FORMER WOMBWELL HIGH SCHOOL

Preliminary Ecological Appraisal

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Prepared by

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Figure 1 Phase 1 Habitat Map

1 INTRODUCTION

1.1 Background

1.1.1 The re-development of the former site of the Wombwell High School, South Yorkshire, is proposed. The site includes areas of grassland restored on the demolished school site (demolished in March 2013) and the former grounds including outdoor classroom area, Cricket Field, Athletics Field, Football Pitches and several young perimeter woodland plantations. Over recent years the Athletics Field and Football Pitches have been regularly-mown as informal recreation areas accessible to the Public. An assessment of the value of the site, for Biodiversity, is required to accompany the Planning Application. MRB Ecology and Environment was commissioned by Premier Construction to undertaken a preliminary ecological appraisal of the site.

1.1.2 A survey visit took place on the morning of the 21st of November 2018. A data search was commissioned from Barnsley Local Records Centre.

1.1.3 This Report presents the details of the survey, a description of the habitats found and an initial assessment of the nature conservation value of the site. An assessment of any ecological impacts of the proposed development has been made, and mitigation proposed; opportunities for wildlife habitat enhancement have been highlighted.

2 SURVEY METHODOLOGY

2.1 Extended Phase 1 Survey

2.1.1 An Extended Phase 1 Habitat and a botanical survey were carried out.

2.1.2 The Phase 1 Habitat survey work was carried out on the morning of the 21st of November 2018, the habitats being classified according to Phase 1 Habitat types (Nature Conservancy Council 1990). A coloured map has been drawn up to show the extent of each type of habitat. The habitat map is presented in Figure 1. Photographs were taken, to illustrate the types of habitat present on the site. These are presented in section 5.2. Species of plants seen during the site visit are included in the written descriptions in section 5.2. Plant species were identified by reference to Stace (2010).

2.2 General Faunal Survey

2.2.1 During the site visit a walk-over faunal survey to record signs or sightings of fauna was also carried out. Any animals seen on the site were identified; a brief description of their observed activity is given in section 5.3. The site was also searched for any general signs of animal usage, such as trackways or burrows. Trees were assessed for their suitability as bat roosts.

2.3 Survey Constraints

2.3.1 Botanical and Phase 1 survey: The survey was undertaken in very late Autumn. This is outside the recommended time for Phase 1 Habitat assessment. Early summer - Late May to June - is the optimum season for survey of grasslands. However, the mid-winter season allowed a clear view of the ground surface within the entire site, enabling a full inspection for any signs of mammal burrows and to locate any permanent waterbodies. The late season meant that an inspection of all trees and shrubs for bat roost potential was also possible. Given the nature of site (predominantly young trees, scattered scrub and former amenity grasslands), it is considered that a reasonably accurate Phase 1 Habitat survey was achieved in this instance.

2.4 Surveyor Experience

2.4.1 The site survey was undertaken by Louise Hill. Louise graduated in Biological Sciences (Plant Sciences) from Oxford University in 1993 and obtained post-graduate Diploma and MA in Landscape Design from the University of Sheffield in 1995 . She is an experienced surveyor

and has over twenty years of experience of project management, survey and site assessment. MRB's website (www.mrbecology.co.uk provides a brief summary of past projects.

3 NATURE CONSERVATION EVALUATION METHOD

3.1 Habitats

3.1.1 The Phase 1 Habitat survey findings were examined to establish whether any habitats or species of particular nature conservation value were present on the site. The habitats and species on the site were evaluated by reference to the primary criteria established by Ratcliffe (1977). These criteria are: rarity, diversity, size, naturalness, fragility and typicalness. This report has been produced with reference to current guidelines for preliminary ecological appraisal. (Chartered Institute of Ecology and Environmental Management (CIEEM 2012)).

3.2 Faunal Species

3.2.1 The faunal survey data which were gathered represent a 'snapshot' view of the animals which live on, or occur within, the site. These records were not subject to an objective evaluation using defined criteria. Records of birds are either sightings or identification of bird song. Faunal sightings have been supplemented by a data search. BAP priority species and the potential for such species to occur on site (and in the surrounding landscape where relevant) were also noted.

4 SITE CONTEXT

4.1 Location and Site Description

4.1.1 The site lies between Roebuck Street and Lundhill Road/Gypsy Lane, Wombwell. The site is on a terraced sloping hillside on the southern side of Wombwell, South Yorkshire, NGR SE 401023 at a height of 50 – 65 metres A.O.D. The land comprises a former school site including former outdoor sports areas. With the exception of a small electrical substation, all the buildings and most of the hardstanding have been removed, and the area has been restored to a rough grassland. Running along the edges of the school site and in the corners of the sports field are areas of well-established young broadleaved plantations. Some colonisation by young scrub has taken place on the restored school site but the sports fields remain free of self-set scrub. Nearly half of the site has a very closely-cut grass sward. The site boundaries of the former school and cricket field are defined by a high palisade fence with locked gates. Elsewhere the boundaries comprise the rear fences and walls of adjacent houses and a school, or the unmanaged verges of Gypsy Lane.

4.2 Statutory Designated Nature Conservation Sites

4.2.1 There are no *statutory* nature conservation sites on or immediately adjacent. The nearest such site, Stairfoot Brickworks SSSI (a geological site), lies 3km to the north west.

4.3 Locally-Designated Nature Conservation Sites

4.3.1 The results of the biological records data search indicated the presence of part of a Local Wildlife Site within 1km of the application area: Park Hill (Brick Pits) Nature Reserve Candidate Local Nature Site No 1165. This is a complex site which includes dry grassland, scrub, wet grassland, inundation communities, reedbeds, open water and old brickworks buildings known to support bat roosts. The site lie approximately 430 metres to the south. The locations of nearby Local Nature Sites in Barnsley are shown on https://www.barnsley.gov.uk/barnsley-maps/local-plan-maps-2014/ and, in nearby Rotherham District, on http://communitymapping.rotherham.gov.uk/CommunityMapProDMZ/CMPro/.

4.4 UK and Barnsley Biodiversity Action Plan Priority Habitats

4.4.1 There is one area within the site listed on the National Forest Inventory. This is the small broadleaved plantation north of the football pitches (Target Note 8 on the Phase 1 Habitat Map). Other habitats within the Wombwell area are the floodplain grazing marsh grasslands around Wombwell Ings and Broomhill Flash (both Local Nature Sites) and several other areas of deciduous woodland and shrub habitat, particularly along the Trans-Pennine Trail to the north of the site, and within Wombwell Park and Lundhill Playing fields to the west and south of the site. The location of these habitats can be viewed on https://magic.defra.gov.uk/MagicMap.aspx

4.5 Protected and notable species and results of data search

4.5.1 A summary of notable and protected species records from locations which are within a 1km radius of the site is provided below. The vast majority of these records come from well-known and well-recorded local wildlife sites such as Park Hill Brick Pits Nature Reserve, Gypsy Marsh, Wombwell Ings and Broomhill Flash.

European Protected Species:

Bats have been recorded from several locations in the area of search, including domestic properties in Wombwell. However, the majority of records come from Parkhill Nature Reserve and various domestic dwellings in Wombwell. Species recorded include Daubenton's Bat, Noctule and Pipistrelle (including both 45 Khz Pipistrelle' and 55 Khz Pipistrelle).

Great Crested Newt has been recorded from Parkhill Brickworks, Wombwell Golf Course Pond and ponds near Cortonwood roundabout.

(Other amphibians recorded within the Wombwell area are Common Toad Smooth Newt and Common Frog).

UK Protected Species:

There are records of Water Vole from Parkhill Nature Reserve, various ditches and drains beside the Trans-Pennine Trail, and the Elsecar Canal.

(Grass Snake has also been recorded on Park Hill Brick Pits Nature Reserve).

United Kingdom Biodiversity Action Plan (BAP) species:

UK BAP species recorded within the vicinity include a number of birds of rough grassland scrub and wetlands, as well as several migrants or non-breeding 'visitors':Tree Pipit, Hawfinch, Cuckoo, Yellowhammer, Reed Bunting, Grasshopper Warbler, Yellow Wagtail, Spotted Flycatcher, Curlew, House Sparrow, Tree Sparrow, Grey Partridge, Turtle Dove, Ring Ouzel and Lapwing.

The Cinnabar moth, a species whose larvae feed on ragwort, has also been recorded at Park Hill Brick Pits. Shaded Broad-Bar moth has also been recorded locally. There are also records of Hedgehog, Brown Hare, and Harvest Mouse. Cornflower has been recorded on the playing fields south of the site off 'Lundhill Lane'.

Bird of Conservation Concern :

Information provided by the Barnsley Local Records Centre indicates records of a variety of RSPB Red and Amber listed birds of Conservation Concern, including hirundines such as Barn Swallow, House Martin and Sand Martin. Species associated with farmland, hedges and scrub, and woodland include Skylark, Meadow Pipit, Corn Bunting, Kestrel, Goldfinch, Stock Dove, Redstart, Green Woodpecker, Dunnock, Bullfinch, Goldcrest, Woodcock, Blackbird, Song Thrush, Mistle Thrush, Willow Warbler, Yellow Wagtail and Starling. Short-eared Owl has also been recorded.

Birds recorded at the open water and wetland sites in the nearby Dearne Valley include:

water fowl such as Shoveler, Common Teal, Wigeon, Gadwall, White-fronted, Greater White-fronted Pink-footed, Bean and Barnacle Geese, Pochard, Mute Swan and Shelduck; waders such as Turnstone, Dunlin, Knot, Ringed Plover, Snipe, Oystercatcher, Bar-Tailed Godwit, Golden and Grey Plovers, Spotted Redshank and Redshank; birds of wet grassland and water margins including Jack Snipe, Water Rail, Marsh Harrier, Little Egret and Grey Wagtail; gulls such as Herring, Common, Lesser Black-Backed Gull; and visiting coastal birds such as Gannet, Kittiwake, Arctic Tern, Sandwich Tern and Cormorant. Common Crane has also been recorded at Park Hill Brick Pits Nature Reserve on one occasion in 2003.

(Other birds recorded from the Wombwell area include birds more-typical of farmland, scrub and woodland habitats such as Lesser and Common (Mealy) Redpoll, Pied Flycatcher, Linnet, Twite, Willow Tit, Whinchat and Tawny Owl and Swift and birds of open water and wetlands include Common Sandpiper, Mallard, Brent Goose, Sanderling, Curlew Sandpiper, Ruff, Black-Headed Gull, Black-headed Gull, British Lesser Black-Backed Gull, Iceland Gull, Glaucous Gull, Great Black-Backed Gull, Water Pipit, Smew, Leach's Petrel, Avocet and Common Tern.

4.6 Natural Area

4.6.1 The site lies within the Coal Measures Natural Area. Natural Areas are defined by their unique combination of geology, wildlife, landuse and cultural heritage. Natural England's 'natureonthemap' website provides the following description of the Natural Area:

- 'This Natural Area is characterised by dense populations centred on a number of towns and cities that developed largely as a result of the underlying coal fields. These are deposits of shales and sandstones of late Carboniferous age (c. 320-295 million years old) which were deposited in equatorial swamps. Peat accumulated in these swamps and has subsequently been converted to coal. Associated shales yield rich and important fossil floras and the Coal Measures Natural Area is an important area for Earth heritage features.
- The topography of the Natural Area is gently undulating and the network of towns and cities is characterised by a matrix of acidic ancient and secondary woodlands, valley wetlands, neutral and acid grasslands, and mixed agriculture. Canals, mill-ponds and natural rivers are also important features.'

4.6.2 Within this Natural Area, key nature conservation features of National Significance are:

- earth heritage.

4.6.3 Within this Natural Area, key nature conservation features of Local Significance are:

- lowland heathland.
- acid grassland.
- fen marsh and swamp.
- neutral grassland.
- wet woodland.
- rivers and streams.
- standing open water and canals.

4.7 Nature Improvement Areas and Landscape Partnerhips

4.7.1 The site lies wholly within the Dearne Valley Green Heart Nature Improvement Area and Landscape Partnership Area. The NIA partnership was funded until 2015 and included Natural England, the RSPB, the Environmental Agency, the Garganey Trust, the Local Authorities of Barnsley and Rotherham together with the Forestry Commission. The key aim of the NIA Partnership was for local partnerships to improve the landscape for people and nature through restoring, expanding and joining up wildlife-rich areas. Much of this work has been continued by the Dearne Valley Landscape Partnership.

5 BASELINE ECOLOGICAL CONDITIONS

5.1 Habitat Types

5.1.1 The site of the proposed development itself includes a range of Phase 1 Habitat types (a coloured Phase 1 Habitat Map is presented in Figure 1). The habitats listed below were mapped **within the site (as delineated by the broken pink line in Figure 1).** Alpha-Numeric Codes are given in brackets:

Broadleaved plantation (A1.1.2) – Mix of young native broadleaved trees.
Continuous Scrub (A2.1) – Willows, birch and bramble scrub. Occasional gorse.
Scattered Scrub (A2.2) – Young broom, gorse and scattered hawthorn.
Scattered Broadleaved Trees (A3.1) – Ornamental trees of former school gardens – flowering cherry, Norway maples, rowan, Whitebeam etc**.**
Scattered Conifer Trees (A3.2) – Leylandii.
Semi-improved Neutral Grassland (B2.2) – New grassland restored on demolished school site (5 years old). Mix of finer bents and fescues and coarser grasses such as Yorkshire fog, cock's-foot, tufted hairgrass and false oatgrass with scattered flowering herbs including knapweed and various legumes.
Species-poor Semi-improved neutral grassland (B6) – former Cricket field dominated by fine grasses in places. Limited number of flowering herbs. Large areas dominated by common bent and creeping fescue. One clump of lesser stitchwort on former cricket Square.
Tall ruderals (C3.1) – coarse grasses, nettle, creeping thistle, docks and bramble.
Amenity Grassland (J1.2) – Former football pitches and athletics fields dominated by perennial ryegrass.
Introduced Shrub (J1.4) – Evergreen shrubs.
Fence (J2.4) – Intact palisade fence and dilapidated concrete post and wire fences. Garden fencing.
Wall (J2.5) – Natural stone garden wall (old field boundary).
Buildings (J3.6) – Electricity Sub station.
Tarmac/hardstanding

5.1.2 Photographs of the various habitats and site features are provided within the habitat descriptions below. Abundance ratings are provided using the DAFOR scale: D = Dominant, A = Abundant, F = Frequent, O = Occasional, R = Rare and L = Locally.

5.2 Habitat Descriptions

South-western Section: School Site – Former site of buildings, yards, car parks and tennis courts

5.2.1 The main area of the former school buildings is located immediately to the south of the entrance off Roebuck Street. The area has been grassed-over as a series of terraces but still contains scattered shrubs and trees associated with the old school gardens and courtyards and the sloping terrace banks. The largest trees are a flowering cherry and Norway maple situated to the north-east of the entrance gate. The following tree species were recorded in this area:

Scattered trees in former school grounds

Scientific name	Common Name	Abundance
Acer platanoides	Norway Maple	O
Betula pendula	Silver Birch	O
Cotoneaster	Cotoneaster	LF
Crataegus monogyna	Hawthorn	O
Prunus sp.	Flowering Cherry	F
Salix x sepulcralis	Weeping Willow	O
Sorbus aria spp.	whitebeams	O
Sorbus aucuparia	Rowan	O

5.2.2 There are relict areas of ornamental planting associated with the old driveway off Roebuck Street. These support a number of evergreen shrubs and many scattered ruderals and 'weed' species (See photo, right). Behind the ornamental shrubs is a small electricity substation. (See photo below, right). This is the only building that remains on the site. A list of the shrubs and ruderals is given below.

Scientific name	Common Name	Abundance
Acer pseudoplatanus	Sycamore	O
Artemisia absinthium	Wormwood	O
Artemisia vulgaris	Mugwort	LF
Betula pendula	Silver Birch	LF
Buddleja davidii	Butterfly-bush	O
Chamerion angustifolium	Rosebay Willowherb	LF
X Cuprocyparis leylandii	Leyland Cypress	O
Cytisus scoparius	Broom	F
Epilobium hirsutum	Great Willowherb	LF
Erysimum	Wallflower	O
Geranium molle	Dove's-foot Crane's-bill	LF
Griselinia littoralis	New Zealand Broadleaf	LF
Hypericum androsaemum	Tutsan	O
Lonicera nitida	Wilson's Honeysuckle	LA
Melilotus sp.	Melilot	O
Oenothera sp.	Evening-primrose	O
Pteridium aquilinum	Bracken	L
Rubus fruticosus agg.	Bramble	LF

5.2.3 Following demolition in 2013, the majority of the hardstanding, car parks, yards and buildings has been covered with soil, and a grassland has become established. This grassland has remained unmanaged since this time and is now developing into a tussocky sward with scattered ruderals such as thistles and docks. It still contains a range of finer grasses and a number of legumes species (which were presumably within the sown seed mix/ or in the soil seedbank) but some coarse grasses such as false oatgrass and cock's-foot are starting to invade due to the lack of management. Seedling broom and occasional gorse and grey willow are also starting to become established. A small colony of the invasive ground elder was found

(Target Note 1). The following is a species list from this part of the site:

Scientific Name	Common Name	Abundance
Aegopodium podagraria	Ground-elder	L
Agrostis capillaris	Common Bent	A
Agrostis stolonifera	Creeping Bent	A
Arrhenatherum elatius	False Oat-grass	LF
Artemisia vulgaris	Mugwort	O
Aster	Michaelmas-Daisy	O
Carex pendula	Pendulous Sedge	O
Centaurea nigra s.l.	Knapweed	O
Cirsium arvense	Creeping Thistle	F
Cirsium vulgare	Spear Thistle	O
Cytisus scoparius	Broom	F
Dactylis glomerata	Cock's-foot	LF
Deschampsia cespitosa	Tufted Hair-grass	O
Dipsacus fullonum	Wild Teasel	O
Elytrigia repens	Common Couch	LF
Festuca rubra	Red Fescue	A
Galega officinalis	Goat's-rue	O
Geranium molle	Dove's-foot Crane's-bill	LF
Holcus lanatus	Yorkshire-fog	LF
Medicago lupulina	Black Medick	LF
Melilotus albus	White Melilot	O
Picris hieracioides	Hawkweed Oxtongue	O
Plantago lanceolata	Ribwort Plantain	O
Prunella vulgaris	Selfheal	O
Rumex obtusifolius	Broad-leaved Dock	LF
Salix cinerea	Grey Willow	O
Schedonorus arundinaceus	Tall Fescue	O
Sonchus asper	Prickly Sow-thistle	O
Tanacetum vulgare	Tansy	O
Taraxacum officinale agg.	Dandelion	O
Trifolium pratense	Red Clover	F
Trifolium repens	White Clover	F
Tussilago farfara	Colt's-foot	F
Ulex europaeus	Gorse	O
Vicia cracca	Tufted Vetch	A

5.2.4 Along the north-eastern edge of the school site is a lower area where the old long-jump pit was located. (Target Note 2). The sloping bank above this area supports bramble and ruderals. The overgrown sandpit itself supports a number of herbs tolerant of drier soil conditions (marked * in the list below):

Scientific Name	Common Name	Abundance
Achillea millefolium*	Yarrow	LF
Aster	Michaelmas-Daisy	LF
Dactylis glomerata	Cock's-foot	A
Galium aparine	Cleavers	LF
Hypochaeris radicata*	Cat's-ear	LF
Rubus fruticosus agg.	Bramble	A
Senecio jacobaea*	Common Ragwort	O
Urtica dioica	Common Nettle	A

5.2.5 The southern boundary of the site has a narrow strip of scrub running alongside the fence. This supports the following native broadleaved shrubs and young trees:

Scientific Name	Common Name	Abundance
Alnus glutinosa	Alder	F
Betula pendula	Silver Birch	A
Buddleja davidii	Butterfly-bush	R
Corylus avellana	Hazel	O
Cotoneaster	Cotoneaster	O
Cytisus scoparius	Broom	F
Laburnum anagyroides	Laburnum	O
Salix caprea	Goat Willow	O
Salix viminalis	Osier	F
Sambucus nigra	Elder	O

5.2.6 South-east of the old southern gateway onto Lundhill recreation ground is a small copse of native trees (Target Note 3) (Photo, right). This is still at an early stage of establishment and has yet to develop a woodland herb layer. There are also scattered willows associated with what appears to have been an outdoor classroom/horticulture area. Former raised beds and small fenced grassland area are now covered by dense bramble scrub. The site of demolished buildings is now an area of tussocky grassland. Several multi-stemmed goat willows grow to the south-east of this grassland (See photo below, right).

Scientific Name	Common Name	Abundance
Acer pseudoplatanus	Sycamore	A
Anthriscus sylvestris	Cow Parsley	F
Crataegus monogyna	Hawthorn	O
Fraxinus excelsior	Ash	F
Quercus robur	Pedunculate Oak	F
Rubus fruticosus agg.	Bramble	A
Salix caprea	Goat Willow	F

5.2.7 A small area of hardstanding remains near the southern gate. The cracks in this hard surfacing and thin mossy soils support only a small number of colonising weeds:

Scientific Name	Common Name	Abundance
Chenopodium album agg.	Fat Hen	O
Hypochaeris radicata	Cat's-ear	O
Senecio inaequidens	Narrow-leaved Ragwort	O
Veronica persica	Common Field-speedwell	O

5.2.8 To the south of the school buildings is the former cricket field. Separating the two is a shallow sloping bank covered by bramble and ruderals and ending in a group of ornamental trees including various young whitebeams, rowans and a cherry. (See photo, right):

Scientific Name	Common Name	Abundance
Alliaria petiolata	Garlic Mustard	O
Galium aparine	Cleavers	LF
Potentilla anserina	Silverweed	LF
Prunus sp.	Winter-flowering Cherry	R
Rubus fruticosus agg.	Bramble	LF
Sorbus aria	Common Whitebeam	O
Sorbus aucuparia	Rowan	O
Tripleurospermum inodorum	Scentless Mayweed	O
Urtica dioica	Common Nettle	A

5.2.9 The former cricket field has remained unmanaged since the closure of the school but still supports a relatively low sward of finer grasses. It has few flowering herbs. The ground conditions include some damper ruts. The most notable species is lesser stitchwort, located within the area of the former cricket square (Target Note 4). This species seems to have benefited from the intensive management that this part of the field must have received in the past.

Scientific Name	Common Name	Abundance
Agrostis capillaris	Common Bent	A
Agrostis stolonifera	Creeping Bent	LF
Arrhenatherum elatius	False Oat-grass	O
Cirsium arvense	Creeping Thistle	O
Deschampsia cespitosa	Tufted Hair-grass	O
Elytrigia repens	Common Couch	O
Festuca rubra	Red Fescue	LD
Holcus lanatus	Yorkshire-fog	A
Rumex obtusifolius	Broad-leaved Dock	LF
Stellaria graminea	Lesser Stitchwort	L
Taraxacum officinale agg.	Dandelion	O

5.2.10 In the southern corner of the cricket field is a small copse of young broadleaved trees (Target Note 5). This is a native mix which is at an early woodland stage and therefore exhibits a simple canopy structure and, as yet, lacks any woodland herb layer.

Scientific Name	Common Name	Abundance
Alnus glutinosa	Alder	O
Anthriscus sylvestris	Cow Parsley	LF
Corylus avellana	Hazel	O
Ilex aquifolium	Holly	O
Prunus avium	Wild Cherry	F
Quercus robur	Pedunculate Oak	O
Rubus fruticosus agg.	Bramble	LF
Sambucus nigra	Elder	O
Urtica dioica	Common Nettle	LF

Middle Section: Athletics Field

5.2.11 The middle part of the site comprises the former athletics field. This is situated on a lower plateau, below the level of the cricket field and former school buildings. The grassland is maintained as a low-mown amenity sward for informal public recreation (predominantly dog walking). The sward has abundant perennial ryegrass and is of a restricted botanical diversity reflecting its origin as a maintained sports pitch. A number of broadleaved ruderal species have become established.

Scientific Name	Common Name	Abundance
Achillea millefolium	Yarrow	O
Agrostis capillaris	Common Bent	LD
Agrostis stolonifera	Creeping Bent	LA
Cirsium vulgare	Spear Thistle	O
Crepis capillaris	Smooth Hawk's-beard	O
Dactylis glomerata	Cock's-foot	O
Elytrigia repens	Common Couch	O
Festuca rubra	Red Fescue	LF
Holcus lanatus	Yorkshire-fog	LA
Hypochaeris radicata	Cat's-ear	O
Lolium perenne	Perennial Rye-grass	A
Plantago lanceolata	Ribwort Plantain	O
Poa annua	Annual Meadow-grass	LF
Rumex obtusifolius	Broad-leaved Dock	O
Senecio inaequidens	Narrow-leaved Ragwort	O
Senecio jacobaea	Common Ragwort	O
Taraxacum officinale agg.	Dandelion	O

5.2.12 The northern corner of the athletics field slopes steeply down to the boundary fence of an adjacent school. These unmown fringes support a rank sward of coarse grasses and are being invaded by low scrub and scattered young trees:

Scientific Name	Common Name	Abundance
Arrhenatherum elatius	False Oat-grass	A
Betula pendula	Silver Birch	O
Dactylis glomerata	Cock's-foot	A
Rubus fruticosus agg.	Bramble	LA

5.2.13 In the north-western corner of the athletics field, bordering the rear gardens of houses on Roebuck Street, is a narrow strip of broadleaved trees, including some self-set sycamore and planted natives (Target Note 8).

Scientific Name	Common Name	Abundance
Acer campestre	Field Maple	O
Acer pseudoplatanus	Sycamore	F
Alnus glutinosa	Alder	O
Castanea sativa	Sweet Chestnut	R
Corylus avellana	Hazel	O
Galium aparine	Cleavers	LA
Prunus avium	Wild Cherry	F
Quercus robur	Pedunculate Oak	O
Rubus fruticosus agg.	Bramble	O

5.2.14 Another small copse of young broadleaved trees is located on the sloping bank in the south-western corner of the field, where a path used to lead from the cricket field down to the athletics field (the path and steps are now totally overgrown by ivy). (Target Note 6) (Right-hand side of photo, below). The copse has a similar range of species to the planting mix used in the other small plantations:

Scientific Name	Common Name	Abundance
Acer campestre	Field Maple	F
Acer pseudoplatanus	Sycamore	O
Arrhenatherum elatius	False Oat-grass	LF
Cirsium arvense	Creeping Thistle	O
Corylus avellana	Hazel	O
Dactylis glomerata	Cock's-foot	LF
Hedera helix	Common Ivy	LD
Prunus avium	Wild Cherry	A

5.2.15 Alongside Gypsy Lane, the edge of the athletics field is lined by a strip of rough grassland with planted lime trees. (Left-hand side of photo, above). The ground then slopes more abruptly down to the edge of the carriageway of the lane. This steeper bank is covered by scattered young trees (some very recently planted) and has a herb layer of bracken and rosebay willowherb.

Scientific Name	Common Name	Abundance
Acer pseudoplatanus	Sycamore	O
Aesculus hippocastanum	Horse Chestnut	O
Anthriscus sylvestris	Cow Parsley	LF
Betula pendula	Silver Birch	F
Chamerion angustifolium	Rosebay Willowherb	LF
Fraxinus excelsior	Ash	O
Pteridium aquilinum	Bracken	LA
Rosa canina agg.	Dogrose	R
Tilia sp.	Lime	F

North-eastern Section: Gypsy Lane Football Pitches

5.2.16 There is a significant drop in ground level between the athletics field and the football pitches off Gypsy Lane. This steep bank supports a coarse unmanaged grass sward with few flowering herbs. (Target Note 7) (See photo top, right). The slope has numerous scattered trees forming an open woodland habitat. The species recorded on this bank include:

Scientific Name	Common Name	Abundance
Acer campestre	Field Maple	O
Agrostis stolonifera	Creeping Bent	LA
Alnus glutinosa	Alder	O
Anthriscus sylvestris	Cow Parsley	LF
Betula pendula	Silver Birch	O
Carpinus betulus	Hornbeam	O
Chamerion angustifolium	Rosebay Willowherb	LF
Corylus avellana	Hazel	O
Crataegus monogyna	Hawthorn	O
Elytrigia repens	Common Couch	A

Fraxinus excelsior	Ash	O
Galium aparine	Cleavers	O
Prunus avium	Wild Cherry	O
Prunus domestica	Wild Plum	O
Quercus petraea	Sessile Oak	O
Sambucus nigra	Elder	O
Tilia sp.	Lime	O

The woodland cover continues alongside Gypsy Lane as far as a set of metal gates (now disused). (See photo, right).

5.2.17 The grassland of the football pitches themselves is maintained as a low-mown amenity sward for informal public recreation (predominantly dog walking). The sward has abundant perennial ryegrass and is of very restricted botanical diversity reflecting its origin as a maintained hard-wearing sports pitch dominated by perennial ryegrass.

Scientific Name	Common Name	Abundance
Achillea millefolium	Yarrow	LF
Agrostis capillaris	Common Bent	A
Agrostis stolonifera	Creeping Bent	A
Cerastium fontanum	Common Mouse-ear	O
Holcus lanatus	Yorkshire-fog	F
Lolium perenne	Perennial Rye-grass	A

5.2.18 East of the gateway onto Gypsy Lane, the boundary between the football pitches and the lane is a sloping bank of coarse grasses and bramble scrub:

Scientific Name	Common Name	Abundance
Arrhenatherum elatius	False Oat-grass	LF
Cirsium arvense	Creeping Thistle	LA
Dactylis glomerata	Cock's-foot	LD
Rubus fruticosus agg.	Bramble	LD
Rumex obtusifolius	Broad-leaved Dock	F

5.2.19 The ground on the north-eastern side of the football pitches also slopes steeply down to the rear of adjacent gardens. There is a line of mature trees along this boundary. (Target Note 9). Towards the northern end is a native hedge which borders the garden fences and a small plantation:

Scientific Name	Common Name	Abundance
Acer pseudoplatanus	Sycamore	A
Agrostis stolonifera	Creeping Bent	LF
Chamerion angustifolium	Rosebay Willowherb	LA
Crataegus monogyna	Hawthorn	LA
Fraxinus excelsior	Ash	O
Ilex aquifolium	Holly	O
Quercus robur	Pedunculate Oak	O
Rubus fruticosus agg.	Bramble	LA
Salix viminalis	Osier	O
Sambucus nigra	Elder	O
Tilia x europaea	Common Lime	O

5.2.20 To the north-west of the football pitches is a rectangular plantation of well-established young trees (Target Note 10). This supports a similar range of native broadleaved species as the other smaller corner copses and shelterbelts elsewhere on the school site. The plantation has now reached the canopy-closure stage and is developing a rudimentary understorey and herb layer structure but the main canopy trees are very closely-spaced and even-aged. The ground flora includes some scattered woodland herbs and bramble, but a deep layer of leaf litter dominates. Species recorded here include:

Scientific Name	Common Name	Abundance
Acer campestre	Field Maple	O
Acer pseudoplatanus	Sycamore	O
Anthriscus sylvestris	Cow Parsley	O
Betula pendula	Silver Birch	F
Corylus avellana	Hazel	O
Fagus sylvatica	Beech	O
Fraxinus excelsior	Ash	O
Galium aparine	Cleavers	LF
Geum urbanum	Wood Avens	O
Ilex aquifolium	Holly	R
Ligustrum ovalifolium	Garden Privet	R
Prunus avium	Wild Cherry	F
Quercus petraea	Sessile Oak	O
Quercus robur	Pedunculate Oak	F
Rubus fruticosus agg.	Bramble	LA
Salix sp.	Willow	O
Sambucus nigra	Elder	LF
Ulmus glabra	Wych Elm	O
Urtica dioica	Common Nettle	LF

5.2.21 The site includes a small modern bungalow on the corner of Lundhill Road and Gypsy Lane. The dwelling is currently occupied and the garden is laid out to ornamental shrubs and mown lawns. The roadside boundary is formed by a high hedge of beech and holly growing along a low brick wall. There is also a beech-dominated hedge along the rear boundary fence bordering the athletics field. (See photo below, right).

5.3 Fauna

5.3.1 Due to the season of the survey and poor weather conditions (overcast and windy following a period of heavy rain) limited fauna was observed on the site. Mole hills were found in two locations; in the south-western corner of the site and on the athletics field. There were faint animal tracks leading across the long grass of the former school site and across the cricket field. These appeared to lead to the rear garden fences of adjacent properties and likely to have been created by domestic cats. A Grey Squirrel drey was seen in the copse in the corner of the athletics field (Target Note 6). No other signs of terrestrial mammals were found.

5.3.2 Birds seen around the site included Magpie, Jackdaw, Pied Wagtail, Blackbird, Blue Tit, Woodpigeon, Fieldfare, Wren, Pheasant and Chaffinch. These species were seen around the

site of the former school buildings and the scrub around the cricket field.

5.3.3 A small group of Long-tailed Tit was seen foraging in the branches of the trees on the north-western boundary of the athletics field. A single large, twiggy nest (possible made by crow) was seen in these trees.

5.3.4 Small flocks of Redwing were heard flying over the athletics field and a Robin was seen in the trees bordering Gypsy Lane.

6 SUMMARY OF NATURE CONSERVATION VALUE AND IDENTIFICATION OF SENSITIVE ECOLOGICAL RESOURCES

6.1 Size and diversity

6.1.1 The habitats within this large site include significant areas of both unmanaged neutral grassland and amenity sward. Both are habitats of common and widespread occurrence and both appear to be of very restricted botanical diversity, based on a survey undertaken at the end of Autumn. This lack of diversity reflects the origins of these grasslands, the majority of which (approximately ¾ of the grassland resource on site) will have been sown and maintained sports turf mixtures albeit of long-standing. The remaining area of grassland (about ¼ of of the grassland) is of much more recent origin, having developed on the soils spread over the former school site following its demolition and site clearance in 2013. Again, this grassland is of restricted diversity but does include a moderate population of leguminous plants and other flowering herbs at the present time. Diversity of both grasses and flowering herbs is likely to decline over time due the lack of any grassland management. These grasslands do not represent UK BAP Priority Habitats.

6.1.2 The remainder of the site is a mix of ornamental planting, scattered ornamental trees, areas of scrub planting around the school perimeter and several young plantations which are of a similar age and species composition, suggesting they were planted at the same time using plant material from the same source (possibly a BTVC 'trees for schools project' in the early 1990s or a similar scheme). These young woodland habitats cover no more than 10% of the site area and are in the corners of the site or on the steeper terrace banks. They include a moderate diversity of native woody species which are well-suited to the growing conditions and soils of area but they have a very poorly-developed shrub or understorey layer and a very restricted range of groundflora or undershrub ground cover. The large block of woodland is of a sufficient size and maturity to feature on the UK Forest Inventory but is not considered to be UK BAP Priority Habitat.

6.2 Rarity - with particular reference to Protected Species

6.2.1 The background data search reveals no evidence to suggest that application site is *known* to support any of the species listed in section 4.5 (data search summary). In fact, there are no records of any notable species from the 1km square in which the site lies.

6.2.2 There are two known populations of great crested newt (a European Protected Species) within this part of Wombwell. The terrestrial habitats which surround breeding ponds (up to a distance of 500m) are considered to be important in providing foraging areas for adult newts. A summary of the known populations near to the site is tabulated below.

Great Crested Newt Records

Location	Grid Reference	Proximity	Date	Comments
Wombwell Golf Course Pond	SE395021	489 m from the western corner of the site.	most recent records date from 1991	This pond is separated from the site by the grass and wooded habitats of the golf course roughs and perimeter, and also the rough grassland of Lund Hill Playing Fields.
Ponds near Cortonwood Roundabout and Greenwood Farm	SE395021 (nearest)	509 m from the south-eastern corner of the site	2016/2017	This pond is separated from the site by the rough grazing paddocks of Greenhill Farm, Lundhill Road and Lund Hill Playing Fields.

6.2.3 The application site contains no waterbodies. Aerial photography and OS maps do not indicate that there are any waterbodies closer to the site than the above mentioned ponds. Whilst the

rough grasslands of the former school and cricket field areas do represent suitable foraging territory for great crested newts (and other amphibians), their distance from any breeding pond means that these species are very unlikely to be present on the site.

6.2.4 No signs of protected species were found during the survey. The one building within the study area (a single storey brick-built, flat-roofed electricity substation) contains no potential bat roost features and none of the trees within the residential development site are considered to be of sufficient age or girth to support and potential bat roost features. The trees on the north-eastern boundary of the football pitches are the largest on the site and these have only very limited bat roost potential in their fissured and flaking bark. The young plantations around the site do provide potential foraging territory for bats but there is poor connectivity between these isolated pockets of tree cover. Due to the late season in which the survey was commissioned, no bat foraging activity surveys have been undertaken.

6.2.5 No signs to indicate the presence of badgers were found. European mole is present on the site. Other terrestrial mammals such as brown hare, hedgehog, and red fox might be expected to occur in this general locality and these species could find potential foraging habitats within the site, in particular in the rough grasslands around the former school buildings and the unmanaged cricket field.

6.2.6 The scrub and young trees provide some limited winter food (hawthorn and rowan berries berries) for species such as Fieldfare and Redwing and the denser thickets of bramble are likely to provide nesting sites for species such as Song Thrush, Dunnock, Robin, Wren and Blackbird. The canopies of all the areas of native scrub and plantations will also provide foraging habitat for insectivorous species, especially in spring when adults are feeding young chicks. The leaf litter beneath the tree canopies will also provide foraging areas of insectivorous ground-feeders such as blackbirds and robin.

6.2.7 The tussocky, unmanaged grassland of the former cricket field is likely to be suitable for small mammals, which, in turn, are prey for predators such as birds of prey (kestrel or owl – both Barnsley BAP Priority Species) and red fox. The unmown grasses are also potentially valuable feeding habitat for species of Lepidoptera (moths *and* butterflies) whose larvae feed on common grasses and whose pupae overwinter in the deep thatch of an uncut sward.

6.2.8 With the exception of the southern boundary which borders the rough grasslands around Lund Hill Playing Fields, there is limited habitat connectivity to any other semi-natural habitats outside the site,

6.3 Naturalness and typicalness

6.3.1 The grassland habitats on the site are of man-made origin and all are likely to have been established on previously-disturbed ground (areas levelled to create flat playing surfaces when the school was originally constructed). The nutrient-poor nature of the soils which overlie the shale bedrock would naturally result in a species poor sward. There are isolated relict elements of the native flora, most notably the presence of lesser stichwort (Stellaria graminea) on the cricket square. Small populations of other species (such as harebell) may be present around habitats near the southern perimeter. A survey in a more appropriate season would be required in order to confirm this. Scrub and seedling trees have colonised areas which have received no cutting management and this transition to woodland cover will continue without intervention.

6.3.2 The plantations around the playing fields are now well established and some have reached the stage of canopy closure and make a significant contribution to the tree-scape in this part of Wombwell. These plantations have yet to develop the canopy structure typical of more natural woodlands and many are such narrow strips of planting that they will only ever be a woodland edge character. Only the larger block has the potential to develop the more diverse canopy structure and ground flora.

6.3.3 There are lines of planted trees and self-set woody species on the sloping bank down to Gypsy Lane between the athletics field and football pitches and behind the houses on Roebuck Street. The herb layer beneath includes a limited range of grass species and includes species such as bracken and rosebay willowherb. These areas probably represent the oldest plant communities

on the site, possibly dating from the time this sloping site was originally terraced in order to provide the level ground for the sports pitches. They are naturally species-poor habitats reflecting the nutrient poor and possibly slightly acid nature of the underlying shales and topsoils in this part of the Coal Measures Natural Area.

6.4 Fragility

6.4.1 Grassland is a habitat which is reliant upon regular grazing or mowing management. Without such maintenance, the area will rapidly change to tall ruderals, scrub and eventually to woodland.

6.4.2 The scrub and young plantation habitats will continue to mature (and spread into adjacent grassland) without intervention. Without thinning management, the quality of the woodland habitat will be poor due to the even-aged and closely-spaced nature of the plantation.

6.5 Summary

6.5.1 The most sensitive ecological receptors which have been identified within the site boundary or within the nearby vicinity are:

- Young plantation of native trees.
- Narrow shelterbelts of young trees and scrub and the adjacent scrub transitions to more open, unmanaged grassland habitats (ecotone).
- Unmanaged (tussocky) grasslands.
- Mature ornamental trees and scattered self-set willows.

7 IMPACTS OF DEVELOPMENT

7.1 Description of Proposals

7.1.1 The proposal is to develop the majority (approximately ¾) of the site for housing, with the remainder of the site being reserved for the construction of a primary school in the future. A separate ecological appraisal will be required for the new school, when detailed plans are submitted. This ecological impact assessment takes into account the intended future redevelopment of this part of the site for the school but does not consider this area in any further detail.

7.1.2 Modification of ground levels between the former school site and cricket pitch, and the athletics pitch, will take place. Other embankments elsewhere on the site (and their associated vegetation) will be retained. A new entrance into the site will be created by the removal of an existing bungalow and the realignment of the western junction of Gypsy Lane. The western half of Gypsy Lane will be widened in order to provide an adequate carriageway width and pavement. This will necessitate the modification of ground levels along the western side of the lane.

7.2 Impacts upon Habitats

7.2.1 Based on the Planning Layout shown in Drawing No. 1876.01, the impacts of the proposals would include:

- Loss of majority of the commonly-occurring habitats of limited botanical diversity mentioned in Section 5.2. Retained areas being:
  - the largest of the young plantations (Target Note 10),
  - the lines of scattered trees on the steep embankments either side of the former football pitch (Target Note 7 and 9) and,
  - part of the small corner copse at the southern tip of the site (Target Note 5).
- Replacement of lost habitat with buildings, roads and pavement infrastructure, gardens and areas of new landscaped Public Open Space. The total area of Public Open Space will be 1.12 hectares. This figure includes the young plantation (Target Note 10) as woodland open space. A new circular pathway is to be provided within the woodland.

7.3 Impacts upon Local Biodiversity

7.3.1 Based on present survey evidence, the loss of the above habitats to buildings and hard standing will have a moderate direct impact on local biodiversity (primarily the loss of copses of young trees and species-poor unmanaged grassland). The grassland habitats have only quite recently developed some nature conservation interest since the cessation of mowing management of the cricket pitch and restoration of the demolished school grounds to grassland (from 2013 onwards). The majority of the site is still mown amenity sward of low intrinsic quality but this habitat type does still offer open grassland which will be of some value to birds as both a roosting and foraging habitat (for soil-dwelling invertebrates). The young copses provide cover and there is some habitat connectivity between these created by the unmanaged margins of the former sport fields.

7.3.2 These impacts are considered to be of low significance in a Borough-wide setting, but, at the local level, the current layout will have an unavoidable negative impact on biodiversity. A number of mitigation and enhancement measures can be taken to make sure that these impacts are minimised and that the biodiversity value of the site is maximised.

7.3.3 Current survey evidence indicates that the risk of direct physical disturbance to protected species is negligible. The trees and planted copses which will be removed to enable the residential development all exhibit relatively young clean growth, often with multiple stems, and are of insufficient girth to provide any potential bat roosting sites. The largest trees on the site (beside the northern boundary (Target Note 9) will be retained. A small number will be behind rear gardens but the majority of these trees will border an area of public open space, reducing the likely need for any future pruning of branches overhanging the development site. Other

trees on the site are associated with the formal planting around the old school site. These are generally also of small girth with clean un-fissured bark offering no roosting potential. The largest trees on the former school site are near the old school entrance off Roebuck Street and are not affected by this stage of the site's redevelopment.

7.3.4 The development would not directly affect any statutory or non-statutory sites of nature conservation importance (identified and described in Section 4, above).

7.4 Impacts upon Wider Environment

7.4.1 The replacement of grassland with non-porous surfacing would increase the rate of rainfall run-off. Measures to attenuate surface water flows would need to be implemented to ensure that the development does not cause rapid water level fluctuations in the receiving watercourse.

8 MITIGATION PROPOSALS

8.1 Pre-Development

Site Layout and Design

8.1.1 Loss of scrub and young trees alongside Gypsy Lane is likely to be unavoidable due to the need to regrade this slope once the road has been widened to meet current highway standards. Elsewhere, the re-grading of the terraced landform may necessitate the loss of the small woodland copses (Target Notes 6 and 8) on the steeper slopes around the sports pitches. Current plans indicate the complete removal of these small copses. Consideration should be given to retaining as much of this tree cover as is possible.

8.1.2 The proposed development incorporates two blocks of open grassland as Public Open Space (POS). It may be feasible to reduce, slightly, the area covered by these two POS zones, so as to allow the incorporation of more of the woodland copses in other parts of the site within other pockets of on-site POS provision (specifically Target Notes 3 and 5). Alternatively, parts of the open POS (shown in Drawing R-2195-1 as amenity sward) could be developed as less intensively-managed areas including some additional native tree and shrub planting. Such planting would take several decades to become of similar wildlife value to the existing woodland copses.

8.1.3 It is understood that the trees on the embankment between the athletics field and football pitches (Target Note 7) will be incorporated into the garden plots of dwellings on the upper level (on the former athletics field). Current plans indicate that, at the point of sale, the slope will be separated from the formal garden allocations using close-boarded fencing with a pedestrian gateway to allow access. The ownership boundaries on the length of the slope will be marked by a low kick rail which is permeable to wildlife movement. It is understood that the Deeds to these properties will specify no tree removal within this area. It is essential that there is also a clause to stipulate that boundary fencing must allow easy wildlife movement including terrestrial mammals (such as hedgehog).

Additional Surveys

8.1.3 A survey of bat foraging activity is recommended during the period May to September **prior to any vegetation clearance work** so as to identify whether there are any significant foraging corridors across the site and whether strategically sited tree planting may be beneficial in strengthening habitat linkages to the retained habitats. Such a survey should include the young plantation (Target Note 10) within which a woodland path is to be created as part of the POS provision. The findings of this foraging survey should be used to determine the route chosen for the path so as to protect any important foraging locations. It should also be used to enhance bat foraging opportunities by selective thinning to provide small glades and to allow the remaining trees to develop fuller crowns. The survey findings should also be used as a guide for locating the most favourable sites for the provision of bat roost boxes on retained trees.

8.1.4 A breeding bird survey is also recommended during the period April to June in order to identify the number and types of boxes that should be provided to compensate for the nesting locations which will be lost due to vegetation clearance. Such a survey should include monitoring for ground/ low scrub nesting birds on the former cricket field and in the grassland on the former school site **prior to any vegetation clearance work**. To compensate for the loss of this habitat it may be necessary to find ways of supporting appropriate management of habitats in the nearby vicinity (e.g the rough grassland around the adjacent Lundhill recreation ground).

Timing and methods of vegetation-clearance and protection of habitats

8.1.5 Any preparatory vegetation clearance work should be undertaken outside the bird breeding season, i.e. between the end of August and end of February. Ideally the grasslands would be returned to a regular cutting regime for a short period at the end of the breeding period (e.g. late August) prior to final physical soil stripping and regrading works. This will make these habitats less suitable for wildlife to have taken-up residence prior to the final habitat removal and ameliorate the severity of this impact. Clearance should take always place in a progressive manner preferably radiating out from the new proposed site access point on Lundhill Road, allowing more mobile wildlife to move away from the disturbance into the unaffected habitats such as the woodland Public Open Space (Target Note 10), the grasslands of the old school site and the rough grassland around the adjacent Lundhill Recreation Ground.

8.2 Development Phase

8.2.1 Vehicle movements around the vegetation which is to be retained should be minimised. Retained habitats must be clearly marked as such and must be protected by sturdy fencing for the duration of the works.

8.2.2 Ground levels in the root zone of shrubs and trees which area to be retained should not be altered by excavations or soil moving and there should be no heavy vehicle movement in the root zone as this could cause compaction of the soil and possible root death.

8.2.3 To minimise risks to terrestrial mammals, it is recommended that small but deep excavations (such as trial pits) are either covered up overnight and or ramps provided in trenches to avoid animals becoming trapped.

8.2.4 To minimise effects of dust on air quality, wind and weather conditions should be taken into account when undertaking soil stripping or soil moving operations. Avoid working in especially dry conditions, and employ dust suppression measures. Populations of the invasive ground elder (Target Note 1) should be eradicated, using a systemic herbicide, prior to any ground or soil disturbance in this area.

8.3 Occupied Phase & Contribution to Local Biodiversity

8.3.1 The planting of new native trees and shrubs parallel to the widened section of Gypsy Lane, would help to reinstate habitat connectivity around the site perimeter. The Public Open Space woodland should be managed to promote the development of a more-natural canopy structure. This may include activities such as crown-lifting and coppicing of understorey species. A Management Plan should be prepared for the woodland.

8.3.2 Planting native species-rich hedges as part of the outer perimeter landscaping along the south-western boundary with Lundhill recreation ground would also significantly improve habitat connectivity, especially if it includes a high proportion of evergreens (holly and wild privet) to create winter shelter.

8.3.3 Consideration should be given to the creation of high quality ecological habitats as part of any Sustainable Urban Drainage Scheme associated with the proposed development. Creating open swales and small surface water attenuation features such as dry reedbeds or filter strips would be considered to be a significant biodiversity benefit. Such features could be incorporated alongside Gypsy Lane or within the Public Open Space areas at the lowest (eastern) end of the site, including within the edge of the Public Open Space woodland.

8.3.4 The proposed built development and associated gardens offer opportunities to provide some habitats for a range of wildlife, including birds, bats and invertebrates, by the inclusion of a number of features which will provide nesting or roosting locations, or areas of shelter and food, and by providing plants which are known to attract or benefit local fauna. The following actions are recommended:

8.3.5 Use trees and shrubs which produce seeds or berries which are attractive to birds.
N.B. Species highlighted in **Bold** are types of plants which are native to Britain which have 'forms' or 'cultivars' suited to urban planting situations:

i) Seed-producing species such as: **alder, ash, birch, field maple, hazel, oak** and **pine.**
ii) Berry/fruit bearing species such as: Cotoneaster, Pyracantha, **dogwood, hawthorn, crab apple, rowan, whitebeam**, and fruit trees such as **cherry,** apple and pear.
iii) Ground cover and climbing species such as the berry-bearing **ivy** and the early-flowering periwinkle.

8.3.6 In more formal garden planting areas, use nectar-rich plants to provide food for invertebrates such as bees, hoverflies, and Lepidoptera. Plant early-flowering shrubs (e.g. Caeanothus, Chenomeles, Hebe), and nectar-rich plants such as honeysuckles, buddleja, Geraniums, lavenders, roses, mints and other Labiates.

8.3.7 Plant wall-shrubs and climbers to provide vertical vegetation cover and shelter. Locate open-fronted nest boxes for bird species such as robin, blackbird or song thrush and tit nesting boxes where they will be sheltered /camouflaged by the growth of the climbers/wall shrubs or within cover provided by the retained hedgerows and trees. (N.B. Ensure that these boxes are installed over 2m from the ground to reduce predation by domestic cats).

8.3.8 Install bird boxes for species such as house sparrow and starling on suitable buildings. Include some buildings with overhanging eaves suitable for species such as house martin and swallow. Install nest 'cups' to encourage nesting in suitable locations. Install bird boxes within the POS Woodland.

8.3.9 Make the development attractive to bats by the provision of bat boxes on buildings and retained trees, thereby increasing the number of potential local roost sites.

9 REFERENCES

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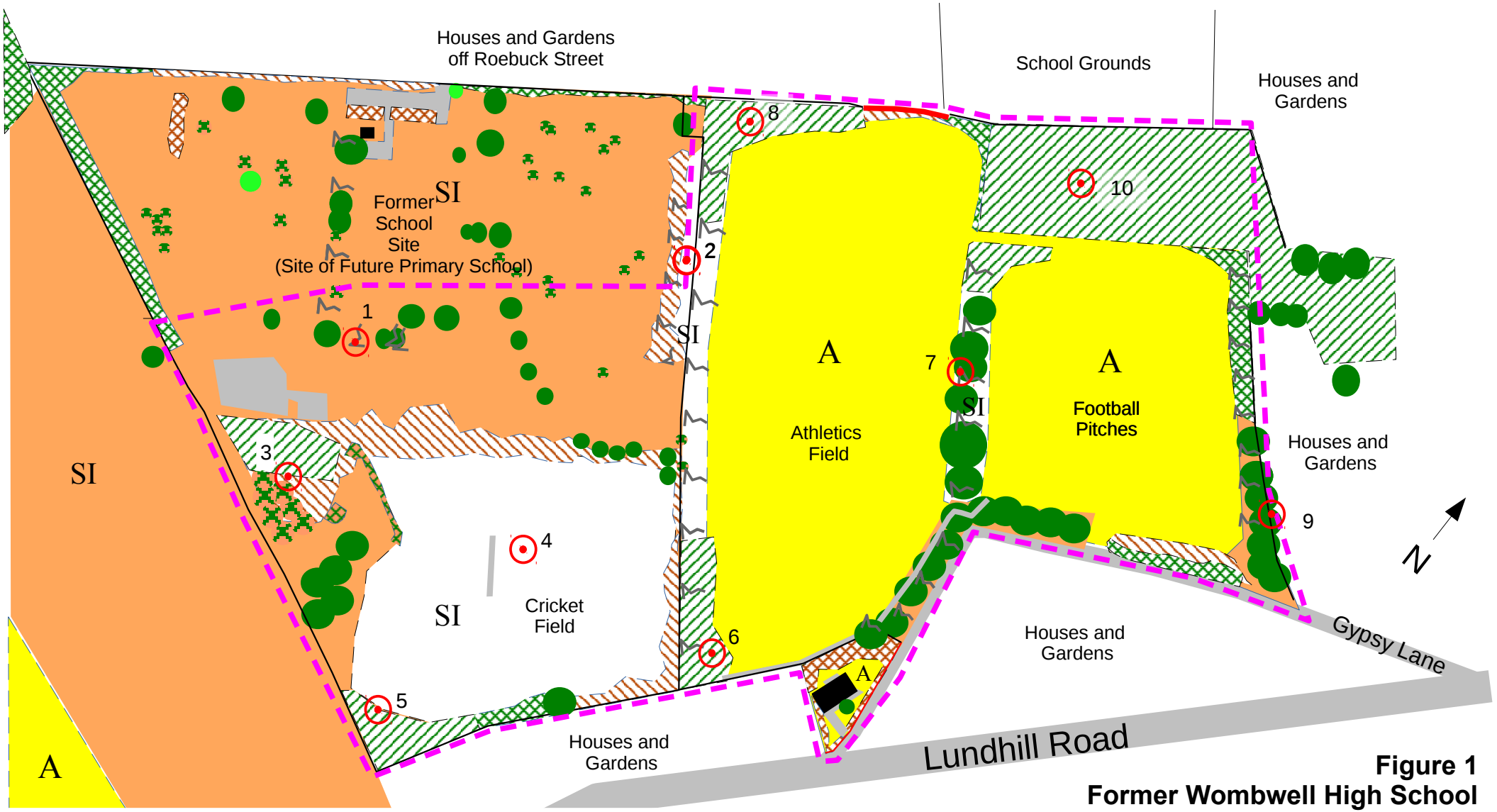

Figure 1
Former Wombwell High School

Phase 1 Habitat Survey Map

November 2018

Key to Phase 1 Habitat Codes

- Broadleaved Plantation
- Scattered Broadleaved Trees
- Scattered Conifer Trees
- Continuous Scrub
- Scattered Scrub
- SI — Semi-improved Neutral Grassland
- SI — Poor Semi-Improved Grassland
- Tall Ruderal
- Introduced Shrubs
- A — Amenity Grassland
- Tarmac
- Fence
- Wall
- Building
- Target Note
- Roads
- Slope
- Site Boundary