

14 APPENDIX 4: DESK STUDY RESULTS

- i A total of five statutory designated sites were recorded within the search area, the details of which are summarised in Table 7 below. No SSSIs were located within 5km of the Site boundary. However, the site was located within the IRZ for Chartley Moss SSSI, Froghall Meadow and Pastures SSSI and Forest Banks SSSI which are located beyond 5km, with details of the proposed development indicating that is not of a type to impact the SSSI.

Table 7: Statutory Designated Sites

Site Name	Designation	Location	Brief Description
Midland Meres & Mosses Phase 1	RAMSAR	9.5km Southeast	The Meres and Mosses of the Clwyd-Shropshire-Cheshire-Staffordshire plain form an internationally important series of open water and peatland sites. "Meres" refer to pools, while "mosses" are mires or peatland sites. There are more than 60 meres and a smaller number of mosses. The meres range in depth from about one metre to 27m and vary between less than one hectare to 70ha, in area. The origin of most of the hollows can be accounted for by glaciation, which left depressions in the plain as ice sheets receded.
West Midlands Mosses	SAC ¹³	9.5km Southeast	West Midlands Mosses contains three pools, one at Clarepool Moss and two at Abbots Moss, that are examples of dystrophic lakes and ponds in the lowlands of England and Wales, where this habitat type is rare. The lake at Clarepool Moss is unusual as a dystrophic type on account of its relatively base-rich character, which is reflected in the presence of a diverse fauna and flora. The two at Abbots Moss are more typical, base-poor examples. The dystrophic lakes and ponds at this site are associated with Schwingmoor development, a characteristic of this habitat type in the West Midlands. Schwingmoor is an advancing floating raft of bog-moss <i>Sphagnum</i> , often containing NVC type M3 <i>Eriophorum angustifolium</i> bog pool community, which grows from the edge of the pool and can completely cover over the pool; the site has also been selected for this Annex I feature (7140 Transition mires and quaking bogs).
Pasturefields Salt Marsh	SAC	12.9km South	Pasturefields Salt Marsh in the West Midlands is the only known remaining example in the UK of a natural salt spring with inland saltmarsh vegetation. The vegetation consists of red fescue <i>Festuca rubra</i> , with common saltmarsh-grass (<i>Puccinellia maritima</i>), lesser sea-spurrey (<i>Spergularia marina</i>), saltmarsh rush (<i>Juncus gerardii</i>) and sea arrowgrass (<i>Triglochin maritimum</i>) in the most saline situations.
Peak District Dales	SAC	16.1km Northeast	European dry heaths for which the area is considered to support a significant presence. Calaminarian grasslands of the <i>Violetalia calaminariae</i> for which the

¹³ SAC - Special Areas of Conservation

Site Name	Designation	Location	Brief Description
			area is considered to support a significant presence. Semi-natural dry grasslands and scrubland facies: on calcareous substrates (<i>Festuco-brometalia</i>) for which this is considered to be one of the best areas in the United Kingdom. Alkaline fens for which the area is considered to support a significant presence. Calcareous and calcshist screes of the montane to alpine levels (<i>Thlaspietea rotundifolii</i>) for which the area is considered to support a significant presence. which is considered to be rare as its total extent in the United Kingdom is estimated to be less than 1000 hectares. Calcareous rocky slopes with chasmophytic vegetation for which the area is considered to support a significant presence. which is considered to be rare as its total extent in the United Kingdom is estimated to be less than 1000 hectares. Tilio-Acerion forests of slopes, screes and ravines for which this is considered to be one of the best areas in the United Kingdom. <i>Lampetra planeri</i> for which the area is considered to support a significant presence. <i>Cottus gobio</i> for which the area is considered to support a significant presence. <i>Austropotamobius pallipes</i> for which this is considered to be one of the best areas in the United Kingdom.
Cannock Chase	SAC	17.4km South	The area of lowland heathland at Cannock Chase is the most extensive in the Midlands, although there have been losses due to fragmentation and scrub/woodland encroachment. The character of the vegetation is intermediate between the upland or northern heaths of England and Wales and those of southern counties. Dry heathland communities belong to NVC types H8 <i>Calluna vulgaris</i> – <i>Ulex gallii</i> and H9 <i>Calluna vulgaris</i> – <i>Deschampsia flexuosa</i> heaths. Within the heathland, species of northern latitudes occur, such as cowberry <i>Vaccinium vitis-idaea</i> and crowberry <i>Empetrum nigrum</i> . Cannock Chase has the main British population of the hybrid bilberry <i>Vaccinium intermedium</i> , a plant of restricted occurrence. There are important populations of butterflies and beetles, as well as European nightjar <i>Caprimulgus europaeus</i> and five species of bats.

- ii Ten non-statutorily designated sites were also identified within the search radius, details of which are provided in Table 5.

Table 8: Non-Statutory Designated Sites

Site Name	Designation	Location	Brief Description
The Wing Drumble	BAS ¹⁴	1.4km Northeast	An oak woodland on a north facing slope and was surveyed from public footpaths and adjacent roads. The

¹⁴ BAS – Biodiversity Alert Site

Site Name	Designation	Location	Brief Description
			woodland is listed as 'Ancient semi-natural woodland' on the ancient woodland inventory.
Newclose Sprink	LWS ¹⁵	1.7km South	Remnants of an ancient semi-natural broad-leaved woodland which still contains good ancient woodland indicator species.
Leighbank Gorse	BAS	1.8km East	A mixed broadleaved plantation with open scrubby areas with scattered mature trees. Throughout are small patches of semi-natural ground flora.
Hose Wood	LWS	1.8km Southwest	The remnants of ancient semi-natural woodland scattered amongst arable land. Much of the 42ha of woodland was cleared through reclamation schemes, to provide grazing land for the adjacent farms.
Draycott Common Wood	BAS	1.9km Northwest	Disused sludge lagoon in old sand and gravel pit that is becoming colonised with semi-natural vegetation.
New Inn (near)	BAS	1.9km Southwest	This site comprises a complex of small fields of semi-improved grassland crossed by a wet ditch and bounded by species-poor hedges with mature hedgerow trees. Site includes 93/68/82
Newton (north-east of)	LWS	150m North	Species rich semi-improved pasture.
Brook Lane	LWS	2.1km East	A semi-improved neutral grassland that contains two wooded stream fed ponds that are linked by a ditch. The sward still retains some species diversity. Both ponds have little surface water exposed. Below the ponds is a flushed area with marshy grassland.
Blythe House (south-west of)	LWS	340m South	A linear strip of marshy grassland. A series of drains are situated throughout the site and the marshy grassland is displaced by semi-improved neutral grassland in the drier regions. The area is very flat and acts as a floodplain for the River Blithe.
Paynsley Hall Pond	BAS	370m South	Two large ponds encompassed by marshy grassland. There is a linear strip of semi-improved neutral grassland along the northern section of the site grazed by cattle and large areas are tussocky.

- iii There are 65 Habitats of Principle Importance under Section 41 of the NERC Act, 2006 located within a 1km radius of the site. These are shown in a table below, with the distance and direction of the closest habitats in regard to the site referenced.

Table 9: Habitats of Principal Importance within 1km of the Site

¹⁵ LWS – Local Wildlife Site

Habitat	Quantity	Closest Habitat - Distance to Site	Closest Habitat - Direction to Site
Deciduous woodland	3	245m	N
Coastal and floodplain grazing marsh	35	Adjacent to site	SE
Good quality semi-improved grassland	27	On site	SE

- iv Records of previous European Protected Species Licences (EPSL) were discovered within a 5km search area around the site. This included eight records of bat licences with species including common pipistrelle (*Pipistrellus pipistrellus*), Natterer's bat (*Myotis nattereri*) and brown long-eared bat (*Plecotus auritus*). The closest record was located 2.8km Northwest of the site. The species on the licence is common pipistrelle and the licence allows for destruction of a resting place. The most recent record was located 2.8km Northwest of the site.
- xxxiv Protected species records were received from Staffordshire Ecological Records Centre. A summary of the records considered most relevant to the site and/or proposed development are provided in Table 7. Full species records are available to view upon request.

Table 10: Summary of Protected and Notable Species Records

Common Name	Scientific Name	Records	Conservation Status
Amphibians			
Great crested newts	<i>Triturus cristatus</i>	30 records, closest 350m WNW	EPS ¹⁶ , NERC ¹⁷ , WCA (5) ¹⁸
Common toad	<i>Bufo bufo</i>	13 records, closest 350m WNW	NERC, Partial Protection under WCA
Mammal			
European otter	<i>Lutra lutra</i>	11 records, closest 325m WNW	EPS, WCA, NERC
Unidentified pipistrelle	<i>Pipistrellus sp.</i>	9 records, closest 0.5km NNE Of which 1 is a roost, located 1.2km NE	
Brown hare	<i>Lepus europaeus</i>	4 records, closest 0.5km NW	NERC
Common pipistrelle	<i>Pipistrellus pipistrellus</i>	27 records, closest 0.6km NW	EPS, WCA

¹⁶ EPS – European Protected Species - protected by the Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019

¹⁷ NERC – Species of Principle Importance under Section 41 of the Natural Environment Rural Communities Act (2006) Species of Principal Conservation Importance; UKBAP & LBAP

¹⁸ WCA (5) – Schedule 5 protected species - Wildlife & Countryside Act (1981)

Common Name	Scientific Name	Records	Conservation Status
		Of which 3 are roosts, closest 0.6km NW	
Unidentified Myotis	<i>Myotis sp.</i>	4 records, closest 1km WNW	
Noctule	<i>Nyctalus noctula</i>	6 records, closest 1km WNW	EPS, WCA, NERC
European hedgehog	<i>Erinaceus europaeus</i>	8 records, closest 1.1km NW	NERC
Soprano pipistrelle	<i>Pipistrellus pygmaeus</i>	4 records, closest 1.1km NW	EPS, WCA, NERC
Unidentified bat	<i>Chiroptera sp.</i>	13 records, closest 1.2km WNW	
Brown long-eared bat	<i>Plecotus auritus</i>	7 records, closest 1.4km NE Of which 3 are roosts, closest 1.4km NW	EPS, WCA, NERC
Water vole	<i>Arvicola amphibius</i>	4 records, closest 1.4km ENE	WCA, NERC
Polecat	<i>Mustela putorius</i>	1 record 1.8km NNE	NERC
Brandt's bat	<i>Myotis brandti</i>	1 record 2.km WNW	EPS
Birds			
Pink-footed goose	<i>Anser brachyrhynchus</i>	3 records, closest 70m E	BoCCAmber
Barn owl	<i>Tyto alba</i>	12 records, closest 110m NW	BoCCGreen, WCA (1)
Lapwing	<i>Vanellus vanellus</i>	18 records, closest 155m SSW	BoCCRed, NERC
Bullfinch	<i>Pyrrhula pyrrhula</i>	21 records, closest 210m ESE	BoCCAmber, NERC
Kingfisher	<i>Alcedo atthis</i>	11 records, closest 0.5km NW	BoCCAmber, WCA (1)
Song thrush	<i>Turdus philomelos</i>	33 records, closest 0.5km WNW	BoCCRed, NERC
Tree pipit	<i>Anthus trivialis</i>	3 records, closest 0.6km WNW	BoCCRed, NERC
Cuckoo	<i>Cuculus canorus</i>	4 records, closest 0.6km WNW	BoCCRed, NERC
Dunnock	<i>Prunella modularis</i>	35 records, closest 0.6km WNW	BoCCAmber
Snipe	<i>Gallinago gallinago</i>	11 records, closest 0.6km NW	BoCCAmber
Starling	<i>Sturnus vulgaris</i>	32 records, closest 0.7km WNW	BoCCRed, NERC
Fieldfare	<i>Turdus pilaris</i>	13 records, closest 0.7km WNW	BoCCRed, WCA (1)
Meadow pipit	<i>Anthus pratensis</i>	16 records, closest 0.7km WNW	BoCCAmber
Redwing	<i>Turdus iliacus</i>	21 records, closest 0.7km WNW	BoCCRed, WCA (1)

Common Name	Scientific Name	Records	Conservation Status
House sparrow	<i>Passer domesticus</i>	50 records, closest 0.8km NNW	BoCCRed, NERC
Skylark	<i>Alauda arvensis</i>	25 records, closest 0.8km WNW	BoCCRed, NERC
Linnet	<i>Linaria cannabina</i>	11 records, closest 0.8km NW	BoCCRed, NERC
Mallard	<i>Anas platyrhynchos</i>	23 records, closest 0.8km NNW	BoCCAmber
Mistle thrush	<i>Turdus viscivorus</i>	11 records, closest 0.8km NNW	BoCCRed
Common gull	<i>Larus canus</i>	1 record 0.8km NNW	BoCCAmber
Tree sparrow	<i>Passer montanus</i>	22 records, closest 0.8km NNW	BoCCRed, NERC
Yellowhammer	<i>Emberiza citrinella</i>	20 records, closest 0.8km WNW	BoCCRed, NERC
Stock dove	<i>Columba oenas</i>	6 records, closest 1km WNW	BoCCAmber
Swift	<i>Apus apus</i>	5 records, closest 1km E	BoCCAmber
Grey wagtail	<i>Motacilla cinerea</i>	12 records, closest 1km E	BoCCRed
Herring gull	<i>Larus argentatus</i>	1 record 1km E	BoCCRed, NERC
House martin	<i>Delichon urbicum</i>	13 records, closest 1km E	BoCCAmber
Kestrel	<i>Falco tinnunculus</i>	18 records, closest 1km E	BoCCAmber
Lesser black-backed gull	<i>Larus fuscus</i>	12 records, closest 1km WNW	BoCCAmber
Willow tit	<i>Poecile montanus</i>	4 records, closest 1km E	BoCCRed, NERC
Tawny owl	<i>Strix aluco</i>	3 records, closest 1.2km NE	BoCCAmber
Black-headed gull	<i>Chroicocephalus ridibundus</i>	5 records, closest 1.3km N	BoCCAmber
Reptile			
Adder	<i>Vipera berus</i>	1 record 110m NW	Partial protection under WCA, NERC
Grass snake	<i>Natrix natrix</i>	2 records, closest 1.1km NW	Partial protection under WCA, NERC
Invertebrates			
Cinnabar	<i>Tyria jacobaeae</i>	3 records, closest 1.1km NW	NERC
Dingy skipper	<i>Erynnis tages</i>	2 records, closest 1.8km NNW	NERC

NB: The desk study data is third party controlled data, purchased for the purposes of this report only. RammSanderson Ecology Ltd cannot vouch for its accuracy and cannot be held liable for any error(s) in these data. Full species records are available to view upon request.

15 APPENDIX 5: PHASE 1 HABITAT SURVEY PLAN



Target Notes:
TN1: Mammal hole
TN2: Mammal path
TN3: Himalayan balsam
TN4: Large man made pond
TN5: Mammal path into wooded area
TN6: Culvert running under A50
TN7: Mammal path running towards watercourse
TN8: Large brash pile

TN10: Brash pile
TN12: Animal digging
TN13: Buzzard seen

- Key**
- Boundary
 - B4 - Improved grassland
 - B6 - Poor semi-improved grassland
 - C3.1 - Other tall herb and fern - ruderal
 - G1 - Standing water
 - J1.1 - Cultivated/disturbed land - arable
 - J4 - Bare ground
 - A3.1 - Broadleaved Parkland/scattered trees
 - G2.1 - Running water
 - J2.1.2 - Intact hedge - species-poor
 - J2.3.2 - Hedge with trees - species-poor
 - J2.4 - Fence
 - J2.6 - Dry ditch
 - X1 - Defunct Hedge with Trees
 - A1.1.1 - Broadleaved woodland - semi-natural
 - A3.1 - Broadleaved Parkland/scattered trees
 - Target Note
 - Tree with Bat Potential
 - Badger Sett/Signs
 - Deciduous Tree
 - Coniferous Tree



Client:
Novus Renewable Services Limited

Project:
Solar Farm

Drawing Title:
Phase 1 Habitat Plan

Drawing No.
RSE_5710_F03

Rev:
V1

Drawn By:
AD

Scale accurate to A3
1:4,250

Date:
31/01/2022

16 APPENDIX 6: PHASE 1 HABITAT SURVEY RESULTS

xxxv The survey area was mainly formed of improved grassland, with hedgerows, trees, ditches, tall ruderal and scrub located along the peripheries. Full habitat descriptions and photos are provided below. For a Phase 1 Habitat Survey Plan refer to Appendix 5.

xxxvi Habitat types detailed below are listed in order of the JNCC (2010) Handbook. The species list provided in this report reflect only those taxa observed during the survey.

Table 11: Results of Site Survey

Habitat	Description	Area (m ²)	Ecological Importance & Outcome of Proposal	Photograph
B.4 Improved grassland	Improved grassland is the dominant habitat onsite. Perennial rye grass (<i>Lolium perenne</i>) is dominant across the sward with abundant common nettle (<i>Urtica dioica</i>), herb Robert (<i>Geranium robertianum</i>) and ivy (<i>Hedera helix</i>) both occur frequently within the habitat with creeping buttercup (<i>Ranunculus repens</i>) and dock (<i>Rumex sp.</i>) occurring occasionally. Cleavers (<i>Galium aparine</i>) and bristly oxtongue (<i>Helminthotheca echinoides</i>) occurred rarely within the sward. Fields to the southeast of the site were sheep grazed.	331,454	Not inherently important – To be lost to the development.	
C3.1 Tall Ruderal	Tall ruderal habitats were found along the improved grassland field margin. Common nettle (<i>Urtica dioica</i>) was abundant within the sward with herb Robert and ivy occurring frequently. Occasionally occurring was bramble (<i>Rubus fruticosus</i> agg.), dandelion (<i>Taraxacum</i> sp.), creeping buttercup (<i>Ranunculus repens</i>) and spear thistle (<i>Cirsium vulgare</i>) with no one species been dominant within the habitat.	611	Not inherently important, to be lost within the development	-
J1.1 Cultivated Land/ Arable	The northern most field is arable. Small patches of grassland are succeeding through.	77140	Not inherently important, to be lost within the development	

Habitat	Description	Area (m ²)	Ecological Importance & Outcome of Proposal	Photograph
J2.1.2 Intact species-poor hedgerow	Intact species poor hedgerows run along the northern and eastern boundary of the site (H9), and through the centre of the site (H5, H6, H7, H10, H11, H15). These were dominated by blackthorn (<i>Prunus spinosa</i>) with occasional bramble and holly (<i>Ilex aquifolium</i>).	-	To be retained within the development.	
J2.2.2 Defunct species poor hedgerow with trees	Defunct species poor hedgerow with trees are present within the centre of the site. These were dominated by blackthorn with occasional bramble and holly. Oak (<i>Quercus robur</i>) and ash (<i>Fraxinus excelsior</i>) stands were found frequently within the hedgerows.	-	To be retained within the development.	
A3.1 Parkland scattered trees	Scattered trees are located around the waterbodies on site. Species present included ash, blackthorn and crack willow (<i>Salix fragilis</i>).	258	Important ecologically – To be retained where possible. It is anticipated that one tree (T21) is to be removed.	
G2.1 Eutrophic running water	Running water was located through the centre of the site with a culvert running under the A50. The ditched flow from the culvert along the northwest and southern edges of the arable field.	-	Important ecologically – To be retained.	

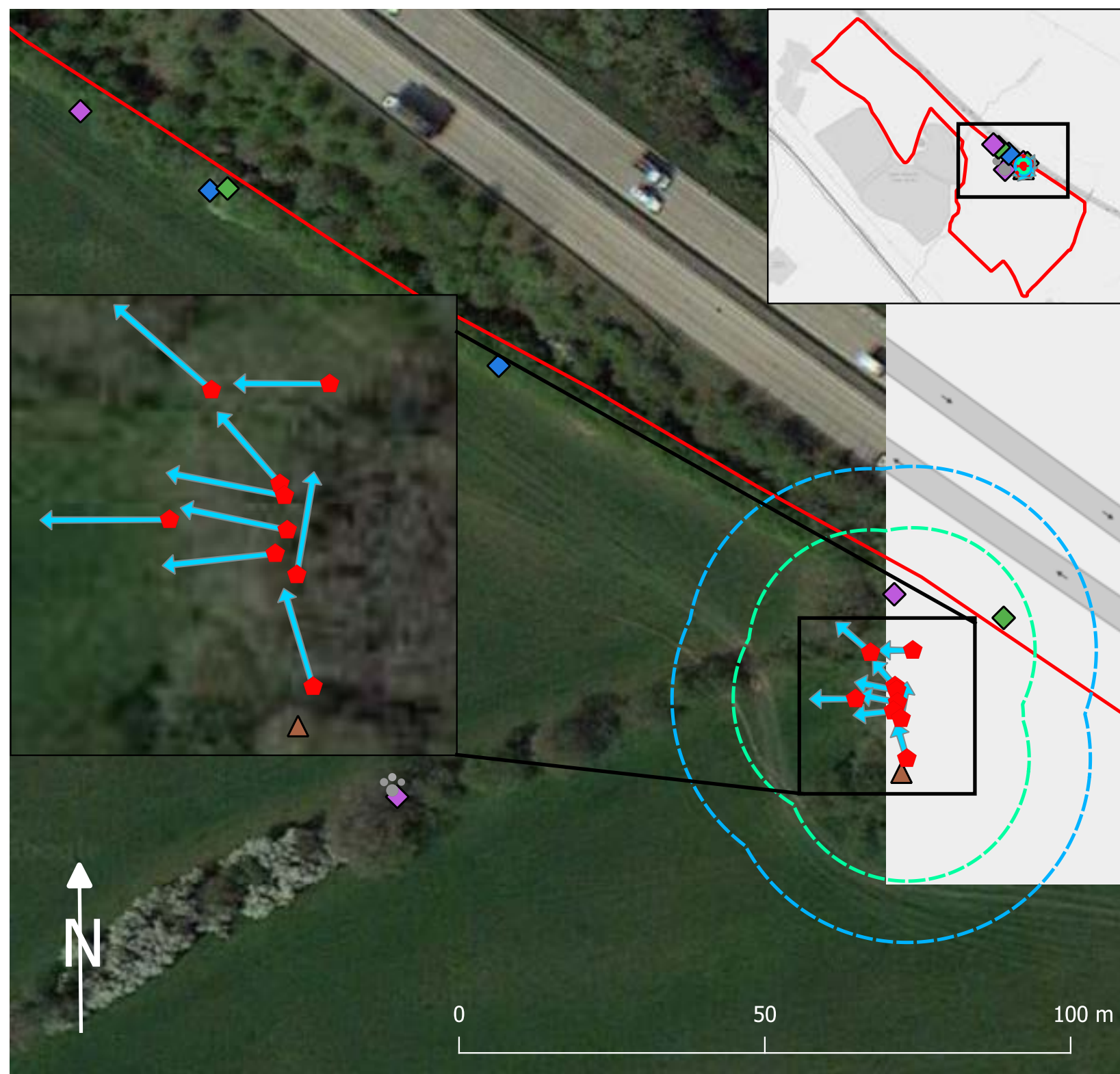
Habitat	Description	Area (m ²)	Ecological Importance & Outcome of Proposal	Photograph
G1 Standing water	Five ponds were located to the east of the site boundary. Further descriptions can be found in the H.S.I table within the PEA report.	2048	Important ecologically – To be retained.	
Dry Ditch	Dry ditched run along the northwest of the site.	-	To be retained.	-

i. Non-Native Species

- i No Schedule 9 species of the Wildlife and Countryside Act 1981 including Japanese knotweed Himalayan balsam and giant hogweed were observed during the survey.

Table 12: Badger Survey Results Table

Entrance Hole No.	Description	Grid Reference	Photo
1	Well-used tunnel going northwest.	SJ 99756 38481	
2	Well-used tunnel going northwest.	SJ 99760 38475	
3	Well-used tunnel going west.	SJ 99763 38481	
4	Well-used tunnel going west. Partial coverage by adjacent tree roots but appeared not to inhibit access into the tunnel.	SJ 99760 38475	



Key

- Boundary
- 20m Buffer
- 30m Buffer
- ⬠ Well-used Main Sett
- tunnel direction
- ▲ Fresh Latrine
- ◆ Badger Squeeze
- ◆ Hair Found
- ◆ Mammal Path
- Claw Marks



Client:
Novus Renewable Services Limited

Project:
Solar Farm

Drawing Title:
Badger Survey Results Plan

Drawing No.
RSE_5710_F04

Drawn By:
AD

Scale:
1:1,400 @A4

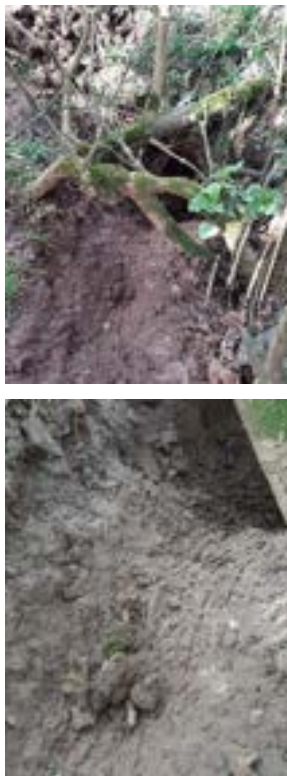
Rev:
V1

Date:
16/03/2022

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Entrance Hole No.	Description	Grid Reference	Photo
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2	Well-used tunnel going northwest.	SJ 99760 38475	
3	Well-used tunnel going west.	SJ 99763 38481	
4	Well-used tunnel going west. Partial coverage by adjacent tree roots but appeared not to inhibit access into the tunnel.	SJ 99760 38475	

Entrance Hole No.	Description	Grid Reference	Photo
5	Well-used tunnel going west, with scratch marks observed at the base. Partial coverage by adjacent vegetation but appeared not to inhibit access into the tunnel.	SJ 99761 38473	
6	Well-used tunnel going west, with snuffle holes adjacent.	SJ 99754 38473	
7	Well-used tunnel going north, adjacent to standing water.	SJ 99761 38470	

Entrance Hole No.	Description	Grid Reference	Photo
8	Well-used tunnel going west. Partial coverage by adjacent tree roots but appeared not to inhibit access into the tunnel.	SJ 99760 38471	
9	Well-used tunnel going north. Partial coverage by adjacent tree roots but appeared not to inhibit access into the tunnel.	SJ 99762 38463	