

Confidential

The Heights, Mapledurham

Preliminary Ecological Appraisal

For

Turner and Townsend

Project Number:

12243

March 2017

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EXECUTIVE SUMMARY

CampbellReith have been commissioned by Turner and Townsend on behalf of the Education Funding Agency (EFA) to undertake a Preliminary Ecological Appraisal (PEA) of the revised Site boundary for The Heights Primary School, Mapledurham Playing Fields, herein referred to as the 'Site'. The Site is located at 29 Upper Woodcote Road, Reading, RG4 7LH.

The Proposed Development will consist of a two-storey primary school block accommodating 420 pupils, with a MUGA, hard informal areas, soft play areas and car parking. The Site boundary, proposed plans and proposed landscape architect design can be found in **Appendix A**.

A Phase 1 Habitat Survey was undertaken on the 6th March 2017, confirming that the majority of the Site comprises amenity grassland with an area of broad-leaved woodland to the west. A small area of bare ground is located within the north eastern corner, forming part of the existing car park.

The trees within the site boundary were considered to have negligible potential for bat roosts therefore no further survey is required.

The broad-leaved woodland has potential to support nesting birds. It is recommended that the removal of this vegetation is undertaken outside of nesting bird season (March – August). If this is not feasible then an experienced ecologist should assist during the vegetation removal to ensure no birds are harmed.

There was no sign of badger activity within the site boundary. A badger sett was identified in the ADAS 2016 PEA towards the far east of the Mapledurham Playing Fields. A tool-box talk is recommended prior to construction to reduce risk of potential harm to badgers.

No sign of fox activity were recorded during the survey however it is possible that wild mammals use the site. A tool-box talk is recommended prior to the construction of the proposed development.

The proposed development will require the loss of amenity grassland and a portion of the broad-leaved woodland, the impact of this development is not considered significant in terms of ecology due to the common nature of these habitats on Mapledurham Playing Fields and within the local area. The removal of this habitat will be mitigated for in the landscape design.

The following recommendations are provided to mitigate the loss of habitat and disturbance to protected species on site:

- Installation of 3 bat boxes;
- Installation of 3 bird boxes;
- Native species planting;
- Replacement woodland planting;
- Adoption of a green roof;
- Removal of vegetation outside of nesting bird season (March – August);
- Sensitive lighting regime to not cause light spill onto surrounding ecological features.

1.0 INTRODUCTION

1.1. Brief

1.1.1. CampbellReith have been commissioned by Turner and Townsend on behalf of the Education Funding Agency (EFA) to undertake a Preliminary Ecological Appraisal (PEA) of the revised Site boundary for The Heights Primary School, Mapledurham Playing Fields, herein referred to as the 'Site'.

1.1.2. The Proposed Development will consist of a two-storey primary school block accommodating 420 pupils, with a MUGA, hard informal areas, soft play areas and car parking. The Site boundary, proposed plans and proposed landscape architect design can be found in **Appendix A**.

1.2. Aims and Objectives

1.2.1. A PEA was undertaken by ADAS in January 2016 for the entirety of the Mapledurham Playing Fields (herein referred to as the Mapledurham Playing Fields Site Boundary), see **Appendix B**. The Heights Primary School boundary is situated to the north west of Mapledurham Playing Fields Site boundary. The PEA produced by ADAS has been used to form the baseline assessment for this report, and as such a desk study has not been included within this report as the conclusions from the desk study remain valid from 2016.

1.2.2. The aim of this survey and report was to:

- Review the existing PEA produced by ADAS (2016) and draw conclusions relevant to the revised Site boundary.
- Undertake an Extended Phase 1 Habitat Survey (following JNCC (2010) Phase 1 Habitat Guidelines) to confirm the habitats and potential for protected species within the site boundary from those identified within the ADAS (2016) report.
- Assess the potential impacts of the future development;
- Detail recommendations for further survey effort where required; and
- Identify and recommend biodiversity enhancements.

1.2.3. The PEA will indicate any likely significance of ecological impact as a result of future development proposals.

1.3. Site Location

1.3.1. The Site is located at 29 Upper Woodcote Road, Reading, RG4 7LH. The National Grid Reference for the approximate centre of the Site is 469810E, 175823N. The Site area is approximately 0.79 Ha.

1.3.2. **Figure 1.1.** shows the extent of the Heights Primary School Site boundary within the wider Mapledurham Playing Fields Boundary.

1.3.3. The site is located within the Mapledurham Playing fields at the north western corner of the Site next to residential properties along Hewett Avenue and the Pavilion adjacent to the existing tennis courts. The Site is predominantly surrounded by residential properties with Caversham Heath Golf Course to the west.



Figure 1.1: Site Boundary within the wider Mapledurham Playing Fields

2.0 METHODOLOGY

2.1. Desk Study

- 2.1.1. The desk study undertaken by ADAS in 2016 remains valid and can be found in Appendix B, under Section 4 *Baseline Ecological Conditions*. The Multi-Agency Geographic Information for Countryside (MAGIC) website and Thames Valley Environmental Records (TVERC) were consulted to inform the desk study.

2.2. Survey

- 2.2.1. An Extended Phase 1 Habitat Survey was undertaken by Alice Hoy BSc MSc, on Monday 6th March 2017 during dry and mild weather conditions.
- 2.2.2. The survey followed guidance and techniques outlined in the Handbook for Phase 1 Habitat Survey¹. Habitats present were recorded on-site and appropriately mapped with informative target notes to provide supplementary information to inform current species presence and composition.
- 2.2.3. An Extended survey was undertaken whilst on site to assess the potential to support legally protected species. Any evidence of known invasive species listed in Schedule 9 of the Wildlife and Countryside Act 1981 (as amended) was noted.

2.3. Limitations

- 2.3.1. CampbellReith has endeavoured to assess all information provided to them during this assessment. The report summarises information from a number of external sources and cannot offer any guarantees or warranties for the completeness or accuracy of information relied upon.
- 2.3.2. This report has been based on the assumption that the proposed development is for a Primary School in the north western corner of the Mapledurham Playing Fields. The report may have to be amended if the development plans significantly change.

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

3.0 RESULTS

3.1. Desk Study Summary

- 3.1.1. The full desk study can be found in Section 4 of the ADAS (2016) PEA, in **Appendix B** of this report.
- 3.1.2. Two areas of Areas of Outstanding Natural Beauty (OANB) were identified within a 2km search radius of the site. Nine Local Wildlife Sites (LWS), two Proposed Local Wildlife Sites (LWS) and two Conservation Target Areas (CTA) were identified within 2km of the Site.
- 3.1.3. The data returned records (within a 2km search radius) of Smooth Newt (*Lissotriton vulgaris*), Common Toad (*Bufo bufo*), Slow Worm (*Anguis fragilis*), Common Lizard (*Zootoca vivipara*), Badgers, Water Vole (*Arvicola amphibious*), Bat species including Daubenton's Bat (*Myotis daubentonii*), Whiskered Bat (*Myotis mystacinus*), Natterer's bat (*Myotis nattereri*), Noctule (*Nyctalus noctula*) and Soprana Pipistrelle (*Pipistrellus pygmaeus*). The nearest record was a Brown Long-eared Bat (*Plecotus auritus*) 55m south of the Mapledurham Playing Fields Boundary.

3.2. Extended Phase 1 Habitat Survey

Habitats

- 3.2.1. The Phase 1 Habitat Survey was undertaken on 6th March 2017 during dry and mild weather conditions. CampbellReith were provided with the proposed site development plan (Doc no: 01101) showing the red line boundary (developable site boundary). The ecological mapping produced as per the Phase 1 Habitat Survey Guidelines can be found in **Appendix C**.
- 3.2.2. The following habitats were identified within the site boundary during the survey and are described in detail below:
- Amenity Grassland
 - Broad-leaved woodland
 - Bareground
- 3.2.3. The majority of the Site comprises amenity grassland with a dominant mix of Perennial Ryegrass (*Lolium perenne*) and White Clover (*Trifolium repens*), with occasional Daisy (*Bellis perennis*) and Dandelion (*Taraxacum sp.*). Amenity grassland is common in both the local area and within the UK and therefore considered to be largely of negligible importance.
- 3.2.4. The area of Broad-leaved woodland was located to the west comprised species of Field Maple and Sycamore. This area of woodland extends to the north east of Mapledurham Playing Fields screening residential properties from the development.
- 3.2.5. A small area of bareground exists towards the north eastern corner. This forms part of the existing car park.

Protected Species

- 3.2.6. The broad-leaved woodland provides potential foraging opportunities for bat species. The trees located within the Site boundary are considered to have negligible bat potential. The trees located outside of the site boundary in the north-west corner are not considered to be removed

as part of the development. However, if these trees are to be removed, they have been identified as having low potential due to the dense ivy cover and cracked/broken limbs.

- 3.2.7. Evidence of birds nesting within the trees was found during the survey. The amenity grassland is currently under a management regime of regular mowing and heavy use by the local community therefore offers negligible suitability for ground nesting birds.
- 3.2.8. There was no evidence of badger activity within the site boundary. A badger sett was identified in the 2016 PEA towards the east of Mapledurham Playing Fields, with a badger fence entrance identified towards the north of site, east of the tennis courts.

4.0 LEGISLATION AND PLANNING

4.1. National Planning Policy Framework (NPPF)

4.1.1. The NPPF is a high-level document outlining the Government's planning policies for England whilst providing a framework on how they are expected to be applied. This simplified approach to Government regulations address requirements for planning with a focus on relevance, proportionality and necessity.

4.1.2. Chapter 11: Conserving and enhancing the natural environment, is applicable to addressing issues raised within a Preliminary Ecological Appraisal. The following sections, in particular, are worth addressing:

- Section 109: The planning system should contribute and enhance the natural and local environment by: recognising the wider benefits of ecosystem services; minimising impacts on biodiversity and providing net gains in biodiversity where possible, contributing to the Government's commitment to halt the overall decline in biodiversity, including by establishing coherent ecological networks that are more resilient to current and future pressures.
- Section 113: Local Planning Authorities should set criteria...so that protection is commensurate with their status and gives appropriate weight to their importance and the contribution that they make to wider ecological networks.
- Section 117: To minimise impacts on biodiversity and geodiversity, planning policies should...promote the preservation, restoration and re-creation of priority habitats. Ecological networks and the protection and recovery of priority species populations.
- Section 118: When determining planning applications, the Local Planning Authorities should aim to conserve and enhance biodiversity by applying 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;
 - Opportunities to incorporate biodiversity in and around developments should be encouraged.
- Section 119: The presumption in favour of sustainable development (paragraph 14) does not apply where development requiring appropriate assessment under the Birds or Habitats Directive is being considered, planned or determined.

4.2. Conservation of Habitats and Species Regulations 2010 (as amended)

4.2.1. Schedule 2 of the Conservation of Habitats and Species Regulations 2010 legally protects European Protected Species (EPS) such as Bats, Dormouse, Great Crested Newt and the Common Otter. Other species are protected but are particularly rare within the UK, for example; Wild Cat, Dolphin, Fisher's Estuarine. Refer to Schedule 2 for a full list of European Protected Species.

4.2.2. It is an offence to:

- Deliberately capture, injure or kill an EPS.

- Disturb an EPS or deliberately take and destroy their eggs
- Damage or destroy their breeding site or resting place.
- Impair their ability to survive, to breed or to reproduce, or rear or nurture their young
- Affect significantly the local distribution or abundance of the EPS.

4.2.3. A person guilty of the above offences is liable to fine and conviction.

4.3. **Wildlife and Countryside Act 1981 (as amended)**

4.3.1. The Wildlife and Countryside Act 1981 (as amended) affords protection to species listed under Schedule 1, Schedule 5, Schedule 6 and Schedule 8 in Great Britain.

- prohibits certain methods of killing or taking wild animals;
- amends the law relating to protection of certain mammals;
- restricts the introduction of certain animals and plants;

4.3.2. Species afforded protection under this act are Water Voles, Sand Lizard (*Lacerta agilis*), Smooth Snake (*Coronella austriaca*), Common Lizard (*Zootoca vivipara*), Adder (*Vipera berus*), Slow Worm (*Anguis fragilis*), Grass Snake (*Natrix natrix*).

4.3.3. All active bird's nests, eggs and young are protection from intentional destruction.

4.3.4. Licensing from an appropriate public authority can legalise all prohibited actions as outlined in the legislation.

4.4. **Natural Environment & Rural Communities Act (NERC,2006)**

4.4.1. Natural England are the main body in exercising conservation, enhancement and management of biodiversity for the benefit of present and future generations, in order to contribute to sustainable development.

4.4.2. Section 40 of the NERC Act (2006) establishes that it is the duty of any Public Authority to exercise adequate responsibilities to conserve biodiversity in England.

4.4.3. Section 41 declares that the Secretary of State must publish a list of species and habitat types that are considered of Principle Importance.

4.4.4. Natural England has currently confirmed a total of 943 species and habitat types of Principle Importance.

4.5. **The Protection of Badgers Act 1992 (as amended)**

4.5.1. It is an offence to wilfully kill, injure or take, a badger.

4.5.2. It considered an offence if a person enacts cruelty to a badger, interferes with a badger sett, sells or is in possession of a badger, or marks a badger without an appropriate licence.

4.5.3. A licence may be granted for the purpose of any development as defined in section 55(1) of the Town and Country Planning Act 1990, to interfere with a badger sett within an area specified within the licence.

4.5.4. A 'badger sett' is defined as any structure or place which displays signs indicating current use by a badger.

4.6. **The Protection of Mammals Act 1996 (as amended)**

- 4.6.1. The Protection of Wild Mammals Act 1996 states that it is an offence to mutilate, kick, beat, nail or otherwise impale, stab, burn, stone, crush, drown or asphyxiate any wild mammal with intent to inflict unnecessary suffering.
- 4.6.2. A 'wild mammal' means any mammal which is not a domestic or captive animal.
- 4.6.3. Wild Mammals are therefore afforded a level of protection under this act, any person guilty of an offence is subject to a fine or imprisonment or both.

5.0 ECOLOGICAL ASSESSMENT

5.1. Statutory and Non-statutory sites

- 5.1.1. It is considered that due to the small scale of the development, the impact will be confined to the site boundary therefore will not impact the statutory and non-statutory designated sites identified within a 2km search radius.

5.2. Habitats

- 5.2.1. The proposed development has considered the findings from the initial ADAS 2016 PEA and has confined a site for the development within the Mapledurham Playing Fields to an area which would cause a lesser impact.
- 5.2.2. Local Policy states that green areas and woodland are important for communities and wildlife. The Arboricultural Survey identified the area of woodland to be G147, see **Appendix D**, the extent of this grouped woodland goes beyond the Site boundary. The Arboricultural Impact Assessment, undertaken by ADAS in March 2017 has estimated a loss of 74% of the grouped woodland area. The arboricultural report concluded that this loss is not considered significant.
- 5.2.3. All works with potential impact on trees must comply with BS5837:2012 Trees in Relation to Design, Demolition and Construction. This has been taken into account within the ADAS Arboricultural Planning Statement.

5.3. Protected Species

Bats

- 5.3.1. A small area of the overall broad leaved woodland towards the west of the Mapledurham Playing Fields is to be removed as part of the development. 74% of G147 will be removed to facilitate the Primary School; this is not considered to have a significant impact on potential bat foraging routes due to the location of the Heights Primary within the overall Mapledurham Playing Fields. The trees identified for removal have been assessed and are considered to provide negligible potential for bat roosts. The Proposed Development plans do not propose the removal of trees towards the north western corner of Mapledurham Playing Fields (north of the site boundary). Trees within this area have been identified as having low bat roosting potential due to the dense ivy cover and broken limbs. If these trees are to be removed, they must be done so under the supervision of a licenced ecologist.
- 5.3.2. It is not considered that further bat surveys will be required as the trees within the site boundary have been classified as having negligible bat roost potential. Furthermore, the removal of trees across the wider Mapledurham Playing Fields Site is alsolimitedl therefore it is considered that the impact on potential foraging routes is considered minimal.

Badger

- 5.3.3. There were no signs of badger activity on Site. The proposed development is not located within the vicinity of the identified (ADAS, 2016) badger sett therefore no further survey is required. A tool-box talk is recommended prior to construction works to minimise any potential risk to badgers within the wider area.

Birds

- 5.3.4. The broad-leaved woodland has potential to support nesting birds. If the proposed development requires the removal of trees then their removal should be undertaken outside of the nesting bird season (March-August). If this is not feasible then an experienced ecologist should assist to ensure no nesting birds are harmed.

Wild Mammals

- 5.3.5. Although no signs of fox activity were recorded during the survey, it is possible that foxes may use the site due to its location within the wider area. To deter the wild mammals from entering the site during construction excavations should be covered at the end of the day, alternatively ramps should be installed to ensure that any mammals which fall into the construction features can escape. Good site hygiene should be maintained on site with appropriate litter storage, which will avoid attracting foxes and hedgehogs and other wild mammals. Hoarding around the site will prevent the access and egress of wild mammals from entering the site.
- 5.3.6. A 'toolbox talk' should be included within the construction management plan to inform all workers of the risk of mammals entering the site.

5.4. **Enhancement Opportunities and Recommendations**

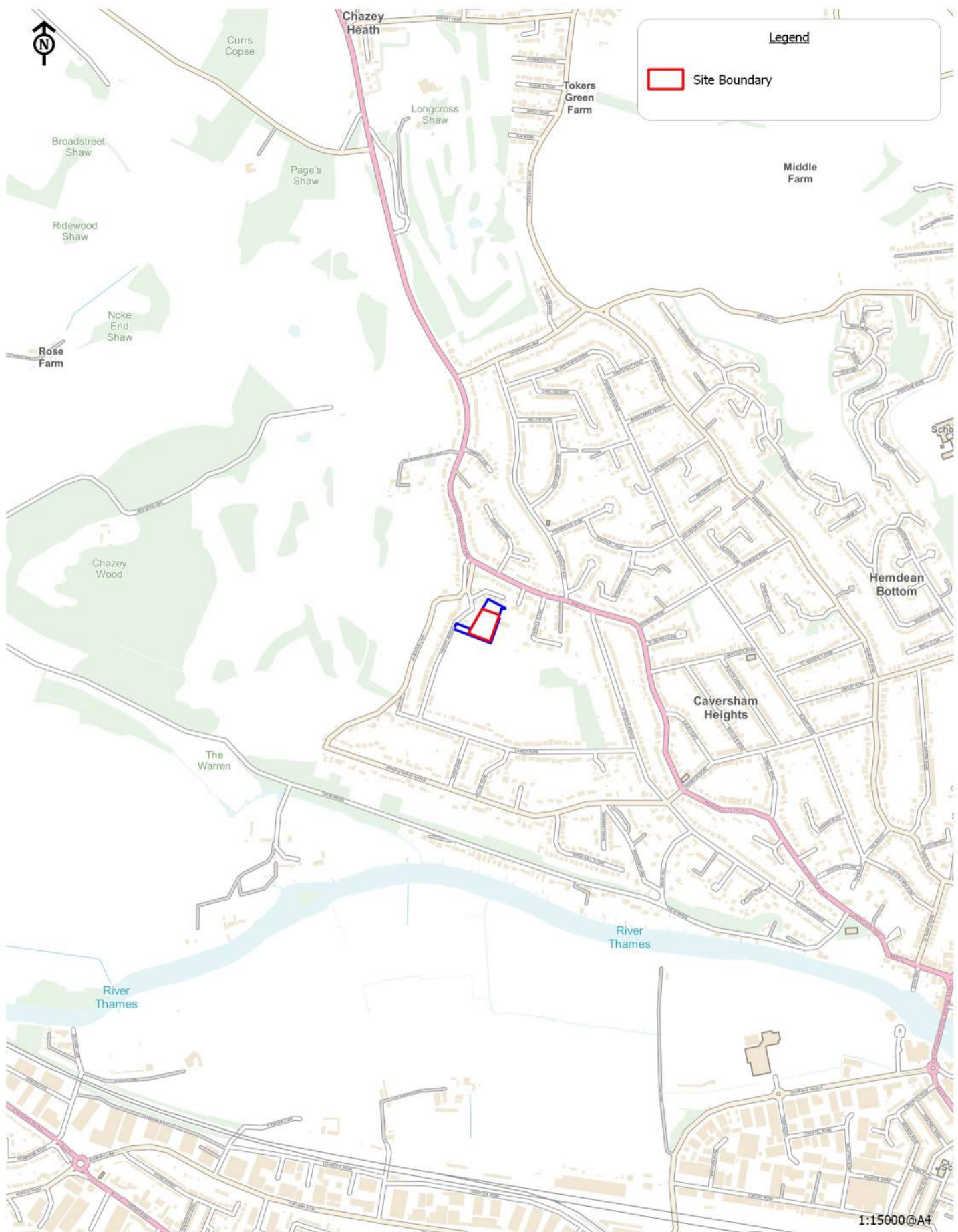
- 5.4.1. It is recommended that the Proposed Development includes the installation of 3 bird boxes and 3 bat boxes either on the façade of the buildings or within the surrounding remaining trees.
- 5.4.2. Landscaping must include native species or species of conservation value.
- 5.4.3. Adopting green roofs for the primary school building will increase the biodiversity value of the building and minimise the impact of loss of amenity grassland.
- 5.4.4. The lighting regime must be installed in a sensitive manner to not cause light spill onto the perimeter ecological features which may be used for commuting or foraging bat species. The lighting scheme should follow BCT guidance.²
- 5.4.5. The Landscape Architect Plans, see **Appendix A**, have proposed new woodland belt planting, groups of orchard trees, tree and hedge planting, and meadow planting. This will mitigate for the loss of the removal of trees and may provide potential bat foraging opportunities.
- 5.4.6. XXXXX INSERT DETAILS OF LANDSCAPE SPECIES SCHEDULES.
- 5.4.7. It is considered that the proposed landscape design sufficiently mitigates for the loss of woodland and areas of amenity grassland.

² Bat Conservation Trust (2014) Interim Guidance: Artificial and Wildlife – Recommendations to help minimise the impact of artificial lighting.

6.0 CONCLUSIONS

- 6.1.1. The Education Funding Agency (EFA) is proposing the development of a two storey primary School with associated hard and soft landscaping towards the north western corner of Mapledurham Playing Fields.
- 6.1.2. ADAS undertook a Preliminary Ecological Appraisal for the Mapledurham Playing Fields in 2016.
- 6.1.3. CampbellReith were commissioned by Turner and Townsend to confirm the habitats present on site and potential for Protected Species for the revised Site boundary.
- 6.1.4. The Phase 1 Habitat Survey confirmed that the majority of the Site is amenity grassland with an area of broad-leaved woodland to the west. A small area of bare ground is located within the north eastern corner, forming part of the existing car park.
- 6.1.5. The trees within the site boundary were considered to have negligible potential for bat roosts therefore no further survey is required.
- 6.1.6. The broad-leaved woodland has potential to support nesting birds. It is recommended that the removal of this vegetation is undertaken outside of nesting bird season (March – August). If this is not feasible then an experienced ecologist should assist during the vegetation removal to ensure no birds are harmed.
- 6.1.7. There was no sign of badger activity within the site boundary. A badger sett was identified in the ADAS 2016 PEA towards the far east of the Mapledurham Playing Fields. A tool-box talk is recommended prior to construction to reduce risk of potential harm to badgers.
- 6.1.8. No sign of fox activity were recorded during the survey however it is possible that wild mammals use the site. A tool-box talk is recommended prior to the construction of the proposed development.
- 6.1.9. The proposed development will require the loss of amenity grassland and a portion of the broad-leaved woodland, the impact of this development is not considered significant in terms of ecology due to the common nature of these habitats on Mapledurham Playing Fields and within the local area. The removal of this habitat will be mitigated for in the landscape design.
- 6.1.10. The following recommendations are provided to mitigate the loss of habitat and disturbance to protected species on site:
- Installation of 3 bat boxes;
 - Installation of 3 bird boxes;
 - Native species planting;
 - Replacement woodland planting;
 - Adoption of a green roof;
 - Removal of vegetation outside of nesting bird season (March – August);
 - Sensitive lighting regime to not cause light spill onto surrounding ecological features.

Appendix A: Site Boundary and Proposed Development Plans



The Heights, Mapledurham

Client: Education Funding Agency (EFA)

Figure 1:
Site Location

Scale: 1:15000@A4
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 Job Number: 12243
 Drawn by - Checked by: RP - AH
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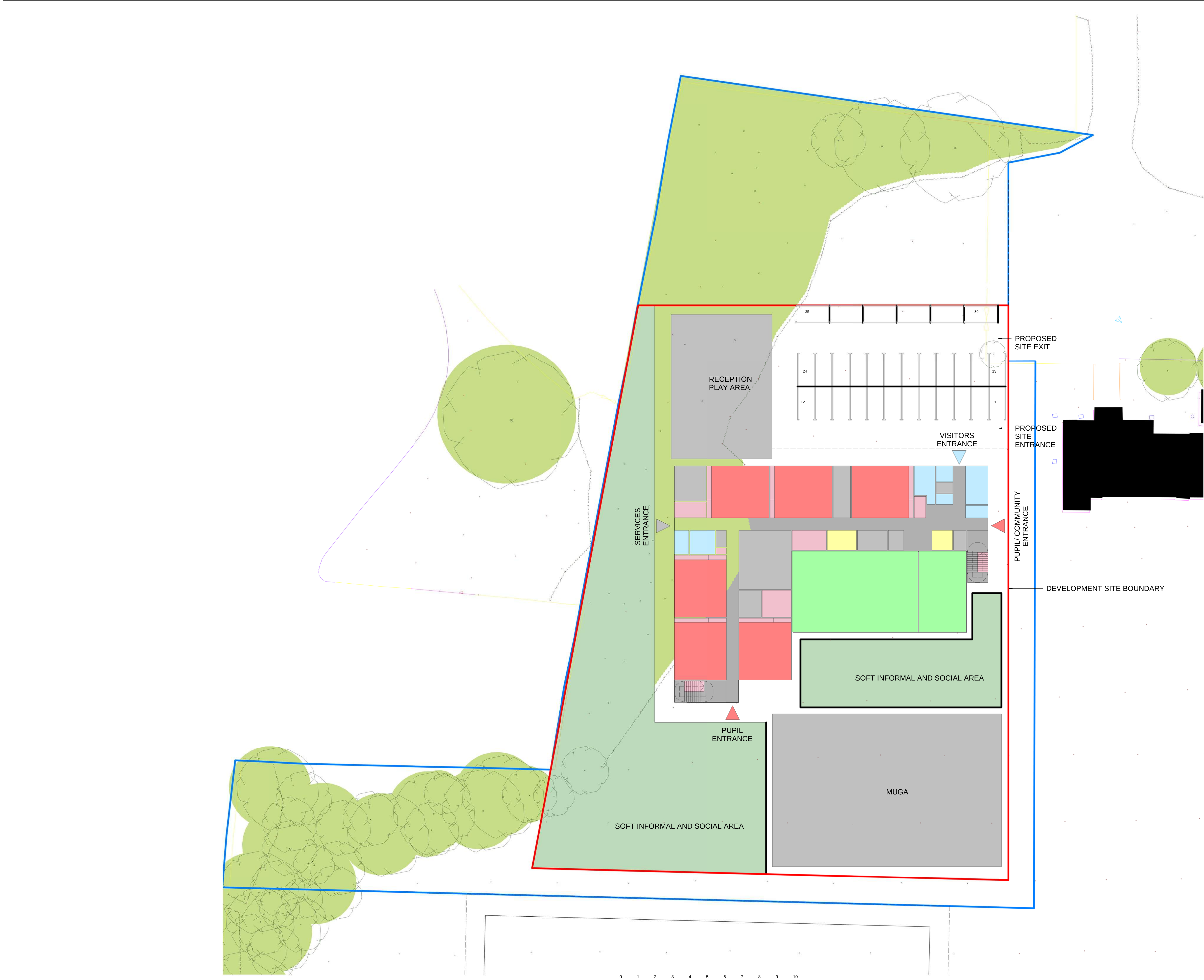
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REVISION DETAILS				DATE	DRAWN BY
P	1	Issued to TAT		23.01.17	DMA

KEY	RESIDUAL RISK
KEY PLAN	

ORIGINATOR		TITLE					
DMA		THE HEIGHTS PRIMARY SCHOOL AT MAPLEDURHAM PLAYING FIELDS - SITE PLAN					
PROJECT		PURPOSE OF ISSUE		STATUS		REVISION	
The Heights Primary School - Mapledurham Playing Fields		FOR INFORMATION		P		P	
JOB NO.		SCALE		DRAWN		CHECKED	
350		1:500 @A0		KM		DMA	
PROJECT		ORIGINATOR		ZONE		LEVEL	
HPS		DMA		ALL		00	
		TYPE		ROLE		DOC NO	
		GA		A		01003	

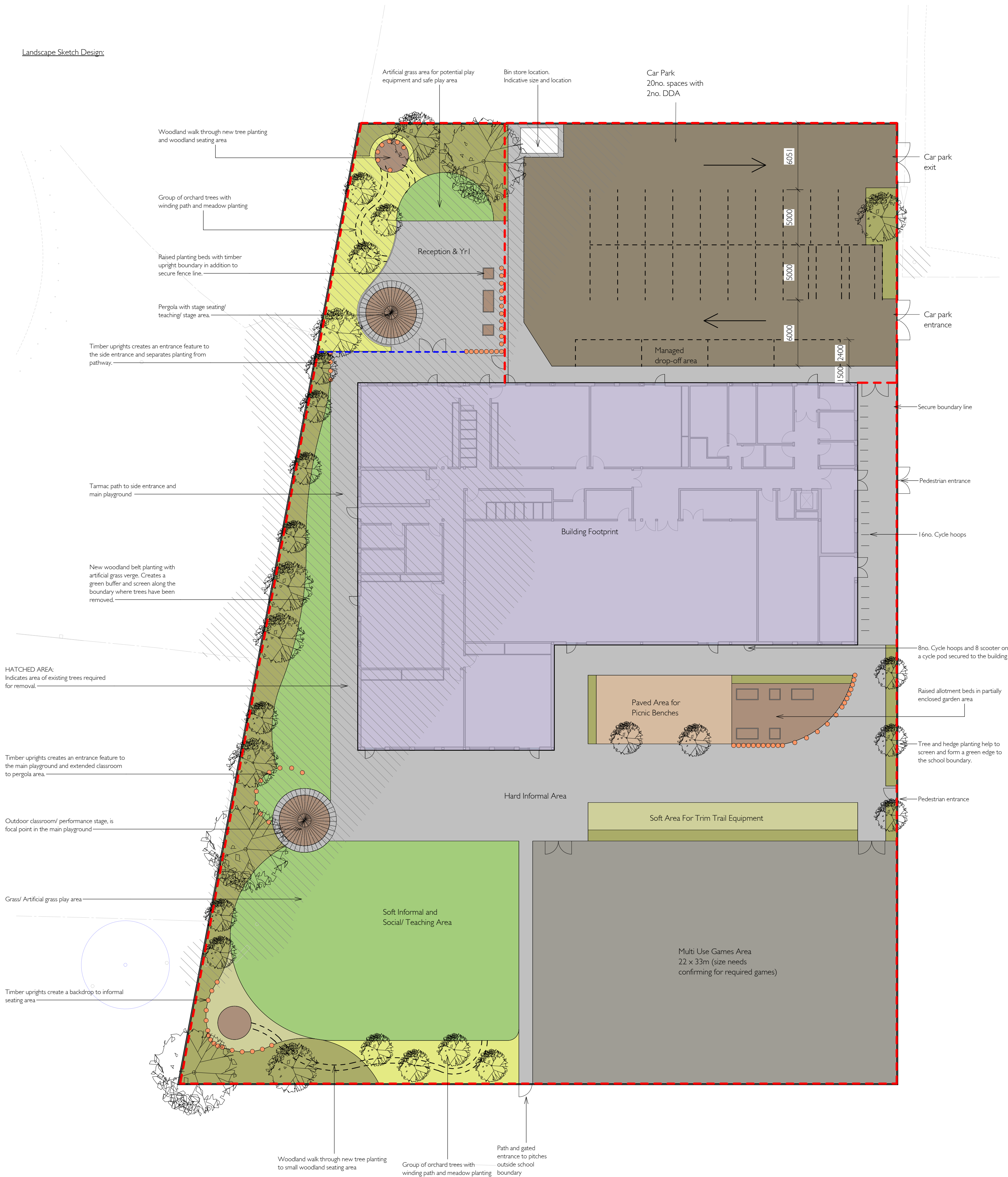


REVISION DETAILS			DATE	DRAWN BY
P	1	Issued to T&T	23.01.17	DMA

KEY	RESIDUAL RISK	
KEY PLAN		

ORIGINATOR DMA		TITLE THE HEIGHTS PRIMARY SCHOOL - PROPOSED SITE DEVELOPMENT PLAN			
PROJECT The Heights Primary School - Mapledurham Playing Fields		PURPOSE OF ISSUE FOR INFORMATION		STATUS:	REVISION: P
JOB NO. 350	SCALE 1:250 @A1	DRAWN KM	CHECKED KM	APPROVED DMA	
PROJECT HPS	ORIGINATOR DMA	ZONE ALL	LEVEL 00	TYPE GA	DOC NO A 01101

Landscape Sketch Design



BB103 Calculations:

	BB103 Minimum Recommendation	Proposal Area
Hard Informal Areas	620	872
Hard Outdoor PE	1030	726
Soft Informal and Social Areas	1440	823
Soft Outdoor PE	8400	-

Parking and Cycle Provision:

Parking: 20 parking spaces, with 2 of these DDA, located nearest the main entrance

Cycling: 10 cycle spaces for staff, 30 spaces for pupils. This equals 20 cycle stands with spaces available on both sides.

Precedent Images:



Round timber pergolas are features within the scheme and can be used for teaching, performing and play



Woodland walk through new native tree planting



New orchard tree planting



Raised timber allotment beds



Timber uprights feature throughout the scheme

Notes

This drawing is the copyright of Ryder Landscape Consultants. It must not be copied or reproduced without written consent.

This drawing is to be read as part of a full Landscape Drawing Package in conjunction with all the relevant surveys alongside the Architectural and Engineers drawings.

Only figured dimensions are to be taken from this drawing. Dimensions should not be scaled from this drawing, as scaling of this drawing cannot be assured.

All dimensions are to millimetres unless specified otherwise.

All contractors must visit the site and be responsible for taking and checking all dimensions, services and setting out related to the works shown on this drawing.

All coordinates are set to dimensional points to enable easy cross referencing on site.

All setting out points are to be verified on site and any discrepancies should be clarified by the Landscape Architect.

Hatching is not a technical representation of surface patterns, contractors are to follow the line of direction specified on drawings. Where no line of direction is given contractor to contact Landscape Architect before laying. All levels should be checked on site and conflicts reported to the design office.

...if in doubt ask

Rev	Drawn	Checked	Date	Description
1	RF	RF	11/03/2021	Amendments and annotations to carpark

FOR COMMENT



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Client:

David Miller Architects

Project:

The Heights Primary School

Drawing Title:

Landscape Sketch Design

Drawn By:	RF	Date:	03.02.17
Checked By:	GO	Date:	06.02.17
Drawing Scale:	1 : 200	Sheet Size:	A1
Drawing No:	HPS-RYD-XX-XX-DR-L-0001	Status:	P
		Rev:	1

Appendix B: ADAS Preliminary Ecological Appraisal (2016)

Report



Preliminary Ecological Appraisal Mapledurham Playing Fields, Reading, Berkshire

Principal Author: Helen Larzleer MSc

Address:

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Oxfordshire, OX14 4RS

Date: January 2016

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1 Summary

ADAS UK Ltd were commissioned by CampbellReith to undertake a Preliminary Ecological Appraisal (PEA) at the Mapledurham Playing Fields, Reading.

Prior to visiting the site a desk study was carried out in November 2015. The Multi-Agency Geographic Information for the Countryside (MAGIC) website was used to derive information relating to the location of statutory designated sites and priority habitats. The Thames Valley Environmental Records Centre (TVERC) provided details of non-statutory designated sites of nature conservation importance as well as records of protected and other notable species. No designated sites, either statutory or non-statutory, were identified that would be affected by the proposed development.

An Extended Phase 1 Habitat survey was conducted on the 15th of December 2015 by Helen Larzleer MSc based on the techniques and methodologies described in the Handbook for Phase 1 Habitat Survey (JNCC 2010) and using standard nomenclature (Stace 2010).

The site survey and desk study results show that there is a potential for any proposed works at the site to impact on foraging and commuting bats. Further survey work is recommended to determine the significance of this impact and facilitate informed design processes. An area of broad-leaved woodland was present at the south-east of the site, the proposed development should avoid affecting this area. If this is not possible further survey work will be required. A multiple entrance Badger sett was identified within the northern area of the woodland. The sett, foraging areas and commuting routes should be maintained during development. It is recommended that development should avoid the north-east portion of the site to minimise impacts. There was also the potential for birds to nest within the dense scrub borders, woodland and scattered trees. Provided that the current management and heavy usage of the site remains the same no other protected species were considered as likely to be affected by the proposed works.

During the design of the development, consideration of features for biodiversity should be included. Appropriate enhancements for this site are likely to include bat boxes, bird boxes, invertebrate habitats and native species planting. More detailed enhancements can be advised once the initial design of the proposed development has been finalised.

Summary of Further Survey or Actions

Survey/Action	Rationale	When
Bat activity/transect surveys.	Bats are likely to use various features and areas of the site as commuting and foraging routes.	Three surveys between April-September (inclusive).
Potential for internal inspection for Bats	If buildings are to be affected, an internal inspection to identify features suitable for roosting bats will be required.	Internal inspections can be undertaken at any time of year.
Potential for Bat presence/absence surveys	If buildings are to be removed, Bat presence/ absence surveys will be required. If Building 1 is to be affected, at least three surveys will be required.	May – September inclusive
Potential for Badger surveys	If the northern area of the woodland is to be affected Badger surveys will be required to determine the extent and usage of the sett.	Badger surveys can be undertaken at any time of year.
Nesting Bird Checks	Potential for nesting birds to use species-poor hedgerows and scrub during breeding season.	Checks to be undertaken if works commence between March-August inclusive.
Install barriers and root protection zones around trees not proposed for removal as per BS5837:2012.	To prevent accidental damage to trees adjacent to works area and to prevent damage to tree roots.	Throughout works.

2 Introduction

2.1 Background and survey objectives

ADAS UK Ltd. was commissioned by CampbellReith to undertake a Preliminary Ecological Appraisal for a proposed development at the Mapledurham Playing Fields, Reading.

The purpose of this report is to identify ecological features within or near the site that could pose constraints to the proposed works and to suggest further surveys / mitigation measures where necessary to protect species which may be using the site.

2.2 Site description

The site consisted of a large playing field split into three grass pitches all under regular management. (Grid Reference: SU 69853 75802). Two buildings were present on site; one was a disused pavilion and the other was a small metal storage unit. A portion of the grassland in the south-east of the site (c.0.37ha) was managed as a wildflower meadow with planted orchard trees throughout. An area of regenerated broad-leaved woodland was present along the east edge of the site. The Reading Borough Council website (2015a) notes that an ancient boundary bank runs along the edge of the woodland. The site was bordered on all sides by fencing, and all boundaries were lined by trees or areas of dense scrub.

The site was surrounded on all sides by residential properties, with the Caversham Heath Golf Course further to the west. (see Figure 1).



Figure 1. Site location and wider landscape (site indicated by redline boundary)

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2.3 Description of the Proposed Development

The site was c.9.5ha. The proposed plans were to build a new school on a portion of the site, in keeping with current features and community usage. At the time of writing of this report development plans and construction timetables had not been finalised.

3 Methodology

3.1 Desk study

A desk study was carried out in November 2015 to identify statutory designated sites within 5km and non-statutory designated sites of nature conservation importance, together with known records of protected and other notable species within a 2 km radius of the proposed development.

The Multi-Agency Geographic Information for the Countryside (MAGIC) website was used to derive information relating to the location of statutory designated sites and priority habitats.

The Thames Valley Environmental Records Centre (TVERC) provided details of non-statutory designated sites of nature conservation importance and records of protected and other notable species. However, other organisations in the county that may hold relevant ecological data were not consulted.

It is important to note that most species are greatly under-recorded and therefore a lack of records for a location should not be taken as an absence of the species concerned. Furthermore, a record for a particular habitat or species does not necessarily confirm its current presence.

3.2 Field survey

A Phase 1 Habitat survey was conducted on the 15th of December 2015 by Helen Larzleer MSc, based on the techniques and methodologies described in the Handbook for Phase 1 Habitat Survey (JNCC 2010) and using standard nomenclature (Stace 2010). The habitats present were recorded on to a field map with written target notes providing supplementary information on, for example, species composition structure and management where relevant.

This was extended to include notes on fauna and habitats which could potentially support protected species, an approach commonly referred to as an Extended Phase 1 Habitat Survey. The presence of, or potential for, protected species was noted on the field map and in the written target notes during the survey.

3.3 Constraints

The survey was carried out on an overcast day during December 2015. The survey effort, methodology and results are likely to provide an accurate account of the broad habitat types and the potential presence or absence of protected species. Although December is outside of the optimal period for undertaking a

detailed botanical survey, the results are sufficient to provide an accurate account of broad habitat types considering the limited habitat diversity on site.

Any appreciable delay in making reference to this report may necessitate a re-survey.

4 Baseline Ecological Conditions

4.1 Designated sites

Statutory sites

There were two Areas of Outstanding Natural Beauty (AONB) within 5km of the site. There were no other statutory sites within 5km.

Table 1: Statutory Sites within 5km

Site Name	Designation	Distance (m)	Direction from site
The Chilterns	AONB	90	W
North Wessex Downs	AONB	3270	W

Non-statutory sites

There were nine Local Wildlife Sites (LWS), two Proposed Local Wildlife Sites (PLWS) and two Conservation Target Areas (CTA) within 2km of the site. An illustrated map of the sites can be found in Appendix 1.

Table 2: Non-statutory sites within 2km

Site Name	Description	Designations	Distance from site (m)
Warren Woodlands Complex	The Warren Woodland Complex consists of six sites. The sites are situation on the chalk scarp of The Warren in Caversham, Reading. The sites consist of lowland mixed deciduous woodland including Beech and yew woodland, wet woodland and fen.	LWS	365
Old Cemetery Victoria Road	This small Victorian cemetery is laid out on a formal grid with tarmac paths surrounded by hedges. It is a sheltered man-made habitat in the midst of an urban environment in Caversham, Reading. Many large trees, generally not native and evergreens, form a backdrop to a carpet of native and garden Bluebells, native Primroses and Celandine in a shaded moist environment.	LWS	365

Site Name	Description	Designations	Distance from site (m)
Hemdean Bottom	A chalk valley on the edge of Caversham. Most of the site is grassland with small areas of woodland and planted scrub towards the edges. The valley sides are fairly gently sloping and the grassland is quite neutral in character but there is still a strong calcareous influence. On the steeper slopes where the sward is short there are more elements of lowland calcareous grassland. The chalk valley extends northwards into Oxfordshire where further areas of calcareous grassland are found.	LWS	936
Highdown Wood	This is a small broadleaved woodland, dominated by mature Beech indicating plantation origin. It is situated within Caversham on the eastern flank of the Hemdean Valley and is bounded by housing estates and a school playing field. There is a line of old Oaks along the escarpment which continues into the woodland. The wood is south-west facing on a moderate slope and has thin, free draining calcareous soils of the Upper Chalk though there are springs and seepage from the overlying Reading beds.	LWS	1176
Furzeplat	This is a small area of mixed semi-natural woodland that holds a diversity of tree and shrub species and typical habitats, including substantial standing and fallen deadwood. The site is unmanaged and as such tends to be structurally quite uniform, both in the canopy and shrub layers.	LWS	1280
Reading Golf Course (west)	Much of the grassland is quite tall and the richer areas are found where the sward is short. Wildflowers found here include Centaury, Fairy Flax and Salad Burnet. In the taller sward colourful wildflowers such as Wild Basil, Knapweed, Wild Parsnip and Field Scabious are found.	LWS	1468
Cow Lane Depot	A small isolated, triangular site bounded by a railway track, situated towards the centre of Reading. The site forms a mosaic of habitats ranging from Willow scrub with mature trees, to open standing water with swamp to ruderal and tall herb grassland. The site has a varied topography with a steep north facing slope colonized by Buddleia, Hazel and Goat Willow. Cow	LWS	1644

Site Name	Description	Designations	Distance from site (m)
	Lane Depot provides a wildlife corridor in an urban landscape.		
Rotherfield Copse	This small broad-leaved woodland is situated in a sheltered dry valley sloping moderately from NE to SW between roads and houses in Emmer Green, Reading. The geology appears to be Reading Beds. There are no other LWS in the vicinity and the wood is entirely surrounded by urban development apart from a wide mown grass verge to Rotherfield Way, of little wildlife value.	LWS	1689
Reading Golf Course (east)	The site is a strip of woodland and grassland on a south facing chalk bank in Reading golf course. The grassland has quite a dense sward but is species rich with characteristic species of calcareous grassland including Horseshoe Vetch, Greater Knapweed, Dwarf Thistle, Mouse-ear Hawkweed, Burnet Saxifrage, Common Milkwort and Wild Marjoram. Herbs characteristic of more neutral soils are also present. Large parts of the site are wooded with a species-rich mix of trees and scrubs.	LWS	1913
Chiltern Escarpment South	This is the escarpment from Goring to Mapledurham and includes some dry valleys that cut into the Chilterns plateau.	CTA	540
Chilterns Dipslope and Plateau	This complex area consists of the steeper side of the chalk valleys cut through the plateau and key areas of the plateau where the main areas of woodlands and heathland remnants are found. These valleys run into Buckinghamshire to the north. Valleys with chalk grassland or significant woodland at the edge of the area are excluded along with the flat chalk areas at the heads of the valleys.	CTA	1127
Highdown Wood Proposed Extension	This is a small broadleaved woodland, dominated by mature Beech indicating plantation origin. It is situated within Caversham on the eastern flank of the Hemdean Valley and is bounded by housing estates and a school playing field. There is a line of old Oaks along the escarpment which continues into the	PLWS	1185

Site Name	Description	Designations	Distance from site (m)
	woodland. The wood is south-west facing on a moderate slope and has thin, free draining calcareous soils of the Upper Chalk though there are springs and seepage from the overlying Reading beds. The age range of the trees is limited, it is mostly mature with young saplings filling few gaps in the canopy.		
Pages Shaw	Pages Shaw is ancient woodland. It has areas of lowland mixed deciduous woodland dominated by Oak and Ash and areas of Beech woodland with a canopy that also contains Oak, Wild Cherry and Ash. The northern part of the site is Beech plantation. Hazel coppice is frequent throughout and Field Maple is found in the Oak and Ash dominated woodland. There are some old coppice stools of Wild Service Tree. In the Beech areas the ground flora is mainly Bramble, Bracken and Bluebell with Dog's Mercury abundant elsewhere.	PLWS	1270

4.2 Habitats

The following habitats were recorded on/around the site and are described below and mapped onto a Phase 1 habitat map (Appendix 2). Where appropriate, Target Notes (TN) for specific features are identified (Appendix 3). Photographs illustrating each habitat type are shown in Appendix 4.

- Buildings
- Hard standing
- Amenity grassland
- Semi-improved grassland
- Dense scrub
- Introduced shrub
- Broad-leaved woodland
- Scattered Trees
- Other habitat – Wildflower meadow and young orchard
- Fences

4.2.1 Buildings

Building 1 (photo 1) was a disused brick pavilion in disrepair, which could not be entered due to health and safety concerns. Building 2 (photo 2) was a corrugated tin storage shed. At the time of the writing of this report it was unknown whether the buildings would be affected by the development.

4.2.2 Hard Standing

Building 1 had an associated entrance and car park. There was a paved basketball court at the east of the site, and a children's play area in the centre of the site. An unpaved footpath exited the site to the south.

4.2.3 Amenity grassland

The majority of the site was maintained as amenity grassland (photo 3).

The species composition was typical of such a habitat with species that are common and widespread. There was a dominant mix of Perennial Rye-grass (*Lolium perenne*) and White Clover (*Trifolium repens*), with occasional Daisy (*Bellis perennis*) and Dandelion (*Taraxacum sp.*).

4.2.4 Semi-improved grassland

A strip of rough grassland along the south-east boundary of the site, of similar species composition to the amenity grassland, was kept unmanaged (photo 4).

4.2.5 Dense scrub

The west and north-east borders of the site were lined with dense scrub (photos 5 & 6), dominated by Bramble (*Rubus fruticosus agg.*), with occasional Nettle (*Urtica dioica*) and tall ruderal vegetation. An area of Blackthorn (*Prunus spinosa*) scrub was present at the eastern-most end of the semi-improved grassland strip near the site's southern boundary (TN6).

4.2.6 Introduced shrub

The entranceway of the site at the north was bordered by Cherry Laurel (*Prunus laurocerasus*) (photo 7).

4.2.7 Broad-leaved woodland

An area of broad-leaved woodland was present along the eastern edge of the site (photo 8). There was a diverse mix of species which included Oak (*Quercus sp.*), Field Maple (*Acer campestre*), Elder (*Sambucus nigra*) and Hazel (*Corylus avellana*). The understory was dominated by Ivy (*Hedera helix*), with occasional woodland species such as Wood Avens (*Geum urbanum*), Lords-and-Ladies (*Arum maculatum*) and Stinking Iris (*Iris foetidissima*).

4.2.8 Scattered trees

A variety of mature and semi-mature trees were present across the site including Lime (*Tilia sp.*), Sycamore (*Acer pseudoplatanus*), Birch (*Betula sp.*) and Poplar (*Populus sp.*).

4.2.9 Other habitat – Wildflower meadow and young orchard

A portion of the south-east grassland was managed by volunteers, and in 2010 was sown as wildflower meadow with various immature orchard trees planted throughout (photo 10). An information sign noted that Crane's Bill (*Geranium* sp.), Scabious (*Scabiosa* sp.), White Campion (*Silene latifolia*), Yellow Rattle (*Rhinanthus minor*), Ox-Eye Daisy (*Leucanthemum vulgare*), Common Vetch (*Vicia sativa*), Birdsfoot Trefoil (*Lotus corniculatus*) and Selfheal (*Prunella vulgaris*) had been sown. The area appeared heavily overgrown by vigorous grass species, and so this species diversity may not have been maintained.

4.2.10 Fences

The site was enclosed by wood and steel fencing on all sides. Some portions were overgrown with scrub and ivy.

4.3 Species and species groups

4.3.1 Amphibians

There were records of Smooth Newt (*Lissotriton vulgaris*) and Common Toad (*Bufo bufo*) within 2km of the site. A record of Common Toad was present in the woodland at the east of the site.

There was limited suitable terrestrial habitat for Great Crested Newts in the form of woodland, scrub and rough grassland however no ponds were mapped within 250m of the site boundary.

Garden ponds may not appear on OS base mapping, however the urban environment around the site would be likely to impair movement. It is considered unlikely that Great Crested Newts are using the site.

4.3.2 Badgers

The TVERC provided records of Badger in the woodland at the east edge of site, with multiple records in wider area. During the survey a Badger sett with three entrances was identified near the north edge of the eastern woodland. One of the entrances showed signs of recent activity and there were clear trails between all three entrances.

4.3.3 Bats

The TVERC provided multiple records for bats within 2km of the site, with multiple species recorded in Highdown woods, 1300 NE of the site, including Daubenton's Bat (*Myotis daubentonii*), Whiskered bat (*Myotis mystacinus*), Natterer's Bat (*Myotis nattereri*), Noctule (*Nyctalus noctula*) and Soprano Pipistrelle (*Pipistrellus pygmaeus*).

The nearest bat record was a Brown Long-eared Bat (*Plecotus auritus*) 55m south of the site.

Building 1 was poorly maintained, was subject to only low levels of disturbance and had several gaps visible around the edges of the door frames and windows. These features suggested a high potential to

support roosting bats. Building 2 appeared to be a single-layer corrugated tin storage shed, with negligible potential to support roosting bats.

The woodland at the east of the site had numerous trees containing features potentially suitable for roosting bats. These features and local records indicate that there is a high likelihood that multiple bat species are using the site. A full assessment of the scattered trees along the site boundaries and across the site was beyond the scope of this report. If individual trees are highlighted as likely to be affected by the proposed development a further assessment for bat roost potential will be required.

4.3.4 Birds

The two long areas of scrub, woodland and scattered trees across the site provided suitable nesting habitat for common urban bird species. Should the current management regime of regular mowing and heavy use by the local community be maintained the site will offer negligible suitability for ground nesting birds.

4.3.5 Dormouse

There were no records of Dormice (*Muscardinus avellanarius*) within 2km of the site.

The urban setting, negligible suitable habitat and lack of connectivity to suitable habitat in the wider landscape makes it unlikely that Dormice would be found on site.

4.3.6 Otter

There were records of Otter (*Lutra lutra*) 536m south of the site.

The River Thames, 460m south of the site may be used as a movement corridor by Otters. It is separated from the site by urban development. Due to the distance from the river it is highly unlikely that Otters are using the site.

4.3.7 Reptiles

There were records of Slow-worm (*Anguis fragilis*) 420m south of site in the Warren, and records of Common Lizard (*Zootoca vivipara*) 1334m south, on the far side of river.

The majority of grassland habitats on site were of low suitability for reptiles, being closely mown and regularly maintained, and having low connectivity to the wider landscape. The wildflower meadow and rough grassland areas had higher suitability, but due to the low connectivity and historic high levels of management it is unlikely that reptiles would be found on site. Should the current management regime of regular mowing and heavy use by the local community be maintained the site will continue to offer negligible suitability for reptiles.

4.3.8 Water Vole

There was a single Water Vole (*Arvicola amphibius*) record 1088m south of site, beyond the River Thames.

There was no suitable habitat for Water Voles on the site.

4.3.9 White-Clawed Crayfish

There was no suitable habitat for White-clawed Crayfish (*Austropotamobius pallipes*).

4.3.10 Non-native Invasive Plants

December is outside of the optimal period for undertaking a detailed botanical survey, therefore the survey cannot be considered a full assessment for non-native invasive plants. Schedule 9 species (as listed on the Wildlife and Countryside Act 1981 (as amended)) were recorded if observed. No non-native invasive plants were identified during the survey.

5 Planning Policy and Legislation

5.1 National planning policy framework

The National Planning Policy Framework (NPPF) of March 2012 replaced the previous planning policy for biodiversity conservation; Planning Policy Statement 9 (PPS9). Paragraph 117 of the NPPF states that to minimise impacts on biodiversity, planning policies should:

- *Plan for biodiversity at the landscape scale, across local authority boundaries.*
- *Promote the preservation, restoration and re-creation of priority habitats, ecological networks and the protection and recovery of priority species populations, linked to national and local targets, and identify suitable indicators for monitoring biodiversity in the plan.*

When determining planning applications, local planning authorities should aim to conserve and enhance biodiversity by applying the following principles (paragraph 118):

- *Development proposals where the primary objective is to conserve or enhance biodiversity should be permitted.*
- *Opportunities to incorporate biodiversity in and around developments should be encouraged.*

5.2 Local planning policy

Table 3: Summary of relevant local planning policy – Reading Borough Local Development Framework

Policy	Description
CS 28 Loss of Open Space	Development proposals that will result in the loss of open space or jeopardise its use or enjoyment by the public will not be permitted. In exceptional circumstances, development may be permitted where it is clearly demonstrated that replacement open space, to a similar standard, can be provided at an accessible location close by, or that improvements to recreational facilities on remaining open space can be provided to a level sufficient to outweigh the loss of the open space. The quality of existing open space should not be eroded by insensitive development on adjoining land.

Policy	Description
CS 29 Provision of Open Space	All new development should make provision for the open space needs of the development through appropriate on or off-site provision, or through contributions towards the provision or improvement of leisure or recreational facilities, including open space. New provision will be sought on residential sites of 50 or more units, or for developments where the availability and quality of existing provision has been identified as deficient in the provision for open space. The provision and improvement of Children's Play Areas and Neighbourhood Recreation Areas should be made, as appropriate, in order to ensure a satisfactory level of provision within the urban area. On sites of less than 50 dwellings or in areas not identified as deficient in the provision of open space, new open space provision/ improvements/ enhancements will be sought through appropriate contributions.
CS 36 Biodiversity and Geology	Development should retain, protect and incorporate features of biodiversity or geological interest (including protected species and their habitats) found within the application site into their schemes. On sites with recognised biodiversity or geological value, development will not be permitted where there would be a direct or indirect adverse impact on the site, unless it can be clearly demonstrated that: - i. The need for development clearly outweighs the need to protect the value of the site; and ii. Appropriate compensation, impact minimisation, mitigation and compensation are provided.
CS 38 Trees, Hedges and Woodlands	Individual trees, groups of trees, hedges and woodlands will be protected from damage or removal, and the Borough's vegetation cover will be extended.

According the Reading Borough Council webpage (Reading Borough Council 2015b) the Council is working on producing a new Local Plan, which will replace the current development plans and will set out how Reading will develop up to 2036. Consultation is expected to start in January 2016. This may result in changes to the above policies.

5.3 Relevant legislation

5.3.1 Natural Environment & Rural Communities Act 2006

Section 40 of the NERC Act 2006 places a duty upon all local authorities in England to promote and enhance biodiversity in all of their functions. Section 41 lists habitats and species of principal importance to the conservation of biodiversity. Fifty-six habitats and 943 species of Principal Importance for Conservation are included on the Section 41 list.

These are all the habitats and species in England that have been identified as requiring action in the UK Biodiversity Action Plan (UK BAP) and are a material consideration in the planning process.

5.3.2 Badgers

Badgers are protected under the Protection of Badgers Act 1992. It is illegal to kill, injure, take or cruelly ill-treat a Badger, dig for a Badger, intentionally or recklessly damage or destroy a Badger sett, or obstruct access to a sett. It is also illegal to disturb a Badger when it is occupying a sett.

5.3.3 Bats

Bats are protected under the Wildlife and Countryside Act 1981 (as amended) and the Conservation of Habitats and Species Regulations 2010 (as amended). It is illegal to kill or injure bats, cause disturbance at their resting places or to block access to, damage or destroy their roost sites.

5.3.4 Birds

Wild birds are protected under the Wildlife and Countryside Act 1981 (as amended). It is illegal to take or harm them, their nests (whilst in use or being built) or their eggs.

Additionally for some species listed in Schedule 1 of the Act it is an offence to intentionally or recklessly disturb the adults while they are in and around their nest or intentionally or recklessly disturb their dependent young.

6 Ecological Constraints and Opportunities, and Recommendations for Mitigation and Further Survey

6.1 Designated Sites

No designated sites will be affected by the proposed development works.

6.2 Habitats

6.2.1 Broad-leaved Woodland

Green areas and woodland are important for communities and wildlife and any development impacts would go against the Local Development Framework (RBC 2008) Core Strategies 36 and 38. These encourage the protection of biodiversity features and specifically woodland when considering development. The woodland on site supports Badger, has multiple trees with high potential to support roosting bats, and is a suitable habitat for nesting birds. The ancient boundary bank identified by the Council website is an irreplaceable feature which should not be affected by development. Given the presence of this feature an Archaeological survey of the site is recommended. Development in or immediately adjacent to the woodland area of the site should be avoided. If this not possible a further species survey work (see Section 6.3) and an Arboriculture survey will be required.

6.2.2 Trees

The scattered trees across the site were mainly of an age and species range as to offer limited opportunities for biodiversity. All works with the potential to impact on trees must comply with BS5837:2012 Trees in Relation to Design, Demolition and Construction (ADAS 2015). Where particular trees are identified as to be affected by development further assessment for potential features suitable for roosting bats will be required.

6.3 Species & Species Groups

6.3.1 Badgers

The Badger sett on site, Badger foraging areas, and commuting routes should be maintained during development. It is recommended that the development avoids the north-east portion of the site. If this is not possible then a Badger survey will be required to establish the full extent of the sett and a license may be required to disturb the sett. A Badger survey can be undertaken to help inform whether a Natural England license will be required for development activities undertaken in the vicinity of the sett. These surveys involve a detailed inspection of all sett entrances to determine number of entrances, direction of tunnels and frequency of use. Badger surveys can be undertaken at any time of year. Licensing typically includes requirements for the provision of adequate alternative habitats if setts and foraging areas are destroyed. Licenses are not normally issued between the beginning of December and the end of June (NE 2015).

6.3.2 Bats

Bats are likely to use various features and areas of the site as commuting and foraging routes. Further surveys will be required to determine the extent to which bats are using the site and to identify which areas will be most sensitive to construction and lighting.

Activity surveys in the form of dusk/dawn transect surveys are recommended (Hundt 2012). These can be carried out by a suitably experienced ecologist between April to September (inclusive). Due to the urban setting of the site and the goals of the survey (to advise which areas of the site are more suitable for the location of the proposed development) it is considered proportional to carry out three activity surveys over the period April to September (inclusive). One of the surveys should occur in the summer and comprise dusk/dawn surveys within the same 24-hour period. The use of a static detector during the period April to September would also be beneficial on this site.

If plans change to include impacts on the existing site buildings or trees within the east woodland further survey work will be required. Building 1 appeared to have a high potential to support roosting bats. Before any works could be undertaken to affect the building an internal inspection by a suitably licensed bat worker, and/or three presence/absence surveys by suitably qualified ecologists would be required. If Building 2 is likely to be affected an internal inspection by a suitably qualified ecologist is recommended.

6.3.3 Birds

Where possible, works should be undertaken outside of the main bird nesting season, considered to be March to August inclusive. Where this is not possible vegetation clearance must be preceded by nest checks, carried out by a suitably experienced person. If any active nests are found these must be left undisturbed, with a 5m buffer of vegetation marked out around them until the nests are no longer in use.

6.3.4 Enhancement Opportunities

During design of the development, consideration of incorporating features of value for biodiversity should be conducted. Appropriate enhancements for this site are likely to include bat boxes, bird boxes, invertebrate habitats and native species planting. More detailed enhancements can be advised once the proposed development design has been finalised.

7 Summary of Recommended Further Survey or Actions

Table 4: Summary of Recommended Further Survey or Actions

Survey/Action	Rationale	When
Bat activity/transect surveys.	Bats are likely to use various features and areas of the site as commuting and foraging routes.	Three surveys between April-September (inclusive).
Potential for internal inspection for Bats	If buildings are to be affected, an internal inspection to identify features suitable for roosting bats will be required.	Internal inspections can be undertaken at any time of year.
Potential for Bat presence/absence surveys	If buildings are to be removed, Bat presence/ absence surveys will be required. If Building 1 is to be affected, at least three surveys will be required.	May – September inclusive
Potential for Badger surveys	If the northern area of the woodland is to be affected Badger surveys will be required to determine the extent and usage of the sett.	Badger surveys can be undertaken at any time of year.
Nesting Bird Checks	Potential for nesting birds to use species-poor hedgerows and scrub during breeding season.	Checks to be undertaken if works commence between March-August inclusive.

Install barriers and root protection zones around trees not proposed for removal as per BS5837:2012.

To prevent accidental damage to trees adjacent to works area and to prevent damage to tree roots.

Throughout works.

8 Conclusions

Any proposed development works at the Mapledurham Playing Fields are likely to impact bat foraging and commuting routes. Further survey work is required to determine use of the site by bats. Activity surveys will identify areas of the site which will be most sensitive to construction and lighting. If any impacts are anticipated on Building 1 an internal inspection and/or at least three presence/absence surveys to determine use by bats will be required. Where particular trees are identified as to be affected by development further assessment for potential features suitable for roosting bats will be required.

An active Badger sett is present on site and impacts on the sett, Badger foraging areas, and commuting routes should be avoided. If this is not possible a Badger survey will be required to determine extent and frequency of use of the sett.

Vegetation clearance has the potential to disturb nesting birds, and should be carried out outside of the bird nesting season, or be preceded by a check for active bird nests.

Trees to be maintained within close proximity to the proposed works must comply with BS5837:2012 Trees in Relation to Design, Demolition and Construction. Development in or adjacent to the on-site woodland should be avoided.

Provided that the current management and heavy usage of the site remains the same no other protected species were considered as likely to be affected by the proposed works.

Enhancements in the form of bat boxes, bird boxes, invertebrate habitats and native planting should be considered during design of the site.

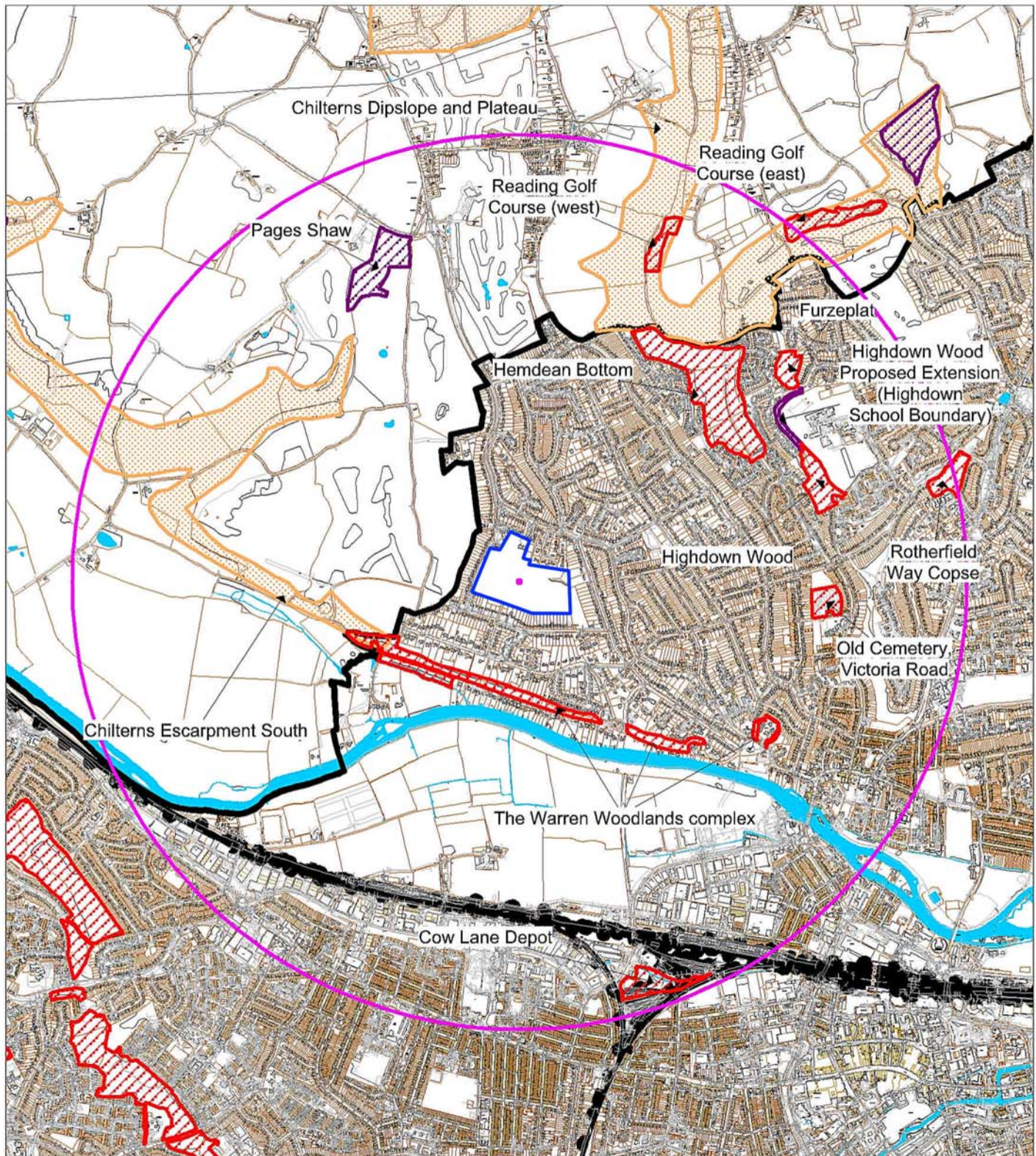
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Appendix 1: Ecological Desk Study Maps

See following page.

Mapledurham Playing Fields Non-Statutory Designated Wildlife Sites



- Local Wildlife Sites
- Proposed Local Wildlife Sites or Extensions
- Conservation Target Areas
- Search Area
- Site Boundary

Scale: 1:25000

Appendix 2: Phase 1 Habitat Survey Map

See following page.