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Technical Appendix 8.2: Protected Species Survey Report

Department: ERM
Project: Springfield Solar and BESS
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INDEX

1 INTRODUCTION

1.1.1.1 This Technical Appendix (TA) describes the methods and results of Protected Species Surveys (PSS) undertaken to obtain baseline ecological information in connection with the proposed ground-mounted solar photovoltaic (PV) system and Battery Energy Storage System (BESS) (the Proposed Development). The following terminology is used throughout this TA:

- The Site: all land within the proposed red line boundary as shown on **Figure 8.2.1, Appendix A**;
- The Proposed Development: the proposed solar PV farm and BESS, inclusive of all necessary infrastructure. The Development layout is shown on **Figure 8.8.2, Appendix A**; and
- Ecology Survey Area (ESA): the land within which protected species could be affected by the Proposed Development, and where the PSS was undertaken. The ESA is shown on **Figure 8.2.3, Appendix A**.

1.2 The Proposed Development

1.2.1.1 The Proposed Development will occupy an area of approximately 184 hectares (ha), with the layout shown in Figure 8.1.2, **Appendix A**. A full, detailed information on the Proposed Development is found in **Chapter 3: Development Description** of the Environmental Impact Assessment Report (EIAR).

1.3 Site Description

1.3.1.1 The Site is centred on grid coordinates National Grid Reference (NGR) 74514 71531. At the closest points, the Site boundary is approximately 50 metres (m) north of Oldhamstocks, and 7.8 kilometres (km) southeast of Dunbar.

1.3.1.2 A full description of the Site and its surroundings can be found in **Chapter 2: Site Design and Evolution** of the EIAR.

1.4 Purpose of Report

1.4.1.1 PSS were undertaken to collect detailed information regarding the occurrence and distribution of protected species within the Site and its surrounds, to provide an accurate baseline on which to base an Ecological Impact Assessment (EcIA). The purpose of this report is to detail the methods and results of the PSS.

1.4.1.2 Information relating to bats is detailed within the **Volume 3 Technical Appendix 8.3: Bat Survey Report** and information pertaining to badger is detailed within **Volume 3 Technical Appendix 8.4: Confidential Badger Annex** and is not reported here.

2 METHODOLOGY

2.1 Field Survey

2.1.1.1 In accordance with NatureScot (NS) standing advice[1], Environmental Resources Management (ERM) completed a range of surveys to establish the presence of protected[2] and / or priority[3] species within the Site and its immediate surrounds. The PSS were completed by ERM ecologists who are members of the Chartered Institute of Ecology and Environmental Management (CIEEM) with at least capable level of competence in undertaking PSS, as per CIEEM's competency framework[4]. The following section describes the methodology undertaken for the PSS.

2.1.2 Red Squirrel

2.1.2.1 A walkover survey of all accessible woodland within, and up to 50 m from the Site was conducted for red squirrel (*Sciurus vulgaris*) on 12 September and 13 September 2024. The survey was completed in accordance with the latest guidance[5,6] . Surveyors walked the woodland areas and recorded red squirrel activity including dreys, feeding remains, and footprints, as well as direct sightings of individuals.

2.1.2.2 Dates and times of surveys, and weather conditions are detailed in **Table 2.1**.

TABLE 2.1 DATES AND TIMES OF RED SQUIRREL SURVEYS

DATE OF SURVEY	START TIME	WEATHER CONDITIONS
12/09/2024	13:00	Temperature (ºC): 17 Cloud Cover (Oktas): 3/8 Wind (Beaufort): 1 Precipitation (mm): 0
13/09/2024	08:40	Temperature (ºC): 17

[1] NatureScot (2025) *Planning and development: standing advice and guidance documents* [Online] Available at: Planning and development: standing advice and guidance documents | NatureScot (Accessed February 2025).
[2] Species which are afforded protection under Scottish, UK or European Legislation including: Nature Conservation (Scotland) Act 2004, the Wildlife and Countryside Act 1981 (as amended in Scotland); and the Conservation (Natural Habitats, &c.) regulations 1994 (as amended in Scotland)
[3] Species which are of principal importance for biodiversity in Scotland as listed on the Scottish Biodiversity List and the East Lothian Biodiversity Action Plan.
[4] CIEEM (2024) *Competency Framework*. [Online] Available at: Competency-Framework-2024-V7-Web.pdf (Accessed February 2025)
[5] NatureScot (2024) *Standing advice for planning consultation – Red Squirrels* [Online] Available at: Standing advice for planning consultations - Red Squirrels | NatureScot (Accessed February 2025)
[6] Cresswell, W.J., Birks, J.D.S., Dean, M., Pacheco, M., Trewhella, W.J., Wells, D. and Wray, S. (2012). *UK BAP Mammals: Interim Guidance for Survey Methodologies, Impact Assessment and Mitigation*. The Mammal Society, Southampton

DATE OF SURVEY	START TIME	WEATHER CONDITIONS
		Cloud Cover (Oktas): 3/8 Wind (Beaufort): 1 Precipitation (mm): 0

2.1.3 Otter

2.1.3.1 In accordance with best practice guidelines[7] an otter (*Lutra lutra*) survey of all accessible watercourses within the Site, and 200 m of the Site, was completed on 24 July 2024 and 25 July 2024. Surveys recorded the presence of otter holts and resting sites; as well as, evidence of otter activity including spraints (dung), feeding remains, footprints, paths and slides.

2.1.3.2 Structures or places used by otter for shelter or protection were classified based in accordance with Harris and Yalden (2008)[8].

- Holt: an underground feature that can be situated in natural cavities or specifically dug by an individual. Normally in frequent use by an otter with an abundance of spraints and prints at the entrance, although non-breeding individuals may utilise a network of holts as they move through their territory. Breeding typically occurs in holts with extensive tunnel-systems and chambers where cubs are raised; and

- Couch: an above ground feature regularly used by otter for resting, normally characterised by vegetation that has been pulled up and flattened by an individual into a nest. Specially constructed covered couches can be used for breeding.

2.1.4 Water Vole

2.1.4.1 In accordance with good practice guidelines[9],[10], all accessible watercourses within the Site, and 50 m from the Site were subjected to water vole (*Arvicola amphibio*us) surveys. The surveys were completed on 24 July 2024 and 25 July 2024. The purpose of the survey was to record habitat suitability within the ESA and to record evidence of water vole activity including latrines (droppings), footprints, runs, burrows and feeding remains.

2.1.4.2 The Water Vole Field Signs and Habitat Assessment (Dean, M. 2021)[11] was used as a basis to evaluate features of a waterbody to understand if it holds the potential to house water

[7] NatureScot (2024) *Protected Species Advice for Developer: Otter*. [Online] Available at: Standing advice for planning consultations - Otters | NatureScot (Accessed February 2025)
[8] Harris, S., and Yalden, D.W. (2008) *Mammals of the British Isles Handbook (4th edition)*. The Mammal Society, Southampton.
[9] NatureScot (2024) *Protected Species Advice for Developers: Water Vole* [Online] Available at: Standing advice for planning consultations - Water Voles | NatureScot (Accessed February 2025)
[10] Dean, M., Strachan, R., Gow, D. and Andrews, R. (2016) *The Water Vole Mitigation Handbook (Mammal Society Mitigation Guidance Series). Eds Fiona Mathews and Paul Chanin*. Mammal Society, London
[11] Dean, M. (2021). *Water Vole Field Signs and Habitat Assessment*. Pelagic Publishing. Exeter, pp 18-19

voles. **Table 2.2**, overleaf, taken from the guidance[11], shows the criteria used during the survey to assess waterbodies for their suitability to support water voles.

TABLE 2.2 CRITERIA FOR ASSESSING THE VALUE OF HABITAT FOR WATER VOLES

HABITAT CATEGORY	DRY AREAS FOR BORROWS OR NESTS			HERBACEOUS VEGETATION	WATER
	BANK PROFILE	BANK SUBSTRATE	VARIATION IN WATER LEVEL		
Optimal (all criteria need to be met)	Steep (approaching 1:1) on at least one side of a watercourse. Steep or shallow on static waterbodies or fen type habitat	Earth or peat	No noticeable variation during the summer months; banks are not overtopped regularly.	Continuous swathe of tall and luxurious riparian vegetation providing 90 – 100 % cover on the banks (tall tussocky grassland) and marginal / in channel vegetation is present (emergent species)	Permanent water.
Good (all criteria need to be met)	Steep (approaching 1:1) on at least one side of a watercourse. Steep or shallow on static waterbodies or fen-type habitat.	Earth or peak banks, or stony / reinforced bank with gaps allowing access to the earth behind.	No noticeable variation during the summer months; banks are not overtopped regularly.	Continuous swathe of bankside or in-channel (emergent) vegetation providing at least 60 % ground cover. May be dominated by grasses and weeds rather than luxurious riparian vegetation. The vegetation should generally be tall, except in urban or suburban areas, where shorter bankside vegetation may also qualify.	Permanent water. Or routinely wet for at least 2 – 3 months during the summer, and where other 'good' habitat present in immediately adjacent areas with permanent water
Suitable but poor	Any habitat that falls short of the criteria to qualify as 'good' but does not meet the criteria of 'negligible' value could reasonably be considered to be 'suitable but poor.'				
Negligible (will generally need to meet the criteria for herbaceous	Shallow profile on both banks	Rocky or gravel, unsuitable for burrowing.	Considerable variation in water level – the bank toe can move by more than 1 m	No or limited bankside and marginal vegetation (due to shading or other 'permanent factors – note that management can change and is often a 'temporary' factor)	N/A

HABITAT CATEGORY	DRY AREAS FOR BORROWS OR NESTS			HERBACEOUS VEGETATION	WATER
	BANK PROFILE	BANK SUBSTRATE	VARIATION IN WATER LEVEL		
vegetation and at least one other)			horizontally over the breeding season.		
	Vertical bank face with no burrowing opportunities behind it.	Reinforced banks with no gaps	N/A		

2.2 Survey Limitations

2.2.1.1 Land access was not agreed with the landowners of the properties at Oldhamstocks Mains and no ecological data could be collected in this area, denoted by the hatched lines on **Figure 8.2.3, Appendix A**. In this area, a small unnamed watercourse runs through this area and consequently surveys for otter and water vole could not be undertaken. With respect to otter surveys could be undertaken on this watercourse either side of this area, and so the presence of otter within the watercourse could be determined. With respect to water vole, the watercourse in this area was heavily shaded due to tree cover, therefore the establishment of more suitable aquatic and riparian vegetation that water vole typically feed on (e.g. rushes) is unlikely and as such it is unlikely that water vole would be present. Therefore, this is not considered a considerable limitation.

2.2.1.2 Due to access constraints, watercourses outside of the Site were not able to be surveyed for otter and water vole. However, effects of the Proposed Development would largely be limited to the Site only, and all major rivers and woodland are avoided; therefore, effects to water vole and otter beyond are unlikely, and as all watercourses within the Site were subjected to survey an understanding of whether otter and water vole were present within the Site could be understood. Therefore, this is not considered a considerable limitation.

3 BASELINE SURVEY RESULTS

3.1 Red Squirrel

3.1.1.1 Suitable drying and foraging habitat was identified in the north and east of the Site, where a combination of mixed and conifer woodland is present.

3.1.1.2 No evidence of red squirrel was recorded within the Site; however, eight potential dreys were recorded within the ESA, though no surveys were undertaken to determine if these dreys were in use. Therefore, the presence of red squirrel within the ESA cannot be ruled out.

3.2 Otter

3.2.1.1 The Site contains four agricultural ditches, two roadside ditches, and a small watercourse is present in the north of the Site. In addition, there is a watercourse, which runs alongside woodland within Oldhamstocks Mains, and so suitable foraging habitat exists within the ESA for otter. In addition, the woodland blocks within the Site and ESA provide potential resting habitat for otter.

3.2.1.2 No holts or resting sites were identified during the PSS and no signs of otter activity were recorded; therefore, otter is considered absent from the Site.

3.3 Water Vole

3.3.1.1 The habitat assessments identified eight waterbodies which held suitable but poor potential for potential for water voles, with a further three waterbodies considered to hold negligible potential for water vole. However, no signs of water vole activity were recorded during the surveys; therefore, water vole are considered absent from the Site.

3.3.1.2 Full details of the water vole surveys are shown in **Table 3.1**, overleaf.

TABLE 3.1 WATER VOLE SURVEY RESULTS

WATERBODY ID	OVERALL HABITAT CATEGORY	RATIONALE	WATER SIGNS RECORDED DURING SURVEY (Y/N)	WATER PRESENT OR ABSENT
Springfield Ditch 1	Suitable but poor	The banks of the ditch were shallow on both sides, with substrate mostly made of sand and / or silt. The banks were earth banks, riparian vegetation on the left-hand bank was a grass hedgerow verge, with the right-hand bank being recorded as a grass verge between the ditch and an arable field. Though, there was no in-channel, emergent or aquatic flora. Ditch will be wet for at least 2-3 months, if not permanently. The waterbody fell short of criteria for good, but did not meet criteria as negligible, therefore waterbody was suitable but poor for water vole.	N	Absent
Springfield Ditch 2	Suitable but poor	Steep banks approaching 1:1, the left-hand bank was a hedgerow verge dominated by coarse grasses, with the right-hand bank, being a grass verge between the ditch and the arable field. Water flow is certainly variable, with the ditch prone to drying, with the ditch dry at the times of survey. The waterbody fell short of criteria for good, but did not meet criteria for negligible, therefore waterbody was suitable but poor for water vole.	N	Absent
Springfield Ditch 3	Suitable but poor	The banks of the ditch steep, left-hand bank was a hedgerow verge dominated by coarse grasses, and the right-hand bank. The ditch was dry at the time of survey, which indicated variation in flow throughout the year, including during the breeding season. The waterbody fell short of criteria for good, but did not meet criteria for negligible, therefore waterbody was suitable but poor for water vole.	N	Absent
Springfield Roadside Ditch 1	Suitable but poor	This was ditch, which aligned a minor road. The banks of the ditch were shallow, and though the banks were stony, there were some spaces I which voles could form burrows. The ditch appeared to be prone to drying and overtopping with signs that the water level had recently changed. The left-hand bank was a roadside verge, the right-hand bank was woodland.	N	Absent

WATERBODY ID	OVERALL HABITAT CATEGORY	RATIONALE	WATER SIGNS RECORDED DURING SURVEY (Y/N)	WATER PRESENT OR ABSENT
		The woodland to the right of the ditch shaded the ditch and limited aquatic flora. The waterbody fell short of criteria for good, but did not meet criteria for negligible, therefore waterbody was suitable but poor for water vole.		
Springfield Ditch 4	Suitable but poor	Left-hand bank was shallow, but the right-hand bank was steep. The right-hand bank was mostly vegetated, with some stones, but gaps existed for burrowing. Shading from the hawthorn hedgerow limited plant growth in water; however, the right-hand bank, as it is a field margin between the ditch and the arable field contains ample, coarse grasses, which could be used by voles to feed. The ditch appeared likely to be prone to drying during the summer months, as the flow was very low. The waterbody fell short of criteria for good, but did not meet criteria for negligible, therefore waterbody was suitable but poor for water vole	N	Absent
Springfield Roadside Ditch 2	Suitable but poor to NT 74111 71517 and Negligible from NT 7 4111 71517 to NT 74065 71607	This ditch aligned a minor road. The right-hand bank was woodland, with left - hand bank being the grass roadside verge. Left-hand bank was shallow and right-hand bank was steep. The right-hand bank was stony and had tree roots and therefore had limited areas for burrowing. The left-hand bank was stony but did contain areas for burrowing. Tree growth from the woodland provided shade onto the ditch and limited the growth of aquatic flora. The waterbody fell short of criteria for good, but did not meet criteria for negligible, therefore waterbody was suitable but poor for water vole, until NT 74111 71517, at this point the banks became reinforced as the ditch approach the bridge. Large boulder reinforcement from NT 74111 71517 to NT 74065 71607, meant that there was no potential for burrowing for water voles on this stretch, and thus this stretch of the waterbody was considered negligible for water vole.	N	Absent
Springfield watercourse - stretch from NT	Suitable but poor	Banks were steep and vegetated. Bankside substrate was stony with gaps allowing access to earth behind for burrowing. Considerable variation in water level noted. Bankside vegetation largely coarse grasses,	N	Absent

WATERBODY ID	OVERALL HABITAT CATEGORY	RATIONALE	WATER SIGNS RECORDED DURING SURVEY (Y/N)	WATER PRESENT OR ABSENT
73720 71668 to NT 74022 71626		though some dense gorse patches present in some areas. The waterbody fell short of criteria for good, but did not meet criteria for negligible, therefore waterbody was suitable but poor for water vole.		
Springfield watercourse - stretch from NT 74022 71626 to NT 74052 71614	Negligible	From this point, the banks of the watercourse became shallow, and the watercourse was shaded by woodland from the right-hand bank. A combination of shading from the woodland, and the stony substrate of the watercourse has limited aquatic floral growth. The left-hand bank was dominated by tall ruderal, mostly nettle. Bank sides had rocky substrates unsuitable for burrowing, therefore this stretch of the watercourse was of negligible suitability for water vole	N	Absent
Watercourse at Oldhamstocks Main	Negligible	Banksides were steep; however, reinforced with boulders, possibly due to proximity to minor road, therefore there was no habitat for water voles to form their burrows. In addition, bankside and aquatic vegetation is limited as watercourse is completely shaded from the canopy of the woodland, which grew on both banks. Therefore, waterbody was of negligible suitability for water vole.	N	
Watercourse In field (NT 74467 71796 to 74670 72088	Negligible	As the watercourse left the woodland, and entered the field, the banksides were steep, particularly where the watercourse meandered. Rat runs and burrows were recorded on the right-hand bank. Bankside vegetation was limited due to shading by gorse, and in areas where gorse did not grow it was heavily grazed by sheep. As the watercourse progressed through the field, the banks became shallower, and stony, thus unsuitable for water voles to form their burrows. Water level appeared to be subject to variations in flow throughout the season, as the watercourse ran dry from NT 74671 72092 to NT 74728 72176. As most of the banksides lacked vegetation, and the banks were not suitable for water voles to form their burrows, apart from a short section just as the watercourse left the woodland, the watercourse was considered to hold negligible suitability for water vole.	N	Absent

WATERBODY ID	OVERALL HABITAT CATEGORY	RATIONALE	WATER SIGNS RECORDED DURING SURVEY (Y/N)	WATER PRESENT OR ABSENT
Watercourse – northeastern extent (NT 74729 72174 to NT 74955 71991)	Suitable but poor	At the upstream extent the banksides were steep, and heavily vegetated. Both banks were vegetated with a mixture of coarse grasses and tall ruderals, such as thistle and nettle. Grasses choked the ditch in places. The ditch appeared to suffer from variations in water level, with the downstream end having very low flows, but there were clear indications that flow had been higher (areas of wetness visible on bankside boulders indicating the flow had been higher recently. The waterbody fell short of criteria for good, but did not meet criteria for negligible, therefore waterbody was suitable but poor for water vole.	N	Absent

3.4 Other Species

3.4.1.1 The following species are listed on the Scottish Biodiversity List (SBL) and as such are of principal importance for biodiversity conservation in Scotland.

3.4.2 Brown Hare

3.4.2.1 One sighting of brown hare was recorded within ESA during the PSS. As evidence of brown hare was recorded within the ESA during the PSS; brown hare is present within the ESA.

4. SUMMARY

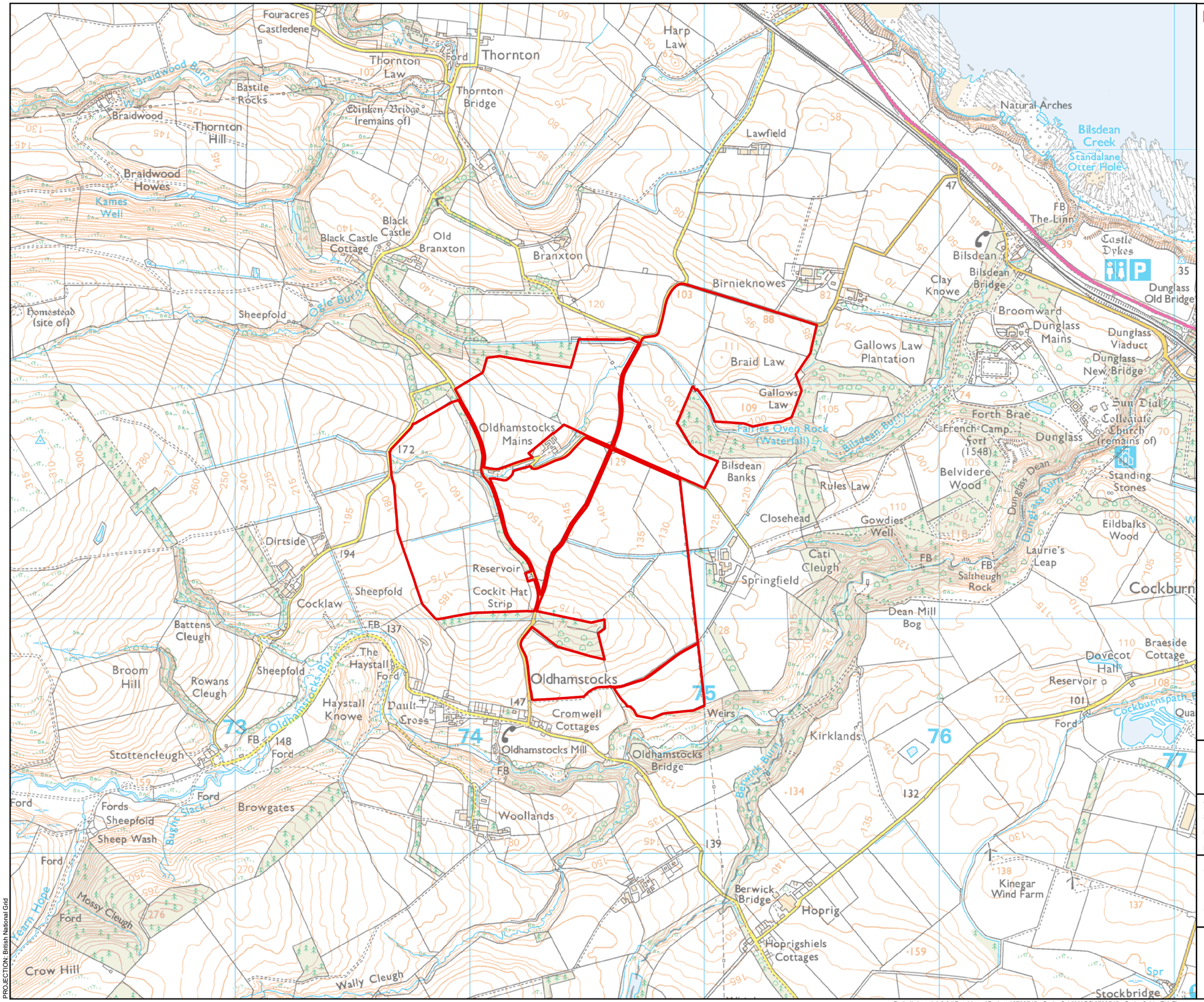
3.4.2.2 Following the PSS, the following protected and / or priority species were confirmed to be present within the ESA:

- Red squirrel; and
- Brown hare.

3.4.2.3 The following species are likely absent from the ESA at the time of the PSS:

- Otter; and
- Water vole.

APPENDIX A FIGURES



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Meters

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SCALE: See Scale Bar	VERSION: A01
SIZE: A3	DRAWN: RW
PROJECT: 0733745	CHECKED: JB
DATE: 5/30/2025	APPROVED: RO

Springfield Solar Farm and BESS
Protected Species Survey Report
Figure 8.2.1
Site Location Plan

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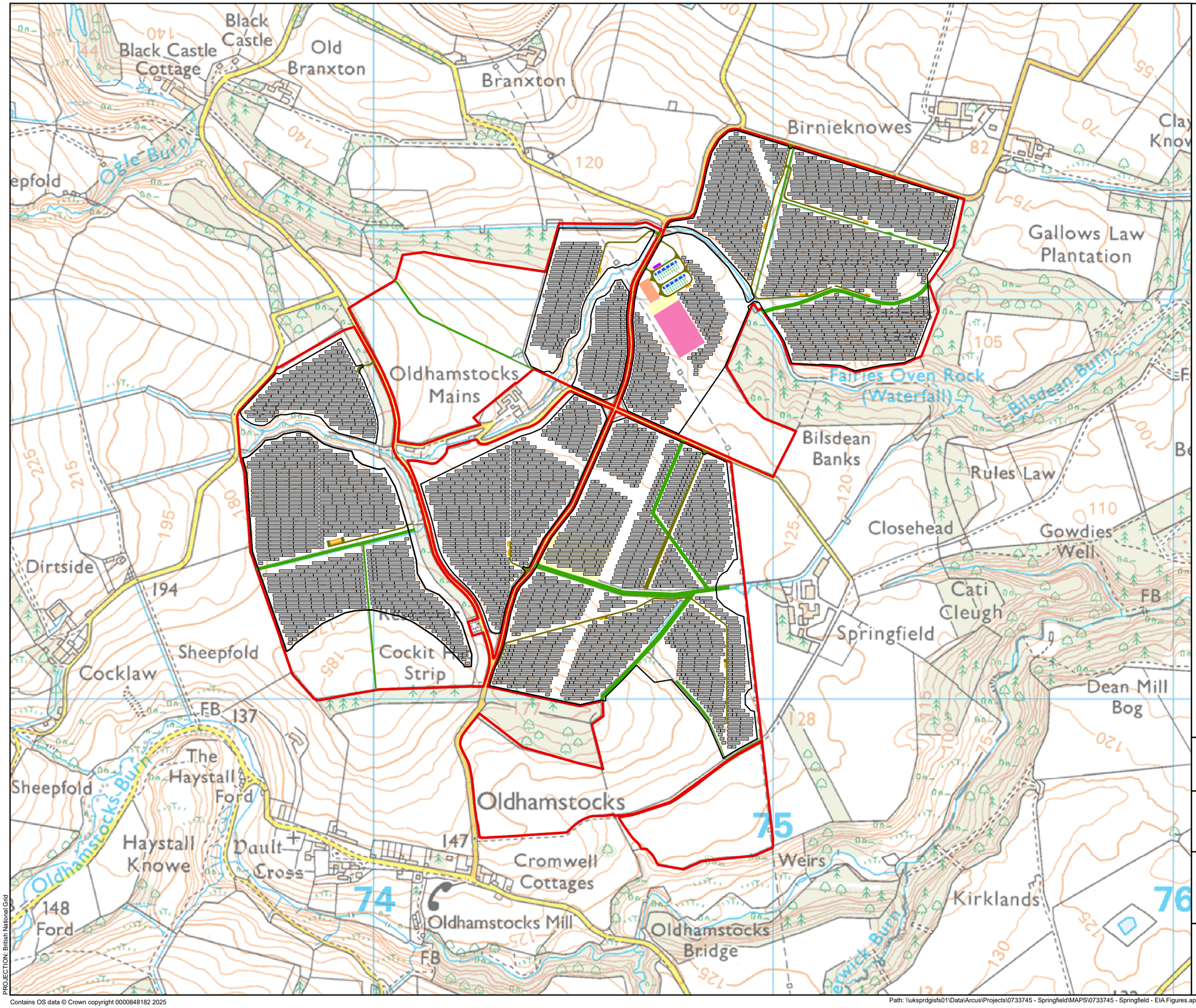
PROJECTION: British National Grid

Path: \\uksprdgisfs01\Data\Arcus\Projects\0733745 - Springfield\MAPS\0733745 - Springfield - EIA Figures.aprx\0733745 - Springfield - Protected Species TA - Figure 8.2.1 - Site Location Plan - A01



- Site Boundary

Proposed Site Layout

- BESS
- Temporary Construction Compound
- OM Building
- TSO Substation
- Customer Substation
- PV Module
- Transformers
- Hedgerow
- Internal Access Track
- Power Conversion
- Storage Container
- Tesla Megapack
- Fence

0 50 100 150 200 250
Meters

N

SCALE: See Scale Bar	VERSION: A01
SIZE: A3	DRAWN: JS
PROJECT: 0733745	CHECKED: JB
DATE: 5/30/2025	APPROVED: RO

Springfield Solar Farm and BESS
Protected Species Survey Report
Figure 8.2.2
Development Plan

ERM voltalia

PROJECTION: British National Grid

Path: \\uksprdgisfs01\Data\Arcus\Projects\0733745 - Springfield\MAPS\0733745 - Springfield - EIA Figures.aprx\0733745 - Springfield - Protected Species TA - Figure 8.2.2 - Development Plan - A01