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Preliminary Ecological Appraisal
Princes Way Campus,
Burnley College,
Lancashire
Revision A

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1.0 Introduction

Smeeden Foreman Limited has been commissioned by Burnley College to undertake an ecological review of the proposed development site at the Princes Way Campus of Burnley College, in Lancashire (grid reference SD 837 330).

This report will include the following information gathered by desk study and an initial site walkover:

- Proximity to statutory and non-statutory designated sites.
- Proximity to existing records for protected species.
- Site habitat appraisal and potential to support protected species.

A review of the above information will be made to identify any features or sites of ecological interest which may be affected by the development proposals. Where potential impacts or protected species are identified the need for mitigation measures and specific species surveys will be discussed and recommendations for potential environmental enhancements will be made.

2.0 Site Description

The proposed development site is located at the Princes Way Campus of Burnley College, Lancashire. It is a brownfield site, located to the south of the campus. The site previously accommodated a gas holder tank, which was cleared when the campus was developed in 2009. The site is located to the north of Burnley town centre and approximately 500m south east of the M65 motorway. The western boarder of the site is adjacent to the River Calder, and the southern border is within 50m of the Burnley Viaduct which carries the East Lancashire Railway over the river and B6434 road.

The site comprises of hardcore / bare ground, dense scrub, scattered scrub, hard standing, standing water and species-poor semi-improved grassland habitats.



Figure 01: Map showing the red line boundary of the site

3.0 The Development Proposals

The proposed development includes the creation of two buildings, one which is to become a teaching block and the second building is to become a workshop block. There will be a tarmac area to the rear of the workshop for the delivery of goods. Areas of soft landscaping will be created to the south and east of the site.



Figure 02: Map showing the proposed layout of the site

4.0 Baseline Information

4.1 Methodology

The ecological interest of the site and its surroundings has been investigated by a combination of the following:

Desk study of existing sources of information including:

- Lancashire Biodiversity Action Plan
- Magic map, a government website for nature conservation and environmental information
- Natural England's Natural Area Profile (14: Southern Pennines)
- Aerial photographs

Consultation with relevant bodies to obtain existing protected species records and statutory / non-statutory designated sites information within 2km of the development site:

- Lancashire Environment Record Network

A field survey of the site, and immediate surroundings, was undertaken on 13th January 2014.

4.2 Nature Conservation Designated Sites

Statutory Designations

From magic map records, it is evident that there are no areas which have been allocated with statutory designations such as Sites of Special Scientific Interest (SSSI), Special Areas of Conservation (SAC) and National Nature Reserve (NNR) designations within 2km of the proposed development site.

Non-Statutory Designations

In Lancashire the most important non-statutory wildlife sites are known as Biological Heritage Sites (BHSs), which form an important part of our environment and are a major part of the strategy to conserve the biological richness of Lancashire. They contain valuable habitats such as ancient woodland, species-rich grassland and bogs, and many provide refuge for rare and threatened species.

Within a 2km radius of the site there are six Biological Heritage Sites:

Site Reference	Site Name	Habitat Type	Grid Reference	Distance from site (closest proximity)
83NW11	Leeds/Liverpool Canal Section, Old Hall Street to M64 Jcn 12	Artificial habitats	SD 841 352	*c.*1km to the north of the site.
83SW04	Oswald Street	Grasslands Artificial habitats	SD 839 339	*c.*1km to the north of the site.
83SE01	River Don – Brun Valley	Woodland and Scrub Grassland Habitat Mosaics	SD 859 335	*c.*1.5km to the north-east of the site.
83SW05	Spring Wood	Woodland and scrub	SD 834 334	*c.*1.5km to the north of the site.
83SE10	Fulledge Swamp	Swamp and Fen Flowering plants and fens	SD 852 319	*c.*1.75km to the south-east of the site.
83SW06	Heald Wood	Woodland and scrub	SD 836 348	*c.*1.75km to the north of the site.

Locations of the Biological Heritage Sites provided by Lancashire Environment Record Network are provided in Appendix 02.

4.3 Existing Records

Existing biological records were provided by the Lancashire Environment Record Network. The records detailed below are those in closest proximity to the proposed development site. Locations of the existing species records provided by Lancashire Environment Record Network are provided in Appendix 02.

Species	**Status/protection**	**Notes**
Otter *Lutra lutra*	Sch5; UKBAP; WYBAP	SD 8234 - *c.*2km to the north west of the site. Spraint, record dated 19.07.2005

Unknown pipistrelle species *Pipistrellus sp.*	HabDir; Sch5; UKBAP; WYBAP	SD 838 322 – *c.*750m to the south of the site Roost, record dated 26.07.2011
		SD 846 338 – *c.*1.25km to the south west of the site Roost, record dated 07.08.2010
		SD 823 320 – *c.*1.75km to the north west of the site. Roost, record dated 11.10.2011
Bluebell *Hyacinthoides non-scripta*	Sch8_sect 13.2	SD 8433 – *c.*300m to the east of the site. Record dated 12.05.2012 SD 836 333 – *c.*500m to the north of the site. Record dated July 1994

Schedule 9 species

Two Schedule 9 species were also identified within a 2km radius of the site; species of plants and animals that do not naturally occur in Great Britain have become established in the natural environment and represent a threat to the native flora and fauna.

Species	Grid reference	Notes
Japanese knotweed *Fallopia japonica*	SD 83767 32872	*c.*100m to the south of the site Record dated 07.11.2012
	SD 83747 32641 & SD 83791 32669	*c.*250m to the south of the site Records dated 07.11.12 & 18.04.2012
	SD8433	*c.*250m to the east of the site Record dated12.05.2012
Himalayan Balsam *Impatiens glandulifera*	SD 83770 32748	*c.*250m to the south of the site. Record dated 28.09.2012
	SD 84430 33182 & SD 83324 33517	*c.*750m to the east and south east of the site. Records dated 04.08.2011 & 14.04.2012

4.4 Site Survey

An initial site walkover survey was undertaken on the 13th January, 2014. Habitat types and key species were noted and are presented in the Phase 1 Habitat format proposed by the Joint Nature Conservation Committee, 1993 (see Figure 02: Phase 1 Habitat Survey).

The habitat types within the site boundary include bare ground (hardcore infill), dense scrub, scattered scrub, hard standing, standing water and species-poor semi-improved grassland.

Target note 1 – The majority of the site consists of bare ground, which is predominantly hardcore infill with scattered scrub throughout. The scrub is dominated by buddleia *Buddleja davidii*, with an abundance of moss. Cherry *Prunus sp.* saplings are frequently occurring, bramble *Rubus fruiticosus*, bristly oxtounge *Helminthotheca echioides*, yarrow *Achillea millefolium,* scented mayweed *Matricaria recutita*, and creeping buttercup *Ranunculus repens* occur occasionally and American willow herb *Epilobium ciliatum*, selfheal *Prunella vulgaris*, Canadian fleabane *Conyza canadensis* and grasses including common bent *Agrostis Capillaris*, are rarely occurring.

Target note 2 – To the eastern boundary of the site there is a small area of hard standing comprising tarmac. To the south of this area is a metal fence which separates the site into

two sections, however, the habitats are similar in both. To the south of the fence line is a large area of hard standing comprising concrete.

Target note 3 – Along the eastern border of the site is a tall red brick wall. To the southern end of the wall there is dense scrub, comprising predominantly of buddleia, with moss occurring frequently and common bent occurring occasionally.

Target note 4 – Towards the northern end of the red brick wall the dense scrub comprises predominantly of buddleia. Other species identified include: common ivy *Hedra helix* (abundant), moss and common bent (frequent), cherry, dock *Rumex sp.*, bramble and cock's-foot grass *Dactylis glomerata* (occasional) and blackthorn *Prunus spinosa* (rarely occurring).

Target note 5 – To the north east corner of the site there is a collection of large stone blocks.

Target note 6 – A large section of the site is species-poor semi-improved grassland. The grass species identified are predominately perennial rye-grass *Lolium perenne* and common bent *Agrostis* capillaris. Herbaceous species include creeping thistle *Cirsium arvense*, buddleia, bramble and groundsel *Senecio vulgaris* which occur frequently, rosebay willowherb *Chamerion angustifolium*, herb Robert *Geranium robertianum* and cherry saplings occur occasionally, *Cotoneaster sp.*, sharp rush *Juncus acutiflorus* and common reed *Phragmites australis* are rarely occurring.

Target note 7 – The western boarder of the site is a stone wall, which boarders the River Calder. The river runs at a much lower level than the site itself, *c.*25m lower.

Target note 8 – The River Calder flows adjacent to the site, at the bottom of a deep channel lined by limestone blocks and red-brick walls. At the point where the river passes the site, it is (at the time of the survey) shallow, narrow and fast flowing, with a number of points along the bordering walls where water drains into it.

Target note 9 – Towards the centre of the site there is an area of bare ground where a small amount of standing water occurs, which is seemingly the result of heavy rainfall. A second area of standing water occurs to the south of the site. In both areas the standing water appears to be ephemeral, therefore, limiting its potential to be used by amphibians for breeding.

Target note 10 – Dense scrub vegetation which comprises sycamore, goat willow, bramble, bracken and common bent. The trees within this area are mature but not in structurally sound condition. Many of the trees are also leaning towards the river, which runs immediately to the west of the area.

Target note 11 – Dense scrub which predominantly comprises elder. The ground flora is the same as that in target note 10.

Trees
There are a number of individual immature to mature trees around the border of the site, which vary in condition and size. Due to the size, age and structure of the trees they are not considered to have any potential for roosting bats:

T1 – Sycamore *Acer pseudoplatanus*
T2 – Cherry *Prunus sp.*
T3 – Sycamore
T4 – Cherry

T5 – Silver birch *Betula pendula*
T6 – Hawthorn *Crataegus monogyna*

For further information regarding the condition of the trees around the site, reference should be made to the document 'SF2244_Arboricultural Survey_Burnley College' which was undertaken to accompany this survey during January 2014.

There are three groups of trees to the north and western borders of the site. This is illustrated in Figure 03 and briefly described in terms of ecology below:

TG 1 – A group of semi-mature trees including silver birch, cherry, hawthorn and willow *Salix sp*. These trees are small and multi-stemmed, with no cracks or crevices within the truck or limbs and therefore have no bat potential.

TG 2 – A group of mature trees including alder *Alnus glutinosa*, goat willow *Salix cinerea agg.*, and large sycamores, some with canopies reaching over the river. These trees have small trunks and numerous thin branches; therefore, the structure does not provide potential for roosting bats. However these trees offer good habitat for invertebrates, and therefore providing foraging for bats and birds, as well as perches and protection for birds.

TG 3 – Two mature sycamores which are structurally unsound and leaning towards the river. The trees are also situated on a raised bank which could impact the strength of the root system. The trees have no potential to house roosting bats; however, they could be used by local bird populations.



Target note 1 – hardcore / bare ground with scattered scrub



Target note 2 – Hard standing



Target note 1 & 6 - hardcore / bare ground with scattered scrub and species poor semi improved grassland



Target note 6 – species poor semi improved grassland, with **Target note 4** – dense shrub at the border, and **T4, T5** and **T6**.

	
Target note 5 – collection of large stone blocks and dense scrub	**Target note 9** – standing water, and Burnley Viaduct by the southern border of the site,
	
Target note 7 – stone wall, next to **TG2** – mature sycamore trees.	**T1 –** immature and damaged sycamore
	
Target note 8 – the River Calder	**TG2** – sycamore trees at the western border adjacent to **Target note 1** (hardcore / bare ground) and **Target note 6** (species-poor semi-improved grassland)

	
Target note 10 – Mature sycamore and sycamore whips	**Target note 11 –** Goat willow and elder with other scrub vegetation such as bramble and bracken

4.5 Biodiversity Action Plans

4.5.1 UK Biodiversity Action Plan

The UK Biodiversity Action Plan (UKBAP) identifies priority species and habitats which are those considered to be the most threatened and therefore most in need of conservation action. The lists were updated in 2007 to include 1150 species and 65 habitats.

There are four priority habitats (taken from magic map and aerial photographs) recorded within 2km of the site. These include:

- Deciduous woodland BAP priority habitats (approximately 250m NW, 350m NE, 650m SW, 1km S and 1.3km N of the site);
- Undetermined grassland BAP (approximately 750m N and 1.3km NE of the site);
- Fens BAP (approximately 1.3km NE of the site);
- Wood pasture and parkland BAP (approximately 650m E, 1.2km SW and 1.8km SE of the site).

The existing records for priority species within 2km of the site include; common toad, common frog, Daubenton's bat, Natterer's bat, noctule, brown long-eared bat and common and soprano pipistrelle bats, skylark, reed bunting, curlew, house sparrow, lapwing, purple ramping-fumitory, double dart, otter, common pip, cuckoo, tree sparrow, house martin, peregrine falcon, kestrel, willow warbler, dunnock, sand martin, swift, starling, bullfinch, song thrush, frogbit, cat-mint, henbane, common sandpiper, teal, meadow pipit, grey heron, shelduck, redshank, petty whin, dittander, herb paris, black poplar, horned pondweed, banded demoiselle, broad bodied chaser, four spotted chaser, black darter, dotted thyme moss, swallow, common gromwell and slender tufted sedge.

4.5.2 Local Biodiversity Action Plan

The Lancashire Biodiversity Action Plan is the Local BAP for the area within which the site is located. Local BAPs generally include habitat and species actions plans for habitats and species included within the UKBAP where they occur in the area and for additional habitats and species where they are rare or distinct within the region.

The following are the action plans which are included in the Lancashire LBAP:

Habitats:

- Arable farmland
- Broadleaved and mixed woodlands
- Calcareous grassland
- Limestone pavement
- Moorland and fell
- Mossland
- Reedbed
- Rivers and streams
- Salt marsh and estuarine rivers
- Sand dune
- Species rich neutral grassland

Urban Habitats:

Managed urban green space

- Amenity grassland and sports fields
- Church yards and cemeteries
- Golf courses
- Road verges
- School grounds
- Urban parks

Urban forest

- Community woodlands
- Orchards
- Street trees
- Shrubberies
- Shelterbelts

Previously developed land

- DUN (derelict, underused or neglected)
- Quarries and gravel pits
- Railway sidings and disused railways

Built structures

- New and existing built structures

Private gardens

- Allotments
- Gardens and backyards

Relict Landscape

- Encapsulated countryside

The proposed development site contains 'DUN (derelict, underused or neglected) land' urban habitat.

Species:

Birds

- Black tailed godwit
- Farmland birds
- Hen Harrier
- Lapwing
- Reed bunting
- Skylark
- Song thrush
- Twite

Mammals

- Bats
- Brown hare
- Otter
- Red squirrel
- Water vole

Insects

- Belled beauty moth
- Dorus profuges – a hoverfly
- High brown fritillary
- Large heath fritillary
- Northern brown Argus
- Pearl bordered fritillary
- Shining guest ant
- Southern wood ant
- Wall mason bee
-

Other invertebrates

- Freshwater pearl mussel
- White clawed crayfish
- Jennings proboscis worm
- Whorl snail

Plants

- Birds eye primrose
- Black poplar
- Dwarf cornel
- Flat-sedge
- Great butterfly orchid
- Sea bindweed
- Lady's slipper orchid
- Lancaster whitebeam
- Narrow small-reed
- Purple ramping-fumitory
- Rock sea lavender

There were no species recorded on site that are listed in the regional biodiversity action plan.

Of the species listed, the site is considered to provide suitable habitats for foraging and commuting bats, and ground nesting birds.

4.6 Natural Area Profile

Natural England (then English Nature) devised a scheme describing England in a series of Natural Areas based on the identification of their characteristic wildlife and natural features. It draws together physical attributes, wildlife, land use and culture to define a distinctive nature conservation character. The site lies with Natural Area 14: Southern Pennines described by English Nature (Natural Area Profile, 1997) as:

"14 Southern Pennines

Upland areas of heather-dominated moorland, blanket bog and acid grassland provide the essential character of the South Pennines landscape. In places the effects of past enclosure, present-day overgrazing and past atmospheric pollution are noticeable and have reduced the once varied moorland vegetation to one dominated by purple moorgrass, cotton-grass and mat-grass. However, where rich mosaics of heather moorland vegetation still exist these support internationally important populations of breeding red grouse, curlew and merlin, while areas of blanket bog support valuable populations of invertebrates and also birds such as golden plover, dunlin and short-eared owl. Many reservoirs are present throughout the area and these provide valuable wintering and breeding habitat for wildfowl and waders.

Many fast-flowing streams drain the moorland plateau, cutting steeply inclined ravines into the surrounding hills. A large number of wet flushes on steep valley slopes issue lime-rich waters from spring lines and give rise to wet grasslands supporting interesting plant communities. Where the steeply inclined valley slopes are wooded, mixtures of oak, ash, birch and rowan link the valley bottoms with the exposed moorland plateau."

5.0 Implications / Recommendations

5.1 Nature Conservation Designated Sites

There are no statutory designated sites within 2km of the proposed development site.

There are six Biological Heritage Sites (BHSs) within 2km, including: River Don – Brun Valley, Fulledge Swamp, Oswald Street, Spring Wood, Heald Wood and Leeds/Liverpool Canal Section, Old Hall Street to M64 Jcn 12.

Due to the nature of the development, its limited size and scale, as well as the intervening land uses (residential properties, other buildings and the M65) it is considered that these sites will not be affected by the development proposals.

5.2 Habitats

The majority of the proposed development comprises of hardcore/bare ground, scattered and dense scrub, and species-poor semi-improved grassland habitats, which are all of low ecological value. The site also includes a small patch of hard standing, as well as a collection of large stone blocks.

To enhance the ecological value of the site it is recommended that the existing trees are retained where possible and new native species planting is included within the landscape design. This would include a diverse range of native shrub and tree species such as hawthorn, blackthorn *Prunus spinosa,* guelder rose *Viburnum opulus,* field maple *Acer campestre,* hazel *Corylus avellana,* rowan *Sorbus aucuparia* and pedunculate oak *Q. robur.*

The areas which are to be used for soft landscaping could be seeded with a wildflower grassland seed mix, such as British Seed Houses WF3 General purpose neutral soils mix. This would help to encourage invertebrates and improve the local biodiversity of the site.

5.3 Protected Species

Existing records and/or site survey have noted the potential for the following protected species within the search area or on site, upon which the potential affects of the proposed development are discussed below (see Appendix 01 for relevant legislation):

Species	Notes	Further survey work
Bats	There are no trees on site which could provide possible bat roosting potential. Records of pipistrelle bats have been provided from within 2km of the proposed development site. The closest record is a pipistrelle roost record approximately 750m to the south of site. Due to the proximity of the records the site could potentially be used by foraging/commuting bats.	None
Birds	The site is considered to offer suitable nesting and foraging habitat for birds. Clearance works should be undertaken outside the breeding season or subsequent to being checked by a suitably qualified ecologist prior to clearance.	None (with correct timing of the works).

Bats
The site is suitable for foraging and commuting bats due to the vegetation types found on site and due to the field records of bats within the area. It is therefore recommended that, where possible, a diverse range of native tree and shrub species should be incorporated into the planting scheme. Native tree species such as rowan, bird cherry *Prunus padus*, hornbeam *Carpinus betulus*, silver birch and field maple are recommended.

It is recommended that the site is enhanced for the local bat population, with the installation of bat boxes on new buildings and trees within the site boundary (Ref. Appendix 03), and the planting of native forb species. These enhancements will ensure that the proposed development promotes biodiversity in line with the local BAP and the National Planning Policy Framework.

Proposed lighting should avoid illuminating any new planting where possible so that these areas are attractive to foraging and commuting bats. Reference should be made to the Bats and Lighting in the UK publication produced by the Bat Conservation Trust for further information.

Birds
Nesting birds are afforded protection under the Wildlife and Countryside Act 1981 (as amended) (WCA1981) with additional protection against disturbance given to those on schedule 1. Where vegetation is to be removed as a result of the development, clearance works should be undertaken outside the bird nesting season (March to August, inclusive), or following a survey by an ecologist to ensure breeding birds, their nests, eggs or young are not affected.

Invasive species
Records show that Japanese Knotweed and Himalayan Balsam are actively growing within close proximity (closest record 100m south; see section 4.3) to the site. Both of these species are listed under schedule 9 of the WCA 1981 and therefore they must not be planted, or allowed to grow, in the wild. Although the survey did not find evidence of either plant on site, the survey has been undertaken during a sub-optimal time of the year. Additional invasive weed surveys could be undertaken during the appropriate period (May – Sept) if required.

5.4 Habitat Creation and Enhancements

The potential for the inclusion of enhancement measures is restricted by the size of the site being considered. However, a number of enhancements can be added to the proposal to ensure the continuing provision of foraging habitat for bats and birds, and continue to provide nesting sites for birds.

- The planting of appropriate native tree and shrub species, as hedgerows and planting belts, to provide cover and nesting opportunities for birds. Providing a variety of berry, nut-bearing and flowering trees, shrubs and plants would offer year-round interest for a range of invertebrates, and as such provide feeding opportunities for the local bat population. Species recommended to be planted include; beech *Fagus sylvatica*, small-leaved lime *Tilia cordata*, field maple, oak, rowan, blackthorn dogwood *Cornus sanguinea,* guelder rose, hawthorn, hazel, holly *Ilex aquifolium* and spindle *Euonuymus europaeus.* Where possible, plant material should be sourced from local provenance.

- Seeding of areas of appropriate native wildflower grass mixes to increase biodiversity and provide habitat for invertebrates. Planting could include flowers that bloom throughout the year, including both annuals and herbaceous perennials, with night flowering blossoms to attract night-flying insects. Recommended species include: corncockle *Agrostemma githago*, cornflower *Centaurea cyanus*, corn marigold *Chrysanthemum segethum*, common poppy *Papaver rhoeas*, native bluebell, knapweed, mallow *Malva sp.*, ox-eyed daisy, primrose *Primula vulgaris*, red campion, scabious *Scabiosa sp.*, wood forget-me-not *Myosotis scorpioide*s, and yarrow.

- Bat boxes could be installed on proposed buildings within the site. Bat boxes designed for crevice dwelling bats such as pipistrelle (Schwegler, woodcrete 2F Bat Box) should be used, (Appendix 03). These should be positioned on the south-west, south-east and north faces of the buildings, to provide year round roosting opportunities. And in positions where there is a clear flight path. The boxes will be placed as high as possible (minimum of 4m). In the main 'woodcrete' (a wood sawdust and clay mixture) boxes are recommended as these are more durable and long-lasting as apposed to the more temporary wooden boxes.

- To enhance the site for nesting birds recommendations include the erection of nest boxes onto the proposed buildings (Ref. Appendix 03). The boxes should be

positioned out of direct sunlight, generally orientated between north and south-east, away from prevailing winds and erected at a height of between 1.5 to 5.5m. Bird boxes can be installed on retained trees, and on the walls of the new buildings. A variety of bird boxes are available to provide suitable nest sites for a range of species, (Appendix 03). Again Schwegler woodcrete boxes are recommended as they are much more durable that traditional wooden boxes.

- Low wattage lighting should be adopted within the site boundary, particularly along hedges and trees, so the site remains attractive to foraging bats. If flood-lighting is required, the lighting should not directly illuminate hedges and trees. Further information on lighting in regards to bats can be obtained from the Bat Conservation Trust publication Bats and Lighting in the UK.

These proposals have been produced with reference to the Natural Area and the Local Biodiversity Action Plan to ensure that the habitats and species selected are appropriate to the site and local area.

Where possible the tree and shrub species planted should be of local provenance, all planting compost used should be peat free and herbicide use should be restricted to the minimum required of a non-residual variety.

6.0 Summary

Smeeden Foreman Limited has been commissioned by Burnley College to undertake an ecological review of the proposed development site at Princes Way Campus, Burnley College. The proposed development includes the creation of two buildings, one which is to become a teaching block and the second building is to become a workshop block.

The majority of the proposed development comprises of bare ground, scattered and dense scrub and species-poor semi-improved grassland habitats, which are all of low ecological value. The site also includes areas of hard standing, as well as a collection of large stone blocks.

To enhance the site it is recommended that new hedgerows are included within the landscape design, where possible, with species including a range of native tree species. These would include a diverse range of native shrub and tree species. The existing mature trees around the site border are considered to be of ecological value, as these features provide nesting and foraging habitat for birds, and foraging habitat and commuting corridors for the local bat population.

There are no statutory designated sites within 2km of the proposed development site: There are six Biological Heritage Sites within the 2km radius. Due to the nature of the development, its limited size and scale, as well as the intervening land uses it is considered that the statutory site found in the search will not be affected by the development proposals.

The following recommendations for mitigation and further surveys have been made:

- Vegetation removal works to avoid the bird breeding season (March – August, inclusive) or confirmation of absence of nesting birds by a suitably qualified ecologist.
- An additional survey could be undertaken during the appropriate (May – Sept) season to ensure that there are no invasive species on site.

The following recommendations for enhancements have been made:

- Planting of native trees and shrubs within the landscape design where possible. This would aim to provide a commuting/foraging route for bats within the local area.
- Seeding of the soft landscaped areas with a wild flower seed mix to increase the local biodiversity.
- Bat boxes could be installed on proposed buildings within the site. Bat boxes designed for crevice dwelling bats such as pipistrelle should be used.
- Bird boxes can be installed on the walls of the new buildings.
- Low wattage lighting should be adopted within the site boundary, particularly along hedges and trees, so the site remains attractive to foraging bats.

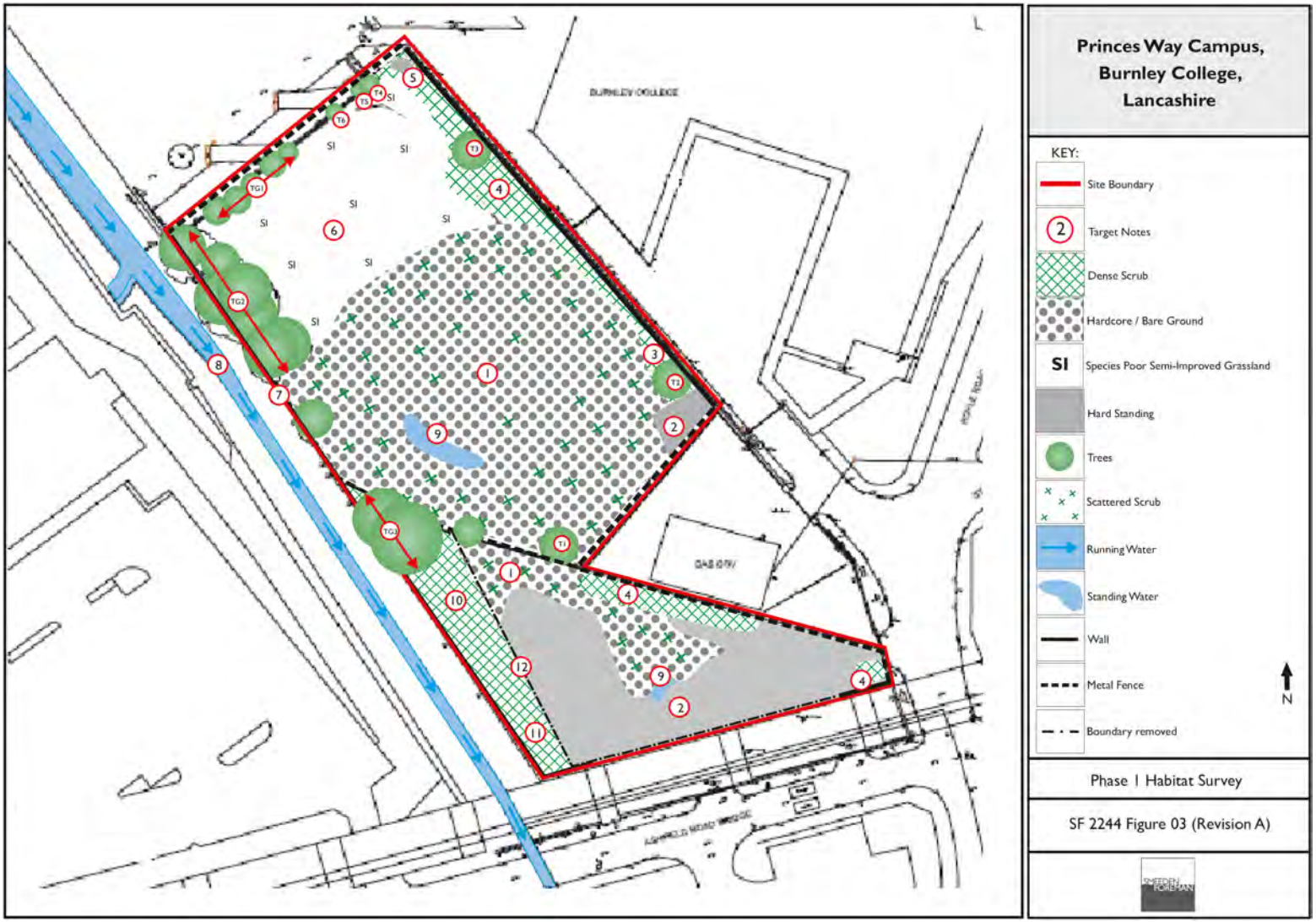
FIGURES

01 – Site Boundary
02 – Proposed Layout
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APPENDICES

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02 – Protected Species Records & Designated Sites
03 – Recommended Bird and Bat Boxes

FIGURES: 03 - PHASE 1 HABITAT SURVEY



APPENDIX: 01

LEGISLATION NOTES: PROTECTED SPECIES

Bats

All British bats are afforded full protection under both UK and European legislation.

The Conservation (Natural Habitats & c.) Regulations 2007 transpose the Habitats Directive into UK law, making it an offence to-

- deliberately disturb a bat
- deliberately kill or capture a bat
- damage, destroy or obstruct access to a breeding site or resting place (note this applies to both deliberate and reckless actions).

The Wildlife and Countryside Act 1981 (as amended) (Schedule 5) made it an offence to

- intentionally kill, injure or take a bat
- damage, destroy or obstruct a resting place *,
- disturb the species in a resting place *
- possess or control a bat, otter or any part thereof
- sell, offer for sale, possess or transport for sale any bat or part thereof
- set traps for catching, killing or injuring bats or otters
- possess articles for the purposes of committing offences against bats

[*= intentional and reckless offences covered]
Legal protection under the Habitats Directive applies to both the animals and their breeding sites and resting places. This means that bat roosts are fully protected, whether they are in use at the time or not. Where roosts or resting/breeding sites are identified, any works which may contravene the protection afforded to them require derogation from the provisions of the legislation in the form of a licence from Natural England.

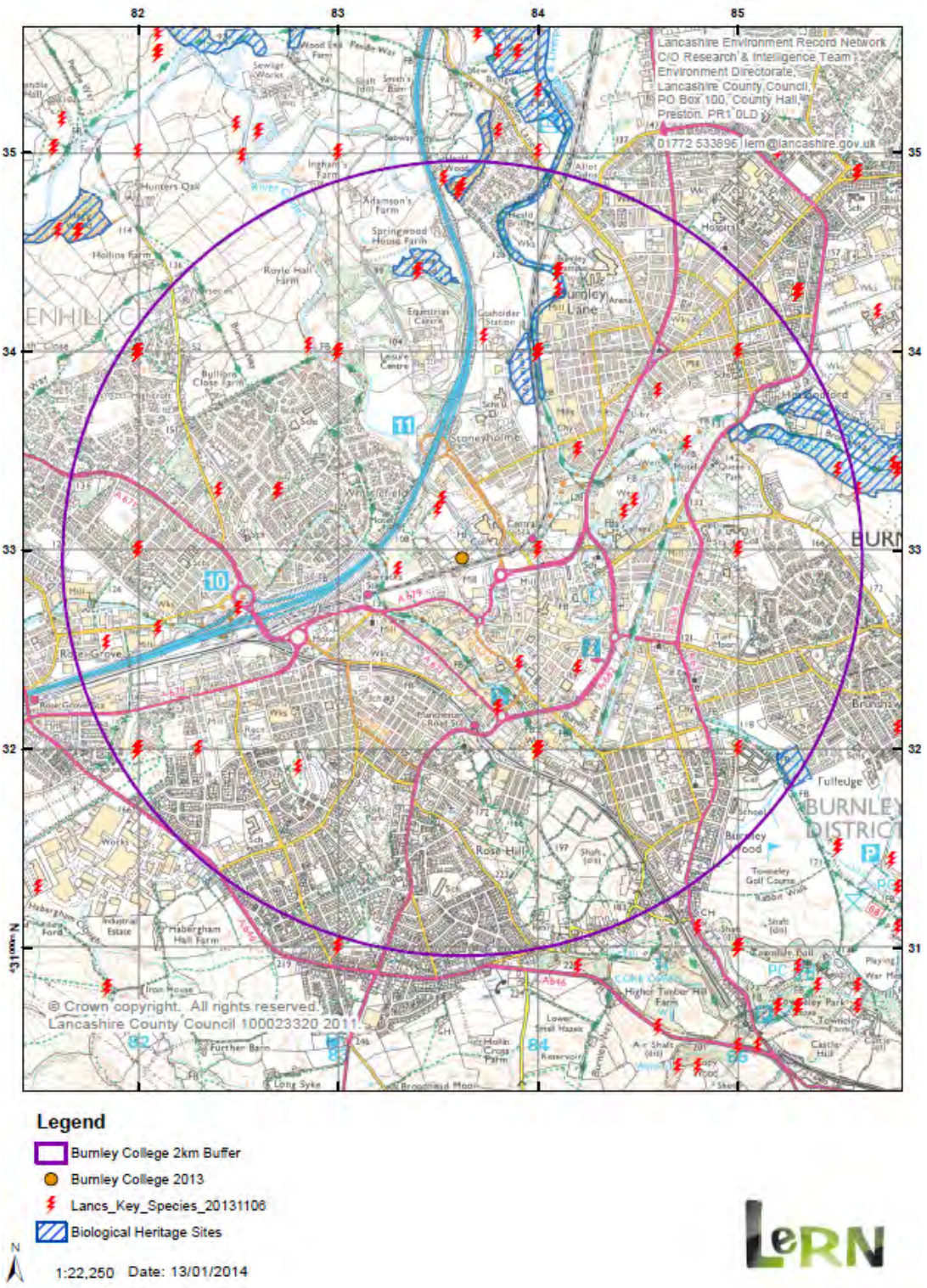
Breeding birds

The Wildlife and Countryside Act 1981 gives protection to all bird's nests (whilst being built or in use) and eggs from intentional damage or destruction. Additional protection against disturbance on the nest or of dependant young is provided for birds included on Schedule 1.

APPENDIX 02 - Protected Species Records & Designated Sites

Records provided by Lancashire Environment Record Network (species listed on separate document).

Burnley College Ecology Plan:



APPENDIX 03 – Recommended Bat and Birds Boxes

General Purpose Bat Box 2F with Double Front Panel



This box has a second inner wooden panel fitted to create a cavity wall suitable for use by pipistrelle species.

Dimensions:
Ø 16cm
Height: 33cm
Weight: 4.1kg

www.schwegler-natur.de

General Purpose Nest Box 1B (entrance hole 32mm)



This box is known to be used by tit species such as great tit, blue tit and coal tit and sparrows such as tree and house sparrow.

Deep Nest Box 1N



This box is suitable for use by bird species such as flycatchers, robins and wrens and offers excellent protection against predators such as magpies.

Open-Fronted Nest Box 2H



This nest box is suitable for use by flycatcher, robin and wren.

Suppliers of these boxes and their contact details are listed below:

Envisage Wildcare
Kingsdown Lane
Blunsdon
Swindon
SN25 5DL
Tel no: 01793724848
E-mail: sales@envisage-wildcare.co.uk
http://www.envisage-wildcare.co.uk/index.php

Alana Ecology Ltd.
New Street
Bishop's Castle
Shropshire
SY9 5DQ
Tel no: 01588 630173
Fax no: 01588 630176
E-mail: sales@alanaecology.com
http://www.alanaecology.com/index.html

Wildlifeshop.co.uk
Tel no: 01743 742076/ 01743 741421
E-mail: sales@wildlifeshop.co.uk
http://www.wildlifeshop.co.uk/acatalog/

J. E Haith Ltd.
Genesis Way
Grimsby
North East Lincolnshire
DN37 9TU
Tel no: 0800 298 7054
Fax no: 01472 242883
E-mail: enquiries@haiths.com
http://www.haiths.com/