Preliminary Ecological Appraisal

at

Whitemoss Landfill, Skelmersdale

on behalf of



by



EXECUTIVE SUMMARY

- The site is found at the Ordnance Survey Grid Reference SD 47027 04897 to the southwest of the town of Skelmersdale. The site is 1 Ha and is situated in the southern corner of Whitemoss Landfill, with active landfill and arable land surrounding the site.
- One international statutory designated site lies within 10km of the site boundary. Due
 to the lack of functionally linked habitats between the SPA/RAMSAR site and this site,
 direct and indirect impacts (such as changes in human activity and pollution (including
 noise and dust) are not anticipated.
- o Four non-statutory designated sites (BHS) were located within the 2km search radius of the site. The closest sites being Ferny Knoll Bog approximately 0.7km southeast and Nipe Lane located approximately 0.8km to the east southeast. Due to the distance and types of works proposed, an impact to the LWS is not anticipated.
- MAGIC identifies that the site does fall within the SSSI Impact Risk Zones (IRZ) of two SSSI sites, including Ravenhead Brickworks SSSI (approximately 3.8km to the east), Martin Mere, Burscough SSSI (approximately 10km to the northwest). Due to the proposed plans being for restoration works only, it does not require further consultation with Natural England. Consequently, this is not considered any further in this assessment.
- The area of lowland raised bog adjacent to the eastern boundary of the site is functionally linked to the site. To avoid any risk of impacts to this priority habitat, silt fencing should be installed, ahead of works starting, along the edge of the working area to avoid any surface run off impacting the priority habitat. If **this measure is implemented, then no adverse impacts are anticipated** to the habitat.
- There is an area of deciduous woodland located approximately 370m to the west of the site. Due to the lack of functionally linked habitats between the site and the priority habitat, no adverse impacts are anticipated.
- Suitable terrestrial habitat for great crested newts (GCN) was noted within the site boundary. Additionally, four waterbodies were noted within 500m of the site boundary, only one could be assessed providing below average suitability for GCN. As the proposed works are in an area of habitat that is isolated and due to the NE GCN

- Rapid Risk Assessment tool showing a green 'offence unlikely' status. Therefore, an adverse impact to this species is not anticipated.
- Similarly to GCN, suitable habitats for reptiles are present. However, as the proposed works are minimal in nature and due to the isolated nature of the site, an adverse impact to reptiles is not anticipated.
- No trees with potential roosting features were identified on or in close proximity to
 the site. In addition, the site being isolated in nature it was deemed that the site held
 negligible suitability for foraging or commuting bats. Therefore, an adverse impact on
 this species is not anticipated.
- Badgers are highly transient in nature, and suitable commuting and foraging habitats are present within the site. To minimise the risk to badgers, mitigation measures, detailed in paragraph 4.3.7-4.3.8 should be adhered to throughout the works on site.
- Evidence of rabbit and fox were noted during the Phase 1 Habitat Survey. It is considered that the mitigation measures detailed for badger, in paragraphs 4.3.7 –
 4.3.8 should reduce the risk of unnecessary suffering to all mammal species.
- The areas of scrub and scattered trees present do provide some, sub-optimal habitat for **dormice**. However, no records were identified from within the 2km search radius, the site is isolated in nature and the area falls outside the normal distribution of this species. Therefore, an **adverse impact to this species is not anticipated**.
- The habitats on site held no suitability for water vole or otter. Therefore, an adverse impact to this species is not anticipated.
- Clearance of suitable bird nesting habitat (hedgerows, trees, scrub, grassland) should be undertaken outside the nesting bird season (March – August, inclusive). If this is not possible a breeding bird check by an Ecologist must take place within the 24hours prior to works starting.

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Appendix A National Legislation and Planning Policy

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Revision	Author	Checked by	Date
V1	AT	RM	May 2024



1 INTRODUCTION

1.1 Scope of works

- 1.1.1 Heatons were commissioned to undertake a Preliminary Ecological Appraisal (PEA) to determine the ecological status of land at Whitemoss Landfill, hereafter referred to as the site.
- 1.1.2 To undertake an initial assessment of the potential ecological impact of the proposals, a desk study, Phase 1 Habitat Survey and a preliminary protected species assessment were carried out. This is termed as a Preliminary Ecological Appraisal (PEA) Report in accordance with CIEEM (2018). This assessment is considered 'preliminary' until any required protected species, habitat or invasive species surveys are completed, and the results incorporated into a final Ecological Impact Assessment (EcIA) which supports a planning application.

1.1.3 This PEA aims to:

- Undertake a desk-based review of designated sites and records of protected species and other species that could present a constraint;
- Map and assess the habitats present on site;
- Assess the site for potential to support protected species or other species that could present a constraint, and make appropriate recommendations for further survey work, if necessary;
- Provide outline options for mitigation measures as appropriate; and
- Make recommendations for appropriate biodiversity enhancements in line with national and local planning policy.
- 1.1.4 This report pertains to these results only; recommendations included within this report are the professional opinion of an experienced ecologist and therefore the view of Heatons. The survey and desk-based assessment undertaken as part of this review are prepared in accordance with the British Standard for Biodiversity Code of Practice for Planning and Development (BS42020:2013).

1.2 Site Location and Description

1.2.1 The site is found at the Ordnance Survey Grid Reference SD 47027 04897 to the southwest of the town of Skelmersdale. The site is 1 Ha and is situated in the southern corner of Whitemoss Landfill, with active landfill and arable land surrounding the site.



Figure 1-1: Site in context with wider area

1.3 Proposed Development

- 1.3.1 In summary the Proposed Development is to complete works in line with the current restoration plan which will include:
 - Removal of some trees and sown grassland and movements of soil and materials to amend the topography of the site to allow correct topography for restorations;
 - Creation of habitats in line with the restoration plans including speciesrich grasslands.

2 ASSESSMENT METHODOLOGY

2.1 Desktop Study

2.1.1 Data regarding statutory and non-statutory designated sites, plus any records of protected or notable species and habitats was obtained from Lancashire Environment Record Network (LERN) and online resources, details of which are provided in Table 2.1 below.

Table 2-1: Consulted Resources and Search Radius.

Consultee / resource	Data Obtained	Search Radius from Site Boundary
Lancashire Environment Record Network (LERN)	Statutory and Non-statutory designated sites Protected and notable species	2km
Multi-Agency Geographic Information for the Countryside	Statutory International Designated	10km
(MAGIC)	Sites National	2km
	Priority Habitats	2km

2.2 Phase 1 Habitat Survey

- 2.2.1 The PEA consisted of two components: a Phase 1 Habitat Survey and a scoping survey for protected species and other species of conservation concern which could present a constraint to development.
- 2.2.2 The Phase 1 Habitat Survey was undertaken on the 14th March 2024, by Principal Ecologist, Amy Tose BSc (Hons).
- 2.2.3 The Phase 1 Habitat Survey followed the standard methodology (JNCC, 2010), and as described in the Guidelines for Preliminary Ecological Assessment (CIEEM, 2018, updated 2022). In summary, this comprised walking over the survey area and recording the habitat types and boundary features present. The DAFOR scale was used to assess the abundance of floral species within a grassland area (Groom, et al., 2011).
- 2.2.4 A protected species scoping survey was carried out in conjunction with the Phase 1 Habitat Survey. The site was assessed for its suitability to support protected species, in particular Great Crested Newts (GCN) *Triturus cristatus*, reptiles, birds, badgers *Meles meles*, bats, and other species of conservation importance that could pose a planning constraint.

2.2.5 The surveyor looked for evidence of use including signs such as burrows, droppings, footprints, paths, hairs, refugia and particular habitat types known to be used by certain groups such as ponds. Any mammal paths were also noted down and where possible followed. Fence boundaries were walked to establish any entry points or animals signs such as latrines. Areas of bare earth were inspected for mammal prints. Areas of habitat considered suitable for protected species or those of conservation interest were recorded.

2.3 Bats

Ground Level Tree Assessments

- 2.3.1 No structures were present within the site boundary. All tree(s) present on site, or within close proximity to the site boundary were visually assessed, and features with roosting potential for bats were noted, together with any evidence of bat presence such as droppings or feeding remains.
- 2.3.2 Following current survey guidelines (Collins, 2023), each tree was then categorised according to its suitability to support roosting bats shown in table 2-2 below.

Table 2-2: Bat tree assessment criteria

Suitability	Description
None	Tree with no PRFs or where it is highly unlikely PRFs are present
FAR	Further Assessment Required to establish presence of PRFs
PRF	A tree with at least one PRF present

2.3.3 The category above usually informs the need for additional survey effort.

Site use by bats – foraging / commuting

2.3.4 The habitats on site were also assessed for suitability of use by bats for foraging and commuting in line with BCT, 2023. This initial assessment informs the need for further surveys such as transect or static activity surveys.

2.4 Great Crested Newts

Habitat Suitability Assessment

2.4.1 In order to assess the suitability of the ponds within 500m of the site boundary a Habitat Suitability Index (HSI) was undertaken following the standard methodology produced by ARG UK in 2010. HSI is a standard assessment method developed specifically to evaluate the habitat suitability for great crested newts (GCN). The HSI provides a measure of the suitability of a waterbody to supporting great crested newts by assigning an overall score as outlined in Table 2-3.

Table 2-3: Habitat Suitability Index Assessment Score

HSI Score	Habitat Suitability
<0.5	Poor
0.5 – 0.59	Below Average
0.6 – 0.69	Average
0.7 – 0.79	Good
>0.8	Excellent

2.5 Limitations

- 2.5.1 The desk study data is third party controlled data, purchased for the purposes of this report only. Heatons cannot vouch for its accuracy and cannot be held liable for any error(s) in these data.
- 2.5.2 The Phase 1 Habitat Survey was undertaken outside the optimal period for this type of survey. However, it was considered that a suitable assessment could be made on the broad habitat types on site.
- 2.5.3 The Ground Level Tree Assessments (GLTA) for roosting bats were undertaken within the sub-optimal season but the trees were not yet in leaf and were not deemed to limit visibility.
- 2.5.4 The protected / notable species assessment provides a preliminary view of the likelihood of these species occurring on the site, based on the suitability of the habitat, known distribution of the species in the local area provided in response to our enquiries and any direct evidence on the site. It should not be taken as providing a full and definitive survey of any protected / notable species group.

3 RESULTS

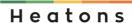
3.1 Desk Study

Designated sites

- 3.1.1 One internationally important statutory designated site was located within 10km of the site boundary, Martin Mere (SPA & RAMSAR) is located approximately 10km to the north west.
- 3.1.2 No nationally important statutory designated sites for nature conservation were returned within 2km of the site boundary.
- 3.1.3 Four non-statutory designated sites (BHS) were located within the 2km search radius of the site. The closest sites being Ferny Knoll Bog approximately 0.7km south east and Nipe Lane located approximately 0.8km to the east south east.
- 3.1.4 A summary of these sites is provided in Table 3-1 below.

Table 3-1: Summary of Designated Sites within the 2 - 10km Search Radius.

Site name	Designation	Interest Features	Approximate distance from site boundary		
International	y Important St	atutory Designated Sites			
Martin Mere	Martin Mere SPA, RAMSAR A low-lying complex of open water, marsh and grassland habitats overlying deep peat. Internationally important numbers of wintering birds including Cygnus columbianus bewickii, Cygnus cygnus, Anser brachyrhynchus, Anas penelope and Anas acuta.				
Non-statutory	/ Designated S	ites			
Ferny Knoll Bog	BHS	The site comprises a remnant of lowland raised bog supporting a good relic mire vegetation.	0.7km south east		
Nipe Lane	BHS	The site comprises two adjacent remnants of lowland raised bog supporting mire vegetation.	0.8km east, south east		
Holland Moss	BHS	Holland Moss comprises one of the largest areas of bog habitat in West Lancashire and consists of a relic fragment of a formerly extensive area of lowland raised mire.	1.6km east, south east		
Tawd Valley Park	BHS	The site comprises an extensive area of woodland running alongside the River Tawd.	1.8km north east		



3.2 SSSI Impact Risk Zone

3.2.1 MAGIC identifies that the site does fall within the SSSI Impact Risk Zones (IRZ) of two SSSI sites, including Ravenhead Brickworks SSSI (approximately 3.8km to the east), Martin Mere, Burscough SSSI (approximately 10km to the north west). Due to the proposed plans being for restoration works only, it does not require further consultation with Natural England. Consequently, this is not considered any further in this assessment.

3.3 Veteran Trees

3.3.1 No veteran trees were identified on the Ancient Tree Inventory within proximity of the site.

3.4 Priority Habitats

3.4.1 The following areas of priority habitat were returned within the 2km search radius, see Table 3-2.

Table 3-2: Summary of the Priority Habitats within the 2km Search Radius

Habitat type	Closest distance to site		
Lowland raised bog	Adjacent to the site boundary (east)		
Deciduous Woodland	370m to the west		

3.5 Species Records

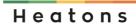
- 3.5.1 Records of protected species were obtained from the LERN. A number of species of conservation importance or otherwise notable species were recorded within the 2km search radius of the site. A summary of these records is provided in Table 3-3.
- 3.5.2 In order to simplify the results, only records of species from the last 10 years that are likely to be affected are shown.

Table 3-3: Protected and Notable Species Records.

Species	Nearest	Year of	Number	Conservation stlatus
	distance from	most	of records	
	site	recent		
		record		
Mammals				
Water vole Arvicola amphibius	0.6km east	2019	1	PS,WCA, LBAP
Common pipistrelle Pipistrellus pipistrellus	0.8km to the north west (2016)	2019	8	EPS, WCA.
Brown long-eared bat (BLE) <i>Plecotus</i> auritus	0.8km to the north west	2016	1	EPS ¹ , WCA, PS
Hedgehog Erinaceus europaeus	0.85km north west	2020	2	PS, WCA ²
Pipistrelle sp. Pipistrellus sp.	1.55km north west	2015	2	EPS, WCA.
Brown Hare Lepus europaeus	1.9km west	2019	5	LBAP ³ , PS ⁴
Birds				
Yellowhammer Emberiza citrinella	0.04km south east	2020	2	Bern, WCA, BoCC_Red, LBAP, PS
Skylark Alauda arvensis	0.15km east	2020	3	BoCC_Red, LBAP, Bern, PS
Kestrel Falco tinnunculus	0.25km east	2020	5	Bern, BoCC Amber, LBAP
Dunnock Prunella modularis	0.55km west	2020	1	Bern, LBAP, BoCC Amber
Grey Partridge Perdix perdix	0.35km south	2020	1	BoCC_Red, LBAP, PS
Corn Bunting Emberiza calandra	0.55km south east	2020	1	BoCC_Red, LBAP, PS
Yellow Wagtail Motacilla flava	0.6km south east	2020	3	Bern, BoCC_Red, LBAP, PS

 $^{^{\}rm 1}$ European Protected Species under Annex IV of the European Habitats Directive (1992)

 $^{^{\}rm 4}$ Priority Species under NERC Act 2006



² Wildlife and Countryside Act 1981 (as amended)

³ Local Biodiversity Plan species

				Preliminary Ecological Appraisa
House Sparrow Passer domesticus	0.7km north west	2020	10	BoCC_Red, LBAP, PS
Pink-footed goose key feeding area	1km west	N/A	N/A	BoCC_Amber, WCA
Sparrowhawk Accipiter nisus	1.2km west	2020	2	BoCC_Amber
Linnet Linaria cannabina	1.25km west	2020	1	Bern, BoCC_Red, WCA, PS
Lapwing Vanellus vanellus	1.5km south west (2016)	2019	2	BoCC_Red, PS, LBAP
Tree Sparrow Passer montanus	1.6km west	2020	3	BoCC4_Red, LBAP, PS
Greenfinch Chloris chloris	2km north west	2020	1	Bern, BoCC_Red
Bullfinch Pyrrhula pyrrhula	2km north west	2016	2	LBAP, PS, BoCC_Amber
Wren Troglodytes troglodytes	2km north west	2020	1	Bern, BoCC_Amber
Kingfisher Alcedo atthis	2km north east	2019	1	Bern, WCA Schedule 1
Mistle Thrush Turdus viscivorus	2km south east	2019	1	BoCC4_Red, Bern
Amphibians				
Smooth newt Lissotriton vulgaris	0.65km east	2019	3	WCA (Schedule 5 only)
Palmate newt Lissotriton helveticus	0.65km east	2019	1	WCA (Schedule 5 only)
Invertebrates				
Cinnabar moth <i>Tyria</i> jacobaeae	1km north	2019	2	PS

- 3.5.3 MAGIC returned no records for GCN Class Survey Licence Returns (CSLR) or for GCN pond surveys 2017-2019 within 1km of the site boundary.
- 3.5.4 MAGIC returned one record for European Protected Species Licencing (EPSL) for various bat species, details of which can be found in Table 3-4.

Table 3-4: European Protected Species Licencing record details for bats (MAGIC, 2023).

Species	Distance	Date	Details
Brown long-eared and common pipistrelle	760m to the east	09/06/2017 - 01/12/2019	Allow destruction of a resting place

3.6 Invasive Species Records

- 3.6.1 Records of non-native, invasive species were obtained from the LERN. A summary of records within the last 10 years are provided in table 3-5.
- 3.6.2 In order to simplify the results only recorded of species from the last 10 years are shown and only those within suitable buffers for each species type.

Table 3-5: Summary of the notable Invasive Species returned within the 2km Search Area.

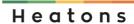
Species	Nearest distance from site (km)	Year of most recent record	Number of records	Conservation status
Flowering Plants				
Russian comfrey Symphytum officinale x asperum = S. x uplandicum	0.15km west (2017)	2020	2	N/A
Corsican pine Pinus nigra	0.5km north east	2020	1	N/A
Italian alder Alnus cordata	0.5km north	2020	1	N/A
Invertebrates				
Harlequin Ladybird Harmonia axyridis	0.8km west	2020	10	N/A

3.7 Phase 1 Habitat Survey

- 3.7.1 The survey results are presented in the form of a map with the habitat types and boundary features marked which can be found at Drawing 1.
- 3.7.2 Descriptions of the habitat types and boundary features are detailed below. Habitat descriptions are defined by broad habitat types (JNCC, 2010). Where there is more than one habitat type, these have been labelled A1, A2 for each relevant habitat.

Habitats

Dense Scrub



3.7.3 An area of dense scrub was present in the centre of the site. The scrub was linear, approximately 3m wide, running adjacent to a bare ground access track. Species comprised dense bramble *Rubus fruticosus agg.* and willowherb *Epilobium sp.*.



Figure 3-1: Area of dense scrub

Broadleaved Scattered Trees

3.7.4 Self-set broadleaved trees were scattered across the site boundary, flanking both sides of the bare ground access track. They were largely immature in age with a limited understory of bare ground with some ephemeral vegetation. Tree species comprised silver birch *Betula pendula*, hazel *Corylus avellana*, oak *Quercus sp.*, holly *Ilex aquifolium*, goat willow *Salix caprea*, ash *Fraxinus excelsior* and hawthorn *Crataegus monogyna*.



Figure 3-2: Self-set scattered trees

Poor Semi-improved Grassland

3.7.5 Areas of poor semi-improved grassland were present to the south-east and north-west of the site on banks with various aspects. All areas of grassland have been seeded then left with minimal management. The grassland was tussocky in nature and largely comprised the same species throughout. Species included crested dog's-tail *Cynosurus cristatus*, which was dominant across the sward, cock's-foot *Dactylis glomerata*, red fescue *Festuca rubra*, moss *Bryophyta sp.*, yarrow *Achillea millefolium*, ribwort plantain *Plantago lanceolata*, bracken *Pteridium sp.*, pendulous sedge *Carex pendula*, poppy *Papaver rhoeas*, cinquefoil *Potentilla sp.*, nettle *Urtica dioica*, hard rush *Juncus inflexus*, creeping buttercup *Ranunculus repens* and oxeye daisy *Leucanthemum vulgare*.



Figure 3-3: Poor semi-improved grassland

Bare Ground

3.7.6 A bare ground access track was present within the site boundary.

Species

<u>Amphibians</u>

3.7.7 Four permanent waterbodies were located within 500m of the site boundary, of these only P01 was subject to HSI assessment, due to access limitations no other ponds were assessed. Further details regarding these waterbodies, can be found in Table 3-6 and exact locations can be found in Drawing 2. No records for great crested newt (GCN) were returned within the desk study data.

Table 3-6: Description and HSI Assessment of Waterbodies within 500 of the Site Boundary.

Pond	Description and	Photograph
Number	HSI Score	
P01	Silt lagoon, used for silt settling, regularly dredged. Limited aquatic vegetation. HSI Score = 0.67 (Below Average).	

- 3.7.8 Suitable terrestrial habitat was present within the site. The tussocky grassland and dense scrub provide suitable refuge for GCN.
- 3.7.9 The habitats on site are also considered to provide suitable terrestrial habitat for other amphibian species.

Reptiles

3.7.10 The tussocky grassland, dense scrub and bare ground provide some suitable habitat for reptile species. No reptile species were returned within the desk study data.

<u>Bats</u>

Roosting

3.7.11 Trees within the site, or within close proximity to the proposed area were subject to an initial bat roost assessment, following best practice guidelines (Collins, 2023). All trees within the site boundary lacked suitable features to support roosting bats. Therefore, roosting bats will not be considered further within this report.

Foraging / Commuting

3.7.12 The scattered trees and grassland provide some suitable foraging and commuting habitat for bats. However, the site boundary is isolated from the wider landscape due to the active landfill to the north and arable land to the south which contains limited hedgerows. Isolated blocks of woodland are present within the wider

landscape but there is limited connectivity to suitable habitats. Therefore, the site is not considered likely to provide significant foraging and commuting habitat for bats and will not be considered further within this report.

Badgers

- 3.7.13 During the Phase 1 Habitat Survey, no badger setts or other signs of badger were observed on site- or within 30m of the site boundary.
- 3.7.14 The tussocky grassland and scrub within the site boundary, and the banked nature of the site provides some suitable foraging, commuting and sett building habitat.

Otters

3.7.15 The habitats within the site boundary and within close proximity to the site are considered to provide no suitability for otters *Lutra lutra*. It is considered highly likely that the species will be absent from the site and adjacent areas. Additionally, no records were returned for otters within 2km of the site boundary. Therefore, this species is not considered any further within this report.

Water Voles

3.7.16 The habitats within the site boundary and within close proximity to the site are considered to provide negligible suitability for water vole. It is considered highly likely that the species will be absent from the site boundary. Additionally, no records were returned for otters within 2km of the site boundary. Therefore, this species is not considered any further within this report.

<u>Hazel Dormouse</u>

3.7.17 The scrub and scattered trees offer some, albeit limited, suitable habitat for dormice.

Other Mammals

3.7.18 Rabbit warrens and evidence of fox were observed during the Phase 1 Habitat Survey. The grassland and scrub provide some suitable habitat for a variety of mammal species.

<u>Birds</u>

- 3.7.19 The tussocky grassland, scattered trees and scrub provide some suitable nesting and foraging opportunities for a range of bird species.
- 3.7.20 Multiple records for birds were returned within the desk study data, including red list species of BoCC.

Invasive species

3.7.21 No invasive species were noted during the Phase 1 Habitat Survey. Due to the likely absence of invasive species within the site boundary, the closest record of INNS is Russian comfrey located adjacent to the southern boundary of the wider landfill site.

Invertebrates

3.7.22 The tussocky grassland provides some suitable habitat for various invertebrate species. However, due to the isolated nature of the site, and limited extensive invertebrate habitat it is considered unlikely that the site support important assemblages of invertebrate species. Therefore, will not be considered further within this report.



4 DISCUSSION AND RECOMMENDATIONS

4.1 Designated Sites

Statutory Designated Sites

4.1.1 One internationally important statutory designated site was located within 10km of the site boundary, Martin Mere (SPA & RAMSAR) is located approximately 10km to the north west. Due to the distance and lack of functionally linked habitats between the site and Martin Mere and due to the types of works proposed as part of the restoration, adverse impacts are not anticipated.

Non-Statutory Designated Sites

4.1.2 Four non-statutory designated sites were located within the 2km search radius of the site. The closest sites being Ferny Knoll Bog approximately 0.7km south east and Nipe Lane located approximately 0.8km to the east south east. Due to distance between the red line boundary and the non-statutory designated sites and the types of works proposed, an adverse impact is not anticipated.

4.2 Habitats

Priority Habitats

- 4.2.1 The area of lowland raised bog adjacent to the eastern boundary of the site is functionally linked to the site. To avoid any risk of impacts to this priority habitat, silt fencing should be installed, ahead of works starting, along the edge of the working area to avoid any surface run off impacting the priority habitat. If this measure is implemented, then **no adverse impacts are anticipated to the habitat.**
- 4.2.2 There is an area of deciduous woodland located approximately 370m to the west of the site. Due to the lack of functionally linked habitats between the site and the priority habitat, **no adverse impacts are anticipated**.

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Site Habitats

4.2.3 Table 4-1 below summarises the habitat types within the site and outlines ecological importance and impacts.

Table 4-1: Habitat Types within the Site Boundary

Habitat Type	Area /	Ecological	Proposed Extension Impact		
	Length	Importance			
Habitats					
Dense Scrub	0.12 ha	Moderate	Set to be removed as part of the proposed works.		
Broadleaved Scattered Trees	0.31 ha	Moderate	Minor removal as part of the proposed works.		
Poor Semi-improved Grassland	0.43 ha	Low	Minor removal as part of the proposed works.		
Bare Ground	0.18 ha	Low	Set to be removed as part of the proposed works.		

- 4.2.4 The current proposals involve infilling the land to change the current profile of the site, providing a gentle slope and improved drainage. This will require the removal the current bare ground access track, scrub, some scattered trees and small areas of semi-improved grassland. Once infilled, the area will be seeded with an appropriate mix in line with the approved restoration drawings.
- 4.2.5 Although the habitats set for removal do provide some ecological value, they are largely immature, with limited species variation. It is considered that the removal and reinstatement of more suitable habitat types is unlikely to result in significant adverse impact.

4.3 Species

Amphibians

- 4.3.1 Four permanent waterbodies were noted within 500m of the site boundary, of these only PO1 was subject to HSI assessment, due to access limitations no other ponds were assessed.
- 4.3.2 The Natural England GCN rapid risk assessment tool was used to determine whether the development proposals would result in a likely offence, assuming that all ponds within 500m of the site support breeding GCN. Based on the rapid risk assessment tool, it is considered 'Green: Offence Highly unlikely'. This

- indicates that the development activities are highly unlikely to cause an offence, therefore an adverse impact to GCN is not anticipated.
- 4.3.3 Other amphibians are not protected under the same legal protection as GCN; however, it is good practice to avoid causing harm to these species.

Reptiles

4.3.4 The tussocky grassland, dense scrub and bare ground provide some suitable habitat for reptile species. However, they are largely isolated from wider area of and optimal reptile habitat. Therefore, it is considered highly unlikely that the habitat within the site support a significant reptile population. Therefore, further surveys are not required.

Badgers

- 4.3.5 No badger setts or signs of badger were noted during the Phase 1 Habitat Survey.
- 4.3.6 Suitable foraging, commuting and sett building habitat is present within the site boundary due to the grassland, scrub and banked nature of the site.
- 4.3.7 As badgers are highly transient in nature and suitable habitat for foraging and commuting is present on site, it is recommended that the following mitigation measures should be adhered to during the duration of the works:
 - Works should be carried out during daylight hours, where possible;
 - Any open excavations should be covered at night. Or alternatively, before dusk, backfilled or ramped (no steeper than 45°) to prevent animals becoming entrapped;
 - Any pipes over 200mm in diameter should be caped off at night to prevent animals becoming entrapped;
 - Any chemicals required for the works should be stored either away from the site or in a secure compound.
- 4.3.8 In the unlikely event that a badger does become entrapped, or any setts are noted during works, Heatons should be contacted for further advice.

Hazel Dormouse

4.3.9 The areas of scrub and scattered trees present do provide some, sub-optimal habitat for dormice. However, no records were identified from within the 2km search radius and the area falls outside the normal distribution of this species. Therefore, this species has not been considered further.

Other Mammals

4.3.10 Evidence of rabbit and fox were noted across the site during the Phase 1 Habitat Survey. Although these species are not covered by specific legislation, best practice working methods, detailed in paragraph 4.3.9, should be adhered to, to ensure an adverse impact to either of these species is mitigated for.

<u>Birds</u>

- 4.3.11 Habitats, such as the tussocky grassland, scattered trees and scrub provide some suitable nesting and foraging opportunities for a range of bird species.
- 4.3.12 The current proposals involve the removal of suitable nesting habitats within the site boundary. The removal of suitable bird nesting has the potential to cause an adverse impact.
- 4.3.13 To minimise the risk of an adverse impact, it is recommended that the following mitigation measures should be adhered to during works:
 - Clearance of suitable nesting habitat (tussocky grassland, scattered trees and scrub) should be undertaken outside the nesting bird season (March – August, inclusive); and
 - If clearance is not possible outside the nesting bird season (March –
 August) a nesting bird check will be required 24 48 hours prior to
 vegetation removal. Where nesting birds are present, a 'no-work' buffer
 will be implemented, and the nest monitored until all chicks have
 fledged.

5 ENHANCEMENTS

5.1.1 In line with the approved restoration drawings for the wider landfill site (M11.172(g).01), the periphery habitats, including those within the site boundary, are proposed as marshland / moss landscape. To ensure these habitat types are successfully established, the following habitat creation and enhancements should be adhered to.

Marsh / Wet Grassland Creation

- 5.1.2 Due to the location of the site boundary, and the topography of the wider landfill, the conditions on site are likely to provide damp conditions with brief periods of the year where standing water may be present.
- 5.1.3 The topsoil used should be low in nutrients, with no fertiliser added to ensure that grasses do not become dominant within the sward.
- 5.1.4 The recommended seed mix for the marsh / wet grassland is EM8 Meadow Mixture for Wetlands (found at www.wildseed.co.uk). The seed mix should be sown in the early autumn or in spring once the land has drained. Most plants will need time to grow mature enough to withstand flooding.

Marsh / Wet Grassland Management

First Year

- 5.1.5 Soon after sowing there will be a flush of annual weeds, which will offer shelter to the sown seedlings. This should be retained until mid-late summer then cut, removed and composted. This will reveal young meadow, which can then be kept short by grazing or mowing through to the end of March the following year.
- 5.1.6 Residual weeds such as docks should be dug out or spot sprayed with a suitable herbicide for use near aquatic species.
- 5.1.7 The seed must be surface sown and can be applied by machine or broadcast by hand. To get an even distribution, and avoid running out, divide the seed into two or more parts and sow in overlapping sections. Do not incorporate or cover the seed, but firm in with a roll, or by treading, to get soil/seed contact.

Management Once Established

5.1.8 In the second and subsequent years EM8 sowings can be managed in a number of ways, which in association with soil fertility, will determine the character of the grassland. The best results are usually obtained by traditional meadow

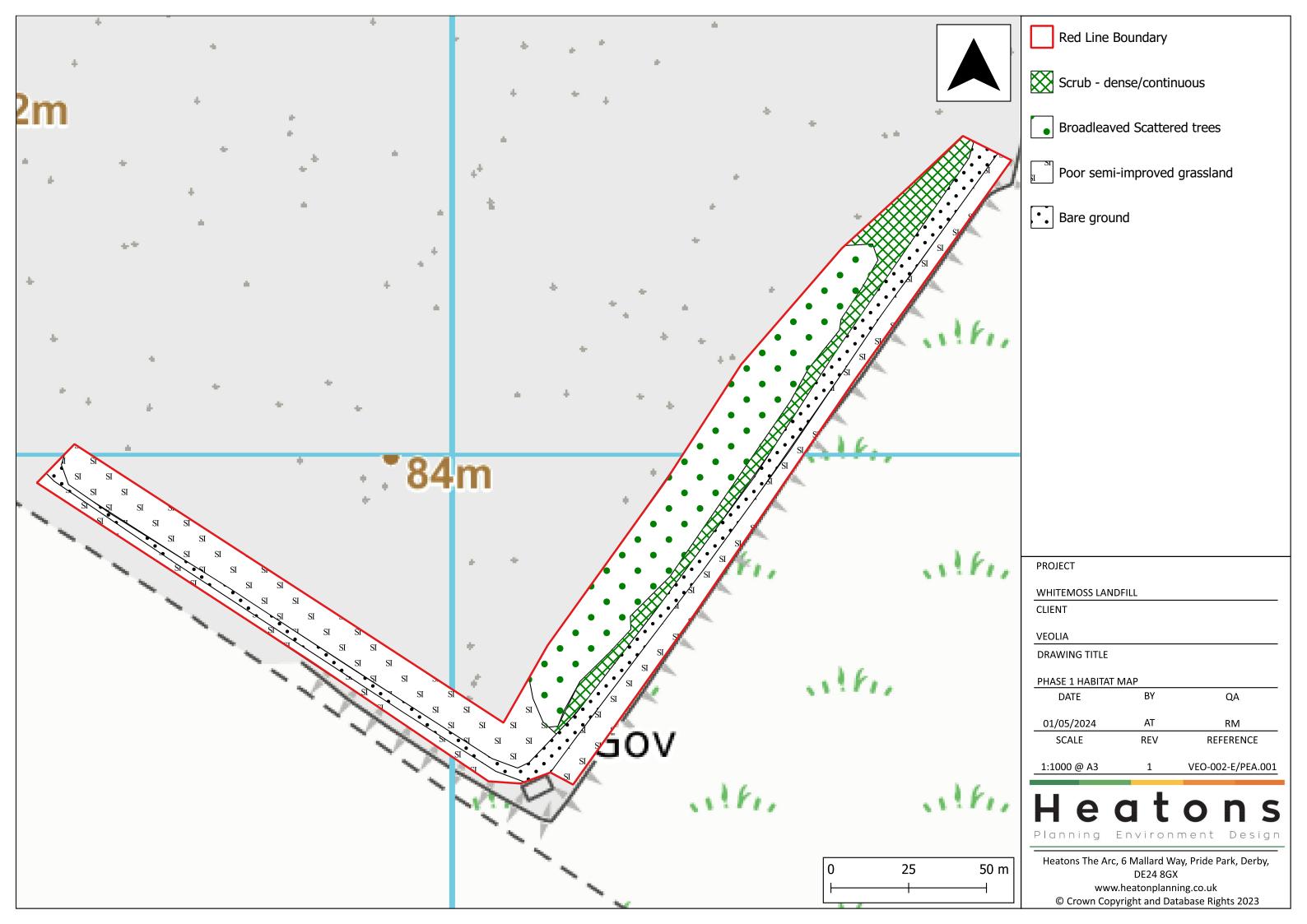
- management based around a main, mid-late summer hay cut in combination with autumn and possibly spring mowing or aftermath grazing.
- 5.1.9 Meadow grassland should not be cut or grazed from spring through to July/August to give the sown species an opportunity to flower. After flowering in July or August take a 'hay cut' (cut back to 50mm). The hay should then be left to dry and shed seed for 1-7 days then removed from site.
- 5.1.10 Mow or graze the re-growth through to late autumn / winter to 50mm and again in the spring if needed.
- 5.1.11 Additionally, the following enhancement opportunities for protected species are also recommended:
 - Suitable bird and bat boxes targeting a number of species should be installed on retained trees within the site boundary; and
 - Hibernacula should be created within areas of suitable habitat to provide refuge for amphibian and reptile species. Hibernacula can be created using piles of brash and logs removed as part of the de-vegetation works.

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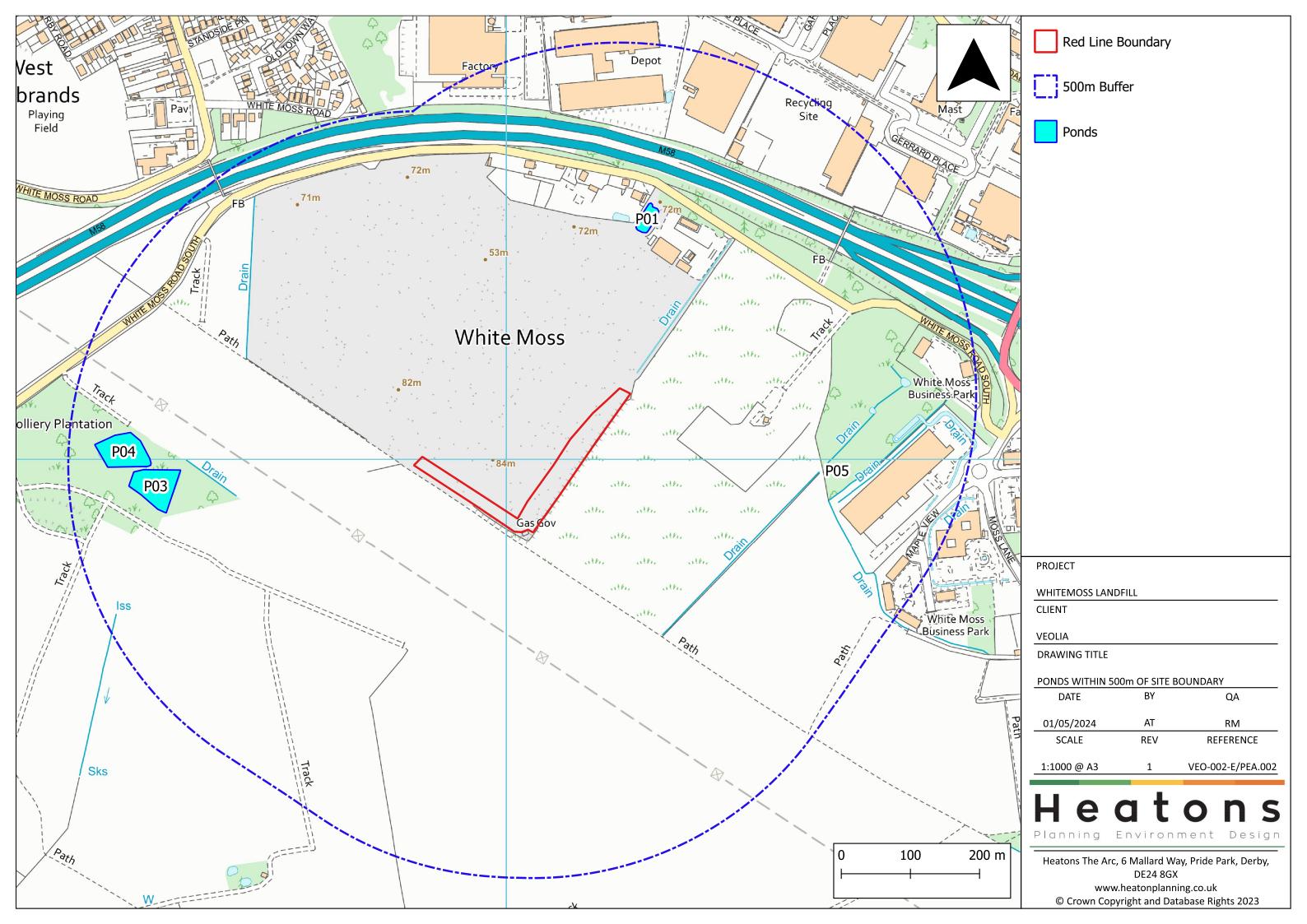
7 DRAWINGS

Drawing 1 – Phase 1 Habitat Map



Drawing 2 - Waterbodies within 500m of Site Boundary

Heatons



8 APPENDIX

Appendix A - Relevant Legislation

Amphibians

All British amphibian species receive a degree of protection under the Wildlife & Countryside Act 1981 (as amended). The level of protection varies from protection from sale or trade only, as is thecase with species such as Common Toad *Bufo bufo* and Smooth Newt *Lissotriton vulgaris*, to fullprotection afforded to species such as Great Crested Newt *Triturus cristatus*.

Great Crested Newt is a European protected species and as such receives full protection under theConservation of Habitats and Species Regulations 2017 (as amended), making it an offence to:

- Deliberately capture, injure or kill a Great Crested Newt;
- Deliberately disturb Great Crested Newts, including in particular any disturbance which islikely to:
 - o impair their ability to survive, reproduce or to rear or nurture their young;
 - o impair their ability to hibernate or migrate; or
 - o significantly affect their local distribution or abundance.
- Deliberately take or destroy eggs of Great Crested Newts;
- Damage or destroy a breeding site or resting place of Great Crested Newts;
- Possess or control any live or dead specimen or anything derived from a Great Crested
 Newt; and
- Sell, offer for sale, possess or transport a Great Crested Newt (live or dead, part or derivative) for the purpose of sale or advertise for buying or selling.

Reptiles

All reptile species are listed under the Priority Species under the UK Post-201 Biodiversity Framework and receive protection under the Wildlife & Countryside Act 1981 (as amended), makingit illegal to;

- Intentionally kill or injure reptiles; and
- Sell, offer for sale, possess or transport reptiles (live or dead, part or derivative) for thepurpose of sale or advertise for buying or selling.

In addition, due to their status as scarce species both Smooth Snake Coronella austriaca and



Sand Lizard *Lacerta agilis* are European protected species, protected under the Conservation of Habitatsand Species Regulations, 2017 (as amended). This affords them additional protection, making it illegal to:

- Deliberately capture Smooth Snakes or Sand Lizards;
- Deliberately disturb Smooth Snakes or Sand Lizards, including in particular any disturbancewhich is likely to:
 - o impair their ability to survive, reproduce or to rear or nurture their young;
 - o impair their ability to hibernate or migrate; or
 - o significantly affect their local distribution or abundance.
- Damage or destroy a breeding site or resting place of Smooth Snakes and Sand Lizards;
 and
- Possess or control any live or dead specimen or anything derived from a Smooth Snake orSand Lizard.

Bats

All British bats are European protected species and therefore receive protection under the Conservation of Habitats and Species Regulations 2017 (as amended), making it an offence to:

- Deliberately kill, injure or capture a bat;
- Deliberately disturb bats, including in particular any disturbance which is likely to:
 - o impair their ability to survive, reproduce or to rear or nurture their young;
 - o impair their ability to hibernate or migrate; or
 - o significantly affect their local distribution or abundance.
- Damage or destroy a breeding site or resting place of a bat;
- Possess or control any live or dead specimen or anything derived from a bat;
- Sell, offer for sale, possess or transport a bat (live or dead, part or derivative) for the purpose of sale or advertise for buying or selling.

In addition, all British bats are listed under Schedule 5 of the Wildlife & Countryside Act 1981 (asamended), which contains further provisions making it an offence to intentionally or recklessly:

- Damage, destroy or obstruct access to any structure or place which any bat uses for shelteror protection; or
- Disturb any bat while occupying a structure or place which it uses for that purpose.

Licences can be obtained from the Statutory Nature Conservation Organisation (SNCO) for development activities that would otherwise be unlawful under the legislation.

Badgers

In the UK the relevant legislation pertaining to Badgers *Meles meles* is the Protection of Badgers Act 1992 and the Wildlife and Countryside Act, 1981 (as amended). Under the Protection of Badgers Act it is an offence to:

- Wilfully kill, injure, take possess or cruelly ill-treat* a Badger, or attempt to do so;
- To intentionally or recklessly interfere with a sett# (this includes disturbing Badgers
 whilst they are occupying a sett, as well as damaging or destroying a sett or obstructing
 access toit).
- * the intentional elimination of sufficient foraging area to support a known social group of badgers may, in certain circumstances, be construed as an offence by constituting 'cruel ill treatment' of a Badger.
- # a sett is defined as 'any structure or place which displays signs indicating current use by a Badger', with 'current use' defined by Natural England under interim guidance as over the preceding few months prior to a likely interference/disturbance event.

Licences can be obtained from the SNCO for development activities that would otherwise be unlawful under the legislation.

Hazel Dormouse

The hazel dormouse *Muscardinus avellanarius* is legally protected under Schedule 5 of the Wildlife and Countryside Act 1981 (as amended) and is afforded significant further protection as a European Protected Species under the Conservation of Habitats and species Regulations 2010 (as amended). Collectively and in summary, this legislation inter alia makes it an offence to:

- Intentionally or deliberately kill, injure or capture dormice;
- Intentionally, deliberately or recklessly disturb dormice in such a way as to be likely to significantly affect the ability of any significant group of dormice to survive, breed, or rear or nurture their young or the local distribution of or abundance of the species;
- Intentionally or recklessly damage, destroy or obstruct access to places used by Dormice for shelter or protection (whether occupied or not) or intentionally or recklessly disturb a dormouse whilst it is occupying such a place;

- Damage or destroy a breeding site or resting place of a dormouse;
- Possess or transport a dormouse (or any part thereof) unless under licence; and
- Sell or exchange dormice.

Development proposals affecting the dormouse require a European Protected Species licence from Natural England.

Water Vole

Water Voles *Arvicola amphibius* are listed under the Priority Species under the UK Post-201 Biodiversity Framework and protected under the Wildlife and Countryside Act 1981 (as amended), making it illegal to:

- Intentionally kill, injure or take a Water Vole;
- Possess or control a live or dead Water Vole, or any part of a Water Vole;
- Intentionally or recklessly disturb, destroy or obstruct access to any place that Water
 Volesuse for shelter or protection; and
- Sell, offer for sale or advertise any live or dead Water Voles.

Otter

Otters *Lutra lutra* are a European protected species, listed under the Priority Species under the UK Post-201 Biodiversity Framework and therefore receive protection under the Conservation of Habitats and Species Regulations 2017 (as amenede), making it an offence to:

- Deliberately kill, injure or capture an Otter;
- Deliberately disturb Otters, including in particular any disturbance which is likely to:
 - Impair their ability to survive, reproduce or to rear or nurture their young;
 - o impair their ability to hibernate or migrate; or
 - o significantly affect their local distribution or abundance.
- Damage or destroy a breeding site or resting place of an Otter;
- Possess or control any live or dead specimen or anything derived from an Otter;
- Sell, offer for sale, possess or transport an Otter (live or dead, part or derivative) for thepurpose of sale or advertise for buying or selling.

In addition, Otters are listed under Schedule 5 of the Wildlife & Countryside Act 1981 (as amended), which contains further provisions making it an offence to intentionally or recklessly:

• Damage, destroy or obstruct access to any structure or place which an Otter uses for

shelteror protection; or

Disturb an Otter while occupying a structure or place which it uses for that purpose.

Birds

All wild birds, their nests and eggs are protected throughout the breeding season (typically late February to late August inclusive) under the Wildlife and Countryside Act, 1981 (as amended). Thislegislation makes it an offence to (with certain limited exceptions and in the absence of a licence) intentionally:

- Kill or injure any wild bird;
- Take, damage or destroy the nest of any wild bird whilst it is in use or being built;
- Take or destroy the egg of any wild bird;
- It is also an offence to possess any live or dead wild bird or egg, or anything derived from abird or egg;
- Restrictions on trade and advertising also apply.

Schedule 1 of the Wildlife & Countryside Act 1981 is a list of the nationally rare and uncommon breeding birds for which all offences carry special (i.e. greater) penalties. These species also benefitfrom additional protection whilst breeding, as it is an offence to disturb adults or their dependent young when at a nest.

The RSPB categorise British bird species in terms of conservation importance based on a number of criteria including the level of threat to a species population status. Species are listed as Green, Amber or Red. Red Listed species are considered to be of the highest conservation concern, being either globally threatened and / or experiencing a high level of population decline (e.g. a reduction in breeding population size greater than or equal to 50% over the past 25 years or since 1969, whenthe first species assessment was made).

In addition, Birds are listed under Protection of Birds Act 1954 (as amended), which contains similar protection to Wildlife and Countryside Act 1981 (as amended).

Appendix B – National Legislation and Planning Policy

Introduction

This section summarises the legislation and planning policy in relation to ecology and biodiversity within the UK.

Legislation

A number of different Acts and Regulations refer to the protection of wildlife and habitats and have been outlined in Appendix E. It is recommended that the full legislation texts are referred to when dealing with individual cases and further legal advice is obtained where required. Protected species licences may be required to further comply with this legislation prior to the implementation of the project.

Wildlife legislation potentially relevant to this project includes:

- Environment Act 2021;
- The Wildlife and Countryside Act (WCA) 1981 (as amended);
- The Conservation of Habitats and Species Regulations 2017;
- The Natural Environment and Rural Communities Act (NERC) 2006;
- The Countryside and Rights of Way Act (CRoW) Act 2000;
- The Protection of Badgers Act 1992; and
- The Hedgerow Regulations 1997.

Environment Act 2021

An Act to make provision about targets, plans and policies for improving the natural environment; for statements and reports about environmental protection; for the Office for Environmental Protection; about waste and resource efficiency; about air quality; for the recall of products that fail to meet environmental standards; about water; about nature and biodiversity; for conservation covenants; about the regulation of chemicals; and for connected purposes (UK Government, 2021).

The act also targets four key areas for the recovery of habitats. Additionally, it enables ministers to set legally binding long-term targets, the progress of which they are required to report to Parliament (UK Government, 2021).

Under the Act, all planning permissions granted in England (with some exemptions) except small sites will have to deliver at least 10% biodiversity net gain from November 2023 (UK Government, 2021).

National Planning Policy

The National Planning Policy Framework (NPPF 2023) paragraphs 174 to 188 set out the Government's policies to protect and enhance biodiversity and geodiversity through the planning system. These policies are expected to be incorporated into development planning documents at regional and local scales and are also of material worth in considering individual planning applications.

In relation to biodiversity, NPPF paragraph 174 states that 'Planning policies and decisions should contribute to and enhance the natural and local environment by:

- a) protecting and enhancing valued landscapes, sites of biodiversity or geological value and soils (in a manner commensurate with their statutory status or identified quality in the development plan);
- b) recognising the intrinsic character and beauty of the countryside, and the wider benefits from natural capital and ecosystem services including the economic and other benefits of the best and most versatile agricultural land, and of trees and woodland;
- c) maintaining the character of the undeveloped coast, while improving public access to it where appropriate;
- d) minimising impacts on and providing net gains for biodiversity, including by establishing coherent ecological networks that are more resilient to current and future pressures;
- e) preventing new and existing development from contributing to, being put at unacceptable risk from, or being adversely affected by, unacceptable levels of soil, air, water or noise pollution or land instability. Development should, wherever possible, help to improve local environmental conditions such as air and water quality, taking into account relevant information such as river basin management plans; and
- f) remediating and mitigating despoiled, degraded, derelict, contaminated and unstable land, where appropriate.'

NPPF paragraph 180 advises that the following principles should be applied by the Local Planning Authority when determining planning applications:

- a) if significant harm to biodiversity resulting from a development cannot be avoided (through locating on an alternative site with less harmful impacts), adequately mitigated, or, as a last resort, compensated for, then planning permission should be refused;
- b) development on land within or outside a Site of Special Scientific Interest, and which is likely to have an adverse effect on it (either individually or in combination with other developments), should not normally be permitted. The only exception is where the benefits of the development in the location proposed clearly outweigh both its likely impact on the features of the site that make it of special scientific interest, and any broader impacts on the national network of Sites of Special Scientific Interest;
- c) development resulting in the loss or deterioration of irreplaceable habitats (such as ancient woodland and ancient or veteran trees) should be refused, unless there are wholly exceptional reasons⁵ and a suitable compensation strategy exists; and
 - a) development whose primary objective is to conserve or enhance biodiversity should be supported; while opportunities to improve biodiversity in and around developments should be integrated as part of their design, especially where this can secure measurable net gains for biodiversity or enhance public access to nature where this is appropriate.

Local Planning Policy

- 8.1.1 Relevant local policies and text concerning ecological impact issues in connection with development proposals, include:
 - "Chapter 9 Sustaining the Borough's Environment and Addressing Climate Change", policy EN2 is titled "Preserving and Enhancing West Lancashire's Natural Environment"₁₂
- 8.1.2 It states that "Policy EN2 provides an effective framework to balance the need for conservation and protection of the Boroughs natural assests including biodiversity, land resources and landscape character against the need to meet

⁵ For example, infrastructure projects (including nationally significant infrastructure projects, orders under the Transport and Works Act and hybrid bills), where the public benefit would clearly outweigh the loss or deterioration of habitat.

development requirements. Striking a balance will ensure the Borough's natural assets are managed for West Lancashire's current and future needs."