland and scattered trees- broad-leaved
 [Green dot symbol] A3.3: Parkland and scattered trees- mixed
 [Blue line symbol] G1: Standing water
 [Blue dashed line symbol] G2: Running water
 [Blue dashed line symbol] J2.4: Fence
 [Blue dashed line symbol] J2.6: Dry

Phase 1 area
 [Green shaded area symbol] A1.1.1: Broadleaved woodland - semi-natural

[Green diagonal line symbol] A1.1.2: Broadleaved woodland - plantation
 [Green diagonal line symbol] A1.2.2: Coniferous woodland - plantation
 [Green diagonal line symbol] A1.3.1: Mixed woodland - semi-natural
 [Green diagonal line symbol] A1.3.2: Mixed woodland - plantation
 [Green diagonal line symbol] A2.1: Scrub- Dense/Continuous
 [Green diagonal line symbol] A2.2: Scrub- Neutral grassland - semi-improved
 [Orange diagonal line symbol] B3.1: Calcareous grassland - unimproved
 [Orange diagonal line symbol] B3.2: Calcareous grassland - semi-improved
 [White box symbol] B4: Improved
 [Red diagonal line symbol] B5: Marsh/marshy grassland
 [White box symbol] B6: Poor semi-improved grassland
 [Brown diagonal line symbol] C3.1: Tall
 [Blue box symbol] G1: Standing
 [Blue box symbol] G2: Running
 [Yellow box symbol] H1.1: Intertidal - mud/sand
 [Yellow box symbol] H1.2:
 [Orange box symbol] H8.4: Coastal
 [White box symbol] J1.1:
 [Yellow box symbol] J1.2: Amenity
 [White box symbol] J1.3: Ephemeral/short perennial
 [White box symbol] J2.6: Dry
 [White box symbol] J3.6:
 [White box symbol] J4: Bare

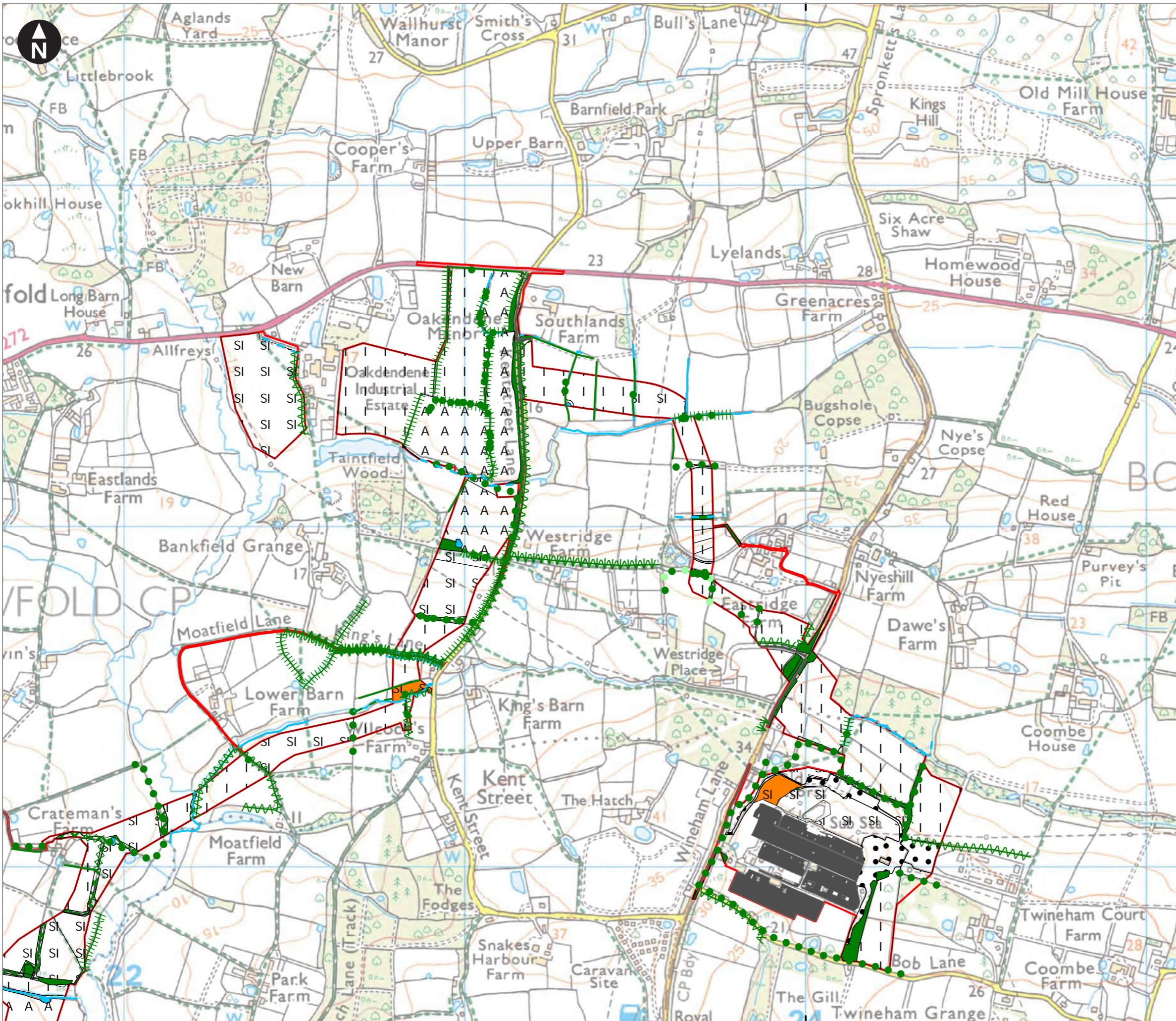
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 Kilometres
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Rampion Extension Development

Rampion 2 Offshore Wind Farm
 Figure 3.1 Phase 1 Habitat Survey
 Page 11 of 12
 Extended Phase 1 Habitat Survey Report

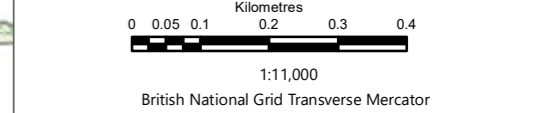
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 Version: 2.0

Company: WSP
 Drawn By: HADJE
 Chk/Prvrd: SUTET
 Drawn Date: 20/06/2023
 Status: Final



Key

- Proposed DCO Order Limits**: Red outline
- Phase 1 point**:
 - A1.1.1: Broadleaved woodland - semi-natural
 - A2.2: Scrub- Scattered
 - A3.1: Parkland and scattered trees- broad-leaved
- Phase 1 linear**:
 - J2.1.1: Intact hedge native species-rich
 - J2.1.2: Intact hedge native species poor
 - J2.2.1: Defunct hedge native species
 - J2.2.2: Defunct hedge native species poor
 - J2.3.1: Hedge and trees native species-rich
 - J2.3.2: Hedge and trees native species poor
 - Not
 - A2.1: Scrub, dense/continuous
 - A2.2: Scrub- Scattered
 - A3.1: Parkland and scattered trees- broad-leaved
 - A3.3: Parkland and scattered trees- mixed
 - G1: Standing water
 - G2: Running water
 - J2.4: Fence
 - J2.6: Dry
- Phase 1 area**:
 - A1.1.1: Broadleaved woodland - semi-natural
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 - A1.3.1: Mixed woodland - semi-natural
 - A1.3.2: Mixed woodland - plantation
 - A2.1: Scrub- Dense/Continuous
 - A2.2: Scrub- Neutral grassland - semi-improved
 - B3.1: Calcareous grassland - unimproved
 - B3.2: Calcareous grassland - semi-improved
 - B4: Improved
 - B5: Marsh/marshy grassland
 - B6: Poor semi-improved grassland
 - C3.1: Tall
 - G1: Standing
 - G2: Running
 - H1.1: Intertidal - mud/sand
 - H1.2:
 - H8.4: Coastal
 - J1.1:
 - J1.2: Amenity
 - J1.3: Ephemeral/short perennial
 - J2.6: Dry
 - J3.6:
 - J4: Bare



Rampion Extension Development

Rampion 2 Offshore Wind Farm
 Figure 3.1 Phase 1 Habitat Survey
 Page 12 of 12
 Extended Phase 1 Habitat Survey Report

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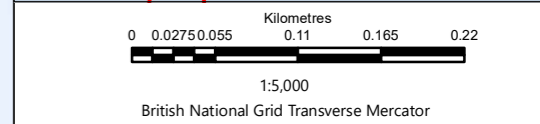
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Key

- Proposed DCO Order Limits

Phase 1 area features

- Lowland and mixed deciduous woodland
- Coastal and floodplain grazing marsh
- Lowland calcareous grassland
- Intertidal Mudflats



Rampion Extension Development



Rampion 2 Offshore Wind Farm
 Figure 3.2 Priority Habitats
 Page 1 of 8
 Extended Phase 1 Survey Report

System Identifier: 42285-WSPE-ES-ON-FG-OO-1299	Version: 2.0
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Company: WSP	Drawn By: HADJE	Chk/Aprvd: SUTET	Drawn Date: 20/06/2023	Status: Final
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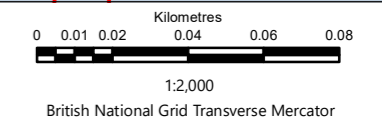
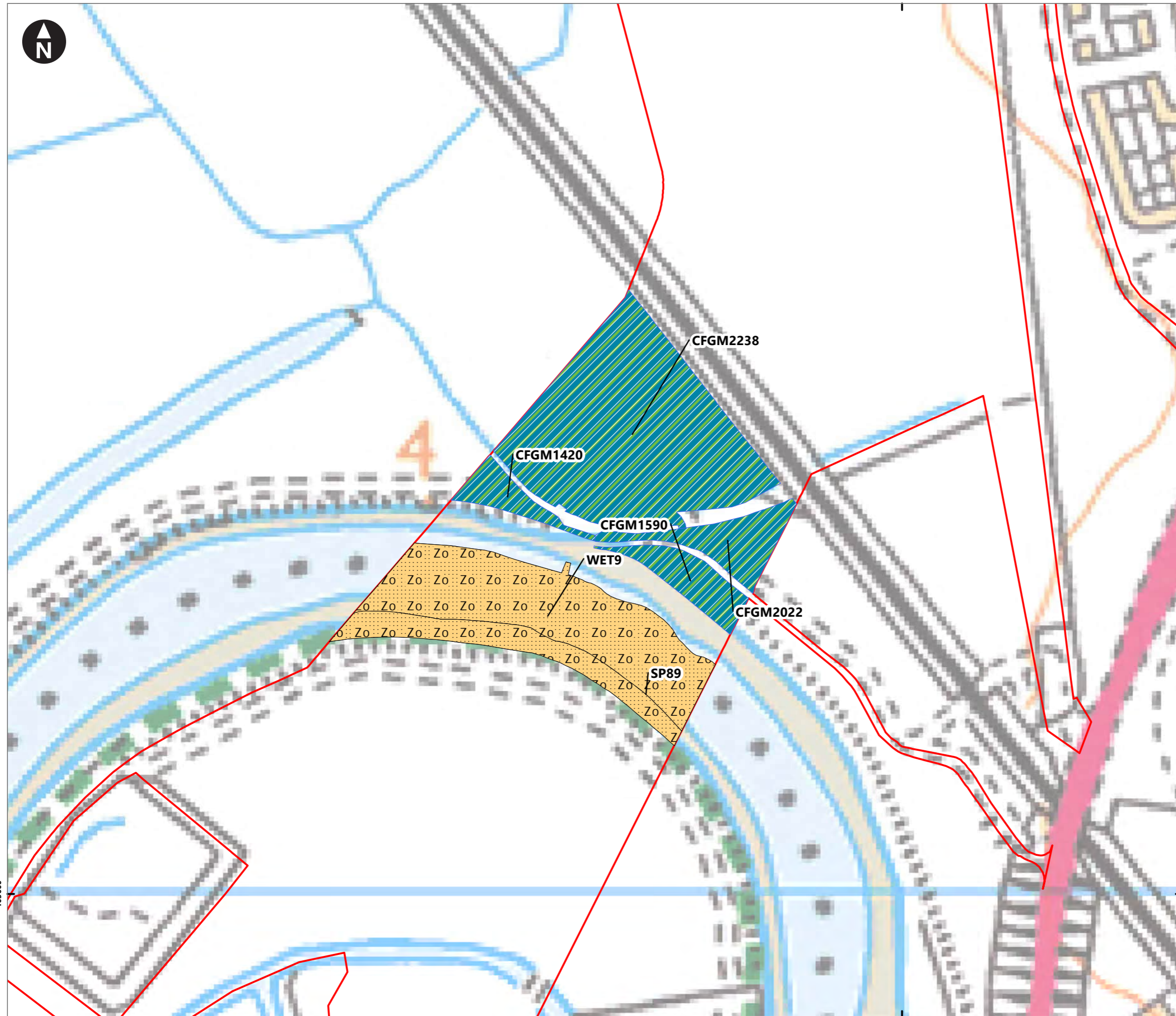
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Key

- Proposed DCO Order Limits
- Phase 1 area features**
- Lowland and mixed deciduous woodland
- Coastal and floodplain grazing marsh
- Lowland calcareous grassland
- Intertidal Mudflats



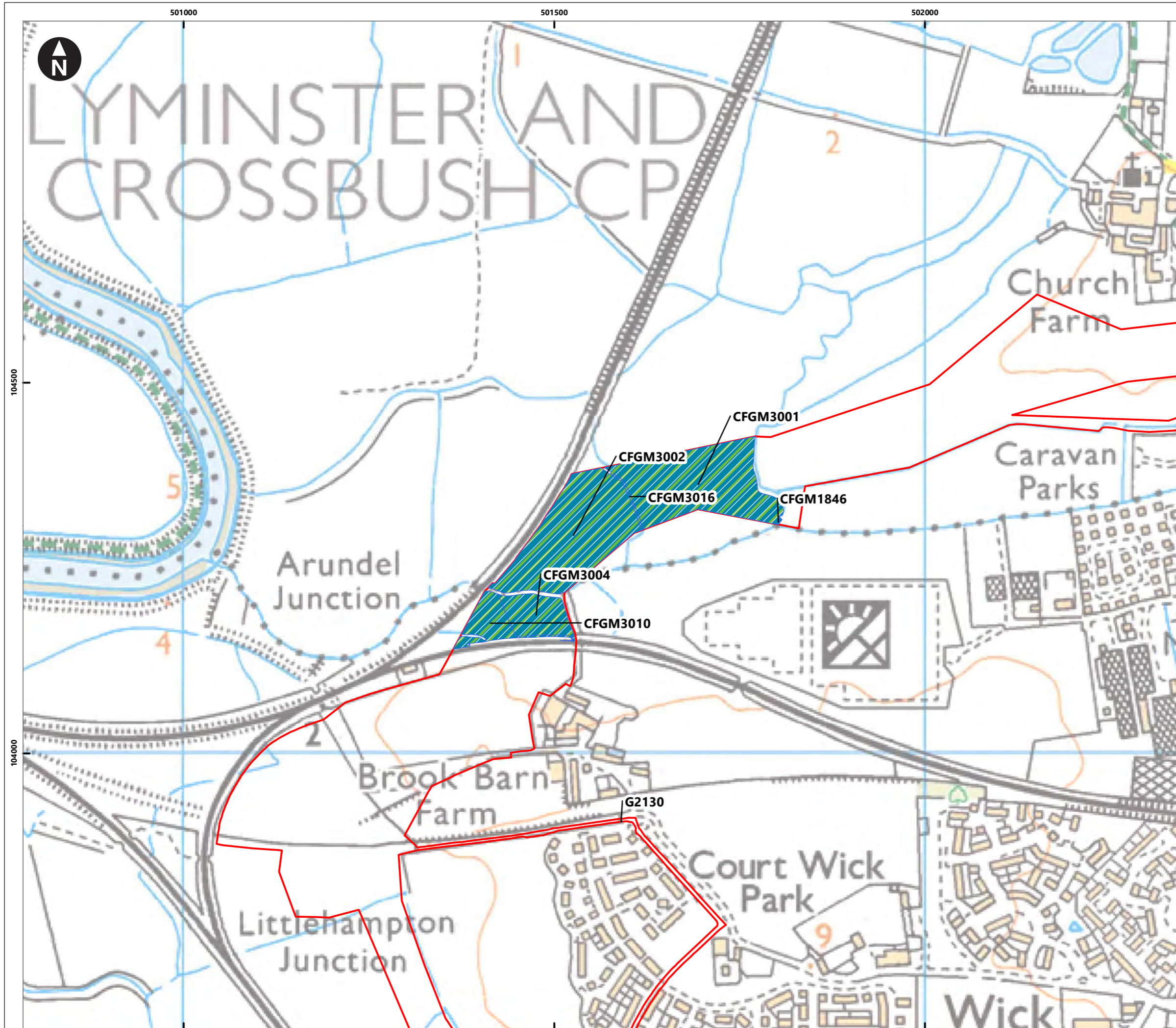
Rampion Extension Development

Rampion 2 Offshore Wind Farm
 Figure 3.2 Priority Habitats
 Page 2 of 8
 Extended Phase 1 Survey Report

System Identifier: 42285-WSPE-ES-ON-FG-OO-1299 Version: 2.0

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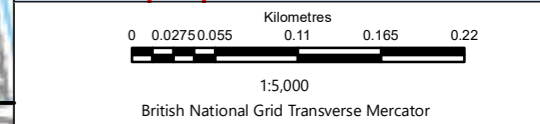
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Key

- Proposed DCO Order Limits

Phase 1 area features

- Lowland and mixed deciduous woodland
- Coastal and floodplain grazing marsh
- Lowland calcareous grassland
- Intertidal Mudflats

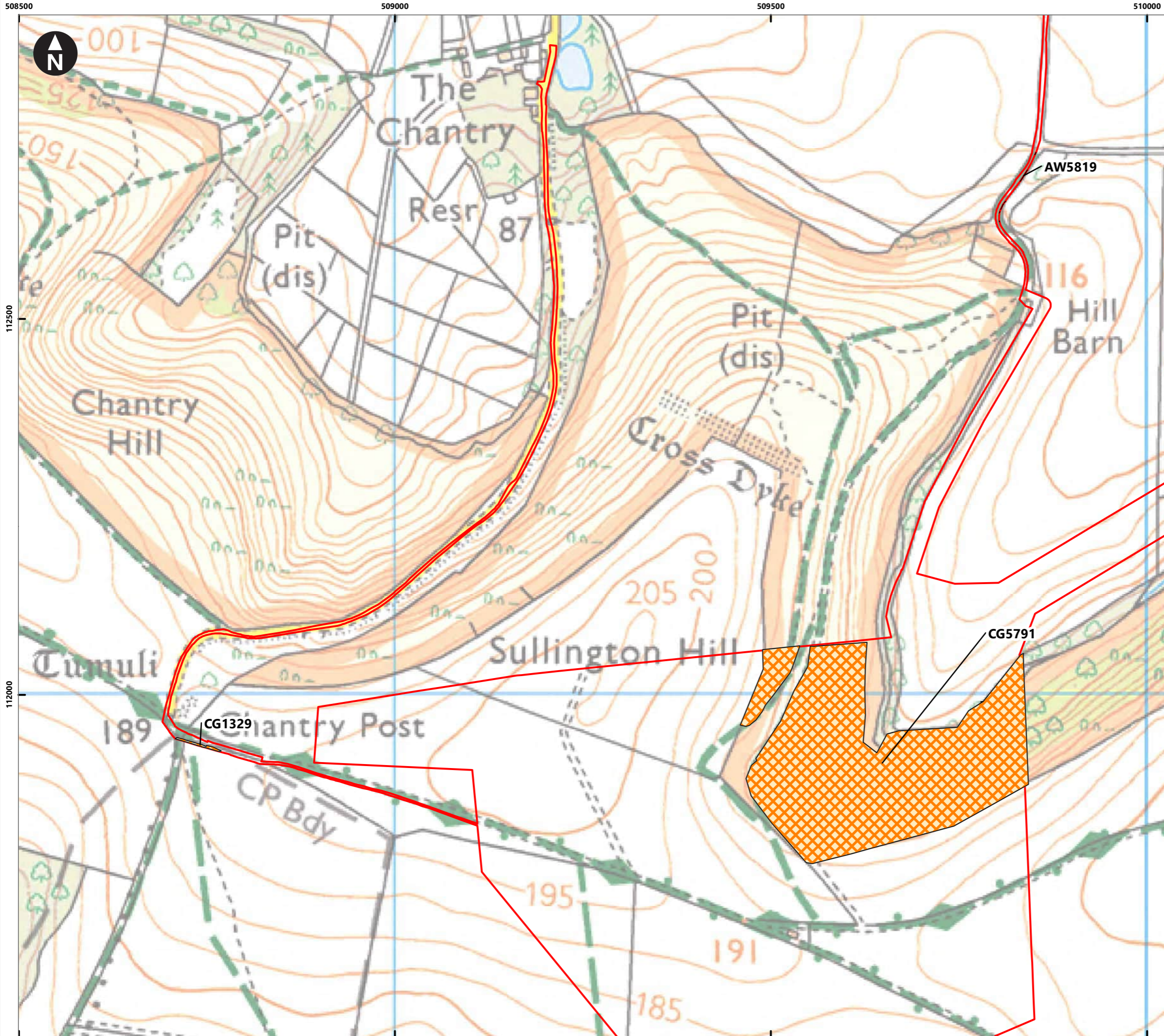


Rampion Extension Development



Rampion 2 Offshore Wind Farm
 Figure 3.2 Priority Habitats
 Page 3 of 8
 Extended Phase 1 Survey Report

System Identifier: 42285-WSPE-ES-ON-FG-OO-1299				Version: 2.0
Company: WSP	Drawn By: HADJE	Chk/Aprvd: SUTET	Drawn Date: 20/06/2023	Status: Final



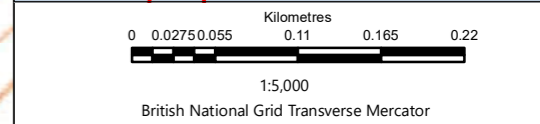
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Key

- Proposed DCO Order Limits

Phase 1 area features

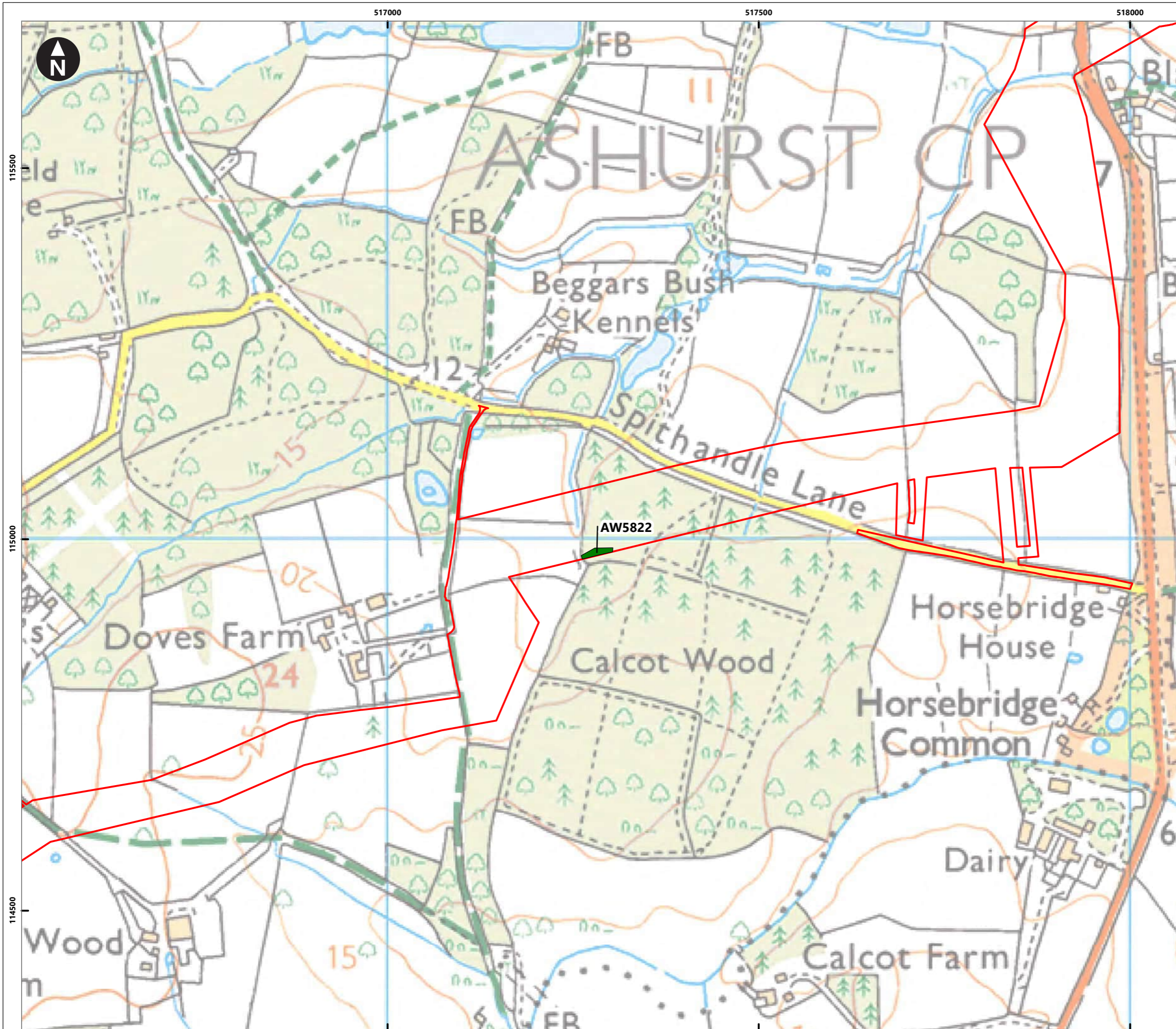
- Lowland and mixed deciduous woodland
- Coastal and floodplain grazing marsh
- Lowland calcareous grassland
- Intertidal Mudflats



Rampion Extension Development

Rampion 2 Offshore Wind Farm
 Figure 3.2 Priority Habitats
 Page 4 of 8
 Extended Phase 1 Survey Report

System Identifier: 42285-WSPE-ES-ON-FG-OO-1299				Version: 2.0
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Key

- Proposed DCO Order Limits

Phase 1 area features

- Lowland and mixed deciduous woodland
- Coastal and floodplain grazing marsh
- Lowland calcareous grassland
- Intertidal Mudflats

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 Kilometres
 1:5,000
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Rampion Extension Development

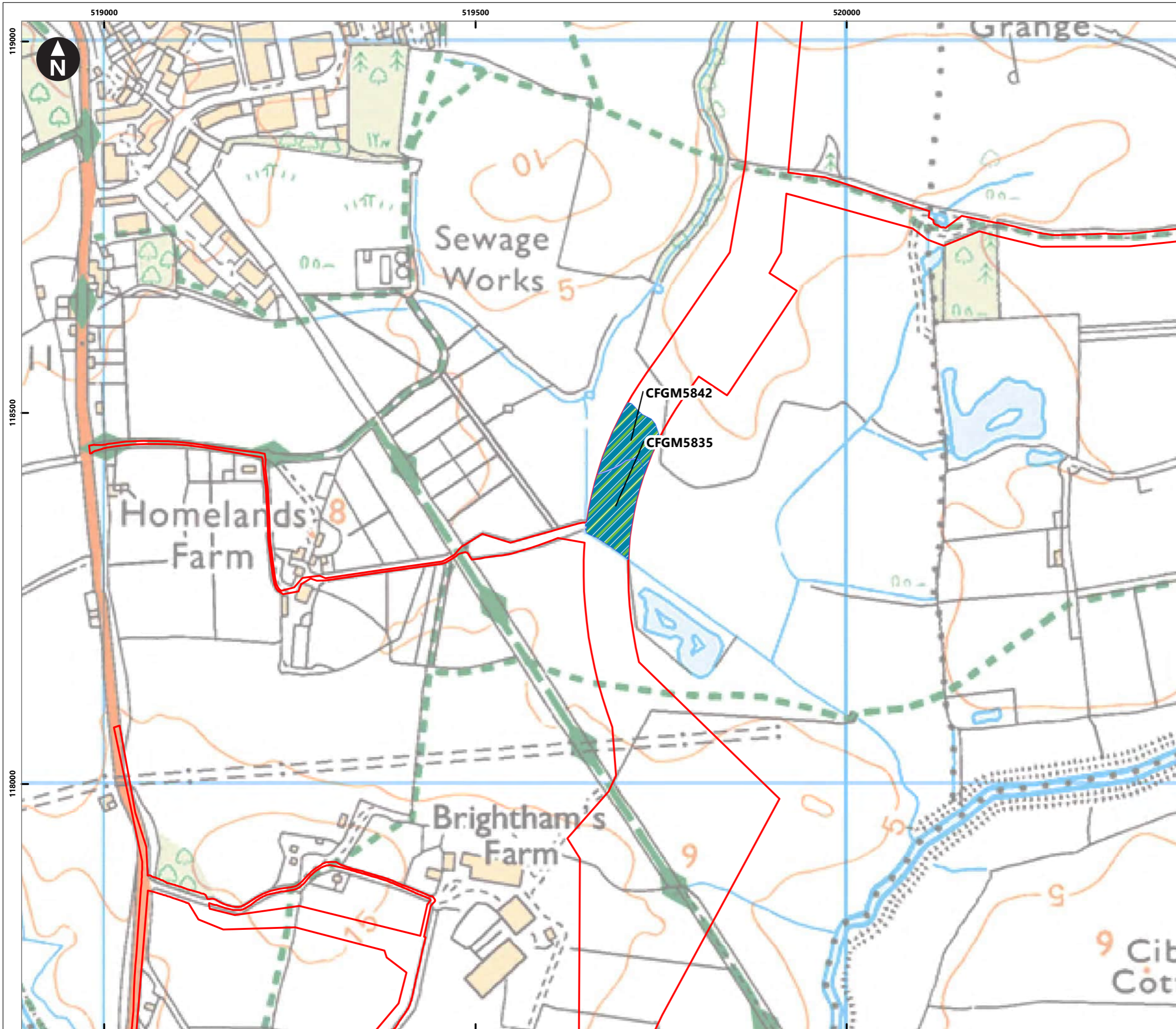
Rampion 2 Offshore Wind Farm

Figure 3.2 Priority Habitats

Page 5 of 8

Extended Phase 1 Survey Report

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Drawn Date: 20/06/2023	Status: Final	



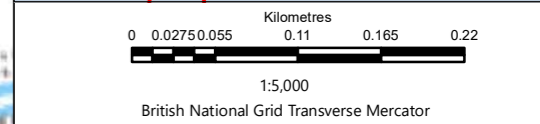
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Key

- Proposed DCO Order Limits

Phase 1 area features

- Lowland and mixed deciduous woodland
- Coastal and floodplain grazing marsh
- Lowland calcareous grassland
- Intertidal Mudflats



Rampion Extension Development



Rampion 2 Offshore Wind Farm

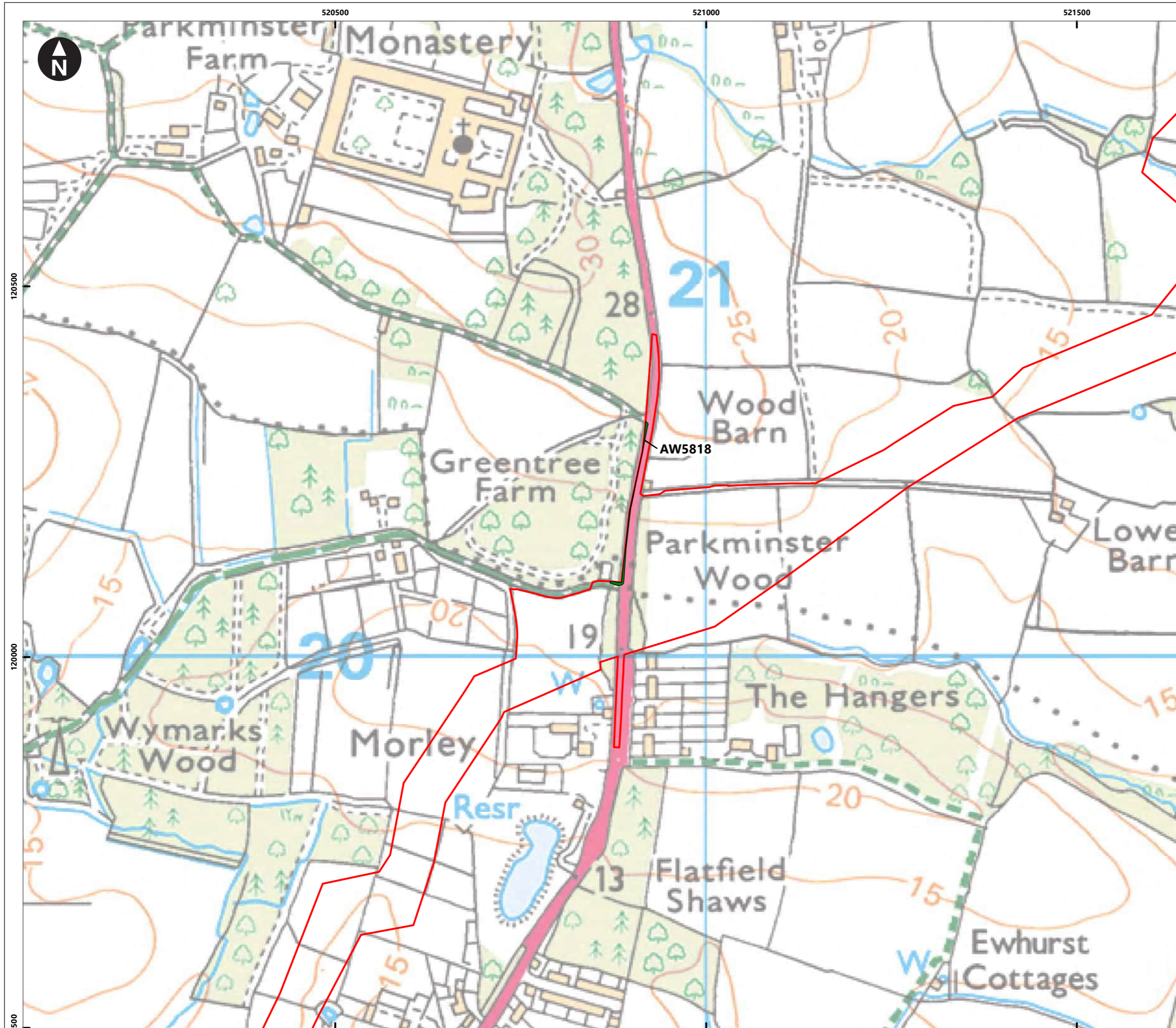
Figure 3.2 Priority Habitats

Page 6 of 8

Extended Phase 1 Survey Report

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42285-WSPE-ES-ON-FG-OO-1299	2.0

Company:	Drawn By:	Chk/Aprvd:	Drawn Date:	Status:
WSP	HADJE	SUTET	20/06/2023	Final



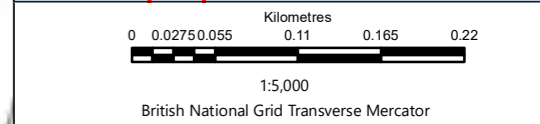
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Key

- Proposed DCO Order Limits

Phase 1 area features

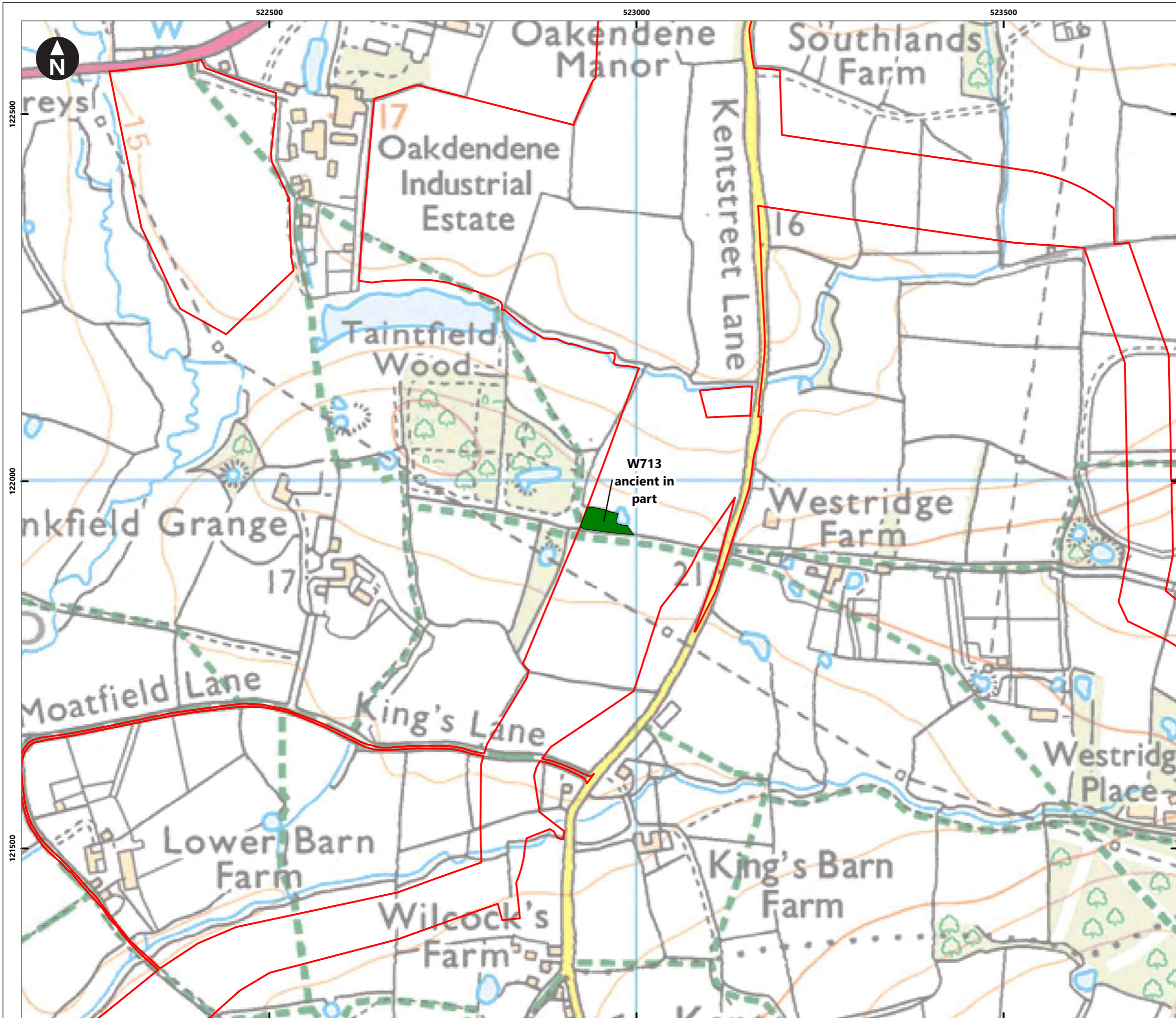
- Lowland and mixed deciduous woodland
- Coastal and floodplain grazing marsh
- Lowland calcareous grassland
- Intertidal Mudflats



Rampion Extension Development

Rampion 2 Offshore Wind Farm
 Figure 3.2 Priority Habitats
 Page 7 of 8
 Extended Phase 1 Survey Report

System Identifier: 42285-WSP-ES-ON-FG-OO-1299				Version: 2.0
Company: WSP	Drawn By: HADJE	Chk/Prvrd: SUTET	Drawn Date: 20/06/2023	Status: Final



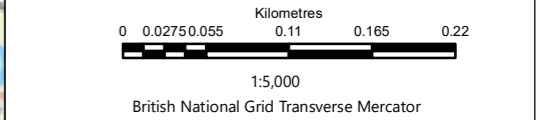
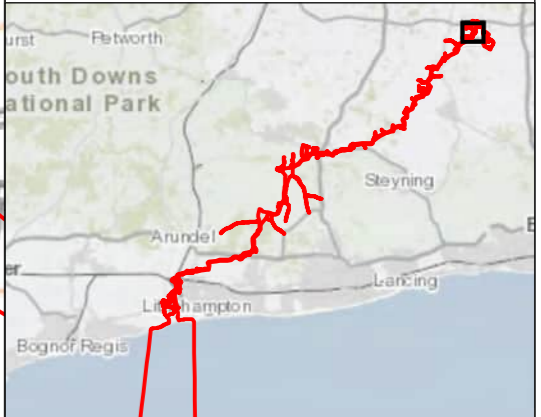
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Key

- Proposed DCO Order Limits

Phase 1 area features

- Lowland and mixed deciduous woodland
- Coastal and floodplain grazing marsh
- Lowland calcareous grassland
- Intertidal Mudflats



Rampion Extension Development

Rampion 2 Offshore Wind Farm
 Figure 3.2 Priority Habitats
 Page 8 of 8
 Extended Phase 1 Survey Report

System Identifier: 42285-WSPE-ES-ON-FG-OO-1299				Version: 2.0
Company: WSP	Drawn By: HADJE	Chk/Aprvd: SUTET	Drawn Date: 20/06/2023	Status: Final

Annex B

Scientific species names

Table B-1 below lists all species mentioned within this report, note some species mentioned below were not recorded during surveys. This report uses English species names and only uses scientific species names for species groups where this not available.

Table B-1 Scientific name of species mentioned in this report

English name	Scientific name
Mammal	
American mink	<i>Neovison vison</i>
Badger	<i>Meles meles</i>
Hazel dormouse	<i>Muscardinus avellanarius</i>
Otter	<i>Lutra lutra</i>
Water vole	<i>Arvicola amphibius</i>
Amphibian	
Great crested newt	<i>Triturus cristatus</i>
Vascular plant	
Agrimony	<i>Agrimonia eupatoria</i>
Annual meadow grass	<i>Poa annua</i>
Ash	<i>Fraxinus excelsior</i>
Beech	<i>Fagus sylvatica</i>
Birch	<i>Betula sp.</i>
Bird's foot trefoil	<i>Lotus corniculatus</i>
Black poplar	<i>Populus nigra</i>
Blackthorn	<i>Prunus spinosa</i>
Bluebell	<i>Hyacinthoides non-scripta</i>
Bracken	<i>Pteridium aquilinum</i>

English name	Scientific name
Bramble	<i>Rubus fruticosus</i> agg.
Bristly hawkbit	<i>Leontodon hispidus</i>
Broad buckler-fern	<i>Dryopteris dilatata</i>
Broadleaved dock	<i>Rumex obtusifolius</i>
Broadleaved plantain	<i>Plantago major</i>
Bugle	<i>Ajuga reptans</i>
Burdock	<i>Arctium minus</i>
Canadian fleabane	<i>Erigeron canadensis</i>
Cherry species	<i>Prunus</i> sp.
Chickweed	<i>Stellaria media</i>
Cleavers	<i>Galium aparine</i>
Cock's foot	<i>Dactylis glomerata</i>
Common bent	<i>Agrostis capillaris</i>
Common fleabane	<i>Pulicaria dysenterica</i>
Common hogweed	<i>Heracleum sphondylium</i>
Common knapweed	<i>Centaurea nigra</i>
Common milkwort	<i>Polygala vulgaris</i>
Common nettle	<i>Urtica dioica</i>
Common ragwort	<i>Senecio jacobaea</i>
Cowslip	<i>Primula veris</i>
Creeping buttercup	<i>Ranunculus repens</i>
Creeping cinquefoil	<i>Potentilla reptans</i>
Crested dog's-tail	<i>Cynosurus cristatus</i>
Crosswort	<i>Cruciata laevipes</i>
Curled dock	<i>Rumex crispus</i>

English name	Scientific name
Cut-leaved crane's-bill	<i>Geranium dissectum</i>
Daisy	<i>Bellis perennis</i>
Dandelion	<i>Taraxacum</i> agg.
Dog rose	<i>Rosa canina</i> agg.
Dog's mercury	<i>Mercurialis perennis</i>
Dogwood	<i>Cornus sanguinea</i>
Elder	<i>Sambucus nigra</i>
Enchanter's-nightshade	<i>Circaea lutetiana</i>
English elm	<i>Ulmus minor</i>
European larch	<i>Larix decidua</i>
False oat-grass	<i>Arrhenatherum elatius</i>
Field maple	<i>Acer campestre</i>
Germander speedwell	<i>Veronica chamaedrys</i>
Greater plantain	<i>Plantago major</i>
Ground ivy	<i>Glechoma hederacea</i>
Guelder rose	<i>Viburnum opulus</i>
Hard shield-fern	<i>Polystichum aculeatum</i>
Hawkweed species	<i>Picris</i> sp.
Hawthorn	<i>Crataegus monogyna</i>
Hazel	<i>Corylus avellana</i>
Holly	<i>Ulex europaeus</i>
Ivy	<i>Hedera</i> sp.
Lady's bedstraw	<i>Galium verum</i>
Lesser celandine	<i>Ranunculus ficaria</i>
Lime species	<i>Tilia</i> sp.

English name	Scientific name
Lords-and-ladies	<i>Arum maculatum</i>
Meadow fescue	<i>Festuca pratensis</i>
Parsley piert	<i>Aphanes arvensis</i> agg.
Pedunculate oak	<i>Quercus robur</i>
Perennial rye-grass	<i>Lolium perenne</i>
Pineappleweed	<i>Matricaria discoidea</i>
Primrose	<i>Primula vulgaris</i>
Red campion	<i>Silene dioica</i>
Red clover	<i>Trifolium pratense</i>
Ribwort plantain	<i>Plantago lanceolata</i>
Rosebay willowherb	<i>Chamerion angustifolium</i>
Rough meadow-grass	<i>Poa trivialis</i>
Scot's pine	<i>Pinus sylvestris</i>
Self-heal	<i>Prunella vulgaris</i>
Sheep's sorrel	<i>Rumex acetosella</i>
Silver birch	<i>Betula pendula</i>
Silverweed	<i>Potentilla anserine</i>
Small-flowered buttercup	<i>Ranunculus parviflorus</i>
Smaller cat's tail	<i>Phleum bertolonii</i>
Smooth bedstraw	<i>Cruciata laevipes</i>
Soft brome	<i>Bromus hordeaceus</i>
Spear thistle	<i>Cirsium vulgare</i>
Spindle	<i>Euonymus europaeus</i>
Sweet chestnut	<i>Castanea sativa</i>
Sweet vernal-grass	<i>Anthoxanthum odoratum</i>

English name	Scientific name
Sycamore	<i>Acer pseudoplatanus</i>
Rough poppy	<i>Papaver hybridum</i>
Thyme-leaved sandwort	<i>Arenaria serpyllifolia</i>
White clover	<i>Trifolium repens</i>
White dead-nettle	<i>Lamium album</i>
Wild cherry	<i>Prunus avium</i>
Wood anemone	<i>Anemone nemorosa</i>
Wood avens	<i>Geum urbanum</i>
Wood false brome	<i>Brachypodium sylvaticum</i>
Wood speedwell	<i>Veronica montana</i>
Wood spurge	<i>Euphorbia amygdaloides.</i>
Yarrow	<i>Achillea millefolium</i>
Yellow archangel	<i>Lamium galeobdolon</i>
Yorkshire fog	<i>Holcus lanatus</i>
Invasive non-native plant species	
Cotoneaster	<i>Cotoneaster sp.</i>
Himalayan balsam	<i>Impatiens glandulifera</i>
Japanese knotweed	<i>Reynoutria japonica</i>
Rhododendron	<i>Rhododendron ponticum</i>
Snowberry	<i>Symphoricarpos albus</i>

