

Land at Millom School, Salthouse Road, Millom LA18 5AB

ECOLOGICAL SURVEY AND ASSESSMENT (Including a Licensed Bat Survey)

June 2023

ERAP (Consultant Ecologists) Ltd Reference: 2023-044

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Document Control

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Phase 1 Habitat Survey and Daylight bat survey	Brian Robinson B.Sc. (Hons) MCIEEM Senior Ecologist	7 th June 2023
Reporting	Personnel	Date
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SUMMARY

- i. This ecological survey and assessment presents the ecological, biodiversity and nature conservation status of land at Millom School, Salthouse Road, Millom LA18 5AB. The assessment was requested in connection with proposals to extend the existing sports hall (Building 1), demolish a school changing facility (Building 2), create a service yard and access area across an area of amenity grassland and relocate a long jump pit.
- ii. This report presents the results of a desktop study, data search, extended Phase 1 Habitat Survey and a licensed bat survey carried out in June 2023. The scope of survey undertaken is appropriate to identify potential ecological constraints, the remit of mitigation required and opportunities for biodiversity associated with the development proposals.
- iii. The site comprises two buildings with associated hard standing and areas of amenity grassland.
- iv. Standard measures must be adopted to ensure that impacts such as pollution incidents, dust and noise are avoided during the construction phase of the development. Such measures are outlined at **Section 5.2** and should be adopted as part of a Construction Environmental Management Plan (CEMP). Provided such measures are adopted it is considered that the proposals will have no adverse direct or indirect effect on statutory or non-statutory designated sites for nature conservation.
- v. The site contains only common and widespread plant species. None of the habitats within the site are of significant interest in terms of their plant species composition. None of the habitats present are representative of semi-natural habitat. The NVC communities present are typical of the geographical area and conditions present. No Priority Habitats are present. The habitats within the site are not considered to be of any importance in terms of their geographical context. Measures to protect habitats adjacent to the site during the construction phase of the proposed development are presented at **Section 5.2**.
- vi. No invasive plant species listed on Schedule 9 of the *Wildlife and Countryside Act 1981* (as amended) were detected within the site.
- vii. Neither of the buildings support features suitable for use by roosting bats; both buildings are assessed to be of 'negligible' suitability for use by roosting bats. No further surveys are necessary to determine the status of roosting bats at the site. The habitats surrounding the site are suitable for use by foraging and commuting bats; measures to ensure the proposals do not impact negatively upon these features are presented at **Section 5.2**.
- viii. Both buildings support features suitable for use by nesting birds; all wild birds are protected while they are nesting under the *Wildlife and Countryside Act 1981* (as amended). Measures for the protection of nesting birds are presented at **Section 5.2**. Ecological enhancements for nesting birds to be incorporated into the site design are presented at **Section 5.3**.
- ix. No other protected species have been detected.
- x. The recommendations in **Section 5.0** outline all the mandatory measures and additional actions to be applied to ensure compliance with wildlife legislation, the National Planning Policy Framework (NPPF) and best practice.
- xi. The proposals will secure an opportunity to implement beneficial measures such as habitat creation that will safeguard habitats for wildlife such as birds and bats, with the aim of providing a net gain in biodiversity in accordance with the principles of the NPPF.
- xii. It is concluded that the proposals are feasible and acceptable in accordance with ecological considerations and relevant planning policy. Redevelopment at the site will provide an opportunity to secure ecological enhancement for wildlife.

1.0 INTRODUCTION

1.1 Background and Rationale

- 1.1.1 ERAP (Consultant Ecologists) Ltd was commissioned by Alliance Leisure Services to carry out an ecological assessment of land at Millom School, Salthouse Road, Millom LA18 5AB (hereafter referred to as the 'site'). The Ordnance Survey (OS) grid reference at the centre of the site is SD 17408 80510. An aerial image of the site and its surrounding habitats is appended at **Figure 1** (source image: ESRI World Imagery).
- 1.1.2 The assessment was requested in connection with a planning application to extend the existing sports hall (Building 1), demolish a school changing facility (Building 2), create a service yard and access area across an area of amenity grassland and relocate a long jump pit.

1.2 Scope of Works

- 1.2.1 The scope of ecological works undertaken in June 2023 comprised:
- A desktop study and data search for known ecological information at the site and the local area;
 - An Extended Phase 1 Habitat Survey and assessment;
 - Assessment of the ecological value of the habitats within the site with the use of the National Vegetation Classification (NVC) and the Ratcliffe criteria, as presented in *A Nature Conservation Review* (Ratcliffe, 1977);
 - Survey and assessment of all habitats for relevant statutorily protected species¹ and other wildlife including badger (*Meles meles*), barn owl (*Tyto alba*), great crested newt (*Triturus cristatus*), bird species and reptiles;
 - A licensed daylight bat survey of the buildings (note that no trees are present within the site);
 - The identification of any potential ecological constraints on the proposals and the specification of the scope of mitigation and ecological enhancement required in accordance with wildlife legislation, planning policy guidance and other relevant guidance; and
 - The identification of any further surveys or precautionary actions that may be required to inform the progression of the site through the planning process or prior to the commencement of any construction activities.

¹ In accordance with *Government Circular: Biodiversity and Geological Conservation – Statutory Obligations and Their Impact on the Planning System* (Ministry of Housing, Communities & Local Government, 2005) developers should not be required to undertake surveys for protected species unless there is reasonable likelihood of the species being present and affected by the development. In this instance (for example) there are no ponds within 500 metres and no water bodies or water courses within or adjacent to the site; there has been no requirement to consider great crested newt (*Triturus cristatus*), water vole (*Arvicola amphibius*) or otter (*Lutra lutra*) as part of this assessment.

2.0 METHOD OF SURVEY

2.1 Desktop Study and Data Search

2.1.1 The following sources of information and ecological records were consulted:

- a. MAGiC Maps: A web-based interactive map which brings together geographic information on key environmental schemes and designations, including details of statutory nature conservation sites;
- b. Cumbria Biodiversity Data Centre (CBDC);
- c. *Main River Map* (Environment Agency, 2023); and
- d. Cumbria Biodiversity Action Plan (BAP).

2.2 Vegetation and Habitats

- 2.2.1 An Extended Phase 1 Habitat Survey of the site was carried out by Brian Robinson on 7th June 2023. The weather was dry and cloudy with a light air (Beaufort scale 1) and an air temperature of 15°C.
- 2.2.2 A habitat and vegetation map was produced for the site and the immediate surrounding area at a scale of 1:1000 and is appended at **Figure 2**. The mapping is based on the Joint Nature Conservation Committee Phase 1 Habitat Survey methodology (JNCC, 2010) with minor adjustments to illustrate and examine the habitats with greater precision.
- 2.2.3 On site habitat mapping was assisted via use of GPS technology, using *Millom Leisure Centre: Existing Site Plan E1001 Revision P02* (Roberts Limbrick, 2022) and ESRI World Imagery as base plans.
- 2.2.4 The plant species within the site boundary were determined with estimates of the distribution, ground cover, abundance and constancy of individual species. The estimation of abundance was based on the DAFOR system, where D = Dominant, A = Abundant, F = Frequent, O = Occasional and R = Rare, this being a widely used and accepted system employed by ecological surveyors. The terms L = Locally and V = Very were additionally used to describe the plant species distributions with greater precision.
- 2.2.5 Stands of vegetation and habitats were described and evaluated using the National Vegetation Classification (NVC). The NVC provides a systematic and comprehensive analysis of British vegetation and is a reliable framework for nature conservation and land-use planning.
- 2.2.6 Habitats within the site were assessed in accordance with the UK Habitats Classification / UKHab (Butcher, et al., 2020). The UKHab has been designed to function at two scales: fine scale (25m² or 5 metres length) and large scale (400m² or 20 metres length). It has been considered for the purposes of this survey that the fine scale of 25m² or 5 metres length is appropriate.
- 2.2.7 Searches were made for uncommon, rare and statutorily protected plant species, those species listed as protected in the *Wildlife and Countryside Act 1981* (as amended) and species which are indicators of important and uncommon plant communities. Plant nomenclature follows *New Flora of the British Isles 3rd Edition* (Stace, 2010).
- 2.2.8 Searches were carried out for the presence of invasive species, including those listed on Schedule 9 of the *Wildlife and Countryside Act 1981* (as amended), including Japanese Knotweed (*Fallopia japonica*), Indian Balsam (*Impatiens glandulifera*) and Giant Hogweed (*Heracleum mantegazzianum*).

2.3 Animal Life

Badger

- 2.3.1 The survey area for badger covered the site (as annotated on **Figure 2**) and extended to accessible land within a radius of 50 metres from the site boundary. Private gardens / land were excluded from the survey. The survey was conducted in accordance with guidance presented within *Badgers and Development* (Natural England, 2007) and *Badgers: advice for making planning decisions* (Natural England, 2022).
- 2.3.2 The following signs of badger activity were searched for:
- Sett entrances, e.g. entrances that are normally 25 to 35cm in diameter and shaped like a 'D' on its side;
 - Large spoil heaps outside sett entrances;
 - Bedding outside sett entrances;
 - Badger footprints;
 - Badger paths;
 - Latrines;
 - Badger hairs on fences or bushes;
 - Scratching posts; and
 - Signs of digging for food.
- 2.3.3 Habitats within and surrounding the site were assessed in terms of their suitability for use by foraging and sheltering badger in accordance with their known habitat preferences as detailed in current guidance and *Badger* (Roper, 2010).

Bat Species

Daylight Survey

Survey Personnel

- 2.3.4 The site was assessed for its suitability to support roosting bats by Brian Robinson, Natural England Class Survey Licence WML CL18 (Bat Survey Level 2), Registration Number 2015-13161-CLS-CLS. The surveyor's qualifications and experience meet the criteria as defined in the *Technical Guidance Series Competencies for Species Survey: Bats* (CIEEM, 2013).

Buildings

- 2.3.5 The surveys were carried out in accordance with standard methodology including the *Bat Mitigation Guidelines* (Mitchell-Jones, 2004), the *Bat Workers' Manual 3rd Edition* (Mitchell-Jones & Mcleish, 2004) and *Bat Surveys for Professional Ecologists: Good Practice Guidelines (3rd edn)* (Collins, J. (ed), 2016).
- 2.3.6 An inspection of the external surfaces, walls and roofs of the buildings was carried out to find potential bat roosting habitat or accesses into internal areas where roosts may be present. Searches for evidence of bat presence in the form of droppings, urine stains, feeding signs, grease marks and other evidence were also carried out.
- 2.3.7 The internal survey involved an examination of the accessible internal areas (including roof voids) to find roosting bats or evidence of past use of the buildings by bats such as droppings and prey remains.
- 2.3.8 A list of equipment used is detailed at **Table 2.1**.

Table 2.1: Survey Equipment used during Daylight Bat Survey

Ladders
LED Lenser P14 torch
Panasonic DMC- FT1 digital camera
8x20 binoculars
Ridgid Micro Inspection Camera Borescope CA-100

- 2.3.9 The suitability of each building has been assessed in accordance with Table 4.1 of *Bat Surveys for Professional Ecologists: Good Practice Guidelines (3rd edn)*, (Collins, J. (ed), 2016), taking into account any presence of gaps suitable for access by bats, features suitable for use by roosting bats within the building (including crevice dwelling species and species which can roost in the open in roof voids), and the suitability of the surrounding habitats for use by foraging and commuting bats.

Habitat Assessment for Commuting / Foraging Bats

- 2.3.10 Habitats within and adjacent to the site were assessed for their value and suitability for commuting and foraging bats in accordance with Table 4.1 of *Bat Surveys for Professional Ecologists: Good Practice Guidelines (3rd edn)*, (Collins, J. (ed), 2016). Reference has been made to the categories and descriptions / examples, presented at **Table 2.2**, below.

Table 2.2: Consideration of Suitability of Foraging and Commuting Habitat for Bats

Suitability	Commuting Habitat	Foraging Habitat
Negligible	Negligible habitat features on site likely to be used by commuting bats.	Negligible habitat features on site likely to be used by foraging bats.
Low	Habitat that could be used by small numbers of commuting bats such as a gappy hedgerow or unvegetated stream, but isolated i.e. not very well connected to the surrounding landscape by other habitat.	Suitable, but isolated habitat that could be used by small numbers of foraging bats such as a lone tree or patch of scrub.
Moderate	Continuous habitat connected to the wider landscape that could be used by bats for commuting such as lines of trees and scrub or linked back gardens.	Habitat that is linked to the wider landscape that could be used by bats for foraging such as trees, scrub, grassland or water.
High	Continuous, high-quality habitat that is well connected to the wider landscape and is likely to be used regularly by commuting bats such as river valleys, streams, hedgerows, lines of trees and woodland edge. Habitats close to and connected to known roosts.	High-quality habitat that is well-connected to the wider landscape and is likely to be used regularly by foraging bats such as broadleaved woodland, tree-lined watercourses and grazed parkland. Habitats close to and connected to known roosts.

Bird Species

- 2.3.11 Bird species observed and heard during the survey were recorded.
- 2.3.12 Habitats throughout the site and in the immediate surrounding area were assessed for their value to roosting, feeding and nesting birds, as indicated by the amount of shelter, feeding value, woody vegetation structure and species diversity of tree and shrub species in the site.
- 2.3.13 During the internal inspection on 7th June 2023 both buildings were searched for pellets, faecal splashes and feathers which may indicate use by roosting or nesting barn owl in accordance with *The Barn Owl Conservation Handbook* (Barn Owl Trust, 2012) and *Barn Owl Tyto alba Survey Methodology and Techniques for use in Ecological Assessment. Developing Best Practice in Survey and Reporting* (Shawyer, 2011).

Reptile Species

- 2.3.14 The site and its surroundings were assessed in terms of their suitability for use by reptile species using the important characteristics for reptiles outlined in the draft document '*Reptile Mitigation Guidelines*' (Natural England, 2011), and the *Reptile Habitat Management Handbook* (Edgar, et al., 2010). These habitat characteristics are outlined in **Table 2.3**, below.

Table 2.3: Important Habitat Characteristics for Reptiles

1. Location (in relation to species range)	7. Connectivity to nearby good quality habitat
2. Vegetation Structure	8. Prey abundance
3. Insolation	9. Refuge opportunity
4. Aspect	10. Hibernation habitat potential
5. Topography	11. Disturbance regime
6. Surface geology	12. Egg-laying site potential

Other Wildlife

- 2.3.15 Evidence of other wildlife (including Priority Species) observed whilst on site (but for which specific surveys were not made) was recorded and has been included in this report where it is considered of relevance to the planning application. Habitats have been assessed for their suitability for Priority Species identified in the data search results where this is considered relevant to the application.

2.4 Survey and Reporting Limitations

- 2.4.1 The whole site was accessible and surveys were completed at a suitable time of year. No survey limitations were experienced.
- 2.4.2 All measurements within this report are approximate only, and have been either measured or estimated whilst on site or calculated using mapping software (QGIS) or internet-based mapping services such as MAGIC Maps and Google Earth.

2.5 Evaluation Methods

- 2.5.1 The habitats, vegetation and animal life were evaluated with reference to standard nature conservation criteria as described in *A Nature Conservation Review* (Ratcliffe, 1977) and *Guidelines for the Selection of Biological SSSIs* (Bainbridge, et al., 2013). These are size (extent), diversity, naturalness, rarity, fragility, typicality, recorded history, position in an ecological or geographical unit, potential value and intrinsic appeal.
- 2.5.2 Habitats have been assessed to determine whether they meet those described in *UK Biodiversity Action Plan: Priority Habitat Descriptions* (Maddock, A (ed), 2008); these lists are used to help draw up the statutory lists of Priority Habitats, as required under Section 41 of the *Natural Environment and Rural Communities (NERC) Act 2006*. Where suitable, the ecological value of the habitats present has been assessed using the terms outlined in *Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater, Coastal and Marine* (CIEEM, 2018).
- 2.5.3 Government advice on wildlife, as set out in the *National Planning Policy Framework* (Ministry of Housing, Communities and Local Government, 2021) and associated government circulars has been taken into consideration. Legislation relating to protected species, such as those listed under Schedules 1, 5, 6 and 8 of the *Wildlife and Countryside Act 1981* (as amended) and *The Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019*, is referenced where applicable, and any impacts to protected species are evaluated in accordance with current guidance.
- 2.5.4 The presence of any Priority Species, as listed under Section 41 of the *Natural Environment and Rural Communities (NERC) Act 2006* is noted, and habitats are assessed in terms of their suitability and value for these species. The presence of habitats and / or species listed by the Cumbria Biodiversity Action Plan has been taken into account in the evaluation of the site.

3.0 SURVEY RESULTS

3.1 Desktop Study and Data Search

Statutory Designated Sites for Nature Conservation and SSSI Impact Risk Zones

- 3.1.1 The site is not and does not form part of any statutory designated site for nature conservation.
- 3.1.2 The site lies within a Site of Special Scientific Interest (SSSI) Impact Risk Zone for the following overlapping statutory designated sites for nature conservation (hereafter the 'statutory designated sites'), all of which are located 85 metres to the east of the site (across a railway line):
- Duddon Estuary SSSI, designated for its sand dune systems and the diverse plant communities they support, a variety of nationally rare and scarce invertebrate species and for its importance to wintering wildfowl and waders as well as passage migrants. The SSSI is also of importance as one of a series of estuaries on the north-west coast where the majority of the British population of natterjack toads (*Bufo calamita*) occur.
 - Morecambe Bay and Duddon Estuary Special Protection Area (SPA), for its importance to wildfowl and passage migrant birds;
 - Duddon Estuary Ramsar Site, designated for its importance to wildfowl and passage migrant birds; and
 - Morecambe Bay Special Area of Conservation (SAC), designated for its estuarine Annex I habitats and the presence of great crested newt.
- 3.1.3 **Figure 1** shows the site's location in relation to the statutory designated sites. The SSSI Impact Risk Zone requires the Local Planning Authority to consult with Natural England on likely risks from the following development categories (Ordnance Survey, 2023):
- All planning applications (except householder) outside or extending outside existing settlements / urban areas affecting greenspace, farmland, semi natural habitats or landscape features such as trees, hedges, streams, rural buildings / structures.
 - Pipelines and underground cables, pylons and overhead cables. Any transport proposal including road, rail and by water (excluding routine maintenance). Airports, helipads and other aviation proposals.
 - Solar schemes with a footprint greater than 0.5 hectares, and all wind turbines.
 - Planning applications for quarries, including new proposals, Review of Minerals Permissions, extensions, variations to conditions etc. Oil and gas exploration / extraction.
 - Large non-residential developments outside existing settlements / urban areas where the net additional gross internal floorspace is greater than 1,000m², or the footprint exceeds 0.2 hectares.
 - Residential development of 10 units or more.
 - Any residential developments outside of existing settlements / urban areas with a total net gain in residential units.
 - Any development that could cause air pollution or dust either in its construction or operation (including industrial / commercial processes, livestock and poultry units, slurry lagoons and digestate stores and manure stores).
 - All general combustion processes, including energy from waste incineration, other incineration, landfill gas generation plant, pyrolysis / gasification, anaerobic digestion, sewage treatment works and other incineration / combustion.
 - Mechanical and biological waste treatment, inert landfill, non-hazardous landfill, hazardous landfill, household civic amenity recycling facilities construction, demolition and excavation waste, other waste management.

- k. Any composting proposal. Includes open windrow composting, in-vessel composting, anaerobic digestion and other waste management.
- l. Any discharge of water or liquid waste that is discharged to ground (i.e. to seep away) or to surface water, such as a beck or stream

3.1.4 Potential impacts to the statutory designated sites present in the wider area as a consequence of the proposed development are considered further at **Section 4.2**.

Non-statutory Designated Sites for Nature Conservation

- 3.1.5 The site is not and does not form part of any non-statutory designated site for nature conservation.
- 3.1.6 Five non-statutory designated sites for nature conservation (hereafter the 'non-statutory sites') are located within a 2 kilometre radius from the centre of the site, and are summarised at **Table 3.1**.

Table 3.1: Local Wildlife Sites Within a 2 Kilometre Radius from the Centre of the Site

Site Name	Distance and Direction from the Site
Millom Marsh County Wildlife Site	350 metres to the north-east
Butts Foot Wood County Wildlife Site and Ancient Woodland	1.38 kilometres to the north-west
Beck Wood (Millom) County Wildlife Site and Ancient Woodland	1.34 kilometres to the north-west
Hodbarrow Lagoon and RSPB Reserve Site of Invertebrate Significance	1.37 kilometres to the south
Hodbarrow Point Local Geological Site	1.98 kilometres to the south

- 3.1.7 The presence of these non-statutory designated sites is considered further at **Section 4.2**.

Main River Designation

- 3.1.8 In accordance with *Main River Map* (Environment Agency, 2023) the section of Salthouse Pool, located 34 metres to the north-east of the site, forms part of a Main River.

Priority Habitats Inventory

- 3.1.9 The Priority Habitats Inventory² was checked via MAGiC Maps. In accordance with the inventory the amenity grassland at the northern end of the site (and the playing fields to the north of the site) form part of an area of Coastal and Floodplain Grazing Marsh Priority Habitat. No further Priority Habitats are identified at the site by the inventory. The presence of Coastal and Floodplain Grazing Marsh Priority Habitat at the site is considered further at **Section 4.3**.

Protected and Notable Species

- 3.1.10 CBDC hold no records of protected and notable species for the site.
- 3.1.11 Records of protected and notable species for a 2 kilometre radius from the centre of the site are summarised at **Table 3.2**. Note that were distance from the site is not provided this is due to the locational data being provided with a less than 6 figure grid reference.

² A spatial dataset that describes the geographic extent and location of Natural Environment and Rural Communities Act (2006) Section 41 habitats of principal importance.

Table 3.2: Records of Protected Species Within a 2 Kilometre Radius from the Centre of the Site

Taxon Group	Species Name and Designations ¹ and Notes
Amphibians	Great crested newt (<i>Triturus cristatus</i>): EPS, WCAs5, PS & LBAP. 1 record from 1981. Natterjack toad (<i>Epidalea calamita</i>): EPS, WCAs5, PS & LBAP. 276 records, dated between 1980 and 2018. The closest record is 750 metres to the south-east and from 2011. Common toad (<i>Bufo bufo</i>): WCAs5, PS & LBAP. 79 records, dated between 1986 and 2016. The closest record is 325 metres to the south-east and from 2016. Common frog (<i>Rana temporaria</i>): WCAs5 (sale only). 64 records, dated between 1986 and 2016. The closest record is 750 metres to the south-east and from 2011. Smooth newt (<i>Lissotriton vulgaris</i>): WCAs5 (sale only). 44 records, dated between 1986 and 2017. The closest record is 750 metres to the south-east and from 2011.
Birds – WCAs1 Species	Scaup (<i>Aythya marila</i>): WCAs1, PS & LBAP. 27 records, dated between 2007 and 2013. The closest record is 1365 metres to the south and from 2007. Roseate tern (<i>Sterna dougallii</i>): WCAs1 & PS. 1 record from 2009. Sensitive species h: WCAs1 & LBAP. 7 records, dated between 2007 and 2010. Sensitive Species t: WCAs1 & LBAP. 13 records, dated between 1999 and 2011. Black tern (<i>Chlidonias niger</i>): WCAs1. 1 record from 2013. Garganey (<i>Spatula querquedula</i>): WCAs1. 5 records, dated between 2007 and 2008. The closest record is 2085 metres to the south and from 2007. Great northern diver (<i>Gavia immer</i>): WCAs1. 4 records, dated between 2009 and 2010. Green sandpiper (<i>Tringa ochropus</i>): WCAs1. 3 records, all from 2007. The closest record is 1325 metres to the south. Greenshank (<i>Tringa nebularia</i>): WCAs1. 5 records, dated between 2008 and 2011. Greylag goose (<i>Anser anser</i>): WCAs1. 77 records, dated between 1999 and 2013. The closest record is 2085 metres to the south and from 2007. Kingfisher (<i>Alcedo atthis</i>): WCAs1. 7 records, dated between 2008 and 2011. Little gull (<i>Hydrocoloeus minutus</i>): WCAs1. 42 records, dated between 2007 and 2013. The closest record is 1365 metres to the south and from 2007. Long-tailed duck (<i>Clangula hyemalis</i>): WCAs1. 16 records, all from 2007. The closest record is 1365 metres to the south. Mediterranean gull (<i>Ichthyaeetus melanocephalus</i>): WCAs1. 26 records, dated between 1998 and 2011. The closest record is 1365 metres to the south and from 2007. Redwing (<i>Turdus iliacus</i>): WCAs1. 18 records, dated between 2009 and 2011. Slavonian grebe (<i>Podiceps auritus</i>): WCAs1. 5 records, dated between 2007 and 2013. Spoonbill (<i>Platalea leucorodia</i>): WCAs1. 4 records, all from 2009. Velvet scoter (<i>Melanitta fusca</i>): WCAs1. 1 record from 2011. Whooper swan (<i>Cygnus cygnus</i>): WCAs1. 20 records, dated between 2007 and 2013. The closest record is 2065 metres to the south and from 2011. Sensitive Species a: WCAs1. 1 record from 2001. Sensitive Species c: WCAs1. 17 records, dated between 2007 and 2011. Sensitive Species cz: WCAs1. 2 records, dated 2011 and 2013. Sensitive Species d: WCAs1. 60 records, dated between 2007 and 2013. The closest record is 2085 metres to the south and from 2007. Sensitive Species k: WCAs1. 3 records, dated between 2007 and 2009. The closest record is 2085 metres to the south and from 2007. Sensitive Species l: WCAs1. 3 records, dated between 2007 and 2011. Sensitive Species n: WCAs1. 19 records, dated between 2000 and 2013. The closest record is 1580 metres to the south and from 2007. Sensitive Species p: WCAs1. 4 records, all from 2009. Sensitive Species q: WCAs1. 86 records, dated between 2007 and 2013. The closest record is 1365 metres to the south and from 2007. Sensitive Species s: WCAs1. 49 records, dated between 1999 and 2013. The closest record is 2085 metres to the south and from 2007. Sensitive Species w: WCAs1. 20 records, dated between 2008 and 2013. Sensitive Species y: WCAs1. 1 record from 2011.
Birds – Priority and LBAP Species	PS & LBAP: Lapwing (<i>Vanellus vanellus</i>), curlew (<i>Numenius arquata</i>), arctic skua (<i>Stercorarius parasiticus</i>), cuckoo (<i>Cuculus canorus</i>), grey partridge (<i>Perdix perdix</i>), skylark (<i>Alda arvensis</i>), yellowhammer (<i>Emberiza citrinella</i>), reed bunting (<i>Emberiza schoeniclus</i>), lesser redpoll (<i>Acanthis cabaret</i>), bullfinch (<i>Pyrrhula pyrrhula</i>), grasshopper warbler (<i>Locustella naevia</i>), tree pipit (<i>Anthus trivialis</i>), spotted flycatcher (<i>Muscicapa striata</i>), house sparrow

Taxon Group	Species Name and Designations ¹ and Notes
	(<i>Passer domesticus</i>), tree sparrow (<i>Passer montanus</i>), wood warbler (<i>Phylloscopus sibilatrix</i>), dunnoek (<i>Prunella modularis</i>), linnet (<i>Linaria cannabina</i>), twite (<i>Linaria flavirostris</i>), starling (<i>Sturnus vulgaris</i>) and song thrush (<i>Turdus philomelos</i>).
Ferns	Pillwort (<i>Pilularia globulifera</i>): PS & LBAP. 4 records, dated between 1990 and 2006. The closest record is 1710 metres to the south and from 1990.
Insects – Butterflies	Northern brown argus (<i>Aricia artaxerxes artaxerxes</i>): WCAs5 & LBAP. 1 record from 2015.
Insects – Butterflies – PS & LBAP Species	PS & LBAP: Dingy skipper (<i>Erynnis tages</i>), small heath (<i>Coenonympha pamphilus</i>), wall (<i>Lasiommata megera</i>) and grayling (<i>Hipparchia semele</i>). LBAP Only: Dingy skipper (<i>Erynnis tages tages</i>), small heath (<i>Coenonympha pamphilus pamphilus</i>) and grayling (<i>Hipparchia semele semele</i>).
Insects – Hymenoptera	Northern colletes (<i>Colletes floralis</i>): PS & LBAP. 1 record from 2004.
Insects – Moths	PS & LBAP: Latticed heath (<i>Chiasmia clathrata</i>), small phoenix (<i>Ecliptopera silaceata</i>), spinach (<i>Eulithis mellinata</i>), oblique carpet (<i>Orthonama vittata</i>), shaded broad-bar (<i>Scotopteryx chenopodiata</i>), dark-barred twin-spot carpet (<i>Xanthorhoe ferrugata</i>), garden tiger (<i>Arctia caja</i>), white ermine (<i>Spilosoma lubricipeda</i>), cinnabar (<i>Tyria jacobaeae</i>), hedge rustic (<i>Tholera cespitis</i>), small square-spot (<i>Diarsia rubi</i>) and rosy rustic (<i>Hydraecia micacea</i>). LBAP Only: Rosy minor (<i>Litoligia literosa</i>) and sallow (<i>Cirrhia icteritia</i>).
Marine Mammals	Common dolphin (<i>Delphinus delphis</i>): EPS, WCAs5, PS & LBAP. 1 record from 1988. Common porpoise (<i>Phocoena phocoena</i>): EPS, WCAs5, PS & LBAP. 4 records, dated between 1985 and 2003. The closest record is 2535 metres to the south and from 2003. Long-finned pilot whale (<i>Globicephala melas</i>): EPS, WCAs5, PS & LBAP. 1 record from 1985. Harbour seal (<i>Phoca vitulina</i>): PS & LBAP. 1 record from 1995.
Reptiles	Common lizard (<i>Zootoca vivipara</i>): WCAs5, PS & LBAP. 17 records, dated between 1993 and 2017. The closest record is 645 metres to the south-east and from 2011.
Terrestrial Mammals	Eurasian otter (<i>Lutra lutra</i>): EPS, WCAs5, PS & LBAP. 2 records, dated 2008 and 2016. The closest record is 90 metres to the east, and from 2008. Noctule bat (<i>Nyctalus noctula</i>): EPS, WCAs5, PS & LBAP. 1 record from 1998, located 955 metres to the north. Bat (Order <i>Chiroptera</i>): EPS, WCAs5 & LBAP. 2 records, dated 2004 and 2014. The closest record is 725 metres to the south-west, and from 2014. Common pipistrelle (<i>Pipistrellus pipistrellus</i>): EPS, WCAs5 & LBAP. 5 records, dated between 2002 and 2008. The closest record is 470 metres to the south and from 2007. Pipistrelle bat species (<i>Pipistrellus</i> sp.): EPS, WCAs5 & LBAP. 2 records, both from 2005. The closest record is 750 metres to the west. Eurasian red squirrel (<i>Sciurus vulgaris</i>): WCAs5, PS & LBAP. 4 records, dated between 2001 and 2010. The closest record is 160 metres to the north-west and from 2001. West European hedgehog (<i>Erinaceus europaeus</i>): PS & LBAP. 5 records, dated between 2002 and 2017. The closest record is 190 metres to the west and from 2016. Eurasian badger (<i>Meles meles</i>): PBA. 4 records, dated between 1997 and 2010. The closest record is over 1000 metres from the site.
¹Key to Designation Codes: EPS = European Protected Species under <i>The Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019</i>. WCAs1 = Species receives full protection under Schedule 1 of the <i>Wildlife and Countryside Act 1981</i> (as amended). WCAs5 = Species receives full protection under Schedule 5 of the <i>Wildlife and Countryside Act 1981</i> (as amended). PBA = Protection of Badger Act 1992. PS = Priority Species listed under Section 41 of the NERC Act 2006. LBAP = Species listed on the Cumbria Biodiversity Action Plan	

3.1.12 The presence of these protected and notable species within the wider area has been taken into account throughout this report.

3.2 Vegetation and Habitats

General Description

- 3.2.1 The approximately 0.5 hectares site is located on the north-eastern edge of the town of Millom and within the Millom School complex. Further buildings associated with the school are located to the west and south, beyond which lies with housing. School grounds, a railway and the statutory designated sites are located to the east. Amenity grassland playing fields are located to the north, beyond which lie farmed fields and farm buildings.
- 3.2.2 The northern site boundary is defined by fencing, beyond which lies amenity grassland playing fields. The south-eastern site boundary is defined by fencing beyond which lies an all-weather playing field. The southern boundary is defined by the southern elevation of the sports hall within the site (Building 2), beyond which lies hard standing and further buildings. The eastern site boundary is not defined by a landscape feature but is located within an area of hard standing used as a playground.
- 3.2.3 The site supports two buildings, hard standing with locally frequent colonising ruderal herbs, amenity grassland and an area of bare sand covered by plastic sheeting at the time of the survey (i.e. the existing long-jump landing pit).
- 3.2.4 A Phase 1 Habitat Survey map is appended at **Figure 2**, and can be referred to for all habitat descriptions. Photographs are appended at **Table 8.2**.

Buildings and Hard Standing

- 3.2.5 The buildings are described in terms of their suitability for use by roosting bats at **Section 3.4**. Neither building supports any significant assemblage of plant species.
- 3.2.6 Refer to **Photos 1** and **2**. The hard standing within the site is composed of asphalt with occasional colonising ruderal herbs. The vegetation is characterised by occasional Greater Plantain (*Plantago major*), very locally frequent Annual Meadow-grass (*Poa annua*), Black Medick (*Medicago lupulina*), Hedge Mustard (*Sisymbrium officinale*), Prickly Sow-thistle (*Sonchus asper*) and Shepherd's-purse (*Capsella bursa-pastoris*) and rare Common Chickweed (*Stellaria media*), Common Mouse-ear (*Cerastium fontanum*), Field Forget-me-not (*Myosotis arvensis*), Groundsel (*Senecio vulgaris*), Scentless Mayweed (*Tripleurospermum inodorum*) and Smooth Sow-thistle (*Sonchus oleraceus*).
- 3.2.7 The vegetation is not typical of any NVC community and is described by the UKHab as u1b developed land; sealed surface with the secondary code 17 ruderal / ephemeral.

Amenity Grassland

- 3.2.8 Refer to **Photos 3** to **5**. The grassland within the site is short mown and regularly managed. The vegetation is characterised by constant, frequent and locally abundant Yorkshire-fog (*Holcus lanatus*) and Perennial Rye-grass (*Lolium perenne*), occasional and locally frequent Smooth Meadow-grass (*Poa pratensis*), Black Medick and Daisy (*Bellis perennis*), occasional Ribwort Plantain (*Plantago lanceolata*), Red Fescue (*Festuca rubra*), White Clover (*Trifolium repens*), Broad-leaved Dock (*Rumex obtusifolius*) and Common Mouse-ear (*Cerastium fontanum*) and very locally frequent Creeping Thistle (*Cirsium arvense*) and False Oat-grass (*Arrhenatherum elatius*). A plant species list is appended at **Table 8.1**.
- 3.2.9 An area of bare sand is covered with a plastic sheet within the northern area of amenity grassland; this is the existing long-jump sand pit. No vegetation was associated with the covered sand pit.
- 3.2.10 The grassland is typical of an MG7 *Lolium Perenne* ley grassland (Rodwell, 1992) of the NVC and is described by the UKHab as g4 modified grassland.

Invasive Plant Species

- 3.2.11 No invasive plant species listed under Schedule 9 of the *Wildlife and Countryside Act 1981* (as amended) were detected within the site.

3.3 Animal Life

Badger

- 3.3.1 No badger or signs of badger were detected within the site or within the accessible 50 metres around the site. The presence of badger is reasonably discounted.

Bat Species

Daylight Survey: Buildings

Building 1

- 3.3.2 Refer to **Photos 6 to 9**. Building 1 is a single-storey gymnasium constructed from walls of mortared brick which are partially rendered and which supports a flat roof of concrete. The building's plastic fascias appeared well sealed throughout and no gaps suitable for access by bats were noted at the exterior of the building.
- 3.3.3 Internally the building does not support any roof voids; the underside of the roofing is lined with timber planking.
- 3.3.4 No gaps suitable for access by bats were noted at the exterior of the building, and the building does not support features suitable for use by crevice dwelling species such as common pipistrelle (*Pipistrellus pipistrellus*) or species known to roost in the open in voids such as brown long-eared bats (*Plecotus auritus*). Building 1 is considered to be of 'negligible' suitability for use by roosting bats.

Building 2

- 3.3.5 Refer to **Photos 10 to 15**. Building 2 is a detached single-storey changing facility constructed from walls of mortared brick and which supports a pitched roof of unlined corrugated metal sheeting.
- 3.3.6 The building is well-sealed externally. Louvred ventilation panels are present, however these lead directly to the existing plant within the building and not to areas considered suitable for use by roosting bats.
- 3.3.7 Internally the building is largely open to the underside of the roof, although small voids are present above the changing facilities. The voids are well-sealed throughout with no gaps to the exterior of the building or the wall tops present within the voids.
- 3.3.8 No gaps suitable for access by bats were noted at the exterior of the building, and the building does not support features suitable for use by crevice dwelling species or species known to roost in the open in voids. Building 2 is considered to be of 'negligible' suitability for use by roosting bats.

Habitat Assessment for Commuting and Foraging Bats

- 3.3.9 The buildings, hard standing and amenity grassland within the site are considered to be of 'low' suitability for use by foraging bats; whilst they may contribute to the wider foraging area for species associated with open habitats, such as common pipistrelle, they are unlikely to provide an abundance or diversity of invertebrate prey.

Bird Species

- 3.3.10 Birds detected in the site in June 2023 are listed in **Table 3.3**.

Table 3.3: Bird species Detected on 7th June 2023

Scientific Name	Common Name	BOCC Status ¹
<i>Corvus monedula</i>	Jackdaw	Green
<i>Larus argentatus</i>	Herring gull	Red
<i>Larus ridibundus</i>	Black-headed gull	Amber
<i>Phylloscopus collybita</i>	Chiffchaff	Green
¹ BOCC: Birds of Conservation Concern (Stanbury, et al., 2021). Priority Species are presented in bold .		

- 3.3.11 No evidence of barn owl was detected at either building; both buildings are considered unsuitable for nesting barn owl.
- 3.3.12 The regularly disturbed hard standing and amenity grassland is not suitable for any ground nesting birds. The herring gull are known to nest on the chimneys of nearby buildings within the school and the buildings may provide suitable habitat for nesting birds; the potential for birds to nest at the buildings is considered further at **Section 4.4**.
- 3.3.13 The habitats within the site hold no suitability for wintering waterfowl or passage migrant bird species.

Reptiles

- 3.3.14 The regularly disturbed and heavily managed habitats within the site provide poor quality habitat for sheltering, basking and hibernating reptiles. There are no piles of garden waste or other suitable debris for use by sheltering or hibernating reptiles, and the site supports no favourable habitat for basking reptiles. The species-poor habitats within the site are reasonably unlikely to support a large population or a variety of invertebrate prey. The site is not adjacent or linked to any areas of favourable habitat for reptile species.
- 3.3.15 The presence of reptiles within the site is reasonably discounted.

Other Wildlife

- 3.3.16 The habitats within the site are suitable for, and may contribute to, a wider foraging area for hedgehog (*Erinaceus europaeus*), a Priority Species. It is considered that the site is too small to provide core or important habitat for foraging hedgehog however.
- 3.3.17 The suitability of the site for foraging hedgehog is considered further at **Section 4.4**.

4.0 EVALUATION AND ASSESSMENT

4.1 Introduction and Description of Proposals

- 4.1.1 In accordance with *Millom Leisure Centre: Proposed Site Plan S1001 Revision P04* (Roberts Limbrick, 2022) it is proposed to demolish Building 2 and construct a new leisure centre which keys into Building 1. The leisure centre will have 4 court sports hall, 4 lane 8.5x15m swimming pool, studio space and associated changing areas.
- 4.1.2 **Section 4.2** provides an assessment of any impacts of the proposed development on the designated sites for nature conservation present in the wider area. The ecological value of habitats within the site is evaluated at **Section 4.3**, and protected and notable species are considered at **Section 4.4**.

4.2 Designated Sites for Nature Conservation

- 4.2.1 The site is located in close proximity (within 85 metres) of the overlapping Duddon Estuary SSSI, Morecambe Bay and Duddon Estuary SPA, Duddon Estuary Ramsar Site and Morecambe Bay SAC, hereafter the statutory designated sites.
- 4.2.2 It is not considered, at this stage, that the proposals meet any of the criteria which would require further consultation with Natural England. The proposals seek to redevelop an area of already developed land within the curtilage of a school to create revised facilities for the school; the proposed development does not extend outside existing urban areas. The site does not support any habitats which would contribute to the nature conservation value of the statutory designated sites present in the wider area.
- 4.2.3 It is recognised however that the site's proximity to the statutory designated sites and proximity to Salthouse Pool (located 34 metres to the north-east of the site and hydrologically connected to the statutory designated sites) is such that appropriate precautionary measures should be adopted during the construction phase of the proposed development to ensure that impacts associated with construction activities are avoided during the proposed works.
- 4.2.4 Such measures should form part of a Construction Environmental Management Plan (CEMP); an outline of measures to include within a CEMP are presented at **Section 5.2**.
- 4.2.5 Otherwise impacts to the statutory designated sites as a consequence of the proposals is reasonably discounted.
- 4.2.6 It is considered that the site is sufficiently small and distant from all non-statutory designated sites for nature conservation that the proposed development will have no adverse direct or indirect effect upon them.

4.3 Vegetation and Habitats

- 4.3.1 Only common and widespread plant species were found. None of the habitats present are representative of semi-natural habitat. The NVC communities present are typical of the geographical area and conditions present. No Priority Habitats are present.
- 4.3.2 It is considered that the habitats within the site, which comprise hard standing, buildings and regularly mown amenity grassland associated with a school, are not indicative of Coastal and Floodplain Grazing Marsh Priority Habitat.
- 4.3.3 It is not considered that the habitats within the site hold any importance in a geographical context³.

³ Using the terms presented at Section 4.7 of *Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater, Coastal and Marine* (CIEEM, 2018), i.e. International and European, National, Regional, Local Authority-wide area, River Basin District, Estuarine system / Coastal cell or Local. The term 'site' value is additionally used to highlight ecological

4.3.4 No invasive plant species have been detected within the site.

4.4 Protected Species and Other Wildlife

4.4.1 The buildings are of negligible suitability for use by roosting bats; the presence of roosting bats is reasonably discounted within the site. Habitats within and adjacent to the site are considered to be of 'low' suitability for foraging and commuting bats. Recommendations to ensure habitats remain suitable for use by foraging and commuting bats during the construction and operational phases of the proposed development are presented at **Section 5.2**. Features to incorporate into the site design to enhance habitats for roosting bats at the site are presented at **Section 5.3**.

4.4.2 The buildings may provide suitable habitat for use by nesting birds; all wild birds are protected while they are nesting under the *Wildlife and Countryside Act 1981* (as amended). Measures for the protection of nesting birds are presented at **Section 5.2** of this report.

4.4.3 Features to incorporate into the site design to enhance habitats for nesting birds at the site are presented at **Section 5.3**.

4.4.4 The habitats within the site are suitable for use by foraging hedgehog, a Priority Species. Measures to ensure the protection of hedgehog (and other wildlife) during works and to ensure habitat connectivity across the site is maintained for hedgehog are presented at **Section 5.2**.

5.0 RECOMMENDATIONS AND ECOLOGICAL ENHANCEMENT

5.1 Introduction

5.1.1 These recommendations aim to ensure that the development is implemented in accordance with relevant wildlife legislation, Natural England guidance, the principles of the National Planning Policy Framework (NPPF), local planning policy and best practice.

5.1.2 In accordance with Chapter 15, paragraph 180(d) of the NPPF:

'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'.

5.1.3 Where possible, opportunities to enhance the ecological interest and habitat connectivity and seek biodiversity gain through appropriate landscape planting and habitat creation have been identified.

5.1.4 All recommendations are appropriate to the geographical area, the habitats in the wider area, the wildlife present in the local area (and likely to use the site post-construction) and take into consideration the end use of the site as a leisure centre facility.

5.2 Protection of Habitats and Wildlife

Provision of a CEMP

5.2.1 A CEMP will be required as part of the proposed development to ensure that impacts associated with construction are avoided at the statutory designated sites present within the wider area (i.e. 85 metres to the east of the site). The CEMP should include the following:

features considered to be of importance in the context of the wider site habitats, but which are of negligible value in the context of the local area.

- a. *Provision of demarcation fencing and identification of the construction zone.* Appropriate (e.g. heras) fencing will ensure that the construction zone is clearly defined and prevent (for example) storage of materials or movement of machinery in inappropriate areas;
- b. *Biosecurity measures:* Plant and machinery to be brought to the site must be clean and clear of plant material and excessive mud and other materials. Contractors must not accept any hired plant or machinery onto the site that contains plant material or excessive mud / earth cover. This will help prevent impacts such as the spread of invasive plant species;
- c. *Noise limitation.* All contractors and sub-contractors working on site have a general duty to take all possible measures to minimise nuisance from noise and vibration that may impact on wildlife in the wider area. Measures such as appropriate selection of plant and appropriate operation and maintenance of plant will ensure that impacts associated with noise are minimised;
- d. *Control of dust and maintenance of air quality.* Air quality has the potential to be impacted by fumes from vehicles and plant, and the potential for dust created during periods of dry weather from the construction activities and the earthworks may adversely affect retained on site vegetation and habitats and off-site vegetation / habitats. The potential for the operations to produce dust will be minimised by implementing best practice measures such as dampening of exposed soil and material stockpiles using dowsing, sprinklers and hoses when necessary to prevent dust and particulate matter becoming mobile. Wheel washing facilities will be installed at all exits as well as procedures for effective cleaning and inspection of vehicles will aid with suppression of dust;
- e. *Lighting:* Any lighting to be used at the site during construction should be directional and screened where possible.
- f. and
- g. *Good site practice.* To ensure no additional impacts to wildlife are created, such as wind-blown debris and attraction of vermin (for example), good site practice will be applied at all times, and will include keeping the working area in a clean, tidy condition, provision of adequate toilet facilities and removal of litter.

Protection of Salthouse Pool Watercourse

- 5.2.2 In the absence of updated guidance, the following Pollution Prevention Guidelines (PPG) will be adhered to at any works near the Salthouse Pool watercourse, located 34 metres to the north-east of the site:
 - a. PPG1: Basic good environmental practices (Environment Agency, 2013);
 - b. PPG5: Works in, near or over watercourses (Environment Agency, 2014);
 - c. PPG6: Construction and demolition sites (Environment Agency, 2012); and
 - d. PPG7: Operating refuelling sites (Environment Agency, 2011).

- 5.2.3 These measures are additionally important as Salthouse Pool is hydrologically linked to the statutory designated sites present in the wider area.

Consideration of Lighting

- 5.2.4 Paragraph 185(c) in Chapter 15 (conserving and enhancing the natural environment) of the NPPF states that development should:

'limit the impact of light pollution from artificial light on local amenity, intrinsically dark landscapes and nature conservation.'

- 5.2.5 The lighting scheme to be implemented at the developed site must involve the use of appropriate products and screening, where necessary, to ensure no excessive artificial lighting shines over the wider area, as lighting overspill may deter use by wildlife such as foraging bats.

- 5.2.6 The lighting scheme will be designed with reference to current guidance, namely:

- a. *Guidance Note 8: Bats and Artificial Lighting in the UK* (Institution of Lighting Professionals & Bat Conservation Trust, 2018); and
- b. *Bats and lighting: Overview of current evidence and mitigation guidance* (Stone, 2014).

Protection of Nesting Birds

- 5.2.7 All wild birds are protected under the *Wildlife and Countryside Act 1981* (as amended) while they are breeding. It is advised that any works such as vegetation clearance that will affect habitats suitable for use by nesting birds are scheduled to commence outside the bird nesting season. Commencement of works in the nesting season must be informed by a pre-works nesting bird survey, carried out by a suitably experienced ecologist. The bird breeding season typically extends between March to August inclusive.
- 5.2.8 If breeding birds are detected the ecologist will issue guidance in relation to the protection of the nesting birds in conjunction with the scheduled works. This may involve cordoning off an area of the site until the young birds have fledged.

Reasonable Avoidance Measures for the Protection of Hedgehog and Other Wildlife

- 5.2.9 It is recommended that the following Reasonable Avoidance Measures (RAMs) are adopted during the construction phase of the proposed development. An identification guide to amphibian species is appended and a colour copy should be printed out and be made accessible in the site office (i.e. pinned to a site information board or similar within the site office):
 - a. All site personnel must be made aware of this RAMs, and the RAMs should be made part of the site induction for all personnel involved in soil strip, ground clearance, or other relevant activities;
 - b. Prior to any soil strip, vegetation will be strimmed to a height of no less than 0.15 metre and all arisings removed;
 - c. During construction, any holes, trenches or other pits which hedgehog (or other wildlife) could fall into will be covered overnight, or have sloped banks or ramps top allow escape;
 - d. The use of chemicals (such as fertilisers and herbicides) harmful to wildlife should be avoided wherever possible; and
 - e. In the unlikely event of the discovery of a hedgehog (or other wildlife species) is detected, it must be carefully picked up, placed in a clean bucket and moved to an area of suitable habitat beyond the development area.

Maintenance of Habitat Connectivity Throughout the Developed Site

- 5.2.10 To ensure habitat connectivity is maintained as part of the development proposals, gaps within any proposed fencing to allow access by other wildlife (including hedgehog) should be incorporated across the site; example accesses are presented at **Insert 1**, below, as reproduced from *Hedgehogs and Development* (British Hedgehog Preservation Society / PTES, 2019). It is recommended that, if any proposed fencing has the potential to restrict wildlife movement, appropriate gaps (at least 0.1 metre tall and 0.15 metre wide) are installed at suitable intervals around the base of the proposed fencing.

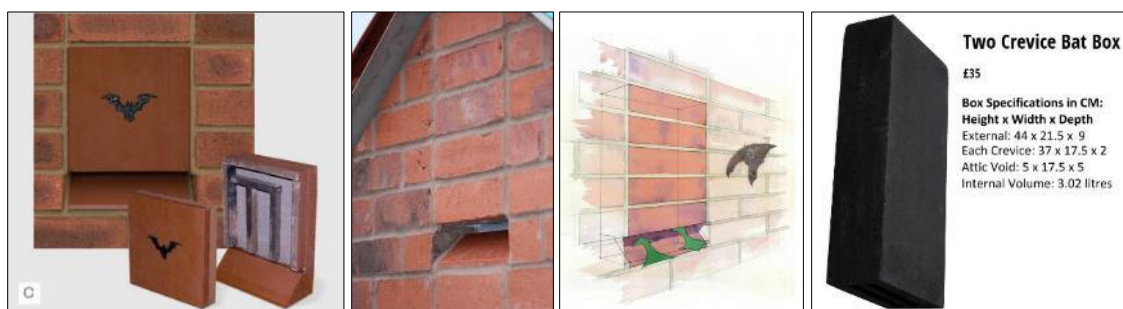


Insert 1: Showing wildlife access gap within fencing

5.3 Enhancements for Wildlife

Enhancing Habitats for Roosting Bats

- 5.3.1 It is recommended that the development incorporates the installation of one bat access panel at the new building.
- 5.3.2 The bat access panel should be sited at least 4 metres above ground level, ideally facing or close to areas of landscape planting or existing linear features. The access panels should not be positioned over windows or doorways where bat droppings may become a nuisance. Once the development layout has been finalised, an ecologist should advise on appropriate positions for the bat access panels. Suitable bat access panels are available from NHBS Ecology (www.nhbs.com), Wild Care (www.wildcare.co.uk) and / or Greenwood's Ecohabitats (www.greenwoodsecohabitats.co.uk) and are presented at **Insert 2**, below:



Insert 2: Examples of integrated bat access panels and an externally mounted box⁴

Enhancing Habitats for Nesting Birds

House Sparrow

- 5.3.3 House sparrows are associated with suburban areas. Monitoring suggests a severe decline in the UK house sparrow population, estimated as halving in rural areas, and dropping by 60% in towns and cities since the mid-1970's (RSPB, 2018).
- 5.3.4 The installation of one house sparrow terrace nest boxes is recommended at the proposed new building. The box will not be positioned over windows or doorways where droppings may become a nuisance. RSPB advice states that boxes should ideally be sited facing north to east, to avoid exposure to direct sunlight, which may cause overheating of chicks in the nest.
- 5.3.5 Such bird boxes are available from the NHBS (www.nhbs.com) or Wild Care (www.wildcare.co.uk). ERAP (Consultant Ecologists) Ltd will advise on the siting of bird boxes.
- 5.3.6 An example of a suitable house sparrow bird box is given below at **Insert 3**:

⁴ Left to right: IBstock Enclosed Bat Box 'c' (left); Habibat Bat Access Panels (centre left and centre right) and Greenwood's Ecohabitats's two crevice bat box (right). Products with a brick face are illustrated, however the Habibat bat access panels can be supplied unfaced to enable the addition of matching material.



Insert 3: Schwegler 1SP House Sparrow Nesting Terrace

Swift

- 5.3.7 The swift (*Apus apus*) has recently been added to The Birds of Conservation Concern Red list (Stanbury, et al., 2021) owing to the recorded recent declines and its identified status as a high conservation priority.
- 5.3.8 The construction of the new building provides an opportunity for the installation of additional nesting opportunities for swift to assist their conservation. It is recommended that the building provides an opportunity for the provision of a single swift nest box. Suitable swift nest boxes are illustrated at **Insert 4** below.



Insert 4: Examples of swift nest boxes⁵

Landscape Planting

- 5.3.9 It is recommended that if landscape planting is proposed within the site it is composed from native species and species known to be of value for the attraction of wildlife.
- 5.3.10 It is recommended that trees which support blossom and fruit which will attract insects are incorporated into the landscape planting. Suitable species are presented at **Table 5.1**, below.

Table 5.1: Suitable Native Species for Tree and Shrub Planting

Scientific Name	Common Name	Scientific Name	Common Name
<i>Acer campestre</i>	Field Maple	<i>Prunus spinosa</i>	Blackthorn
<i>Corylus avellana</i>	Hazel	<i>Rosa arvensis</i>	Field Rose
<i>Crataegus monogyna</i>	Hawthorn	<i>Rosa canina</i>	Dog-rose
<i>Ilex aquifolium</i>	Holly	<i>Sambucus nigra</i>	Elder
<i>Malus sylvestris</i>	Crab Apple	<i>Sorbus aucuparia</i>	Rowan
<i>Prunus avium</i>	Wild Cherry	<i>Ulmus glabra</i>	Wych Elm
<i>Prunus padus</i>	Bird Cherry	<i>Viburnum opulus</i>	Guelder Rose

⁵ From left to right No. 17A Schwegler Swift Nest Box (Triple Cavity) as installation (left), Vivara Pro Madrid Swift Nesting Box (centre) and Ibstock Eco-habitat for Swift (right), all available from www.NHBS.com and / or Wild Care (www.wildcare.co.uk).

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- 5.3.11 The understorey and ground cover planting design should be prepared to optimise the attraction of invertebrates such as feeding bumblebees and butterflies. Where possible the use of native species should be maximised but where necessary non-native species known to be attractive to invertebrates should be used.
- 5.3.12 Planting schemes that include flowering species such as *Viburnum*, *Ceanothus*, *Hebe*, *Lavandula*, *Lonicera*, *Potentilla*, *Rosmarinus* and *Vinca* can maximise opportunities for feeding invertebrates and for the attraction of foraging bats and birds.
- 5.3.13 For further plants suitable for the attraction of pollinators please refer to the *Perfect for Pollinators Plant List* (Royal Horticultural Society, 2012). It is recommended that the selection of plant species at the site ensures that a variety of flowering species are available throughout the year.

6.0 CONCLUSION

- 6.1 This ecological assessment has demonstrated that the proposed redevelopment at the site is feasible and acceptable in accordance with ecological considerations and the National Planning Policy Framework.
- 6.2 It is possible to implement reasonable actions for the protection and long-term conservation of fauna such as commuting / foraging bats associated with the site. Measures to conserve the habitat connectivity through the site are entirely feasible.
- 6.3 Redevelopment at the site will provide an opportunity to secure ecological enhancement for wildlife.

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8.0 APPENDIX: TABLES AND FIGURES

8.1 Plant Species Lists

Table 8.1: Plant Species List for Amenity Grassland

Scientific Name	Common Name	DAFOR ¹	% Cover
<i>Alopecurus geniculatus</i>	Marsh Foxtail	O	<1%
<i>Anthoxanthum odoratum</i>	Sweet Vernal-grass	O	<1%
<i>Arrhenatherum elatius</i>	False Oat-grass	VLF	<1%
<i>Bellis perennis</i>	Daisy	O/LF	<1%
<i>Cerastium fontanum</i>	Common Mouse-ear	O	<1%
<i>Cirsium arvense</i>	Creeping Thistle	VLF	<1%
<i>Dactylis glomerata</i>	Cock's-foot	LF	<1%
<i>Epilobium hirsutum</i>	Great Willowherb	R	<1%
<i>Festuca rubra</i>	Red Fescue	O	5%
<i>Holcus lanatus</i>	Yorkshire-fog	F/LA*	40%
<i>Lolium perenne</i>	Perennial Rye-grass	F/LA*	60%
<i>Medicago lupulina</i>	Black Medick	O/LF	<1%
<i>Persicaria maculosa</i>	Redshank	R	<1%
<i>Plantago lanceolata</i>	Ribwort Plantain	O	1%
<i>Plantago major</i>	Greater Plantain	O	<1%
<i>Poa pratensis</i>	Smooth Meadow-grass	O/LF	5%
<i>Ranunculus repens</i>	Creeping Buttercup	O	<1%
<i>Rumex crispus</i>	Curled Dock	R	<1%
<i>Rumex obtusifolius</i>	Broad-leaved Dock	O	<1%
<i>Senecio jacobaea</i>	Common Ragwort	O	<1%
<i>Taraxacum officinale</i> agg.	Dandelion	O	<1%
<i>Trifolium pratense</i>	Red Clover	R	<1%
<i>Trifolium repens</i>	White Clover	O	5%

¹**Key to DAFOR:** D=Dominant, A=Abundant, F=Frequent, O=Occasional, R=Rare, V=Very, L=Local and *denotes a constant species

8.2 Photographs



Photo 1: Hard standing within colonising ruderal herbs



Photo 2: Hard standing with colonising ruderal herbs



Photo 3: Amenity grassland



Photo 4: Amenity grassland with plastic covered long-jump sand pit



Photo 5: Amenity grassland within the site



Photo 6: Building 1, northern elevation



Photo 7: Building 1, eastern elevation



Photo 8: Building 1, southern elevation



Photo 9: Building 1, internal area



Photo 10: Building 2, western corner

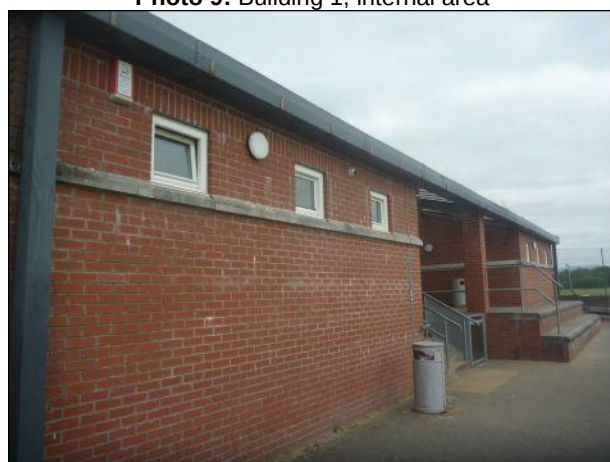


Photo 11: Building 2, south-eastern elevation



Photo 12: Building 2, north-eastern elevation



Photo 13: Building 2, northern corner



Photo 14: Building 2, internal area



Photo 15: Building 2, internal gable end

8.3 Figures

Figure 1: Aerial Image of the Site and its Surroundings, Showing the Statutory Designated Sites in the Wider Area

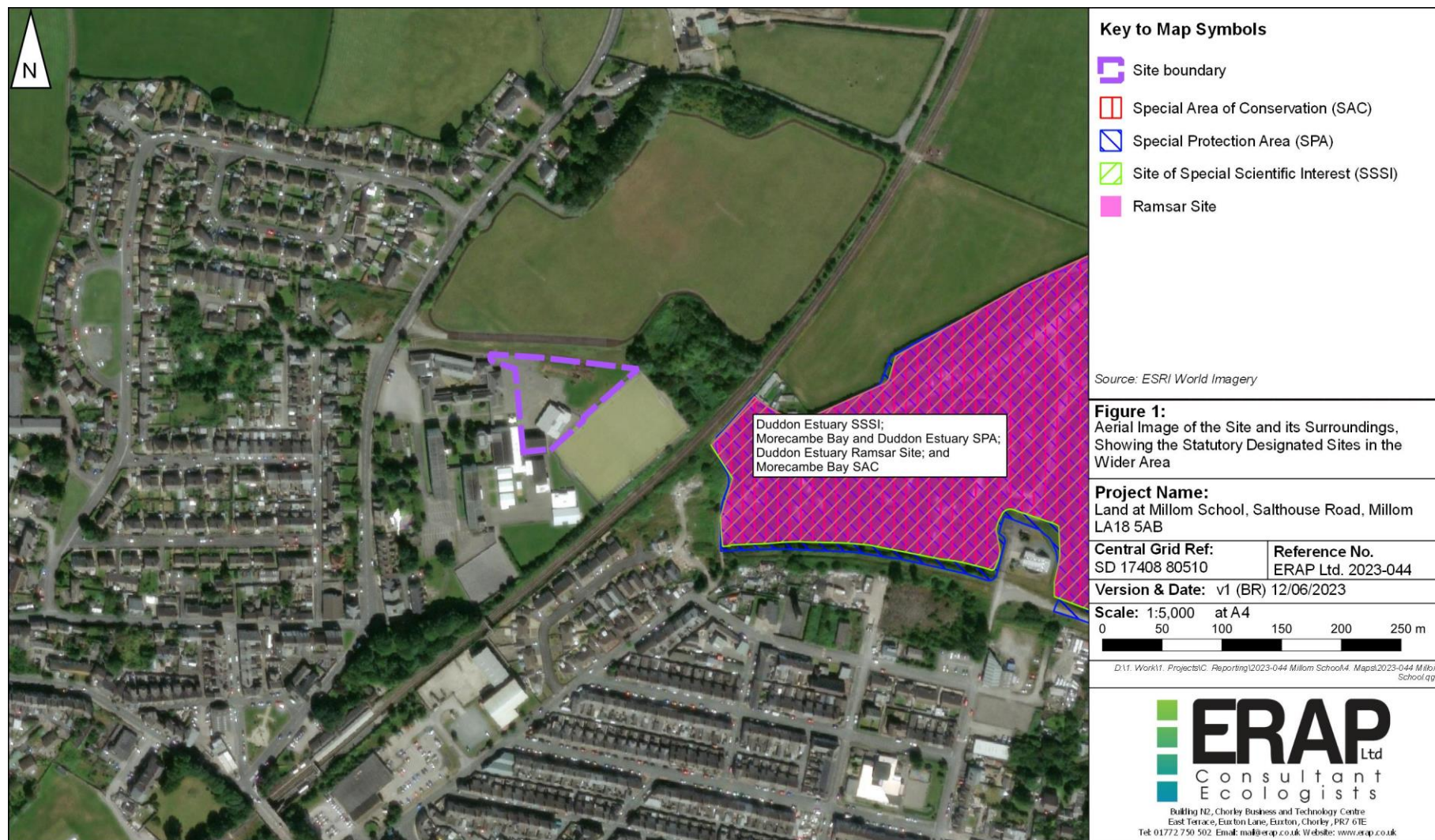


Figure 2: Phase 1 Habitat and Vegetation Map of the Site

