

Hornsea Project Three
Offshore Wind Farm



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Environmental Statement:
Volume 6, Annex 1.2 – Abstraction Licences and Source Protection Zones

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Hornsea 3
Offshore Wind Farm

Orsted

Environmental Impact Assessment

Environmental Statement

Volume 6

Annex 1.2 – Abstraction Licences and Source Protection Zones

Liability

This report has been prepared by RPS, with all reasonable skill, care and diligence within the terms of their contract with Orsted Power (UK) Ltd.

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This report is also downloadable from the Hornsea Project Three offshore wind farm website at:

www.hornseaproject3.co.uk

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Front cover picture: Kite surfer near a UK offshore wind farm © Orsted Hornsea Project Three (UK) Ltd., 2018.

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Acronyms

Acronym	Description
EA	Environment Agency
HVAC	High Voltage Alternating Current
HVDC	High Voltage Direct Current
SPZ	Source Protection Zone

Units

Unit	Description
m	Metre (distance)

1. Introduction

1.1 Purpose

- 1.1.1.1 This annex sets out the groundwater abstraction licences within the Hornsea Three geology and ground conditions study area, as defined in volume 3, chapter 2: Geology and Ground Conditions, and has been used to inform the baseline and impact assessment included in the same chapter.
- 1.1.1.2 Abstraction licences are regulated by the Environment Agency (EA) and local authorities. Details of the licences within the Hornsea Three geology and ground conditions study area have been obtained from Groundsure Limited, the EA and the local authorities relevant to Hornsea Three (North Norfolk District Council, Broadland District Council and South Norfolk Council). In some cases, the data provided by these groups includes abstraction licences that have been revoked or replaced by a more recent licensing system. This annex only identifies the current abstraction licences.
- 1.1.1.3 Private groundwater supplies within the Hornsea Three geology and ground conditions study area have also been identified. These supplies typically involve relatively small abstractions of groundwater and a licence is not required. However, they demonstrate how the groundwater resource is being utilised, and therefore are included in Figure 1.1.
- 1.1.1.4 Source Protection Zones (SPZs) are defined by the EA around groundwater resources such as wells and boreholes for public drinking water supplies. There are different SPZs as set out below, with SPZ1 being the most sensitive to contamination:
- SPZ I – inner protection zone;
 - SPZ II – outer protection zone;
 - SPZ III – source catchment protection zone; and
 - Zone of special interest.
- 1.1.1.5 A definition of the SPZs is provided in volume 3, chapter 1: Geology and Ground Conditions. Whilst the abstractions are located some distance from the onshore elements of Hornsea Three, the SPZs around some of these abstractions fall within the Hornsea Three geology and ground conditions study area.
- 1.1.1.6 The abstraction licences and private water supplies are set out in Table 1.1 below and shown on Figure 1.1 (sheets 1 to 9). The SPZs are also shown on Figure 1.1.

Table 1.1: Abstraction licences and private water supplies.

Distance from onshore cable corridor (m)	Easting	Northing	EA Reference	Abstracted from	Name	Licensed abstraction or private water supply	Abstraction use
960	611790	340840	AN/034/0004/002	Eastern Area - Chalk	Borehole at Breck Farm Weybourne	Licensed abstraction	Spray Irrigation - Direct
213	610200	340600	7/34/04/*G/0063	Eastern Area - Chalk	Bore, Warren Farm, Kelling	Licensed abstraction	Spray Irrigation - Direct
1,000	612150	340300	7/34/04/*G/0066	Eastern Area - Chalk	Bore at Bodham	Licensed abstraction	Spray Irrigation - Direct
300	611650	337190	7/34/04/*G/0010 (Deregulated)	Eastern Area - Chalk	n/a	Private water supply	Deregulated – assume domestic use.
32	611620	334400	n/a	Eastern Area - Chalk	Bore at Barningham	Licensed abstraction	General Farming and Domestic
298	611620	333400	7/34/06/*G/0032 (Deregulated)	Eastern Area - Chalk	n/a	Private water supply	Deregulated – assume domestic use.
205	611582	333293	7/34/06/*G/0318A	Eastern Area - Chalk	Borehole at Little Barningham Norfolk	Licensed abstraction	Spray Irrigation - Direct
376	611450	332450	n/a	Eastern Area - Chalk	Domestic Shrub Farm	Licensed abstraction	Domestic
403	611450	332340	7/34/06/*G/0144 (Deregulated)	Eastern Area - Chalk	n/a	Licensed abstraction	Deregulated – assume domestic use.
403	611450	332340	n/a	Eastern Area - Chalk	Borehole at Shrub Farm, Corpusty (L/31/663)	Licensed abstraction	Domestic
943	611600	330600	7/34/06/*G/0329	Eastern Area - Chalk	Borehole at Saxthorpe	Licensed abstraction	Spray Irrigation - Direct
61	609980	328780	7/34/06/*G/0218	Eastern Area - Chalk	Bore at Red Pit Farm	Licensed abstraction	General Farming and Domestic
61	609980	328780	7/34/06/*G/0218	Eastern Area - Chalk	Bore at Red Pit Farm	Licensed abstraction	General Farming and Domestic
147	609800	328400	n/a	Eastern Area - Chalk	Crabgate Farm	Licensed abstraction	Domestic
192	609755	328325	7/34/06/*G/0023 (Deregulated)	Eastern Area - Chalk	Moat Farm	Licensed abstraction	Deregulated – assume domestic use.
149	609800	328300	n/a	Eastern Area - Chalk	Moat Farm	Licensed abstraction	Domestic
37	609915	328274	n/a	Eastern Area - Chalk	New Court	Licensed abstraction	Domestic
276	609765	327475	n/a	Eastern Area - Chalk	Deregulated Crabgate Farm	Private water supply	Deregulated – assume domestic use.
472	610700	327200	n/a	Eastern Area - Chalk	Grove End	Licensed abstraction	Domestic
312	610630	326600	n/a	Eastern Area - Chalk	Deregulated Fieldhouse Farm	Private water supply	Deregulated – assume domestic use.
0	612370	322350	7/34/11/*G/0409	Eastern Area - Chalk	Bore at Booton	Licensed abstraction	Spray Irrigation - Direct
327	612300	320500	n/a	Eastern Area - Chalk	Park View	Licensed abstraction	Domestic

Distance from onshore cable corridor (m)	Easting	Northing	EA Reference	Abstracted from	Name	Licensed abstraction or private water supply	Abstraction use
224	612190	320500	7/34/11*/G/0377 (Deregulated)	Eastern Area - Chalk	n/a	Private water supply	Deregulated – assume domestic use.
43	612120	319900	7/34/11*/G/0332 (Deregulated)	Eastern Area - Chalk	n/a	Private water supply	Deregulated – assume domestic use.
344	612400	319100	7/34/11*/G/0509 (Deregulated)	Eastern Area - Chalk	n/a	Private water supply	Deregulated – assume domestic use.
373	611590	318970	7/34/11*/G/0469	Eastern Area - Chalk	Chalk B/H - Gt.Witchingham NO.2	Licensed abstraction	General Use Relating to Secondary Category (Medium Loss)
373	611590	318940	7/34/11*/G/0469	Eastern Area - Chalk	Chalk B/H - Gt.Witchingham NO.1	Licensed abstraction	General Use Relating to Secondary Category (Medium Loss)
212	612460	318790	7/34/11*/G0101 (Deregulated)	Eastern Area - Chalk	n/a	Private water supply	Deregulated – assume domestic use.
546	611580	318700	7/34/11*/G/0364	Eastern Area - Chalk	Bore 3, Gt Witchingham	Licensed abstraction	General Use Relating to Secondary Category (Medium Loss)
546	611620	318690	7/34/11*/G/0364	Eastern Area - Chalk	Bore 4, Gt Witchingham	Licensed abstraction	General Use Relating to Secondary Category (Medium Loss)
546	611550	318680	7/34/11*/G/0364	Eastern Area - Chalk	Bore 2, Gt Witchingham	Licensed abstraction	General Use Relating to Secondary Category (Medium Loss)
546	611540	318650	7/34/11*/G/0364	Eastern Area - Chalk	Bore 1, Gt Witchingham	Licensed abstraction	General Use Relating to Secondary Category (Medium Loss)
913	611140	318630	7/34/11*/G/0400	Eastern Area - Chalk	Bore at Gt Witchingham Hall	Licensed abstraction	General Farming and Domestic
138	612300	317100	n/a	Eastern Area - Chalk	White House Farm	Licensed abstraction	Domestic
254	612880	317090	7/34/11*/G/0512 (Deregulated)	Eastern Area - Chalk	n/a	Private water supply	Deregulated – assume domestic use.
36	612400	317000	n/a	Eastern Area - Chalk	Street Farm House	Licensed abstraction	Domestic
259	611400	315810	7/34/11*/G/0248 (Deregulated)	Eastern Area - Chalk	n/a	Private water supply	Deregulated – assume domestic use.
247	611869	315108	7/34/11*/G/0295	Eastern Area - Chalk	Bore, Field Farm, Weston Longville	Licensed abstraction	Spray Irrigation – Direct

Distance from onshore cable corridor (m)	Easting	Northing	EA Reference	Abstracted from	Name	Licensed abstraction or private water supply	Abstraction use
951	613280	314340	7/34/11*/G/0425	Eastern Area - Chalk	Bore at Ringland, Norfolk	Licensed abstraction	General Farming and Domestic; Spray Irrigation – Direct; Spray Irrigation – Storage
0	612230	314130	n/a	Eastern Area - Chalk	Well at Ringland	Licensed abstraction	General Farming and Domestic
0	612230	314130	7/34/11*/G/0543 (Deregulated)	Eastern Area - Chalk	n/a	Licensed abstraction	Deregulated – assume domestic use.
246	613200	311700	n/a	Eastern Area - Chalk	Abstraction at Easton	Licensed abstraction	Domestic
269	613220	311610	7/34/12*/G/0068 (Deregulated)	Eastern Area - Chalk	n/a	Private water supply	Deregulated – assume domestic use.
294	613030	310210	7/34/13*/G/0166	Eastern Area - Chalk	Bore at Easton	Licensed abstraction	Make-Up or Top Up Water and Spray Irrigation – Direct
363	613710	309840	AN/034/0013/018	Eastern Area - Chalk	Borehole at Easton College Norwich Norfolk	Licensed abstraction	Heat Pump and Drinking, Cooking, Sanitary, Washing, (Small Garden) – Household
281	613870	309740	AN/034/0013/011	Eastern Area - Chalk	Borehole B at Easton College, Marlingford	Licensed abstraction	Potable Water Supply – Direct
281	613800	309700	AN/034/0013/011	Eastern Area - Chalk	Borehole A at Easton College, Marlingford	Licensed abstraction	Potable Water Supply – Direct
65	613100	309600	n/a	Eastern Area - Chalk	Borehole at Marlingford Sports Club	Licensed abstraction	Drinking, Cooking, Sanitary, Washing, (Small Garden) - Commercial/Industrial/Public Services
65	613100	309600	(Deregulated) 7/34/13*/G/0267	Eastern Area - Chalk	n/a	Licensed abstraction	Deregulated – assume domestic use.
1028	612350	308690	7/34/13*/G/0243	Eastern Area - Chalk	Borehole, Hall Farm, Marlingford	Licensed abstraction	General Farming and Domestic
1028	613450	308660	7/34/13*/G/0243	Eastern Area - Glacial Sands/Gravels	Borehole, Chapel Farm, Marlingford	Licensed abstraction	General Farming and Domestic
565	615226	308046	7/34/13*/G/0161	Eastern Area - Chalk	Borehole at Bawburgh, Norfolk	Licensed abstraction	Spray Irrigation - Direct
149	615110	306780	n/a	Eastern Area - Chalk	Borehole at Little Melton	Licensed abstraction	General Farming and Domestic
149	615110	306780	7/34/13*/G/0251 (Deregulated)	Eastern Area - Chalk	n/a	Licensed abstraction	Deregulated – assume domestic use.

Distance from onshore cable corridor (m)	Easting	Northing	EA Reference	Abstracted from	Name	Licensed abstraction or private water supply	Abstraction use
806	617190	306700	7/34/13*/G/0287A	Eastern Area - Chalk	Borehole at Training Ground, Colney	Licensed abstraction	Spray Irrigation - Direct
619	617001	306601	AN/034/0013/016	Eastern Area - Chalk	Borehole at Little Melton	Licensed abstraction	Spray Irrigation - Direct
13	616200	306200	n/a	Eastern Area - Chalk	Little Melton	Licensed abstraction	Domestic
414	615550	306100	7/34/13*/G/0292A	Eastern Area - Chalk	Bore at Little Melton, Norwich	Licensed abstraction	General Washing/Process Washing
417	617210	305880	7/34/13*/G/0079	Eastern Area - Glacial Sands/Gravels	Well, Thickthorn Farm	Licensed abstraction	General Farming and Domestic
417	617680	305750	7/34/13*/G/0079	Eastern Area - Chalk	Bore, Thickthorn Farm	Licensed abstraction	Spray Irrigation - Direct
413	616330	305020	7/34/13*/G/0164	Eastern Area - Chalk	Borehole, Hethersett	Licensed abstraction	General Use Relating to Secondary Category (Medium Loss) and General Farming and Domestic
245	616500	304960	7/34/13*/G/0258A	Eastern Area - Chalk	Borehole at Hethersett	Licensed abstraction	Spray Irrigation - Storage
361	619350	304240	7/34/13*/G/0179	Eastern Area - Chalk	Bore, Intwood Hall, Keswick	Licensed abstraction	Drinking, Cooking, Sanitary, Washing, (Small Garden) - Household
361	619120	304130	7/34/13*/G/0179	Eastern Area - Chalk	Bore, Intwood Hall, Keswick	Licensed abstraction	Spray Irrigation - Direct
361	618880	304040	7/34/13*/G/0179	Eastern Area - Chalk	Bore, Hall Farm, Keswick	Licensed abstraction	General Farming and Domestic
48	620100	303500	n/a	Eastern Area - Chalk	Swardeston	Licensed abstraction	Domestic
686	622035	303426	AN/034/0014/003	Eastern Area - Chalk	Borehole at Swardeston Norfolk	Licensed abstraction	Dust Suppression; Mineral Washing and Process Water
220	620640	303280	7/34/13*/G/0211	Eastern Area - Chalk	Bore, Sports Ground, Swardeston	Licensed abstraction	Drinking, Cooking, Sanitary, Washing, (Small Garden) - Commercial/Industrial/Public
199	621500	303100	n/a	Eastern Area - Chalk	The Hayloft	Licensed abstraction	Domestic
232	621510	303040	7/34/14*/G/0125 (Deregulated)	Eastern Area - Chalk	n/a	Private water supply	Deregulated – assume domestic use.
199	621580	302940	7/34/14*/G/0023 (Deregulated)	Eastern Area - Chalk	n/a	Private water supply	Deregulated – assume domestic use.
54	621400	302900	n/a	Eastern Area - Chalk	Woodland Farm	Licensed abstraction	Domestic
178	621600	302900	n/a	Eastern Area - Chalk	Domestic Abstraction	Licensed abstraction	Domestic

Distance from onshore cable corridor (m)	Easting	Northing	EA Reference	Abstracted from	Name	Licensed abstraction or private water supply	Abstraction use
69	621470	302860	7/34/13/*G/0201	Eastern Area - Chalk	Borehole at Mangreen Hall Farm, Swardston	Licensed abstraction	General Farming and Domestic
598	622760	302680	AN/034/0014/001	Eastern Area - Chalk	Borehole at Dunston Common, Stoke Holy Cross, Norfolk	Licensed abstraction	Transfer Between Sources (Post Water Act 2003)
528	622700	302150	7/34/14/*G/0112	Eastern Area - Chalk	Borehole No.2 at Dunston Hall, Norwich	Licensed abstraction	Drinking, Cooking, Sanitary, Washing, (Small Garden) - Commercial/Industrial/Public Services
528	622600	302050	7/34/14/*G/0112	Eastern Area - Chalk	Borehole No.1 at Dunston Hall, Norwich	Licensed abstraction	Drinking, Cooking, Sanitary, Washing, (Small Garden) - Commercial/Industrial/Public Services

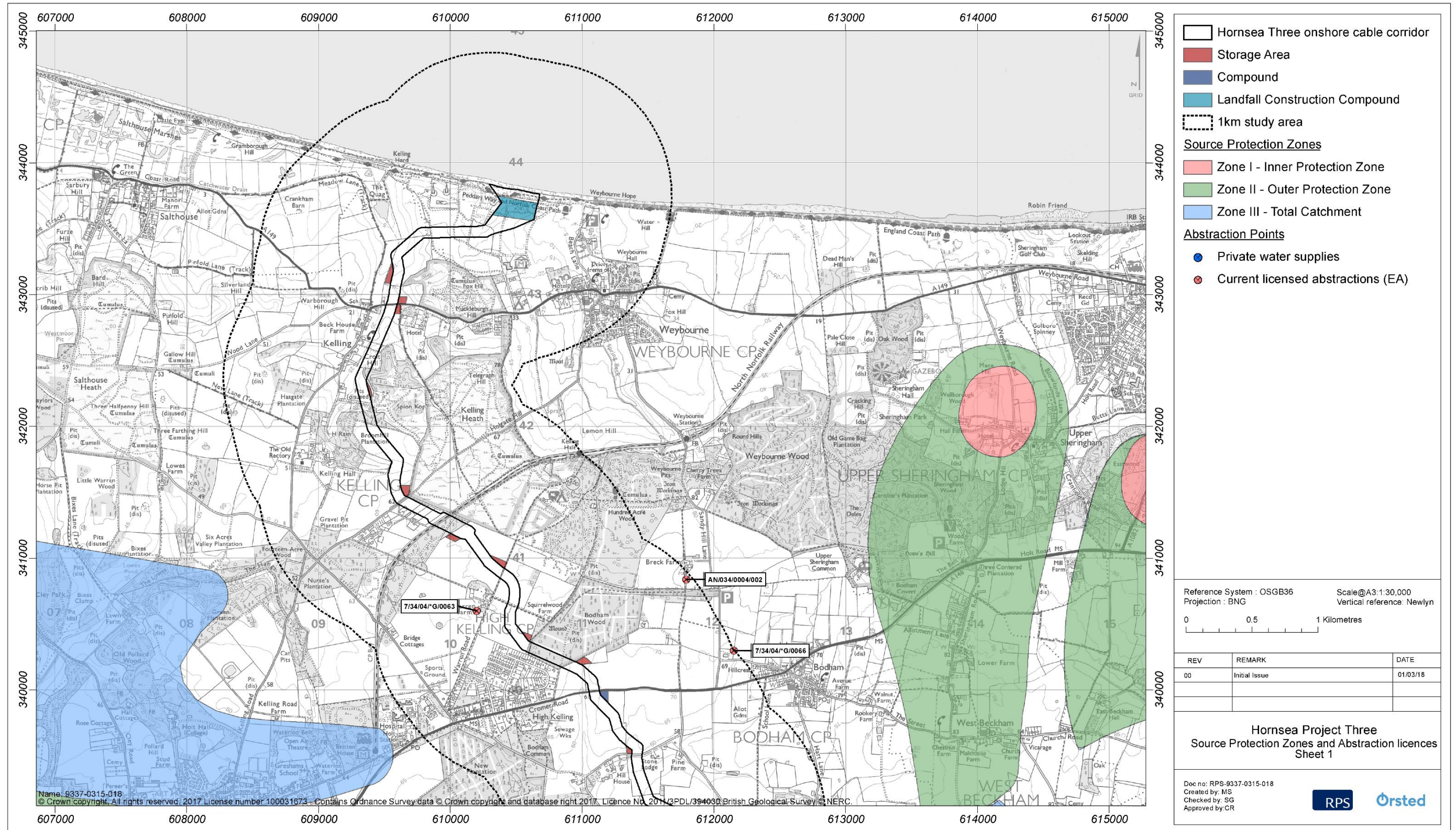


Figure 1.1: Source Protection Zones and abstraction licences.

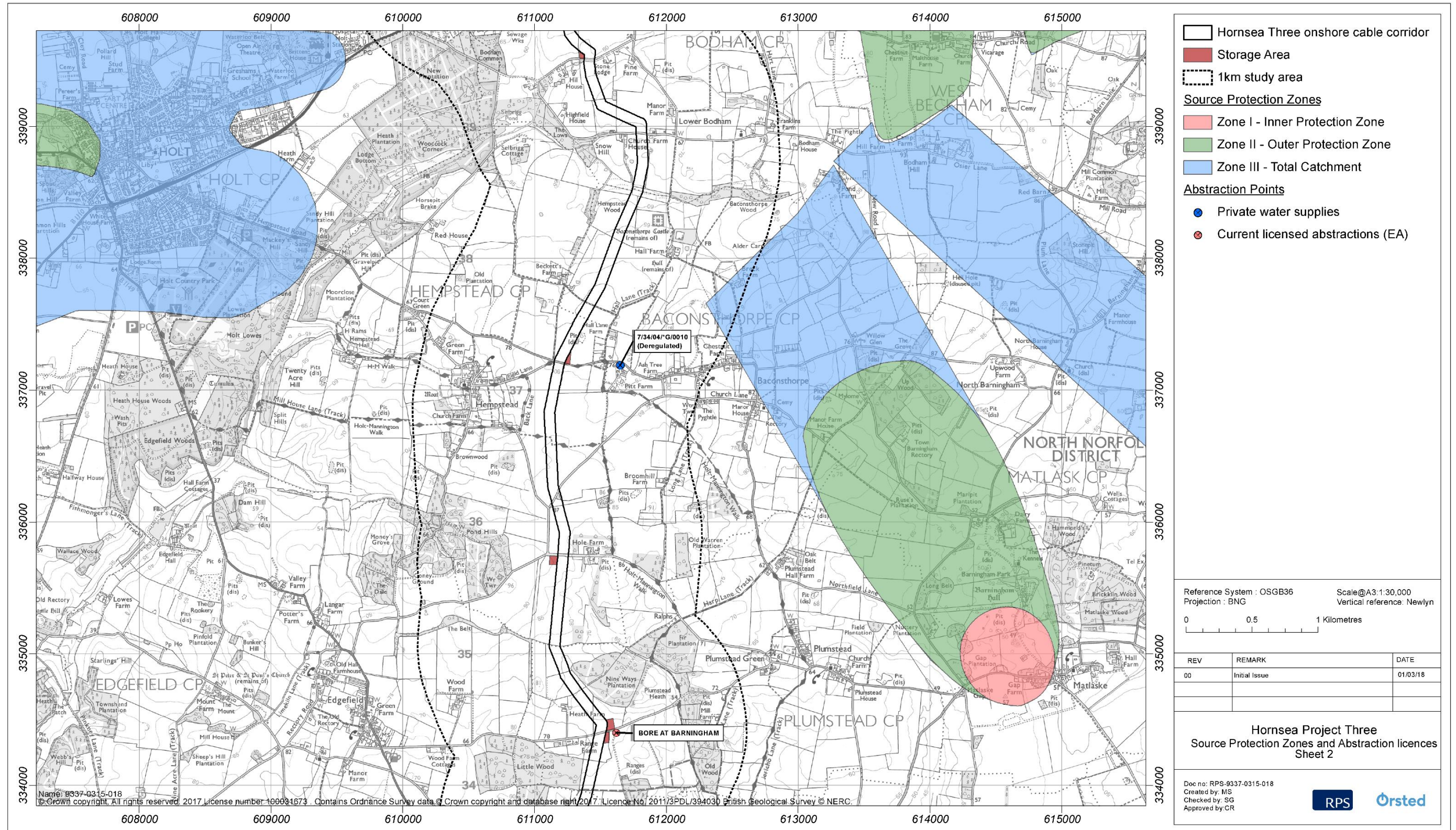


Figure 1.1: Source Protection Zones and abstraction licences.

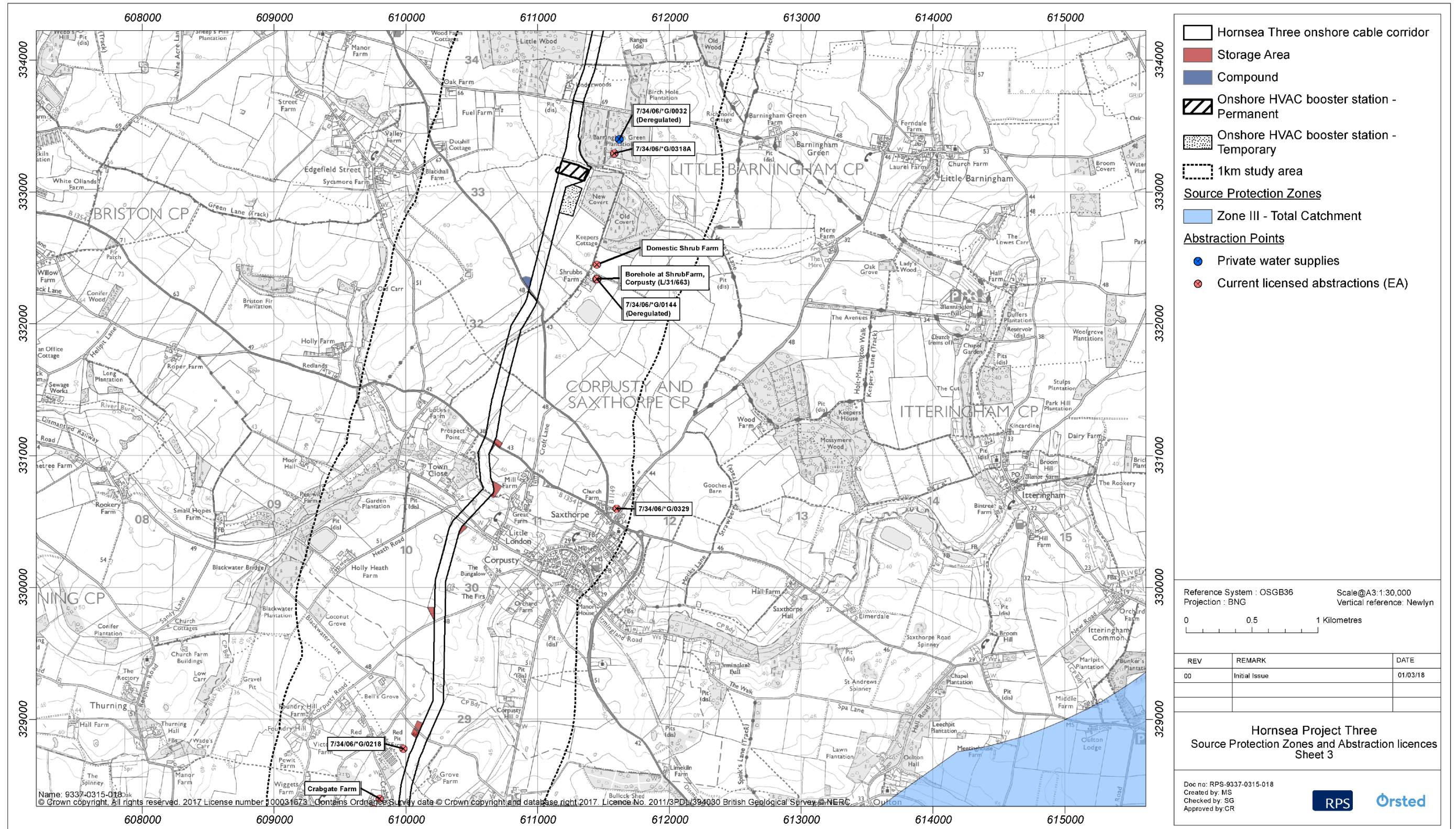


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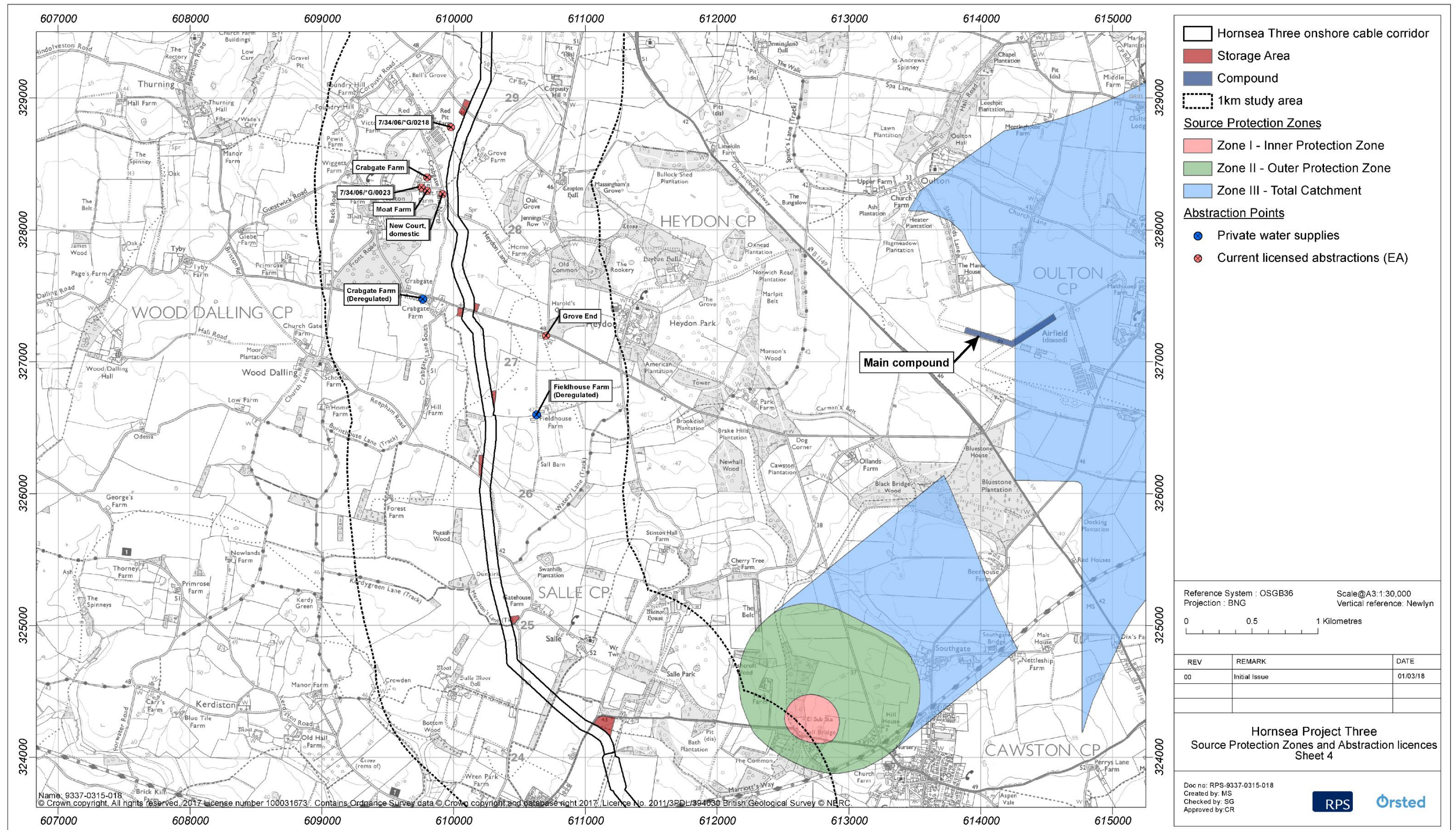


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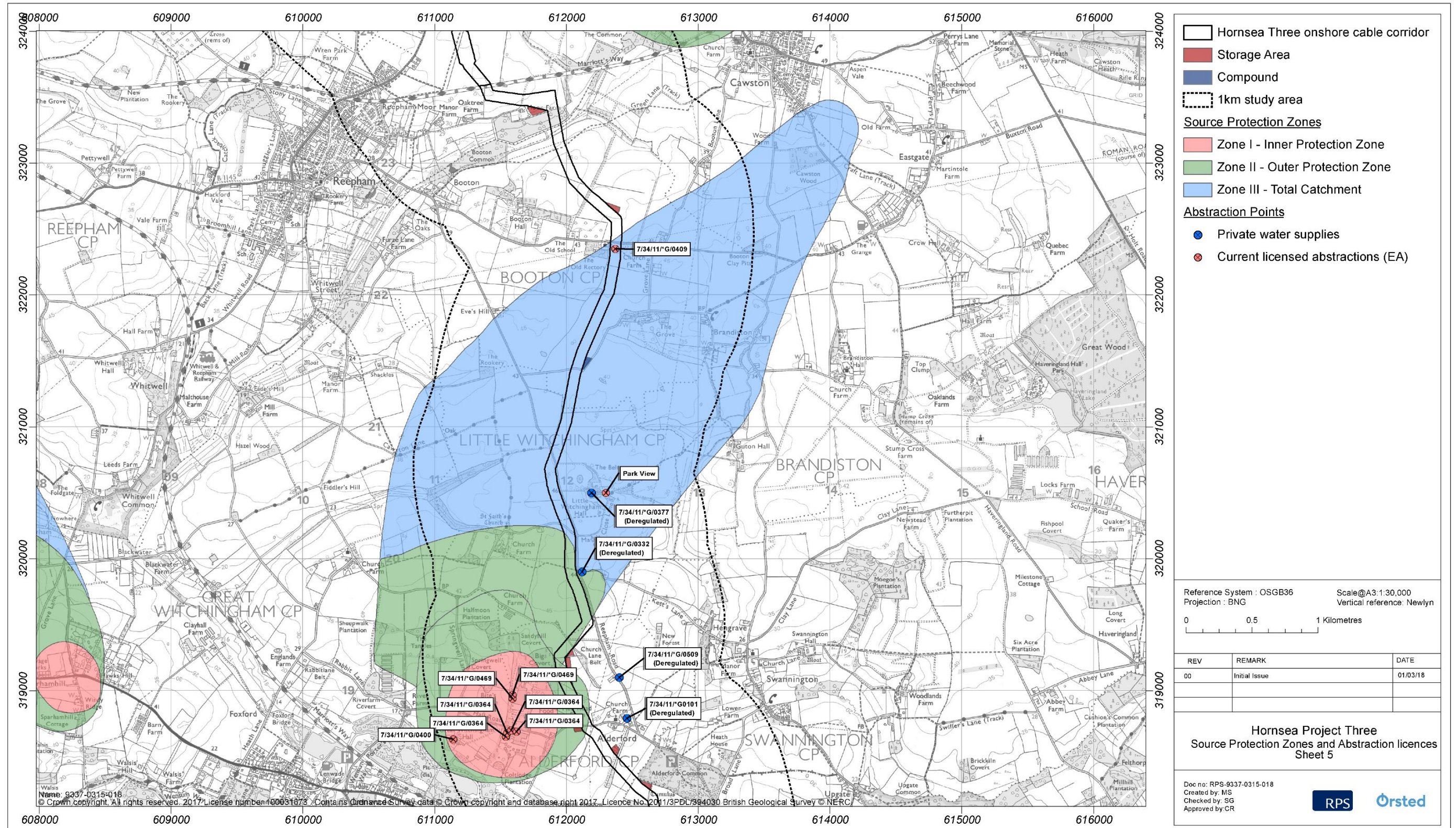


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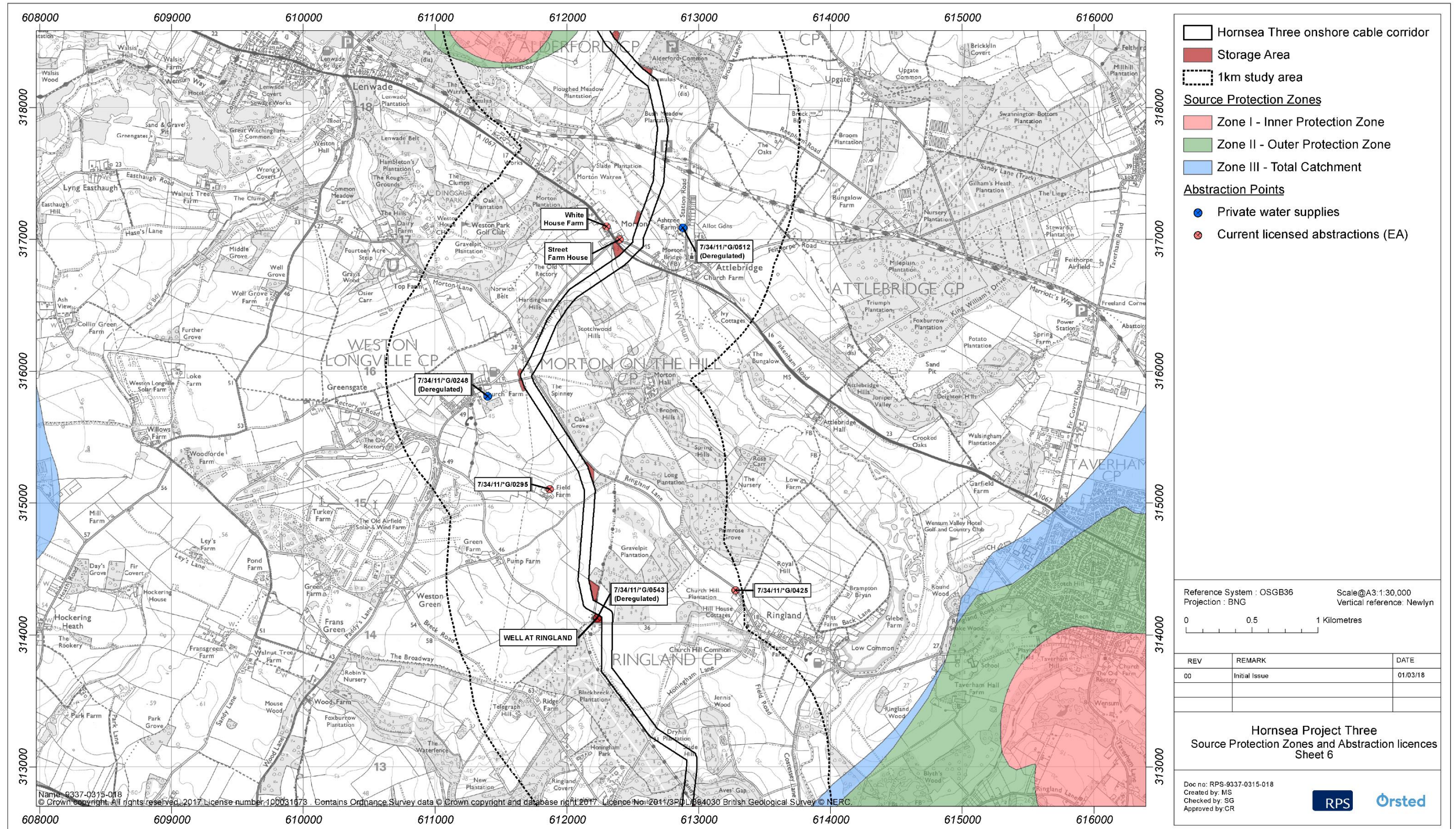


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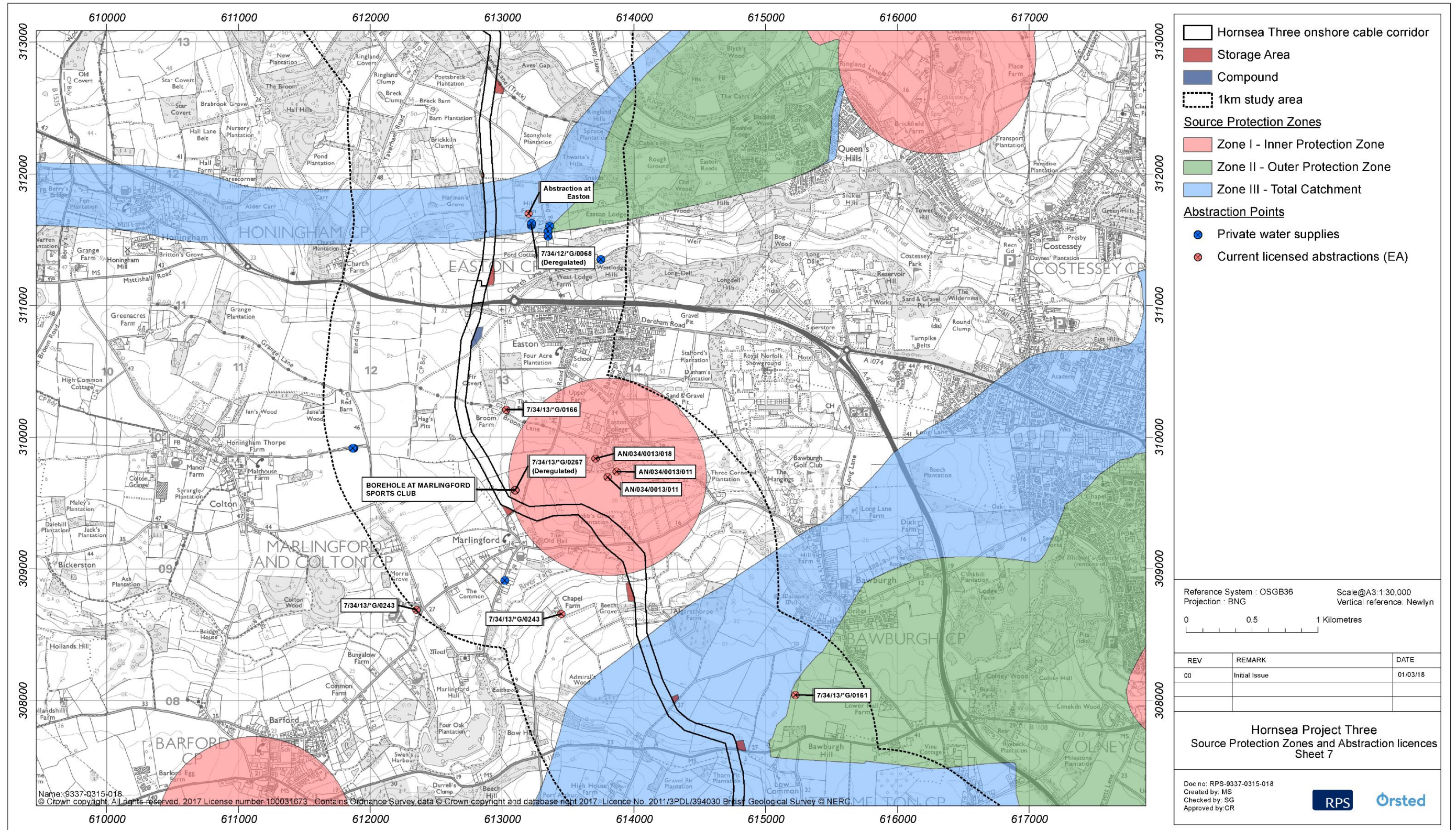


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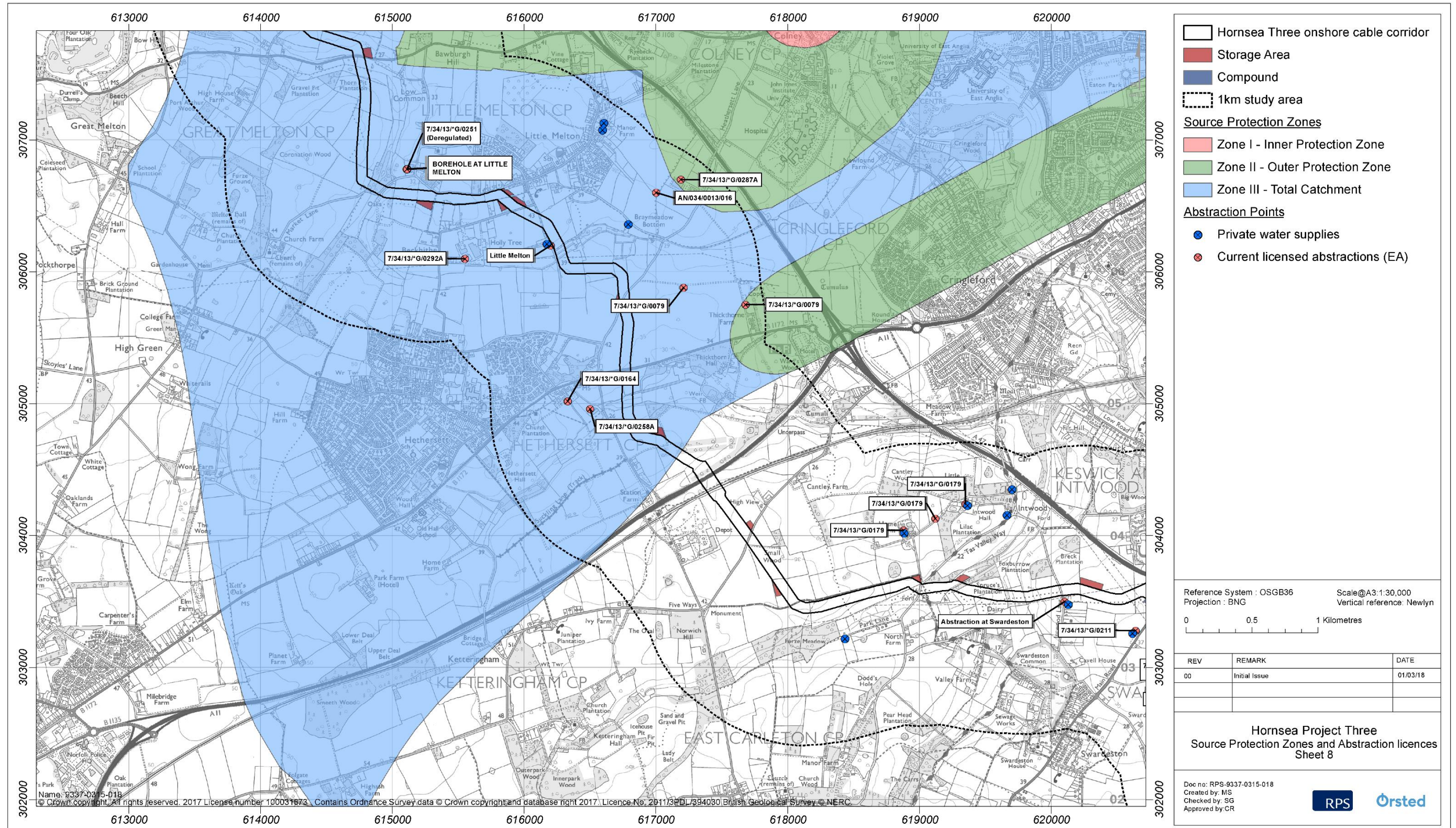


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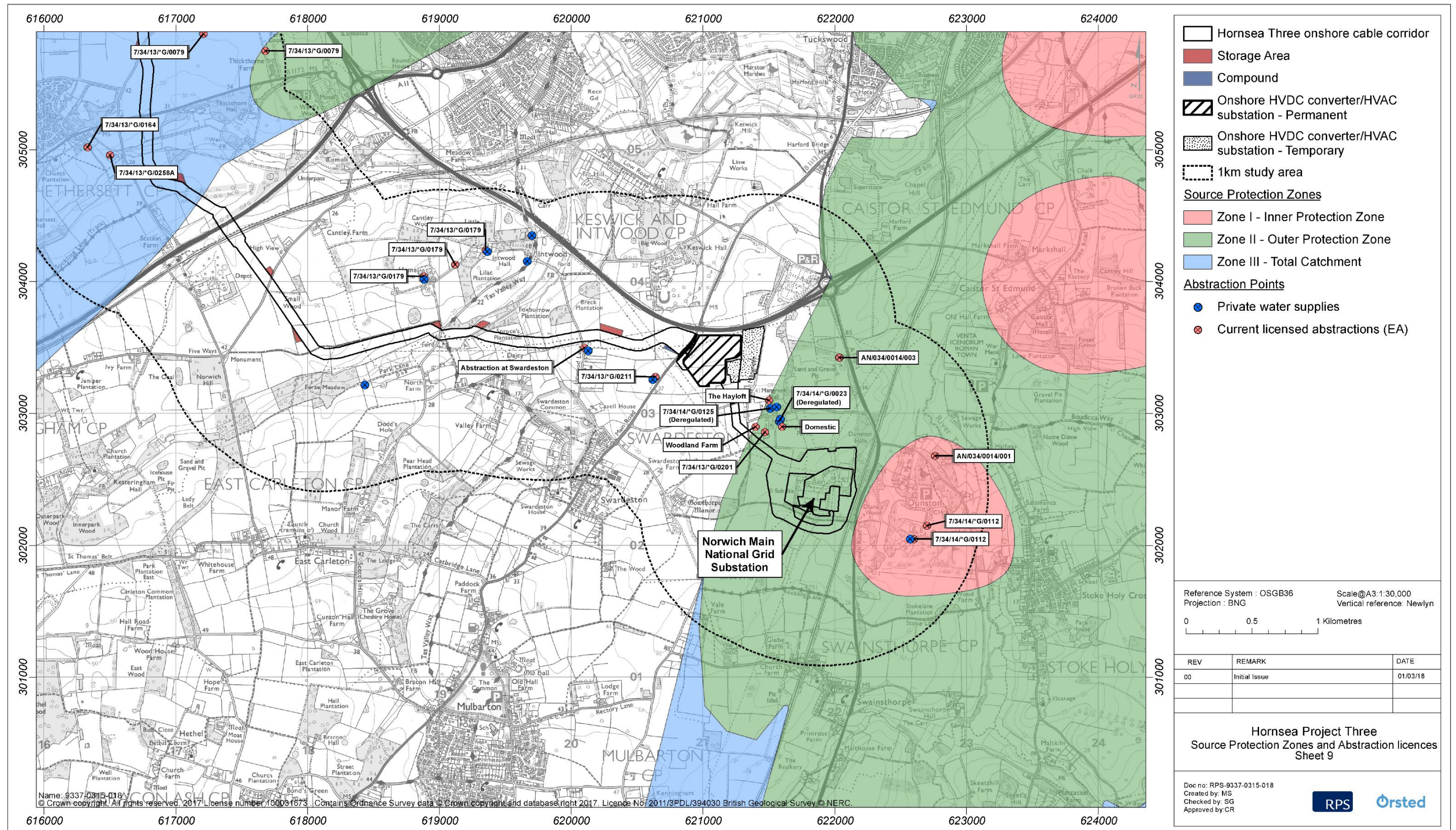


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