



ARCUS

BIODIVERSITY METRIC ASSESSMENT

SOAY SOLAR FARM AND GREENER GRID PARK

STATKRAFT UK LTD

NOVEMBER 2021



Prepared By:

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1 INTRODUCTION

Arcus Consultancy Services Limited (Arcus) has been instructed by Statkraft UK LTD to undertake a Biodiversity Metric Assessment (BMA) of land at Thornton, near York, East Riding of Yorkshire (the Site), approximately centred on National Grid Reference SE 76204 46514.

The planning application is for a proposed Solar Farm and Greener Grid Park (the Development) which includes associated soft and hard landscaping.

The layout and technical details of the Development are provided in the associated Planning, Design and Access Statement (PDAS) and accompanying figures. The Site Layout is shown in Figure 2 of the planning application.

The updated National Planning Policy Framework¹ (NPPF) published in July 2021 states (Paragraph 174) that:

"Planning Policies and decisions should contribute to and enhance the natural and local environment by... minimising impacts on and providing net gains for biodiversity, including by establishing coherent ecological networks that are more resilient to current and future pressures."

The Planning Policy Guidance (PPG) for the Natural Environment², updated in July 2019 states (paragraph 020) that:

"Net gain in planning describes an approach to development that leaves the natural environment in a measurably better state than it was beforehand."

The updated PPG provides examples of how biodiversity net gain can be achieved. Suggested measures include "creating new habitats" and "enhancing existing habitats".

This report uses the Department for Environment, Food & Rural Affairs (DEFRA) Biodiversity Metric 2.0 Calculation Tool Beta Test³ (republished December 2019) to produce a quantifiable amount of biodiversity units produced post-construction, and compare them to the baseline biodiversity unit's pre-construction to determine if the Development will result in a net gain or net loss in biodiversity.

¹ Ministry of Housing, Communities and Local Government (2021) National Planning Policy Framework [Online] Available at: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1004408/NPPF_JULY_2021.pdf (Accessed 21/07/21)

² Ministry of Housing, Communities and Local Government (July 2019) Natural Environment [Online] Available at: <https://www.gov.uk/guidance/natural-environment> (Accessed 21/07/21)

³ Natural England (2019) the Biodiversity Metric 2.0 [Online] Available at: <http://publications.naturalengland.org.uk/publication/5850908674228224> (Accessed 21/07/21)

2 METHODOLOGY

2.1 Overview

This report has been produced in accordance with the methodology set out in the following guidance documents:

- The Biodiversity Metric 2.0 – User Guide – Beta Test⁴; and
- The Biodiversity Metric 2.0 – Technical Supplement – Beta Test⁵.

Appendix 1 shows the inputs and results produced by the metrics, also included is the completed metric workbook. The Phase 1 Habitat Survey Map and Landscape and Ecology Mitigation and Enhancement Plan are presented in Appendices 2 and 3 respectively.

The following documents submitted as part of the Application have been used to inform this report:

- Preliminary Ecological Appraisal and Phase 1 Habitat Survey Map; and
- Landscape and Ecology Mitigation and Enhancement Plan.

2.2 On-site Assessment

2.2.1 *Baseline, Pre-construction Biodiversity Units*

Baseline habitat information was taken from the Phase 1 Habitat Survey undertaken in December 2019 by a professional Ecologist. An updated site assessment was completed in July 2021 identified baseline habitats within the Site include:

- Arable land;
- Poor semi-improved grassland;
- Improved grassland;
- Standing Water- pond;
- Running Water- ditches;
- Broadleaved Woodland (semi-natural and plantation);
- Mixed Woodland (plantation);
- Bracken;
- Buildings;
- Tall ruderal vegetation;
- Bare ground;
- Hedgerows; and
- Lines of trees.

The location of these habitats can be found in Appendix 2.

The list of habitats provided in the DEFRA calculator are not all directly comparable with the habitats identified within the Site. As a result, professional judgement has been used to best match habitat types to those available within the DEFRA calculator. This follows the approach set out in the applicable guidance documents.

The condition of the habitats has been determined by a professional Ecologist and the area or length of habitats have been estimated using online mapping.

2.2.2 *Post Construction Biodiversity*

The creation of the access route will require removal of small areas of treeline to accommodate an access track. The area of the Site containing the Development will also

⁴ Natural England (2019) The Biodiversity Metric 2.0 – User Guide – Beta Version [Online] Available at: <http://publications.naturalengland.org.uk/publication/5850908674228224> (Accessed 21/07/21)

⁵ Natural England (2019) The Biodiversity Metric 2.0 – Technical Supplement – Beta Edition [Online] Available at: <http://publications.naturalengland.org.uk/publication/5850908674228224> (Accessed 21/07/21)

predominantly require the removal of grassland and cropland habitat, with another small area of treeline habitat between the Greener Grid Park area and the existing Thornton National Grid Substation removed to accommodate the 'wayleave' for connecting overhead lines which will be subject to further design by National Grid.

Grassland to arable field verges will be retained, whilst grazing grassland will be created throughout the Site under the solar panels and within existing arable fields. Outside of the grazing habitat areas, wildflower grassland, scrub and woodland will be created. Additional native species hedgerows with trees will be planted, whilst existing hedgerows will be enhanced by gapping up and by the addition of tree planting. Further details on habitat creation and prescriptions can be found in the Biodiversity Enhancement Management Plan (BEMP).

Following construction, new habitats as stipulated in the Landscape and Ecology Mitigation and Enhancement Plan will be created which include:

- Developed Land – the footprint of the Development and access track;
- Native species tree planting;
- Native species hedgerow;
- Native species woodland;
- Native species shrub planting;
- Mixed native scrub and tussock grassland;
- Grass meadow mix;
- Native species grass and wildflower mix;
- Native species tussock grassland; and
- Bird crop cover strips; and
- Sustainable Urban Drainage System (SuDS) Ponds.

3 RESULTS

3.1 On-site Assessment

Full results produced by the calculator can be found in Appendix 1 of this report.

The metric has shown there to be an 114.73 % net gain in biodiversity habitat units on-site. The number of habitat units on-site has increased from 318.60 to 684.14. There is also a 66.18% net gain in hedgerow units within the Site which have increased from 32.42 to 53.88.

3.2 Summary

Through habitat creation and enhancement, the Development will deliver an overall net gain of 114.73%.

APPENDIX 1 – BIODIVERSITY METRICS INPUTS AND RESULTS

Soay Solar

Headline Results

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results menu

On-site baseline	<i>Habitat units</i>	318.60
	<i>Hedgerow units</i>	32.42
	<i>River units</i>	0.00
On-site post-intervention (Including habitat retention, creation, enhancement & succession)	<i>Habitat units</i>	684.14
	<i>Hedgerow units</i>	53.88
	<i>River units</i>	0.00
Off-site baseline	<i>Habitat units</i>	0.00
	<i>Hedgerow units</i>	0.00
	<i>River units</i>	0.00
Off-site post-intervention (Including habitat retention, creation, enhancement & succession)	<i>Habitat units</i>	0.00
	<i>Hedgerow units</i>	0.00
	<i>River units</i>	0.00
Total net unit change (including all on-site & off-site habitat retention/creation)	<i>Habitat units</i>	365.54
	<i>Hedgerow units</i>	21.46
	<i>River units</i>	0.00
Total net % change (including all on-site & off-site habitat creation + retained habitats)	<i>Habitat units</i>	114.73%
	<i>Hedgerow units</i>	66.18%
	<i>River units</i>	0.00%

A-1 Site Habitat Baseline

Condense / Show Columns

Condense / Show Rows

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Ref	Habitats and areas			Habitat distinctiveness		Habitat condition		Ecological connectivity		
	Broad Habitat	Habitat type	Area (hectares)	Distinctiveness	Score	Condition	Score	Ecological connectivity	Connectivity	Connectivity multiplier
1	Cropland	Cropland - Cereal crops	115.412	Low	2	N/A - Agricultural	1	N/A	Assessment not appropriate	1
2	Urban	Urban - Vacant/derelict land/ bareground	7.181	Low	2	Poor	1	N/A	Assessment not appropriate	1
3	Urban	Urban - Developed land; sealed surface	0.214	V.Low	0	N/A - Other	0	N/A	Assessment not appropriate	1
4	Grassland	Grassland - Bracken	1.214	Medium	4	Poor	1	Low	Unconnected habitat	1
5	Grassland	Grassland - Bracken	0.33	Medium	4	Poor	1	Low	Unconnected habitat	1
6	Woodland and forest	Woodland and forest - Other woodland; broadleaved	0.851	Medium	4	Moderate	2	Medium	Moderately connected habitat	1.1
7	Woodland and forest	Woodland and forest - Other woodland; broadleaved	0.666	Medium	4	Poor	1	Low	Unconnected habitat	1
8	Woodland and forest	Woodland and forest - Other woodland; broadleaved	1.817	Medium	4	Poor	1	Low	Unconnected habitat	1
9	Woodland and forest	Woodland and forest - Lowland mixed deciduous woodland	0.284	High	6	Poor	1	Medium	Moderately connected habitat	1.1
10	Grassland	Grassland - Modified grassland	0.977	Low	2	Poor	1	Low	Unconnected habitat	1
11	Cropland	Cropland - Arable field margins tussocky	0.672	Medium	4	N/A - Agricultural	1	Low	Unconnected habitat	1
12	Grassland	Grassland - Modified grassland	18.278	Low	2	Poor	1	Low	Unconnected habitat	1
13	Heathland and shrub	Heathland and shrub - Mixed scrub	0.165	Medium	4	Poor	1	Low	Unconnected habitat	1
14	Lakes	Lakes - Ponds (Priority Habitat)	0.085	High	6	Moderate	2	Medium	Moderately connected habitat	1.1
15	Lakes	Lakes - Ponds (Priority Habitat)	0.066	High	6	Moderate	2	Medium	Moderately connected habitat	1.1
16	Lakes	Lakes - Ponds (Priority Habitat)	0.041	High	6	Moderate	2	Medium	Moderately connected habitat	1.1
17	Lakes	Lakes - Ditches	0.103	Medium	4	Poor	1	Low	Unconnected habitat	1
18	Lakes	Lakes - Ditches	0.117	Medium	4	Poor	1	Low	Unconnected habitat	1
19	Lakes	Lakes - Ditches	0.012	Medium	4	Fairly Poor	1.5	Low	Unconnected habitat	1
20	Lakes	Lakes - Ditches	0.049	Medium	4	Poor	1	Low	Unconnected habitat	1
21	Lakes	Lakes - Ditches	0.005	Medium	4	Fairly Poor	1.5	Low	Unconnected habitat	1
22	Lakes	Lakes - Ditches	0.034	Medium	4	Fairly Poor	1.5	Low	Unconnected habitat	1
23	Lakes	Lakes - Ditches	0.012	Medium	4	Fairly Poor	1.5	Low	Unconnected habitat	1
24	Lakes	Lakes - Ditches	0.013	Medium	4	Fairly Poor	1.5	Low	Unconnected habitat	1

25	Lakes	Lakes - Ditches	0.018	Medium	4	Poor	1	Low	Unconnected habitat	1
26	Lakes	Lakes - Ditches	0.029	Medium	4	Fairly Poor	1.5	Low	Unconnected habitat	1
27	Lakes	Lakes - Ditches	0.009	Medium	4	Fairly Poor	1.5	Low	Unconnected habitat	1
28	Lakes	Lakes - Ditches	0.022	Medium	4	Fairly Poor	1.5	Low	Unconnected habitat	1
29	Lakes	Lakes - Ditches	0.016	Medium	4	Fairly Poor	1.5	Low	Unconnected habitat	1
30	Lakes	Lakes - Ditches	0.011	Medium	4	Moderate	2	Low	Unconnected habitat	1
31	Lakes	Lakes - Ditches	0.005	Medium	4	Fairly Poor	1.5	Low	Unconnected habitat	1
32	Lakes	Lakes - Ditches	0.002	Medium	4	Poor	1	Low	Unconnected habitat	1
33	Woodland and forest	Woodland and forest - Other woodland; mixed	0.129	Medium	4	Moderate	2	Low	Unconnected habitat	1
34	Woodland and forest	Woodland and forest - Other coniferous woodland	0.11	Low	2	Fairly Poor	1.5	Low	Unconnected habitat	1
35										
36										
37										
Total site area ha			148.95							

A-2 Site Habitat Creation

Condense / Show Columns Condense / Show Rows

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Post development/ post intervention habitats												
Proposed habitat	Area (hectares)	Distinctiveness	Score	Condition	Score	Ecological connectivity			Strategic significance			
						Ecological connectivity	Connectivity	Connectivity multiplier	Strategic significance		Strategic significance	Strategic position multiplier
Grassland - Other neutral grassland	97.65	Medium	4	Fairly Poor	1.5	Low	Unconnected habitat	1	Area/compensation not in local strategy/ no local strategy		Low Strategic Significance	1
Grassland - Other neutral grassland	12.05	Medium	4	Good	3	Low	Unconnected habitat	1	Area/compensation not in local strategy/ no local strategy		Low Strategic Significance	1
Cropland - Arable field margins tussocky	4.71	Medium	4	N/A - Agricultural	1	Low	Unconnected habitat	1	Area/compensation not in local strategy/ no local strategy		Low Strategic Significance	1
Heathland and shrub - Mixed scrub	4.61	Medium	4	Moderate	2	Low	Unconnected habitat	1	Area/compensation not in local strategy/ no local strategy		Low Strategic Significance	1
Woodland and forest - Other woodland; mixed	0.96	Medium	4	Fairly Good	2.5	Low	Unconnected habitat	1	Area/compensation not in local strategy/ no local strategy		Low Strategic Significance	1
Heathland and shrub - Mixed scrub	0.58	Medium	4	Moderate	2	Low	Unconnected habitat	1	Area/compensation not in local strategy/ no local strategy		Low Strategic Significance	1
Cropland - Arable field margins pollen & nectar	0.68	Medium	4	N/A - Agricultural	1	N/A	Assessment not appropriate	1	Area/compensation not in local strategy/ no local strategy		Low Strategic Significance	1
Lakes - Temporary lakes, ponds and pools	0.04	High	6	Moderate	2	Low	Unconnected habitat	1	Area/compensation not in local strategy/ no local strategy		Low Strategic Significance	1
Urban - Developed land; sealed surface	12.63	V.Low	0	N/A - Other	0	N/A	Assessment not appropriate	1	Area/compensation not in local strategy/ no local strategy		Low Strategic Significance	1

Strategic position multiplier	Temporal multiplier		Difficulty multipliers		Habitat units delivered	Comments	
	Time to target condition/years	Time to target multiplier	Difficulty of creation category	Difficulty of creation multiplier		Assessor comments	Reviewer comments
	1	5	0.837	Low			
1	15	0.586	Low	1	84.74	Wildflower grassland	
1	1	0.965	Low	1	18.18	Tussocky grassland. Located on field boundaries, adjacent hedgerows.	
1	3	0.899	Low	1	33.14	Mixed scrub to be planted over tussock grassland.	
1	30	0.343	Medium	0.67	2.21	Mixed woodland planting to increase connectivity and increase extent of existing woodland habitat.	
1	3	0.899	Low	1	4.17	Mixed shrub planting	
1	1	0.965	Low	1	2.62	Bumble bird mix	
1	5	0.837	Medium	0.67	0.27	Ephemeral scrapes	
1	0	1.000	Low	1	0.00	Proposed tracks and substation area	
Total Units					635.63		

Condense / Show Columns

Condense / Show Rows

Main Menu

Instructions

Baseline ref	UK Habitats - existing habitats			Habitat distinctiveness		Habitat condition		Ecological connectivity		
	Hedge number	Hedgerow type	length KM	Distinctiveness	Score	Condition	Score	Ecological connectivity	Connectivity	Connectivity multiplier
1	1	Native Hedgerow with trees	0.26	Low	2	Moderate	2	Low	Unconnected habitat	1
2	2	Native Hedgerow with trees	0.31	Low	2	Moderate	2	Low	Unconnected habitat	1
3	3	Native Hedgerow with trees - Associated with bank or ditch	0.21	Medium	4	Moderate	2	Low	Unconnected habitat	1
4	4	Native Hedgerow - Associated with bank or ditch	0.26	Medium	4	Moderate	2	Low	Unconnected habitat	1
5	5	Native Hedgerow	0.23	Low	2	Poor	1	Low	Unconnected habitat	1
6	6	Native Hedgerow with trees - Associated with bank or ditch	0.34	Medium	4	Moderate	2	Low	Unconnected habitat	1
7	7	Line of Trees - Associated with bank or ditch	0.1	Low	2	Good	3	Low	Unconnected habitat	1
8	8	Native Hedgerow with trees	0.27	Low	2	Moderate	2	Low	Unconnected habitat	1
9	9	Line of Trees - Associated with bank or ditch	0.17	Low	2	Good	3	Low	Unconnected habitat	1
10	10	Line of Trees	0.21	Low	2	Moderate	2	Low	Unconnected habitat	1
11	11	Line of Trees - Associated with bank or ditch	0.18	Low	2	Moderate	2	Low	Unconnected habitat	1
12	12	Native Hedgerow with trees	0.34	Low	2	Moderate	2	Low	Unconnected habitat	1
13	13	Native Hedgerow	0.22	Low	2	Poor	1	Low	Unconnected habitat	1
14	14	Native Hedgerow with trees	0.23	Low	2	Good	3	Low	Unconnected habitat	1
15	15	Native Hedgerow with trees	0.13	Low	2	Good	3	Low	Unconnected habitat	1
16	16	Native Hedgerow	0.17	Low	2	Poor	1	Low	Unconnected habitat	1
17	17	Line of Trees - Associated with bank or ditch	0.11	Low	2	Poor	1	Low	Unconnected habitat	1

Strategic significance				Ecological Total hedgerow units	Retention category biodiversity value						Comments
Strategic significance	Strategic significance	Strategic position multiplier	Suggested action to address habitat		Length retained	Length enhanced	Units retained	Units enhanced	Length lost	Units lost	
Area of compensation not in local strategy/ no local strategy	Low Strategic Significance	1	Same distinctiveness band or better	1.04	0	0.26	0	1.04	0	0	OBJECTID 3. Defunct hedge with trees. Hawthorne hedge with broken adjacent access track. Failed categories: B2, C1
Area of compensation not in local strategy/ no local strategy	Low Strategic Significance	1	Same distinctiveness band or better	1.24	0.31	0	1.24	0	0	0	OBJECTID 4. Hawthorn hedge with native tree species. Fails C1 and C2. Adjacent arable field, nettle and cleaver present (indicative nutrient enrichment).
Area of compensation not in local strategy/ no local strategy	Low Strategic Significance	1	Like for like or better	1.68	0.21	0	1.68	0	0	0	OBJECTID 6. Trees within managed hawthorne hedge, associated with wet ditch. Failed categories: A2, B2, C1, C2.
Area of compensation not in local strategy/ no local strategy	Low Strategic Significance	1	Like for like or better	2.08	0.26	0	2.08	0	0	0	OBJECTID 9. Defunct hawthorn hedgerow associated with wet field drainage ditch. Failed categories: A2, B2, C1, C2.
Area of compensation not in local strategy/ no local strategy	Low Strategic Significance	1	Same distinctiveness band or better	0.46	0.23	0	0.46	0	0	0	OBJECTID 10. Defunct hawthorn hedge. Failed categories: A1, A2, B2, C1, C2.
Area of compensation not in local strategy/ no local strategy	Low Strategic Significance	1	Like for like or better	2.72	0.34	0	2.72	0	0	0	OBJECTID 11. Hawthorn hedge with native tree species, associated with dry ditch. Nettle and cleaver present (indicative nutrient enrichment). Failed categories: A2, B2, C2.
Area of compensation not in local strategy/ no local strategy	Low Strategic Significance	1	Same distinctiveness band or better	0.6	0.1	0	0.6	0	0	0	OBJECTID 16. Line of mature native tree species associated with wet ditch.
Area of compensation not in local strategy/ no local strategy	Low Strategic Significance	1	Same distinctiveness band or better	1.08	0.27	0	1.08	0	0	0	OBJECTID 17. Managed hawthorn hedge with native trees at N extent.
Area of compensation not in local strategy/ no local strategy	Low Strategic Significance	1	Same distinctiveness band or better	1.02	0.17	0	1.02	0	0	0	OBJECTID 27. Line of mature trees associated with field drainage ditch.
Area of compensation not in local strategy/ no local strategy	Low Strategic Significance	1	Same distinctiveness band or better	0.84	0.21	0	0.84	0	0	0	OBJECTID 28. Line of immature trees with continuous canopy.
Area of compensation not in local strategy/ no local strategy	Low Strategic Significance	1	Same distinctiveness band or better	0.72	0.18	0	0.72	0	0	0	OBJECTID 30. Line of immature trees with continuous canopy, associated with drainage ditch.
Area of compensation not in local strategy/ no local strategy	Low Strategic Significance	1	Same distinctiveness band or better	1.36	0.34	0	1.36	0	0	0	OBJECTID 32. Managed hawthorn hedge with mature native trees dispersed throughout. Failed categories: C1 and C2.
Area of compensation not in local strategy/ no local strategy	Low Strategic Significance	1	Same distinctiveness band or better	0.44	0	0.22	0	0.44	0	0	OBJECTID 33. Defunct hawthorn hedge between two arable fields. Failed categories: A1, A2, B1, C1, C2.
Area of compensation not in local strategy/ no local strategy	Low Strategic Significance	1	Same distinctiveness band or better	1.38	0.23	0	1.38	0	0	0	OBJECTID 34. Managed hawthorn hedge with mature native trees dispersed throughout. Failed categories: A1, C2.
Area of compensation not in local strategy/ no local strategy	Low Strategic Significance	1	Same distinctiveness band or better	0.78	0.13	0	0.78	0	0	0	OBJECTID 35. Managed hawthorn hedge with mature native trees dispersed throughout. Failed categories: A1, C2.
Area of compensation not in local strategy/ no local strategy	Low Strategic Significance	1	Same distinctiveness band or better	0.34	0	0.17	0	0.34	0	0	OBJECTID 36. Defunct hawthorn hedge between two arable fields. Failed categories: A1, A2, B1, C1, C2.
Area of compensation not in local strategy/ no local strategy	Low Strategic Significance	1	Same distinctiveness band or better	0.22	0.11	0	0.22	0	0	0	OBJECTID 37. Semi-mature trees with broken canopy associated with field drainage ditch.

Baseline ref	UK Habitats - existing habitats			Habitat distinctiveness		Habitat condition		Ecological connectivity		
	Hedge number	Hedgerow type	length KM	Distinctiveness	Score	Condition	Score	Ecological connectivity	Connectivity	Connectivity multiplier
18	18	Line of Trees - Associated with bank or ditch	0.1	Low	2	Poor	1	Low	Unconnected habitat	1
19	19	Native Hedgerow with trees	0.2	Low	2	Moderate	2	Low	Unconnected habitat	1
20	20	Native Hedgerow with trees	0.24	Low	2	Moderate	2	Low	Unconnected habitat	1
21	21	Native Hedgerow with trees	0.21	Low	2	Moderate	2	Low	Unconnected habitat	1
22	22	Native Hedgerow with trees	0.36	Low	2	Moderate	2	Low	Unconnected habitat	1
23	23	Native Hedgerow with trees	0.2	Low	2	Moderate	2	Low	Unconnected habitat	1
24	24	Native Hedgerow	0.21	Low	2	Poor	1	Low	Unconnected habitat	1
25	25	Line of Trees - Associated with bank or ditch	0.23	Low	2	Poor	1	Low	Unconnected habitat	1
26	26	Native Hedgerow	0.38	Low	2	Poor	1	Low	Unconnected habitat	1
27	27	Native Hedgerow with trees - Associated with bank or ditch	0.16	Medium	4	Moderate	2	Low	Unconnected habitat	1
28	28	Native Hedgerow	0.44	Low	2	Moderate	2	Low	Unconnected habitat	1
29	29	Native Hedgerow with trees	0.24	Low	2	Moderate	2	Low	Unconnected habitat	1
30	30	Native Hedgerow with trees	0.37	Low	2	Good	3	Low	Unconnected habitat	1
31	31	Line of Trees	0.08	Low	2	Good	3	Low	Unconnected habitat	1
32	32	Line of Trees	0.05	Low	2	Moderate	2	Low	Unconnected habitat	1
33	33	Line of Trees	0.14	Low	2	Good	3	Low	Unconnected habitat	1

Strategic significance				Ecological Total hedgerow units	Retention category biodiversity value						Comments
Strategic significance	Strategic significance	Strategic position multiplier	Suggested action to address habitat		Length retained	Length enhanced	Units retained	Units enhanced	Length lost	Units lost	
Area/compensation not in local strategy/ no local strategy	Low Strategic Significance	1	Same distinctiveness band or better	0.2	0.1	0	0.2	0	0	0	OBJECTID 38. Semi-mature trees with broken canopy associated with field drainage ditch.
Area/compensation not in local strategy/ no local strategy	Low Strategic Significance	1	Same distinctiveness band or better	0.8	0	0.2	0	0.8	0	0	OBJECTID 39. Managed hawthorn hedge on arable boundary with mature native trees dispersed throughout. Failed categories: A1, A2, C2.
Area/compensation not in local strategy/ no local strategy	Low Strategic Significance	1	Same distinctiveness band or better	0.96	0	0.24	0	0.96	0	0	OBJECTID 40. Managed hawthorn hedge on arable boundary with mature native trees dispersed throughout. Failed categories: A1, A2, C2.
Area/compensation not in local strategy/ no local strategy	Low Strategic Significance	1	Same distinctiveness band or better	0.84	0	0.21	0	0.84	0	0	OBJECTID 41. Managed hawthorn hedge on arable boundary with mature native trees dispersed throughout. Failed categories: A1, A2, C2.
Area/compensation not in local strategy/ no local strategy	Low Strategic Significance	1	Same distinctiveness band or better	1.44	0	0.36	0	1.44	0	0	OBJECTID 42. Managed hawthorn hedge on arable field boundary associated with drainage ditch. Native trees dispersed throughout. Failed categories: A1, A2, C2.
Area/compensation not in local strategy/ no local strategy	Low Strategic Significance	1	Same distinctiveness band or better	0.8	0.2	0	0.8	0	0	0	OBJECTID 44. Managed hawthorn hedge on arable field boundary associated with drainage ditch. Native trees dispersed throughout. Failed categories: A1, A2, C2.
Area/compensation not in local strategy/ no local strategy	Low Strategic Significance	1	Same distinctiveness band or better	0.42	0	0.21	0	0.42	0	0	OBJECTID 46. Defunct hawthorn hedge between two arable fields. Failed categories: A1, A2, B1, C1, C2.
Area/compensation not in local strategy/ no local strategy	Low Strategic Significance	1	Same distinctiveness band or better	0.46	0	0.23	0	0.46	0	0	OBJECTID 48. Line of mature trees, broken canopy, associated with ditch.
Area/compensation not in local strategy/ no local strategy	Low Strategic Significance	1	Same distinctiveness band or better	0.76	0	0.38	0	0.76	0	0	OBJECTID 49. Defunct hawthorn hedge between two arable fields. Failed categories: A1, A2, B1, C1, C2.
Area/compensation not in local strategy/ no local strategy	Low Strategic Significance	1	Like for like or better	1.28	0.16	0	1.28	0	0	0	OBJECTID 51. Hawthorn hedge, associated with arable drainage ditch. Native trees spread throughout. Failed categories: A1, A2, C2.
Area/compensation not in local strategy/ no local strategy	Low Strategic Significance	1	Same distinctiveness band or better	1.76	0	0.44	0	1.76	0	0	OBJECTID 53. Intact hawthorn boundary hedge. Failed categories: C1, C2.
Area/compensation not in local strategy/ no local strategy	Low Strategic Significance	1	Same distinctiveness band or better	0.96	0	0.24	0	0.96	0	0	OBJECTID 54. Managed hawthorn hedge on arable field boundary associated with drainage ditch. Native trees dispersed throughout. Failed categories: A1, A2, C2.
Area/compensation not in local strategy/ no local strategy	Low Strategic Significance	1	Same distinctiveness band or better	2.22	0.37	0	2.22	0	0	0	OBJECTID 56. Hawthorn hedge with mature oak trees. Failed categories: C2, B1.
Area/compensation not in local strategy/ no local strategy	Low Strategic Significance	1	Same distinctiveness band or better	0.48	0.08	0	0.48	0	0	0	OBJECTID 57. Mature trees, continuous canopy.
Area/compensation not in local strategy/ no local strategy	Low Strategic Significance	1	Same distinctiveness band or better	0.2	0.05	0	0.2	0	0	0	OBJECTID 59. Line of immature spruces, continuous canopy.
Area/compensation not in local strategy/ no local strategy	Low Strategic Significance	1	Same distinctiveness band or better	0.84	0.14	0	0.84	0	0	0	OBJECTID 64. Line of mature oaks on woodland edge, continuous canopy.

Soay Solar
B-2 Site Hedge Creation

Condense / Show Columns

Condense / Show Rows

Main Menu

Instructions

		Proposed habitats		Habitat distinctiveness		Habitat condition		Ecological connectivity		
Baseline ref	New hedge number	Habitat type	Length km	Distinctiveness	Score	Condition	Score	Ecological connectivity	Connectivity	Connectivity multiplier
1		Native Species Rich Hedgerow	3.9	Medium	4	Moderate	2	Low	Unconnected habitat	1
2										

Multipliers							Hedge units delivered	Assessor comments
Spatial quality			Temporal multiplier		Difficulty of creation multiplier			
Strategic significance			Time to target condition/years	Time to target multiplier		Comm		
Strategic significance	Strategic significance	Strategic position multiplier						
Areal/compensation not in local strategy/ no local strategy	Low Strategic Significance	1	5	0.837	0.67	17.49	New hedgerow planting with standing trees.	

Condense / Show Columns

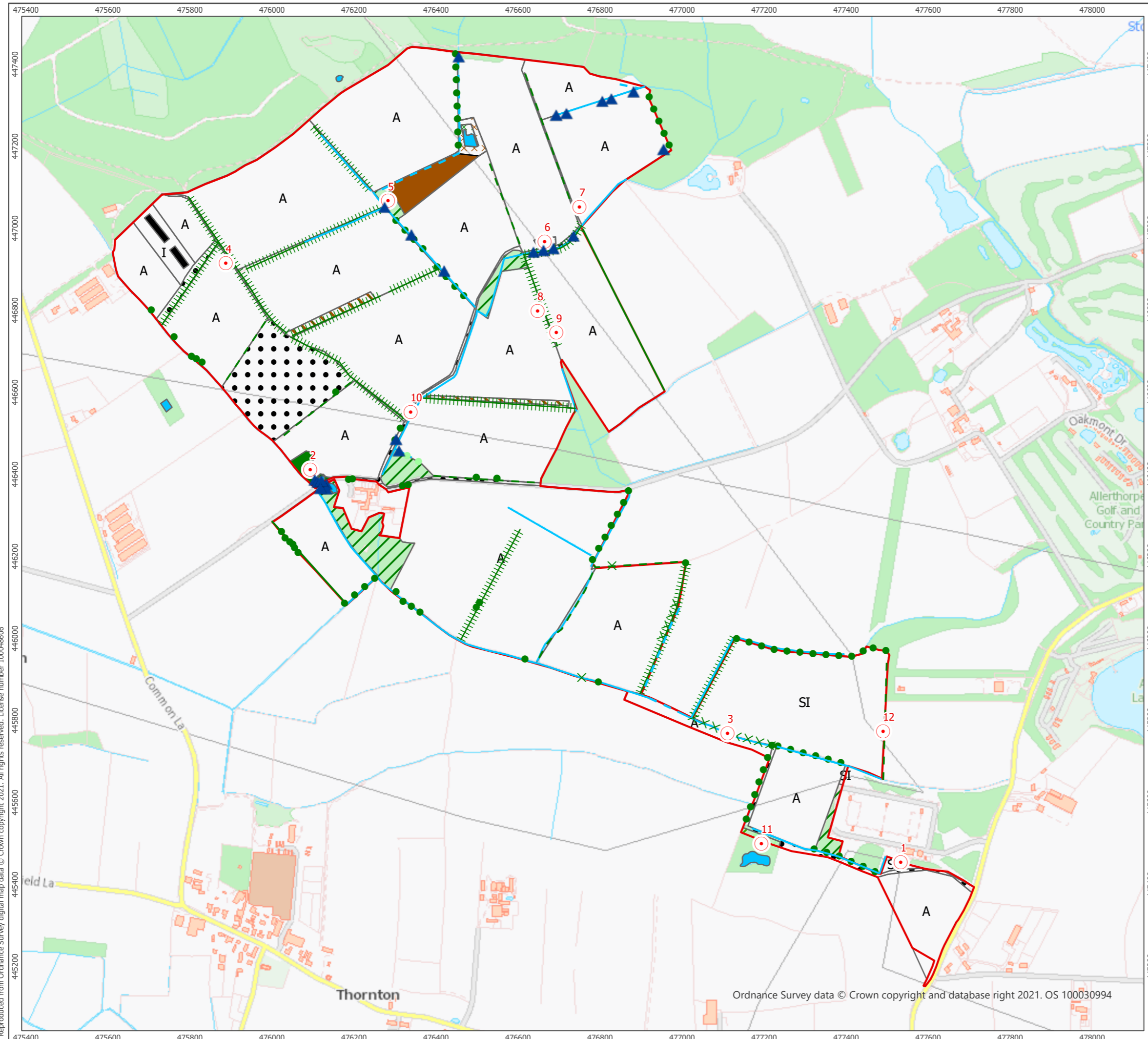
Condense / Show Rows

Main Menu

Instructions

Post development/ post intervention hat					
Baseli ne ref	Baseline Habitats	Proposed	Change in distinctiveness and condition		Lengt h KM
	Baseline habitat		Distinctiveness movement	Condition movement	
1	Native Hedgerow with trees	Native Hedgerow with trees	Low - Low	Moderate - Good	0.26
13	Native Hedgerow	Native Hedgerow	Low - Low	Poor - Moderate	0.22
16	Native Hedgerow	Native Hedgerow	Low - Low	Poor - Moderate	0.17
19	Native Hedgerow with trees	Native Hedgerow with trees	Low - Low	Moderate - Good	0.2
20	Native Hedgerow with trees	Native Hedgerow with trees	Low - Low	Moderate - Good	0.24
21	Native Hedgerow with trees	Native Hedgerow with trees	Low - Low	Moderate - Good	0.21
22	Native Hedgerow with trees	Native Hedgerow with trees	Low - Low	Moderate - Good	0.36
24	Native Hedgerow	Native Hedgerow	Low - Low	Poor - Moderate	0.21
25	Line of Trees - Associated with bank or ditch	Line of Trees - Associated with bank or ditch	Low - Low	Poor - Moderate	0.23
26	Native Hedgerow	Native Hedgerow	Low - Low	Poor - Moderate	0.38
28	Native Hedgerow	Native Hedgerow	Low - Low	Moderate - Good	0.44
29	Native Hedgerow with trees	Native Hedgerow with trees	Low - Low	Moderate - Good	0.24
Total site length					3.16

APPENDIX 2 – PHASE 1 SURVEY MAP



- Site Boundary
- Broadleaved woodland - semi-natural
- Broadleaved woodland - plantation
- Mixed woodland - plantation
- Scrub - scattered
- Other tall herb and fern - ruderal
- Improved grassland
- Poor semi-improved grassland
- Bracken - continuous
- Bracken - scattered
- Standing water
- Cultivated/disturbed land - arable
- Buildings
- Bare ground
- Broadleaved Parkland/scattered trees
- ××× Scrub - scattered
- Coniferous Parkland/scattered trees
- Running water
- - - Defunct hedge - species-poor
- Intact hedge - species-poor
- ||||| Hedge with trees - species-poor
- - - Dry ditch
- Target Note
- × Scrub - scattered
- Broadleaved parkland/scattered trees
- ▲ Himalayan Balsam

1:9,000 Scale @ A3
 0 0.15 0.3 km
 NORTH

Produced By: LS	Ref: 3404-REP-072
Checked By: SC	Date: 07/09/2021

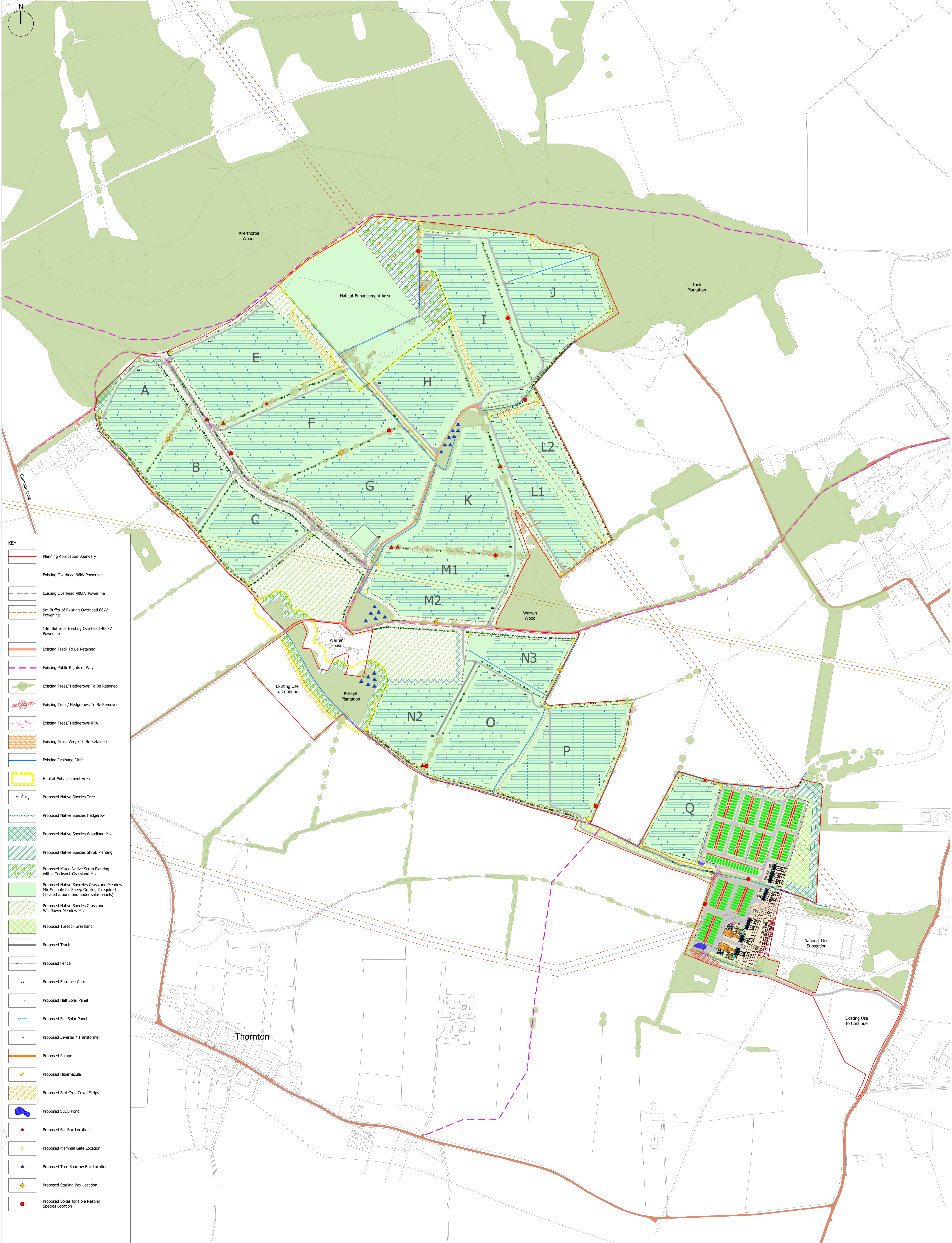
Phase 1 Survey Map
Figure 1

**Soay Solar Farm
and Greener Grid Project
Biodiversity Metric Assessment**

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APPENDIX 3 – LANDSCAPE & ECOLOGY MITIGATION AND ENHANCEMENT PLAN



KEY

- Planning Application Boundary
- Existing Overhead 66kV Powerline
- Existing Overhead 400kV Powerline
- 9m Buffer of Existing Overhead 66kV Powerline
- 14m Buffer of Existing Overhead 400kV Powerline
- Existing Track To Be Retained
- Existing Public Rights of Way
- Existing Trees/ Hedgerows To Be Retained
- Existing Trees/ Hedgerows To Be Removed
- Existing Trees/ Hedgerows RPA
- Existing Grass Verges To Be Retained
- Existing Drainage Ditch
- Habitat Enhancement Area
- Proposed Native Species Tree
- Proposed Native Species Hedgerow
- Proposed Native Species Woodland Mix
- Proposed Native Species Shrub Planting
- Proposed Mixed Native Scrub Planting within Tussock Grassland Mix
- Proposed Native Species Grass and Meadow Mix Suitable for Sheep Grazing if required (located around and under solar panels)
- Proposed Native Species Grass and Wildflower Meadow Mix
- Proposed Tussock Grassland
- Proposed Track
- Proposed Fence
- Proposed Entrance Gate
- Proposed Half Solar Panel
- Proposed Full Solar Panel
- Proposed Inverter / Transformer
- Proposed Scrape
- Proposed Hibernacula
- Proposed Bird Crop Cover Strips
- Proposed SUDS Pond
- Proposed Bat Box Location
- Proposed Mammal Gate Location
- Proposed Tree Sparrow Box Location
- Proposed Starling Box Location
- Proposed Boxes for Hole Nesting Species Location

NOTES:
 1. All locations of proposed bird / bat boxes and mammal gates to be micro sited on site by a qualified ecologist.
 2. For detail of BESS refer to drawing 4259-DR-P-0001.

REVISION SCHEDULE		
Rev	Date	Description
A	02/11/21	Revised to comply with the latest layout

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 PROJECT: Soay Solar Farm and Greener Grid Park
 TITLE: Landscape and Ecology Mitigation and Enhancement Plan
 CLIENT: Statkraft UK
 DATE: 07.05.21 SCALE: 1:3000@A0
 DRAWN: WM DRAWING NO.: 3404-DR-LAN-101
 CHECKED: LH REVISION: A

