



THE
ENVIRONMENT
PARTNERSHIP



WHITWORTH COMMUNITY HIGH SCHOOL ROCHDALE ECOLOGICAL ASSESSMENT

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Executive Summary

1. TEP was commissioned in August 2020 by Campbell Reith, to carry out an ecological assessment of land currently used as Whitworth Community High School off Hall Fold in Rochdale, Manchester. This assessment has been requested to inform planning for redevelopment of the school.
2. The ecological assessment included a desk-based assessment (DBA), Phase 1 habitat survey and ground based assessment of trees and buildings for bat roost potential. Surveys were completed on 26th August 2020, by TEP ecologist Jenny Gibson. The site is situated in the centre of a residential area and is also surrounded by agricultural fields to the north. It predominantly comprises of hardstanding areas, buildings and amenity grassland playing fields.
3. A method statement for the control of invasive species should be produced to ensure that there is no spread of this species as a result of proposed works. Detailed biosecurity measures, such as cleaning of footwear, tools and machinery, to ensure that invasive species are not spread offsite should also be implemented.
4. A Root Protection Zone (RPZ) should be implemented around any retained trees adjacent to the site if development is likely to affect the trees, their roots and overhanging canopies. Replacement planting of trees unavoidably lost to development should be provided on site or, where this is not possible, in the local vicinity.
5. Further surveys are needed to inform roosting potential for the current building to be retained which is currently classified as offering low-moderate potential in line with BCT Guidance. The use of an endoscope will help to inform roosting suitability and the need for nocturnal surveys.
6. If any external lighting is required in the development, a sensitive lighting design should be implemented as part of the scheme to avoid indirect impacts of lighting on nocturnal and crepuscular species, particularly with reference to the northern woodland and river.
7. Otter and water vole surveys may need to be undertaken, on production of a masterplan, to inform any adverse implications due to drainage or development works within close proximity to the banks of the watercourses adjacent to the site.
8. The scattered trees and tall ruderal vegetation within the site offer suitable habitat for nesting birds. Any vegetation clearance should be conducted outside of the nesting bird season (March-August inclusive), in order to avoid potential damage or destruction of an active nest. Where clearance is unavoidable during this period, a pre-clearance check must be made by an ecologist 24 hours in advance. If an active nest is identified, works will need to be postponed within a designated buffer zone until the chicks have fledged.
9. A Reasonable Avoidance Method Statement (RAMS) should be implemented during site clearance to avoid impacts on S41 species hedgehog.

10. National Planning Policy Framework (NPPF) and local planning policies aim to minimise impacts of developments on biodiversity and provide net gains. Soft landscaping using native plant species will provide opportunity to enhance the site's biodiversity. Additional appropriate enhancements at the site includes provision of bat and bird boxes.

1.0 Introduction

- 1.1 The Environment Partnership (TEP) Ltd was commissioned in August 2020 by Campbell Reith to carry out an ecological assessment of land off Hall Ford, currently Whitworth Community High School in Rochdale, Manchester. This assessment has been requested to support a planning application for the partial demolition and redevelopment of the school.
- 1.2 This ecological assessment includes the following surveys:
- Desk based study;
 - Extended Phase 1 habitat survey; and
 - Ground based assessment of trees and buildings.
- 1.3 The objectives of the report are to:
- Describe the existing vegetation and give an overview of the habitats present on the site;
 - Describe the faunal species of conservation value present on site;
 - Identify whether there are any features of conservation value such as legally protected species or habitats of biodiversity importance;
 - Advise of further surveys or mitigation requirements that may be needed prior to development of the site; and
 - Outline opportunities to provide biodiversity enhancement within site proposals.
- 1.4 The site approximately 5.32ha in size is located adjacent to Hall Ford and Cock Hall Lane and is centred on grid reference SD 88071 17938. The survey area and site context are shown in Figure 1 below.
- 1.5 Existing residential development backs onto the site along Cowm Park Way to the East and North, and more residential estates to the south and south-west branching off Cock Hall Lane. To the west and north west of the site lie agricultural grassland fields that run adjacent to the site and Cock Hall Lane.

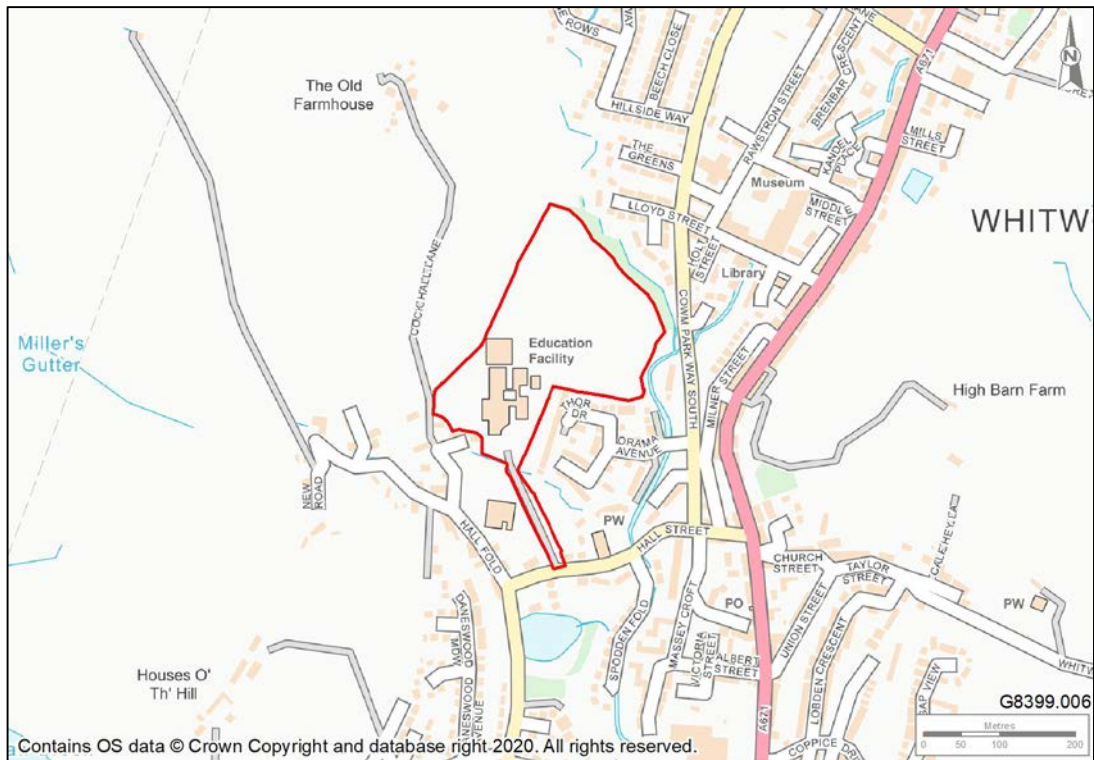


Figure 1: Site location in wider landscape

2.0 Methods

Desk Study

- 2.1 Records of internationally protected sites were obtained from within a 10km radius, nationally designated sites within 5km radius and locally protected sites within a 2km radius of the site. Information regarding historic species records were obtained from within a 2km radius of the site from both Greater Manchester Ecology Unit (GMEU) and Lancashire Ecological Records Network (LERN) due to the boundaries and location of the site in terms of local Councils. This collated data gives a useful indication of the distribution and abundance of ecological receptors at a given locale. It should, however, be noted that an absence of records does not indicate the absence of protected species from the search area. Our survey work has sought to identify the potential for any protected species on site or within influencing distance of the site.

Table 1: Sources of ecological information

Source of Information	Nature of Information
Where's the Path	Satellite & OS imagery
Multi-Agency Geographic Information for the Countryside (MAGIC) Map	Statutory protected sites and habitat inventory
GMEU and LERN	Protected species records and designated sites
Rossendale Borough Council Adopted Proposals Map Core Strategy DPD: The Way Forward (2011-2026) Adopted Version 8th November 2011 Rossendale Borough Local Plan Part 1: The Core Strategy (2011-2026) (Adopted 8th November 2011)	Land allocations and relevant policies

Habitats and Flora

Extended Phase 1 Habitat Survey

- 2.2 The Phase 1 habitat survey was carried out by TEP ecologist Jenny Gibson, (FISC Level 3) on 26th August 2020. The survey was carried out in accordance with the Phase 1 habitat assessment methods (JNCC 2010¹) and the Guidelines for Preliminary Ecological Appraisal (CIEEM 2017²).
- 2.3 The Phase 1 habitat survey mapped the habitat types present and recorded flora species lists with any incidental evidence of protected or invasive notes as Target Notes.

¹ JNCC 2010. Handbook for Phase 1 Habitat Survey: A technique for environmental audit.

² CIEEM 2017. Guidelines for Preliminary Ecological Appraisal.

Limitations

- 2.4 The survey was undertaken during the recommended season to undertake Phase 1 habitat surveys (from mid-April to early October) and full access was available to the site. Therefore no limitations were encountered during the Phase 1 habitat survey.

Fauna

- 2.5 The Phase 1 survey method was extended through the additional recording of specific features indicating the presence, or likely presence, of protected species or other species of nature conservation significance, including invasive species, broadly in accordance with Guidelines for Preliminary Baseline Ecological Appraisal (CIEEM, 2017³).

Bats

Preliminary Daytime Bat Roost Assessment & Assessment of Foraging and Commuting Potential

- 2.6 The ecological appraisal included a ground-based assessment of the trees and buildings within and adjacent to the site boundary for bat roosting potential. This assessment was carried out with the aid of binoculars to search for any field signs of bats or features with bat roosting potential. The preliminary daytime bat roost assessment was carried out by Jenny Gibson the same time as the Phase 1 habitat survey, on the 26th August 2020. The habitats on site and surrounding the site were also assessed for potential to support roosting, foraging and commuting bats.
- 2.7 The criteria for preliminary roost assessment are based upon the Bat Conservation Trust (BCT) Guidelines (2016⁴) as shown in Table 2.

Table 2: Roost assessment criteria (from Table 4.1 of BCT Guidelines 2016)

Roost Suitability	Description of roosting habitat	Commuting and foraging habitats
Negligible	Negligible habitat features on site to be used by roosting bats.	Negligible habitat features on site to be used by commuting and foraging bats.
Low	<p>A tree of sufficient size and age to contain potential roost features (PRFs) but with none seen from the ground or features seen with only very limited roosting potential.</p> <p>A structure with one or more potential roost features that could be used by individual bats opportunistically, but which do not offer sufficient space, shelter, protection, appropriate conditions and/or suitable surrounding habitat to be used on a regular basis or by larger numbers of bats.</p>	Habitat that could be used by small numbers of commuting bats (e.g. a gappy hedgerow or an un-vegetated stream) or foraging bats (e.g. a lone tree or small patch of scrub) but which is isolated from the surrounding countryside by other habitat.

³ CIEEM 2017. Guidelines for Preliminary Ecological Appraisal.

⁴ BCT 2016. Bat Surveys for Professional Ecologists: Good Practice Guidelines. Bat Conservation Trust 3rd Ed.

Roost Suitability	Description of roosting habitat	Commuting and foraging habitats
Moderate	<p>A tree with one or more potential roost features that could be used by bats due to their size, shelter, protection, conditions and surrounding habitat, but which is unlikely to support a roost of high conservation status (maternity or hibernation).</p> <p>A structure with one or more potential roost features that could be used by bats due to their size, shelter, protection, conditions and surrounding habitat, but which is unlikely to support a roost of high conservation status (maternity or hibernation).</p>	<p>Continuous habitat connected to the wider landscape that could be used by bats for commuting (e.g. lines of trees or scrub or linked back gardens), or foraging bats (e.g. trees, scrub, water, grassland).</p>
High Potential	<p>A tree with one or more potential roost features that are suitable for use by larger numbers of bats on a regular basis and potentially for longer periods of time, due to their size, shelter, protection, conditions and surrounding habitat.</p> <p>A structure possessing one or more potential roost features that are suitable for use by larger numbers of bats on a regular basis and potentially for longer periods of time, due to their size, shelter, protection, conditions and surrounding habitat.</p>	<p>Continuous high quality habitat that is strongly connected with the wider landscape that is likely to be used regularly by commuting bats (e.g. river valley, vegetated stream, woodland edge, hedgerows with trees) or foraging bats (e.g. broadleaved woodland, grazed parkland, tree-lined watercourses or ponds).</p>

Limitations

- 2.8 There are no seasonal constraints for undertaking preliminary bat roost assessments of structures or trees. However, the optimal period to undertake this survey of trees is between December and March when trees are out of leaf. This survey was undertaken in July when there was significant leaf cover. In cases where visibility was limited due to leaf cover, a precautionary assessment was made.

3.0 Results

Desk Study

- 3.1 A summary of the results of the ecology desk study are set out below. Further details, including maps, are provided in Appendix A.

Relevant Planning Policies and Guidance

- 3.2 The site is designated under Policy E.1 (Grasslands) in the Rossendale Local Plan.
- 3.3 The following policies from the Rossendale Core Strategy Development Plan (adopted November 2011) are most relevant to this assessment:
- Policy 17 Rossendale's Green Infrastructure
 - Policy 18 Biodiversity, Geodiversity and Landscape Conservation;

- 3.4 These policies aim to strengthen and support Rossendale's habitats and species by protecting and enhancing key habitats and facilitating opportunities to appreciate wildlife. These policies aim to produce a net enhancement in biodiversity resources by improving connections between habitats and enhancing management of existing habitats. Development will be expected to follow the mitigation hierarchy with regard to biodiversity.

Designated Sites

- 3.5 There is one internationally designated wildlife site within 10km of the development boundary. Table 3 summarises this internationally designated site.

Table 3: Details of Statutory Internationally Designated Wildlife Sites within 10km of the site

Name of Designation	Type of Designation	Location of Designation in Relation to Site	Reason for Site Designation
South Pennine Moors Phase 2	Special Protection Areas (SPA)	7km west	The site supports important breeding birds populations of species such as Golden plover and Merlin.
South Pennine Moors Phase 2	Special Area of Conservation (SAC)	7km west	The site supports important breeding birds populations of species such as Golden plover and Merlin.
Rochdale Canal	SAC	6.5km west	Important populations of aquatic flora including floating water plantain

- 3.6 There is one nationally designated site within 5km of the site. Table 4 summarises this nationally designated site.

Table 4: Details of Statutory Nationally Designated Wildlife Sites within 5km of the site

Name of Designation	Type of Designation	Location of Designation in Relation to Site	Reason for Site Designation
Lee Quarry	SSSI	3.5km north west	The site supports important rock formations and geological features.

3.7 The site is located within the Site of Special Scientific Interest (SSSI) Impact Risk Zone (IRZ) for Rochdale Canal SSSI. IRZ cover the interest features and sensitivities of European sites, which are underpinned by the SSSI designation. Whilst the site is located within the IRZ for the SSSI's, the proposed development is not listed under a risk criteria for this SSSI and so the Local Authority are not required to consult with Natural England with regards to potential impacts on the Rochdale Canal.

3.8 There is one statutory designated site of local importance which is outlined in Table 5 below and there are seven non-statutory locally designated sites within 2km of the proposed development site including Halfold Lodge, Danes Wood, Healey Dell (LNR & SBI), Rushy Hill (BHS & LWS) and Brownhouse Wham and Hamer Pasture Reservoirs. The closest is Halfold Lodge LWS which is situated 400m south of the site. These sites are outlined further in Appendix A (Desktop Study).

Table 5: Details of Statutory Locally Designated Wildlife Sites within 2km of the Site

Name of Designation	Type of Designation	Location of Designation in Relation to the Site	Reason for Site Designation
Healey Dell	LNR	1.1.km South	Wildlife sanctuary and industrial archeology site Healey Dell is made up of a series of woodland waterfalls which once provided power to the mills in the local area.

Section 41 Habitats

3.9 The following notable Section 41 (S41) Natural Environment and Rural Communities Act 2006 (NERC) habitats of principal importance were returned immediately adjacent to the site:

- Open Mosaic Habitat
- Deciduous woodland

Protected Species Records

3.10 A number of species spread over a 2km search radius were identified through the Lancashire Ecological Record Network desktop search. The 2km radius for this site overlaps into Great Manchester areas and so TEP are also awaiting results from Greater Manchester Ecological Unit of further species records in the area. Species include those listed under any of the following:

- European Protected Species (EPS);
- Schedule 1 of the Wildlife and Countryside Act 1981, as amended (WCA1);
- Schedule 5 of the Wildlife and Countryside Act 1981, as amended (WCA5);
- Schedule 8 of the Wildlife and Countryside Act 1981, as amended (WCA8);
- Schedule 9 of the Wildlife and Countryside Act 1981, as amended (WCA9);
- Species of principal importance under Section 41 of the Natural Environment and Rural Communities Act 2006 (S41);
- Red listed Birds of Conservation Concern (BRd);
- Rossendale Local Biodiversity Action Plan species (LBAP);
- Protection of Badgers Act 1992 (PBA).

Amphibians

3.11 There are records of common frog *Rana temporaria* within 2km of the site.

Bats

3.12 There are a number of records of bats within 2km of the site:

- Pipistrelle bat species *Pipistrellus sp.* (EPS, WCA5, LBAP);
- Common pipistrelle *Pipistrellus pipistrellus* (EPS, WCA5, LBAP);
- Myotis bat species *Myotis sp* (EPS, WCA5)
- Daubenton's bat *Myotis daubentonii* (EPS, WCA5, LBAP);
- Whiskered bat *Myotis mystacinus* (EPS, WCA5, LBAP);
- Noctule bat *Nyctalus noctula* (EPS, WCA5, LBAP, S41);
- Soprano pipistrelle *Pipistrellus pygmaeus* (EPS, WCA5, LBAP, S41).

Birds

3.13 There is are several desktop records of birds within 2km of the site:

- Bullfinch *Pyrrhula pyrrhula* (S41);
- Curlew *Numenius arquata* (BRd, S41);
- Dunnock *Prunella modularis* (S41);
- Grey partridge *Perdix perdix* (S41, BRd, LBAP);
- Grey Wagtail *Motacilla cinerea* (BRd);
- House sparrow *Passer domesticus* (S41, BRd);
- Kingfisher *Alcedo atthis* (WCA1);
- Lawping *Vanellus vanellus* (S41, BRd, LBAP);
- Lesser redpoll *Acanthis cabaret* (S41, BRd);
- Lesser spotted woodpecker *Dryobates minor* (S41);
- Linnet *Linaria cannabina* (S41, BRd);
- Little ringed plover *Charadrius dubius* (WCA1);
- Merlin *Falco columbarius* (BRd, LBAP, WCA1);

- Mistle thrush *Turdus viscivorus* (BRd);
- Peregrine *Falco peregrinus* (WCA1);
- Reed bunting *Emberiza schoeniclus* (S41, BAm);
- Skylark *Alauda arvensis* (S41, BRd, LBAP);
- Song thrush *Turdus philomelos* (S41, BRd, LBAP);
- Spotted flycatcher *Muscicapa striata* (S41, BRd);
- Starling *Sturnus vulgaris* (S41, BRd, LBAP);
- Twite *Linaria flavirostris* (BRd);
- Whinchat *Saxicola rubetra* (BRd);
- Wood Warbler *Phylloscopus sibilatrix* (BRd, S41).

Invertebrates

- 3.14 There is records of Cinnabar moths *Tyria jacobaeae* (S41) Small heath butterfly *Coenonympha pamphilus* (S41) and S41 moth sp with 2km of the site.

Other species

- 3.15 There are desktop records of several other protected species within 2km of the site including:
- Brown hare *Lepus europaeus* (S41, LBAP);
 - European Badger *Meles meles* (PBA);
 - European Hedgehog *Erinaceus europaeus* (S41);
 - Bluebell *Hyacinthoides non-scripta* (WCA8);
 - Lesser butterfly-orchid *Platanthera bifolia* (S41).

Invasive species

- Cotoneaster *Cotoneaster horizontalis* (WCA9);
 - Montbretia *Crococsmia x crocosmiiflora* (WCA9);
 - Yellow Archangel *Lamiastrum galeobdolon* (WCA9);
 - Japanese knotweed *Fallopia japonica* (WCA9);
 - Japanese rose *Rosa rugosa* (WCA9);
 - Rhododendron *Rhododendron ponticum* (WCA9);
- 3.16 There are no desktop records for reptiles, otter or water vole within 2km of the site.

Extended Phase 1 Habitat Survey

- 3.17 The results of the Phase 1 habitat survey are illustrated in Drawing G8399.001 and detailed Target Notes (TN) are presented in Appendix B. The habitats present within the development site or adjacent to the site are listed below, along with brief descriptions:
- Amenity Grassland;
 - Hardstanding;
 - Buildings;
 - Tall ruderal;

- Plantation mixed woodland;
- Scattered broad-leaved trees;
- Scattered coniferous trees;
- Allotment beds.

Amenity Grassland

- 3.18 The site mainly comprises amenity grassland. The drive up to the school from Hall Ford comprises of hardstanding and grassland on both sides and this echoes around the rest of the school grounds with grassland bordering roadways, walkways and car parks. To the north of the site the playing fields area comprises of well managed amenity grassland. This habitat is made up of grass species and young scattered broadleaf and coniferous trees including species such as meadow-grass species *Poa* sp., Yorkshire fog *Holcus lanatus*, daisy *Bellis perennis* and greater plantain *Plantago major*. (Figures 2, 3 & 4).

Hardstanding

- 3.19 The site is currently in use as a secondary school and much of the land is made up of hardstanding areas. These are used for transport, walkways and to the north east of the site there is a tarmacked hardstanding court for sports. (Figures 5, 6 & 7).

Buildings

- 3.20 On site there is a series of interlinked buildings which comprises of a mixture of flat roofed three storey building rendered with a mixture of pebbledash and plastic sheeting/cladding interlinked with brick walkways to one storey pitched roof brick buildings. The northern most building is the sports centre which is a brick warehouse type building with a tiled roof containing a sports hall. (Figures 8,9,10 & 11)

Tall ruderal

- 3.21 A strip of tall ruderal vegetation runs along the northern boundary of the site as a border for the amenity grassland playing fields. Along the north western boundary this vegetation has extended towards the centre of the playing fields. This habitat is made up of grass and shrub species such as willowherb species *Epilobium* sp., spear thistle *Cirsium vulgare*, bramble *Rubus fruticosus* agg. and broad-leaved dock *Rumex obtusifolius*. This area also contains invasive species such as cotoneaster *Cotoneaster horizontalis* and Himalayan balsam *Impatiens glandulifera*. (Figure 12 & 13)

Plantation Mixed Woodland

- 3.22 There is a strip of mixed plantation woodland that has encroached from the surrounding along the northern boundary of the site, although not within the site itself. This stretch of woodland contains species such as Leyland cypress *Cupressus x leylandii*, willow species *Salix* sp and also invasive species such as *Cotoneaster* sp and Himalayan balsam. (Figure 14)

Scattered Broad-leaved and coniferous trees

- 3.23 There are four scattered young trees within the amenity grassland areas to the south east of the site. (Figures 15 & 16).

Allotment beds

- 3.24 There are four overgrown, rectangular allotment beds which contain raspberries *Rubus idaeus* and other opportunistic species such as nettle *Urtica dioica* and Yorkshire-fog *Holcus lanatus* moving in. (Figure 17).



Figure 2: Amenity grassland areas on the site



Figure 3: Amenity grassland playing fields



Figure 4: Amenity grassland playing fields, shows neighbouring agricultural fields.



Figure 5: Driveway towards road from school



Figure 6: Hardstanding sports court to the north east of the site



Figure 7: Large areas of hardstanding on the site



Figure 8: Buildings on site



Figure 9: Southern entrance building



Figure 10: Eastern building leading to playing fields



Figure 11: Sports hall



Figure 12: Tall ruderal habitat bordering the amenity grassland playing field



Figure 13: Tall ruderal habitat to the north west of the site



Figure 14: Mixed plantation woodland on the north boundary of the site



Figure 16: Scattered coniferous trees



Figure 16: Scattered broadleaf trees



Figure 17: Overgrown allotment beds

Protected and Invasive Plant Species

- 3.25 No protected (WCA8) plant species were identified during the extended Phase 1 habitat survey. However three types of invasive plant species (WCA9) were detected on site along the northern and north eastern boundary, adjacent to the woodland corridor. There are; *Cotoneaster sp*, Japanese Knotweed *Fallopia japonica* and Himalayan Balsam *Impatiens glandulifera*.

Connectivity with the Wider Landscape

- 3.26 The site is located in an urban area in the suburban town of Whitworth, surrounded by residential areas to the west and roads and pastoral farming fields to the east. To the north lies a small strip of woodland including a small brook. The site is well connected to the wider landscape, however other than the S41 woodland and open mosaic habitats that lie adjacent to the site, the habitats in the wider landscape do not represent much biodiversity value. Hallfold Lodge, approximately 600m south of the site, provides the highest value habitat in the immediate area however the fragmented habitat and interspersed roads offer no immediate connectivity to this site.

Fauna

Bats

Preliminary Daytime Bat Roost Assessments & Assessment of Foraging and Commuting Potential

- 3.27 The site is made up of a series of buildings, mostly interlinked by a series of corridors and connections. The majority of the buildings on site were categorized as having negligible suitability for roosting bats (BCT, 2016) due to the lack of bat roosting features such as holes, gaps, slipped tiles, access to a roof cavity.
- 3.28 However, the southern entrance to the building on site was assessed as having low to moderate potential. This part of the building and the feature (shown in Figure 18) has been assessed as having low to moderate potential which can be confirmed upon further internal surveys or by using an endoscope.
- 3.29 The trees on and adjacent to the site were assessed as having negligible suitability for roosting bats (BCT, 2016). The trees on and adjacent to the site were either young in age and/or had no features present suitable for roosting.
- 3.30 The habitats on site do provide suitability for commuting and foraging bats. The hardstanding and amenity grassland offers very limited foraging potential for bats however, the strip of woodland to the north of the site combined with the brook off site in the same area provide good suitability for foraging.



Figure 18: Small gap in the roof panels under the eaves of the overhang at the southern entrance to the building. Low to moderate potential (to be confirmed after further surveys).

Amphibians

- 3.31 Ordinance Survey (OS) mapping shows that there are no suitable waterbodies present within 500m of the site. The closest suitable waterbody is 730m to the south west of the site, Spring Mill reservoir. The site itself does not offer any suitable amphibian breeding habitat in the form of standing water, but the terrestrial habitat offers potential foraging opportunities and hibernation potential. Near to the allotment beds there are two man-made hibernacula's which could be used by amphibians. The surrounding area of residential properties and series roads acts as a barrier for commuting amphibians.

Badger

- 3.32 The site comprises mainly amenity grassland and hardstanding surrounded by residential areas and pastoral farming fields. These habitats are not favourable for sett excavation, with very limited suitability for foraging. The site is connected to other areas of suitable habitat for sett excavation, such as the woodland to the North of the site, however this has little connectivity to other suitable areas and is small in size. No evidence of badgers such as setts, latrines, hairs etc. was identified on or adjacent to the site during the survey.

Birds

- 3.33 The scattered trees and woodland adjacent to the site provide suitable nesting habitat and the grassland, tall ruderal and woodland areas on site provide suitable foraging opportunities, for a range of common and widespread bird species present in the area. The site is not suitable for ground nesting birds due to the close proximity of potential perches for predatory birds and the lack of cover.

Otter and Water Vole

- 3.34 Otters and water vole require primarily riparian habitats for foraging and commuting with wetlands or woodland in close proximity for shelter. The brook to the north offers some suitability for commuting and foraging of both water vole and otter, with connectivity to the River Spodden. No evidence of otters or water voles, such as holts, burrows, spraints etc. were identified on site during the survey, however a full survey of the adjacent watercourse was not carried out.

Reptiles

- 3.35 Reptiles favour a range of habitat types and varying topography to provide a combination of necessary conditions required for shelter, foraging and basking. No habitats on site are suitable for reptiles with a lack of connectivity to suitable habitats. The managed amenity grassland on site as well as the hardstanding provides no foraging habitat for reptiles.

Invertebrates

- 3.36 Invertebrates favour habitats that comprise a reasonable range of pollen and nectar-rich plant species. The habitats on site are limited and the hardstanding on site provides no food and shelter resource for invertebrates.

Hedgehogs

- 3.37 Hedgehogs favour habitats that offer optimal food and shelter resource for foraging and commuting. The tall ruderal habitat and offsite woodland area offer good foraging and commuting opportunities and the overgrown areas such as the allotment beds, hibernaculas and woodland strip to the north of the site offer hibernation potential for hedgehogs.

4.0 Conclusions

- 4.1 This section concludes the potential impacts on the ecological receptors in and around the application site.

Relevant Planning Policies and Guidance

- 4.2 Local policies within the Rossendale Core Strategy (adopted November 2011) address potential ecological issues with regard to potential developments and aim to maintain, protect and enhance biodiversity and the ecological network in the local area. These opportunities for enhancement are discussed further in Section 6.0.

Designated Sites

- 4.3 There are three internationally designated site within 10km of the proposed development site, the closest being 6.5km to the west. The closest designated site facilitates breeding bird species such as golden plover and merlin, however the site does not provide suitable foraging or commuting habitat for these species. There are, therefore, no pathways by which development at the site would result in adverse impacts, direct or indirect, upon the internationally designated sites.
- 4.4 There is one nationally designated site, Lee Quarry SSSI, within range of the site located 3.5km to the North West, but this is designated for its geological importance rather than ecological value. The site also falls within IRZ for one other SSSI, Rochdale Canal, however, the proposed development does not fall within the risk criteria identified for the IRZ and so the Local Planning Authority would not need to contact Natural England.
- 4.5 There is one locally designated site and seven non-statutory locally designated sites within 2km of the proposed development site, the closest being Healey Dell LNR, (1.1km away) and Hallfold Lodge LWS (400m away). Given the distance of the proposed development site and the barrier formed by the surrounding residential area and road system of the site, no direct impacts on these locally designated sites are anticipated as a result of the proposals.

Notable Habitats & Plants

- 4.6 There are notable habitats adjacent to site that qualify as a S41 habitat of principal importance. Open mosaic habitat and deciduous woodland run adjacent to the north of the site and measures will need to be put in place to ensure that no there is accidental encroachment into these areas and to minimise pollution during development.
- 4.7 Although no detailed masterplan has been provided it is anticipated that some trees may require removal to facilitate the development. There will be a requirement to mitigate for the loss of these trees with replacement tree planting. Appropriate tree protection measures will need to be put in place to ensure an adequate habitat buffer from retained trees is maintained from the proposed development during construction of the site.

Protected and Invasive plant species

- 4.8 No protected plant species (WCA8) were identified during the extended Phase 1 habitat survey and therefore there are no implications to the development with regard to protected plant species.
- 4.9 Japanese Knotweed, Himalayan balsam and Cotoneaster sp (WCA9) were identified on the boundaries of the site during the Phase 1 habitat survey. These invasive plant species may be affected by the development, including site clearance works. An invasive species method statement is therefore required to ensure the control of these invasive species and to ensure no spread is encountered.

Fauna

Bats

- 4.10 No trees on site have roost potential for bats; most are too young to have developed any suitable features.
- 4.11 The majority of buildings on site were assessed as having negligible bat roosting suitability. However, the southernmost entrance to the building will require further survey works either an internal inspection or the use of an endoscope as it was identified as having low to moderate bat roosting potential during the Phase 1 survey.
- 4.12 The habitats on site are limited and provide negligible suitability for commuting and foraging bats. The northern woodland corridor, including the brook provide moderate suitability for commuting and foraging bats. Measures will need to be put in place to ensure that there is no accidental encroachment in this area and implementation of a sensitive lighting system for both construction phases and operational is needed to reduce the impact on commuting and foraging bats.
- 4.13 The river to the north of the site provides a natural corridor and some connectivity with the wider landscape and commuting habitat for bats. Considerations to external lighting on this northern area of the site will need to be taken into account.

Amphibians

- 4.14 There are no ponds on site or within 500m of the site, without barriers to amphibian dispersal. The off site woodland and grassland offers some suitability for foraging and commuting amphibians. However, given the lack of available breeding habitat within the site and wider landscape there are no anticipated implications to the development with regard to amphibians.

Badger

- 4.15 Badger records were returned within 2km of the site, although there is little suitable connectivity to the site, and no evidence of badger was noted during the survey. While the site offers some limited foraging and potential for set excavations in adjacent habitat, it is isolated from habitats further afield. As such there no implications with regard to badger and development of the site.

Birds

- 4.16 The habitats present on site have the potential to support bird species that utilise scrub/ trees for nesting as well as grassland for feeding. Species recorded locally that are associated with grassland for feeding are song thrush and starling; these are species of Principal Importance under Section 41 of the NERC Act, 2006. They are also species included on the Red and Amber listed Birds of Conservation Concern (BoCC). However the amenity grassland within the site offers very little value to these and other bird species.
- 4.17 All nesting birds are protected under the Wildlife and Countryside Act 1981 (as amended). There is no provision under the licensing system to allow disturbance or destruction of nests to facilitate development, so clearance of the trees and tall ruderal areas prior to development should be undertaken with this under consideration.
- 4.18 Due to the habitats on site, with surrounding fences and proximity of potential perches for predatory birds, ground nesting birds are not considered to be a limitation for development.

Water Vole and Otter

- 4.19 No water vole or otter records were returned within 2km of the site and no evidence of either was noted during the survey (although a full water vole and otter survey was not undertaken). A water course (Tong End Brook) runs adjacent to the north of the site, around 25m away at its nearest point, and is connected to the River Spodden.
- 4.20 However, this is off site and provided that drainage plans for the future development of the site will not affect this waterway there should be no implications for the proposed development with to otter and water voles.
- 4.21 Should, on production of a masterplan, the drainage system interfere with or go near to the watercourse adjacent to the site, further surveys for otter and water voles will be required.

Reptiles

- 4.22 No records of reptiles were identified within the site or within 2km from the site. The majority of habitats on site provide sub-optimal foraging or commuting potential for reptiles. Given the lack of suitable habitat, urban locale and lack of desktop records, there are no implications for the proposed development with regard to reptiles.

Invertebrates

- 4.23 Due to the low number of pollen rich herbs and local commonality of the species present, is not considered that losing the amenity grassland will have any impact on the local invertebrate population. Enhancement opportunities to improve the source of pollen rich plants can be considered within the landscape proposals.

Hedgehogs

- 4.24 The habitats within and adjacent to the site provide potential habitat for Section 41 species hedgehog. Precautionary working measures should be adopted, specifically when disbanding and demolishing the allotment areas and hibernaculas on site, to ensure no harm to hedgehog which may be present.

5.0 Recommendations

- 5.1 It is considered that the ecological features present within the site do not preclude development of the site for the proposed redevelopment of the school. However, a number of potential ecological constraints require further consideration so as to ensure that development does not result in either an offence being committed in respect of protected species or in a net loss of biodiversity interest. A number of measures to protect, maintain and enhance ecological features within the site are recommended to comply with current legislation and policy.

Habitats

- 5.2 A Root Protection Zone (RPZ) should be implemented around retained trees adjacent to the site if development is likely to affect the trees, their roots and overhanging canopies. Replacement planting of trees unavoidably lost to development should be provided on site or, where this is not possible, in the local vicinity.
- 5.3 An invasive species method statement is required to ensure the control of the invasive species on site and to ensure no spread is encountered during site-clearance and development works.

Fauna

Bats

- 5.4 Further surveys are required on the southern entrance to the building in order to correctly classify the bat roosting potential or the feature in question. An endoscope can be used, to inspect the gap in the panelling under the eaves of the roof. This can confirm the suitability of the feature for roosting bats.
- 5.5 Should the feature be found to be suitable, further nocturnal roost surveys will be required to determine the species and status of any roost present in the building. The optimal seasonal window for nocturnal roost surveys is from May to September. If a roost is identified a European Protected Species (EPS) mitigation licence from Natural England will be required to enable development to commence.
- 5.6 If external lighting is required, particularly to the north of the site close to the woodland area, a sensitive lighting design should be implemented to the scheme to avoid indirect impacts of lighting on nocturnal and crepuscular species, particularly along the canal, north of the development site. There are four key lighting design principles:
- Use of unnecessary lighting will be avoided.
 - Spatial spread of lighting – the horizontal and vertical spread of artificial light will be minimised, and take into account both primary and reflected light sources. Directional lighting can be achieved by angle and orientation of beam, use of a cowl, louvre or other light shield, or a combination of these.
 - Timing and duration of lighting – timers and bespoke dimming regimes may be used to ensure that luminaires are reduced at times of predicted low use. These can be set to change with the seasons and therefore reflect the shifting time of dusk and dawn throughout the year. Motion sensors provide further control to ensure that areas are illuminated only when required.

- Intensity and colour of lighting – light intensity will be as low as possible whilst meeting the objectives of the intended function. The colour of lighting will need to take into account the sensitivity of the ecological receptors on site. Light sources selected should emit zero ultra-violet light wherever possible. Interim guidance from the Bat Conservation Trust (2014) recommends that white and blue spectrum light should be avoided or, where white lights are required, these should be of warm/neutral colour and have a peak wavelength above 550 nanometers. Narrow spectrum light sources should be used (to lower the range of species affected by lighting).

Birds

- 5.7 It is recommended that all vegetation clearance avoids the core breeding bird season, March to August inclusive; although, it should be noted that bird nesting can take place outside this period.
- 5.8 If clearance works, are necessary during the core breeding bird season, or at any time when bird nesting is suspected, a nesting bird check of the affected area by an experienced ecologist will be undertaken. The nesting bird check will take place no more than 24 hours prior to the clearance works. In the event that an active nest is found the ecologist will provide advice on setting up a suitable protection area around the nest until the young have fledged. The extent of the exclusion zone will depend upon the bird species concerned and its location within the development. Extensive clearance of potential bird nesting habitat is not always practical during the core breeding season and development programmes will take this constraint into account.

Otter and water vole

- 5.9 Should, on production of a masterplan, the drainage system interfere with or go near to the watercourse adjacent to the site, further surveys for otter and water voles will be required to assess the impact of the development on these species.
- 5.10 Otter surveys can be undertaken at any time of year but water vole surveys, which require two site visits, should be undertaken one between mid-April and June and the other between July and September, with the surveys undertaken at least two months apart.

Hedgehog

- 5.11 Site clearance, specifically clearance of hibernaculas and allotment areas, under a RAMS will also ensure no harm to hedgehogs which maybe present on site.

Opportunities for Biodiversity Enhancement

- 5.12 Under the National Planning Policy Framework (NPPF), developments should aim to minimise impacts on biodiversity and identify and pursue opportunities for securing measurable net gains for biodiversity. Local policies in the Rossendale Core Development Plan (adopted November 2011) encourage developers to implement reasonable opportunities to enhance or create new biodiversity on site or adjacent to potential sites, to produce a net gain in biodiversity. To comply with the NPPF and local policies a number of opportunities for further habitat enhancements which will benefit biodiversity are recommended.
- 5.13 Any soft landscaping introduced into the site will support biodiversity enhancement of the site due to the limited nature of the site in its current state. New planting within the development proposals should maximise native plant species and species which provide value for other wildlife. Species which are scented and produce nectar or berries should be used to benefit invertebrates, birds and bats for example areas of grassland in the soft landscaping schemes can be managed as wildflowers.
- 5.14 Installation of bat boxes would provide opportunities for roosting bats. A combination of boxes designed to support a range of bat species known to the area could be installed on exterior of the building or mounted on a pole. These boxes could be Schwegler 2F bat boxes or similar. These bat boxes should be sited at an appropriate height and aspect, close to retained and created habitats for bats.
- 5.15 Installation of bird boxes would enhance opportunities available to nesting birds. Nesting features should be targeted for those species known to occur in the surrounding area. A combination of boxes designed to support a range of bird species could be installed in discrete locations. These could be a Schwegler 1B bird boxes or similar on the exterior of the building or mounted on a pole. These should be sited at an appropriate height and aspect, close to retained and created habitats for birds.

APPENDIX A: Ecology Desk Study



THE
ENVIRONMENT
PARTNERSHIP



WHITWORTH COMMUNITY HIGH SCHOOL ROCHDALE ECOLOGY DESK STUDY

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APPENDICES

APPENDIX A: Citations for Statutory Designated Wildlife Sites of International Importance

APPENDIX B: Citations for Statutory Designated Wildlife Sites of National Importance

1.0 Introduction

- 1.1 The Environment Partnership (TEP) were commissioned, by Campbell Reith in August 2020, to complete an ecology desk based assessment of land known as Whitworth Community High School in Rochdale (hereafter referred to as 'the site'). This assessment is required to inform site proposals and planning for the redevelopment and demolition of the existing secondary school.
- 1.2 The central grid reference of the site is SD 88072 17933 and the location of the site is shown in Figure 1 below.



Figure 1: Site Location Plan

2.0 Method

2.1 Information regarding historic species records and protected sites was requested/gathered from the sources listed in Table 1. This collated data gives a useful indication of the distribution and abundance of ecological receptors at a given locale. An absence of records does not indicate the absence of protected species from the search area.

Table 1: Sources of Ecological Information

Source of Information	Nature of Information
Magic Map	Statutory designated wildlife sites of international importance within 10km Statutory designated wildlife sites of national importance within 5km Statutory designated wildlife sites of local importance within 2km Natural England licences within 2km of the site Habitats of value to biodiversity within and adjacent to the site Great crested newt survey pond records 2017 - 2019 within 2km of the site
Greater Manchester Ecology Unit (GMEU) and Lancashire Environment Network (LERN)	Protected species records within 2km Non-statutory designated wildlife sites of local importance within 2km
Rossendale Council	Land allocations and relevant policies
ArcMap10	Ordnance & Aerial survey mapping

2.2 Statutory designated wildlife sites of international importance may include:

- Ramsar sites;
- Special Areas of Conservation (SAC); and
- Special Protection Areas (SPA).

2.3 Statutory designated wildlife sites of national importance may include:

- Site of Special Scientific Interest (SSSI);
- National Nature Reserve (NNR);
- Marine Nature Reserve (MNR); and
- Area of Outstanding National Beauty (AONB).

2.4 Statutory designated wildlife sites of local importance refers to Local Nature Reserves (LNR).

2.5 Non-statutory designated wildlife sites of local importance may include:

- Local/District Wildlife Site (LWS/IWS);
- Site of Biological Importance (SBI); and
- Biological Heritage Site (BHS)

2.6 Habitats of value may include those listed under any of the following:

- Ancient woodland;
- Main rivers¹;
- Habitats of principal importance under Section 41 of the Natural Environment and Rural Communities (NERC) Act 2006 (S41); and
- Local Biodiversity Action Plan Habitats (LBAP).

2.7 Protected species records may include those listed under any of the following:

- European Protected Species (EPS);
- Protected bird species under Schedule 1 of the Wildlife and Countryside Act 1981, as amended (WCA1);
- Protected animal species under Schedule 5 of the Wildlife and Countryside Act 1981, as amended (WCA5);
- Protected plant species under Schedule 8 of the Wildlife and Countryside Act 1981, as amended (WCA8);
- Invasive non-native plant species under Schedule 9 of the Wildlife and Countryside Act 1981, as amended (WCA9);
- Protection of Badgers Act 1992 (PBA);
- Species of principal importance under Section 41 of the Natural Environment and Rural Communities (NERC) Act 2006 (S41);
- Red and Amber listed Birds of Conservation Concern (BRd/BAm); and
- Local Biodiversity Action Plan Species (LBAP).

¹ Main rivers are statutory watercourses designated by the Environment Agency (in England). 'Main rivers' are usually larger streams and rivers, but some of them are small watercourses of significance. Works within 8m of main rivers are generally prohibited or require permission as there could be flood risk implications.

3.0 Legislation and Planning Policy

- 3.1 This section details legislation and planning policy which may have relevance to the site. Only legislation and policy relevant to biodiversity are included.

International Planning Policy

Conservation of Habitats and Species Regulations 2017

Protected Species

- 3.2 European Protected Species (EPS) and their breeding sites or resting places are protected under Regulation 41 of the Conservation of Habitats and Species Regulations 2017 (and as amended), which makes it illegal to:

- Deliberately capture, injure or kill any such animal or to deliberately take or destroy their eggs;
- Deliberately disturb such an animal; and
- Damage or destroy a breeding site or resting place of such an animal.

- 3.3 European Protected Species (EPS) licenses can be granted by Natural England in respect of development to permit activities that would otherwise be unlawful under the Conservation Regulations, providing that the following 3 tests (set out in the EC Habitats Directive) are passed, namely:

- The development is for reasons of overriding public interest;
- There is no satisfactory alternative; and
- The favourable conservation status of the species concerned will be maintained and/or enhanced.

- 3.4 Under Regulation 9(5) of the Conservation Regulations, Planning Authorities have a duty to 'have regard to the requirements of the EC Habitats Directive' i.e. LPA's must consider the above 3 'tests' when determining whether Planning Permission should be granted for developments likely to cause an offence under the Conservation Regulations.

Protected Sites

- 3.5 The Regulations also deal with the assessment of potential impacts on sites of European nature conservation importance, in this case, the Manchester Mosses SAC. Requirements are set out within Regulations 63 and 64 of the Habitats Regulations, where a series of steps and tests are followed for plans or projects that could potentially affect a European site. The steps and tests set out within Regulations 63 and 64 are commonly referred to as the 'Habitats Regulations Assessment' process.

- 3.6 All plans and projects (including planning applications) which are not directly connected with, or necessary for, the conservation management of a habitat site, require consideration of whether the plan or project is likely to have significant effects on that site. This consideration should take into account the potential effects both of the plan/project itself and in combination with other plans or projects. Where an adverse effect on the site's integrity cannot be ruled out, and where there are no alternative solutions, the plan or project can only proceed if there are imperative reasons of over-riding public interest and if the necessary compensatory measures can be secured.

National Planning Policy

National Planning Policy Framework 2019

- 3.7 The National Planning Policy Framework (NPPF19) sets out the Government's planning policies for England and how these are expected to be applied at a local level in development plans and how developers should address them. The Framework places great emphasis on plans and developments contributing to sustainable development.
- 3.8 The NPPF19 states:
- 3.9 When determining planning applications, local planning authorities should apply the following principles:
- if significant harm 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;
 - 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;
 - 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 reasons and a suitable compensation strategy exists; and;
 - development whose primary objective is to conserve or enhance biodiversity should be supported; while opportunities to incorporate biodiversity improvements in and around developments should be encouraged, especially where this can secure measurable net gains for biodiversity;
 - The following should be given the same protection as habitats sites:
 - a) potential Special Protection Areas and possible Special Areas of Conservation;
 - b) listed or proposed Ramsar sites; and

- c) sites identified, or required, as compensatory measures for adverse effects on habitats sites, potential Special Protection Areas, possible Special Areas of Conservation, and listed or proposed Ramsar sites.

Wildlife and Countryside Act 1981

3.10 Animal species listed under Schedule 5 of the Wildlife and Countryside Act 1981 (and as amended) receive full protection which makes it illegal (subject to certain exceptions) to:

- Intentionally kill, injure or take any such animal;
- Intentionally or recklessly damage, destroy or obstruct any place used for shelter or protection by any such animal; and
- Intentionally or recklessly disturb such animals while they occupy a place used for shelter or protection.

3.11 Some species receive partial protection under The Wildlife and Countryside Act 1981 (as amended by the Countryside and Rights of Way Act 2000), which provide protection against intentional killing or injury of any such animal.

3.12 All wild birds (as defined by the act) are protected under the Wildlife and Countryside Act 1981 (and as amended), which makes it illegal (subject to exceptions) to:

- Intentionally kill, injure or take any wild bird;
- Take, damage or destroy the nest (whilst being built or in use) or eggs of any wild bird.

3.13 Additional protection is provided to birds listed on Schedule 1 of the Wildlife and Countryside Act 1981 (and as amended). In addition to the offences detailed above relating to all wild birds, it is illegal to:

- Intentionally or recklessly disturb any bird listed on Schedule 1, or their dependent young while nesting.

3.14 Plant species listed under Schedule 8 of the Wildlife and Countryside Act 1981 (and as amended) are protected from unauthorised intentional picking, uprooting and destruction.

Natural Environment and Rural Communities (NERC) Act 2006

3.15 Section 40 of the NERC Act places a duty to conserve biodiversity on public authorities in England. It requires local authorities and government departments to have regard to the purposes of conserving biodiversity in a manner that is consistent with the exercise of their normal functions such as policy and decision-making. 'Conserving biodiversity' may include enhancing, restoring or protecting a population or a habitat.

- 3.16 Section 41 requires the Secretary of State to publish and maintain lists of species and types of habitats which are regarded by Natural England to be of "principal importance" for the purposes of conserving biodiversity in England. These 56 priority habitats and 943 species are drawn from earlier lists of United Kingdom Biodiversity Action Plan Priority Species and Habitats. The Section 41 lists are needed by decision-makers in local and regional authorities when carrying out their duties under Section 40 of the Act.

Protection of Badgers Act 1992

- 3.17 The Protection of Badgers Act 1992 makes it an offence to kill, injure or take a badger from the wild. It is also an offence to disturb, damage or interfere with a sett unless a licence is obtained from a statutory authority.

Local Planning Policy

Rossendale Core Strategy Development Plan: The Way Forward (2011-2026) (adopted 8th November 2011)

- 3.18 The Way Forward (Core Strategy) is made up of three main parts: The spatial vision and strategic objectives, area visions and policies and topic planning policies. This approach to the Core Strategy means that issues and opportunities are considered at both the strategic boroughwide and local community levels, making The Way Forward a meaningful and realistic planning document for the future of Rossendale, focused on delivery.
- 3.19 The Policies Map for the Core Strategy can be viewed by following the link: https://www.rossendale.gov.uk/downloads/file/13528/proposals_map
- 3.20 The Core Strategy document can be viewed by following the link: https://www.rossendale.gov.uk/downloads/file/13526/core_strategy
- 3.21 The following policies relate to biodiversity and nature conservation:
- Policy 17 Rossendale's Green Infrastructure;
 - Policy 18 Biodiversity, Geodiversity and Landscape Conservation.

Local Biodiversity Action Plans (LBAP)

- 3.22 The LBAP document for Lancashire can be viewed by following the link: <https://ftps.lancashire.gov.uk/Web%20Client/ListDir.htm#>
- 3.23 The following habitats are identified within LBAPs by Lancashire Biodiversity Partnership:
- Allotments;
 - Amenity grassland and sports fields;
 - Arable farmland;
 - Broad-leaved and mixed woodland;
 - Calcareous grassland;
 - Churchyards and cemeteries;
 - Community woodland;
 - Derelict, unused or neglected land;

- Encapsulated countryside;
- Gardens;
- Golf courses;
- Limestone pavement;
- Moorland;
- Mosslands;
- Built structures;
- Quarries and gravel pits;
- Reedbeds;
- Rivers and streams;
- Road verges;
- Saltmarsh and estuarine rivers;
- Sand dunes;
- School grounds;
- Species-rich neutral grassland; and
- Urban parks.

3.24 The following species are identified within LBAPs by Lancashire Biodiversity Partnership:

- Brandt's Bat;
- Daubenton's Bat;
- Whiskered Bat;
- Natterer's Bat;
- Noctule Bat;
- Common Pipistrelle;
- Soprano Pipistrelle;
- Brown Long-eared Bat;
- Belted Beauty;
- Bird's-eye Primrose;
- Black Poplar;
- Brown Hare;
- Black-tailed Godwit;
- Doros profuges;
- Dwarf Cornel;
- Flat-sedge;
- Grey partridge;
- Yellow wagtail;
- Tree sparrow;
- Linnet;
- Reed bunting;
- Yellowhammer;
- Corn bunting;
- White-clawed Freshwater Crayfish;
- Freshwater Pearl Mussel;
- Greater Butterfly Orchid;
- High Brown Fritillary;
- Northern Brown Argus;
- Pearl-bordered Fritillary;

- Narrow Small-reed;
- Hen Harrier;
- Large Heath;
- Lady's-slipper;
- Natterjack Toad;
- Purple Ramping-fumitory;
- Lancastrian Whitebeam;
- Great Crested Newt;
- Lapwing;
- Otter;
- Sea Bindweed;
- Reed Bunting;
- Rock Sea-Lavender;
- Red Squirrel;
- *Prostoma jenningsii*;
- Skylark;
- Water-violet;
- Twite;
- Wall Mason Bee;
- Song Thrush;
- Shining Guest Ant;
- Southern Wood Ant;
- Mountain Whorl Snail; and
- Wall Whorl Snail.

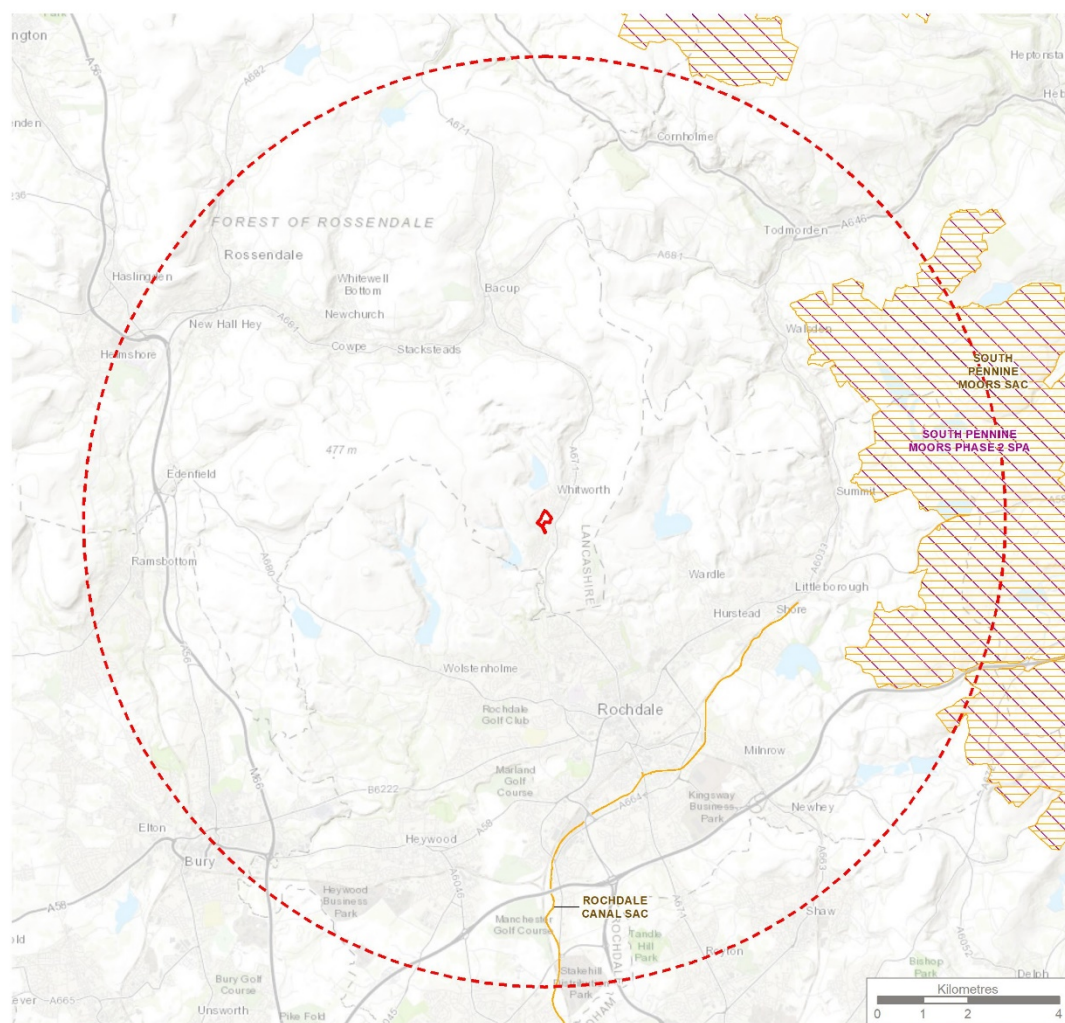
4.0 Site Designations

Statutory Designated Wildlife Sites of International Importance

- 4.1 There are three internationally designated wildlife site within 10km of the site (Figure 2). This is detailed in Table 2 below. Citations are provided in Appendix A.

Table 2: Details of Internationally Designated Wildlife Sites within 10km of the Site

Name of Designation	Type of Designation	Location of Designation in Relation to Site	Reason for Site Designation
South Penine Moors Phase 2	SPA	7km to the west of the site	Internationally important breeding bird assemblage including Golden plover and Merlin
South Penine Moors Phase 2	SAC	7km to the west of the site	Internationally important breeding bird assemblage including Golden plover and Merlin
Rochdale Canal	SAC	6.5km to the west of the site at its closest point	Important populations of aquatic flora including floating water plantain



- Key**
- Site boundary
 - Site boundary - 10km buffer
 - Special Areas of Conservation (SAC)
 - Special Protection Areas (SPA)

Sites searched for were as follows:
 - Ramsar
 - Special Protection Areas (SPA)
 - Special Areas of Conservation (SAC)

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Whitworth Community High School,
Rochdale

Internationally Designated Sites Within 10km Buffer

G8399.007

Scale	Date	
1:115,000 @ A4	03/09/2020	
Drawn	Checked	Approved
CW	SA	SHB

Natural England Data
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Scottish Natural Heritage
 Contains public sector information licensed under the Open Government Licence v3.0.
Natural Resources Wales
 Contains public sector information licensed under the Open Government Licence v2.0.
Ordnance Survey Data
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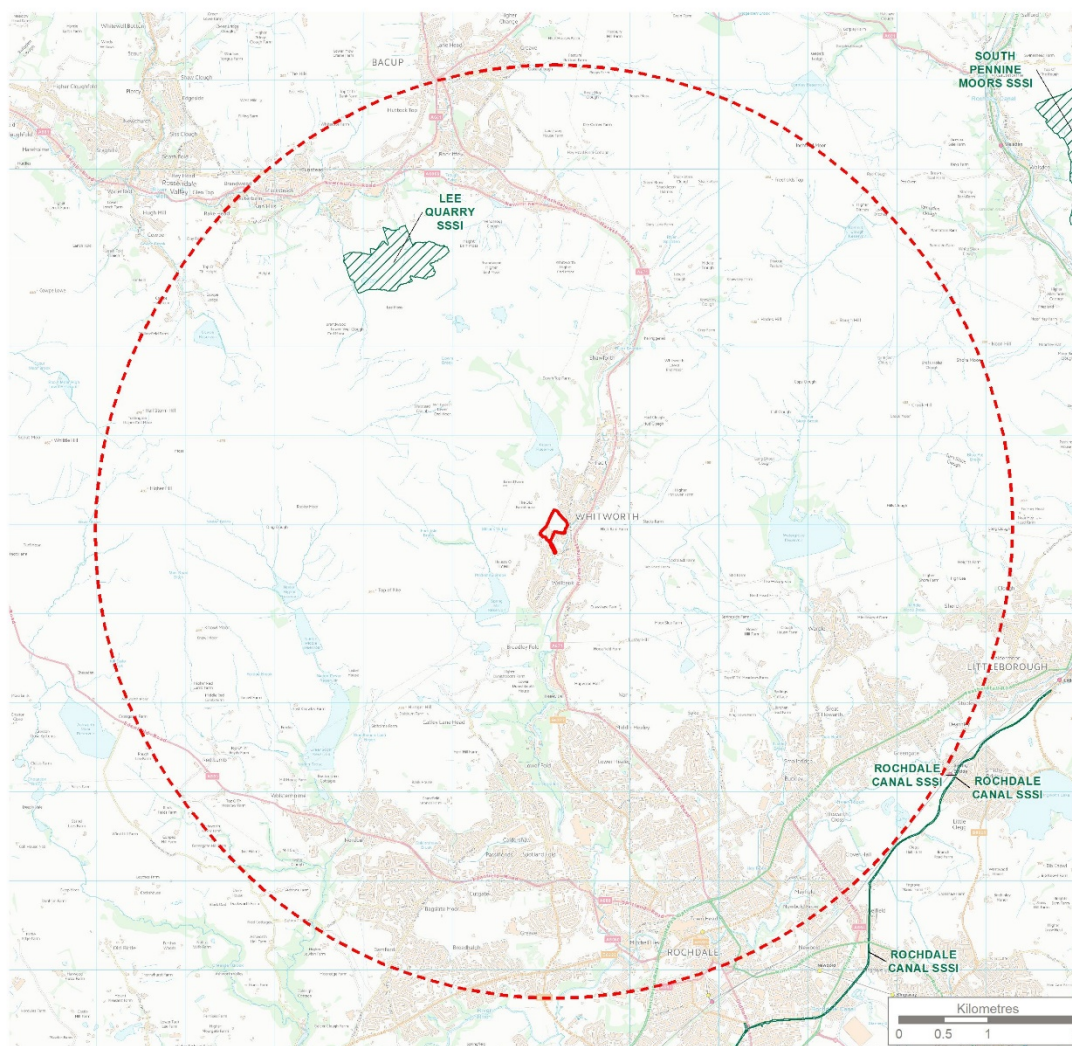
Figure 2: Internationally Designated Wildlife Sites within 10km of the Site

Statutory Designated Wildlife Sites of National Importance

4.2 There is one nationally designated wildlife site within 5km of the site (Figure 3). This is detailed in Table 3 below. Citations are provided in Appendix B.

Table 3: Details of Nationally Designated Wildlife Sites within 5km of the Site

Name of Designation	Type of Designation	Location of Designation in Relation to Site	Reason for Site Designation
Lee Quarry SSSI	SSSI	3.5km to the North west of the site	Nationally important rock formations from the carboniferous period Favourable condition.



Key
 Site boundary
 Site boundary - 5km buffer
 Sites of Special Scientific Interest (SSSI)

Sites searched for were as follows:
 - Sites of Special Scientific Interest (SSSI)
 - National Nature Reserve (NNR)
 - Area of Outstanding Natural Beauty (AONB)

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Project
**Whitworth Community High School,
 Rossendale**

Title
**Nationally Designated Sites Within 5km
 Buffer**

Drawing Number
G8399.008

Scale 1:60,000 @ A4	Date 03/09/2020
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Drawn CW	Checked SA	Approved SHB
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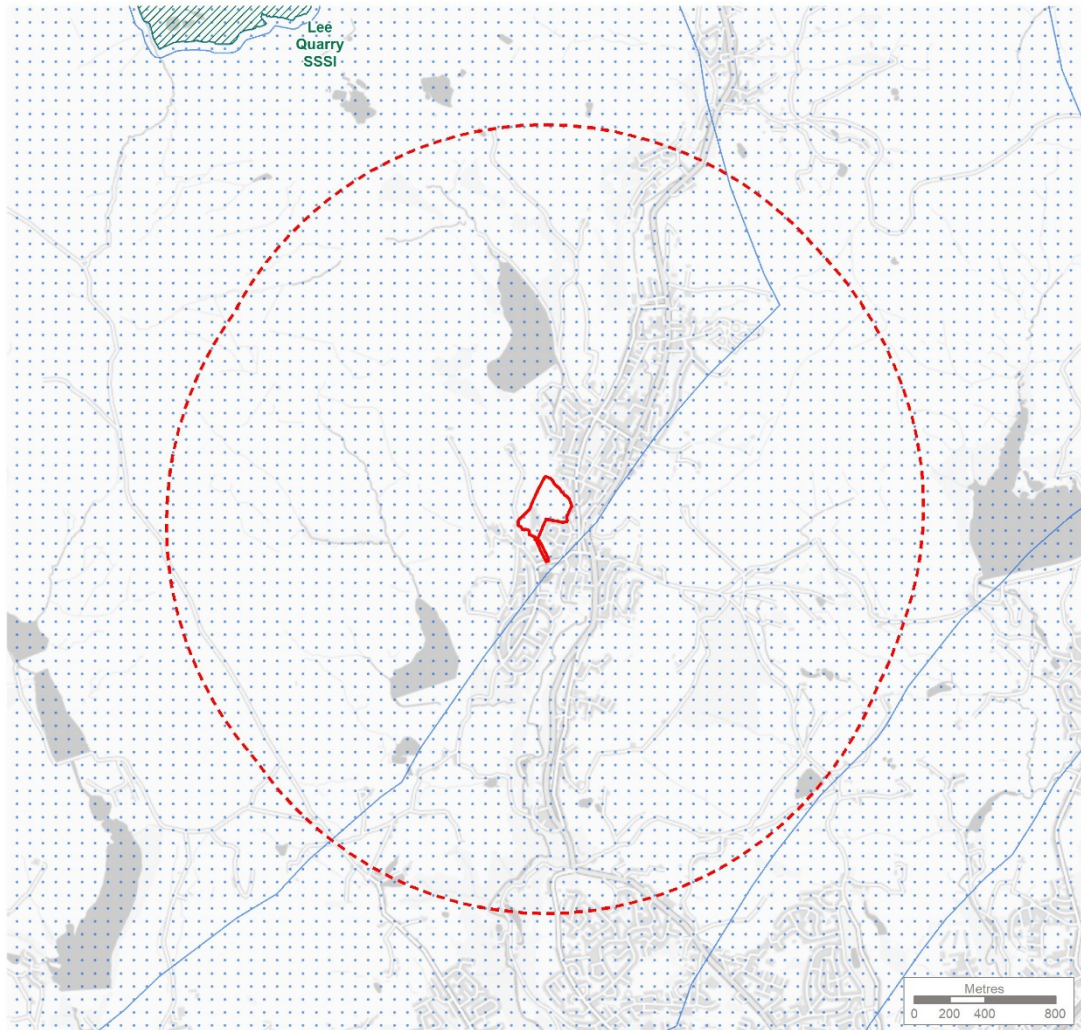
Figure 3: Nationally Designated Wildlife Sites within 5km of the Site

4.3 The site falls within the Impact Risk Zone (IRZ) for Rochdale Canal SSSI. This is shown in Figure 4.

- 4.4 Rochdale Canal SSSI lies 6km to the west out the site at its closest point and is designated due to its national important assemblage of aquatic fauna namely floating water plantain *Luronium natans*.
- 4.5 This development is not listed as a risk category with regard to this SSSI. The Local Authority is therefore not required to consult with Natural England with regard to potential impacts on the SSSI as a result of the development. Table 4 provides information on the likely impacts of development proposals on the SSSI.

Table 4: Likely Impacts of Development Proposals on Rochdale Canal SSSI.

Planning Proposal Categories	LPA Should Consult Natural England on Likely Risks from the Following:
All planning applications	Assessed as unlikely to impact the SSSI.
Infrastructure	Airports, helipads and other aviation proposals.
Wind and solar energy	Assessed as unlikely to impact the SSSI.
Minerals, oil and gas	Assessed as unlikely to impact the SSSI.
Rural non-residential	Assessed as unlikely to impact the SSSI.
Residential	Assessed as unlikely to impact the SSSI.
Rural residential	Assessed as unlikely to impact the SSSI.
Air pollution	Livestock & poultry units with floorspace > 500m ² , slurry lagoons > 4000m ² .
Combustion	General combustion processes >50MW energy input. Incl: energy from waste incineration, other incineration, landfill gas generation plant, pyrolysis/gasification, anaerobic digestion, sewage treatment works, other incineration/combustion.
Waste	Assessed as unlikely to impact the SSSI.
Composting	Assessed as unlikely to impact the SSSI.
Discharges	Assessed as unlikely to impact the SSSI.
Water supply	Assessed as unlikely to impact the SSSI.



- Key**
- Site boundary
 - Site boundary - 2km buffer
 - Sites of Special Scientific Interest
 - Sites of Special Scientific Interest - Impact Risk Zone

THE ENVIRONMENT PARTNERSHIP
 Genesis Centre, Birchwood Science Park, Warrington WA3 7BH
 Tel 01925 844004 e-mail tep@tep.uk.com www.tep.uk.com

Project
Whitworth Community High School, Rossendale

Title
Sites of Special Scientific Interest - Impact Risk Zone

Drawing Number
G8399.011

Scale 1:30,000 @ A4	Date 03/09/2020
Drawn CW	Checked SA
Approved SHB	

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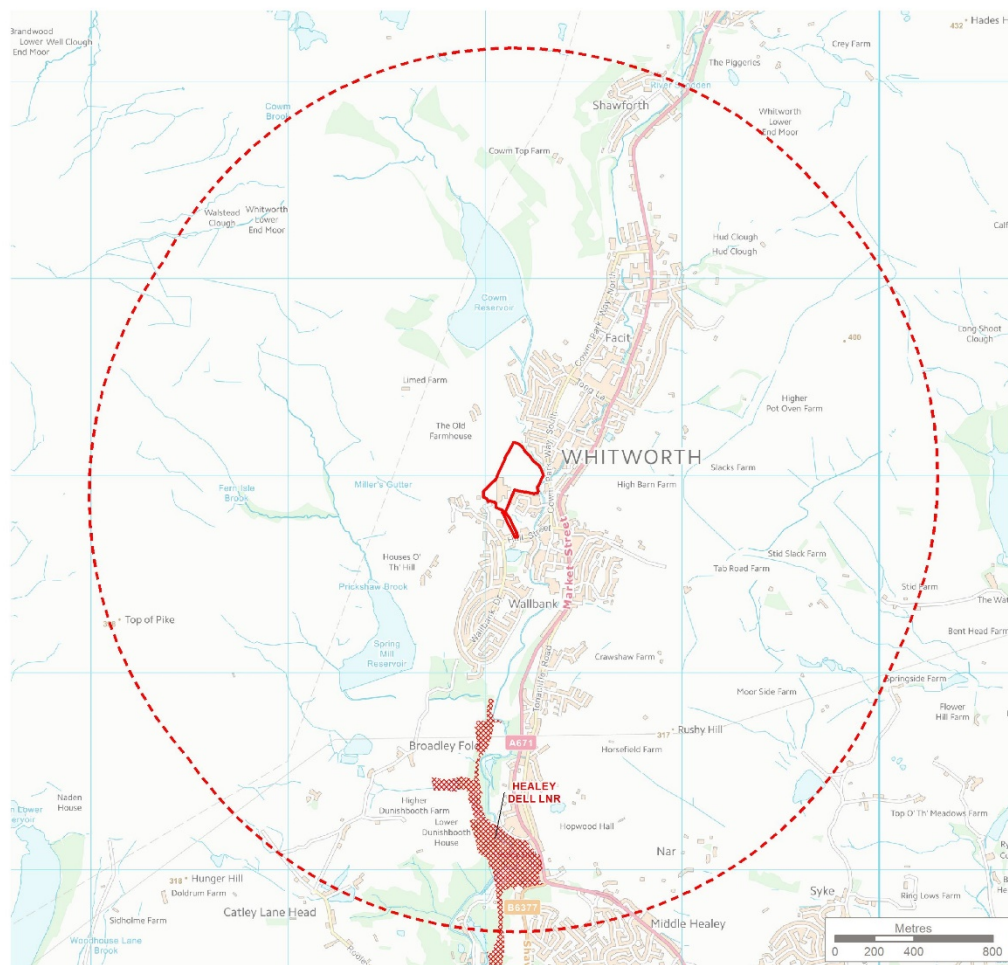
Figure 4: SSSI IRZ within the Site

Statutory Designated Wildlife Sites of Local Importance

4.6 There is one statutory locally designated wildlife sites within 2km of the site (Figure 5). This is detailed in Table 5 below.

Table 5: Details of Statutory Locally Designated Wildlife Sites within 2km of the Site

Name of Designation	Type of Designation	Location of Designation in Relation to Site	Reason for Site Designation
Healey Dell LNR	LNR	1.1km south of the site	Beauty spot and wildlife sanctuary rich in industrial archaeology, a series of woodland waterfalls that once powered wool and cotton mills. A disused 1800s railway line is now a nature trail at the site.



Key
 Site boundary
 Site boundary - 2km buffer
 Local Nature Reserve

Sites searched for were as follows:
 - Local Nature Reserves

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Project
Whitworth Community High School, Rossendale

Title
Statutory Locally Designated Sites Within 2km Buffer

Drawing Number
G8399.009

Scale 1:25,000 @ A4	Date 03/09/2020
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Figure 5: Statutory Locally Designated Wildlife Sites within 2km of the Site

Non-statutory Designated Wildlife Sites of Local Importance

4.7 There are five non-statutory locally designated wildlife sites within 2km of the site (Figure 6). These are detailed in Table 6 below.

Table 6: Details of Non-statutory Locally Designated Wildlife Sites within 2km of the Site

Name of Designation	Type of Designation	Location of Designation in Relation to Site	Reason for Site Designation
Hallfold Lodge	LWS	400m to the south of the site	Area of unimproved neutral grassland with notable species such as greater bird's-foot-trefoil, meadow vetchling, oval and glaucous sedges, bistort and lady's mantle.
Fern Isle and Doctors Wood (Danes Wood)	BHS	0.6km to the south west of the site	The site comprises of ancient and semi-natural woodland, acid grassland and associated flushed areas of the valleys in the area.
Healey Dell LNR	BHS	1.1km south of the site	Beauty spot and wildlife sanctuary rich in industrial archaeology, a series of woodland waterfalls that once powered wool and cotton mills. A disused 1800s railway line is now a nature trail at the site.
Healey Dell SBI	SBI	1.1km south of the site	Beauty spot and wildlife sanctuary rich in industrial archaeology, a series of woodland waterfalls that once powered wool and cotton mills.

Name of Designation	Type of Designation	Location of Designation in Relation to Site	Reason for Site Designation
Rushy Hill	BHS	1.5km to the south east of the site	The site comprises an area of upland heathland/acid grassland mosaic and a small basin mire covered by dwarf shrubs and mosses.
Rushy Hill	LWS	1.5km to the south east of the site	The site comprises an area of upland heathland/acid grassland mosaic, including remnant blanket bog areas, and a small basin mire covered by dwarf shrubs and mosses.
Brownhouse Wham and Hamer Pasture Reservoirs	SBI	1.9km south east of the site	Beauty spot and nature preserve on the site of a pair of old reservoirs de-watered in the 1960s.

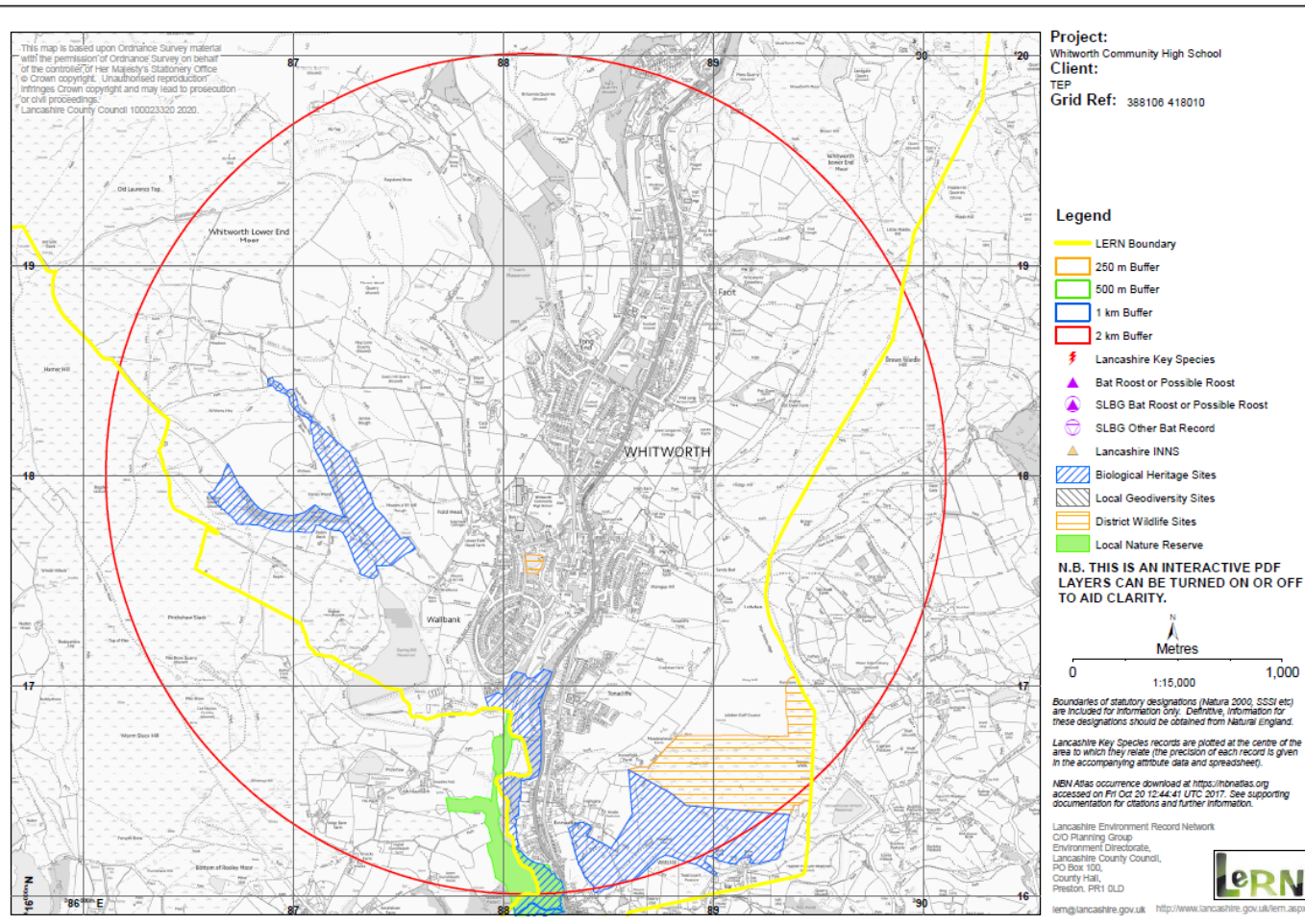


Figure 6: Non-statutory Locally Designated Wildlife Sites within 2km of the Site

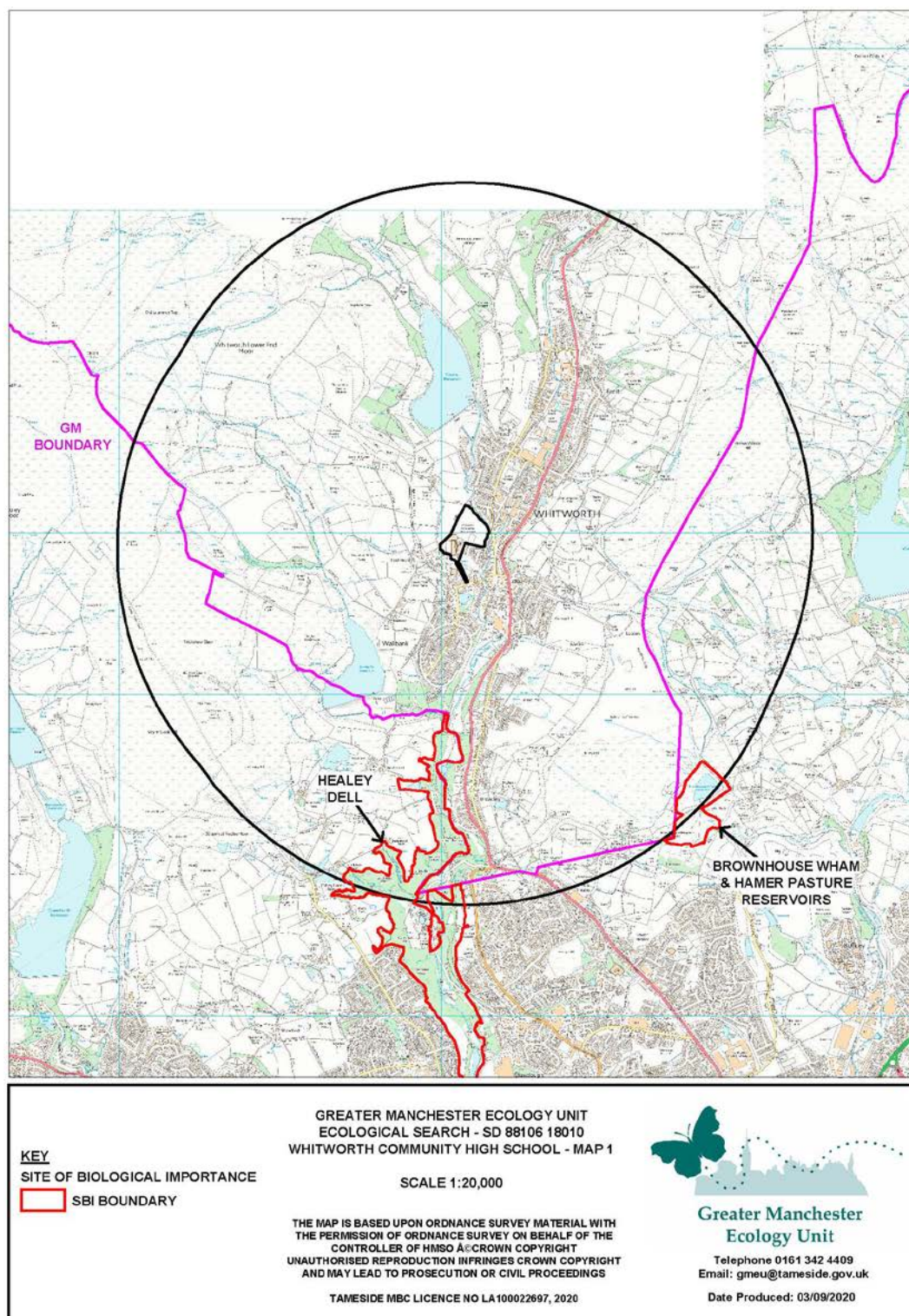


Figure 8: Non-statutory Locally Designated Wildlife Sites within 2km of the Site

5.0 Habitats

5.1 The following notable habitats are present within or adjacent to the site (Figure 7):

- Open Mosaic habitat (S41)
- Deciduous woodland (S41)
- Main river (River Spodden)

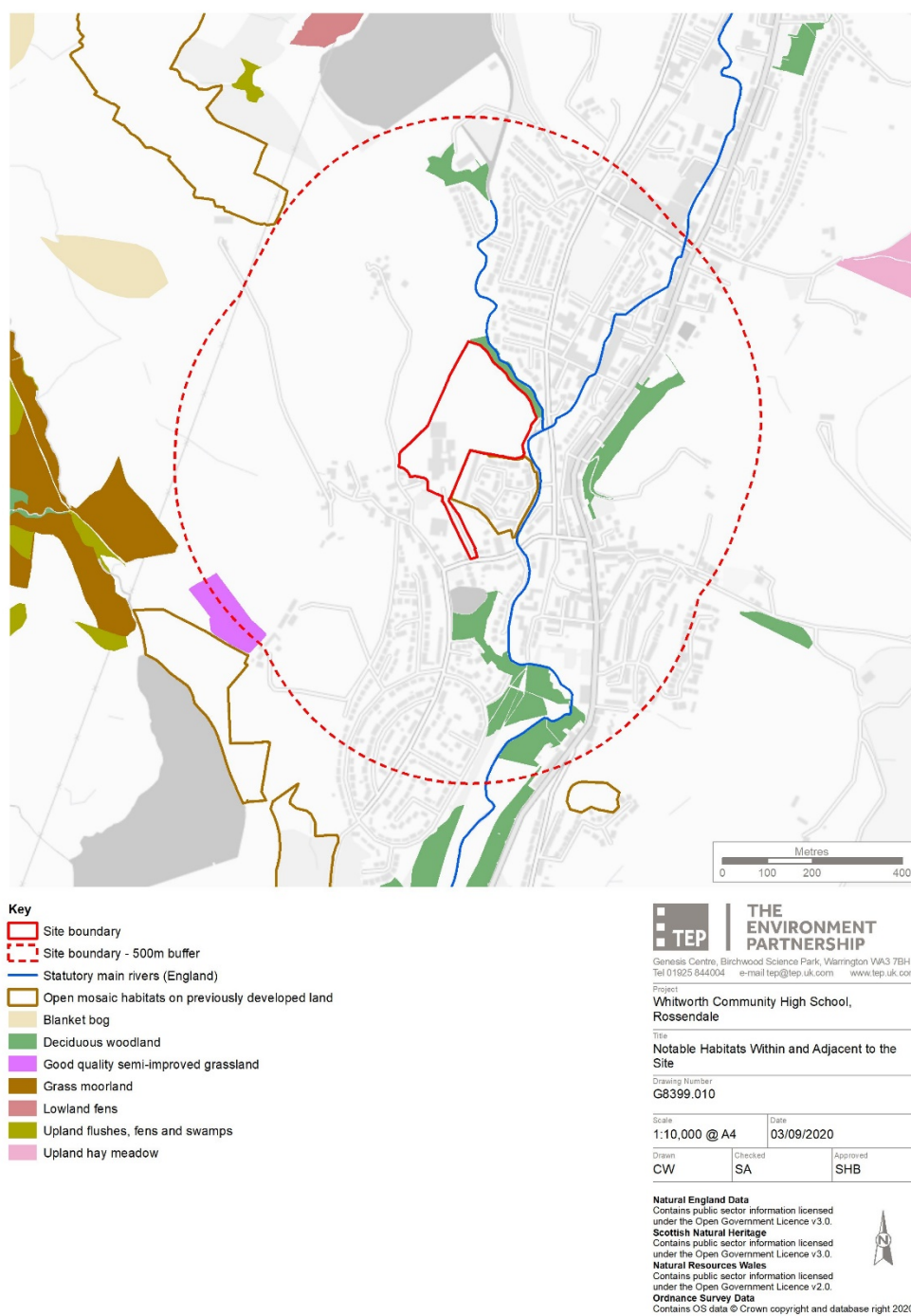


Figure 9: Notable Habitats within and Adjacent to the Site

6.0 Species

- 6.1 Several species records were returned from LERN and GMEU for within 2km of the site. These are shown in Table 7 and Figures 10 to 14.
- 6.2 A review of Magic Maps did not return any class licence returns or pond survey data for great crested newts between 2017 and 2019 within 2km of the site.

Table 7: Notable Species Records within 2km of the Site

Name of Species	Legislation	Closest Record to Site
<i>Amphibians</i>		
Common Frog	WCA5	1.2km from site
<i>Birds</i>		
Bullfinch	S41	1.7km from site
Curlew	BRd,, S41	1.3km from site
Dunnock	S41	1.2km from site
Grey Partridge	BRd, LBAP, S41	1.3km from site
Grey Wagtail	BRd	850m from site
House sparrow	BRd, S41	1.3km from site
Kingfisher	WCA1	1.5km from site
Lapwing	BRd, LBAP, S41	1.3km from site
Lesser Redpoll	BRd, S41	1.3km from site
Lesser Spotted Woodpecker	S41	1.8km from site
Linnet	BRd	1.3km from site
Little Ringed Plover	WCA1	1.1km from site
Merlin	BRd, LBAP, WCA1	1.1km from site
Mistle Thrush	BRd	1.3km from site
Peregrine	WCA1	1.5km from site
Reed bunting	LBAP, S41	850m from site
Skylark	BRd, LBAP, S41	1.3km from site

Name of Species	Legislation	Closest Record to Site
Song Thrush	BRd, LBAP	1.4km from site
Spotted Flycatcher	BRd, S41	850m from site
Starling	BRd	1.3km from site
Twite	BRd	780m from site
Whinchat	BRd	1.3km from site
Wood Warbler	BRd, S41	1.3km from site
Invertebrates		
Cinnabar moth	S41	1km from site
Moth sp	S41	1.8km from site
Small Heath	S41	1.1km from site
Mammals		
Pipistrelle bat species	EPS, WCA5, LBAP	680m from site
Common pipistrelle	EPS, WCA5, LBAP	370m from site
Soprano Pipistrelle	EPS, WCA5, LBAP, S41	1.8km from site
Brown Hare	LBAP, S41	1.3km from site
Myotis Bat species	EPS, WCA5	460m from site
Daubenton's Bat	EPS, WCA5, LBAP	1.4km from site
Whiskered Bat	EPS, WCA5, LBAP	1.8km from site
Noctule Bat	EPS, WCA5, LBAP, S41	1.7km from site
Badger	PBA	0.5km from site
Hedgehog	S41	1.9km from site
Plants		
Bluebell	WCA8	705m from site
Lesser butterfly-orchid	S41	1.5km from site
Cotoneaster	WCA9	1.5km from site

Name of Species	Legislation	Closest Record to Site
Yellow Archangel	WCA9	800m
Montbretia	WCA9	620m
Rhododendron	WCA9	1.2km
Japanese Rose	WCA9	1.6km

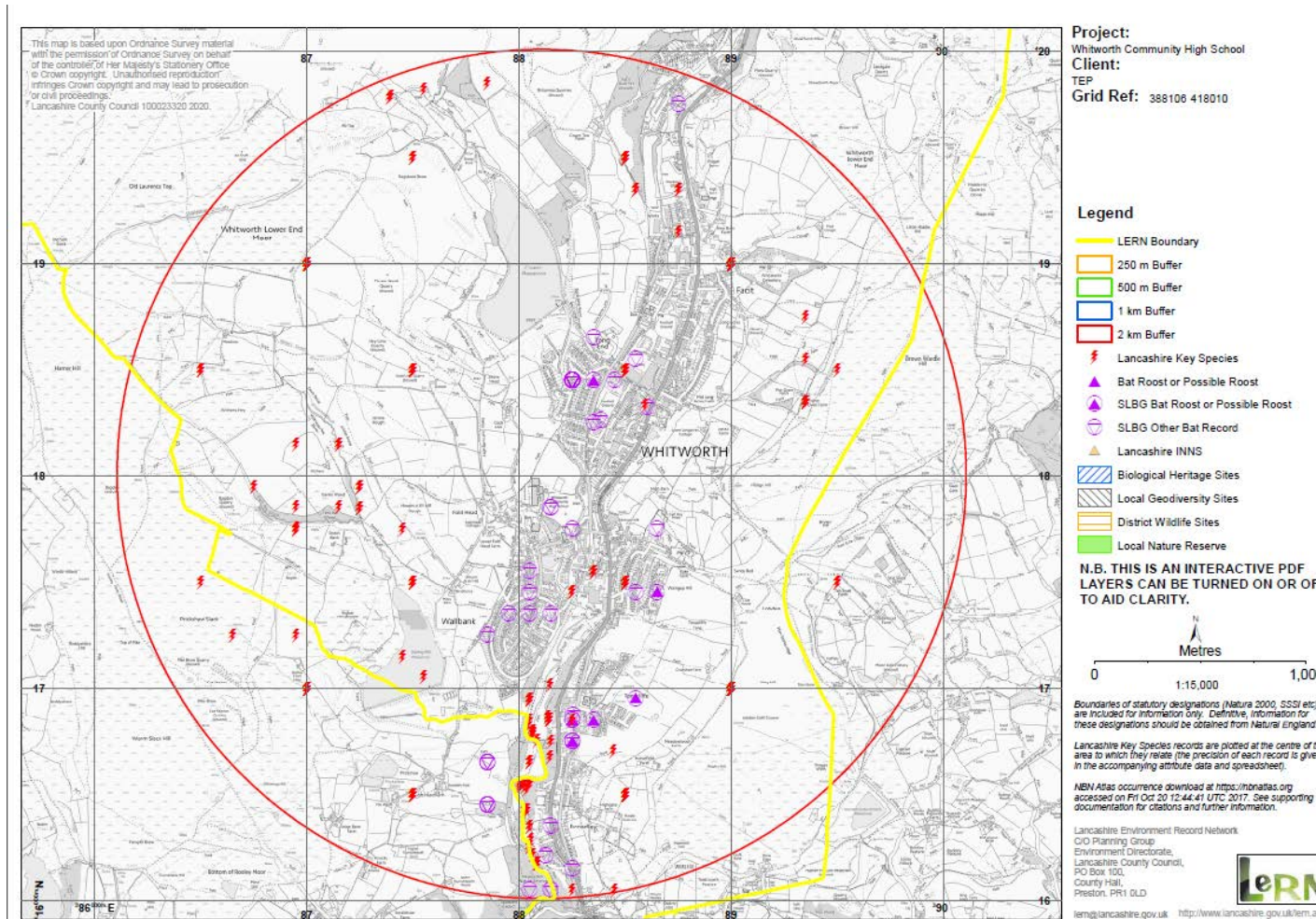


Figure 10: Notable Species Records within 2km of the Site

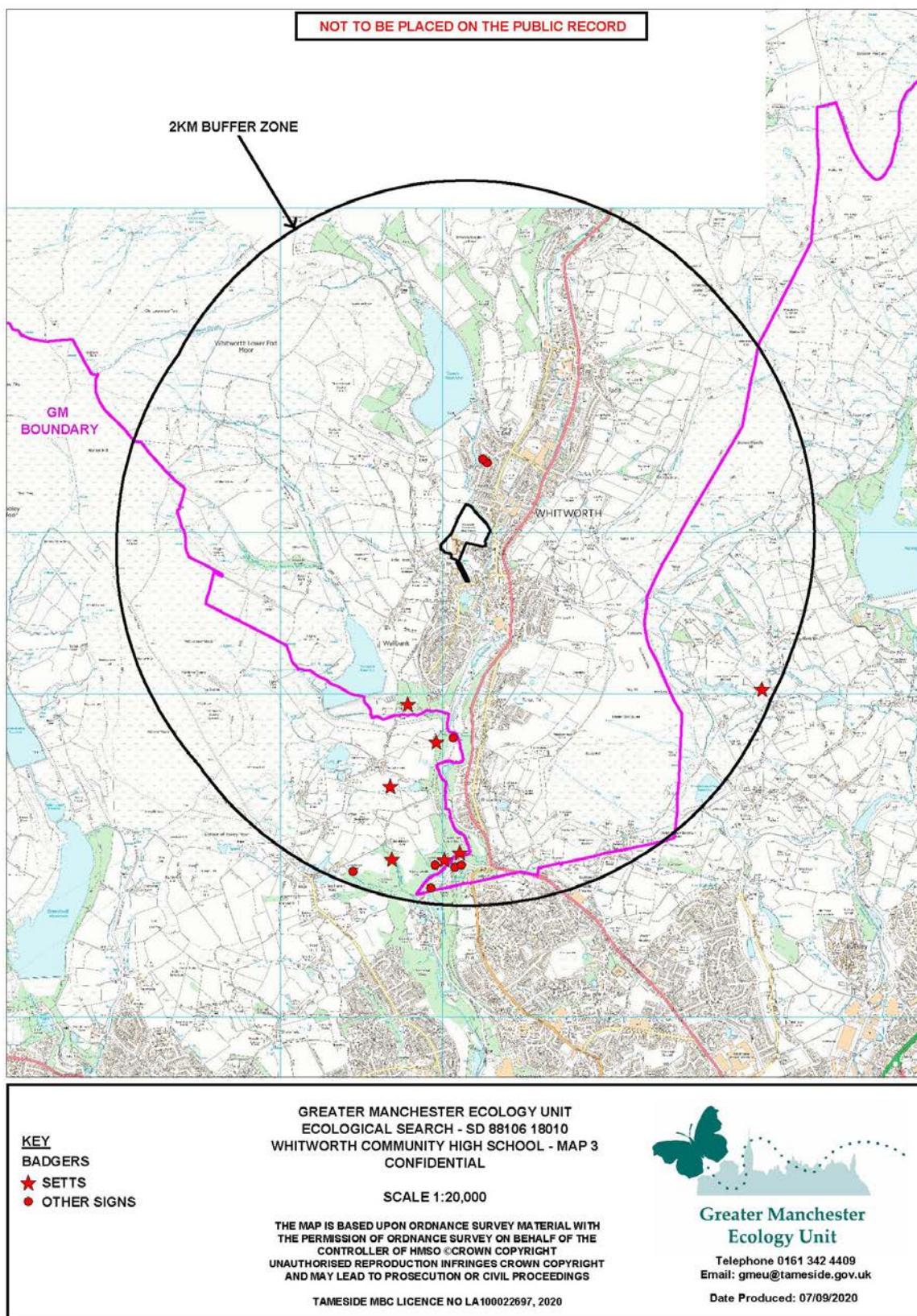


Figure 11: Notable Badger Records within 2km of the Site

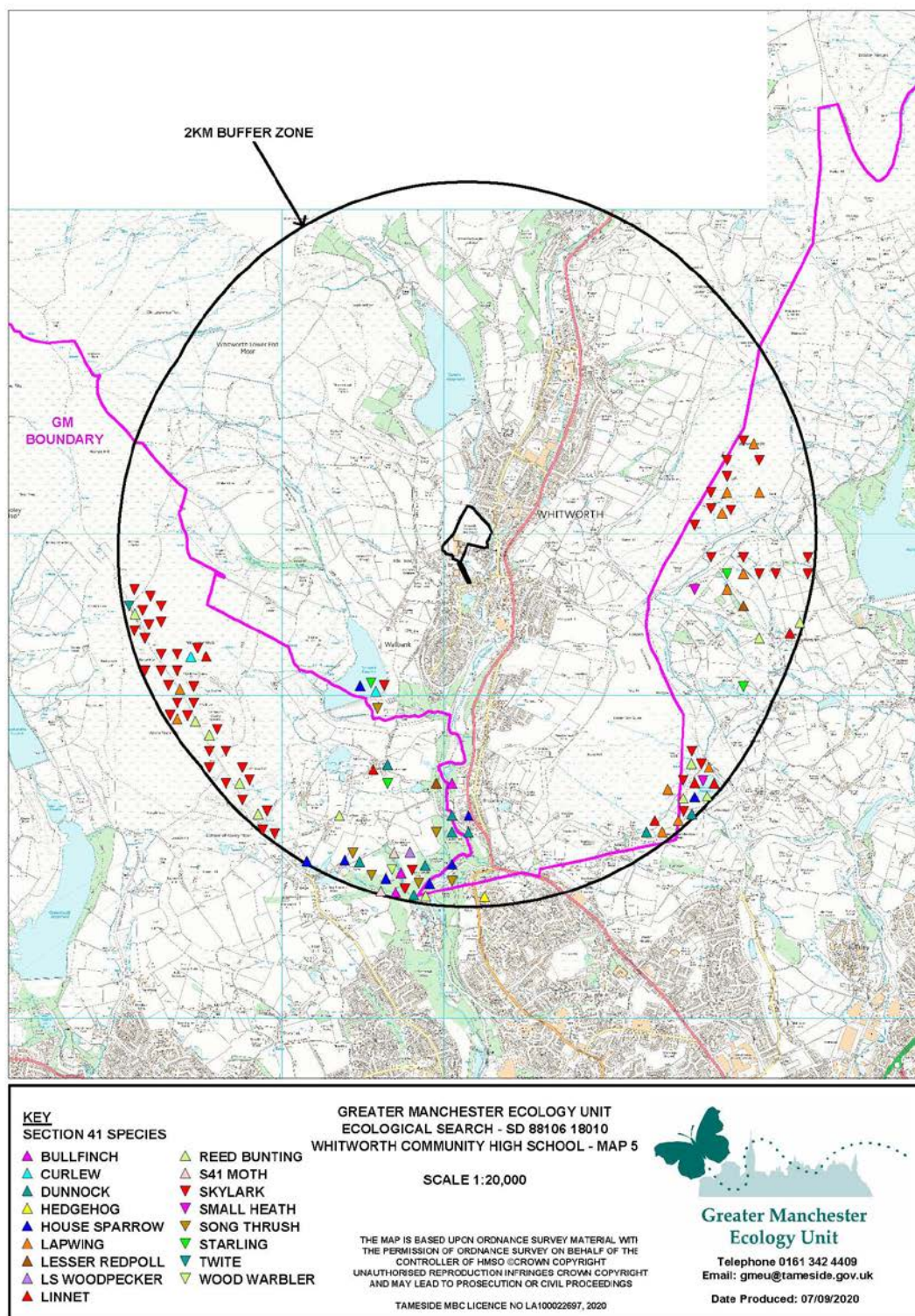


Figure 12: Notable Species Records within 2km of the Site

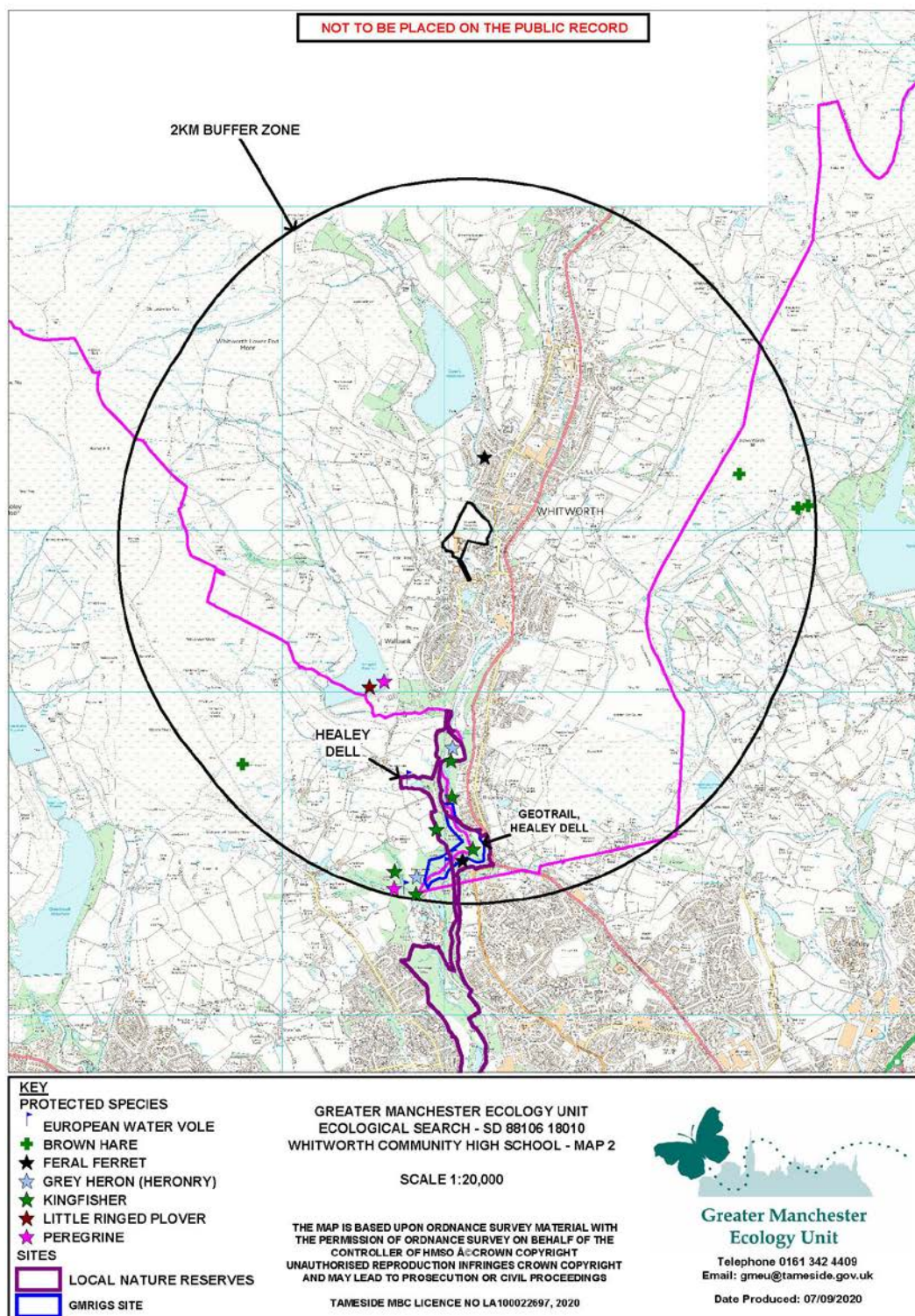


Figure 13: Notable Species Records within 2km of the Site

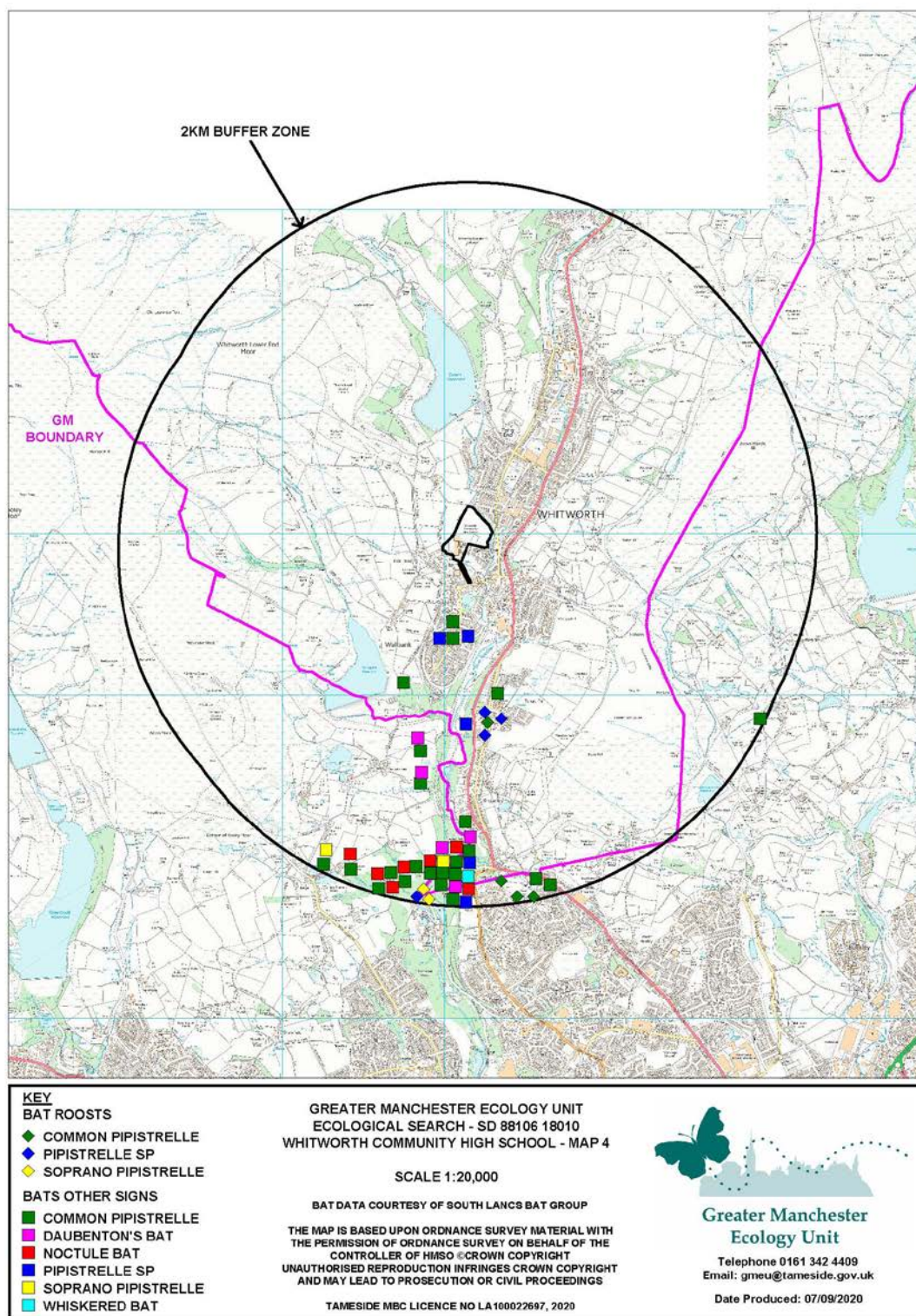


Figure 14: Notable bat records within 2km of the site

Natural England Mitigation Licences

6.3 One Natural England mitigation licence has been identified within 2km of the site. This is detailed in Table 8 below.

Table 8: Natural England Mitigation Licences within 2km of the Site

Licence Number	Dates	Licensable Activities
2017-32656-EPS-MIT	28/02/2018 to 31/08/2019	Damage of a breeding site

APPENDIX A: Citations for Statutory Designated Wildlife Sites of International Importance

APPENDIX B: Citations for Statutory Designated Wildlife Sites of National Importance



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APPENDIX A: Citations for Statutory Designated Wildlife Sites of International Importance

County: West Yorkshire, Lancashire,
Greater Manchester, North Yorkshire.

Site Name: South Pennine Moors

District: Bradford, Calderdale, Kirklees, Leeds, Craven, Burnley, Pendle, Oldham, Rochdale.

Status: Site of Special Scientific Interest (SSSI) notified under Section 28 of the Wildlife and Countryside Act, 1981

Local Planning Authority: Bradford Metropolitan District Council
Calderdale Metropolitan Borough Council
Kirklees Metropolitan District Council
Leeds City Council
Craven District Council
Burnley District Council
Pendle District Council
Oldham Metropolitan Borough Council
Rochdale Metropolitan Borough Council

National Grid Reference: SD 920300 **Area:** 20,938.05 (ha)

Ordnance Survey Sheet 1:50,000: 103, 104, 109, 110 **1:10,000:** SD 82 NE
SD 83 SE
SD 91 NW, NE,
SW, SE
SD 92 NW, NE,
SW, SE
SD 93 NW, NE,
SW, SE
SD 94 SW, SE
SE 00 NW
SE 01 NW, SW
SE 02 NW, SW
SE 03 NW, SW, SE
SE 04 NW, SW, SE
SE 14 NW, NE,
SW, SE

Date Notified (Under 1981 Act): 26 September 1994 **Date of Last Revision:** –

Other Information:

1. This site incorporates the existing Haworth Moor, Derby Delph, Pule Hill and Standedge Road Cutting SSSIs.
2. This site includes land which has been proposed for designation as a Special Protection Area under the EC Directive 79/409 on the Conservation of Wild Birds.

Description and Reasons for Notification:

This site forms part of the Southern Pennines lying between Ilkley in the north and the Peak District National Park boundary in the south. The majority of the site is within West Yorkshire but it also covers areas of Lancashire, Greater Manchester and North Yorkshire. The largest moorland blocks are Ilkley Moor, the Haworth Moors, Rishworth Moor and Moss Moor.

The underlying rock is Millstone Grit which outcrops at Boulsworth Hill and on the northern boundary of Ilkley Moor. The moorlands are on a rolling dissected plateau between 300m and 450m AOD with a high point of 517m at Boulsworth Hill. The greater part of the gritstone is overlain by blanket peat with the coarse gravelly mineral soils occurring only on the lower slopes.

The site is the largest area of unenclosed moorland within West Yorkshire and contains the most diverse and extensive examples of upland plant communities in the county. Extensive areas of blanket bog occur on the upland plateaux and are punctuated by species rich acidic flushes and mires. There are also wet and dry heaths and acid grasslands. Three habitat types which occur on the site are rare enough within Europe to be listed on Annex 1 of the EC habitats and Species Directive (92/43) EEC. These communities are typical of and represent the full range of upland vegetation classes found in the South Pennines.

This mosaic of habitats supports a moorland breeding bird assemblage which, because of the range of species and number of breeding birds it contains, is of regional and national importance. The large numbers of breeding merlin *Falco columbarius*, golden plover *Pluvialis apricaria* and twite *Carduelis flavirostris* are of international importance.

The southern end of the site has good exposures of the Millstone Grit series and three localities are described under the heading 'Geology'.

Vegetation:

The blanket bogs of the South Pennine Moorlands are dominated by cotton-grass *Eriophorum* spp., and heather *Calluna vulgaris*. Other dwarf shrubs such as crowberry *Empetrum nigrum* and bilberry *Vaccinium myrtillus* occur in varying amounts. Crowberry is abundant on the eroding margins of the blanket bogs of the South Pennine Moors. Unusually it is also abundant in some areas of the cotton grass and heather moors. This crowberry dominant moor is restricted to the South Pennines and is particularly extensive on Ilkley Moor. Areas of wet heath containing cross-leaved heath *Erica tetralix* and cranberry *Vaccinium oxycoccos* have also developed on the blanket mires.

The lower slopes are dominated by heather moorland with large areas of acid grassland. Some parts of the heather moors are burnt for red grouse *Lagopus lagopus* and sheep management. Other dwarf shrubs occur on the heather moors including bilberry, crowberry and the locally uncommon cloud berry *Rubus chamaemorus*.

The large areas of acid grassland on former heathland reflect patterns of heavy grazing and burning. These grasslands are dominated by mat-grass *Nardus stricta* and wavy hair-grass *Deschampsia flexuosa*. On wet slopes purple moor grass *Molinia caerulea* is dominant with the wettest areas supporting heath rush *Juncus squarrosus*.

The most species rich and diverse habitats are the acidic flushes, mires and seepage lines. The more acidic flushes on the blanket peat are dominated by cotton-grass *Eriophorum vaginatum* with sedges like carnation sedge *Carex panicea*, star sedge *C. echinata* and commons sedge *C. nigra* present. In some of these flushes bog asphodel *Narthecium ossifragum* is present or even dominant amongst the moss *Sphagnum* spp/*Polytrichum* spp carpets which also often have dense populations of cranberry. The majority of flushes are less acidic and soft rush *Juncus effusus* tends to dominate in these wetlands with a few herbs like marsh bedstraw *Galium palustre* or bog stichwort *Stellaria alsine* present. Where the waters are richer in minerals, e.g. below springs, a wider range of herbs occur. Marsh violet *Viola palustris*, marsh

pennywort *Hydrocotyle vulgaris* and blinks *Montia fontana* are most common but in a few places rarer species like bogbean *Menyanthes trifoliata* and round-leaved sundew *Drosera rotundifolia* occur. The latter is now very rare in West Yorkshire. The most notable species in these flushes is the pale forget-me-not *Myosotis stolonifera*. This nationally scarce plant is found in only 32 1km squares in Britain, but occurs at two locations on the South Pennine Moors.

There are several regionally important plant communities within the site. Green Withins holds the largest population of bog pondweed *Potamogeton polygonifolius* within West Yorkshire and Ilkley Moor has the only known locality for chickweed wintergreen *Trientalis europaea* in the county. The latter is close to the site where the famous 17th century botanist John Ray found this species in the 1600s. Craggs within the cloughs have ungrazed ledge communities which include ferns not found in other parts of the moors. The beech fern *Phegopteris connectilis* which is now very rare in West Yorkshire survives in at least on clough at the southern end of the site.

Birds:

The moorlands support nationally important numbers of golden plover *Pluvialis apricaria*, curlew *Numenius arquata*, merlin *Falco columbarius* and twite *Carduelis flavirostris*.

These species and the rest of the moorland breeding bird assemblage require the mosaic of habitats and large area of the moors for their survival. The blanket bogs are the main breeding grounds for the golden plover and dunlin *Calidris alpina*. These birds need relatively short vegetation to nest in and access to wet areas to feed, a combination provided by the blanket mires. The South Pennine Moors hold 1.3% of the British breeding population of golden plovers. The very large number of meadow pipits *Anthus pratensis* nesting on the bogs are a major food source for the merlin.

The deeper cover provided by the heather provides nest sites for a range of other species. The merlin population of the South Pennine Moors is particularly important. 4.7% of the British population nests on these moors and the numbers appear to be increasing. Merlin prefer nest sites in the older leggy heather, bracken beds or small trees on the moorland edge and they feed on skylarks *Alauda arvensis* and meadow pipits. Most reliant on the heather moors are the red grouse *Lagopus lagopus scoticus* a sub-species of the willow grouse restricted to the British Isles. Their stronghold is on the managed moors of the Haworth Moors complex. Golden plover are also known to nest on recently burnt areas of heather.

Curlews favour the wet acid grasslands and semi-improved areas on the edge of the moors to breed. A significant number (0.8%) of the British curlew population breed on the South Pennine Moors sharing this habitat with lapwing *Vanellus vanellus* and in the wettest areas snipe *Gallinago gallinago* and redshank *Tringa totanus*.

Twite *Carduelis flavirostris* on the South Pennine Moors represent 1% of the British breeding population. These birds are an isolated southern out-post of the race *pipilans* that occurs only in Scandinavia and the British Isles and is itself isolated from the rest of the world population in the mountains of Central Asia. The birds on the South Pennine Moors are vital to maintain the present world distribution. Twite use virtually all the moorland habitats at different stages of their lifecycle. They prefer heather for nesting but also use bracken, boulder scree, grass tussocks and dry stone walls. Feeding on small seeds they utilise grassy areas throughout the moorlands, weedy areas on the moorland edge, semi-improved pastures and even areas of burnt *Molinia* grassland.

Peregrine *Falco peregrinus* nest in small numbers on suitable crags and disused quarries and up to three pairs of short-eared owl *Asio flammeus* have nested in recent years. The moors also support wheatear *Oenanthe oenanthe*, whinchat *Saxicola rubetra*, ring ouzel *Turdus torquatus* and in some years stonechat *Saxicola torquata*.

The large reservoirs within and adjacent to the site provide feeding areas for moorland nesting birds like dunlin as well as nesting habitat for common sandpiper *Actitis hypoleucos* and grey wagtail *Motacilla cinerea*.

Two more unusual species that nest on the reservoirs are the little ringed plover *Charadrius dubius* and the shelduck *Tadorna tadorna*. The pair of shelduck nesting at Blackstone Edge reservoir are believed to be the highest altitude (1100 feet) nesting birds of this species in Britain. The streams draining the reservoirs and the moors support small numbers of dippers *Cinclus cinclus*.

Geology:

Three locations of special geological interest are identified within the South Pennine Moors: two areas of deltaic sedimentary rocks and a type locality for two diagnostic fossils.

Derby Delph Quarry (SE 017161). This quarry is of considerable sedimentological interest, it displays sandstones of Namurian age displaying two distinct bed form types, one consisting of large scale cross-bedded units and the other showing undulatory bedding. The latter type of structure was first described from this locality, and its relationship to the cross-bedded units is clearly visible. The interpretation of these structures has been a key factor in establishing a model for coarse sediment deposition in distributary channels, and thus for deltaic sedimentation as a whole.

In layman's terms, the quarry and rock outcrops within this site provide excellent exposures of sandstone layers of the Namurian Series, formed during the Carboniferous Period of geological history, about 315 million years ago. The sandstones originally accumulated on the bed of a major river delta, perhaps comparable to the modern Mississippi delta. The form of the sandstone layers is remarkably well displayed and detailed research here has enabled geologists to understand for the first time some of the characteristics of sand deposits formed in river deltas. This is thus an important site for geological study of the Namurian which has made a significant contribution to the understanding of river-bed deposits.

Standedge Road Cutting (SE 018095-023098). This site provides one of the most complete sections through the Namurian Kinderscout Grit, almost in their entirety, with the Butterly Marine Band intervening. The readily accessible sequence presents an excellent example of deltaic cyclotherms, with shales and sandstones capped by seat earths and thin coals.

A key section of great sedimentological interest in a thick stratigraphically important sandstone sequence.

In layman's terms, this road cutting provides important exposures of the Kinderscout Grit which formed during the Carboniferous Period of geological time, about 320 million years ago. The rock sequence consists of thick sandstone layers separated by layers of shale, clay and thin coal seams. The rocks accumulated on a large river delta and contain important layers rich in the fossilised remains of marine animals which accumulated during periods when the delta became flooded by the sea. The rock layers accumulated in a repeated (or cyclic) sequence characteristic of sediments formed on a river delta. This is an important site for geological

study of the Namurian series, and is of special interest as a reference section for comparative purposes.

Pule Hill (SE 032112-0321117). The section here exposed contains the Namurian Pule Hill Grit, at its type locality, overlying a sequence of goniatite-bearing shales. These constitute the type locality of the stratigraphically diagnostic goniatites *Reticuloceras bilingue* and *R. gracile*. The Pule Hill Grit is of particular interest at this locality for containing abundant bivalve and gastropod fauna. A key locality for studies of Upper Carboniferous goniatites with important implications for stratigraphic studies of the late Namurian (Marsdenian Stage).

In layman's terms, the quarry faces and rock outcrops within this site provide excellent exposures of rocks of the Namurian Series originally formed during the Carboniferous Period of geological history, about 320 million years ago. The rocks consist of shales overlain by a thick sandstone layer known as the Pule Hill Grit, both rock-types containing fossils of particular interest. The most important fossils here are the remains of marine animals known as goniatites which can be used to accurately date the rocks for the purposes of comparison with rock sequences elsewhere in Britain and overseas. Pule Hill is the locality where two particularly useful goniatites were first found and described. This is an important site for geological study of the Namurian Series especially in respect of the fossils used for dating rocks of this age.

APPENDIX B: Citations for Statutory Designated Wildlife Sites of National Importance

County: Lancashire **Site Name:** Lee Quarry

District: Rossendale

Status: Site of Special Scientific Interest (SSSI) notified under Section 28 of the Wildlife and Countryside Act, 1981, as amended.

Local Planning Authority: Rossendale District Council

National Grid Reference: SD 867209 **Area:** 49.18 (ha) (ac)

Ordnance Survey Sheet 1:50 000 103 **1:10 000** SD 82 SE

Date Notified (Under 1949 Act): – **Date of Last Revision:** –

Date Notified (Under 1981 Act): 6 February 1997 **Date of Last Revision:** –

Other Information:

1. This is a new site.
2. This is a Geological Conservation Review site.

Description and Reasons for Notification:

This site consists of a large disused quarry on the south side of the Rossendale Valley, just south of Bacup.

Lee Quarry shows one of the best available exposures in the Upper Carboniferous Haslingden Flags Formation, a unique development within the Millstone Grit of central England, probably of Yeadonian age. The formation consists mainly of fine-grained sandstones, siltstones and shales. Sedimentary structures including large-scale cross-bedding, ripple lamination and a variety of bed forms are visible in the sandstones. Through the overall form of the sedimentary units and their internal sedimentary structures, this formation has been interpreted as having been deposited in a 'Mississippi type' birdfoot delta. Such deltas are otherwise unknown in the Upper Carboniferous of Britain. Also of great importance are the suite of trace fossils described from the area. These include the escape shafts and resting traces of bivalves *Pelecypodichnus*, sinuous worm trails *Cochlichnus*, and limulid (i.e. King Crab) walking traces *Kouphichnus* and resting traces *Limnulichubichnus*. This assemblage indicates shallow non-marine conditions, possibly with periodic intervals of emergence.

The combination of rich trace-fossil assemblages and good sedimentary features marks Lee Quarry as being of great importance to studies of late Carboniferous environments and palaeogeography.

APPENDIX B: Habitat Survey Target Notes

Target Notes Report

Survey 8399-1 Phase 1 Survey

Target Note TN1

This hardstanding road is the entrance into the site, it is lined on both sides by two strips of amenity grassland.

<i>Poa sp.</i>	Meadow-grass species	D
<i>Holcus lanatus</i>	Yorkshire-fog	A
<i>Trifolium repens</i>	White Clover	A
<i>Bellis perennis</i>	Daisy	F
<i>Moss sp.</i>	Moss species	F
<i>Plantago major</i>	Greater Plantain	O
<i>Ranunculus repens</i>	Creeping Buttercup	O
<i>Taraxacum officinale agg.</i>	Dandelion	O
<i>Persicaria maculosa</i>	Redshank	R
<i>Rumex obtusifolius</i>	Broad-leaved Dock	R

Target Note TN2

Buildings on site are all in good condition with only one visible gap for bat roost potential. This is on the most southern entrance building, under the eaves of the overhang of the roof there is a gap in the panelling.

Target Note TN3

Large area of amenity grassland, used as multiple playing fields. This grassland is highly maintained.

<i>Poa sp.</i>	Meadow-grass species	D
<i>Holcus lanatus</i>	Yorkshire-fog	F
<i>Bellis perennis</i>	Daisy	O
<i>Trifolium repens</i>	White Clover	O

Target Note TN4

A strip of tall ruderal vegetation runs along the northern boundary of the site, with a protuberance of the tall ruderal vegetation extending away from the site boundary along the north western boundary of the site. This boundary vegetation is maintained as a border for the amenity grassland playing fields and does contain some invasive species including Himalayan balsam and cotoneaster sp.

<i>Epilobium sp.</i>	Willowherb species	D
<i>Phalaris arundinacea</i>	Reed Canary-grass	A
<i>Cirsium vulgare</i>	Spear Thistle	F
<i>Holcus lanatus</i>	Yorkshire-fog	F
<i>Jacobaea vulgaris</i>	Common Ragwort	F
<i>Rubus fruticosus agg.</i>	Bramble	F
<i>Urtica dioica</i>	Nettle	F
<i>Centaurea nigra</i>	Knapweed	O
<i>Galium aparine</i>	Cleavers	O
<i>Juncus inflexus</i>	Hard Rush	O
<i>Lathyrus pratensis</i>	Meadow Vetchling	O
<i>Plantago lanceolata</i>	Ribwort Plantain	O
<i>Pteridium aquilinum</i>	Bracken	O
<i>Rumex obtusifolius</i>	Broad-leaved Dock	O
<i>Vicia sativa</i>	Common Vetch	O
<i>Ilex aquifolium</i>	Holly	R

KEY - D = Dominant, A = Abundant, F = Frequent, O = Occasional, R = Rare

Target Note TN5

Four over grown, rectangular allotment beds, containing raspberries, with other species opportunistically moving in.

<i>Rubus idaeus</i>	Raspberry	D
<i>Holcus lanatus</i>	Yorkshire-fog	A
<i>Cirsium vulgare</i>	Spear Thistle	F
<i>Epilobium sp.</i>	Willowherb species	F
<i>Rumex obtusifolius</i>	Broad-leaved Dock	F
<i>Urtica dioica</i>	Nettle	F

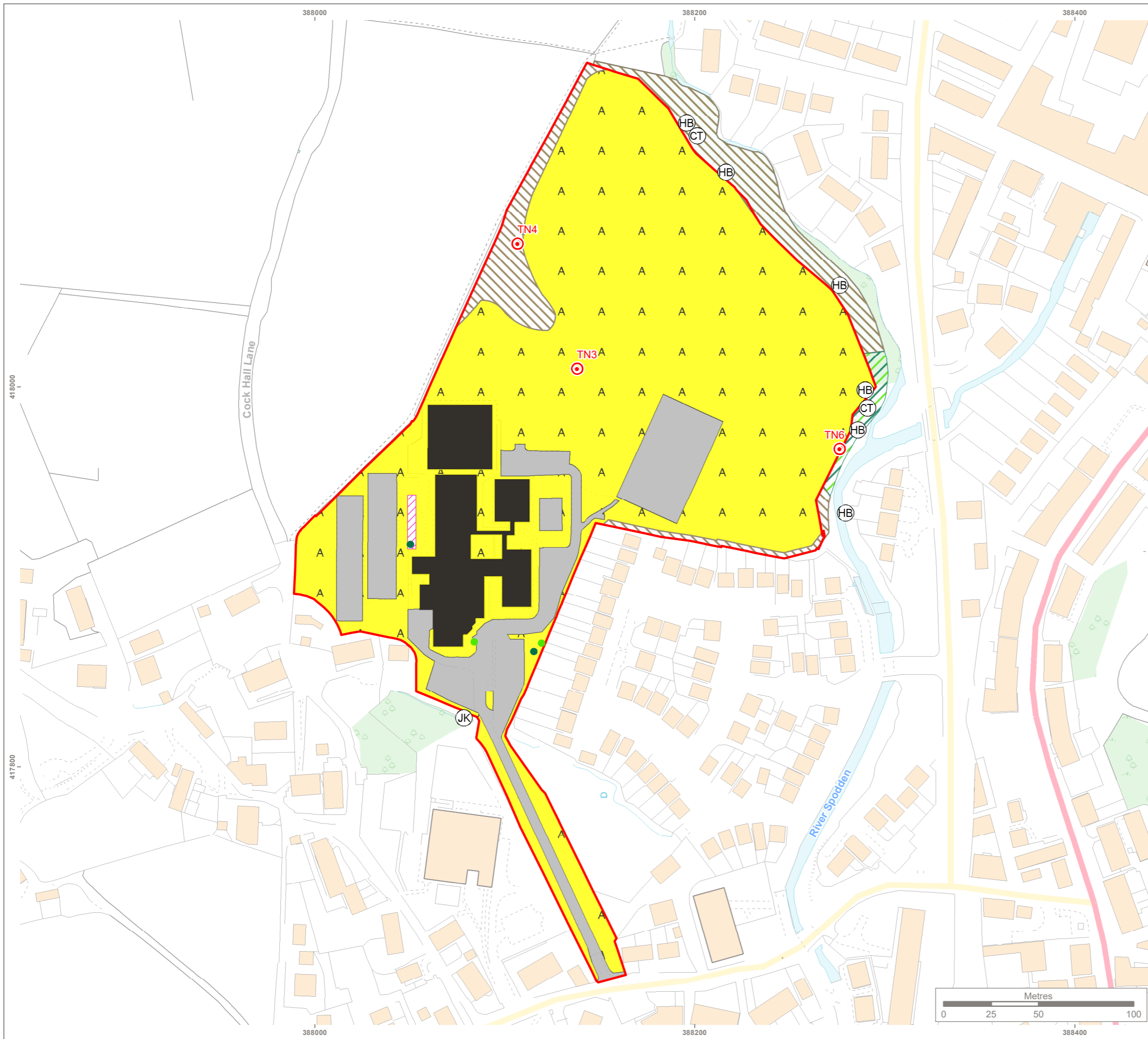
Target Note TN6

A strip of mixed plantation woodland that has encroached from the surrounding area. This woodland area lies within the site boundary line along the north-east of the site. This stretch of woodland contains some invasive species including Himalayan balsam and cotoneaster sp.

<i>Cupressus x leylandii</i>	Leyland Cypress	A
<i>Salix species</i>	Willow species	A
<i>Taxus baccata</i>	Yew	O

DRAWINGS

Phase 1 Habitat Survey G8399.001



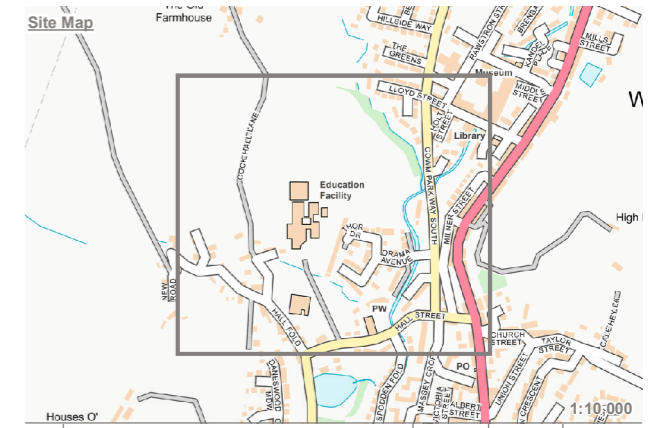
KEY

- Site boundary
- Target note
- CT Cotoneaster
- HB Himalayan balsam
- JK Japanese knotweed
- Scattered broad-leaved tree
- Scattered coniferous tree
- Plantation mixed woodland
- Tall ruderal
- Allotment bed
- A A A Amenity grassland
- Building
- Hardstanding

Note:

The locations of habitats and habitat features are indicative.

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Rev	Description	Drawn	Approved	Date

TEP | **THE ENVIRONMENT PARTNERSHIP**

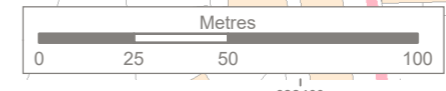
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Project
Whitworth Community High School, Rossendale

Title
Phase 1 Habitat Survey

Drawing Number
G8399.001

Drawn CW	Checked MK	Approved JG	Scale 1:2,000 @ A3	Date 03/09/2020
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