



ARCUS

**BIODIVERSITY METRIC ASSESSMENT**

**NINFIELD GREENER GRID PARK**

**JULY 2021**



Prepared By:

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## 1 INTRODUCTION

This report has been prepared on behalf of Statkraft UK LTD (the Applicant) in relation to a planning application made to Wealden District Council for the construction of a Greener Grid Park development to support the National Grid (the Development) on land to the north of Potman's Lane, Ninfield (the Site).

For the purposes of this Biodiversity Metric Assessment, 'the Site' is defined as the extent of the redline boundary and the Habitat Enhancement Area, located to the east and also under the control of the applicant.

The updated National Planning Policy Framework<sup>1</sup> (NPPF) published in February 2019 states (paragraph 170) 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 updated Planning Policy Guidance (PPG) for the Natural Environment<sup>2</sup>, 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 DEFRA Biodiversity Metric 2.0 Calculation Tool Beta Test<sup>3</sup> (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.

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

- Preliminary Ecological Appraisal<sup>4</sup> and Phase 1 Habitat Survey Map; and
- Landscape and Biodiversity Mitigation Plan<sup>5</sup>.

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<sup>1</sup> Ministry of Housing, Communities and Local Government (February 2019). National Planning Policy Framework. Available at [https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/810197/NPPF\\_Feb\\_2019\\_revised.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/810197/NPPF_Feb_2019_revised.pdf) [accessed March 2021].

<sup>2</sup> Ministry of Housing, Communities and Local Government (July 2019). Natural Environment. Available at <https://www.gov.uk/guidance/natural-environment> [March 2021].

<sup>3</sup> Available at <http://publications.naturalengland.org.uk/publication/5850908674228224>

<sup>4</sup> Arcus (2021) *Preliminary Ecological Appraisal – Ninfield Greener Grid Park*

<sup>5</sup> Arcus (2021) *Landscape and Visual Appraisal – Ninfield Greener Grid Park*

## 2 METHODOLOGY

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 Test; and
- The Biodiversity Metric 2.0 – Technical Supplement – Beta Test.

Appendix 1 shows the inputs and results produced by the metrics. If required by the Council, the completed metric excel workbook can also be provided. The Phase I Habitat Survey Map and Landscape plan are presented in Appendices 2 and 3 respectively.

### 2.1 Onsite Assessment

#### 2.1.1 *Baseline, Pre-construction Biodiversity Units*

Baseline habitat information was taken from the Phase 1 Habitat Survey<sup>6</sup> undertaken in September 2019 by a professional Ecologist.

Identified baseline habitats within the Site include:

- Poor semi-improved grassland;
- Standing Water- pond;
- Running Water- ditches;
- Broadleaved Woodland;
- Scattered trees; and
- Bare ground.

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 Application boundary. As a result, professional judgement has been used to best match habitat types to those available within the DEFRA calculator.

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.

#### 2.1.2 *Post Construction Biodiversity Units*

The creation of the access route will require the removal of a small area of treeline to accommodate an access junction, the rest of the line of trees will remain in-situ. The area of the Site containing the Development will also require the removal of grassland.

The 2 ha of the retained neutral grassland will be enhanced post-construction through appropriate management to increase species richness and improve the condition of this habitat type. The retained line of trees within the centre of the Site will be enhanced post-construction through the addition of a scrub understorey.

Following construction, new habitats will be created which include:

- Developed Land – the Development and access road;
- Native Scrub Mix;
- Tussocky wildflower grassland;
- Wetland Meadow; and
- Swale.

### 3 RESULTS

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

The metric has shown there to be an **16.31 % net gain** in biodiversity onsite. The number of habitat units onsite has increased from 27.51 to 32.00. There is also a 10.13% net gain in hedgerow units within the Site which have increased from 5.52 to 6.08.

#### 3.1 Summary

Through habitat creation and enhancement, the Development will deliver an overall net gain of 16.31% this exceeds the generally recognised 10% biodiversity net gain target.

## **APPENDIX 1 – BIODIVERSITY METRICS INPUTS AND RESULTS**

**Ninfield Energy Management Development**

**Headline Results**

[Return to results menu](#)

<b>On-site baseline</b>	<i>Habitat units</i>	27.51
	<i>Hedgerow units</i>	5.52
	<i>River units</i>	0.00
<b>On-site post-intervention</b> (Including habitat retention, creation, enhancement & succession)	<i>Habitat units</i>	32.00
	<i>Hedgerow units</i>	6.08
	<i>River units</i>	0.00
<b>Off-site baseline</b>	<i>Habitat units</i>	0.00
	<i>Hedgerow units</i>	0.00
	<i>River units</i>	0.00
<b>Off-site post-intervention</b> (Including habitat retention, creation, enhancement & succession)	<i>Habitat units</i>	0.00
	<i>Hedgerow units</i>	0.00
	<i>River units</i>	0.00
<b>Total net unit change</b> (including all on-site & off-site habitat retention/creation)	<i>Habitat units</i>	4.49
	<i>Hedgerow units</i>	0.56
	<i>River units</i>	0.00

## Total net % change

(including all on-site & off-site habitat creation + retained habitats)

<i>Habitat units</i>	<b>16.31%</b>
<i>Hedgerow units</i>	<b>10.13%</b>
<i>River units</i>	<b>0.00%</b>



**Ninfield Energy Management Development**  
**A-1 Site Habitat Baseline**

Condense / Show Columns

Condense / Show Rows

Main Menu

Instructions

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	Grassland	Grassland - Other neutral grassland	6.064	Medium	4	Poor	1	Low	Unconnected habitat	1
2	Woodland and forest	Woodland and forest - Other woodland; mixed	0.175	Medium	4	Moderate	2	Low	Unconnected habitat	1
3	Lakes	Lakes - Ponds (Non- Priority Habitat)	0.137	High	6	Moderate	2	Low	Unconnected habitat	1
4	Urban	Urban - Developed land; sealed surface	0.001	V.Low	0	N/A - Other	0	Low	Unconnected habitat	1
5	Lakes	Lakes - Ditches	0.003	Medium	4	Moderate	2	Low	Unconnected habitat	1
6	Lakes	Lakes - Ditches	0.001	Medium	4	Moderate	2	Low	Unconnected habitat	1
7	Urban	Urban - Artificial unvegetated, unsealed surface	0.2	V.Low	0	N/A - Other	0	N/A	Assessment not appropriate	1
8	Heathland and shrub	Heathland and shrub - Mixed scrub	0.004	Medium	4	Moderate	2	Low	Unconnected habitat	1
9	Woodland and forest	Woodland and forest - Other woodland; mixed	0.018	Medium	4	Moderate	2	Low	Unconnected habitat	1
10	Lakes	Lakes - Ditches	0.001	Medium	4	Moderate	2	Low	Unconnected habitat	1
11										
12										
13										
14										
15										
	<b>Total site area ha</b>		<b>6.60</b>							





fificance							Comments	
Strategic significance	Strategic position multiplier	Temporal multiplier		Difficulty multipliers		Habitat units delivered	Assessor comments	Reviewer comments
		Time to target condition/years	Time to target multiplier	Difficulty of creation category	Difficulty of creation multiplier			
Low Strategic Significance	1	7	0.779	Low	1	7.20	Mixed scrub to be incorporated around the battery storage area and as an understory to existing trees.	
Low Strategic Significance	1	20	0.490	High	0.33	0.18	Wetland meadow around proposed swale. EM8 - Meadow Mixture for Wetlands, Emorsgate.	
Low Strategic Significance	1	0	1.000	Low	1	0.00	Battery Storage Area	
Low Strategic Significance	1	5	0.837	Low	1	0.14	Proposed swale within wetland meadow planting.	
						<b>Total Units</b>	<b>7.52</b>	

**Ninfield Energy Management Development**

**A-3 Site Habitat Enhancement**

Condense / Show Columns

Condense / Show Rows

Main Menu

Instructions

					Post development/ post intervention habitat
Baseline habitats		Change in distinctiveness and condition			Area (hectares)
Baseline ref	Baseline habitat	Proposed habitat (Pre-populated but can be overridden)	Distinctiveness change	Condition change	
1	Grassland - Other neutral grassland	Grassland - Other neutral grassland	Medium - Medium	Poor - Moderate	2.55
<b>Total site area</b>					<b>2.55</b>

its

Distinctiveness	Condition	Ecological connectivity	Strategic significance	Temporal multiplier	Difficulty multipliers	Habitat units delivered	Comments	
		Ecological connectivity score	Strategic significance	Time to target condition/years	Difficulty of enhancement category		Assessor comments	Reviewer comments
Medium	Moderate	Low	Area/compensation not in local strategy/ no local strategy	10	Low	17.34		
<b>Enhancement total</b>						<b>17.34</b>		

**Ninfield Energy Management Development**  
**B-1 Site Hedge Baseline**

Condense / Show Columns

Condense / Show Rows

Main Menu

Instructions

Baseline ref	Hedge number	UK Habitats - existing habitats		Habitat distinctiveness		Habitat condition		Ecological connectivity		
		Hedgerow type	length KM	Distinctiveness	Score	Condition	Score	Ecological connectivity	Connectivity	Connectivity multiplier
1	1	Native Hedgerow - Associated with bank or ditch	0.11	Medium	4	Good	3	Low	Unconnected habitat	1
2	2	Line of Trees - Associated with bank or ditch	0.08	Low	2	Good	3	Low	Unconnected habitat	1
3	3	Line of Trees	0.2	Low	2	Good	3	Low	Unconnected habitat	1
4	4	Line of Trees	0.09	Low	2	Good	3	Low	Unconnected habitat	1
5	5	Line of Trees	0.11	Low	2	Good	3	Low	Unconnected habitat	1
6	6	Line of Trees	0.22	Low	2	Good	3	Low	Unconnected habitat	1
7										
8										
9										
10										
11										
<b>Total Site length/KM</b>			<b>0.81</b>							

Strategic significance			Ecological baseline
Strategic significance	Strategic significance	Strategic position multiplier	Total hedgerow units
Area/compensation not in local strategy/ no local strategy	Low Strategic Significance	1	1.32
Area/compensation not in local strategy/ no local strategy	Low Strategic Significance	1	0.48
Area/compensation not in local strategy/ no local strategy	Low Strategic Significance	1	1.2
Area/compensation not in local strategy/ no local strategy	Low Strategic Significance	1	0.54
Area/compensation not in local strategy/ no local strategy	Low Strategic Significance	1	0.66
Area/compensation not in local strategy/ no local strategy	Low Strategic Significance	1	1.32
Total Site baseline			5.52

Retention category biodiversity value						Comments	
Length retained	Length enhanced	Units retained	Units enhanced	Length lost	Units lost	Assessor comments	Reviewer comments
0.11	0	1.32	0	0	0		
0.08	0	0.48	0	0	0		
0.2	0	1.2	0	0	0		
0.09	0	0.54	0	0	0		
0.1	0	0.6	0	0.01	0.06		
0	0.22	0	1.32	0	0		
0.58	0.22	4.14	1.32	0.01	0.06		



Ninfield Energy Management Development

B-3 Site Hedge Enhancement

Condense / Show Columns

Condense / Show Rows

Main Menu

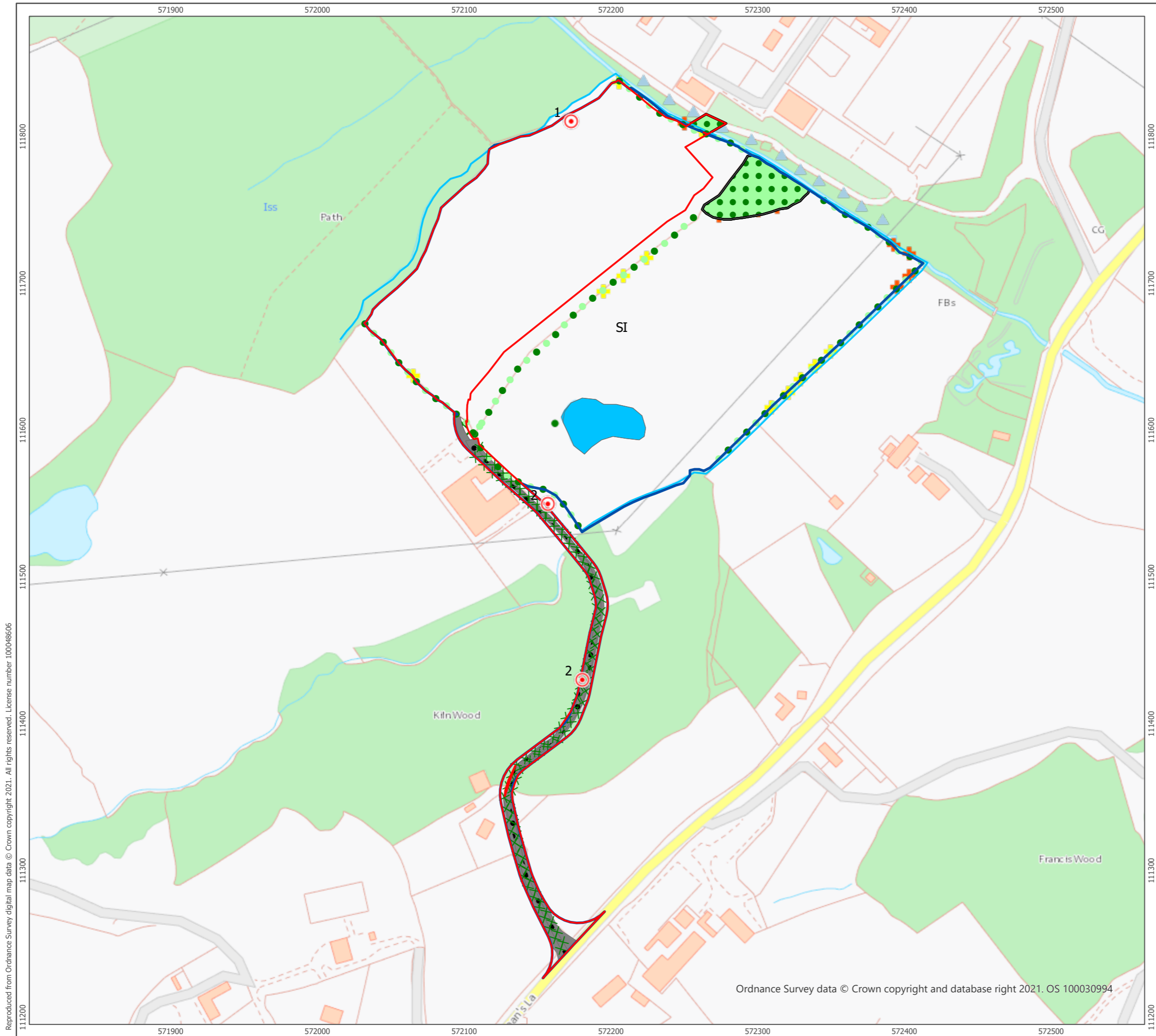
Instructions

Post development/ post intervention habitats

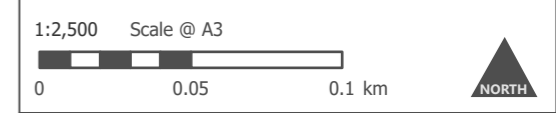
Baseline Habitats		Proposed	Change in distinctiveness and condition		Length KM
Baseline ref	Baseline habitat		Distinctiveness movement	Condition movement	
6	Line of Trees	Native Species Rich Hedgerow	Low - Medium	Lower Distinctiveness Habitat - Good	0.22
<b>Total site length</b>					<b>0.22</b>

Distinctiveness	Condition	Ecological connectivity	Strategic significance	Temporal multiplier	Difficulty Multipliers	Hedge units delivered	Comments	
			Strategic significance	Time to target condition/years	Difficulty of enhancement Category		Assessor comments	Reviewer comments
Medium	Good	Low	Area/compensation not in local strategy/ no local strategy	10	Medium	1.94		
						1.94		

**APPENDIX 2 – PHASE 1 SURVEY MAP**



- Planning Application Boundary
- Ecology Survey Area
- Mixed woodland - semi-natural
- Scrub - dense/continuous
- SI
- Standing water
- Built-up areas
- Bare ground
- Scrub - scattered
- Mixed Parkland/scattered trees
- Running water
- Target Note
- Broadleaved parkland/scattered trees
- Himalayan Balsam
- Bat Roost Assessment**
- + Low
- + Moderate



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Checked By: DH	Date: 21/06/2021

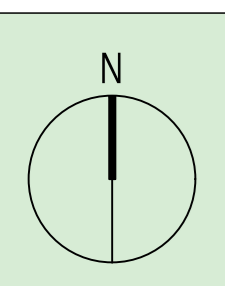
**Phase 1 Habitat Survey**  
Figure 1

**Ninfield Greener Grid Park**  
**Preliminary Ecological Appraisal**

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## **APPENDIX 3 – LANDSCAPE PLAN**



**PLANTING NOTES**

The handling of plants to be in accordance with National Plant Specification 'Handling and Establishing Landscape Plants'. All plants and planting operations are to comply with the requirements and recommendations of all current relevant British Standard specifications including but not limited to:

- BS 5345: Trees: From Nursery to Independence in the Landscape
- BS 3998-1:1992: Nursery stock: Specification for trees and shrubs
- BS 3882:2015: Specification for topsoil
- BS 4428-1:1989: Code of practice for general landscape operations (excluding hard surfaces) (AMD 6794)
- BS 5837:2012: Trees in relation to design, demolition and construction. Recommendations
- BS 7373:1991: Grounds maintenance. Recommendations for maintenance of amenity and functional turf (other than sports turf)

All planting to be carried out during appropriate climatic conditions and where possible in the optimal planting period October through until March. Existing topsoil and/or imported, clean/verm horticultural amendments from sustainable sources. Contractor to satisfy himself of measurements on site and the full extent of works before pricing.

**Clearance**  
Cut back all grass and perennial vegetation including brambles, suckering and epicormic growth to a height of 25-50mm across site. All existing trees and shrubs marked for removal on plan to be removed prior to implementing proposals including grubbing out and stump grinding as applicable to site conditions. All rubbish, debris and existing redundant infrastructure to be removed. Stone picking of all stones and debris over 25mm to be undertaken (proximal to west of House Central). All trees and shrubs to be retained to be protected during works in line with BS5837:2012. Existing vegetation that is to be retained to be protected during the construction phase with temporary fencing erected in accordance with BS 5837 Trees in Relation to Construction.

**Tree works**  
All works to existing trees to be undertaken in line with BS 3998:2010 Tree Work. Recommendations as per schedule of works, all arising to be removed from site.

**Herbicide and cultivation**  
Topsoil and surface vegetation (areas covered by grass and where shrub removal and clearance work as above has occurred) to be treated with two applications of selective broadleaf herbicide prior to planting and seeding, where necessary, avoiding hub and willflowers (Primroses and Bluebells in particular) and strictly in accordance with the Control of Pesticides Regulations 1986 (COPR) (as amended 1997) (or, otherwise, updated/superseded legislation) and following manufacturer's instructions by qualified staff.

**Topsoil**  
Shall be a minimum of 400mm deep over new planting beds and graded to fall. Imported topsoil must be BS 3882:2015 compliant and existing topsoil must be cultivated in accordance with BS 3882:2015 outside 80% of existing trees. No cultivation should take place in well-waterlogged conditions and within the 80% of existing trees. Topsoil to be used in areas of uneven surface to make good levels to create a smooth level surface. Where topsoil is added under existing trees to fill depressions in the surface such additions should be no greater than 100mm depth in line with BS5837:2012.

**Native Species Trees**  
Feathered trees to be planted in pits 800x800x450mm of dimensions of rootball, whichever is greater. Tree to be supported by 1M stake (1500mm long, jet tree, 400mm above ground, 75mm diameter) and 12m bio-degradable tie. All feathered trees to be protected from rabbit damage with a plastic spiral guard (45cm high, brown) around each plant. All roots of bare root stock to be clipped in a root dip solution immediately prior to planting to prevent them from drying out. 75gms of a slow release fertiliser to be applied round the base of each feathered Tree immediately after planting.

**Native Species Shrub Mix**  
All plants to be planted roots planted at the density specified within the planting schedule in a random mix of single species groups, with each group containing 5-25 plants of the same species. All plants to be evenly distributed across each planting area. All transplants to be protected from rabbit damage with a plastic spiral guard (45cm high, brown) around each plant supported by a bamboo cane placed inside each guard and pushed firmly into the ground. All roots of bare root stock to be clipped in a root dip solution immediately prior to planting to prevent them from drying out. 30gms of a slow release fertiliser to be applied round the base of each plant immediately after planting.

**Mulch**  
A radius of 250 mm at the base of each proposed tree/shrub to receive 75mm depth pulverised Bimulch.

**Plant position**  
Final position of trees and shrubs subject to confirmation of service location and approval of statutory undertakers. Allow for location of service information prior to work commencing on site.

**Proposed Wetland Meadow**  
All seeding areas to be cultivated (except with 80% of trees) and levelled as required removing any stones, rubble, subsoil and general construction waste.

**Planting Season**  
Bare-root shrubs to be planted between mid-November and mid-March depending upon the planting season.

**KEY**

- Site Boundary
- Land Under Applicant's Control
- Existing Vegetation to be Retained
- Existing Watercourse
- Tree Category A
- Tree Category B
- Tree Category C
- Tree Category U
- Root Protection Area
- Proposed Native Species Tree
- Proposed Native Species Shrub Mix Approx. Total Area: 377m²
- Proposed Wetland Meadow Approx. Total Area: 901 m² (80% - Meadow Reserve for Wetlands, Emergent, 49m²)
- Proposed Willow/Tussock Grassland Approx. Total Area: 233 m² (80% - Tussock Reserve, Emergent, 49m²)
- Existing Vegetation to be Removed
- Proposed Cable Route
- 6m Buffer from Proposed Cable Route
- Proposed Fence
- Proposed Pond Indicative Location
- Proposed Single Bird Box Indicative Location (Each location to be determined by an on-site ecologist when installing)
- Proposed Bat Box Indicative Location (Each location to be determined by an on-site ecologist when installing)
- Proposed Hibernaculum/ Log Pile Indicative Location (Each location to be determined by an on-site ecologist when installing)

**REVISION SCHEDULE**

Rev	Date	Description
A	17.06.2021	Proposed Willow/ Tussock Grassland area added. (AK)

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**STATUS: FOR PLANNING**

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GRID REFERENCE: TQ 72150 11750

PROJECT: Ninfeld Energy Management Development

TITLE: Landscape Mitigation Plan

CLIENT: Statkraft UK Ltd

DATE: 02.03.21 SCALE: 1:500@A0

DRAWN: WM DRAWING NO.: 3215-DR-LAN-101

CHECKED: CH REVISION: A

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**PLANTING SCHEDULE**

Specimen Tree Planting	Number	Abbreviation	Species	Height	Specification
42	Ac	Acer composite	100-115cm	2x BR	Feather
15	Pa	Prunus avium	100-115cm	2x BR	Feather
30	Sau	Salix caprea	100-115cm	2x BR	Feather
Total 91					

Native Species Shrub Mix	Number	Abbreviation	Species	Height	Specification	Spacing
389	Car	Cornus sanguinea	4500mm	1+1 BR	Transplant	1m²
194	Car	Corylus avellana	4500mm	1+1 BR	Transplant	1m²
1555	Car	Crataegus monogyna	4500mm	1+1 BR	Transplant	1m²
389	li	Asperula	4500mm	1+1 BR	Transplant	1m²
389	lv	Ligustrum vulgare	4500mm	1+1 BR	Transplant	1m²
1167	Ros	Rosa sinensis	4500mm	1+1 BR	Transplant	1m²
389	Ros	Rosa canina	4500mm	1+1 BR	Transplant	1m²
776	Sax	Saxifraga	4500mm	1+1 BR	Transplant	1m²
389	Sa	Sambucus nigra	4500mm	1+1 BR	Transplant	1m²
389	Vo	Viburnum opulus	4500mm	1+1 BR	Transplant	1m²
Total 776						

