CLYDE&CO

Welwyn Hatfield Borough Council

and

St Albans City and District Council

and

Hertfordshire County Council

and

Advanced Research Clusters GP Limited (as general partner of ARC 1 Limited Partnership)

and

BAE Systems plc

and

Brett Aggregates Limited

Deed of Variation

In respect of a Section 106 Agreement dated 29 December 2000 relating to land at Ellenbrook Park forming part of the former Hatfield Aerodrome

I, PRITEJ MISTRY, CERTIFY that this document is a true and complete copy of the original.

Signed.

[redacted]

SOLICITOR

Pritej Mistry
Specialist Planning Lawyer

LEGAL SERVICES
HERTFORDSHIRE COUNTY COUNCIL
COUNTY HALL
HERTFORD
SG13 8DE

Contents

1	Operative Provisions	3
2	Statutory Provisions	6
3	Legal Effect	6
4	Variations of the Principal Agreement	6
5	Release	6
6	Agreements and Declarations	7
Schedule 1 – Variations of the Principal Agreement		8
Appendix A – Plans and Drawings		26
Appendix B – First Ellenbrook Park Lease		26
Appendix C - Articles of Association for the Ellenbrook Park Trust		28
Appendix D - Call-Option Agreement		29
Appendix E - Landscape Framework Document		30
Appendix F - Existing Establishment Works		32
Appendix G – Landscape Management Document		31
Execution page		32

This Deed of Variation

Dated 20th of December **2024**

Between:

(1) **Welwyn Hatfield Borough Council** of Council Offices, The Campus, Welwyn Garden City, Hertfordshire AL8 6AE (**Borough Council**); and

(2) **St Albans City And District Council** of Council Offices, St Peter's Street, St Albans, Hertfordshire AL1 3JE (**St Albans**); and

(3) **Hertfordshire County Council** of County Hall, Pegs Lane, Hertford, Hertfordshire AL8 6AE (**County Council**); and

(4) **Advanced Research Clusters GP Limited** (company registration number 4233559) of 1 Bartholomew Lane, London, EC2N 2AX as general partner of the limited partnership carrying on business under the name of ARC 1 Limited Partnership (registered in England and Wales as a limited partnership under the Limited Partnerships Act 1907 number LP008624) (**Owner**); and

(5) **BAE Systems plc** (company registration number 1470151) (formerly known as British Aerospace Public Limited Company) whose registered office is situate at 6 Carlton Gardens, London SW1Y 5AD (**BAE**); and

(6) **Brett Aggregates Limited** (company registration number 316788) whose registered office is situate at 150 Aldersgate Street, London EC1A 4AB (**Brett**).

Recitals

(A) This Deed is supplemental to, and varies, the Principal Agreement.

(B) The Borough Council is the local planning authority for the purposes of the Act for the area in which the Borough Land is situated.

(C) St Albans is the local planning authority for the purposes of the Act for the area in which the District Land is situated.

(D) The County Council is the highway authority and the minerals planning authority for the area in which the Land is situated.

(E) The Owner is the freehold owner of the Land as is registered at HM Land Registry under title numbers HD430220 and HD551580.

(F) That part of the Land registered under title number HD430220 comprises part of the Principal Site.

(G) ~~BAE is the freehold owner of that part of the Principal Site which is registered at HM Land Registry under title number HD574011 and, in any event,~~ It is agreed that the obligations in the Principal Agreement remain enforceable against BAE. [redacted] outstanding [redacted] as varied by this Deed [redacted]

(H) Arlington no longer has an interest in the Principal Site, having disposed of its interest to the Owner in 2003, but Arlington was a party to the Principal Agreement and the obligations in the Principal Agreement are enforceable against Arlington. [redacted]

(J) The Minerals Land forms part of the Land.

(K) By an initial option agreement dated 10 November 2016 Brett had, and by a further option agreement dated 14 June 2024 Brett has, the benefit of an option to enter into a lease of the Minerals Land for the purposes of carrying out Minerals Works subject to the prior grant of planning permission for that purpose. Accordingly, Brett is joined in as a party to this Deed in order to give effect to the obligations relating to Ellenbrook Park insofar as they relate to the Minerals Land in circumstances where Brett carries out Minerals Works in accordance with the Minerals Planning Permission.

(L) On 3 September 2021, Brett submitted the Minerals Planning Application to the County Council.

(M) By a decision dated 12 January 2024, the County Council refused to grant the Minerals Planning Permission.

(N) Brett has submitted the Appeal.

(O) The Principal Agreement provides for (amongst other things):

(a) the Principal Site to be redeveloped in accordance with the Master Plan;

(b) completion of the Establishment Works;

(c) the laying out of Ellenbrook Park in accordance with the Establishment Works subject to a right to carry out Minerals Works in accordance with a planning permission;

(d) establishment of the Ellenbrook Park Trust;

(e) the grant of a lease of Ellenbrook Park to the Ellenbrook Park Trust; and

(f) payment of the Ellenbrook Park Contribution to the Ellenbrook Park Trust for the future management and maintenance of Ellenbrook Park as public amenity land.

(P) Since completion of the Principal Agreement, and with the agreement of the Borough Council, St Albans and the County Council, the Owner has:

(a) carried out the Existing Establishment Works;

(b) allowed free public access to the Existing Establishment Works and the related part of Ellenbrook Park; and

(c) managed the Existing Establishment Works at its own cost.

(Q) It is now proposed to vary the Principal Agreement in order to:

(a) vary the Master Plan;

(b) establish the Ellenbrook Park Trust on the terms set out in this Deed;

(c) permit the grant of phased leases of the Land to the Ellenbrook Park Trust on the terms set out in this Deed so as to facilitate the carrying out of Minerals Works on the Minerals Land pursuant to the Minerals Planning Permission (if granted);

(d) permit the completion of the Establishment Works on the terms set out in this Deed; and

(e) secure payment of the Ellenbrook Park Contribution to the Ellenbrook Park Trust on the terms set out in this Deed.

(R) The Parties have agreed to vary the obligations in the Principal Agreement accordingly.

Operative Provisions

1 **General Provisions**

1.1 Unless the context otherwise requires, and save as set out below, the expressions defined in this Deed shall have the same meaning as ascribed to them in the Principal Agreement:

Appeal means the appeal against the County Council's decision pursuant to section 78 of the Act, with reference APP/M1900/W/24/3346607;

Arlington means Goodman Real Estate Developments (2003) (company registration number 01464587) (formerly known as Arlington Property Developments Limited and Arlington Property Developments (2003)) whose registered office is situate at Nelson House, Central Boulevard, Shirley, Solihull, West Midlands, B90 8BG;

Borough Land means that part of the Land shown shaded yellow on Plan 8;

Bovis Agreement means a deed of agreement dated 11 November 2003 entered into between: (1) the Borough Council; (2) Bovis Homes Limited; (3) Chiltern Hundreds Housing Association Limited; (4) Bryant Homes Southern Limited; and (5) Aldwyck Housing Association Limited;

Deed means this deed of variation;

Deed of Modification means the deed of agreement dated 16 October 2002 entered into between: (1) the Borough Council; (2) the County Council; (3) St Albans; (4) BAE; (5) Arlington; (6) Harbour Properties Limited; (7) Hatfield Business Park Limited; (8) API (No. 11) Limited; (9) AP1 (No. 14) Limited; (I0) AP1 (No. 17) Limited; (11) AP1 (No. 18) Limited; (12) Ocado Limited; (13) T-Mobile (UK) Limited; (14) NBC Apparel; (15) the Owner; (16) Bovis Homes Limited; (17) Bryant Homes Southern Limited; (18) The University of Hertfordshire Higher Education Corporation; (19) Next Generation Clubs Limited; (20) the Trustees of the De Havilland Sports and Social Club; and (21) Polyfield Property Limited;

District Land means that part of the Land shown shaded blue on Plan 8;

Eisai Agreement means the deed of agreement dated 15 February 2007 entered into between; (1) the Borough Council; (2) St Albans; (3) the County Council; (4) Arlington; (5) the Owner; (6) BAE; and (7) Eisai Europe Limited;

Existing Establishment Works means all those works:

(a) as generally described in the letter dated 11 June 2010 as sent by Macgregor Smith to the County Council (and copied to the Borough Council and St Albans); and

(b) shown on drawing numbers 502-2-201A, 502-2-030, 502-2-031, 502-2-032 and 502-2-033,

a copy of which are at Appendix F to this Deed;

Frontier Agreement means the deed of agreement dated 13 April 2005 entered into between: (1) the Borough Council; (2) the County Council; (3) St Albans; (4) Frontier Key (Hatfield) Limited; (5) BAE; (6) Arlington; (7) Hatfield Business Park Limited; (8) The Governor and Company of the Bank of Scotland; (9) Barratt Homes Limited; and (10) the Owner;

IO Group Agreements means:

(a) the deed of agreement dated 25 March 2003 entered into between: (1) the Borough Council; (2) the County Council; and (3_Industrial Development Partnership II (Trading Subsidiary) Limited; and

(b) the deed of agreement dated 21 January 2005 entered into between: (1) the Borough Council; (2) the County Council; and (3) Industrial Development Partnership II (Nominee Company) Limited;

Land means all that land shown edged in red on Plan 8 that forms part of the Principal Site;

Master Plan means the plan entitled 'Hatfield Aerodrome – Amended Masterplan – Plan 4' (as defined as the 'Revised Master Plan (2016)' in the Plot 6000 Agreement) a copy of which is at Appendix A to this Deed;

Minerals Land means that part of the Land shown shaded brown on Plan 9;

Minerals Planning Application means a planning application for the establishment of a new quarry (including a new access onto the A1057, aggregate processing plant and other ancillary facilities together with the importation of inert fill materials for the restoration of the minerals working) on the Minerals Land as allocated reference number PL/0232/21 by the County Council;[

Minerals Planning Permission means a planning permission granted pursuant to the Appeal in respect of the Minerals Planning Application (including any subsequent amendment to it that is permitted pursuant to section 73 and/or section 73B and/or section 96A of the Act);

Minerals Works means mineral extraction, processing and restoration together with all ancillary and/or incidental or associated operations including but not limited to:

(a) winning and working of minerals;

(b) construction of highways access(es) and internal haul road roads;

(c) processing plant and machinery;

(d) water storage and silt settlement lagoons;

(e) screening bunds;

(f) storage;

(g) importation of inert waste; and

(h) aftercare;

Parties means the parties to this Deed including their respective successors in title and those deriving title from them;

Plan 8 means drawing number 1183 G203 revision A a copy of which is at Appendix A to this Deed;

Plan 9 means drawing number 118 G204 revision A a copy of which is at Appendix A to this Deed;

Plot 4000 Agreement means the deed of agreement dated 12 June 2012 entered into between: (1) the Borough Council; (2) St Albans; (3) the County Council; (4) Arlington; (5) the Owner; and (6) BAE;

Plot 5000 Agreement means the deed of agreement dated 3 October 2017 entered into between: (1) the Borough Council; (2) St Albans; (3) the County Council; (4) Arlington; (5) the Owner; and (6) BAE;

Plot 5100 Agreement means the deed of agreement dated 4 September 2020 entered into between: (1) the Borough Council; (2) St Albans; (3) the County Council; (4) Arlington; (5) the Owner; (6) BAE; and (7) Hatfield 6939 Limited;

Plot 5600 Agreement means the deed of agreement dated 13 September 2013 entered into between: (1) the Borough Council; (2) St Albans; (3) the County Council; (4) Arlington; (5) the Owner; and (6) BAE;

Plot 6000 Agreement means the deed of agreement dated 6 April 2016 entered into between: (1) the Borough Council; (2) St Albans; (3) the County Council; (4) Arlington; (5) the Owner; (6) BAE; and (7) One Hatfield Hospital Limited;

Porsche Agreement means the deed of agreement dated 3 February 2005 entered into between: (1) the Borough Council; (2) St Albans; (3) the County Council; (4) Arlington; (5) the Owner; and (6) Porsche Cars Great Britain Limited;

Principal Agreement means the deed of agreement dated 29 December 2000 entered into between: (1) the Borough Council; (2) St Albans; (3) the County Council; (4) BAE; (5) Arlington Property Developments Limited; (6) The University of Hertfordshire Higher Education Corporation; and (7) Hatfield Business Park Limited pursuant to section 106 of the Act as amended by the Subsequent Agreements;

Principal Site means the land which is edged red on the Master Plan and known as the former Hatfield Aerodrome site;

Subsequent Agreements means:

(a) the Bovis Agreement;

(b) the Deed of Modification;

(i) the Eisai Agreement;

(j) the Frontier Agreement;

(k) the IO Group Agreements;

(l) the Plot 4000 Agreement;

(m) the Plot 5000 Agreement;

(n) the Plot 5100 Agreement;

(o) the Plot 5600 Agreement;

(p) the Plot 6000 Agreement; and

(q) the Porsche Agreement;

1.2 The Principal Agreement shall from the date of this Deed take effect and be read and construed as varied by this Deed.

1.3 Save as varied by this Deed and to the extent that the same have previously been discharged prior to the date of this Deed, all covenants, rights, obligations and conditions contained in the Principal Agreement shall continue in full force and effect and shall remain enforceable against the parties to the Principal Agreement and their successors in title.

1.4 In the event of any inconsistency or ambiguity in respect of the intentions and obligations of the Parties arising under this Deed and/or the Principal Agreement, then the provisions of this Deed will prevail.

2 **Statutory Provisions**

2.1 This Deed is made pursuant to:

(a) sections 106 and 106A of the Act and is a planning obligation for the purposes of those sections with intent to bind the Land (and each and every part of it);

(b) section 1 of the Localism Act 2000; and

(c) all other enabling statutory powers.

2.2 This Deed is enforceable by (and against) the Borough Council (in respect of the Borough Land), St Albans (in respect of the District Land) and the County Council (in respect of the Land) in accordance with sections 106 and 106A of the Act.

2.3 To the extent that any of the obligations contained in this Deed are not planning obligations within the meaning of the Act they are entered into pursuant to the powers contained in section 111 of the Local Government Act 1972, section 1 Localism Act 2011 and all other enabling powers.

3 **Legal Effect**

3.1 This Deed shall come into full force and effect upon the date of this Deed.

4 **Variations of the Principal Agreement**

The Parties agree that the Principal Agreement shall be varied as set out in Schedule 1 to this Deed.

5 **Release**

5.1 It is acknowledged that the Owner is a successor in title to Arlington's previous legal interests in the Principal Site within the meaning of section 106(3) of the Act and is therefore, liable for the performance of Arlington's obligations pursuant to the Principal Agreement (as varied by this Deed) but, for the avoidance of any doubt, the Owner covenants with the Borough Council, St Albans and the County Council to perform the obligations on the part of Arlington in the Principal Agreement as if the Owner was an original party to the Principal Agreement.

5.2 In recognition of the covenant given by the Owner at Clause 5.1, and that Arlington no longer has any legal interest in the Principal Site (within the meaning of section 106 of the Act), each of the Borough Council, St Albans, the County Council and BAE unconditionally releases Arlington from all and any covenants, liabilities and obligations pursuant to the Principal Agreement and, as from the date of this Deed, such covenants, liabilities and obligations pursuant to the Principal Agreement shall not be enforceable against Arlington.

6 Agreements and Declarations

6.1 If any provision of this Deed shall be held to be invalid, illegal or unenforceable the validity, legality and enforceability of the remaining provisions of this Deed shall not in any way be deemed to be affected or impaired.

6.2 A person who is not a party to this Deed shall have no right under the Contracts (Rights of Third Parties) Act 1999 to enforce any term of this Deed.

6.3 The Owner agrees to pay the reasonable legal costs that are properly incurred by each of the Borough Council, St Albans and the County Council in negotiating and completing this Deed on or prior to the date of completion of the Deed.

6.4 This Deed is a local land charge for the purposes of the Local Land Charges Act 1975 and shall be registered as such by the Borough Council and St Albans.

6.5 This Deed may be executed in any number of counterparts, each of which when executed and delivered shall constitute an original of this Deed but all the counterparts shall together constitute the same Deed.

6.6 This Deed shall be governed by and construed in accordance with the laws of England.

Schedule 1 – Variations of the Principal Agreement

1 **Original Definitions**

1.1 The following definitions at Clause 1 of the Principal Agreement shall be deleted:

Ellenbrook Park The land shown for the purpose of identification only on the Master Plan edged blue and shown in detail on Plan 8 edged red and shaded green;

Ellenbrook Park Contribution the sum of £1,360,000 (One Million Three Hundred and Sixty thousand Pounds);

Ellenbrook Park Lease a lease in the form annexed in Schedule Ten;

Ellenbrook Park Trust the Ellenbrook Park Preservation Trust Limited to be formed by the District Council and St Albans under the Memorandum and Articles attached as Schedule Ten Part 2;

Establishment Works those works of planting arboricultural woodland management landscaping ground modelling reshaping recontouring and regrading the land from laying out and construction of footpath/bridleways and footpath/cycleways landscape improvements and additions site security measures together with all other works to the Ellenbrook Park in broad accordance with the provisions of Section 2 'Landscape Treatment and Management of the Landscape Framework Document.

Framework Plans 5 separate 1250 scale plans to be prepared and numbered 1-5 (with written statement) for the entirety of the Commercial Area (including the Hotel Site) the Residential Area and Primary School Site, the Ellenbrook Park, the University Land and the District Centre respectively specifying the proposed mix and disposition of land uses, road patterns phasing landscaping means of access disposition provision and timing of and location of educational and sports and community retail sui generis uses the location of recycling facilities (where appropriate) car parking open space residential (including a range of densities) and commercial development (including a general indication of the likely floorspace density car parking and Use Classes and sub-classes of all development to be carried out within the various areas of the Application site) highways (with noise attenuation measures where appropriate) and landscaping and open spaces.

Landscape Framework Document the document contained in Schedule Twenty One.

Landscape Management Document a document to be based on the principles contained in Landscape Framework Document which will describe in full detail the landscape treatment management and maintenance proposals for Ellenbrook Park and which is to be prepared by Arlington and approved by the District Council and St Albans.

Master Plan the plan entitled 'Hatfield Aerodrome – Amended Masterplan – Plan 4'

Plan 8 the plan annexed hereto and marked "Plan 8"

2 **New Definitions**

2.1 The following definitions shall be inserted at Clause 1 of the Principal Agreement:

Appeal means the appeal against the County Council's decision pursuant to section 78 of the Act, with reference APP/M1900/W/24/3346607;

Borough Council means Welwyn Hatfield Borough Council (formerly Welwyn and Hatfield District Council);

Borough Land means that part of the Land shown shaded yellow on Plan 8;

Brett means Brett Aggregates Limited (company registration number 316788) or such other operator who is granted a Minerals Lease from time to time in order to carry out Minerals Works on the Minerals Land (or any part of it);

Call-Option Agreement means an agreement in the form attached at Part 3 of Schedule Ten to this Deed, pursuant to which the Ellenbrook Park Trust is entitled to require a Further Ellenbrook Park Lease to be granted in respect of any part of the Minerals Land PROVIDED THAT such Further Ellenbrook Park Lease may only be granted following the receipt of a Minerals Works Completion Notice in respect of that part of the Minerals Land;

Challenge means an application for statutory review under section 288 of the Act including any appeal(s) to a higher court following a judgment of a lower court;

Complete means, in respect of the Establishment Works, that they are complete in all material respects such that they are fit for their intended purpose and **Completion** shall be construed accordingly;

Completion Notice means a notice in writing issued by the Borough Council and (in relation to the Minerals Land only) St Albans pursuant to which the Borough Council and St Albans (if appropriate) confirms that the Establishment Works (or the relevant part of them) have been Completed in accordance with the Landscape Management Document;

Director Information means in respect of each Director Nominee:

(a) full name;

(b) full residential address;

(c) service address, which may be Ellenbrook Park Trust's registered office;

(d) date of birth;

(e) nationality;

(f) occupation;

(g) country/state of residence; and

(h) details of any former name(s) used in the last twenty (20) years;

Director Nominee means one (1) natural person selected by each Prospective Public Sector Member to be appointed to the board of directors of the Ellenbrook Park Trust;

District Land means that part of the Land shown shaded blue on Plan 8];

Ellenbrook Park means the land shown for the purpose of identification only shaded green on the Master Plan and/or edged in red on Plan 8;

Ellenbrook Park Contribution means the sum of three million and sixty-four thousand pounds (£3,064,000) which accounts for indexation in accordance with Index B from December 2000 to the date of this Deed and which will be subject to further indexation in accordance with Clause 3.9A of this Deed;

Ellenbrook Park Trust means the Ellenbrook Park Preservation Trust Limited to be formed by the Borough Council, St Albans and the Owner in accordance with the terms of this Deed;

Establishment Works means the establishment works to be carried out as identified in the Landscape Management Document PROVIDED THAT, for the avoidance of any doubt, these works include the Existing Establishment Works to the extent that they are not superseded by the establishment works identified in the Landscape Management Document;

Existing Establishment Works means all those works:

(a) as generally described in the letter dated 11 June 2010 as sent by Macgregor Smith to the County Council (and copied to the Borough Council and St Albans); and

(b) shown on drawing numbers 502-2-201A, 502-2-030, 502-2-031, 502-2-032 and 502-2-033,

a copy of all of which is at Schedule Twenty Two to this Deed;

First Ellenbrook Park Lease means a lease of both the Northern Fields and Home Covert/Cutfield Wood in the form attached at Part 1 of Schedule Ten to this Deed;

Framework Plans means separate 1:1250 scale plans to be prepared and numbered 1, 2, 3, 4 or 5 (with written statement) for each of: the entirety of the Commercial Area (including the Hotel Site); the Residential Area and Primary School Site; the University Land; and the District Centre, specifying the proposed mix and disposition of land uses, road patterns, phasing, landscaping, means of access, disposition, provision and timing of and location of educational and sports and community, retail, sui generis uses, the location of recycling facilities (where appropriate), car parking, open space, residential (including a range of densities) and commercial development (including a general indication of the likely floorspace density car parking and Use Classes and sub-classes of all development to be carried out within the various areas of the Application Site, highways (with noise attenuation measures where appropriate) and landscaping and open spaces;

Further Ellenbrook Park Lease means a lease (in substantially the same form and to include the same expiry date as the First Ellenbrook Park Lease) of any part of the Minerals Land in accordance with, and pursuant to, the Call-Option Agreement or as otherwise provided in Clause 4.88K;

Further Ellenbrook Park Lease Request means, in respect of any part of the Minerals Land that is not subject to a Further Ellenbrook Park Lease, a written request sent by the Ellenbrook Park Trust to the Owner that a Further Ellenbrook Park Lease be granted in respect of that part of the Minerals Land;

Home Covert/Cutfield Wood means that part of the Land shown shaded green on Plan 9;

Initial Contribution means the sum of fifty thousand pounds (£50,000) which will be subject to indexation in accordance with Clause 3.9A of this Deed;

Land means all that land shown edged in red on Plan 8, most of which forms part of the Application Site;

Landscape Framework Document means drawing number 1183-G502 Rev G entitled 'FIGURE 4 Management Areas Plan', a copy of which is at Schedule Twenty One to this Deed;

Landscape Management Document means the Landscape Management Document (Minerals) and/or the Landscape Management Document (No Minerals) as applicable;

Landscape Management Document (Minerals) means the landscape management document entitled 'Ellenbrook Fields – Hatfield, Updated Landscape Management Document, Minerals Version' and dated December 2024 that identifies:

(a) details of the quality and quantity of the Establishment Works;

(b) the phased Completion of the Establishment Works on the Land on the assumption that Minerals Works are carried out on the Minerals Land in accordance with the Minerals Planning Permission;

(c) proposals for the future maintenance of the Establishment Works following their Completion pursuant to (b) above,

a copy of which is at Part 1 of Schedule Twenty Three to this Deed PROVIDED THAT it is agreed, for the avoidance of any doubt, that the Landscape Management Document (Minerals) is consistent with the Minerals Planning Permission;

Landscape Management Document (No Minerals) means the landscape management document entitled ' Ellenbrook Fields – Hatfield, Updated Landscape Management Document, No Minerals Version' and dated December 2024 that identifies:

(a) details of the quality and quantity of the Establishment Works;

(b) the Completion of the Establishment Works on the Land on the assumption that Minerals Works are not carried out on the Minerals Land;

(c) proposals for the future maintenance of the Establishment Works following their Completion pursuant to (b) above,

a copy of which is at Part 2 of Schedule Twenty Three to this Deed;

Maintenance Period means the period of two (2) years starting on the date of the Completion Notice;

Master Plan means drawing number 11940 200P entitled 'Amended Masterplan – Plan 4' a copy of which is appended to this Deed;

Member Information means the full legal name and address of the Prospective Public Sector Member;

Minerals Land means that part of the Land shown shaded brown on Plan 9;

Minerals Expiry Date means the first date when the Minerals Planning Permission becomes incapable of being implemented because it has not been begun (within the meaning of section 56 of the Act) within the period required by the Minerals Planning Permission;

Minerals Lease means, in respect of any part of the Minerals Land, a lease granted by the Owner to Brett;

Minerals Planning Application means a planning application for the establishment of a new quarry (including a new access onto the A1057, aggregate processing plant and other ancillary facilities together with the importation of inert fill materials for the restoration of the minerals working) on the Minerals Land as allocated reference number PL/0232/21 by the County Council;

Minerals Planning Permission means a planning permission granted pursuant to the Appeal in respect of the Minerals Planning Application and any subsequent planning permission for Minerals Works on the Minerals Land (or any part of it) whether pursuant to section 73 or otherwise (including any amendment(s) to such planning permission(s) that is granted pursuant to section 96A of the Act);

Minerals Refusal Date means the date that is six (6) weeks after the date when the Minerals Planning Application is refused unless a Challenge is made to such refusal in which case the date shall be either:

(a) the date of the final disposal by the courts of such Challenge leaving the refusal of the Minerals Planning Application intact; or

(b) where a Challenge results in a quashing of the refusal, the date when the Minerals Planning Application has been refused again following a re-determination of the Minerals Planning Application and no Challenge is made in respect of it;

Minerals Works means mineral extraction, processing and restoration together with all ancillary and/or incidental or associated operations including but not limited to:

(a) winning and working of minerals;

(b) construction of highways access(es) and internal haul road roads;

(c) processing plant and machinery;

(d) water storage and silt settlement lagoons;

(e) screening bunds;

(f) storage;

(g) importation of inert waste; and

(h) aftercare;

Minerals Works Completion means completion of restoration in accordance with the Minerals Planning Permission;

Minerals Works Completion Notice means, in respect of any part of the Minerals Land, a written notice referred to in clause 4.88F that includes the following details:

(a) confirmation that Minerals Works Completion has been achieved in respect of that part of the Minerals Land;

(b) a plan identifying the relevant part of the Minerals land in respect of which Minerals Works Completion has been achieved;

Non-Minerals Land means together the Northern Fields and Home Covert/Cutfield Wood;

Northern Fields means that part of the Land shown shaded yellow on Plan 9;

Owner means Advanced Research Clusters GP Limited;

Plan 8 means drawing number 1183 G203 revision A;

Plan 9 means drawing number 118 G204 revision A; and

Prospective Public Sector Member means each of:

(a) the Borough Council;

(b) St Albans;

(c) Colney Heath Parish Council;

(d) Hatfield Town Council; and

(e) the County Council;

or such other entity as is jointly agreed by the Borough Council, St Albans and the County Council in accordance with Clause 4.88A of this Deed, in each case being prospective members of the Ellenbrook Park Trust.

3 **Drawings**

3.1 The following drawings shall be deleted from the Principal Agreement:

Drawing number SBT/11940/200 F entitled 'Hatfield Aerodrome – Masterplan – PLAN4' as substituted by the plan entitled 'Hatfield Aerodrome – Amended Masterplan – Plan 4'

Drawing number SBT/11940/208 entitled 'Ellenbrook Park – Lease Plan – Plan-08' '

3.2 The following drawings shall be inserted into the Principal Agreement:

Drawing number 11940 200P (Master Plan)

Drawing number 1183 G203 revision A (Plan 8)

Drawing number 118 G204 revision A (Plan 9)

4 **Borough Council**

4.1 All references to 'District Council' in the Principal Agreement shall be deleted and replaced by 'Borough Council'.

5 **Ellenbrook Park**

5.1 The reference to the Ellenbrook Park Contribution in the table at Clause 3.9 of the Principal Agreement shall be deleted.

5.2 A new Clause 3.7A shall be inserted in the Principal Agreement as follows:

'3.7A Brett covenants to comply with Clauses 4.85(a) and (d), 4.87, 4.88F, 4.88I, 4.88O, 4.90, 4.127 and 4.128 of this Deed only and only insofar as the same affect the Minerals Land and in respect of which and during such time as they have the benefit of a Minerals Lease save for any pre-existing breaches by Brett which shall remain enforceable notwithstanding they no longer have the benefit of a Minerals Lease'

5.3 New Clauses 3.9A, 3.9B and 3.9C shall be inserted in the Principal Agreement as follows:

'3.9A The Ellenbrook Park Contribution and the Initial Contribution (and for the avoidance of doubt, the Borough Council and St Albans shall be permitted to reimburse themselves from the Initial Contribution upon receipt by the Ellenbrook Park Trust of the Initial Contribution for reasonable costs in association with incorporation of the Ellenbrook Park Trust but properly incurred prior to the incorporation of the Ellenbrook Park Trust and from the Ellenbrook Park Contribution itself upon receipt by the Ellenbrook Park Trust for costs properly incurred between incorporation of the Ellenbrook Park Trust and grant of the First Lease, where such costs incurred exceed the amount provided in the Initial Contribution), shall each be adjusted in accordance with any increase in Index B between November 2024 and the date of actual payment.'

3.9B The following definitions shall apply for the purposes of Clause 3.9C below:

Aggregates Index: the Aggregates Levy exclusive version of the Aggregates No. 3 Index forming part of the "Price Adjustment Formulae Indices (Civil Engineering) 1990 Series" (90/3a) as currently produced by the Department of Business Innovation and Skills (June 1990 = 100);

Aggregates Base Figure: 211 (November 2023);

CPI: the Consumer Prices Index published by the Office for National Statistics;

CPI Base Figure : 131.7 (November 2023);

New Aggregates Figure: the last published confirmed figure for the Aggregates Index preceding the relevant Index Review Date;

New CPI Figure: the last published confirmed figure for the CPI preceding the relevant Index Review Date;

Index Review Date: 30 June 2031 and each anniversary of that date until such time as the Ellenbrook Park Contribution is paid in full.'

'3.9C In the event that the provisions of Clause 4.88O operate the quarterly payments to be made by Brett as set out in that Clause shall be the greater of:

(a) the relevant amount set out in Clause 4.88O prior to any Index Review Date; and

(b) the value of R at any Index Review Date calculated in accordance with the following formula:

$R = (((A \div B) + (C \div D)) \div 2) \times I$

and where:

A = the New Aggregates Figure

B = the Aggregates Base Figure

C = the New CPI Figure

D = the CPI Base Figure

I = the relevant amount set out in Clause 4.88O (for the avoidance of doubt not including any indexation increases pursuant to this Clause)'

5.4 A new Clause 8.5 shall be inserted in the Principal Agreement as follows:

'8.5 It is agreed and declared that the carrying out of Minerals Works in accordance with the Minerals Planning Permission shall suspend the requirement for compliance with the obligations in this Deed in respect of the Minerals Land (or the relevant part of it) whilst the Minerals Works are being carried out i.e. before a Minerals Works Completion Notice has been issued in respect of the relevant part of the Minerals Land, at which point they apply in full again.'

5.5 A new Clause 8.6 shall be inserted in the Principal Agreement as follows:

'8.6 For the avoidance of any doubt, it is agreed that BAE does not have any legal estate in the Land and that the liability of BAE under this Deed and/or the Principal Agreement in respect of the Land only shall be confined to payment of the Ellenbrook Park Contribution except for any prior breach as at the date of this Deed.'

5.6 Clauses 4.81 – 4.88 of the Principal Agreement shall be deleted and replaced with the following:

'ELLENBROOK PARK

4.81 Subject to clause 4.82 below, to carry out and Complete the Establishment Works in full accordance with the Landscape Management Document (Minerals) by the end of June 2029 and in full compliance with the works, milestones and times set out within the Landscape Management Document (Minerals).

4.82 If the Appeal is dismissed and no Challenge is brought in respect of such decision or a Challenge is made but not upheld resulting in the refusal of the Minerals Planning Application or if the Appeal is upheld and is successfully Challenged by a third

party leading to the quashing of the Minerals Planning Permission (and a Mineral Planning Permission is not subsequently granted upon a re-determination of the Appeal following such quashing), the Establishment Works shall be carried out and Completed Works in full accordance with the Landscape Management Document (No Minerals) by the end of June 2029 and in full compliance with the works, milestones and times set out within the Landscape Management Document (No Minerals) and the Owner and Brett further covenant that the Borough and St Albans shall be notified in writing by the Owner or Brett within twenty-one (21) days of the Minerals Refusal Date having occurred.

4.83 Not to amend the Landscape Management Document without the written approval of the Borough Council (in respect of the Borough Land) and St Albans (in respect of the District Land).

4.84 On Completion of the Establishment Works pursuant to the applicable Landscape Management Document on the Non-Minerals Land:

(a) within fourteen (14) days of Completion of the Establishment Works the Owner shall submit a written notice to the Borough Council to confirm Completion of the Establishment Works;

(b) the Borough Council shall inspect the Establishment Works as soon as reasonably practicable and, in any event, within twenty-eight (28) days of receipt of the written request from the Owner pursuant to Clause 4.84(a) above;

(c) within fourteen (14) days of such inspection, the Borough Council shall either issue a Completion Notice or identify in writing such works (together with a programme setting out the timescales for their completion) as are required in order to Complete the Establishment Works in accordance with the applicable Landscape Management Document; and

(d) the Owner shall Complete any additional works in accordance with the notice received from the Borough Council pursuant to Clause 4.84(c) above,

and the process set out in this Clause shall continue until a Completion Notice is issued PROVIDED FURTHER THAT, for the avoidance of any doubt, if the Establishment Works have not been completed in accordance with Clauses 4.81 or 4.82 (as applicable) and the corresponding Completion Notice has not been issued in accordance with this Clause 4.84 the Owner shall take all necessary steps to establish the Ellenbrook Park Trust in accordance with Clauses 4.88 and 4.88A below, then (subject to Clause 4.88A below) the Owner shall continue to remain responsible for completing the Establishment Works in respect of the Non-Minerals Land until a Completion Notice has been issued.

4.85 On Completion of the Establishment Works pursuant to the applicable Landscape Management Document on the Minerals Land:

(a) within fourteen (14) days of Completion of the Establishment Works the Owner or Brett (as the case may be) shall submit a written notice to St Albans and the Borough Council to confirm Completion of the Establishment Works;

(b) St Albans and the Borough Council shall jointly inspect the Establishment Works (or the relevant part of them) as soon as reasonably practicable and, in any event, within twenty-eight (28) days of receipt of the written request from the Owner or Brett (as the case may be) pursuant to Clause 4.85(a) above;

(c) within twenty-eight (28) days of such inspection, both St Albans and the Borough Council shall either jointly issue a Completion Notice or identify in writing such works (together with a programme setting out the timescales for their completion) as are required in order to Complete the Establishment Works on the Minerals Land (or the relevant part of them) in accordance with the applicable Landscape Management Document; and

(d) the Owner or Brett (as the case may be) shall Complete any additional works in accordance with the notice received jointly from both St Albans and the Borough Council pursuant to Clause 4.85(c) above,

and the process set out in this Clause shall continue until a Completion Notice is issued.

4.86 Subject to Clauses 4.87 and 4.88A below, upon and following issue of a Completion Notice pursuant to Clause 4.84 and/or Clause 4.85 above, to maintain the Establishment Works (or the relevant part of them) in accordance with the applicable Landscape Management Document for the Maintenance Period PROVIDED THAT:

(a) this obligation shall not prevent the carrying out of Minerals Works on any part of the Minerals Land in accordance with the Minerals Planning Permission;

(b) for the avoidance of any doubt, the Owner shall continue to remain responsible for maintaining the Establishment Works in respect of the Non-Minerals Land until expiration of the Maintenance Period or the First Ellenbrook Park Lease has been granted to the Ellenbrook Park Trust (whichever is the earlier).

4.87 Without prejudice to the generality of Clause 4.86, at all times in relation to the Non-Minerals Land until completion of the First Ellenbrook Park Lease and in relation to the Minerals Land (or any relevant part of it) until included within a Further Ellenbrook Park Lease, to:

(a) continue to manage and maintain the Existing Establishment Works (including any equipment, apparatus, fencing, planting and surfacing) in accordance with the Landscape Framework Document;

(b) manage and maintain the Establishment Works in accordance with the applicable Landscape Management Document;

(c) manage and maintain the Non-Minerals Land as an amenity space for public recreation and as a landscape and wildlife resource and to allow free public use, enjoyment and access at all times throughout the year (including all residents of the Development) in accordance with the management objectives as set out in Schedule Seven to the reasonable satisfaction of the Borough Council, St Albans and the County Council; and

(d) manage and maintain the Minerals Land as an amenity space for public recreation and as a landscape and wildlife resource and to allow free public use, enjoyment and access at all times throughout the year (including all residents of the Development) in accordance with the management objectives as set out in Schedule Seven to the reasonable satisfaction of the Borough Council, St Albans and the County Council PROVIDED THAT the carrying out of the Minerals Works in accordance with the Minerals Planning Permission shall not be a breach of this obligation,

and in the event of the Borough Council or St Albans notifying in writing the Owner and/or Brett of any failure to manage and maintain the Existing Establishment Works, the Establishment Works, the Non-Minerals Land and the Minerals Land respectively in accordance with this Clause 4.87 (such notice to include full details of the alleged failure together with a reasonable period of time within which to remedy such failure) or in the event of any material breach of this clause 4.87 up to the expiration of the relevant Maintenance Period then the Owner and/or Brett (as the case may be) shall rectify the same in accordance with the written notice received from the Borough Council or St Albans (as the case may be) PROVIDED THAT for the avoidance of any doubt this Clause shall absolutely determine and cease to be of any further effect save for pre-existing breaches in respect of the Non-Minerals Land upon completion of the First Ellenbrook Park Lease and in respect of the relevant part of the Minerals Land upon completion of a Further Ellenbrook Park Lease in respect of that part.

4.88 No later than nine (9) months before expiration of the first Maintenance Period in respect of the Non-Minerals Land, to request the following information in writing from each Prospective Public Sector Member:

(i) the Member Information;

(ii) its consent to becoming a member of the Ellenbrook Park Trust;

(iii) the Director Information in respect of each Director Nominee; and

(iv) consent from each Director Nominee to be appointed as a director of the Ellenbrook Park Trust.

4.88A Subject to receiving all information from each Prospective Public Sector Member pursuant to Clause 4.88, to incorporate the Ellenbrook Park Trust as soon as reasonably practicable following receipt of all such information and in any event at least six (6) months prior to expiration of the first Maintenance Period in respect of the Non-Minerals Land, on the basis that:

(a) the Owner (or its nominee) and each Prospective Public Sector Member shall be a member of the Ellenbrook Park Trust; and

(b) each Director Nominee, together with five (5) natural persons nominated by the Owner, shall be the directors of the Ellenbrook Park Trust; and

(c) the articles of association of the Ellenbrook Park Trust shall be in the form set out at Part 2 of Schedule Ten to this Deed,

PROVIDED THAT:

(i) each of the Borough Council, St Albans and the County Council covenants with the Owner to do what is reasonably requested by the Owner to enable and facilitate incorporation of the Ellenbrook Park Trust;

(ii) in the event that one or more of the Prospective Public Sector Members do not provide the relevant information in accordance with Clause 4.88 or do not agree to join the Ellenbrook Park Trust the final decision as to the identity of the Prospective Public Sector Member(s) shall be made jointly by the Borough Council, St Albans and the County Council;

(iii) the Owner shall not be liable to the extent that the Ellenbrook Park Trust is not incorporated as a result of matters outside its control.

4.88AA Upon incorporation of the Ellenbrook Park Trust, to pay the Initial Contribution to the Ellenbrook Park Trust.

4.88B The Owner acknowledges that the Borough Council shall register the Call-Option Agreement at HM Land Registry against title for the Land and consents to such registration.

4.88C No later than fourteen (14) days after expiration of the first Maintenance Period in respect of the Non-Minerals Land

to issue an engrossment of:

(a) the First Ellenbrook Park Lease; and

(b) the Call-Option Agreement,

for execution by the Ellenbrook Park Trust.

4.88D To complete the First Ellenbrook Park Lease and the Call-Option Agreement within fifteen (15) Working Days after receiving engrossments of the First Ellenbrook Park Lease and the Call-Option Agreement that have been properly executed on behalf of the Ellenbrook Park Trust.

4.88E Upon the grant of the First Ellenbrook Park Lease to the Ellenbrook Park Trust, to pay the Ellenbrook Park Contribution (less the Initial Contribution if already paid to the Ellenbrook Park Trust pursuant to Clause 3.9A and subject to the obligation in Clause 3.9A in favour of the Borough Council and St Albans) to the Ellenbrook Park Trust.

4.88F No later than twelve (12) months after Minerals Works Completion has been achieved in respect of each phase (as defined in the Minerals Planning Permission) or any other part of the Minerals Land, Brett shall serve a Minerals Works Completion Notice in respect of that phase or part of the Minerals Land on each of the following:

(a) the Borough Council;

(b) St Albans;

(c) the County Council;

(d) the Owner;

(e) the Ellenbrook Park Trust; and

(f) BAE.

4.88G Subject to receipt of:

(a) a Minerals Works Completion Notice in respect of any part of the Minerals Land; and

(b) a Further Ellenbrook Park Lease Request in respect of that part of the Minerals Land,

then, no later than twenty-eight (28) days after receipt of that Further Ellenbrook Park Lease Request to issue an engrossment of a Further Ellenbrook Park Lease to the Ellenbrook Park Trust in accordance with that Further Ellenbrook Park Lease Request PROVIDED THAT: (i) if the relevant Further Ellenbrook Park Lease Request is received prior to expiration of the aftercare period in respect of that part of the Minerals Land (as imposed by the Minerals Planning Permission) then any related Further Ellenbrook Park Lease

shall be subject to a licence (or equivalent) to permit Brett to complete all aftercare works as authorised by the Minerals Planning Permission; and (ii) the Borough Council, St Albans and the County Council confirm that, subject to the matters in this Clause, it is their intention that the Ellenbrook Park Trust accepts the Further Ellenbrook Park Lease but, for the avoidance of doubt, nothing in this Clause shall preclude the Borough Council, St Albans and the County Council from making any decision at their absolute discretion in respect of the Further Ellenbrook Park Lease.

4.88H To complete each Further Ellenbrook Park Lease within fifteen (15) Working Days after receiving an engrossment of that Further Ellenbrook Park Lease that has been properly executed on behalf of the Ellenbrook Park Trust.

4.88I Following the grant of the Minerals Lease, and pending completion of each Further Ellenbrook Park Lease, to ensure that public access is maintained (at its own cost) across all those parts of the Minerals Land that are not subject to Minerals Works in accordance with the principles set out at Clause 4.87 above.

4.88J In the event that winning and working of minerals has not begun within the time limit specified on the Minerals Planning Permission granted following the date of this Deed i.e. the Minerals Expiry Date has occurred, the Owner shall carry out on the Minerals Land the Establishment Works identified in the Landscape Management Document (No Minerals) to be carried out in such circumstances and the provisions of Clause 4.84 shall apply to such Establishment Works.

4.88K No later than fourteen (14) days after the expiration of the Maintenance Period in respect of the Establishment Works carried out pursuant to Clause 4.88J, the Owner shall issue an engrossment of the Further Ellenbrook Park Lease in respect of the Minerals Land for execution by the Ellenbrook Park Trust.

4.88L To complete the Further Ellenbrook Park Lease, as issued to the Ellenbrook Park Trust pursuant to Clause 4.88K within fifteen (15) Working Days after receiving an engrossment of that Further Ellenbrook Park Lease that has been properly executed on behalf of the Ellenbrook Park Trust.

4.88M Notwithstanding any of the above, if the Owner has not completed the Establishment Works in respect of the Non-Minerals Land and/or granted the First Ellenbrook Park Lease to the Ellenbrook Park Trust by 30 June 2031, on that date:

(a) to pay the Ellenbrook Park Contribution in full (less the Initial Contribution if already paid to the Ellenbrook Park Trust pursuant to Clause 3.9A and subject to the obligation in Clause 3.9A in favour of the Borough Council and St Albans) to the Borough Council pursuant to Clause 4.88E PROVIDED THAT the Borough Council covenants with the Owner to pay the Ellenbrook Park Contribution to the Ellenbrook Park Trust within twenty (20) Working Days of receipt of a written request from

the Ellenbrook Park Trust following its incorporation pursuant to Clause 4.88M(b); and

(b) the Owner shall incorporate the Ellenbrook Park Trust subject to the reasonable co-operation from the Prospective Public Sector Members save that the Borough Council, St Albans and the County Council shall be entitled to incorporate the Ellenbrook Park Trust (to include the Owner) in the event of default by the Owner for whatever reason; and

(c) the Owner shall grant the First Ellenbrook Park Lease; and

(d) if the Establishment Works have been not been completed in full, to pay the Borough Council the costs that the Ellenbrook Park Trust are estimated to reasonably and properly incur in completing the Establishment Works for the Land, such costs to be established by an independent expert appointed by the Borough Council, save that if after completing the Establishment Works the cost to the Ellenbrook Park Trust has been greater than the estimated sum, to pay the difference between the estimated sum and the actual costs incurred by the Ellenbrook Park Trust, such actual costs to be identified in a detailed breakdown produced by the Ellenbrook Park Trust to the Owner.

4.88N Upon the grant of the Ellenbrook Park Lease, the Owner shall make available at their own cost a park ranger and a landscape consultant in accordance with the terms of the Ellenbrook Park Lease.

4.88O If the Ellenbrook Park Contribution has not been paid in full to the Borough Council pursuant to Clause 4.88M(a) within ten (10) Working Days of 30 June 2031 then in the event that Brett shall at that time or at any time thereafter have extracted and sold or removed from the Minerals Land in excess of two hundred and fifty thousand (250,000) tonnes of sand and gravel:

(a) Brett agrees that it shall make the following payments (subject to indexation in accordance with Clause 3.9B and Clause 3.9C of this Deed) due to the Owner pursuant to the lease of the Minerals Land to the Borough Council until such time as the Ellenbrook Park Contribution (calculated in accordance with Clause 4.88O(b) below) has been paid in full such payments to be made quarterly on 1 January, 1 April, 1 July and 1 October in each year with the first such payment being paid on 1 October 2031 or the first quarter following the extraction and selling or removing from the Minerals Land in excess of two hundred and fifty thousand (250,000) tonnes of sand and gravel (in the event this is not achieved within 10 Working Days of 30 June 2031):

(i) if it is the first year of the term of the lease of the Minerals Land the sum of forty one thousand five hundred pounds (£41,500) per quarter;

(ii) if it is the second year of the term of the lease of the Minerals Land the sum of eighty three thousand pounds (£83,000) per quarter; and

(iii) if it is the third year or any subsequent year of the term of the lease of the Minerals Land the sum of one hundred and fifty three thousand five hundred and fifty pounds (£153,550) per quarter,

PROVIDED THAT the final payment to be made shall be reduced to the remaining amount of the Ellenbrook Park Contribution which is outstanding if such amount shall be less than the amount of the payment that would be made under this Clause; and

(b) for the purposes of this Clause 4.88O the Ellenbrook Park Contribution shall be the balance of the Ellenbrook Park Contribution remaining to be paid after deduction of the Initial Contribution (if paid pursuant to Clause 3.9A of this Deed) any other payments towards the Ellenbrook Park Contribution whether paid by the Owner, Brett pursuant to Clause 4.88O(a) above or any other person obliged to do so PROVIDED THAT on each anniversary of 30 June 2031 the balance remaining to be paid of the Ellenbrook Park Contribution (if any) shall be subject to further indexation in accordance with Clause 3.9A of this Deed and that shall be the balance of the Ellenbrook Park Contribution remaining to be paid.'

5.7 Clause 4.90 of the Principal Agreement shall be deleted and replaced with the following:

'4.90 To construct, lay out and make available for the public within Ellenbrook Park as part of the Establishment Works to the reasonable satisfaction of the Borough Council, St Albans and the County Council a network of footpaths, cycleways and/or bridleways in accordance with the applicable Landscape Management Document and (if granted) the Minerals Planning Permission.'

5.8 Clauses 4.127 and 4.128 of the Principal Agreement shall be deleted and replaced with the following:

'4.127 Not without the written consent of the Borough Council (in respect of the Borough Land), St Albans (in respect of the District Land) and the County Council (in respect of the Land), to use any part of the Development other than in accordance with the mix and disposition of uses and other restrictions, objectives and initiatives in the Master Plan.

4.128 Not without the written consent of the Borough Council (in respect of the Borough Land), St Albans (in respect of the

District Land) and the County Council (in respect of the Land) to use Ellenbrook Park other than for:

(a) landscaping and planting; and/or

(b) open air sports; and/or

(c) use by the film industry; and/or

(d) recreational, community, education and amenity uses; and/or

(e) nature study, landscape and wildlife improvements; and/or

(f) a network of footpaths, bridleways and cycleways,

PROVIDED THAT this obligation shall not prevent the carrying out of Minerals Works on any part of the Minerals Land in accordance with the Minerals Planning Permission subject to compliance with the obligations within this Deed.'

5.9 Clause 4.154 of the Principal Agreement shall be deleted and replaced with the following:

'Mix, Quantity and Disposition of Uses Restrictions

4.154 Not to use or develop any part of the Commercial Area, the Residential Area or the District Centre other than in accordance with the nature (including restrictions preventing changes of use within Use Classes and Sub Classes so that for example the owners and occupiers of the site shall not withstanding the provisions of the Town and Country Planning (Use Classes) Order 1987 not be entitled to change from Use Class B1(a) to Use Class B1(c) or vice versa (without the express authority of the Borough Council and the County Council), parameters, quantum, mix and disposition of buildings and other land uses for each such area as contained in the Hatfield Aerodrome SPG and the provisions contained in this Deed.'

5.10 The document entitled 'Landscape Framework Document' dated 22 December 2000, as prepared by Macgregor Smith, shall be deleted from Schedule Twenty One to the Principal Agreement and replaced by the Landscape Framework Document in the form set out at Appendix E to this Deed.

5.11 A new Schedule Twenty Two shall be inserted into the Principal Agreement in the form set out at Appendix F to this Deed.

5.12 A new Schedule Twenty Three shall be inserted into the Principal Agreement in the form set out at Appendix G to this Deed.

6 **Ellenbrook Park Lease**

6.1 Part 1 of Schedule Ten to the Principal Agreement shall be deleted and replaced by Appendix B to this Deed that contains the model form of lease to be granted to the Ellenbrook Park Trust, subject to any changes that are agreed between the Owner, the Borough Council, St Albans and the County Council.

6.2 A new Part 3 shall be inserted at the end of Schedule Ten to the Principal Agreement in the form set out at Appendix D to this Deed, subject to any changes that are agreed between the Owner, the Borough Council, St Albans and the County Council.

7 **Ellenbrook Park Trust**

7.1 Part 2 of Schedule Ten to the Principal Agreement shall be deleted and replaced by Appendix C to this Deed that contains the articles of association for the Ellenbrook Park Trust, subject to any changes that are agreed between the Owner, the Borough Council, St Albans and the County Council.

Appendix A – Plans and Drawings

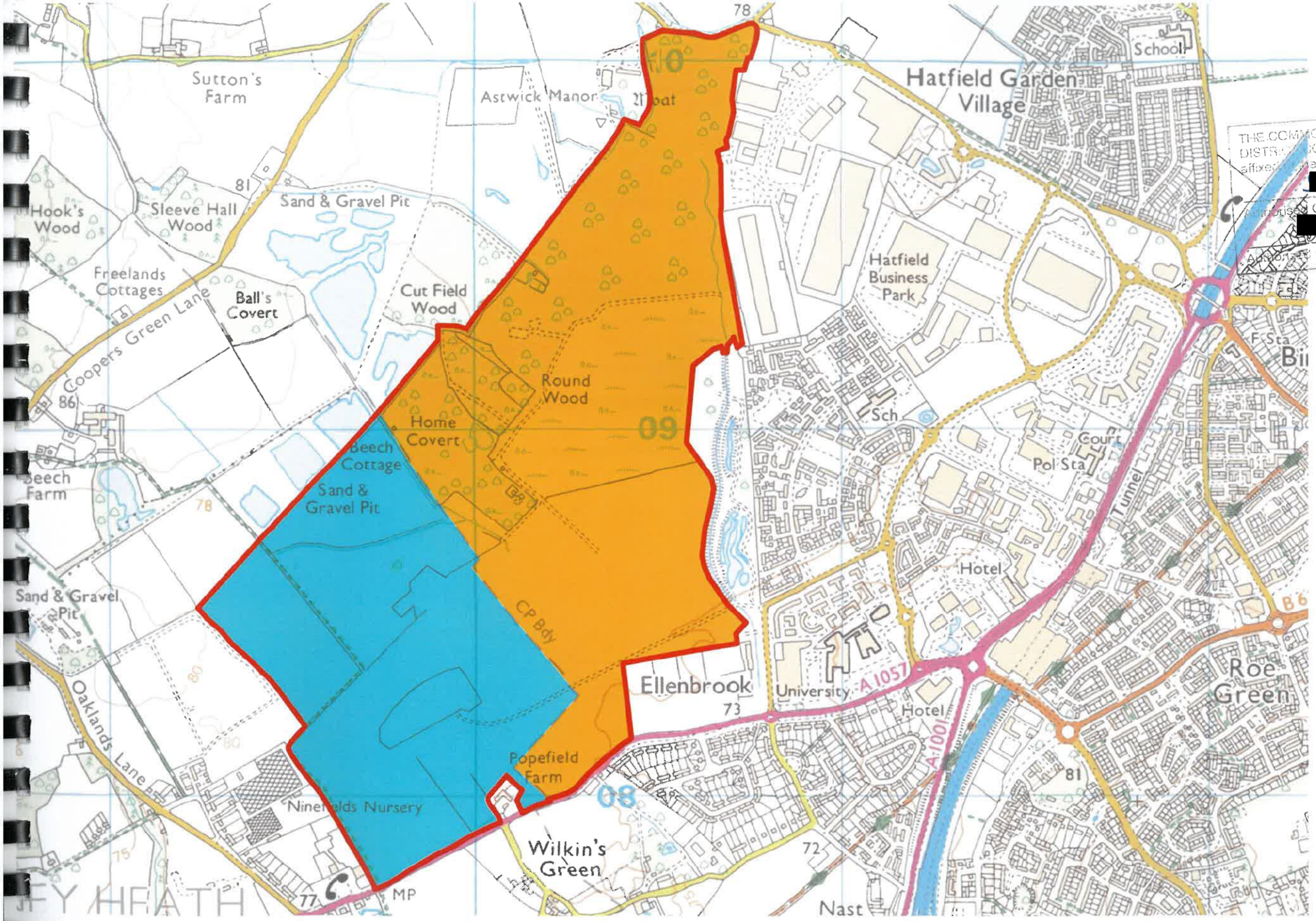
Plan 8 (drawing number 1183 G203 revision A) – the Land, the Borough Land and the District Land

Plan 9 (drawing number 118 G204 revision A) – the Minerals Land, the Northern Fields and Home Covert/Cutfield Wood

Drawing number 11940 200L – Master Plan (existing)

Drawing number 11940 200P – Master Plan (amended)

Drawing number 1183-G502 Rev G – Landscape Framework Document



Key

- Ellenbrook Park
- Welwyn Hatfield Borough Council administrative area
- St Albans City & District Council administrative area

THE COMMON SEAL of [redacted] DISTRICT COUNCIL was hereunto affixed in the presence of

[redacted]
Authorised Officer

[redacted]
Legal Services Manager

Authorised Officer

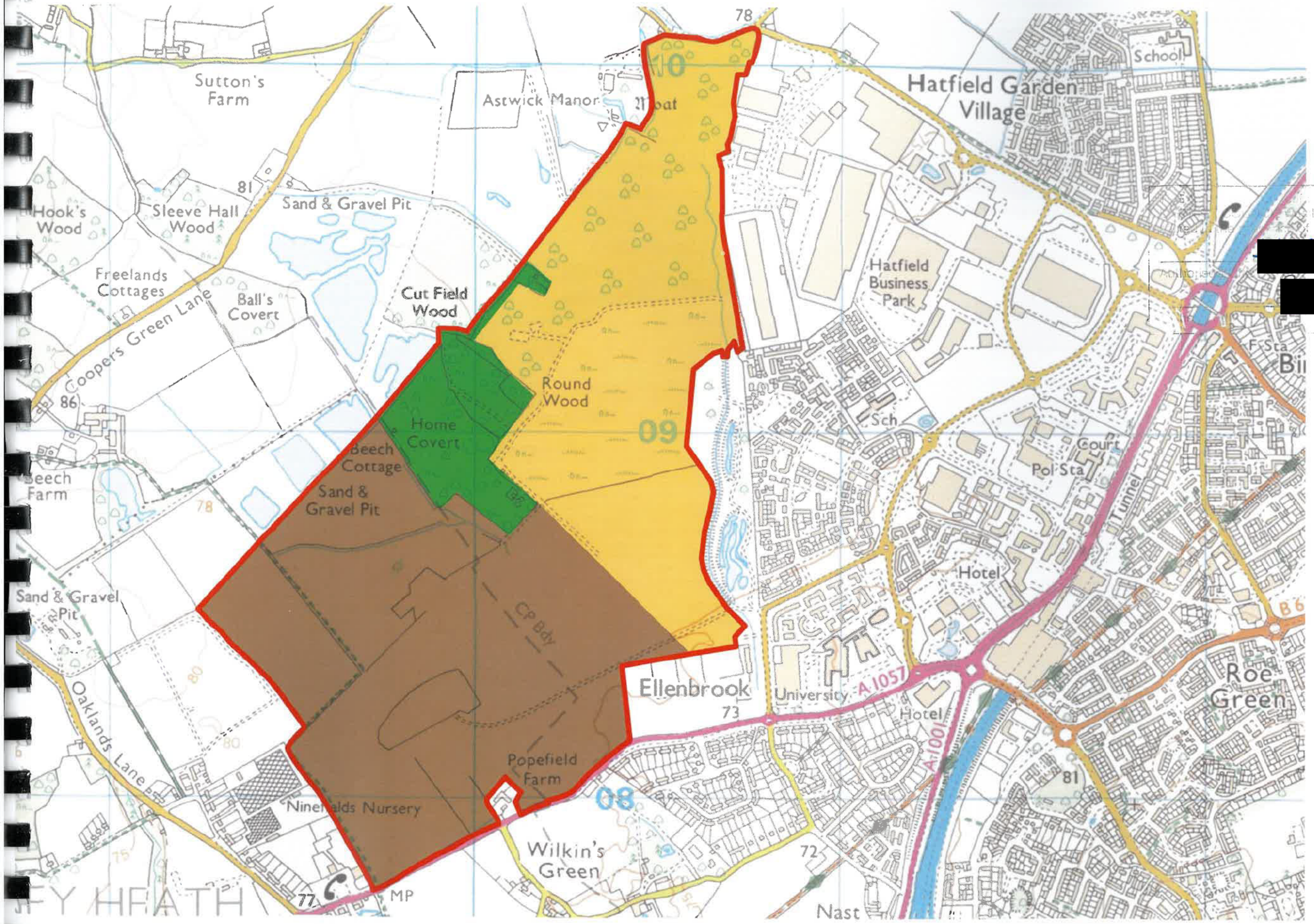
[redacted]

Revision	Description	Drawn by	Checked by	Date
-	For Information	JR	JT	20.07.20
A	For Information	JR	JT	22.07.20
B	For Information	HH	JT	03.12.24

0 50 250 500

Macgregor · Smith
Landscape Architecture

project	Hatfield Business Park Land	drawn by	JR
status	Information	checked by	JT
title	Plan B	date	20.07.20
		scale	NTS@A1
drawing No.	1183 G203	revision	B



Key

- Ellenbrook Park
- Northern Fields
- Home Covert/Cutfield Wood
- Minerals Land

[redacted]

Legal Services Manager

Authorised Officer

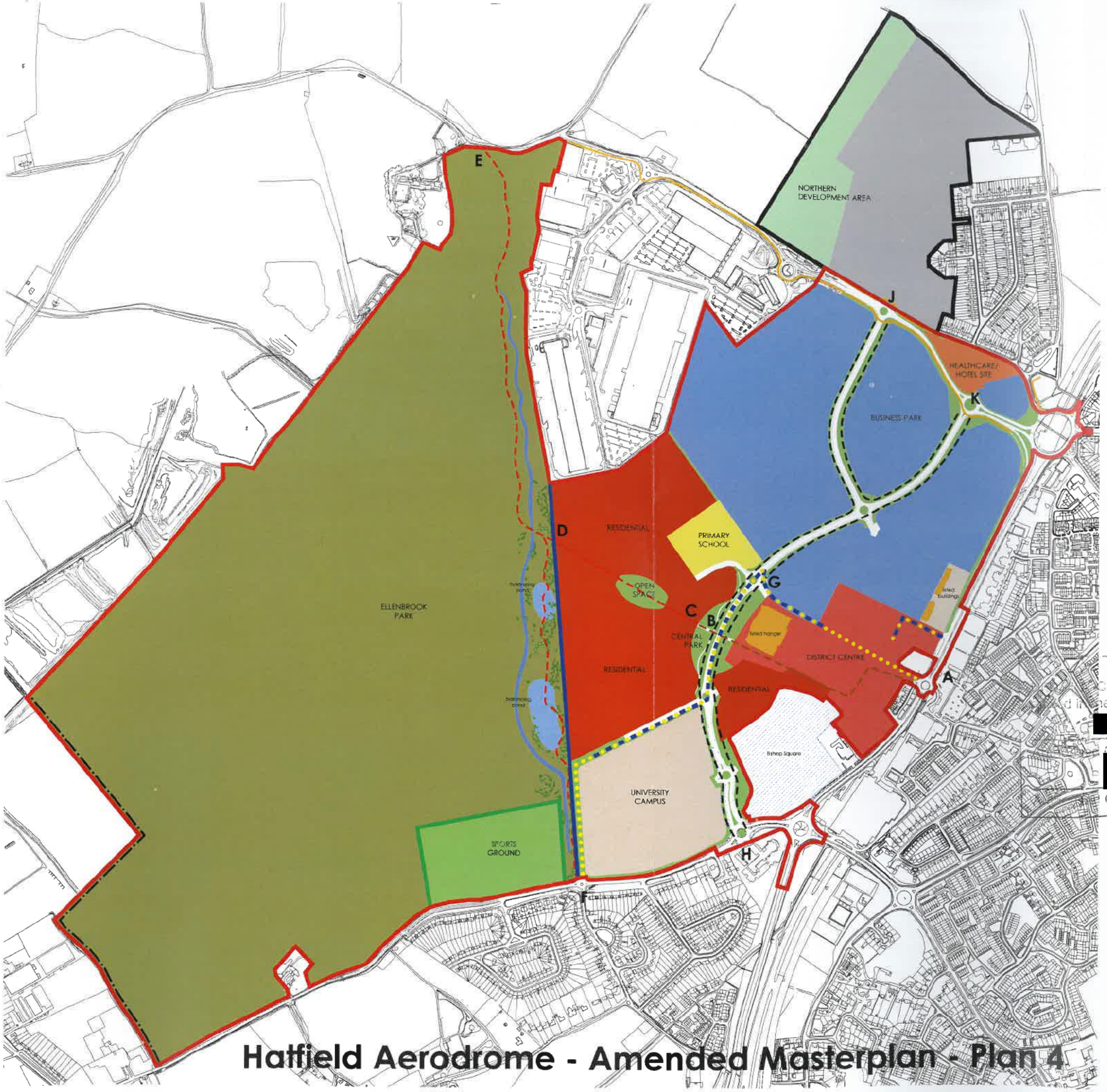
[redacted]

Revision	Description	Drawn by	Checked by	Date
-	For Information	JR	JT	20.07.20
A	For Information	JR	JT	22.07.20
B	For Information	HH	JT	03.12.24

0 50 250 500

Macgregor · Smith
Landscape Architecture

project	Hatfield Business Park Land	drawn by	JR
status	Information	checked by	JT
title	Plan 9	date	20.07.20
		scale	NTS@A1
drawing No.	1183 G204	revision	B



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Figured dimensions only are to be taken from this drawing. All dimensions are to be checked on site before any work is put in hand.

KEY

- Central Park
- Existing Definitive Footpath
- Existing cycle/footpath
- Proposed cycle/footpath Phase 1 H - J and H - K
- Proposed cycle/footpath Phase 2 A - B
- Proposed cycle/footpath Phase 3/4 C - D - E - F

STRATEGIC TRANSPORT ROUTE

- Buses only
- Buses / All traffic

[redacted]

Legal Services Manager

Authorised Officer

Mark.	Revision	Drawn	Date	Checked
L	Healthcare/hotel site shown (Plot 6000)	JL	10Feb16	
K	Hotel location changed	PC	07Dec05	
J	Hotel plot area adjusted, some colours adjusted	PC	20JAN05	
H	Hotel site boundary ammended at junction with spine road, "Sui Generis" note removed	PC	02DEC04	
G	Hotel site redesignated Sui Generis, New location for Hotel shown		04NOV04	

COUNCIL was hereunto
e presence of

Offic

[redacted]

Officer

[redacted]

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Client's name

Job title
Hatfield Aerodrome

Drawing title
Amended Masterplan - Plan 4

Scale
1 : 5000 @ A1

metres 100 200 300 400 500

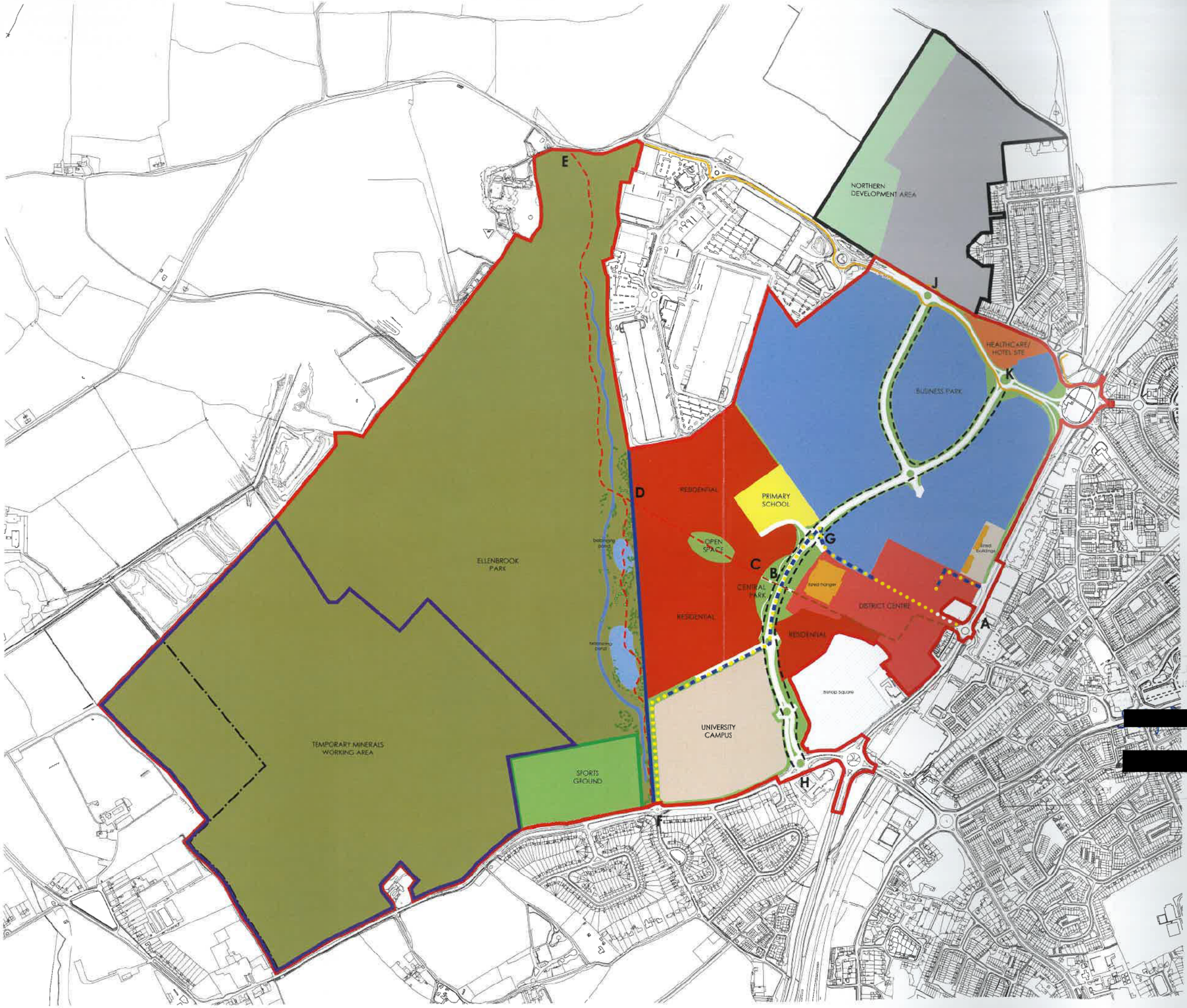
Drawn | Checked | Date
21/12/00

Job No | Drawing No | Rev
11940 | 200 | L

Status

North

Hatfield Aerodrome - Amended Masterplan - Plan 4



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Figured dimensions only are to be taken from this drawing. All dimensions are to be checked on site before any work is put in hand.

KEY

- Central Park
- Existing Definitive Footpath
- Existing cycle/footpath
- Proposed cycle/footpath Phase 1 H - J and H - K
- Proposed cycle/footpath Phase 2 A - B
- Proposed cycle/footpath Phase 3/4 C - D - E - F
- STRATEGIC TRANSPORT ROUTE
- Buses only
- Buses / All traffic
- Temporary Minerals Working Area

[redacted]

Legal Services Manager

Authorised Officer

Revision	Description	Drawn	Date	Checked
P	Boundary line amended.	JL	03Sep20	AE
N	Temporary minerals working area graphics and key amended.	JL	07Aug20	AE
M	Minerals Land added.	JL	07Aug20	AE
L	Healthcare/hotel site shown (Plot 6000)	JL	10Feb16	
K	Hotel location changed.	PC	07Dec05	
J	Hotel plot area adjusted, some colours adjusted.	PC	20Jan05	
H	Hotel site boundary amended at junction with spine road, "Sui Generis" note removed.	PC	02Dec04	
G	Hotel site redesignated Sui Generis, New location for Hotel shown.		04Nov04	

AE

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[redacted]

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W scottbrownrigg.com

Client's Name
Arlington

Job Title
Hatfield Aerodrome

Drawing title
Amended Masterplan - Plan 4

Scale
1 : 5000 @ A1
metres 100 200 300 400 500

Job No
11940

Drawing No
200

Revision
P

Status
INFORMATION

MANAGEMENT AREAS UPDATE

With the granting of planning approval for minerals development in the southern half of the management plan area, some adjustments to the management areas are required. In particular the grazing compartments and the routes of permissive paths are affected by the phases of the extraction process.

The following sections set out a review of the management plan area to highlight the issues and opportunities involved in each main section of the site. These relate to;-

Area 1 – The Home Covert Woodland Area
Area 2 – The Northern Fields area to remain as grazing / hay cropping and informal access land
Area 3 – The Minerals Extraction Site Area – to be managed for the duration of the extraction by Brett Aggregates

The respective areas of these are indicated on Figure 2 and equate to:-
Area 1 – 15.7 ha
Area 2 – 66.3 ha
Area 3 – 78.9 ha
Area 3a – 9.5 ha

Totals 170.4 ha

Total area of site with Ellenbrook Park 8.9 ha & Sports Pitches 6.8 ha equates to 186.1 ha

The basic objectives in reviewing the management proposals are to:-

Maintain the positive management of the area as part of the local landscape

Maintain or enhance the biodiversity interest of the site areas

Maintain the continuity of the informal permissive public access network established across the site areas

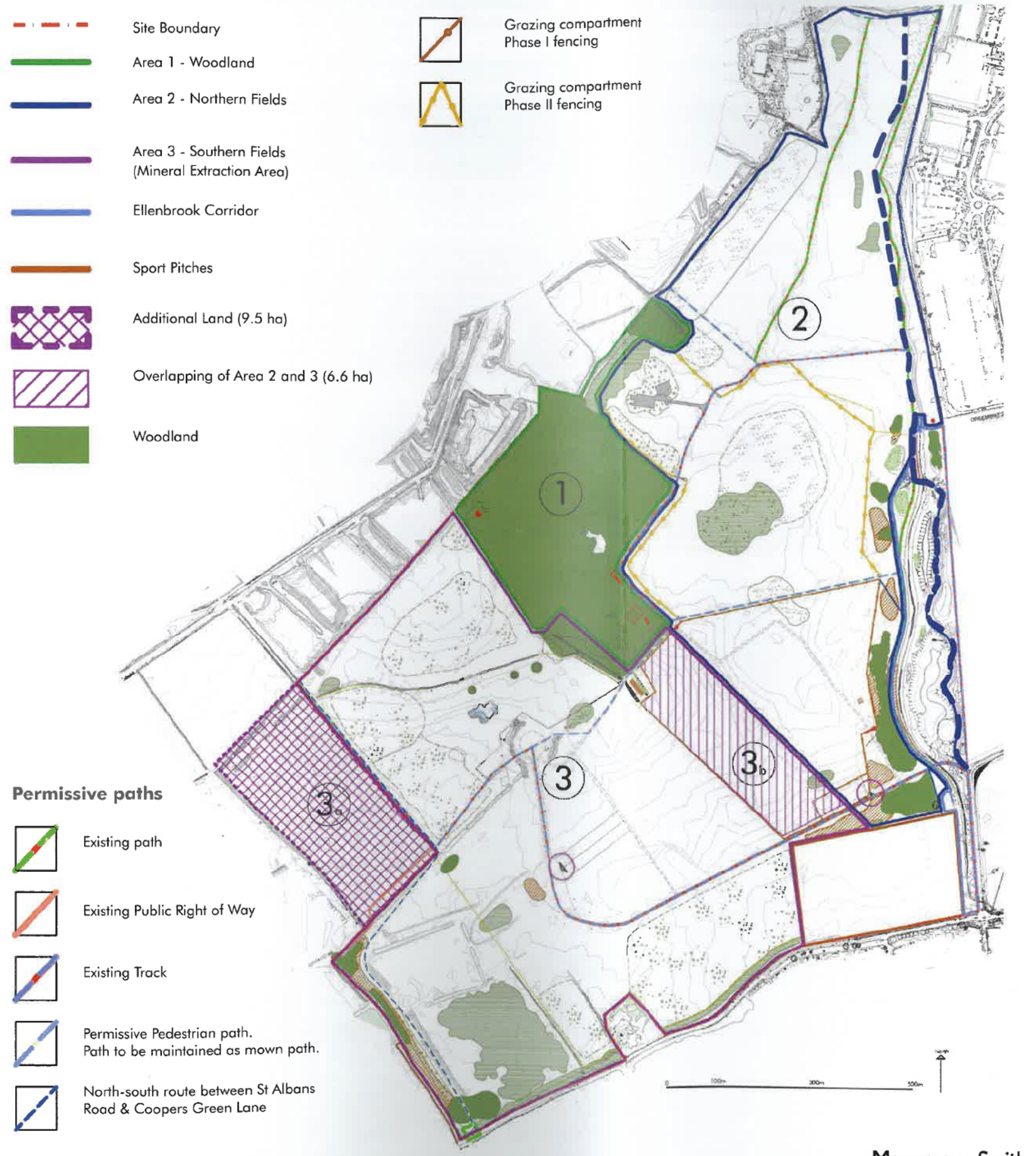
[redacted]
Legal Services Manager

Authorised Officer

[redacted]

THE DISTRICT COUNCIL was hereunto affixed in the presence of
[redacted]
Authorised Officer
[redacted]
Auth[redacted]

FIGURE 4
Management Areas Plan



Macgregor Smith

Appendix B – First Ellenbrook Park Lease

'SCHEDULE TEN

Part 1'

CLYDE&CO

[Party]
Landlord

and

Ellenbrook Park Preservation Trust Limited
Tenant

Lease

in respect of
Land at Hatfield Aerodrome, Hertfordshire

Contents

1	Definitions and interpretation	4
2	Demise	5
3	Tenant's Covenants	5
4	Landlord's Covenants	8
5	Provisos	10
6	Option to Determine	11
7	Exclusion of Security of Tenure	12
8	Contracts (Rights of Third Parties) Act 1999	13
9	Jurisdiction	13
10	Legal Effect	13
Schedule 1 :		14
Schedule 2 : Park Ranger's and Landscape Consultant's Duties and Responsibilities		16
Execution page		19

Prescribed Clauses

LR1 Date of Lease	
LR2 Title number(s) **LR2.1 Landlord's title number(s)** **LR2.2 Other title numbers**	[ ] and referred to elsewhere in this Lease as the **Landlord's Registered Title** None.
LR3 Parties to this Lease **Landlord** **Tenant** **Guarantor**	[ ] a company incorporated in England and Wales with company number having its registered office or such other person who is from time to time entitled to the reversion immediately expectant on the determination of this Lease (referred to elsewhere in this Lease as the **Landlord**). **Ellenbrook Park Preservation Trust Limited** a company incorporated in England and Wales with company number [ ] and having its registered office at [ ] and includes its successors in title and assigns (referred to elsewhere in this Lease as the **Tenant**). None.
LR4 Property	The part of (which is registered at the Land Registry under the Landlord's Registered Title) and which is shown edged red on Plan 1 annexed to this Lease. **In the case of a conflict between this Clause and the remainder of this Lease then, for the purposes of registration, this Clause shall prevail.**
LR5 Prescribed statements etc	None.
LR5.1 Statements prescribed under rules 179 (dispositions in favour of a charity), 180 (dispositions by a charity) or 196 (Leases under the Leasehold Reform, Housing and Urban Development Act 1993) of the Land Registration Rules 2003	None.
LR5.2 This Lease is made under, or by reference to, provisions of:	None

LR6 Term for which the Property is leased	The term is as follows: 125 years beginning on the Contractual Term Commencement Date (referred to elsewhere in this Lease as the **Term**).
LR7 Premium	None.
LR8 Prohibitions or restrictions on disposing of this Lease	This Lease contains a provision that prohibits or restricts dispositions.
LR9 Rights of acquisition etc **LR9.1 Tenant's contractual rights to renew this Lease, to acquire the reversion or another Lease of the Property, or to acquire an interest in other land** **LR9.2 Tenant's covenant to (or offer to) surrender this Lease** **LR9.3 Landlord's contractual rights to acquire this Lease**	None None None
LR10 Restrictive covenants given in this Lease by the Landlord in respect of land other than the Property	None
LR11 Easements **LR11.1 Easements granted by this Lease for the benefit of this Property** **LR11.2 Easements granted or reserved by this Lease over the Property for the benefit of other property**	Schedule 1 Schedule 1
LR12 Estate rentcharge burdening the Property	None
LR13 Application for standard form of restriction	None

LR14 Declaration of trust where there is more than one person comprising the Tenant	None

Lease

Dated

Between: the parties specified in the Prescribed Clauses.

It is agreed as follows:

1 Definitions and interpretation

1.1 Definitions

In this Deed, unless the context otherwise requires, the following definitions apply:

Agreed Rate means 2.5% over the base lending rate for the time being of Barclays Bank Plc provided that in the event of the said base lending rate ceasing to exist then there shall be substituted therefor such rate of interest as the Landlord reasonably considers most closely comparable with the said base lending rate.

Balancing Lagoon means a balancing lagoon and/or other water storage system situated wholly or partly within the Demised Premises together with all ancillary pipes and other apparatus installed for the purpose of receiving surface water from the Business Park and controlling the flow of it into the watercourse known as Ellenbrook in accordance with the requirements of the relevant competent authority.

Business Park means the land and buildings at Hatfield Aerodrome the approximate boundaries of which are shown for purposes of identification only by a heavy broken black line on the Plan [NB as per the Commercial Area defined in the section report].

Conduits means all sewers drains pipes gullies gutters ducts mains channels wires cables conduits flues watercourses and any other conducting media for carrying gas electricity and electrical signals and data in any form water air fuel soil and any other services.

Demised Premises means the property described in Part 1 of the First Schedule and all landlord's and other fixtures and fittings and plant machinery and equipment therein and all additions and improvements thereto.

Environmental Laws means all current and future laws and regulations and requirements of any competent authority or agency (whether in the UK or elsewhere) concerning the protection of the environment or human health and the safety of the workplace.

Hazardous Substances means all noxious toxic offensive hazardous infectious radioactive or other substances or gases wastes (including special wastes) oils petroleum and petroleum products which may be harmful to human health or the environment.

Insured Risks means fire storm tempest flood earthquake lightning explosion impact aircraft (other than hostile aircraft) and other aerial devices and articles dropped therefrom riot civil commotion malicious damage bursting or overflowing of water tanks apparatus or pipes and such other

risks as the Landlord or the Tenant may reasonably require subject to such exclusions excesses and limitations as may be imposed by the insurers.

Landlord includes the person for the time being entitled to the reversion immediately expectant on the term hereby granted.

LFP means the Landscape Framework Plan annexed hereto.

Objects of the Ellenbrook Park Preservation Trust Limited means objects contained in the Articles of Association of the Ellenbrook Park Preservation Trust Limited annexed hereto.

Permitted Use means the use of the Demised Premises permitted by clause 3.10.1.

Plan means the plan annexed hereto.

Planning Acts means the Town and Country Planning Act 1990 and the Planning (Listed Buildings and Conservation Areas) Act 1990 (including any subsequent amendments, modifications and re-enactments).

Tenant includes and all persons claiming through or under the Tenant.

2 Demise

In consideration of a peppercorn the Landlord demises to the Tenant the Demised Premises together with the rights but except and reserving unto the Landlord and subject as mentioned in the First Schedule TO HOLD for the term of 125 YEARS from and including the date hereof PAYING to the Landlord without any deduction the yearly rent of a peppercorn on or before 25 December in each year of the Term the first such payment to be made on the date hereof in respect of the period from and including that date to 25 December 20[ ].

3 Tenant's Covenants

The Tenant covenants with the Landlord:

3.1 Interest

If any monies payable by the Tenant hereunder shall not be paid within 20 working days of the date on which they are payable the Tenant shall pay interest thereon from such date as well after as before any judgement calculated on a day to day basis at the agreed rate until they shall be paid.

3.2 To pay rates and outgoings

Save as otherwise provided in this Lease to pay all rates taxes community charges assessments outgoings and impositions whatsoever (whether imposed by statute or otherwise and whether of a national or local character and whether or not of a capital or non-recurring nature and even though of a wholly novel character) now or at any time hereafter assessed or charged on the Demised Premises or part thereof or payable by the owner or occupier in respect thereof but excepting such as are owing chargeable or payable prior to the date hereof or in respect of disposal of the Landlord's reversion hereto (which sums shall on demand be paid in full by the Landlord) and taxes (other than Value Added Tax if any) payable by the

Landlord in respect of rents arising under this Lease or which relate to minerals or mineral rights.

3.3 **To maintain**

To keep the Demised Premises in reasonable order and generally tended in a manner reasonably consistent with their status as green belt land with access to members of the public and/or as woodland meadowland grassland wildlife habitat sporting recreation or amenity land all in broad accordance with the objects of the Ellenbrook Park Preservation Trust Limited and the objectives of the LFP (damage by flooding of the Balancing Lagoons and all matters relating to the securing repairs and maintenance of the Balancing Lagoons or breach by the Landlord of clause 4.2 excepted).

3.4 **To Yield-Up**

At the expiration, or sooner determination of the term quietly to yield up the Demised Premises as is required by this Lease.

3.5 **Statutory Obligations**

At the Tenant's cost to comply in all respects with and do anything required under all Acts of Parliament (including the Planning Acts) both present and future so far as they may in any respect affect the Demised Premises or the user thereof or the employment or residence therein of any person or the use of any plant machinery fixtures or chattels therein save in respect of any compliance with Environmental Laws or other liability in respect of contamination or Hazardous Substances already in on or under the Demised Premises prior to the date hereof or brought onto the Demised Premises other than with the Tenant's authority prior to the date hereof (which shall be the sole responsibility of the Landlord) and save in respect of any matters appearing in Clause 4 which shall be the Landlord's sole responsibility.

3.6 **Planning Acts**

To deliver to the Landlord a copy of every notice order direction consent or refusal or other such thing affecting the Demised Premises within 21 days of the receipt thereof by the Tenant.

3.7 **To Permit Entry**

To permit the Landlord and its agents and all others authorised by it (including any mortgagee or prospective mortgagee or purchaser of any reversionary interest during the term) with or without workmen and others at all reasonable times during the term on giving reasonable prior written notice to enter upon the Demised Premises in order to inspect and measure the same and ascertain how the same are being used and occupied and to estimate the value thereof and to view the state and condition thereof and take inventories.

3.8 **Alterations**

3.8.1 The Tenant may carry out any alteration or addition to the Demised Premises (structural or otherwise) which is contemplated by or consistent with the objects of the Ellenbrook Park Preservation Trust Limited and/or the LFP.

3.8.2 That no other alteration or addition shall be made in or to the Demised Premises without the prior written consent of the Landlord (not to be unreasonably withheld or delayed) provided that the Tenant shall first enter into such covenants with the Landlord as the Landlord may reasonably require with regard to the execution of any such works and the reinstatement of the Demised Premises at the end or sooner determination of the term (however the same may be determined) or otherwise and the works shall be carried out in accordance with drawings and specifications previously submitted to and approved in writing by the Landlord's surveyors.

3.9 **Signs**

That no mast dish aerial pole sign fascia placard bill notice or other notification whatsoever (except reasonable signage consistent with the Permitted Use) shall be placed or affixed on or to the Demised Premises and on the expiration or sooner determination of the term on being requested by the Landlord to remove such matter as aforesaid and to make good any damage caused thereby to the reasonable satisfaction of the Landlord's surveyor.

3.10 **Restrictions on use**

3.10.1 That the Demised Premises shall not be used by the Tenant for any illegal or immoral purpose or any noisy noisome or offensive trade / business or use or for residential purposes or for any use other than use as an open space for concerts filming and film related activities leisure education sporting amenity woodland forestry wildlife nature study habitat creation and recreational purposes for use by members of the general public amenity societies scouts guides schools colleges and other education and youth training establishments local residents local authorities and community groups and special interest groups wildlife groups preservation societies and other similar societies including the Watling Chase Community Forest and for the planting of trees shrubs hedges and other plants the construction and laying out of bridleways and cycle paths parking and sitting out areas or any use which complies with the LFP and/or the objects of the Ellenbrook Park Preservation Trust Limited including the construction of ancillary buildings not exceeding 5,000 sq. ft. in aggregate (such that the Tenant may use and manage and maintain the Demised Premises in accordance with the objects of the Ellenbrook Preservation Park Trust Limited and/or LFP).

3.10.2 If the Demised Premises are used by the film industry in a manner contemplated by the objects of Ellenbrook Park Preservation Trust Limited then the first £1,000 net income or 2% of net proceeds whichever greater may be retained by the Tenant and the balance paid to the Landlord within 40 working days of receipt (but with any costs of clean-up and restoration being first deducted).

3.10.3 If the Demised Premises are used by the Tenant for public concerts then the first £10,000 of net proceeds from any event may be retained by the Tenant and the balance paid by the Landlord within 40 working days of receipt (but with any costs of clean-up and restoration being first deducted).

3.10.4 It is hereby agreed and declared that there is not and shall not be implied any representation or any warranty or other obligation on the part of the Landlord that such is the permitted use for the purpose of the Planning Acts and that no consent which the Landlord may hereafter give to any change of use shall be or be taken to imply any such representation or warranty or other obligation.

3.11 **Assignment and underletting**

Not to assign mortgage charge underlet or part with the possession or occupation of the whole or any part of the Demised Premises nor to create any interest in nor grant any right over or in respect of the Demised Premises save in respect of:

(a) short term licences and hiring's to amenity societies scouts guides schools colleges and other education and youth training establishments local residents local authorities and community groups and special interest groups wildlife groups preservation societies and other similar societies including the Watling Chase Community Forest and other local bodies;

(b) use by the film industry and concert promoters (on terms previously approved by the Landlord (such approval not to be unreasonably withheld or delayed);

(c) public access to the Demised Premises; and/or

(d) short term lettings without security of tenure to any person consistent with the Permitted Use.

3.12 **VAT**

All rents and other payments payable by the Tenant hereunder shall be exclusive of value added tax (or any similar tax which may be substituted for it or levied in addition to it) (**VAT**); and

3.13 **Insurance**

To insure and keep insured with an insurance company of repute or with Lloyds underwriters (with the interest of the Landlord noted on the policy) any building structures or infrastructure other than the Balancing Lagoons and other Landlord's infrastructure items within the Demised Premises in the full reinstatement cost thereof against loss or damage by the Insured Risks (including architects surveyors and other professional fees and expenses incidental thereto) and property owners and third party liability and

In the event that the Demised Premises or any part thereof is destroyed or damaged by any of the Insured Risks then the Tenant shall (to the extent of but not beyond the limits of the insurance cover) reinstate the premises so destroyed or damaged substantially as the same were prior to any such destruction or damage.

4 Landlord's Covenants

The Landlord covenants with the Tenant:-

(a) that the Tenant paying the rents hereby reserved and performing and observing the covenants on the part of the Tenant hereinbefore contained shall and may peaceably and quietly hold and enjoy the Demised Premises for the term hereby granted without any interruption by the Landlord or any person lawfully claiming under or in trust for the Landlord;

(b) to keep the Balancing Lagoons in good repair order and condition and security;

(c) to provide at no cost to the Tenant (1) a park ranger for the duration of the Lease and (2) a landscape consultant for the first three years of the Term both of whose responsibilities shall be as set out in the Second Schedule and who shall both be accountable to the Tenant;

(d) to provide full time security presence for the Demised Premises for the duration of the Lease (the existing fence will remain);

(e) to provide a safe and convenient vehicular and pedestrian access built to adoptable standards from an adopted public highway to the Demised Premises from an existing public highway within 21 days of the date hereof unless previously constructed and made available;

(f) to provide a meeting room as when required for of the first 7 years of the Term and subject seven days' notice in writing within the locality for any meetings of the Tenant at no cost to the Tenant;

(g) to promptly remove at no cost to the Tenant all or any contaminants or Hazardous Substances from that part of the Demised Premises shown coloured yellow and indicated as "Medium Risk" on the Plan attached hereto and from such other parts of the Demised Premises as they maybe discovered shown or found through further investigation work to be "medium risk" and considered by the Environmental Health Departments of St Albans District Council or Welwyn Hatfield District Council to be in need of remediation - any such clean up shall be carried out by the Landlord to the reasonable satisfaction of the relevant local planning and/or regulatory authorities and the said local planning authorities shall be responsible for determining whether any particular Contaminants or Hazardous Substances represent medium risk contaminants and to reinstate the land and restore the landscape;

(h) to pay on demand any outstanding rates taxes or other demands notices penalties relating to the demised or pre-existing liabilities (whether or not the same shall have crystallised or been demanded at the date hereof);

(i) to pay on demand any outstanding rates taxes or other demands notice penalties relating to any mineral rights permissions workings or activities;

(j) in the event of mineral extraction taking place the Landlord shall immediately following extraction remove any Hazardous Substances or mineral waste restore and reinstate the landscape in accordance with the objectives of the LFP and any approved landscape management document and pay to the Tenant on demand a sum equal to 12 times the agreed estimated annual cost of maintaining

and managing the landscaping of the Demised Premises following restoration and enhancement of the landscape in the post extraction period in accordance with the LFP;

(k) as soon as mineral extraction shall have ceased on any part of the Demised Premises the Landlord shall restore the landscape in the next planting season and return the land to a condition where it can be returned to public use.

5 Provisos

5.1 Landlord's right to forfeit

If there shall be any substantial breach non-observance or non-performance of any Tenant's covenants herein contained of which the Landlord has given 40 working days prior notice in writing and the Tenant has failed to remedy the substantial breach within that period then and in any such case the Landlord may enter the Demised Premises or any part thereof in the name of the whole and thenceforth peaceably hold and enjoy the same as if these presents had not been made but without prejudice to any right of action or remedy of the Landlord in respect of any antecedent breach of any of the covenants by the Tenant herein contained.

5.2 Landlord's rights for other parts of the Business Park

5.2.1 Nothing herein contained shall by implication of law or otherwise confer on the Tenant any easement right privilege licence or advantage save as herein expressly provided over any adjoining or other property now or hereafter belonging to the Landlord and further the Landlord and any person through whom the Landlord derives title shall be entitled to alter build on redevelop use excavate or otherwise deal with any such property notwithstanding that the light or air or any rights of the Demised Premises (except those granted by this Lease) shall be thereby diminished or otherwise prejudicially affected and the Tenant shall not be entitled to compensation for any damage annoyance inconvenience or disturbance caused thereby.

5.2.2 The Landlord shall be entitled to sell let or otherwise dispose of any other part of the Business Park for any purpose whatsoever.

5.2.3 No building scheme exists in relation to the Business Park or the Landlord's property at the Business Park and the Tenant shall not have the benefit of nor be entitled to enforce any rights or covenants in favour of the Landlord contained in any transfer lease licence or other document relating to any other part of the Business Park.

5.3 Accidents

5.3.1 The Landlord shall not be responsible to the Tenant or the Tenant's licensees nor to any person in the Demised Premises for any accident happening or injury suffered in the Demised Premises or for any damage to or loss of any goods or property sustained in the Demised Premises (save for any neglect or default of the Landlord or any agent contractor or employee of the Landlord in respect of the Demised Premises or any such accident happening injury or damage arising directly or indirectly from the Landlord's use of the Demised Premises for mineral extraction) and the Tenant shall indemnify the Landlord in respect of any liability of the

Landlord to any person for such accident happening injury damage or loss up to (but not beyond) the full extent of any insurance cover.

5.3.2 The provisions of clause 5.3.1 shall not apply in relation to any accident happening or thing arising out of the presence condition security of the Balancing Lagoons or the Landlord's mineral workings for which the Landlord shall be fully responsible and in respect of which shall keep adequate insurance on foot and hereby indemnify the Tenant accordingly.

5.4 **Notices**

Section 196 of the Law of Property Act 1925 shall apply hereto and shall be extended so that:-

(a) It shall apply to all notices and demands served under or arising out of or in respect of this Lease;

(b) Where the Tenant comprises more than one person service on any one of them shall be deemed service on all of them and service upon the Tenant shall also be deemed to be service on any guarantor of or surety for the Tenant's obligations hereunder; and

(c) service may be effected by posting the relevant document by ordinary first class or by recorded delivery or by registered post in a prepaid envelope addressed in the case of the Tenant or any guarantor of or surety for the Tenant to its registered office (if any) or to the Demised Premises and in the case of the Landlord to its registered office (if any) or other last known address and service shall be deemed to have been effected 48 hours after the time when it is posted and in proving such service it shall be sufficient (but not essential) to prove that the envelope containing the relevant document was properly addressed stamped and posted.

6 Option to Determine

6.1 Subject to the provisions of clause 6.2 below if the Landlord obtains planning permission (which for the purposes of this clause 6 shall include a resolution to grant) for built development (as defined in the Planning Acts) of the whole or any part of the Demised Premises for the comprehensive redevelopment of the Demised Premises for built development of more than 5,000 sq. m within use classes B1 B2 B8 and/or C3(a) of the Town and Country Planning (Use Classes) Order 1987 (or for other built development and subsequent use having an equivalent or greater commercial value than such comprehensive redevelopment) ("a **Planning Consent**") but excluding for the avoidance of doubt any permissions for buildings to be constructed for use and/or occupation by the Tenant or those authorised by them to use or enjoy maintain improve and manage the Demised Premises and excluding any buildings or structures erected for the temporary use of the Demised Premises for filming or for the film industry and excluding any planning permission for mineral extraction or related development THEN the Landlord may require the Tenant to surrender the Demised Premises at any time by giving to the Tenant not less than six months' prior written notice of such termination (which notice shall include a plan delineating the land in respect of which such notice is intended to apply) and immediately upon expiration of such notice the Tenant shall surrender this lease but

without prejudice to the rights and remedies of either party against the other in respect of any antecedent claim or breach of covenant.

6.2

6.2.1 The Landlord shall not be entitled to serve notice under clause 6.1 above where the relevant Planning Consent is a consent solely for the erection of any advertising hoarding on the Demised Premises.

6.2.2 The Landlord shall not be entitled to serve notice under clause 6.1 where the relevant Planning Consent relates to the provision of facilities which are ancillary to the permitted use and the total area of such facilities (taken together with any other facilities of a similar nature) does not exceed [200] square metres.

6.3 (For the avoidance of doubt) the Landlord may exercise the option contained at clause 6.1 on any number of occasions.

6.4 On exercise of the option contained at clause 6.1 a memorandum specifying the part of the Demised Premises to which the notice relates and the date on which this lease shall cease to apply to the relevant part or parts of the Demised Premises shall be endorsed on or annexed to the original and counterpart of this Lease for the purpose of record.

6.5 Nothing in this Lease shall prevent the Landlord from exercising its rights to extract minerals from the Demised Premises in the event of him obtaining planning permission for mineral extraction PROVIDED ALWAYS THAT (1) the Landlord shall only be entitled to enter such part or parts of the Demised Premises as are needed and are only actively used for such purposes but not otherwise and (2) the Landlord shall ensure that his method of working is such that members of the public may continue to safely and conveniently use and enjoy the remaining parts of the Demised Premises and that the areas of mineral extraction are securely fenced at all times and (3) the Demised Premises shall be returned to public use as soon as reasonably practicable following completion of extraction (4) the Landlord complies with Sub-Clauses 4(j) to 4(k).

6.6 The Tenant shall co-operate with the Landlord and use reasonable endeavours to assist the Landlord in obtaining the Planning Consent and shall enter into such documents as are required for the Planning Consent to be granted within 14 days of receiving a written request from the Landlord provided the Landlord indemnifies the Tenant against all expenses and liabilities arising out of such documentation.

6.7 The Tenant shall not do anything which may prejudice or obstruct the progress of any planning application or planning appeal made by or on behalf of the Landlord in respect of the Demised Premises.

7 Exclusion of Security of Tenure

7.1 The Landlord and the Tenant confirm that before the date of this Lease:

(a) a notice complying with Schedule 1 to the Regulatory Reform (Business Tenancies) (England and Wales) Order 2003 which relates to this tenancy was served by the Landlord on the Tenant on ; and

(b) a statutory declaration dated complying with paragraph 8 of Schedule 2 to that Order was made by , who the Tenant confirms was duly authorised by the Tenant to make the statutory declaration on its behalf.

7.2 The Landlord and the Tenant agree and declare that the provisions of sections 24–28 (inclusive) of the 1954 Act do not apply to the tenancy created by this Lease.

7.3 The Landlord and the Tenant confirm that there is no agreement for this Lease.

8 Contracts (Rights of Third Parties) Act 1999

Nothing in this Lease creates any rights benefiting any person under the Contracts (Rights of Third Parties) Act 1999.

9 Jurisdiction

9.1 This Lease and any non-contractual obligations arising out of or in connection with it will be governed by the law of England and Wales.

9.2 Subject to clause 9.3 and any provisions in this Lease requiring a dispute to be settled by an expert or by arbitration, the courts of England and Wales have exclusive jurisdiction to decide any dispute arising out of or in connection with this Lease, including in relation to any non-contractual obligations.

9.3 Any party may seek to enforce an order of the courts of England and Wales arising out of or in connection with this Lease, including in relation to any non-contractual obligations, in any court of competent jurisdiction.

10 Legal Effect

This Lease takes effect and binds the parties from and including the date at clause LR1.

Schedule 1:

Part 1 : Description of the Demised Premises

All those premises known as Ellenbrook Park Hatfield Aerodrome as the same are shown for purposes of identification only edged [green] on the Plan.

Part 2 : Rights and Easements Granted

The right for the Tenant its servants agents and visitors in common with the Landlord and all others from time to time entitled thereto:

(a) to pass with or without vehicles over the estate roads within the Business Park for the purpose of access to or egress from the Demised Premises;

(b) to pass on foot only over the paths intended for general use within the Business Park leading to the Demised Premises for the purpose of access to and egress from the Demised Premises;

(c) to use and connect to all Conduits serving the Demised Premises laid in on or under the remainder of the Business Park during the term the persons exercising such rights doing as little damage as practicable to the Demised Premises and the Tenant's fixtures and fittings and forthwith making good all damage done thereto;

(d) sufficient rights of entry onto the Business Park to give effect to the rights granted at (a), (b) and (c) above.

Part 3 : Rights Excepted and Reserved

All easements quasi-easements rights and privileges now enjoyed over in or against the Demised Premises and also the right for the Landlord in common with all others authorised by the Landlord or otherwise entitled thereto:-

(a) to use all Conduits laid in on or under the Demised Premises at any time during the term and to enter the Demised Premises to inspect and execute repairs or other work to the Conduits at any time during the term laid in on or under the Demised Premises and to enter upon the Demised Premises after giving reasonable notice to the Tenant at any time during the term in order to build additional or relay new Conduits or connect to the existing Conduits in on or under the Demised Premises the person exercising such rights causing as little damage as possible and making good all damage thereby caused to the Demised Premises;

(b) full right and liberty to enter upon the Demised Premises for the purposes mentioned in clause 3 of this Lease;

(c) to enter upon the Demised Premises after giving reasonable notice to the Tenant (except in case of emergency) at any time during the term in order to (a) execute necessary works in connection with. any nearby property or, the Landlord's adjoining premises whether or not

forming part of the Business Park and (b) to comply with its obligations in clause 4(b) the persons exercising such rights doing as little damage as practicable to the Demised Premises and the Tenant's fixtures and fittings and forthwith making good all damage done thereto;

(d) in the event that the Landlord or any person authorised by the Landlord obtains planning consent for the .extraction of any minerals within the Demised Premises (but not any areas of ancient woodland) the right for the Landlord and all others authorised by the Landlord to enter onto those parts of the Demised Premises from which minerals are authorised to be extracted (but not otherwise) and to extract the said minerals in accordance with the relevant planning permission the person exercising such rights causing as little damage as possible and making safe and enabling the continued use of the Demised Premises forthwith for the Permitted Use and making good all damage thereby caused to the Demised Premises and restoring the land in strict compliance with the terms of the planning permission and LFP provisions relating to post-extraction landscaping restoration and aftercare of the Demised Premises and PROVIDED ALWAYS THAT the Landlord shall at its own expense: (I) carry out all remediation planting landscaping improvement restoration and the post extraction landscape restoration contained in the landscape aftercare and other planning conditions and (2) comply with and fulfil all other requirements of any minerals planning permission and any hereby indemnifies the Tenant in respect of all such requirements.

Part 4 : Subjections

The rights easements covenants stipulations and other matters contained or referred to in the Registers of Title Number HD39202.

Schedule 2 : Park Ranger's and Landscape Consultant's Duties and Responsibilities

Ellenbrook Park

Job Description:	Park Ranger
Job Title:	Ranger
Location:	Ellenbrook Park, Hatfield
Function:	To help implement the Tenant's aims and objectives to enable use of the park by members of the public as will be set out in the Landscape Management Document (as defined in the section 106 Agreement dated 29 December 2000 (as varied))
	To manage the properties for nature conservation and landscape enhancement.
	To manage the properties for public access
Responsible to:	Ellenbrook Park Preservation Trust Limited ("the Trust")

This role will be carried out as part of Arlington Business Parks' Management Team which includes Security and Landscape maintenance. It will involve sufficient time dedicated to Ellenbrook Park to meet the defined objectives of the Trust, namely, promotion of bio-diversity, creation of new landscape features, promotion of access to the public, and landscape and woodland management. It is envisaged that the role will be shared within the Management Team.

Key Areas:

1 **Property Management**

1.1 Assist in the protection and management of nature conservation interests, particularly the monitoring of the development of the woodland, grassland, and aquatic habitats.

1.2 Help to create, improve and maintain access

1.3 Assist in the maintenance to the standards required by the Trust, including car parks, fences, litter clearance, signs, stiles and gates, paths, bridleways, etc. ensuring structures are sound and safe for public use.

1.4 To carry out patrols of Ellenbrook Park by vehicle and on foot as is necessary and appropriate.

2 **Staff And Supervision**

2.1 Work effectively with other staff as required, in particular the Park Manager of Arlington Business Park and their appointed Landscape Consultant.

2.2 Assist in maintaining and developing any volunteer programme organised by the Trust for Ellenbrook Park. Help to ensure that all volunteers are adequately supervised, promoting high morale, effective training and that safe working practices are employed according to Trust Health and Safety procedures.

2.3 Identify greater opportunities for work to be undertaken by volunteers and, under delegation of the Trust, organise and supervise appropriate work programmes.

2.4 Assist the Trust in the supervision of contractors working on the Park, ensuring compliance with Health and Safety procedures.

3 Public Relations and Liaison

3.1 Welcome and assist local people and visitors by giving information and guidance. Assist with interpretative work that may be undertaken to improve the visitor appreciation of the property and the Trust.

3.2 Establish and maintain good relationships with local communities and authorities. Create opportunities to explain the Trust's management objectives, and where possible to foster support and understanding.

3.3 Assist the Trust to undertake guided walks and talks. Help supervise educational visits and explain the Trust's Management Plan to help people's understanding and enjoyment.

4 General

4.1 To undertake other duties that may be reasonably requested by the Trust.

4.2 To provide regular written reports to the Park Manager at agreed intervals.

Ellenbrook Park

Job Description: Landscape Consultant

This role will be provided by Arlington's Landscape Executive and/or retained Landscape Consultant and will involve:-

Job Title	Landscape Consultant
Location	Ellenbrook Park, Hatfield
Function	To help implement the Trust's aims and objectives of high standards of presentation for the enjoyment of the public as set out in the Landscape Management Plan
	To manage the properties for nature conservation and landscape enhancement
	To manage the properties for public access
Responsibility to:	The Trust as represented by the Park Manager, Arlington Business Park, Hatfield

Key Result Areas:

1 Inspect the site on no less than six occasions during the year, liaising with Park Rangers. Monitor the progress of the Establishment works in respect of public access, landscape enhancement and habitat creation.

2 Regular attendance at the Trust meetings

3 Provision of a report to the Trust meetings

4 Prepare annual planting and habitat creation proposals, footpath adjustments. Following Trust approval, seek tenders and inspect work to completion

5 Prepare applications for grant funding

The appointment is on a fixed term up to 3 years from The Trust being established.

Execution page

Lease

In witness of which this document has been executed by the Parties as a **Deed** and **delivered** on the date set out in Prescribed Clause LR1.

Landlord

Executed as a **Deed** by)
)
acting by a director in the presence)
of:

sign here:

Director

print name:

In the presence of:

Witness signature: Witness sign here:

Witness name: print name:

Witness address:

Witness occupation:

Tenant

Executed as a **Deed** by)
)
acting by a director in the presence) sign here
of:

Director

print name:

In the presence of:

Witness signature: Witness sign here:

Witness name: print name:

Witness address:

Witness occupation:

Ref: LBB/ 10013237

Office details: The St Botolph Building, 138 Houndsditch, London EC3A 7AR: Tel: 020 7876 5000: Fax: 020 7876 5111: DX: 160030 Lime Street 5

Clyde & Co LLP: registered in England and Wales No: OC326539. Registered Office: The St Botolph Building, 138 Houndsditch, London EC3A 7AR.

Appendix C- Articles of Association for the Ellenbrook Park Trust

'SCHEDULE TEN

Part 2'

Company number: []

SCHEDULE 10
Part 2

THE COMPANIES ACT 2006

PRIVATE COMPANY LIMITED BY GUARANTEE

ARTICLES OF ASSOCIATION

of

THE ELLENBROOK PARK PRESERVATION TRUST LIMITED

Company number: []

Contents

1	DEFINED TERMS	4
2	NEW ARTICLES	6
3	OBJECTS	6
4	POWERS	7
5	INCOME	10
6	WINDING UP	10
7	LIABILITY OF MEMBERS	10
8	TRUSTEES' GENERAL AUTHORITY	11
9	MEMBERS' RESERVE POWER	11
10	TRUSTEES MAY DELEGATE	11
11	COMMITTEES	11
12	TRUSTEES TO TAKE DECISIONS COLLECTIVELY	11
13	WRITTEN RESOLUTIONS	12
14	CALLING A TRUSTEES' MEETING	12
15	PARTICIPATION IN TRUSTEES' MEETINGS	13
16	QUORUM FOR TRUSTEES' MEETINGS	13
17	CHAIRING OF TRUSTEES' MEETINGS	14
18	CASTING VOTE	14
19	CONFLICTS OF INTEREST	14
20	RECORDS OF DECISIONS TO BE KEPT	16
21	NUMBER OF TRUSTEES	16
22	APPOINTMENT AND REMOVAL OF TRUSTEES	17
23	EXECUTIVE OFFICE	18
24	TRUSTEES' REMUNERATION	18
25	TRUSTEES' EXPENSES	18
26	APPOINTMENT AND REMOVAL OF ALTERNATE TRUSTEES	19
27	RIGHTS AND RESPONSIBILITIES OF ALTERNATE TRUSTEES	19
28	TERMINATION OF ALTERNATE TRUSTEESHIP	20
29	MEMBERSHIP	20
30	NUMBER OF MEMBERS	21
31	TRANSFER AND REPLACEMENT OF MEMBERSHIP	21
32	ATTENDANCE AND SPEAKING AT GENERAL MEETINGS	21
33	QUORUM FOR GENERAL MEETINGS	22
34	CHAIRING GENERAL MEETINGS	22
35	ATTENDANCE AND SPEAKING BY TRUSTEES AND NON-MEMBERS	22
36	ADJOURNMENT	23
37	VOTING: GENERAL	23
38	ERRORS AND DISPUTES	24
39	POLL VOTES	24
40	CONTENT OF PROXY NOTICES	25
41	DELIVERY OF PROXY NOTICES	25
42	AMENDMENTS TO RESOLUTIONS	25
43	CHANGE OF TRUST NAME	26

44	MEANS OF COMMUNICATION TO BE USED	26
45	THE SEAL	27
46	NO RIGHT TO INSPECT ACCOUNTS AND OTHER RECORDS	27
47	BANK ACCOUNTS, ANNUAL REPORTS AND ANNUAL RETURNS	27
48	PROVISION FOR EMPLOYEES ON CESSATION OF BUSINESS	27
49	INDEMNITY AND INSURANCE	28

Company number: []

THE COMPANIES ACT 2006

PRIVATE COMPANY LIMITED BY GUARANTEE

ARTICLES OF ASSOCIATION

of

THE ELLENBROOK PARK PRESERVATION TRUST LIMITED

1 DEFINED TERMS

1.1 In these Articles, unless the context requires otherwise:

Act means the Companies Act 2006;

Alternate Trustee has the meaning given to it in Article 26.1;

Appointor has the meaning given to it in Article 26.1;

Articles means the Trust's articles of association for the time being in force;

Board means the board of Trustees of the Trust as constituted from time to time;

Business Day means a day other than a Saturday, Sunday or public holiday in England when banks in London are open for business;

Charity Commission means the Charity Commission for England and Wales;

Conflict means a situation in which a Trustee has or can have a direct or indirect interest that conflicts or possibly may conflict with the interests of the Trust. The following are not to be regarded as giving rise to a Conflict:

(a) a guarantee given, or to be given, by or to a Trustee in respect of an obligation incurred by or on behalf of the Trust;

(b) a subscription, or an agreement to subscribe, for securities of the Trust or to underwrite, sub-underwrite or guarantee subscription for any such securities;

(c) arrangements pursuant to which benefits are made available to employees and Trustees or former employees and Trustees of the Trust which do not provide special benefits for Trustees or former Trustees; or

(d) in the case of a Trustee, his employment by, directorship of or other office with or having any interest in a group Trust, Subsidiary or Member;

Document includes, unless otherwise specified, any document sent or supplied in Electronic Form;

Electronic Form has the meaning given in section 1168 of the Act;

Eligible Trustee means a Trustee who would be entitled to vote on the matter at a meeting of Trustees (but excluding, in relation to the

authorisation of a conflict pursuant to Article 18.1, any Trustee whose vote is not to be counted in respect of the particular matter);

Eligible Member has the meaning given in section 289 of the Act;

Ellenbrook Park means the land at Hatfield Aerodrome, Comet Way, Hatfield owned by the Trust from time to time;

Forestry Commission means the Forestry Commission of England and Wales;

Independent Trustee has the meaning given to it in Article 17.1;

Interested Trustee has the meaning given to it in Article 19.1;

Member means a person whose name is entered in the Register of Members of the Trust and **Membership** shall be construed accordingly;

Objects means the objects of the Trust as stated in Article 3;

Ordinary Resolution has the meaning given in section 282 of the Act;

participate in relation to a Trustees' meeting, has the meaning given in Article 15 and **participating** shall be construed accordingly;

Private Sector Member means a member of the Trust who is not a Public Body and the initial Private Sector Member is Arlington Business Parks GP Limited, a private limited company registered in England and Wales with registration number 04233559;

Private Sector Trustee means any Trustee appointed to the Trust by the Private Sector Member from time to time;

Proxy Notice has the meaning given in Article 41;

Public Body means an organisation that is created by statute and publicly funded for the purposes of delivering a public or government service;

Public Sector Members means a member of the Trust who is a Public Body and the initial Public Sector Members are:

(a) Hertfordshire County Council;

(b) Colney Heath Parish Council;

(c) Hatfield Town Council;

(d) The St Albans City and District Council; and

(e) Welwyn and Hatfield District Council,

each being referred to as a **Public Sector Member**;

Public Sector Trustee means any Trustee appointed by a Public Sector Member from time to time;

Secretary means the secretary of the Trust and any other person appointed to perform the duties of the secretary of the Trust, including a joint, assistant or deputy secretary;

Special Resolution has the meaning given in section 283 of the Act;

Subsidiary has the meaning given in section 1159 of the Act;

Trust means the company limited by guarantee regulated by these Articles;

Trustee means a director of the Trust, and includes any person occupying the position of director, by whatever name called;

Writing means the representation or reproduction of words, symbols or other information in a visible form by any method or combination of methods, whether sent or supplied in Electronic Form or otherwise.

1.2 Save as provided in Article 1.1 and unless the context otherwise requires, words or expressions contained in these Articles bear the same meaning as in the Act.

1.3 In these Articles, save where the context otherwise requires, a reference to a statute, statutory provision or regulation shall include a reference:

(a) to that statute, statutory provision or regulation as from time to time consolidated, modified, re-enacted or replaced by any statute, statutory provision or regulation;

(b) to any repealed statute, statutory provision or regulation which it re-enacts (with or without modification); and

(c) to any subordinate legislation made under the relevant statute or regulation.

1.4 In these Articles, unless the context otherwise requires:

(a) words in the singular include the plural, and vice versa;

(b) words importing any gender include all genders; and

(c) a reference to person includes a natural person, a corporate or unincorporated body (whether or not having separate legal personality) and that person's personal representatives, successors and permitted assigns.

1.5 In these Articles a reference to an Article is to a clause of these Articles.

2 NEW ARTICLES

The model articles for private companies limited by guarantee contained in Schedule 2 of the Companies (Model Articles) Regulations 2008 (S1 2008/3229) shall not apply to the Trust.

3 OBJECTS

The objects for which the Trust is established is:

(a) to manage and maintain Ellenbrook Park;

(b) to improve, restore, replant, landscape and enhance the green belt area at Ellenbrook Park;

(c) to return the land to recreational use for the enjoyment of the public and to bring the land under positive management following its restoration and enhancement;

(d) to create new wildlife habitat;

(e) to achieve and improve the accessibility of Ellenbrook Park to the public;

(f) to bring Ellenbrook Park and other neighbouring land back into active use;

(g) to preserve, repair, decontaminate, regenerate, manage, maintain, improve and enhance for the benefit, education, understanding, appreciation, recreation and enjoyment of the people of Hatfield Town Council, the Welwyn Hatfield Council and the St Albans City and District Council and of the nation at large, whatever of the landscape, ecological, heritage and amenity value as may exist or can be created in the land and buildings within neighbouring and adjoining area as are or may be acquired by the trust or in respect of or in which the trust has or may acquire exert obtain or inherit any legal or equitable interest or any other right lease licence or interest influence responsibility control or obligations (whether permissive or otherwise) and including any buildings monuments, artefacts, gardens and park lands, farm lands woodlands and open spaces in the area and their landscape settings, and in particular (but without prejudice to the generality):

(i) to create open woodlands, parklands, public parks, and leisure areas facilities and areas of wildlife interest;

(ii) to preserve and enhance its ecological, recreational amenity and landscape assets and associations;

(iii) to restore preserve enhance landscapes, having historical, or landscape associations with the area; and

(iv) to maintain and manage all other grounds and property in the ownership or control of the Trust for the public benefit; and

(h) any other objects of the Trust which the Trustees may determine from time to time.

4 POWERS

4.1 In pursuance of the Objects, the Trust has the power to:

(a) sell, charge, develop, let on lease licence letting or tenancy, exchange, mortgage or otherwise dispose of all of any part of Ellenbrook Park and any other land or buildings or any interest therein with or without covenants, conditions and restrictions designed to ensure the preservation of such land and buildings and without prejudice to the generality the Trust may construct buildings and structures relating to any landscape or woodland management including buildings for the storage of landscape, gardening and forestry plant vehicles machinery and equipment and build sell and carry out enabling development within Ellenbrook Park or allow Ellenbrook Park to be used for fund raising activities and events the proceeds of which shall in either case be applied in accordance with the terms of the Articles;

(b) carry out or contribute towards the repair, restoration, improvement management, maintenance, upkeep, and/or conservation of such

parts of Ellenbrook Park as are from time to time owned controlled or managed by the Trust;

(c) buy or otherwise acquire plant vehicles and machinery (including but not limited to grounds keeping and forestry equipment, garden furniture, and other fixtures and fittings equipment for use in connection with Ellenbrook Park together with any other land or buildings controlled by the Trust) and sell, lease or otherwise dispose of any such plant and machinery, furniture or other equipment;

(d) make such arrangements as it deems appropriate to enable the public to view and enjoy Ellenbrook Park (whether free or at a charge and with or without supervision) and to permit and encourage such public access as it deems appropriate having regard to the residential amenities of the residents of Ellenbrook Park and the fragility of the landscape, archaeological, historical and ecological assets of Ellenbrook Park;

(e) by commissioning research and publishing books or pamphlets or in any other appropriate manner, make known to the public the existence and history of Ellenbrook Park and in particular its ecological architectural, archaeological, landscape or constructional interest or features of special interest or historic importance;

(f) undertake or support educational and academic research into the history, geography, landscapes and ecology of Ellenbrook Park and its associations with the surrounding area and into any means or method of restoring, preserving, enhancing, understanding and appreciating the assets of Ellenbrook Park and its use, development and occupation and its landscape, historical or ecological significance;

(g) raise funds by subscriptions, fees, covenants, forestry and woodland grants, donations, dinners, open air concerts, galas, markets, fairs, plays, open days, and other indoor or outdoor events, supervised visits, walks, contracting and estate management activity, work experience, the sale of produce, or other goods books, pamphlets, souvenirs or other articles, grants, loans or otherwise for the purposes of the Trust;

(h) invite and accept gifts of all sorts and whether inter vivos or by will and whether or not subject to conditions and carry out any condition imposed on any gift which may be accepted;

(i) constitute special charitable trusts for any particular purposes of the Trust and act as trustee of any such special trust, whether constituted by the Trust or otherwise;

(j) enter into and carry out contracts and provide services, and procure or undertake building, restoration, decontamination, landscaping, contracting, forestry, woodland landscape maintenance and management gardening, ecological works;

(k) employ and remunerate staff, agents, workmen, contractors, consultants and other advisors and make all reasonable and necessary provision for the payment of pensions and superannuation to or on behalf of employees and their widows and other dependants, such staff employees contractors consultants advisors agents and

workmen to include inter alia foresters, gardeners, park wardens, game keepers, security, landscape gardeners, landscape architects, environmental consultants and landscape and forestry contractors, conservationists, arboricultualists, tree surgeons, contractors, surveyors, engineers, builders craftsmen, hydrologists and other specialists, professional advisors and contractors;

(l) borrow money for the purposes of the Trust on any such terms;

(m) invest the money of the Trust not immediately required for its purposes in or upon such investments, securities or property as may be thought fit, subject nevertheless to such conditions (if any) and such consents (if any) as may for the time being be imposed or required by law and subject also as hereinafter mentioned;

(n) make planning applications, applications for consent under bye-laws or building regulations woodland grant applications, applications for lottery grants and other funding and other like applications;

(o) draw, make, accept, endorse, discount, execute and issue promissory notes, bills, cheques and other instruments and operate bank or building society accounts in the name of the Trust;

(p) establish and support or aid in the establishment and support of community wildlife or educational charitable associations or institutions and subscribe or guarantee money for charitable purposes in any way connected with the purposes of the Trust or calculated to further its Objects;

(q) co-operate with and negotiate and enter into negotiations and agreements with any local or public authority or other body or community group including the Forestry Commission, Welwyn Hatfield Council, the St Albans City and District Council and the Hertfordshire County Council or residents concerned to achieve the Objects;

(r) enter into contracts or other arrangements with any person in respect of the improvement, maintenance management and upkeep of any part of the Ellenbrook Park whether in respect of land provision or procuring of works or services in relation thereto in which the Trust has any interest or in respect of land which is not owned or controlled by the Trust but which is considered by the Trustees to contribute to its landscape character, or its visual quality or its ecological value; and

(s) do all such other lawful things as are incidental or conducive to the pursuit or to the attainment of any of the Objects.

4.2 In pursuance of the Objects:

(a) in case the Trust shall take or hold any property which may be subject to any trusts, the Trust shall only deal with or invest the same in such manner as allowed by law, having regard to such trusts;

(b) the Objects shall not extend to the regulation of relations between workers and employers or organisations of workers and organisations of employers;

(c) in case the Trust shall take or hold any property subject to the jurisdiction of the Charity Commission, the Trust shall not sell, mortgage, charge or lease such property without such authority, approval or consent as may be required by law, and, as regards any such property, shall comply with such other directions of the Charity Commission from time to time; and

(d) the Trust shall have regard at all times to the desirability of providing and improving access by the public to Ellenbrook Park (with or without payment of a fee) and subject in the Trust's discretion to appropriate control and supervision of such persons and to such limitations as the Trust may think fit as to days and times of such access and having regard at all times to the protection of the landscape and of residential amenities and quiet enjoyment of any residents of neighbouring and adjoining properties and to the fragility of the ecological, and landscape assets within Ellenbrook Park.

5 INCOME

5.1 The income of the Trust, from wherever derived, shall be applied solely in promoting the Objects of the Trust.

5.2 No distribution shall be paid or capital otherwise returned to the Members in cash or otherwise. Nothing in these Articles shall prevent any payment in good faith by the Trust of:

(a) reasonable and proper remuneration to any Member, officer or servant of the Trust for any services rendered to the Trust;

(b) any interest on money lent by any Member or any Trustee at a reasonable and proper rate approved by the Trustees from time to time;

(c) reasonable and proper rent for premises demised or let by any Member or Trustee; or

(d) reasonable out-of-pocket expenses properly incurred by any Trustee in accordance with any policy of and as approved by the Board.

6 WINDING UP

On the winding-up or dissolution of the Trust, after provision has been made for all its debts and liabilities, any assets or property that remains available to be distributed or paid, shall not be paid or distributed to the Members (except to a Member that qualifies under this Article) but shall be transferred to another body (charitable or otherwise) with objects similar to those of the Trust. Such body to be determined by resolution of the Members at or before the time of winding up or dissolution and, subject to any such resolution of the Members, may be made by resolution of the Trustees at or before the time of winding up or dissolution.

7 LIABILITY OF MEMBERS

The liability of each Member is limited to £1.00, being the amount that each Member undertakes to contribute to the assets of the Trust in the event of it being wound up while he is a Member or within one year after he ceases to be a Member, for:

(a) payment of the Trust's debts and liabilities contracted before he ceases to be a Member;

(b) payment of the Trust's charges and expenses of winding up; and

(c) adjustment of the rights of the contributories among themselves.

TRUSTEES' POWERS AND RESPONSIBILITIES

8 TRUSTEES' GENERAL AUTHORITY

8.1 Subject to the Articles, the Trustees are responsible for the management of the Trust's business, for which purpose they may exercise all the powers of the Trust.

9 MEMBERS' RESERVE POWER

9.1 The Members may, by Special Resolution, direct the Trustees to take, or refrain from taking, specified action.

9.2 No such Special Resolution invalidates anything which the Trustees have done before the passing of the resolution.

10 TRUSTEES MAY DELEGATE

10.1 Subject to these Articles, the Trustees may by resolution passed at a Trustee meeting or pursuant to Article 13 delegate any of the powers which are conferred on them under these Articles:

(a) to such person or committee;

(b) by such means (including by power of attorney);

(c) to such an extent;

(d) in relation to such matters or territories; and

(e) on such terms and conditions,

as they think fit.

10.2 If the Trustees so specify, any such delegation may authorise further delegation of the Trustees' powers by any person to whom they are delegated.

10.3 Any Trustee may revoke any delegation in whole or part, or alter its terms and conditions.

11 COMMITTEES

Committees to which the Trustees delegate any of their powers must follow procedures which are based as far as they are applicable on those provisions of the articles which govern the taking of decisions by Trustees.

DECISION-MAKING BY TRUSTEES

12 TRUSTEES TO TAKE DECISIONS COLLECTIVELY

12.1 The general rule about decision-making by Trustees is that any decision of the Trustees must be either a majority decision at a meeting or a decision taken in accordance with Article 13.

12.2 Subject to Article 13, each Trustee, on any decision of the Trustees upon which he is entitled to vote, is entitled to cast one vote.

12.3 If a Trustee appointed by the Private Sector Member is absent from a meeting of Trustees or if there are less than five Trustees appointed by the Private Sector Member at the time of such meeting, any other Trustee appointed by the Private Sector Member who is present in person or by an alternate may cast the vote of such absent or unappointed Trustee provided for the avoidance of doubt that the maximum number of votes able to be cast by the Trustees appointed by the Private Sector Member shall not exceed five.

12.4 If a Trustee appointed by a Public Sector Member is absent from a meeting of Trustees or if there are less than five Trustees appointed by the Public Sector Members at the time of such meeting, any other Trustee appointed by a Public Sector Member who is present in person or by an alternate may cast the vote of such absent or unappointed Trustee provided for the avoidance of doubt that the maximum number of votes able to be cast by the Trustees appointed by the Public Sector Members shall not exceed five.

13 WRITTEN RESOLUTIONS

13.1 A decision of the Trustees is taken in accordance with this Article 13 when all Eligible Trustees indicate to each other by any means that they share a common view on a matter.

13.2 Such a decision may take the form of a resolution in Writing, copies of which have been signed by each Eligible Trustee or to which each Eligible Trustee has otherwise indicated agreement in Writing.

13.3 A decision may not be taken in accordance with this Article 13 if the Eligible Trustees would not have formed a quorum at such a meeting.

14 CALLING A TRUSTEES' MEETING

14.1 Any Trustee may call a Trustees' meeting by giving not less than 10 Business Days' notice of the meeting (or such lesser notice as all the Trustees may agree) to the Trustees or by authorising the Secretary (if any) to give such notice.

14.2 Notice of any Trustees' meeting must indicate:

(a) its proposed date and time;

(b) where it is to take place;

(c) the agenda of the meeting; and

(d) if it is anticipated that Trustees participating in the meeting will not be in the same place, how it is proposed that they should communicate with each other during the meeting.

14.3 Notice of a Trustees' meeting must be given to each Trustee, which does not need to be in Writing.

14.4 Notice of a Trustees' meeting need not be given to Trustees who waive their entitlement to notice of that meeting, by giving notice to that effect to the Trust not more than seven days after the date on which the meeting is

held. Where such notice is given after the meeting has been held, that does not affect the validity of the meeting, or of any business conducted at it.

15 PARTICIPATION IN TRUSTEES' MEETINGS

15.1 Trustees participate in a Trustees' meeting, or part of a Trustees' meeting, when:

(a) the meeting has been called and takes place in accordance with these Articles; and

(b) they can each communicate to the others any information or opinions they have on any particular item of the business of the meeting.

15.2 In determining whether Trustees are participating in a Trustees' meeting, it is irrelevant where any Trustee is or how they communicate with each other.

15.3 If all the Trustees participating in a meeting are not in the same place, they may decide that the meeting is to be treated as taking place wherever any of them is.

16 QUORUM FOR TRUSTEES' MEETINGS

16.1 At a Trustees' meeting, unless a quorum is participating, no proposal is to be voted on, except a proposal to call another meeting.

16.2 Subject to Article 16.4, the quorum for a meeting of Trustees shall comprise of:

(a) three Eligible Trustees appointed by the Public Sector Members, or such lesser number of Eligible Trustees as have been appointed by the Public Sector Members from time to time; and

(b) not less than one Eligible Trustee appointed by the Private Sector Member.

16.3 The quorum for Trustee meetings may be fixed from time to time by a unanimous decision of the Trustees.

16.4 If a quorum is not present within half an hour of the time specified for the relevant meeting in the notice of the meeting, the Chairman of the Board shall adjourn the meeting for five Business Days to the same time and place. If at such reconvened meeting the quorum is not present within half an hour of the time specified or such longer interval as the Chairman of the Board may think fit to allow, then the meeting shall be deemed quorate as attended.

16.5 Notwithstanding Article 16.4, if the total number of Trustees for the time being is less than the quorum required, the Trustees must not take any decision other than a decision to:

(a) appoint further Trustees; or

(b) to call a general meeting so as to enable the Members to appoint further Trustees.

17 CHAIRING OF TRUSTEES' MEETINGS

17.1 The Trustees shall appoint an Independent Trustee to chair the meetings of Trustees who shall be:

(a) a Trustee appointed by way of a decision of all the Trustees; or

(b) in the event that the Trustees are unable to agree on the Independent Trustee to be appointed from time to time, the Trustees shall apply for an Independent Trustee to be a person nominated by the President for the time being of the Landscape Institute in England and Wales or a successor or similar professional body,

the person so appointed for the time being is known as the **Independent Trustee**. For the avoidance of doubt, only the Independent Trustee appointed in accordance with this Article 17.1 shall have a casting vote at a meeting of the Trustees.

17.2 The Trustees must not unreasonably withhold consent to the proposed terms of appointment of the Independent Trustee (whether appointed by them or otherwise).

17.3 If the Independent Trustee is not participating in a Trustees' meeting within fifteen minutes of the time at which it was to start or for reasons of a Conflict in accordance with Article 19.1, the participating Trustees must appoint one of themselves to chair the meeting but for the avoidance of doubt they shall not have a casting vote.

18 CASTING VOTE

18.1 If the numbers of votes for and against a proposal at a meeting of Trustees are equal, the Independent Trustee (if one is in office and in attendance at the meeting) shall have a casting vote. Otherwise, the chairman of a meeting shall not have a casting vote.

18.2 But this does not apply if, in accordance with the Articles, the Chairman of the Board or other Trustee is not to be counted as participating in the decision-making process for quorum or voting purposes.

19 CONFLICTS OF INTEREST

19.1 The Trustees may, in accordance with the requirements set out in this Article, authorise any Conflict proposed to them by any Trustee which would, if not authorised, involve a Trustee (an **Interested Trustee**) breaching his duty to avoid conflicts of interest under section 175 of the Act.

19.2 Any authorisation under this Article 19 shall be effective only if:

(a) to the extent permitted by the Act, the matter in question shall have been proposed by any Trustee for consideration in the same way that any other matter may be proposed to the Trustees under the provisions of these Articles or in such other manner as the Trustees may determine;

(b) any requirement as to the quorum for consideration of the relevant matter is met without counting the Interested Trustee; and

(c) the matter was agreed to without the Interested Trustee voting or would have been agreed to if the Interested Trustee's vote had not been counted.

19.3 Any authorisation of a Conflict under this Article 19 may (whether at the time of giving the authorisation or subsequently):

(a) extend to any actual or potential conflict of interest which may reasonably be expected to arise out of the matter or situation so authorised;

(b) provide that the Interested Trustee be excluded from the receipt of documents and information and from participation in discussions (whether at meetings of the Trustees or otherwise) related to the Conflict;

(c) provide that the Interested Trustee shall or shall not be an Eligible Trustee in respect of any future decision of the Trustees in relation to any resolution related to the Conflict;

(d) impose on the Interested Trustee such other terms for the purposes of dealing with the Conflict as the Trustees think fit;

(e) provide that, where the Interested Trustee obtains, or has obtained (through his involvement in the Conflict and otherwise than through his position as a Trustee of the Trust) information that is confidential to a third party, he shall not be obliged to disclose that information to the Trust, or to use it in relation to the Trust's affairs where to do so would amount to a breach of that confidence; and

(f) permit the Interested Trustee to absent himself from the discussion of matters relating to the Conflict at any meeting of the Trustees and be excused from reviewing papers prepared by, or for, the Trustees to the extent they relate to such matters.

19.4 Where the Trustees authorise a Conflict, the Interested Trustee shall be obliged to conduct himself in accordance with any terms and conditions imposed by the Trustees in relation to the Conflict.

19.5 The Trustees may revoke or vary such authorisation at any time, but this shall not affect anything done by the Interested Trustee prior to such revocation or variation in accordance with the terms of such authorisation.

19.6 A Trustee is not required, by reason of being a Trustee (or because of the fiduciary relationship established by reason of being a Trustee), to account to the Trust for any remuneration, profit or other benefit which he derives from or in connection with a relationship involving a Conflict which has been authorised by the Trustees in accordance with these Articles or by the Trust in general meeting (subject in each case to any terms, limits or conditions attaching to that authorisation) and no contract shall be liable to be avoided on such grounds.

19.7 Subject to sections 177(5) and 177(6) and sections 182(5) and 182(6) of the Act, and provided he has declared the nature and extent of his interest in accordance with the requirements of the Act, a Trustee who is in any way, whether directly or indirectly, interested in an existing or proposed transaction or arrangement with the Trust:

(a) may be a party to, or otherwise interested in, any transaction or arrangement with the Trust or in which the Trust is otherwise (directly or indirectly) interested;

(b) shall be an Eligible Trustee for the purposes of any proposed decision of the Trustees (or committee of Trustees) in respect of such existing or proposed transaction or arrangement in which he is interested;

(c) shall be entitled to vote at a meeting of Trustees (or of a committee of the Trustees) or participate in any unanimous decision, in respect of such existing or proposed transaction or arrangement in which he is interested;

(d) may act by himself or his firm in a professional capacity for the Trust (otherwise than as auditor) and he or his firm shall be entitled to remuneration for professional services as if he were not a Trustee;

(e) may be a Trustee or other officer of, or employed by, or a party to a transaction or arrangement with, or otherwise interested in, any body corporate in which the Trust is otherwise (directly or indirectly) interested; and

(f) shall not, save as he may otherwise agree, be accountable to the Trust for any benefit which he (or a person connected with him (as defined in section 252 of the Act)) derives from any such transaction or arrangement or from any such office or employment or from any interest in any such body corporate and no such transaction or arrangement shall be liable to be avoided on the grounds of any such interest or benefit nor shall the receipt of any such remuneration or other benefit constitute a breach of his duty under section 176 of the Act.

19.8 Subject to Article 19.9, if a question arises at a meeting of Trustees or of a committee of Trustees as to the right of a Trustee to participate in the meeting (or part of the meeting) for voting or quorum purposes, the question may, before the conclusion of the meeting, be referred to the Chairman of the Board whose ruling in relation to any Trustee other than the Chairman of the Board is to be final and conclusive.

19.9 If any question as to the right to participate in the meeting (or part of the meeting) should arise in respect of the Chairman of the Board, the question is to be decided by a decision of the Trustees at that meeting, for which purpose the Chairman of the Board is not to be counted as participating in the meeting (or that part of the meeting) for voting or quorum purposes.

20 RECORDS OF DECISIONS TO BE KEPT

The Trustees must ensure that the Trust keeps a record, in Writing, for at least 10 years from the date of the decision recorded, of every unanimous or majority decision taken by the Trustees. Where decisions of the Trustees are taken by electronic means, such decisions shall be recorded by the Trustees in permanent form, so that they may be read with the naked eye.

APPOINTMENT OF TRUSTEES

21 NUMBER OF TRUSTEES

The number of Trustees shall consist of:

(a) up to five Public Sector Trustees;

(b) up to five Private Sector Trustees; and

(c) the Independent Trustee.

22 APPOINTMENT AND REMOVAL OF TRUSTEES

22.1 Each Public Sector Member shall be entitled to appoint one Trustee and remove or replace any such Trustee at any time. The Private Sector Member shall be entitled to appoint five Trustees and remove or replace any such Trustee at any time.

22.2 No person may be appointed as a Trustee unless:

(a) they are 18 years or over; and

(b) have not been disqualified from acting as a director of a company.

22.3 Any appointment or removal of a Trustee pursuant to this Article 22 shall be effected by written notice which:

(a) shall be signed by or on behalf of the Member giving it;

(b) shall specify the date of appointment or removal (as the case may be); and

(c) shall be given to the other Members (at the address recorded for each such Member in the Trust's register of members) and to the Trust (at Trust's registered office marked for the attention of the Trustees),

and any such appointment or removal shall take effect when received by the Trust or at such later time as may be specified in such notice.

22.4 A person shall cease to be qualified to act as a Trustee as soon as:

(a) that person ceases to be a Trustee by virtue of any provision of the Act or is prohibited from being a director by law;

(b) a bankruptcy order is made against that person;

(c) a composition is made with that person's creditors generally in satisfaction of that person's debts;

(d) a registered medical practitioner who is treating that person gives a written opinion to the Trust stating that that person has become physically or mentally incapable of acting as a Trustee and may remain so for more than three months;

(e) notification is received by the Trust from the Trustee that the Trustee is resigning from office as Trustee, and such resignation has taken effect in accordance with its terms; or

(f) is absent without the permission of the Trustees from all meetings of the Trustees held during a period of six months and the Trustees resolve that his office be vacated.

22.5 If a Trustee ceases to be qualified or permitted by law to act as a Trustee, the Member that appointed that Trustee shall procure that Trustee is

immediately removed from office and shall be entitled to replace such Trustee with an alternative appointee in accordance with this Article 22.

22.6 If a Trustee shall be removed from or vacate office, the Member that appointed that Trustee shall procure that the relevant Trustee is removed as a Trustee of the Trust and shall be entitled to replace such Trustee with an alternative appointee in accordance with this Article 22.

22.7 The appointment of any Trustee nominated by a Member shall automatically be terminated immediately upon such appointing Member ceasing to be a Member of the Trust.

22.8 No Member shall have the right to object to the appointment or removal or replacement of a Trustee by any other Member made in accordance with this Article 22.

22.9 No Trustees shall be appointed or removed otherwise than pursuant to this Article 22, save as provided by law.

23 EXECUTIVE OFFICE

The Trustees may by unanimous resolution only appoint one or more of their number to the office of managing Trustee or to any other executive office of the Trust. Any such appointment may be made upon such terms as the Trustees determine from time to time. Any appointment of a Trustee to an executive office shall terminate if he ceases to be a Trustee.

24 TRUSTEES' REMUNERATION

24.1 Trustees may undertake any services for the Trust that the Trustees decide and on such terms and conditions as the Trustees determine, provided that a Trustee may only be remunerated for such services in accordance with this Article.

24.2 Trustees are only entitled to such remuneration as the Trustees determine in advance by way of a unanimous resolution:

(a) for their services to the Trust as Trustees; and

(b) for any other service which they undertake for the Trust.

24.3 Subject to the Articles, a Trustees' remuneration may:

(a) take any form; and

(b) include any arrangements in connection with the payment of a pension, allowance or gratuity, or any death, sickness or disability benefits, to or in respect of that Trustee.

24.4 Unless the Trustees decide otherwise, Trustees' remuneration accrues from day to day.

25 TRUSTEES' EXPENSES

The Trust may pay any reasonable expenses which the Trustees (including alternate Trustees) and the Secretary properly incur in connection with their attendance at:

(a) meetings of Trustees or committees of Trustees;

(b) general meetings; or

(c) separate meetings of the holders of different classes of Member or debentures of the Trust,

or otherwise in connection with the exercise of their powers and the discharge of their responsibilities in relation to the Trust.

26 APPOINTMENT AND REMOVAL OF ALTERNATE TRUSTEES

26.1 Any Trustee (other than an Alternate Trustee) (**Appointor**) may appoint as an alternate any other Trustee, or any other person approved by resolution of the Trustees, to:

(a) exercise that Trustee's powers; and

(b) carry out that Trustee's responsibilities,

in relation to the taking of decisions by the Trustees, in the absence of the Appointor (**Alternate Trustee**).

26.2 Any appointment or removal of an Alternate Trustee must be effected by notice in writing to the Trust signed by the Appointor, or in any other manner approved by the Trustees.

26.3 The notice must:

(a) identify the proposed alternate; and

(b) in the case of a notice of appointment, contain a statement signed by the proposed alternate that he is willing to act as the alternate of the Trustee giving the notice.

27 RIGHTS AND RESPONSIBILITIES OF ALTERNATE TRUSTEES

27.1 An Alternate Trustee may act as Alternate Trustee to more than one Trustee and has the same rights in relation to any decision of the Trustees as the alternate's Appointor.

27.2 Except as the Articles specify otherwise, alternate Trustees are:

(a) deemed for all purposes to be Trustees;

(b) liable for their own acts and omissions;

(c) subject to the same restrictions as their Appointors; and

(d) not deemed to be agents of or for their Appointors

and, in particular (without limitation), each Alternate Trustee shall be entitled to receive notice of all meetings of Trustees and of all meetings of committees of Trustees of which his Appointor is a Member.

27.3 A person who is an Alternate Trustee but not a Trustee:

(a) may be counted as participating for the purposes of determining whether a quorum is present (but only if that person's Appointor is not participating);

(b) may participate in a unanimous decision of the Trustees (but only if his Appointor is an Eligible Trustee in relation to that decision, but does not participate); and

(c) shall not be counted as more than one Trustee for the purposes of Article 27.3(a) and Article 27.3(b).

27.4 A Trustee who is also an Alternate Trustee is entitled, in the absence of his Appointor(s), to a separate vote on behalf of each Appointor, in addition to his own vote on any decision of the Trustees (provided that an Appointor for whom he exercises a separate vote is an Eligible Trustee in relation to that decision), but shall not count as more than one Trustee for the purposes of determining whether a quorum is present.

27.5 An Alternate Trustee may be paid expenses and may be indemnified by the Trust to the same extent as if he were a Trustee but shall not be entitled to receive any remuneration from the Trust for serving as an Alternate Trustee except such part (if any) of the remuneration otherwise payable to the alternate's Appointor as the Appointor may by notice in writing to the Trust from time to time direct.

28 TERMINATION OF ALTERNATE TRUSTEESHIP

28.1 An alternate Trustee's appointment as an alternate (in respect of a particular Appointor) terminates:

(a) when the alternate's Appointor revokes the appointment by notice to the Trust in writing specifying when it is to terminate;

(b) on the occurrence, in relation to the alternate, of any event which, if it occurred in relation to the alternate's Appointor, would result in the termination of the Appointor's appointment as a Trustee;

(c) on the death of the alternate's Appointor; or

(d) when the Alternate Trustee's Appointor ceases to be a Trustee for whatever reason.

MEMBERS: BECOMING AND CEASING TO BE A MEMBER

29 MEMBERSHIP

29.1 No person shall become a member of the Trust unless:

(a) that person has completed an application for Membership in a form approved by the Trustees, and

(b) the Trustees have approved the application.

29.2 The Trustees may prescribe criteria for Membership of the Trust but shall not be obliged to accept persons fulfilling those criteria as Members. Every Member shall at all times observe and perform the covenants and conditions relating to the Membership which are contained in these Articles and the Rules or in any such deeds supplemental thereto or other relevant documentation in respect of his Membership and shall be bound to perform such covenants and conditions as if (if such be not already the case) the same had been entered into directly between the Trust and themselves.

29.3 The Trustees may establish different classes of Members and set out the different rights and obligations for each class, with such rights and obligations recorded in the Register of Members.

30 NUMBER OF MEMBERS

There shall not be less than one Member and not more than six Members of the Trust. Unless otherwise agreed unanimously by the Members, there shall not be less than one Private Sector Member and not more than five Public Sector Members.

31 TRANSFER AND REPLACEMENT OF MEMBERSHIP

31.1 Subject to Article 30, a Member may withdraw from Membership of the Trust by giving 14 days' notice to the Trust in writing and any person ceasing to be a Member shall be removed from the Register of Members.

31.2 Membership is transferable to:

(a) any Affiliate of a Member. For the purposes of this Article 31.2, an Affiliate in relation to any Member means a person which is from time to time a parent or a subsidiary undertaking of that Member or a subsidiary of any such parent undertaking; or

(b) subject to Article 30, any person with a bona fide interest in Ellenbrook Park (provided that if the transferee is a Public Sector Member, such transferee must be a Public Body unless otherwise approved in writing in advance by the Private Sector Member).

31.3 A persons Membership terminates when a Member dies or becomes bankrupt (if an individual) or goes into receivership, administrative receivership, administration, liquidation or other arrangement for the winding up of a company (if a company).

31.4 Subject to Article 30, the remaining Members may appoint a replacement Member to fill the vacancy of a retiring Member.

ORGANISATION OF GENERAL MEETINGS

32 ATTENDANCE AND SPEAKING AT GENERAL MEETINGS

32.1 A person is able to exercise the right to speak at a general meeting when that person is in a position to communicate to all those attending the meeting, during the meeting, any information or opinions which that person has on the business of the meeting.

32.2 A person is able to exercise the right to vote at a general meeting when:

(a) that person is able to vote, during the meeting, on resolutions put to the vote at the meeting; and

(b) that person's vote can be taken into account in determining whether or not such resolutions are passed at the same time as the votes of all the other persons attending the meeting.

32.3 The Trustees may make whatever arrangements they consider appropriate to enable those attending a general meeting to exercise their rights to speak or vote at it.

32.4 In determining attendance at a general meeting, it is immaterial whether any two or more Members attending it are in the same place as each other.

32.5 Two or more persons who are not in the same place as each other attend a general meeting if their circumstances are such that if they have (or were to have) rights to speak and vote at that meeting, they are (or would be) able to exercise them.

32.6 A Member may authorise a duly appointed representative to attend and vote at any general meeting of the Trust on behalf of the representing Member. A vote given by a duly authorised representative shall be valid notwithstanding the previous determination of the authority of the person voting unless notice of the determination was received by the Trust before the commencement of the meeting or adjourned meeting at which the vote is given.

33 QUORUM FOR GENERAL MEETINGS

33.1 The quorum at a general meeting shall comprise:

(a) the Private Sector Member or a duly authorised representative; and

(b) at least one Public Sector Member or a duly authorised representative,

provided always that if the business to be transacted involves (i) any amendments to the Articles or (ii) a proposal to commence the winding-up or dissolution of the Trust, the quorum shall be all Members entitled to vote and any resolution effecting such proposals shall only be validly passed if all Members present at the meeting unanimously agree to amend the Articles or commence the winding-up or dissolution of the Trust.

33.2 No business other than the appointment of the Chairman of the Meeting is to be transacted at a general meeting if the persons attending it do not constitute a quorum.

34 CHAIRING GENERAL MEETINGS

34.1 If the Trustees have appointed a Chairman, the Chairman shall chair the general meetings if present and willing to do so.

34.2 If the Trustees have not appointed a Chairman, or if the Chairman is unwilling to chair the meeting or is not present within fifteen minutes of the time at which a meeting was due to start:

(a) the Trustees present, or

(b) (if no Trustees are present), the meeting,

must appoint a Trustee or Member to chair the meeting, and the appointment of the Chairman of the meeting must be the first business of the meeting.

34.3 The person chairing a meeting in accordance with this Article 34 is referred to as the **Chairman of the Meeting**.

35 ATTENDANCE AND SPEAKING BY TRUSTEES AND NON-MEMBERS

35.1 Trustees may attend and speak at general meetings, whether or not they are Members.

35.2 The Chairman of the Meeting may permit other persons who are not Members of the Trust to attend and speak at a general meeting.

36 **ADJOURNMENT**

36.1 If the persons attending a general meeting within half an hour of the time at which the meeting was due to start do not constitute a quorum, or if during a meeting a quorum ceases to be present, the Chairman of the Meeting must adjourn it to the same place and time not less than five Business Days later, and give not less than three Business Days written notice to all of the Members of the time and date appointed for such reconvened meeting. When a meeting is adjourned for fourteen days or more, at least seven Business Days' notice shall be given specifying the time and place of the adjourned meeting and the general nature of the business to be transacted.

36.2 If at such reconvened meeting the quorum is not present within half an hour from the time appointed for the reconvened meeting or such longer interval as the Chairman of the Meeting may think fit to allow, then the meeting shall be quorate as attended, save that the representatives of all Members must be in attendance for the meeting to be quorate.

36.3 The Chairman of the Meeting may adjourn a general meeting at which a quorum is present if:

(a) the meeting consents to an adjournment; or

(b) it appears to the Chairman of the Meeting that an adjournment is necessary to protect the safety of any person attending the meeting or ensure that the business of the meeting is conducted in an orderly manner.

36.4 The Chairman of the Meeting must adjourn a general meeting if directed to do so by the meeting.

36.5 When adjourning a general meeting, the Chairman of the Meeting must:

(a) either specify the time and place to which it is adjourned or state that it is to continue at a time and place to be fixed by the Trustees; and

(b) have regard to any directions as to the time and place of any adjournment which have been given by the meeting.

36.6 It shall not be necessary to give any notice of an adjourned general meeting or of any business to be transacted at an adjourned meeting.

36.7 No business may be transacted at an adjourned general meeting which could not properly have been transacted at the meeting if the adjournment had not taken place.

VOTING AT GENERAL MEETINGS

37 **VOTING: GENERAL**

37.1 A resolution put to the vote of a general meeting must be decided on a show of hands as follows:

(a) each Public Sector Member shall be entitled to one vote; and

(b) the Private Sector Member shall be entitled to one vote for each Public Sector Member in attendance and eligible to vote at a general meeting,

unless a poll is duly demanded in accordance with the Articles.

37.2 No Member shall be entitled to vote at any general meeting or on a written resolution of the Members unless all moneys payable by it to the Trust have been paid.

37.3 In respect of any resolution of the Members to remove any Trustee from office, any Member (or its proxy) voting against such a resolution (whether on show of hands or a poll) to remove the Trustee appointed by it pursuant to Articles 22.5 and 22.6 (or, in the case of the proxy, to remove the Trustee appointed by the Member who it is acting as proxy for) shall be entitled to cast such number of votes as is necessary to defeat the resolution (and the ruling of the Chairman of the Meeting as to the number of votes required to be cast shall be final and binding).

38 ERRORS AND DISPUTES

No objection may be raised to the qualification of any person voting at a general meeting except at the meeting or adjourned meeting at which the vote objected to is tendered, and every vote not disallowed at the meeting is valid.

39 POLL VOTES

39.1 A poll on a resolution may be demanded:

(a) in advance of the general meeting where it is to be put to the vote; or

(b) at a general meeting, either before a show of hands on that resolution or immediately after the result of a show of hands on that resolution is declared.

39.2 A poll may be demanded by:

(a) the Chairman of the Meeting;

(b) the Trustees;

(c) two or more persons having the right to vote on the resolution; or

(d) a person or persons representing not less than one tenth of the total voting rights of all the Members having the right to vote on the resolution.

39.3 A demand for a poll may be withdrawn if:

(a) the poll has not yet been taken; and

(b) the Chairman of the Meeting consents to the withdrawal.

39.4 Polls must be taken immediately and in such manner as the Chairman of the Meeting directs.

40 CONTENT OF PROXY NOTICES

40.1 Proxies may only validly be appointed by a notice in Writing (**Proxy Notice**) which:

(a) states the name and address of the Member appointing the proxy;

(b) identifies the person appointed to be that Member's proxy and the general meeting in relation to which that person is appointed;

(c) is signed by or on behalf of the Member appointing the proxy, or is authenticated in such manner as the Trustees may determine; and

(d) is delivered to the Trust in accordance with these Articles and any instructions contained in the notice of the general meeting to which they relate.

40.2 The Trust may require Proxy Notices to be delivered in a particular form, and may specify different forms for different purposes.

40.3 Proxy Notices may specify how the proxy appointed under them is to vote (or that the proxy is to abstain from voting) on one or more resolutions.

40.4 Unless a Proxy Notice indicates otherwise, it must be treated as:

(a) allowing the person appointed under it as a proxy discretion as to how to vote on any ancillary or procedural resolutions put to the meeting; and

(b) appointing that person as a proxy in relation to any adjournment of the general meeting to which it relates as well as the meeting itself.

41 DELIVERY OF PROXY NOTICES

41.1 A person who is entitled to attend, speak or vote (either on a show of hands or on a poll) at a general meeting remains so entitled in respect of that meeting or any adjournment of it, even though a valid Proxy Notice has been delivered to the Trust by or on behalf of that person.

41.2 An appointment under a Proxy Notice may be revoked by delivering to the Trust a notice in Writing given by or on behalf of the person by whom or on whose behalf the Proxy Notice was given.

41.3 A notice revoking a proxy appointment only takes effect if it is delivered before the start of the meeting or adjourned meeting to which it relates.

41.4 If a Proxy Notice is not executed by the person appointing the proxy, it must be accompanied by written evidence of the authority of the person who executed it to execute it on the appointor's behalf.

42 AMENDMENTS TO RESOLUTIONS

42.1 An Ordinary Resolution to be proposed at a general meeting may be amended by Ordinary Resolution if:

(a) notice of the proposed amendment is given to the Trust in Writing by a person entitled to vote at the general meeting at which it is to be proposed not less than 48 hours before the meeting is to take place (or such later time as the Chairman of the Meeting may determine); and

(b) the proposed amendment does not, in the reasonable opinion of the Chairman of the Meeting, materially alter the scope of the resolution.

42.2 A Special Resolution to be proposed at a general meeting may be amended by Ordinary Resolution if:

(a) the Chairman of the Meeting proposes the amendment at the general meeting at which the resolution is to be proposed; and

(b) the amendment does not go beyond what is necessary to correct a grammatical or other non-substantive error in the resolution.

42.3 If the Chairman of the Meeting, acting in good faith, wrongly decides that an amendment to a resolution is out of order, the Chairman's error does not invalidate the vote on that resolution.

ADMINISTRATIVE ARRANGEMENTS

43 CHANGE OF TRUST NAME

43.1 The name of the Trust may be changed by:

(a) a decision of the Trustees; or

(b) a Special Resolution of the Members,

or otherwise in accordance with the Act.

44 MEANS OF COMMUNICATION TO BE USED

44.1 Any notice, document or other information shall be deemed served on or delivered to the intended recipient:

(a) if properly addressed and sent by prepaid United Kingdom first class post to an address in the United Kingdom, 48 hours after it was posted (or five Business Days after posting either to an address outside the United Kingdom or from outside the United Kingdom to an address within the United Kingdom, if (in each case) sent by reputable international overnight courier addressed to the intended recipient, provided that delivery in at least five Business Days was guaranteed at the time of sending and the sending party receives a confirmation of delivery from the courier service provider);

(b) if properly addressed and delivered by hand, when it was given or left at the appropriate address;

(c) if properly addressed and sent or supplied by Electronic Means, one hour after the document or information was sent or supplied; and

(d) if sent or supplied by means of a website, when the material is first made available on the website or (if later) when the recipient receives (or is deemed to have received) notice of the fact that the material is available on the website.

44.2 For the purposes of this article, no account shall be taken of any part of a day that is not a Business Day.

44.3 In proving that any notice, document or other information was properly addressed, it shall suffice to show that the notice, document or other

information was addressed to an address permitted for the purpose by the Act.

45 THE SEAL

45.1 Any common seal may only be used by the authority of the Trustees.

45.2 The Trustees may decide by what means and in what form any common seal is to be used.

45.3 Unless otherwise decided by the Trustees, if the Trust has a common seal and it is affixed to a Document, the Document must also be signed by at least one authorised person in the presence of a witness who attests the signature.

45.4 For the purposes of this Article 45, an **authorised person** is:

(a) any Trustee of the Trust;

(b) the Secretary (if any); or

(c) any person authorised by the Trustees for the purpose of signing Documents to which the common seal is applied.

46 NO RIGHT TO INSPECT ACCOUNTS AND OTHER RECORDS

Except as provided by law or authorised by the Trustees or an Ordinary Resolution of the Trust, no person is entitled to inspect any of the Trust's accounting or other records or documents merely by virtue of being a Member.

47 BANK ACCOUNTS, ANNUAL REPORTS AND ANNUAL RETURNS

47.1 Any bank account of the Trust shall be opened in the name of the Trust. All cheques and orders for the payment of money from such account shall be signed by at least two Trustees.

47.2 The Trustees shall comply with their obligations under the Charities Act 2011 with regard to the preparation of any annual return or annual report and its transmission to the Charity Commission.

47.3 True accounts shall be kept of the sums of money received and expended by the Trust and the matters in respect of which such receipts and expenditure take place, of all sales and purchases of property and goods by the Trust and of the property, credits and liabilities the Trust, and subject to any reasonable restrictions as to the time and manner of inspecting the same that may be imposed in accordance with the regulations of the Trust for the time being.

47.4 At least once every year the accounts of the Trust shall be examined and the correctness of the income and expenditure account and balance sheet ascertained by one or more qualified auditor or auditors.

48 PROVISION FOR EMPLOYEES ON CESSATION OF BUSINESS

The Trustees may decide to make provision for the benefit of persons employed or formerly employed by the Trust or any of its Subsidiaries (other than a Trustee or former Trustee or shadow Trustee) in connection with the cessation or transfer to any person of the whole or part of the undertaking of the Trust or that Subsidiary.

49 INDEMNITY AND INSURANCE

49.1 Subject to Article 49.2, but without prejudice to any indemnity to which a relevant Trustee is otherwise entitled:

(a) each relevant Trustee shall be indemnified out of the Trust's assets against all costs, charges, losses, expenses and liabilities incurred by him as a relevant Trustee in the actual or purported execution or discharge of his duties, or in relation to them; and

(b) the Trust may provide any relevant Trustee with funds to meet expenditure incurred or to be incurred by him in connection with any proceedings or application referred to in Article 49.1 (a) and otherwise may take any action to enable any such relevant Trustee to avoid incurring such expenditure.

49.2 This Article 49 does not authorise any indemnity to the extent that such indemnity would be prohibited or rendered void by any provision of the Act or by any other provision of law and any such indemnity is limited accordingly.

49.3 The Trustees may decide to purchase and maintain insurance, at the expense of the Trust, for the benefit of any relevant Trustee in respect of any relevant loss.

49.4 In this Article 49:

(a) companies are associated if one is a Subsidiary of the other or both are subsidiaries of the same body corporate;

(b) a **relevant loss** means any loss or liability which has been or may be incurred by a relevant Trustee in connection with that relevant Trustee's duties or powers in relation to the Trust, any associated company or any pension fund of the Trust or associated company; and

(c) a **relevant Trustee** means any Trustee or other officer or former Trustee or other officer of the Trust, but excluding in each case any person engaged by the Trust (or associated company) as auditor (whether or not he is also a Trustee or other officer), to the extent he acts in his capacity as auditor).

Appendix D- Call-Option Agreement

'SCHEDULE TEN

Part 3'

CLYDE&CO

Owner
Arlington Business Parks GP Limited

and

Trust
Ellenbrook Park Preservation Trust Limited

Call Option Agreement

relating to
land at Hatfield Aerodrome, Hertfordshire

Contents

1	Interpretation	1
2	Trust's Option	3
3	Assignability of agreement	3
4	Completion of the Mineral Works	3
5	Exercise of Option	3
6	Grant of Further Lease	3
7	Conditions	3
8	Risk and insurance	5
9	Deducing title	5
10	Vacant possession	5
11	Title guarantee	5
12	Matters affecting the Property	5
13	VAT	6
14	Completion	6
15	Non-exercise of the Option	6
16	Termination	6
17	Entire agreement	7
18	Joint and several liability	7
19	Notices	7
20	Third party rights	7
21	Governing law	8
22	Jurisdiction	8
Schedule 1 : Option Notice		9
Schedule 2 : Form of Further Lease		10
Execution page		11

Call option agreement over land

Dated

Between:

(1) **ARLINGTON BUSINESS PARKS GP LIMITED** (company registration number 4233559) of Ground Floor, 1230 Parkview, Arlington Business Park, Theale, Reading, Berkshire RG7 4SA acting as general part of the limited partnership carrying on business under the name Arlington Business Parks Partnership (registered in England and Wales as a limited partnership under the Limited Partnerships Act 1907 with number LP8624) (**Owner**); and

(2) **ELLENBROOK PARK PRESERVATION TRUST LIMITED** of [ ] (**Trust**).

Background

(A) The Owner owns the Property and has granted a lease of adjoining land to the Trust on the same day as the date of this Agreement.

(B) The Property is subject to a lease in favour of a third party to carry out works of excavation in respect of mineral works on the Property. The tenant of this lease is under an obligation to restore the Property once the works are completed in respect of a part of the Property and to surrender the relevant part of their lease following such restoration.

(C) The Owner has agreed to grant the Trust a call option for the grant of additional leases over parts of the Property following the completion of the mineral works and surrender of the Mineral Lease for each Restored Area in accordance with the terms of this Agreement.

It is agreed as follows:

1 Interpretation

The following definitions and rules of interpretation apply in this Agreement.

1.1 Definitions:

Aftercare Licences mean a licence for the aftercare of the Property in the form set out in the Minerals Lease;

Completion Date means the date which is 28 days after a Further Lease is issued to the Trust for signature in accordance with Clause 6.1;

Contract Rate means 4% per annum above the base rate from time to time of Barclays Bank plc;

Further Lease means a lease in the same form as the lease annexed at Schedule 2;

Minerals Lease means a lease to carry out the Mineral Works at the Property to be entered into pursuant to an Option Agreement dated 10 November 2016 and made between (1) the Owner and (2) Brett Aggregates Limited;

Minerals Planning Permission means a planning permission granted pursuant to the planning application for the establishment of a new quarry on the Property as allocated reference number 5/0394-16 by Hertfordshire County Council;

Mineral Works means all works to excavate minerals and all subsequent restoration and maintenance of the Property pursuant to the Minerals Planning Permission;

Option means the option granted by the Owner to the Trust by this Agreement;

Option Notice means written notice exercising the Option in the form set out in Schedule 1 to this Agreement;

Option Period means in respect of each Restored Area a period of 28 days commencing on the date the notice of surrender of part of the Minerals Lease is served by the Owner on the Trust in accordance with Clause 4.1;

Option Sum means £1;

Owner's Conveyancer means such other conveyancer as may be notified from time to time in writing to the Trust;

Restored Area means such part of the Property as shall have been worked and restored by the tenant of the Minerals Lease;

Restored Area Notice means a notice served by the tenant of the Minerals Lease to the Owner pursuant to the terms of the Minerals Lease confirming that the Mineral Works have been completed in respect of the Restored Area;

Part 1 Conditions means Part 1 of the Standard Commercial Property Conditions (Third Edition - 2018 Revision) and **Condition** means any one of them;

Part 2 Conditions means Part 2 of the Standard Commercial Property Conditions (Third Edition - 2018 Revision);

Plan means [*to be provided*];

Property means the freehold property on the north west side of St Albans Road, Hatfield shown edged red on the Plan, being the land registered at HM Land Registry with title absolute under title number HD551580 and part of the land registered at HM Land Registry with title absolute under title number HD430220;

Trust's Conveyancer means such other conveyancer as may be notified from time to time in writing to the Owner;

VAT means value added tax chargeable in the UK;

Working Day means any day from Monday to Friday (inclusive) which is not Christmas Day, Good Friday or a statutory Bank Holiday.

1.2 Clause and Schedule headings will not affect the interpretation of this Agreement.

1.3 Unless the context otherwise requires, references to clauses or Schedules are to the clauses and Schedules of this Agreement.

1.4 Unless otherwise specified, a reference to a statute or statutory provision is a reference to it as amended from time to time.

1.5 A reference to a statute or statutory provision will include all subordinate legislation made from time to time under that statute or statutory provision.

1.6 A **person** includes a natural person, corporate or unincorporated body (whether or not having separate legal personality).

1.7 A reference to **writing** or **written** includes fax but not email.

1.8 Any obligation on a party not to do something includes an obligation not to allow that thing to be done.

1.9 Any reference to the **Owner** includes its successors in title.

2 Trust's Option

2.1 On the date of this Agreement, the Trust will pay the Option Sum to the Owner.

2.2 In return for the Option Sum, the Owner grants the Trust the Option during each Option Period to enter into Further Leases of the Property.

3 Assignability of agreement

3.1 The grant of the Option is personal to the Trust. The Trust may not assign, transfer, mortgage, charge, subcontract, declare a trust over or deal in any other manner with any of its rights and obligations under this Agreement or any part of it.

3.2 The Trust may not assign the benefit of the Option to successors in title.

3.3 The Option shall bind the Property and the Owner's successors in title.

3.4 The Owner shall not dispose of its interest in the Property without procuring that the intended disponee enters into a deed of covenant with the Council to comply with the terms of this Agreement.

3.5 The Owner consents to the following restriction being registered against its title to the Property:

"No disposition of the registered estate by the proprietor of the registered state or the proprietor of any registered charge, not being a charge registered before the entry of this restriction is to be registered without a certificate signed by a conveyancer that the provisions of Clause 3.4 of the Call Option Agreement dated [•] and made between (1) Arlington Business Parks GP Limited and (2) Ellenbrook Park Preservation Trust Limited has been complied with or that they do not apply to the disposition."

4 Completion of the Mineral Works

4.1 The Owner shall notify the Trust in writing no later than 5 working days after the date of surrender of that part of the Minerals Lease in respect of each Restored Area. The notice must confirm the extent of the Restored Area.

5 Exercise of Option

5.1 The Trust may exercise the Option at any time during the Option Period by serving an Option Notice on the Owner.

6 Grant of Further Lease

6.1 If the Option is exercised, the Owner shall issue an engrossment of a Further Lease to the Trust within 28 days of receipt of an Option Notice.

6.2 Completion of the grant of each Further Lease shall take place on the Completion Date.

6.3 The Trust cannot require the Owner to grant a Further Lease to any person other than the Trust.

6.4 Each Further Lease shall be granted subject to the Aftercare Licences.

7 Conditions

7.1 Upon each exercise of the Option, the Part 1 Conditions will be incorporated in this Agreement so far as they:

(a) apply to the grant of a lease;

(b) are not inconsistent with the other clauses in this Agreement; and

(c) have not been modified or excluded by any of the other clauses in this Agreement.

7.2 The terms of this Agreement have the same meaning when used in the Part 1 Conditions.

7.3 References in the Part 1 Conditions to:

(a) "seller" means the Owner; and

(b) "buyer" means the Trust.

7.4 Upon each exercise of the Option, the Part 2 Conditions will not be incorporated into this Agreement.

7.5 The following Conditions are amended:

(a) Condition 1.1.1(d) so that reference to completion date in Condition 1.1.1(d) is to the Completion Date as defined by this Agreement;

(b) Condition 1.1.1(e) so that reference to contract rate in Condition 1.1.1(e) is to the Contract Rate as defined by this Agreement;

(c) Condition 1.1.1(o) so that reference to VAT in Condition 1.1.1(o) is to VAT as defined by this Agreement;

(d) Condition 1.1.1(p) so that reference to working day in Condition 1.1.1(p) is to Working Day as defined in this Agreement;

(e) Condition 7.6.3 so that reference to condition 4.1.2 is reference to Clause 18;

(f) Condition 9.1.1 by the deletion of the words "Completion date is twenty working days after the date of the contract";

(g) Conditions 9.1.2 and 9.1.3, by the deletion of 2.00 pm as the stipulated time and the substitution of 1.00 pm;

(h) Condition 9.4, so as to add "(d) any other sum which the parties agree under the terms of the contract should be paid or allowed on completion";

(i) Condition 10.1, so the first paragraph reads, "If any plan or statement in the contract, or in written replies which the seller's conveyancer has given to any enquiry raised by the buyer's conveyancer before the date of the contract, is or was misleading or inaccurate due to any error or omission, the remedies available are as follows:".

7.6 The following Conditions will not apply:

(a) Condition 1.1.4(a);

(b) Condition 1.2;

(c) Condition 1.3;

(d) Condition 1.5;

(e) Conditions 2.1 and 2.2;

(f) Conditions 3.2.1 and 3.2.2

(g) Conditions 4.1.1, 4.1.2 and 4.1.3;

(h) Conditions 7.1, 7.2, 7.3.1, 7.4.2 and 7.6.2;

(i) Condition 7.6.5(b);

(j) Conditions 8.2.2, 8.2.3 and 8.2.4(b);

(k) Condition 9.8.3; and

(l) Conditions 11.2.4; and 11.3.

8 Risk and insurance

8.1 The Trust will not be entitled to refuse to complete or to delay completion due to any event occurring after each exercise of the Option that results in:

(a) any damage to the Property or any part of it; or

(b) any deterioration in the condition of the Property.

9 Deducing title

9.1 The Owner's title to the Property has been deduced to the Trust's Conveyancer before the date of this Agreement.

9.2 The Trust is deemed to have full knowledge of the Owner's title to the Property and is not entitled to raise any objection, enquiry, requisition or claim in relation to it.

10 Vacant possession

10.1 Each Further Lease will be granted with vacant possession on completion.

11 Title guarantee

The Owner will grant each Further Lease with full title guarantee.

12 Matters affecting the Property

12.1 The Owner will grant each Further Lease free from incumbrances other than:

(a) any matters contained or referred to in the entries or records made in registers maintained by HM Land Registry as at 10:03:14 on 9 June 2020 under title number HD430220;

(b) any matters discoverable by inspection of the Property before the date of exercise of each Option;

(c) any matters which the Owner does not and could not reasonably know about;

(d) any matters disclosed or which would have been disclosed by the searches and enquiries which a prudent buyer would have made before exercise of each Option;

(e) public requirements;

(f) any matters which are unregistered interests which override registered dispositions under Schedule 3 to the Land Registration Act 2002; and

12.2 The Trust is deemed to have full knowledge of the matters referred to in Clause 12.1 and will not raise any enquiry, objection, requisition or claim in respect of any of them.

13 VAT

13.1 Each amount stated to be payable by the Trust to the Owner under or pursuant to this Agreement is exclusive of VAT (if any).

13.2 If VAT is chargeable on any supply made by the Owner under or pursuant to this Agreement, the Trust will pay the Owner an amount equal to that VAT as additional consideration on the date that the supply is made.

14 Completion

14.1 If the Option is exercised, completion of each Further Lease will take place on the Completion Date.

15 Non-exercise of the Option

15.1 If the Option is not exercised in accordance with the terms of this Agreement or if the Owner terminates this Agreement in accordance with the terms of this Agreement, the Trust will remove all entries relating to the Option registered against the Owner's title to the Property within ten Working Days after the earlier of:

(a) the expiry of the Option Period; or

(b) the termination of this Agreement in accordance with the terms of this Agreement.

16 Termination

Without affecting any other right or remedy available to it, the Owner may terminate this Agreement with immediate effect by giving notice to the Trust if any of the following events occur:

(a) the Trust is in fundamental breach of any of its obligations in this Agreement;

(b) the Trust is in substantial breach of any of its obligations in this Agreement and has failed to rectify the breach within a reasonable time after receiving notice to rectify from the Owner;

(c) the Trust suspends or threatens to suspend payment of its debts or is unable to pay its debts as they fall due or admits inability to pay its debts or (being a company);

(d) the Trust commences negotiations with all or any class of its creditors with a view to rescheduling any of its debts, or makes a proposal for or enters into any compromise or arrangement with its creditors other than (being a company) for the sole purpose of a scheme for a solvent amalgamation of the Trust with one or more other companies or the solvent reconstruction of the Trust;

(e) a petition is filed, a notice is given, a resolution is passed, or an order is made, for or in connection with the winding up of the Trust (being a company) other than for the sole purpose of a scheme for a solvent amalgamation of the Trust with one or more other companies or the solvent reconstruction of the Trust;

(f) an application is made to court or an order is made, for the appointment of an administrator, or if a notice of intention to appoint an administrator is given or if an administrator is appointed, over the Trust (being a company);

(g) the holder of a qualifying floating charge over the assets of the Trust (being a company) has become entitled to appoint or has appointed an administrative receiver;

(h) a person becomes entitled to appoint a receiver over the assets of the Trust or a receiver is appointed over the assets of the Trust;

(i) a creditor or encumbrancer of the Trust attaches or takes possession of, or an execution, sequestration or other such process is levied or enforced on or sued against, the whole or any part of the Trust's assets and such attachment or process is not discharged within 14 Working Days;

(j) any event occurs, or proceeding is taken, with respect to the Trust in any jurisdiction to which it is subject that has an effect equivalent or similar to any of the events mentioned in Clause 16(c) to Clause 16(j) (inclusive);

(k) the Trust suspends or ceases, or threatens to suspend or cease, carrying on all or a substantial part of its business;

(l) the Trust (being a company) is struck off from the Register of Companies; or

(m) the Trust ceases to exist.

17 Entire agreement

17.1 This Agreement constitutes the entire agreement and understanding of the parties and supersedes any previous agreement or understanding between them relating to the subject matter of this Agreement.

17.2 The Trust acknowledges and agrees that in entering into this Agreement, it does not rely on and will have no remedy in respect of any statement, representation, warranty, collateral agreement or other assurance (whether made negligently or innocently) of any person (whether party to this Agreement or not) other than:

(a) as expressly set out in this Agreement; or

(b) in any written replies which the Owner's Conveyancer has given to any enquiries raised by the Trust's Conveyancer before exchange of this Agreement.

17.3 Nothing in this Clause 17 will, however, operate to limit or exclude any liability for fraud.

18 Joint and several liability

18.1 Where the Trust comprises more than one person, those persons will be jointly and severally liable for the obligations and liabilities of the Trust arising under this Agreement. The Owner may take action against, or release or compromise the liability of, or grant time or other indulgence to, any one of those persons without affecting the liability of any other of them.

18.2 Where the Owner comprises more than one person, those persons will be jointly and severally liable for the obligations and liabilities of the Owner arising under this Agreement. The Trust may take action against, or release or compromise the liability of, or grant time or other indulgence to, any one of those persons without affecting the liability of any other of them.

19 Notices

19.1.1 Standard Condition 1.3 applies to this Agreement as amended.

19.1.2 The words 'in the English language' shall be added to the end of Standard Condition 1.3.1.

19.1.3 The words 'where delivery of the original document is not essential' shall be deleted from Standard Condition 1.3.3 and Standard Condition 1.3.3(b) shall be deleted and replaced by the words '(b) by hand or by pre-paid first class post or recorded delivery to the address given in the Particulars for the relevant Party or as otherwise notified by the relevant Party from time to time.'

19.1.4 The words 'one hour after despatch' in Standard Condition 1.3.7(d) shall be deleted and replaced with the words 'when confirmation of its uninterrupted transmission has been recorded by the sender's fax machine'.

19.1.5 No notice or other communication served on the Landlord's Solicitor shall be valid unless it quotes the reference for the recipient Solicitor set out in the Particulars and in the case of a communication sent by fax, it is transmitted to the fax number for the recipient Solicitor given in the Particulars or such other reference or fax number as may have been notified in accordance with the provisions of this Clause.

19.1.6 In Standard Condition 1.3, each occurrence of '4.00 pm' shall be replaced by '5.30 pm'.

19.1.7 The words 'in condition 1.3.7' in Standard Condition 1.3.8 shall be deleted.

20 Third party rights

A person who is not a party to this Agreement will not have any rights under the Contracts (Rights of Third Parties) Act 1999 to enforce any term of this Agreement.

21 Governing law

This Agreement and any dispute or claim arising out of or in connection with it or its subject matter or formation (including non-contractual disputes or claims) will be governed by and construed in accordance with the law of England and Wales.

22 Jurisdiction

Each party irrevocably agrees that the courts of England and Wales will have exclusive jurisdiction to settle any dispute or claim arising out of or in connection with this Agreement or its subject matter or formation (including non-contractual disputes or claims).

In witness of which this document has been executed by the Parties on the date set out at the beginning of this document.

Schedule 1: Option Notice

To: [OWNER/SUCCESSOR IN TITLE] at:

[ADDRESS]

[DX: [DX NUMBER]]

[Fax: [FAX NUMBER]]

for the attention of [NAME/POSITION]

[SUCH OTHER ADDRESS/ DX NUMBER/ FAX NUMBER/ FOR THE ATTENTION OF SUCH OTHER PERSON, AS WAS LAST NOTIFIED IN WRITING BY THE OWNER/SUCCESSOR IN TITLE]

[BY HAND]

[BY PRE-PAID FIRST CLASS POST]

[BY [OTHER NEXT WORKING DAY DELIVERY SERVICE]]

[BY DOCUMENT EXCHANGE (DX)]

[BY FAX]

Pursuant to an Option Agreement ("Agreement") dated [DATE] made between Arlington Business Parks GP Limited and Ellenbrook Park Preservation Trust Limited relating to land at Hatfield, Hertfordshire;

[TRUST/SUCCESSOR IN TITLE] gives [OWNER/SUCCESSOR IN TITLE] notice of the exercise of the Option contained in the Agreement to take a Further Lease of [the Property] [part of the Property] as shown [X] on drawing number [X], as enclosed, on the terms set out in the Agreement.

DATE:

SIGNED BY [NAME/NAME OF DIRECTOR] [for and on behalf of]:

Schedule 2: Form of Further Lease

Execution page

This document has been entered into by the Parties or their duly authorised representatives on the date set out in the Particulars.

Signed by)
[authorised signatory])
duly authorised for and on behalf of)
Arlington Business Parks GP Limited)
as general partner for Arlington Business Parks Partnership

sign here: _____

[title of authorised signatory]

print name: _____

Signed by)
[authorised signatory])
duly authorised for and on behalf of)
Ellenbrook Park Preservation Trust Limited)

sign here: _____

[title of authorised signatory]

print name: _____

Ref:LBB/GPT/10013237/001

Appendix E – Landscape Framework Document

'SCHEDULE TWENTY ONE

Landscape Framework Document'

MANAGEMENT AREAS UPDATE

With the granting of planning approval for minerals development in the southern half of the management plan area, some adjustments to the management areas are required. In particular the grazing compartments and the routes of permissive paths are affected by the phases of the extraction process.

The following sections set out a review of the management plan area to highlight the issues and opportunities involved in each main section of the site. These relate to;-

Area 1 – The Home Covert Woodland Area
Area 2 – The Northern Fields area to remain as grazing / hay cropping and informal access land
Area 3 – The Minerals Extraction Site Area -- to be managed for the duration of the extraction by Brett Aggregates

The respective areas of these are indicated on Figure 2 and equate to:-
Area 1 – 15.7 ha
Area 2 – 66.3 ha
Area 3 – 78.9 ha
Area 3a – 9.5 ha

Totals 170.4 ha

Total area of site with Ellenbrook Park 8.9 ha & Sports Pitches 6.8 ha equates to 186.1 ha

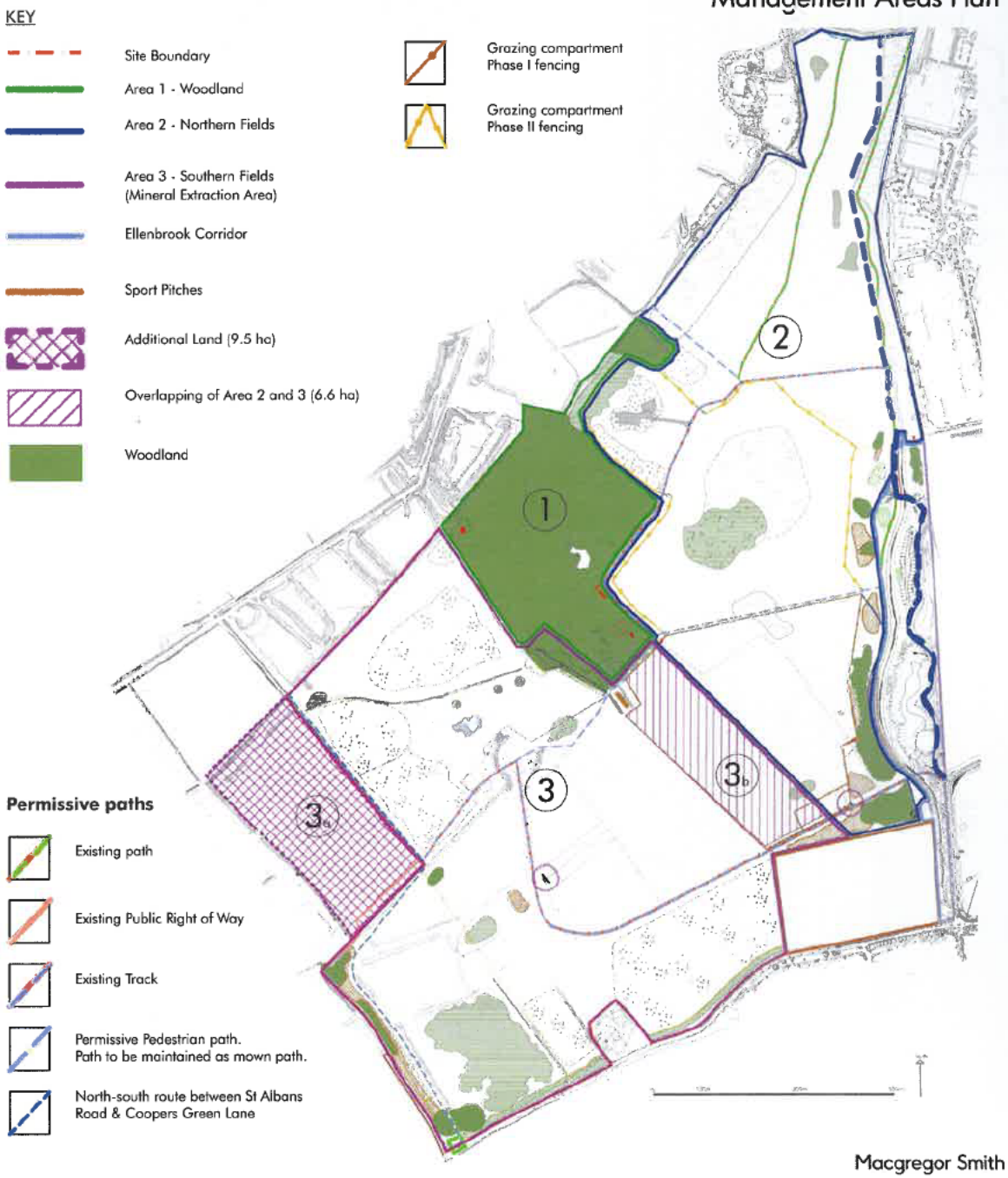
The basic objectives in reviewing the management proposals are to:-

Maintain the positive management of the area as part of the local landscape

Maintain or enhance the biodiversity interest of the site areas

Maintain the continuity of the informal permissive public access network established across the site areas

FIGURE 4
Management Areas Plan



Macgregor Smith

Appendix F - Existing Establishment Works

'SCHEDULE TWENTY TWO

Existing Establishment Works'

Macgregor · Smith
Design for the Environment

Landscape Architecture
Urban Design
Environmental Assessment

Christopher House
11-12 High Street
Bath
BA1 5AQ

T: 01225 464690
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www. macgregorsmith.co.uk
enquiries@macgregorsmith.co.uk

Andy McIntosh
Restoration Manager
Hertfordshire County Council
County Development Unit
Pegs Lane
Hertford SG13 8DN

502-2/20b-McIntosh-ltr
11th June 2010

Dear Andy

Ellenbrook – Landscape Management Proposals

Following on from our meeting on the 19th May, please find enclosed a package of more detailed proposals drawings for your review and approval. As discussed these build on the set of four drawings previously agreed as the framework for the scheme we propose to implement. In line with the programme we are working to we do need all comments back on (or before) the 25th June, as we need to send out the tender enquiry on the 28th June. Clearly to assist with that if there are changes we need to make (or indeed everything is acceptable) an earlier feedback would be greatly appreciated.

For ease of reference and due to the way in which the works will be undertaken we have structured the package as a series of elements. The structure and content of these is as follows;

1. Clearance Works:-
   General Arrangement Drawing (GA) 502-2-030
   Photo schedule

2. Grazing Compartments:-
   General Arrangement Drawing (GA) 502-2-031
   Gates & Fence Details

3. Public Access and Fencing Works:-
   General Arrangement Drawing (GA) 502-2-032
   Feature Seating / Interpretation Areas – Layout drawing
   Gate, signage, way-markers

4. Planting and Natural Regeneration:-
   General Arrangement Drawing (GA) 502-2-033

5. Initial Management Works:-
   General Arrangement Drawing (GA) 502-2-034

Managing Director
Michael Smith
BA(Hons) M Phil MLI

Director
Justin Thomson
BA Dip LA(Glos) MLI

Senior Associates
Tim Rose
Dip LA MLI

Rupert Grierson
BA(Hons) LA MLI

Ian Greenhalgh
BA(Hons) Dip LA MLI

Associates
Juliette Pollard
BA(Hons) LA MLI

Liz Harrison
BA(Hons) LA MLI

Lizzie Palmer
BA(Hons) Dip LA MLI

Following the order above please note:

1. Clearance works
This encompasses a wide range of many (mostly minor) tidying up works. To help confirm the full scope of this, the photo schedule needs to be read in conjunction with the GA drawing.

We have now agreed with the consultant ecologist that the Cottage in Home Covert should be possible to demolish with only a final inspection to confirm the absence of any protected species. The works to the trial pit excavation next to Home Covert have had to be limited to avoid any conflict with the resident newts, this and the adjacent area of the woodland edge will be fenced off to exclude public access. Due to the confirmed presence of newts in one of the smaller ponds we are restricted from clearing this out (a small amount of debris can be seen in the water), this will be fenced off and a small sign added to explain.

Within the clearance works we have included a grass cut and bale to the future hay meadow areas to help with the management of these in the next year.

2. Grazing Compartments
As with the previous information, the drawings show both the first and second phase grazing compartments. At this stage it is only proposed the first is fenced and stocked during this year.

3. Public Access and Fencing Works
The GA drawing indicates the routes as previously agreed with the exception of the Permissive Equestrian Route at the southern end of the site. In line with the better suggestion from Andy, we have adjusted this to come out onto the St Albans road close to Pope Field Farm. In this location the route starts / ends at a point where the main road is a bit straighter, which we presume the County Highways would find more acceptable.

As before, this route is subject to the agreement of Highways and we do need this signed off before the contractor is programmed to start on site (as we only have a short on site programme we will need to be able to give the contractor a clear instruction at the outset on what is required). This route is offered on the basis that the highways requirements are reasonably straightforward; and don't extend beyond the works set out on the drawing (ie, formation of an access through the boundary fence, a gate or fenced corral (similar to the post and rail enclosure next to the bus lane entrance to the main site), trimming back vegetation to the a required visibility splay (clearly this can only be within the Goodman or Highways land ownership) and the supply and installation of 2 No. triangular warning signs within the highway verge. The precise location can be agreed on site but it would help now if HCC can confirm that <u>in principle</u> the proposal is acceptable and practical.

We have also now worked up a scheme for the two seating / feature areas on the Taxiway. One is located close to the main entrance into the area from the main development. This is positioned where the route will emerge from the future planting and will have a view out to the field and towards the Airfield Marker. We have indicated three big bench features; these are based on the design used in the adjacent park area (wide, curved timber topped gabion baskets, as a more sustainable option than natural stone for the filling we propose to use site won materials including the crushed concrete as backfill for the gabions). In addition there are three interpretive sign boards. These will provide an introduction to the area and explain the cattle grazing and other improvements.

The second seating area was at the southern end of the taxiway we have positioned this on the centre line of what was the main runway. The design of this will reflect the aviation history of the site and identify the alignment and scale of the main runway. In keeping with the attractive aspect of the open landscape here the seating will be the same timber surface as the first set of benches but be in the form of lower seating decks set into a shallow mound.

4. Planting and Natural Regeneration
These are now detailed planting plans based on the previous drawings. While the planting will not start until the winter planting season, we would be undertaking some soil preparation work in the September / October period, so again, we need to confirm agreement to the package.

5. Initial Management Works
This drawing indentifies the work we propose for the remainder of this year. The grass mowing noted above and initial works to the management of Home Covert. Later in the year we will be drawing up the fuller longer term management plan as agreed.

As noted above we would welcome your feed back and advice on any adjustments you would wish to see during the next two weeks. Following this we will be issuing this as a full tender package to gain prices and take the scheme forward for the Goodman Board approval to allow a start on site at the start of September. I trust this is acceptable and look forward to your feedback.

Kind regards

Yours sincerely

Justin Thomson
Director

c.c. Simon Chivers – Welwyn Hatfield Borough Council
Liz Johnson – St. Albans City and District Council
Daniel Pagella – Goodman
John Staker – Goodman
Kevin George - Goodman
Martyn Stutchbury – Scott Brownrigg

KEY

- Site boundary
- Areas approaching a closed canopy/bramble/blackthorn thicket
- Areas with sporadic shrub coverage
- Existing structures to be removed
- Contamination zone - to be retested/ remediated to satisfaction of WHDL EHO
- Amphibian protection zone. Areas where winter rubbish clearance prevented
- Permanent water body
- Woodland
- Significant trees
- Tarmac
- Unsurfaced track
- Fence
- Fence to be removed (subject to points noted)
- Area of scrub clearance
- Area of rutting to be regraded to smooth profile
- Telegraph pole to be removed
- Woodland edge 25m clearance area
- Grass cutting areas

NOTES

1. a,b,c, d, e, f & g - Clearance of remaining rubble and rebar - Refer to photo schedule
2. Sections of redundant fencing to be removed. a/Fence alongs. le Nast Hyde Brook b/ Ellenbrook Park fencing c/Existing fence removed in sections along St Albans footpath where this can be acheived without excessive damage to existing scrub vegetation d/ Section of CLF removed to allow for equestrian route.
3. Demolitions/work to structures a/ Beech Cottage following final inspection by ecologist b/ Hacienda c/ Airfield marker to be cleared of rubbish and padlock added to secure door subject to ecological check for Barn Owl
4. Pond to be fenced off from public access
5. Area of Japanese knotweed to be inspected/treated by specialist contractor
6. Clearance of localised piles of concrete within amphibian protection zone. Crushed material and brick piles to be removed from site (material to be used for footpath improvement work)
7. a & b/ Areas of rutting from trafficking to be regraded to a smooth profile
8. a & b/ Telegraph poles to be removed
9. Contamination testing zone - refer to separate drawing
10. Scrub clearance to allow for hay cropping
11. Grass cutting areas a/Northern Field Close to Astwick Manor b/Grazing Compartment 2 c/Southern Grasslands

Revision	Description	Drawn by	Checked by	Date
-	FOR TENDER	CE	JT	11.06.10

Macgregor • Smith
Design for the Environment

project	Ellenbrook Fields Hatfield	drawn by	CE
status	for Tender	checked by	CE
title	Site clearance Phase 2 - Sept 2010	date	09.02.10
Xref	502-2-000	scale	NTS
drawing No	502-2-030	revision	

PLAN
SCALE 1:1000

LOCATION PLAN NTS

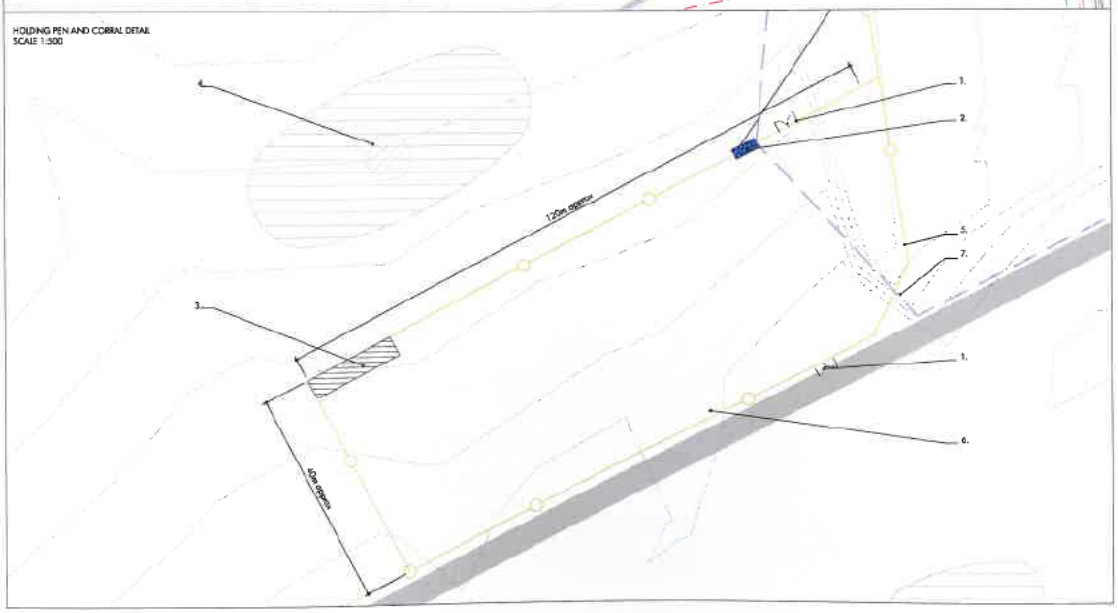
KEY

- Site boundary
- Established woodland
- Phase I fencing Refer to detail 502-2-401
- Phase II fencing Refer to detail 502-2-401
- Double timber 5 bar gate
- Timber kissing gate. Refer to detail 502-2-403
- Double timber 5 bar gate with kissing gate.
- Single 5 bar gate with kissing gate
- General Site Fencing. Refer to detail 502-2-404
- Existing fencing
- Natural Regeneration Areas
- Water supply to be installed
- Water Trough

NOTES

This drawing illustrates the proposed arrangement of fencing and gates across the site. Fencing works to form the grazing compartments will be carried out in 2 stages. The first grazing compartment will be completed and a herd established within it prior to the second grazing compartment being erected.

HOLDING PEN AND CORRAL DETAIL
SCALE 1:500



1. Timber double gate - 3.6m overall width
2. Water trough
3. Cattle Corral
4. Existing Air Field Marker
5. Stock proof fencing. Refer to detail 502-2-401
6. Feature existing area. Refer to detail 502-2-403
7. Water Supply

Revision	Description	Drawn by	Checked by	Date
	FOR TENDER	CE	JT	11.06.10

Macgregor - Smith
Architecture for the Environment

project	Ellenbrook Park Hatfield	drawn by	CE
status	For Tender	checked by	JT
title	Grazing Compartments	date	09.02.10
Xref	502-2-000	scale	Varies @ A1
drawing No	502-2-031		-

KEY

- Site boundary
- Established woodland
- New planting area
- Areas to be allowed to naturally regenerate around new planting
- Areas approaching a closed canopy / bramble / blackthorn thickets
- Areas with sporadic tree / shrub cover
- Permanent water body

GRAZING COMPARTMENT WORKS - REFER TO DRAWING 502-2-031

- Grazing compartment Phase I. Fencing to grazing compartment forms seperate package of works
- Grazing compartment - phase II Fencing to grazing compartment forms seperate package of works

PUBLIC ACCESS AND FENCING WORKS

- Existing pedestrian pathway
- Pedestrian pathway. Path to be maintained as cleared / mown path.
- Permissive equestrian route
- Timber kissing gate with waymarker sign. Refer to detail 502-2-405
- General site fencing. Refer to detail 502-2-406
- Existing fencing

SIGNAGE

- Interpretative board refer to detail 502-2-405
- Finger post refer to detail 502-2-405
- Way marker refer to detail 502-2-405

PUBLIC ACCESS AND FENCING WORKS

New fences to be installed to protect/guide public access. Post and wire fencing with stock netting (see detail 502-2-401) required in the following locations

1. Navet Farm
2. Contamination trial pits
3. Woodland edge protection
4. Steep bank section of Ellenbrook
5. Site boundary fence to north side of Home covert

(N.B - 4. Above Ellenbrook new fence to be installed at 2m offset from existing post and wire fence)

COOPERS GREEN LANE

New Gate

GREENWAY 2 0.4

Grazing Compartment Phase II

Grazing Compartment Phase I

Airfield Marker

ARMARER VIEW REFER TO DETAIL 403

RUNWAY REST REFER TO DETAIL 404

Existing section of public footpath within Goodman site area to be improved with crushed concrete, used to fill pot holes and muddy sections. Refer to path cross section detail 502-2-408

Additional permissive equestrain route - subject to highways approval

ST ALBANS ROAD EAST

NOTE
Proposed scope of works limited to formation of access through boundary fence, gate and/or fenced corral, trimming back vegetation to required visibility splay within Goodman or highway land, supply and erect 2no. triangular warning signs within highway verge. HCC to confirm precise location of access and visibility splay requirements.

0 100m 300m 500m

North

Revision	Description	Drawn by	Checked by	Date
	FOR TENDER	CE	JT	11.06.10

Macgregor Smith
Parklands for the Environment

project	Ellenbrook Fields Hatfield	drawn by	CE
status	For Tender	checked by	JT
title	Public Access & Fencing Works	date	01.06.10
Xref	502-2-000	scale	NTS
drawing No	502-2-032		

KEY

- Site boundary
- Established woodland
- New planting area
- Areas to be allowed to naturally regenerate around new planting
- Areas approaching a closed canopy / bramble / blackthorn thickets
- Areas with sporadic tree / shrub cover
- Permanent water body

GRAZING COMPARTMENT WORKS - REFER TO DRAWING 502-2-031

- Grazing compartment Phase I. Fencing to grazing compartment forms separate package of works
- Grazing compartment - phase II Fencing to grazing compartment forms separate package of works

VEHICULAR ACCESS ROUTES

- Main trackways permanently open (surfaced/unsurfaced)
- Management access through grazing compartment - to be kept locked
- Mown grass trackways - dry weather routes only
- Turning Area
- Site Access Point
- Timber kissing gate with waymarker sign. Refer to detail 502-2-405
- General site fencing. Refer to detail 502-2-406
- Existing fencing

Revision	Description	Drawn by	Checked by	Date
-	FOR TENDER	LB	JT	11.06.10

Macgregor Smith

project	Ellenbrook Fields Hatfield	drawn by	LB
status	For Tender	checked by	JT
title	Vehicular Access Routes	date	09.06.10
Xref	502-2-000	scale	NTS
drawing No	502-2-035		

Appendix G - Landscape Management Documents

'SCHEDULE TWENTY THREE

Part 1 - Landscape Management Document (Minerals)

Part 2 - Landscape Management Document (No Minerals)'

Ellenbrook Fields – Hatfield

Updated Landscape Management Document

Minerals Version

December 2024

Prepared by:

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Contents

		Page
1.0	Introduction	4
2.0	Site Description	9
3.0	Management Plan : General Information	13
4.0	Evaluation	20
5.0	Establishment Works	21
6.0	Prescriptions	26
7.0	Monitoring	38
8.0	References	39

Figures

Original Work and Existing Conditions

Figure 1 – Location Map

Figure 2 – Aerial Photograph

Figure 3 – Future Context Plan

Figure 4 – Management Areas Plan

Figure 5 – Historic Site Map

Figure 6 – Historic Aerial Photograph

Figure 7 - Previous Site Clearance & Preparation Works

Figure 8 – Existing Right of Way and Main Permissive Access Routes

Figure 9 – Combined Phase 1 Habitat Surveys

Management Compartment 1 – Home Covert & Cutfield Woodlands

Figure 10 - Updated Site Survey

Figure 11 – Proposed Establishment Works

Figure 12 – Management Proposals

Management Compartment 2 – Northern Fields

Figure 13 - Updated Site Survey

Figure 14 – Proposed Establishment Works

Figure 15 – Management Proposals

Management Compartment 3 – Southern Fields

Figure 16 - Updated Site Survey

Figure 17 – Proposed Establishment Works - Before Commencement of Minerals and Indicative Early Minerals Phases

Figure 18 – Proposed Establishment Works - With Non Implementation of Minerals Operation
Figure 19 – Management Proposal
Figure 20 - Illustrative Landscape Management Plan
Figure 21 – Jogging Circuit / Parkrun 5K route – Indicative Options
Figure 22 – Original Furniture & Signage Designs
Figure 23 – Proposed Minerals Area Restoration Plan
Figure 24 – Post Minerals Development Whole Site Illustrative Masterplan
Figure 25 – Ditch Crossing Detail

Appendices

1.0 Cresswell Associates 2010 – Hatfield Green Summary of Ecological Surveys. Original Surveys

2.0 LDA Hatfield EIP Allocation – Ecological Appraisal 2015

3.0 SLR Consulting Ecological Survey for Brett Aggregates Environmental Statement (2014/2015)

4.0 Park Ranger Duties and Responsibilities

1.0 Introduction

This landscape management document (**LMD**) has been prepared by Macgregor Smith Ltd with input from SLR Consulting on behalf of ARC being the owner of land known as Ellenbrook Fields (see Figures 1 and 2 for an overview of the area involved). Macgregor Smith Landscape Architects have been involved with the former Hatfield Aerodrome from before the outline approval for the redevelopment in 2000 (**the Original Permission**). SLR Consulting are the Landscape Consultants working on behalf of the minerals applicant Brett Aggregates.

This updated LMD builds on work undertaken previously to reinstate positive management and open up public access across Ellenbrook Fields. A draft LMD was prepared in 2010 and various works implemented at the same time to facilitate management and public access with the approval of the relevant local planning authorities, namely Welwyn Hatfield Borough Council (**WHBC**) and St. Albans City & District Council (**SACDC**). This LMD sets out proposals for landscape and habitat management to protect and enhance an area of mixed habitats of woodlands, grassland and natural regenerating scrub.

A planning application (reference number PL/0232/21) has been submitted on behalf of Brett Aggregates to carry out minerals works on part of Ellenbrook Fields. At the request of WHBC, two LMDs have been prepared: one on the assumption that minerals works are carried out pursuant to a minerals planning permission and the other on the assumption that minerals works are not progressed. This LMD assumes that the minerals works are progressed.

The area equates to roughly half of the land that was formerly part of Hatfield Aerodrome. The other half of the landholding has been redeveloped for business and residential use. The master planning for the redevelopment followed Supplementary Planning Guidance (**SPG**) adopted by WHBC and SACDC. As envisaged by the Section 106 Agreement dated 29 December 2000 (**the Original Section 106 Agreement**), which was entered into immediately prior to the grant of the Original Permission, this LMD sets out a landscape strategy for the whole site, including the undeveloped areas the subject of this document. New residential areas adjoin the area covered by this LMD and have access via an area of formal public open space referred to as 'Ellenbrook Corridor'. This is more formal public park space, situated between the area of this LMD and the development; and is not part of the area covered by

this LMD; apart from in relation to the north-south route as set out in the Northern Fields section of the document.

The design proposals for the undeveloped portion of the Aerodrome were set out in an agreed Landscape Framework Document (**LFD**), which is proposed to be amended as part of a deed of variation (**Deed of Variation**) to be entered into in relation to the Original Section 106 Agreement. In the event of any inconsistency between the LFD and this LMD, then this LMD will take priority. This LMD will also be appended to the Deed of Variation and should, therefore, be read alongside the Original Section 106 Agreement (as amended by the Deed of Variation).

The SPG and LFD set out a series of landscape objectives as follows:

- To encourage open uses and informal recreation
- To phase in public access
- To improve environmental quality and landscape character
- To encourage community forest planting
- To enhance ecological/nature value

The documents also identified an approximate division of land uses between woodland and grasslands as :
Woodland 20% - 30%
Grassland, open space for leisure 70% - 80%

A series of specific areas were set out for existing and new woodland and grassland in these documents. The total area was noted as 176.6ha. This total included the area referred to above as Ellenbrook Corridor (including banks and storm water lagoons). The Ellenbrook Corridor area noted as 8.9 ha was covered by a specific planning condition and was constructed as an early phase of the project. Accordingly, this area is omitted from the scope of this LMD apart from in relation to the north-south route as set out in the Northern Fields section of the document. [Note the original version of the LMD referred the whole of the open land as Ellenbrook Park. This title was later applied to the 8.9ha area and the title 'Ellenbrook Fields' was occasionally used to describe the wider site area. The title 'Ellenbrook Park' is reverted to for the purposes of this updated LMD]. The area of the university sports fields was also included as part of the overall 176.6ha total.

Since the original draft LMD was prepared an additional parcel of land has been acquired at the south-western end of the site. This measures some 9.5 ha and is included in the Minerals

Application area. With this area included and the 8.9 ha of the Ellenbrook Corridor excluded (as above), the total area covered by this LMD is 170.4 ha (see Figure 4).

The proposals outlined in this LMD have been designed to protect the areas of nature conservation value (and potential) and provide extensive permissive access over the land. Part of the original vision for the area was for the responsibility for the area to be passed over to a trust to oversee the long-term management. This remains the case, but a phased approach is now proposed as set out in this LMD.

The priorities for the habitat protection and enhancement arose through the Original Permission. The Environmental Statement produced for the wider development proposals in 1999 highlighted that one of the main impacts of the development proposals was the loss of a large area of grassland habitat of some value to brown hares and skylarks. Both species at that time were identified in the UK Biodiversity Action Plan (UK BAP) as 'Priority Species'.

Consequently, one of the aims of the LMD is to improve the value of the land for these species. The more valuable habitats and features within the former aerodrome site were the woodlands, wetlands and more diverse grasslands on the western half of the landholding. These were not affected directly by the development proposals and it is these habitats that remain as the open land now referred to as Ellenbrook Fields (as covered by this LMD). A number of protected species/species identified in the UK BAP were found within this area, including great crested newts, common frog, grass snakes, barn owls, and badgers. The LMD seeks to improve the value of the landscape for these species whilst taking account of local priorities identified in the Hertfordshire Biodiversity Action Plan.

Detailed ecological surveys were undertaken between April and July 2001 and updated in 2008 and again in April – July 2010 to help inform the 2010 interim LMD. These included surveys for brown hares, water voles and breeding (principally ground nesting species) birds, particularly skylarks. Detailed botanical surveys of the existing grassland and woodland ground flora were also undertaken.

More recently habitat surveys for promotion of part of the site for housing and the mineral application were undertaken in 2014/15 [1] and 2015 [2]. These two different surveys are

[1] SLR Consulting surveys for Brett Aggregates Environmental Statement
[2] LDA Hatfield EIP Allocation – Ecological Appraisal 2015

provided in Appendix 2 and 3, and the Phase 1 maps[3] are combined as one graphic in Figure 9.

Since the era of the aerodrome operation adjoining land to the north-west has been subject to minerals development and areas of landscape restoration are in progress alongside the Ellenbrook Fields site. The approved master plan for this restoration is noted as part of the future context for the plan area and is illustrated on Figure 3.

This LMD assumes that minerals development is progressed across the Southern Fields in accordance with a planning permission that is granted pursuant to the above-referenced planning application. Accordingly, the obligations in this LMD in respect of the Southern Fields would be subject to any conditions and obligations that are imposed as part of the minerals planning permission. Alongside the work for the minerals development project it is now proposed that the Ellenbrook Park Trust (**the Trust**) should be set up to assume progressively the control as areas can be passed over. For the purposes of this LMD the site is divided into three areas namely; the area of Home Covert and Cutfield Wood, the Northern Fields and the Southern Fields. The Southern Fields area relates to the minerals development planning application area. Refer to Figure 4 for the boundaries of the above areas.

The areas and proportions of woodland cover for the respective sections of the site are set out in Table 1 below (these figures reflect the long-term position post minerals development).

Site Areas & Land Use

Area	Area (ha)	Woodland (ha)	Woodland (%)	Grassland (ha)	Grassland (%)
Home Covert & Cutfield Wood	15.7	15.7	100%	0	0%
The Northern Fields	66.3	16	24%	50.3	76%
The Southern Fields - Restored Post Minerals	78.9	15	19%	63.9	81%
Additional Land Parcel	9.5	TBC			
Totals	170.4	46.7	29%	114.2	71%
Ellenbrook Park	8.9	1	11%	7.9	89%
Sports Pitches	6.8	0	0%	0	0%
Combined Totals	186.1	47.7	27%	122.1	69%
TOTAL AREA OF SITE (minus Ellenbrook Corridor)	167.7	46.7	28%	114.2	68%

Initially the area of the Trust responsibility will be for the woodland of Home Covert, Cutfield Wood and Northern Fields following completion of the Establishment Works set out in this LMD.

[3] This relates to two ecological surveys that were carried out in respect of the northern and southern areas and combined into a single figure so as to provide a reference point for future management i.e. Figure 9

The site preparation for the minerals development work is expected to start in the next few years with the actual work undertaken in distinct phases extending over some 30 years. Areas of land will be restored and handed over to the Trust once the landscape and new vegetation is sufficiently established. The management proposals in section 6 of this LMD detail (amongst other things) how the land outside of the initial phases of minerals development work will be looked after pending the mineral extraction commencing in those areas. Consideration has also been given to how the established management objectives can help determine the long-term restoration and after use management of the minerals development area.

It is envisaged that this LMD will cover an initial ten-year period starting in 2025. The LMD will be subject to review on the results of periodic monitoring and renewed by the Trust at the end of the 10 year period. This LMD will, however, remain in force unless and until it is replaced by an agreed revised LMD (see further section 7 of this LMD).

Various works are proposed to tidy up or renew features within the three site areas in preparation for the ongoing management; these are referred to as the Establishment Works. Such works will be undertaken at the cost of ARC or Brett Aggregates during the initial years of the LMD (as more particularly set out in section 5 of this LMD).

The establishment works will be detailed as three separate packages relating to the three main portions of the site. These will encompass the areas as follows;

- Home Covert and Cutfield Wood: including works to define the woodland boundaries, remove and/or replace fencing, remove debris, thin, coppice or pollard trees and open up selected areas/routes, fell or make safe hazardous trees, weed species control, identify and manage suitable path routes, pond clearance and replanting. Permissive routes and interpretive signage and seating features will be provided.
- The Northern Fields: including replacement, additional and relocated grazing fence lines and gates, additional water supply, improved vehicular trackway, replacement signage, interpretation and seating features, weed control.
- The Southern Fields: including stock fencing, additional water supply, permissive path signage and route establishment, gates, interpretive signage and seating features.

Alongside these works within the Ellenbrook Park area some minor adjustments to the Ellenbrook Corridor will be implemented to ensure path routes and signage integrate with the changes to the main site. At the same time the north south path route connection between St Albans Road and Coopers Green Lane that extends through the Ellenbrook Corridor and up through the Northern Fields will be promoted for designation as a public right of way. A fuller description and programme for the Establishment Works area set out in Section 5 below.

Where works are identified as the responsibility of the Mineral Operator such works are to be undertaken in accordance with the mineral planning permission and related Section 106 Agreement (as appropriate).

2.0 Site Description

Existing Condition

After the closure of the Aerodrome most of the concrete runway and taxiways were removed in the late 1990's through into 2001 (the layout of the airfield is illustrated on the historic site plans and aerial photograph in Figures 5 and 6). Parts of the site were used as a film set alongside the clearance works; leaving areas of heavily disturbed soils and exposed debris. Many structures and demolition materials were removed and disturbed areas of land allowed to revegetate. The extent of disturbed ground is indicated on Figure 7; this was generally the central section of the site. These areas are often undulating ground with a mix of varied soil, drainage and management conditions leading to a mix of grassland habitats.

The undisturbed areas comprise parts of the original outfields of the aerodrome. These are more level ground and continuous grassland with a less varied appearance and vegetation cover. A small part of the outfield grassland was disturbed and/or excavated when a gas pipeline was installed along the western boundary of the site in 1998/1999. This area was reseeded with what appeared to be a simple agricultural grass seed mix. The majority of these areas have been maintained under a hay cropping regime; this has been limited to some extent by the presence of Ragwort within parts of the site.

Areas of natural scrub regeneration have been allowed to develop in many areas of the site creating patches of cover and in places extensive areas of thicket vegetation with young trees starting to establish.

The site contains two blocks of established woodland; one block comprises Home Covert and Round Wood. The other block is a small remnant of an area known as Cutfield Wood, most of which was located on adjoining land to the north-west before being removed as part of a minerals development project (much of this has since been replanted as a new woodland). The two blocks are linked by an overgrown hedge line/strip of regenerating trees fenced off from a grazing compartment.

The Ellen Brook lies close to the north eastern boundary of the site area (part of the water course is located within the area of Ellenbrook Corridor). In 1999 most of this watercourse ran in a culvert beneath the airfield. In 2001 the brook was uncovered and a new channel created. The Ellen Brook now supports a diverse aquatic and emergent flora.

As part of the management practice set up in 2010 sections of the site have been fenced to create two grazing compartments for cattle (indicated on Figure 7). A herd of some 20-30

adult Longhorn cattle have occupied the area since the spring of 2010; the breeding stock produce a similar number of calves each year which remain on the site for around 6 -7 months. The areas of grassland at the northern and southern ends of the site (representing the undisturbed grassland) have been managed as hay meadows since 2010.

Some extensive areas of woodland planting were installed as part of the 2010 preparation works (Figure 7). These are now well established as young plantations and read as part of the landscape. Other areas of scrub have been deliberately left to regenerate as dense cover for nesting birds and to allow the eventual development of additional woodland.

Access paths, mobility gates, seating features, signage and interpretation boards were installed as part of opening up public access to the land. These encourage permissive access around a series of connected path routes that extend across the site in several directions. Figure 8 illustrates the main routes and connections currently provided within the site.

The landscape design and public access routes tie in with the adjoining area of Ellenbrook Park public open space. This area is considered separately from the Ellenbrook Fields, to be managed by the developer as an open public facility under different arrangements.

Landscape Management Concepts

The arrangements set up in 2010 were designed as an interim position to manage the site in advance of the intended minerals development. The basic aims of the scheme were threefold in that the work sought to;

- Introduce positive management to the landscape,
- To maintain or enhance the biodiversity interest of the site and
- To establish a network of permissive public access routes across the land.

The design objectives were based on retaining the existing landscape character of the site as an open expansive area. The area encompassed new permissive pedestrian routes providing circular and through routes for public access. The general character of the site was defined by the various landscape/habitat areas that already existed. The areas where the site adjoins the main development were intended to have more of a transitional quality between the naturalistic environment and the formal landscape of the development. Areas of new woodland planting were included to provide interest and structure to the landscape.

Significant areas of the site have been allowed to grow wild; with some benefits for wildlife and the sense of a remote experience. Some low levels of anti-social misuse and damage has

occurred with vandalism and motorcycle access. It is intended this is addressed by completing the Establishment Works as quickly as possible (as set out in section 5 of this LMD) and the presence of the cattle and other members of the public are thought to have helped keep these issues to a minimum.

The site was not expected to act as a major visitor attraction. The main users were anticipated as local residents from both the established housing areas near the site and the newer residential areas developed on the main section of the former airfield.

Since 2010 the area has become very popular and well used mainly by local residents, fulfilling the original objectives of Ellenbrook Fields. The conservation grazing scheme has worked well with the herd becoming an accepted part of the site. The grazing layout was deliberately set out around the permissive access routes and the cattle installed prior to the opening for public access. The hay cropping has been undertaken every year with some improvement in the quality of the crop lifted during this time. These activities have significantly improved the sense of the central portions of the site being an area that is cared for and in a positive form of land use.

The site was used as a regular venue for a 'Park Run' event at weekends. A course of around 5 km is set out and upwards of 270 runners turn up for a race (the route often takes in a section of the adjoining Ellenbrook Park). Activity like this and the actual presence of the rare breed cattle are thought to provide a positive attraction for many users to come into the site area. The cattle are also visited by stock handlers on a daily basis which provides a further level of passive site surveillance/security.

During the discussions with HCC, WHBC and SACDC, consideration of the future potential for greater levels of recreational use, including events, was requested. In the short to medium term (10 – 15 years) it is envisaged that the site use would continue very much at current levels. Indicative alternative options for the Park Run routes around the early phase mineral works are provided in Figure 21, subject to operational and health and safety constraints of the minerals development. But with the minerals development works in progress larger scale events or more formal recreation provision would be difficult to promote and could conflict with other aspects of the LMD.

In the longer term the post minerals development restoration proposals provide a new extensive and attractive open landscape at the southern end of the land holding with vehicular access and a small car park. The indicative restoration works from the minerals application are illustrated in Figure 23 which shows an extensive area with a mix of landscape

types, water features and path routes. This restoration will be secured via conditions imposed on the minerals planning permission and the minerals land will then be transferred to the Trust in phases to be managed as part of, and in accordance with, the principles set out in section 6 of this LMD. While in the long term there is the potential for alternative recreational activities and events on the site, these would need to be considered in relation to the ecological and broader landscape objectives and the interests of the local community. It is suggested this consideration would be for the Trust to review in future reviews/iterations of this LMD.

In updating this LMD, the same three basic principles underpin the design approach for each area. While parts of the site may effectively be under separate control it is intended that the management would be integrated between each section to maximise efficiency of the work and the potential benefits. It is considered that some extension of the positive land management of grazing and hay meadow management will help maintain more positive perceptions of the site during the mineral operation phases. It is also considered that by maintaining the agricultural operations as a key part of the management this will provide more sustainable long term management methods well into the future.

Management Arrangements

The Ellenbrook Park Trust is to be established under a framework agreement between the developer (formerly Arlington now ARC) and the local authorities. The management of the area will initially be arranged with contractors working on behalf of ARC; until such time as the Trust is ready to assume control of the various areas. The respective areas will be offered up for the Trust on phased basis (as set out in this LMD) to take over with an agreed inspection and 'adoption' regime. Each phase of the minerals development area will be restored and maintained until new planting/seeding is established before being taken over directly by the Trust. As the areas of restored landscape will be provided beyond the end date of this LMD further iterations of this LMD may be required for the restoration areas as they are brought forward.

The management is to be based on the objectives and prescriptions set out in this LMD. Various Establishment Works as set out in Section 5 are required to the respective parts of the site; these will be undertaken by contractors as appropriate. The Authorities will have oversight of the works and involvement as necessary to ensure satisfactory completion of contracts, however the cost of the works will be borne by ARC or Brett Aggregates as appropriate.

The management of much of the site as grazing and hay meadow grassland is now well established and is considered to bring positive benefits and land uses to the site. Public

access has been integrated into the grazing and cropping in such a way that neither interest has been compromised. Some extension of the grazing is feasible as the herd can be moved or expanded without significant issues. This will assist in ensuring the site maintains the sense of being cared for during the phases of the minerals development. The stocking and hay cropping are currently operated under a short term agricultural tenancy which would be continued with periodic reviews.

As the landscape and activities within it may change over time the Trust will be able to review the objectives and prescriptions for areas and make adjustments from time to time.

3.0 Management Plan : General Information

Site Name : Ellenbrook Fields

Location and Description

Situated on the western edge of Hatfield in Hertfordshire. It is bordered to the south by the A1057 St Albans to Hatfield Road. A large sand and gravel quarry borders the site to the north-west (the extraction of which is well advanced and areas are to be restored). The Ellen Brook forms the eastern boundary of the area with a more formal public park, separating the more open landscape from the adjacent residential/business development. A minor road separates the northern part of the site from open farmland.

Access

There is one existing public right of way that runs alongside part of the western boundary. A network of permissive footpaths cross the whole area of this LMD. The layout of existing main routes is shown on Figure 8, some of these will be adjusted as the mineral work progresses. The proposed new routes are indicated on the proposed detailed management plans for each area and the overall illustrative master plan.

Ownership/Tenure

The Freehold of Ellenbrook Park is owned by ARC (formerly Arlington). A 125 year lease will be granted to the Trust on a phased basis. The initial phase will be the grant of a 125 year lease of Home Covert, Cutfield Wood and the Northern Fields.

Environmental Information

A series of ecological studies have been undertaken across the Ellenbrook site areas. The most recent of these are reproduced in the appendices of this plan. The following provides a brief summary of the combined key findings from these assessments.

Desk Study Information

Designated Sites of Nature Conservation Value

The largest blocks of woodland within the site have been jointly designated as the Home Covert and Round Wood Local Wildlife Site (LWS). All three woods are largely constituted of semi-natural broad-leaved woodland. They have all been found to support a diverse flora that includes a small number of woodland herbs indicative of ancient woodlands. The HERC description for this site notes "two areas of ancient semi-natural broadleaved woodland" although it is understood the area was designated as an

LWS on the basis of presence of the ancient woodland indicator species rather than it being ancient woodland per se. A large part of Cutfield Wood (outside the airfield site) was felled in 1991 to facilitate gravel extraction. This area was replanted in 2001.

Protected species or species of conservation concern

Bat activity recorded on the site was comparatively low in relation to the overall scale of the site area. This being put down to the lack of major upstanding features and habitat edges and limited foraging resources within the open landscape. Astwick Manor (adjacent to the northern boundary of the site) was previously noted as a potential roost for bat species.

The minerals application area was found to contain a medium scale population of great crested newts and a low population of grass snake. No bird species regarded as rare have been recorded within the assessment (for the Brett Aggregates SLR 2014/15) although some 7 species noted as uncommon in the county or of other interest have been noted. These comprise barn owl, cuckoo, red kite, snipe, stonechat, wheatear and woodcock. Breeding bird surveys have been conducted at various times and the findings set out in the appendices above. Species that would be of interest / may be attracted to use the site include bullfinch, goldcrest, kestrel, linnet, reed bunting, skylark and stock dove, buzzard, green woodpecker, meadow pipit, red-legged partridge and reed warbler. The site was previously identified as supporting up to six brown hares in the Cresswell survey of 2008. A single record of this species was noted in the 2014/15 surveys.

Some badger activity is noted in the local area but no detail of this is included in the management plan to prevent information on the local population being published.

Existing survey results

Flora

Grassland

Prior to the introduction of the grazing and hay cropping the majority of the site comprised unmanaged species-poor, neutral grassland dominated by False Oat-grass. Large parts of the grassland were disturbed in the years between the closure of the airfield in the late 1990's up to the grazing introduction in 2010. These include construction of a gas pipeline, activities associated with the site ground investigations and clearance and the creating stage sets for filming and their subsequent demolition. This effected the grassland sward throughout a larger part of the site. Figure 3.

The area affected by the gas pipeline that was installed in 2001 largely comprised False Oat-

grass with very few forbs. The area affected by filming works supported a marginally more diverse sward with less False Oat-grass and more Yorkshire-fog. The area between the old runway and the track leading to it contained large mounds of earth and rubble that had been colonised by False Oat-grass-dominated

grassland. Within the largely species-poor grassland were smaller patches of more diverse grassland, which supported forbs associated with neutral soils including Grass-leaved Vetchling, Lesser Stitchwort, Common Bird's-foot-trefoil and Meadow Vetchling. The grassland along the southern boundary of the airfield (to the east of Popefield Farm) was tall and tussocky.

Since the grazing and hay cropping have been introduced the greater proportion of the site has been retained as the dominant grassland with some diversification of the vegetation cover. The more recent survey up dates for the minerals application and housing promotion list the following main grassland habitat types.

- Unmanaged neutral grassland
- Species-poor semi improve mown grassland
- Grazed neutral grassland
- Neutral to acid grassland
- Early succession communities with calcareous element
- Tall ruderal

The detail of the species listed for each of these categories from the SLR survey are provided in Appendix 3. The unmanaged neutral grasslands are located in amongst areas of regenerating scrub and would slowly continue to reduce in area if left as they are (in reality most of these areas are within the early phases of the minerals application). Within the hay lift areas this is in effect a low level management regime that is maintaining the status quo for large parts of the grasslands. Small scale variations in sward height within the hay cut areas and grazing occurs as part of the management. This arises due to a number of factors such as; localised occasional flooding (this may result in a reduction in sward height); soil depths and soil nutrient status which vary across the site; as may the moisture retentive qualities of the soil.

A small rectangular area of grassland, situated between close to the western boundary of Home Covert, has been closely grazed by rabbits. This small area previously supported a number of plant species indicative of slightly acid soils. The plants found in this location were not recorded elsewhere within the site and included Tormentil, Heath Speedwell, Oval

Sedge, Heath Woodrush and Sheep's Sorrel.

As noted above areas of previous grassland are now more representative of scattered dense scrub habitat.

Woodland

The main canopy of Cutfield Wood was dominated by Ash trees, and also contained a small number of large Hornbeam trees. The understorey was dense, and comprised mostly Elder, English Elm and

Hawthorn. The abundance of Common Nettle, Cleavers and Chickweed within the field layer indicated that this woodland had been subject to a degree of disturbance. However, a number of woodland herbs were recorded in reasonable numbers, including Bluebell, Stinking Iris, Primrose and Wood Avens. Previously a large number of Martagon Lilies (over thirty flower spikes) were recorded in the north-eastern corner of the wood close to the remains of a building. These large non-native lilies are likely to have been planted. The narrow belt of woodland that linked this wood to Home Covert comprised largely Ash, Hawthorn and Elder, and supported a large population of Bluebells. This belt of woodland also supported several mature Sycamore trees

The main canopy of Home Covert and Round Wood was dominated by Ash, Pedunculate Oak, Hornbeam and Silver Birch (*Betula pendula*). The understorey is dense in places and largely comprised Elder, Hawthorn, Blackthorn and Hazel. Throughout most of the woodland the ground flora is shaded by dense Bramble scrub. Where this growth was less dense a number of woodland herbs were recorded, including Bluebell, Dog's Mercury, Lesser Celandine and Wood Avens. In some areas Sycamore trees and saplings dominate the canopy and understorey.

Hedgerows

A small number of hedgerows were recorded within the survey area. The majority were species-poor and largely comprised a mixture of Hawthorn, English Elm and Elder. The more diverse hedgerows also supported Hazel, Field Maple, Blackthorn, Pedunculate Oak and Ash. None of the hedgerows appeared to support a particularly diverse ground flora.

Wetlands

Home Covert contains a large pond heavily shaded by the surrounding trees and containing a substantial amount of leaf litter. It appeared to support few aquatic and emergent plants, though several large clumps of Yellow Iris have been recorded around the southern margin.

During 2017 the pond was noted to have extensive duck weed cover. The ditch to the south of Home Covert contained Bulrush plants.

There were two ponds to the southwest of Home Covert. The larger pond was surrounded by small grass, Floating Sweet-grass, Ivy-leaved Crowfoot and Water Forget-me-not. Trees and shrubs heavily shaded the eastern half of the pond. The shallow water was full of silt and dead leaves and only one water plant Common Water-starwort was recorded.

The small pond to the south of this pond contained a large amount of blanket weed. Water quality appeared to be poor. Water Forget-me-not was the only wetland plant recorded in this feature. The banks appeared to largely comprise concrete rubble covered with False Oat-grass or Common Nettle.

The two ponds within Cutfield Wood were full of rubbish, mainly comprising old planks of wood. These ponds did not support any wetland plants. The areas appeared dry in the summer of 2017.

Overhanging trees, shrubs and tall grass shaded the two ditches within Popefield Farm Meadows. These features did not contain any water or wetland plants. The eastern half of the ditch that runs across the field to the west of Home Covert supported a moderately diverse wetland flora which included Water Mint, Brown Sedge, Water-plantain, Soft-rush, Compact Rush and Floating Sweet-grass. The western half of this ditch was sparsely vegetated by terrestrial grasses. Nettles and rank grasses dominated the banks of this ditch, but a few grassland forbs were recorded. These included Greater Bird's-foot-trefoil, Lesser Stitchwort, Meadow Vetchling, Tufted Vetch and Common Vetch.

In 2001 the Ellen Brook channel was reopened and now flows close to the eastern boundary of the current survey area. Prior to this the brook was in a culvert where it flows across the site. The brook channel had been planted with clumps of mature wetland plants including Yellow Iris, Water-plantain and Common Reed. The adjacent banks have been seeded with a wildflower mix that largely comprised Oxeye Daisy, Common Bird's-foot-trefoil and Common Knapweed.

Fauna

Invertebrates

Although no detailed studies of invertebrates have been undertaken, the large area of grassland comprising the old airfield and adjacent fields was identified as likely to be of some value for a range of invertebrates, particularly those species of Lepidoptera (butterflies and

moths) and Orthoptera (grasshoppers and crickets) associated with long-grass habitats. Home Covert, Round Wood and Cutfield Wood all contained a significant proportion of dead wood and are therefore likely to be of particular value to saproxylic (dead-wood) invertebrates. Water quality within a number of the ponds within the survey area appeared to be reasonable, and these features would be expected to support a range of aquatic invertebrates.

Opening up the Ellen Brook across the site, and the recent successful establishment of aquatic and emergent vegetation is expected to be leading to a long-term improvement in the water quality and associated invertebrate assemblage.

Amphibians

The ponds to the west of Home Covert and the ditch to the south of Home Covert were found to support a medium population of great crested newts. The small road ditch south of Popefield Farm was also found to be used by breeding great crested newts. Amphibians are likely to forage in the adjacent grassland and may hibernate within the woodlands. Great crested newts are protected under the Wildlife and Countryside Act 1981, they are also listed as a 'Priority Species' in the UK BAP (Biodiversity Action Plan). Common frog is listed as a 'Species of Conservation Concern' in the UK BAP.

Reptiles

Slow-worms and a grass snake were recorded within the park area during the 1999 surveys. Survey work carried out to inform the Environmental Statement for the site confirmed the presence of a small population of slow-worms. Survey work carried out in 2010 has not identified the continued presence of reptiles, and it is considered that the site supports, at most, a small population of reptiles.

Birds

Large numbers of ground nesting birds including skylark, meadow pipit and cuckoo; and scrub-nesting species including whitethroat have been recorded on site.

Barn owl, which is specially protected under the Wildlife and Countryside Act 1981 (as amended) and have been recorded hunting on site and is known to have previously nested on site. Other notable species that have been recorded on site include reed bunting, lapwing and linnet.

Bats

An updated suite of bat activity surveys have been undertaken for the minerals application. The findings of these are included in appendix. As noted in the survey summary the overall

level of bat activity recorded on the site was comparatively low in consideration of the overall site area and lack of up standing features in the minerals development area. The woodland edges were previously noted as providing potential foraging zones and mature tree roost sites.

Dormice

Home Covert and the hedgerow to the west were noted in the 2010 surveys as potentially suitable for use by dormice with the comments that the area was 'supporting a number of tree and shrub species that provide food for dormice, including Hazel, Hornbeam and Bramble. A large block of potentially suitable woodland habitat for dormice was also located within 2km to the north of the site; however, there are gravel workings between this woodland and the survey area. Nevertheless, there are hedgerows and belts of recent planting linking these woodlands and it therefore remains possible that dormice may be present'.

Water vole

The ditches and ponds were largely unsuitable for use by water voles and no signs of water vole activity were recorded during any of the surveys that have been undertaken on this site.

Brown hares

Several brown hares were observed within the survey area in the 2001 EIA Survey. One record was made in the SLR minerals development area survey (relating to the southern site area). Although not legally protected, this species is regarded as a 'Priority Species' in the UKBAP. It is also identified in the Hertford Biodiversity Action Plan as being of local conservation concern. Brown hares are often found on airfields, and the large area of grassland is likely to be of significant local value for this species.

4.0 Evaluation

The most valuable areas within the site are Cutfield Wood, Home Covert and Round Wood, which have collectively been designated as a Local Wildlife Site, and as such are considered to be of some importance for nature conservation. These woodlands are varied in structure and have been found to support a valuable flora and fauna. The woods are also likely to be of importance for species of breeding birds, for roosting and foraging bats, and as habitat for foraging and hibernating amphibians and reptiles. The large amount of dead wood present in the woods is likely to constitute an important resource for a diverse community of saproxylic (dead-wood) invertebrates.

A number of wetland features were recorded within the survey area. These features are considered to be of conservation value, particularly since surveys revealed the presence of a medium population of great crested newts in four of the ponds within the site. (Note much of this relates to the minerals development area and the related preparation works will encompass a range of mitigation measures to address this).

The large expanse of grassland, whilst not particularly floristically diverse, does provide nesting and foraging habitat for several bird species which have either been identified as 'Species of Conservation Concern' or 'Priority Species'. It also appeared to be of some value to brown hare, which were at the time of the interim plan listed as 'Species of Conservation Concern' in the UKBAP. The grassland habitat together with the woodlands and scrub habitat support an important breeding bird population.

Three hedgerows identified in the southern section of the site during in the mineral application survey would be classified as 'important' under the Hedgerow Regulations (1997). As such, they may be of some local conservation value, particularly as potential habitat for breeding and foraging birds and for foraging bats.

5.0 Establishment Works

As the Establishment Works are specific to the different sections of the site these are set out under the three main management zones below.

This section and the accompanying Figures set out the minimum scope of works for each management zone. The tables in this section 5 identify the Establishment Works together with a programme for their delivery. The end of this section sets out details of the future maintenance of the Establishment Works once they have been completed. The accompanying narrative in this section sets set some further context for the Establishment Works and is intended to be read alongside the tables. In the event of any inconsistency between the tables and the narrative, then the tables take priority.

As set out in the tables, the Establishment Works will be completed by the end of March 2027. This assumes that the Deed of Variation and the related minerals planning permission are competed/issued by the end of March 2025. If, therefore, the Deed of Variation and the related minerals planning permission are delayed beyond this date, then each of the dates set out in the tables below shall be extended accordingly e.g. if the Deed of Variation and the related minerals planning permission are not completed/issued until the end of June 2025, then the revised date for completion of the Establishment Works shall be the end of June 2027 and each of the dates identified in the tables below shall be extended by a period of 3 months.

Given the proposed minerals development in the Southern Fields, it is proposed that the Northern Fields and Home Covert/Cutfield Wood would be the first areas demised to the Trust once the Establishment Works in these areas have been completed in accordance with this LMD and the Deed of Variation. The Southern Fields will be made available to the Trust on a phased basis as the minerals development is completed.

The Establishment Works in respect of the Southern Fields will be implemented in phases to accommodate the proposed minerals development. Some of the Establishment Works will be carried out before the minerals development is commenced and these works are identified in the table below entitled 'Southern Fields Establishment Works – Before Commencement of Minerals Development'. If the minerals development is not implemented i.e. because the minerals permission expires, then further works would be carried out and these works are

identified in the separate LMD which assumes no minerals works. The mechanics of this approach is set out in the Deed of Variation.

The Deed of Variation also identifies the requirements for maintenance of works during the currency of the minerals development. Figure 20 is produced as an illustration of the landscaping (including bunds) and public access provision during the first phase of the minerals development and is consistent with drawing number HQ3/8R, which will form part of the minerals planning permission. The minerals planning permission and related Section 106 Agreement will identify the approved drawings and phases for the minerals development and require the approval of schemes to secure: (i) the completion of landscaping; and (ii) the provision of public access during the course of the minerals development. Together, the minerals planning permission and related Section 106 Agreement govern such matters once the minerals planning permission has been implemented and, insofar as it relates to the Southern Fields, this LMD must be read alongside (and is subject to) these approved documents.

In addition, indicative alternative options for the Park Run routes around the early phase minerals development are provided in Figure 21, subject to operational and health and safety constraints of the minerals development. ARC and/or Brett will consult with the Authorities and other relevant stakeholders regarding the proposed route in advance of the event taking place but Figure 21 demonstrates that a route is capable of being accommodated around any ongoing minerals development. A route to accommodate the Park Run (5km) will be available at all times.

The Deed of Variation also sets out the mechanism for the phased handover of Southern Fields to the Trust subject to completion of the relevant part(s) of the minerals development and to the receipt of a request to do so from the Trust.

Area 1 – Home Covert and Cutfield Wood

Some establishment works have already been carried out in Area 1, further details of which are set out in the text to Figure 10.

The proposed works to Area 1 are set out in: (i) the table below entitled 'Home Covert & Cutfield Wood Establishment Works'; and (ii) Figures 10-12 (inclusive).

These works will be completed by the end of March 2027 unless otherwise agreed in writing by HCC, WHBC and SACDC (together **the Authorities**) as set out in more detail below. This programme allows for seasonal operations to be undertaken over the two winters of 2025/26

and 2026/27. The works will address the woodland structure issues identified below and improve public access and ensure this is effectively managed.

Some felling and thinning to the woodland would be beneficial to both the ecological value and public enjoyment of this area and will be pursued on the terms set out below. The proposed quantum of felling requires a felling licence from the Forestry Commission (**FC**). Accordingly, as part of the setting up of the Establishment Works in this area the site will be registered by ARC and an application for a felling licence will be submitted for FC approval by the end of June 2025 (see item 1 in the table below). The application will: (i) include a programme for carrying out tree felling; and (ii) identify that element of felling that forms part of the Establishment Works.

Once submitted, ARC shall use reasonable endeavours to obtain a licence (for a period of at least 10 years) from the FC as soon as reasonably practicable. The conditions of any licence that is obtained may influence some of the detail or programme of the Establishment Works and/or the longer term management. If a felling licence is obtained, then all tree felling that forms part of the Establishment Works shall be completed in accordance with the terms of the licence and within 12 months of receipt of the licence (see item 4 in the table below). ARC shall provide a copy of the licence to the Authorities within 7 days of its receipt.

If (despite ARC having used reasonable endeavours) a licence is not obtained by the end of September 2025 (or such longer period as is agreed in writing by the Authorities), then an alternative package of tree works shall be submitted to the Authorities for their approval (see item 4 in the table below). This package of works will be: (i) submitted to the Authorities by the end of December 2025 (or such longer period as is agreed in writing by them); and (ii) completed within 6 months of receipt of approval from the Authorities (see item 4 in the table below).

In addition:

- boundary treatment (identification of the woodland boundary and the installation of markers on the section(s) of unfenced boundary between the ARC land and adjoining third party land on the northern edge of the woodlands – previously sections of the boundary were open with only remnants of historic fencing remaining at time of last

inspection this appeared to have been addressed at least in part) will be carried out (see item 2 in the table below);

- existing redundant fencing will be removed and new stock netting fencing (with two strand line wire) will be provided (see item 3 in the table below);
- the woodland edge alongside trackway (on the south eastern edge of the woodland to the east of the Home Covert Pond) will be opened up to the hornbeam edge so as to create a wider woodland margin (approx. 200 long and between 10m and 20m deep) including public access in order to provide an area of greater interest to people walking alongside the woodland edge (see item 5 in the table below);
- trees will be inspected and any of them that are found to be unsafe would be felled or made safe (see item 6 in the table below);
- existing debris would be removed (see item 7 in the table below);
- 15 bird boxes (appropriate target species selection to be confirmed with an ecologist) and approximately 20 standing deadwood/piles would be installed (see item 8 in the table below); and
- existing bracken would be treated to reduce its coverage, subject to the availability of herbicide (if no herbicide is available then alternative measures to reduce the amount of bracken will be agreed with the Authorities (see item 10 in the table below))[4].

A number of unsurfaced permissive path routes will accommodate more public access into the woodland area. Each of the paths/routes will be available for use by the public except in the case of: (i) any emergencies which require their closure; and (ii) any works of repair/maintenance that are required to be carried out (such works to last for no more than 5 days). In addition, ARC reserves the right to close each path for 1 day per year in order to prevent public rights accruing. Whilst the specific alignment of the paths might be influenced by the felling and thinning operations noted above (including the terms of any licence that is obtained from the FC) they will be: (i) at least as extensive as the red and white paths shown on Figure 12 irrespective of whether a felling licence is obtained from the FC; and (ii) completed (and available for public use) by the end of December 2026 unless otherwise agreed in writing by the Authorities (see item 9 in the table below).

The existing main pond within the woodland will be the subject of a major project to desilt and add new planting to improve the water conditions, the details of which will be the subject of an application for a licence to Natural England (**NE**) (as below) (see item 11 in the table

[4] Previous site inspections (pre-2020) have identified dense bracken cover in one compartment of the woodland. Bracken control can be difficult and the main effective herbicide product is subject to restrictions as to availability and use, hence the LMD retains some flexibility to agree alternative strategies with the Authorities if necessary.

below). As the pond is part of the great crested newt habitat it will be necessary to first carry out surveys before an application for approval is submitted to NE and any approved mitigation measures are implemented.

All necessary surveys will be carried out before the end of August 2025. An application for a licence will be submitted to NE within 4 months of completion of the surveys. Once submitted, ARC shall use reasonable endeavours to obtain a licence (to secure the proposed works to the pond) from NE as soon as reasonably practicable. All works to the pond will be completed within 8 months of receipt of the licence from NE.

If (despite ARC having used reasonable endeavours) a licence is not obtained by the end of April 2026 (or such longer period as is agreed in writing by the Authorities), then an alternative package of measures in respect of the pond shall be submitted to the Authorities for their approval. This package of measures will be: (i) submitted to the Authorities by the end of June 2026 (or such longer period as is agreed in writing by them); and (ii) completed within 6 months of receipt of approval from the Authorities.

The pond is also thought to contain some domestic pet terrapins (which are an alien species to the UK and harmful to the native wildlife interest – particularly newts - of the water body) their removal would also be included in the work. These works are subject to significant seasonal and ecological protection measures that will be planned, coordinated and approved consistent with the wider LMD delivery and completed within the programme set out above.

	Home Covert & Cutfield Wood Establishment Works		
	Establishment Works Type	**Scope**	**Timing**
1.	Registration and Licence Application	Applies to full area of woodland compartment.	Submit application to the FC by the end of June 2025 (the timing of related felling works is set out below) and to use reasonable endeavours to obtain a licence as soon as practicable.
2.	Boundary Treatment	Identify the woodland boundary to adjoining third party land on the north side of the woodland where there was dilapidated fencing or where land was previously unfenced and install markers,	Complete by the end of September 2025

3.		Redundant fencing removed and replaced with new stock netting fencing with two strand line wire	Complete by the end of December 2025
4.	Tree works (location of works to be subject to further survey work and no less than 5% and no more than 20% of the trees in this area to be felled)	Felling, coppice & pollarding: – winter work to trees with no bat risk – summer work to trees with potential bat risk	Surveys of potential trees to be felled to be carried out (outside of bird nesting season) by the end of June 2025 Summer work to trees with potential bat presence to be completed by the end of October 2025 Subject to obtaining a licence from the FC, all tree felling to be completed within 12 months of receipt of the licence. If a licence is not obtained by the end of September 2025, alternative measures shall be: (i) submitted to the Authorities (HCC, WHBC and SACDC) by the end of December 2025; and (ii) completed within 6 months of receiving approval of these measures from the Authorities
5.		Opening up woodland edge alongside trackway (on the south eastern edge of the woodland – east of the pond approx. 200 long and between 10 – 20 m deep) to open light condition to hornbeam edge & create wider woodland margin (between 10m and 20m) including public access in order to provide an area of greater interest to people walking alongside the woodland edge.	Complete by the end of August 2025.
6.		Hazardous tree inspections / felling / making safe.	Complete targeted work to hazardous trees by

			the end of December 2025. Subsequent inspections will take place on an ongoing basis at regular intervals (at least every 6 months and all necessary works carried out within 6 months) All inspections to be subject to bat risk assessment and appropriate management
7.		Removal of debris/rubbish in the existing woodland (not to include dead wood suitable for insects) save to the extent that there is any conflict with proposed newt protection and potential roosts for bats (limited as only low structures remain).	Locate material, lift and remove all debris by the end of March 2026
8.	Habitat enhancement	Installation of 15 bird boxes, approximately 20 standing deadwood/piles, throughout wood in suitable locations. Design and location of these habitat enhancement measures to be in accordance with Ecologist advice.	Complete by the end of January 2026
9.	Public Access	Opening up paths and previous rides[5], providing permissive path route through to minerals development (Beech Cottage Corner) all to be capable of being used by the public and as shown marked dashed in red and white on Figure 12. All paths will be clearly marked e.g. by logs, cleared of any existing vegetation and will avoid areas of significant depressions. Log benches and interpretative signage will be provided in the	Complete all permissive paths and related works identified in the scope above (such that each of the paths is open to public use) by the end of December 2026 (or such longer period as is agreed in writing by the Authorities)

[5] Historic maps indicate sections of track/more open routes, which will be opened up where possible (see Figure 10)

		locations shown on Figure 12. Measures to keep walkers on paths with brushwood piles will be provided along the full length of all paths except where vegetation makes this unnecessary	
10.	Weed control	Bracken treatment as appropriate subject to the availability of herbicide (if no herbicide is available then alternative measures to reduce the amount of bracken will be agreed with the Authorities)	Complete by the end of August 2025. Ongoing management thereafter in accordance with section 6 of this LMD.
11.	Home Covert Woodland Pond Restoration	Carry out updated surveys, submit an application for a licence to NE and complete all mitigation measures (including draining and desilting the pond, clearing areas of surrounding vegetation refilling the pond and carrying out additional and/or replacement planting in accordance with the terms of the NE licence)	Complete further surveys by the end of August 2025. Submit an application for a licence to NE within 4 months of completion of the further surveys and to use reasonable endeavours to obtain a licence as soon as practicable. Complete all works within 8 months of receipt of a licence from NE If a licence is not obtained by the end of April 2026, alternative measures to be: (i) submitted to the Authorities by the end of June 2026; and (ii) completed within 6 months of receiving approval of these measures from the Authorities (HCC, WHBC and SACDC)

Area 2 - The Northern Fields – Grazing, Hay Lift and Natural Regeneration Areas

Some establishment works have already been carried out in Area 2, further details of which are set out in the text to Figure 13.

The proposed works to Area 2 are set out in: (i) the table below entitled 'Northern Fields Establishment Works'; and (ii) Figures 13-15 (inclusive).

These works will be completed by the end of December 2026 unless otherwise agreed in writing by the Authorities as set out in more detail below.

Some additional fencing, will be installed in Area 2 (see item 1 in the table below). This planned work would involve the installation of higher grade longer life fence materials to provide a reduced future management cost. The adjustments to the grazing compartment fences are illustrated on Figure 14. These works will be completed by the end of December 2026.

In addition, the existing vehicular access route around Area 2 will be interrupted by the minerals development work so an alternative route will be provided as shown (dashed pink and numbered 1) on Figure 14 before the existing route is interrupted (involving some work to level and improve an existing rough trackway using MOT type 1 materials so as to ensure that it is at least the same standard as the route that will be interrupted) (see item 2 in the table below). These works will be completed by the end of September 2025 (unless otherwise agreed in writing by the Authorities if, for example, the minerals development is delayed).

Ragwort spot treatment would be carried out and completed (see item 3 in the table below).

As part of the Establishment Works the existing North South path route up to Coopers Green Lane within the Ellenbrook Corridor as shown dotted green and numbered 4 on Figure 14 will be upgraded to a 3m wide unsealed shared cycle track / footpath plus bridleway or a wildlife / amenity margin to a suitable specification agreed with HCC / WHBC, or as otherwise agreed with HCC in the public path creation agreement. This route would also be put forward to HCC for designation as a Public Right of Way (PRoW) . It is proposed that this would be secured by the completion of a public path creation agreement pursuant to section 25 of the Highways Act 1980 between ARC and HCC (see item 4 in the table below). It is proposed that this agreement (which will include (amongst other things) a proposed specification for the new

PRoW) will be completed before the end of December 2025 (ARC will submit a draft agreement to HCC by the end of March 2025).

In addition, new permissive paths (unsurfaced as the same for Area 1) would be provided for use by the public. These paths will be provided as shown by dotted white lines on Figure 15. These paths will be provided and ready for use by the end of December 2025.

Related to this enhanced public access in Area 2, replacement and/or updated signage and seating will be provided in the locations shown on Figure 15. These works will be completed by the end of December 2025.

	Northern Fields Establishment Works		
	Establishment Works Type	**Scope**	**Timing**
1.		Installation of additional fencing adjacent to Coopers Green Lane to protect road from stray grazing stock or off lead dogs as indicated on Figure 14	Complete by the end of December 2026
2.		Provision of an alternative vehicular access route as shown dashed pink and numbered 1 on Figure 14 (using MOT type 1 materials)	Complete by the end of September 2025 (unless otherwise agreed in writing by the Authorities)
3.	Weed control	Ragwort spot treatment[6]	Complete by the end of August 2025. Ongoing management thereafter in accordance with section 6 of this LMD.
4.	Public Access Improvements	Completion of a public path creation agreement to secure a north-south route to an agreed standard (as shown dotted in green and numbered	Construct the route as a 3m wide unsealed shared cycle track / footpath plus bridleway or wildlife / amenity margin by

[6] To allow for two visits per Summer. Specification of products to be a matter for the certified operator in line with pesticide regulations.

		4 on Figure 14) as a new PRoW. Construction of this route. The route shall consist of a 3m wide unsealed shared cycle track / footpath plus bridleway or wildlife / amenity margin to a suitable HCC specification, or as otherwise previously agreed with HCC in a public path creation agreement.	December 2026, or as otherwise previously agreed with HCC in a public path creation agreement. To submit a draft agreement (in standard terms) to HCC by the end of March 2025. Complete agreement by the end of December 2025. Complete the designation of the PRoW in accordance with the terms of the agreement.
		New permissive (grass) paths as shown by dotted white lines on Figure 15.	Complete by the end of December 2025
		Replacement and/or updating of signage and seating as shown on Figure 15	Complete by the end of December 2025

Area 3 - The Southern Fields – Grazing, Hay Lift and Natural Regeneration Areas

Some establishment works have already been carried out in Area 3, further details of which are set out in the text to Figure 16. The existing situation is illustrated in Figure 16.

Some Establishment Works will be carried out in Area 3 in advance of the commencement of minerals development. These works are included in the table below entitled 'Southern Field Establishment Works – Before Commencement of Minerals Development' and comprise:

- removal of all existing stockpile materials (see item 5 in the table below);
- Ragwort spot treatment and continuation of Japanese Knotweed treatment (see item 2 in the table below);
- scrub clearance to allow the grassland hay management to be adjusted in advance

of the early phases of minerals development (see item 4 in the table below);

- provision of new permissive (grass) paths (including the retention of existing interpretive signage) for the continued public use of Area 3 (see item 3 in the table below);
- improvement of the existing track into Area 3 next to Home Covert with levelling up surface ruts with MOT type 1 materials to allow access for management and the public (see item 1 in the table below);
- works to the former airfield marker building to protect it from further damage and provide a potential barn owl nest site (see item 6 in the table below).

All the above works will be carried out and completed before the end of December 2026 as is more particularly set out in the table below:

	Southern Fields Establishment Works – Before Commencement of Minerals Development		
	Establishment Works Type	**Scope**	**Timing**
1.	Track improvements	Track improvement adjacent to Home Covert works as shown shaded in orange on Figure 17	Complete by the end of August 2026
2.	Weed control	Ragwort spot treatment[7] throughout the area as appropriate Continued treatment of the Knotweed material as appropriate.	Complete by the end of August 2025. Ongoing management thereafter in accordance with section 6 of this LMD.
3.	Public Access Improvements	New permissive (grass) paths (in part to allow Park Run route) as shown by dotted black lines on Figure 17[8] (existing signage will be retained and maintained) Improvement of the existing track next to Home Covert (as shown highlighted in orange on Figure 17) with levelling up surface ruts with MOT type 1 materials to allow access for public and management	Complete by the end of December 2025 Complete by the end of August 2026
4.	Scrub clearance	To be carried out within the area shown coloured pink on Figure 17	Complete by the end of December 2026
5.	Stock pile removals	Removal of all stock pile materials as shown on Figure 17 Materials intended to be reused in the construction of new path / track sections in Northern Fields.	Complete by the end of December 2026

[7] To allow for two visits per Summer. Specification of products to be a matter for the certified operator in line with pesticide regulations.

[8] Please note that paths shown by dashed lines are indicative only because the details will be subject to the minerals planning permission and related Section 106 Agreement. The existing signage will be retained as shown on Figure 17.

6.	Habitat works	Works to the former airfield marker as shown on Figure 17. This is an old small brick structure which requires a replacement metal grill/sheet to prevent public access but to allow nesting	Complete by the end of March 2026

Area 3 – The Southern Fields – During Minerals Development

The above works will be maintained during the minerals development subject to any variations that are required in order to comply with the minerals planning permission and related Section 106 Agreement.

As above, Figure 19 (which is consistent with Figure 17) provides an indication of the landscaping (including bunds) and public access provision during the first phase of the minerals development.

Maintenance of the Establishment Works

This section 5 has set out above the Establishment Works that will be carried out together with a programme for their delivery (subject, in the case of Area 3, to the terms of the minerals permission and the related Section 106 Agreement). Once the Establishment Works (or the relevant part of them) have been completed, they will be maintained by ARC or Brett (as the case may be) pending the grant of a lease(s) to the Trust as set out in the Deed of Variation (see also section 6 of this LMD). Once the Trust has been granted a lease(s) of any part of Ellenbrook Park, it will be responsible for maintenance in respect of that part. Further detail of this arrangement is set out in the Deed of Variation.

Figure 24 identifies for illustrative purposes only a masterplan for the whole of the Ellenbrook Area following completion of the minerals development (the specific alignment of permissive paths is likely to be subject to approvals that are obtained in due course pursuant to the minerals permission and the related Section 106 Agreement).

6.0 Management Prescriptions

Overall Aims

To create a landscape which allows for informal public access but also retains and maintains the existing features of ecological value (the woodland, grassland and wetlands); to introduce additional diversity to these habitats to further enhance their nature conservation value; to maintain the populations of protected species and species of conservation concern (particularly those which were affected most significantly by the adjacent developments); and to create new habitat features (woodlands, grassland and wetlands) of value to wildlife, particularly protected species.

General Site Prescriptions

Management Aim/Objective/		Timing	Done By	Schedule Ref
Overall objectives of planned management and appropriate provision & protection to users/land managers. Note; site management reviews of various elements within sections below. Annual overview to draw together anticipated as part of Trust administration.				
Prescriptions				
PR1	Review risks for general health and safety issues on site – consideration to visitors & landscape managers. Record and review any reported accidents, incidents or near misses.	Ongoing	ARC/ Mineral Operator/ Trust	
PR2	Maintain, and mow as necessary, the permissive path network to ensure safe access to and around the park by the public.	2x cuts per year once new path established.	ARC/ Mineral Operator/ Trust	
PR3	Maintain existing and any new vandal resistant educational interpretation boards to inform the public of the value of the park habitats and the details of their management. Replace where considered necessary.	Establishment Works	ARC/ Mineral Operator/ Trust	
PR4	Allow for wider public interpretation / engagement & activities.	Ongoing	ARC/ Mineral Operator/ Trust	
PR5	Review and maintain site furniture. Replace where considered necessary following a review.	Ongoing	ARC/ Mineral Operator/ Trust	

Existing Woodlands

Management Aim/Objective/Prescriptions	Timing	Done By	Schedule Ref
Overall Aims • To maintain and regenerate the mature woodland, • Provide for public access, safety and interpretation, • Diversify the woodland structure to improve habitat value, resilience and landscape interest, • Produce timber quality trees, • Maintain and enhance nature conservation value of ponds and ditches within the woodlands, • Preserve and protect cultural/heritage features such as building sites and woodland banks, • Maintain the boundary Hornbeam pollards, • Encourage, in the longer term, potential of habitat suitable for dormice.			
Objectives • To encourage development of a high forest structure. With smaller scale Small areas of coppicing undertaken to encourage regeneration and improve structure diversity (maybe beneficial if dormice were to become present). • To maintain the wooded landscape features, avoiding drastic changes in the overall appearance. Control openings to < 0.1 – 0.2 Ha to prevent compromise of the value to the woodland flora and fauna. • Re-establishing currently hard to follow tracks within and on the edge of Home Covert to make management easier and improve access for public enjoyment. • The creation of diverse woodland rides of benefit to flora and fauna, allowing light into the centre of the woodland. • Opening section of wider scalloped edge to regenerate the edge for invertebrates, allow more light into the hornbeam pollards and provide a space as a focus for public access to the edge of the wood. • To enlarge and link the woodlands through natural regeneration and planting. • To monitor and control the presence of exotic trees and invasive shrub species (Sycamore is noted as adding resilience to the high canopy tree cover of the wood; but is itself under pressure from squirrel damage). Rhododendron previously eradicated, monitor to prevent reinvasion. • To maintain or increase dead wood habitat within the woodlands, for saproxylic invertebrates, fungi, hole-nesting birds and roosting bats. • To maintain diverse and valuable woodland ground floras, particularly Home Covert populations of Bluebell. • To maintain a network of well-defined permissive paths, that are in a safe condition for the public to use. Through the strategic use of woodland materials, controlling the public walking throughout the woods to avoid excessive trampling of the ground flora. • Providing interpretive material (to inform the public of the value of the woodlands, as a mature habitat and explain reasons for various management operations such as pollarding or thinning) and occasional log benches. • To minimise potential hazards; noting that some contribute to nature conservation value, consideration needs to be given to appropriately managed risks (the location adjacent to a large minerals development works, noted as potentially hazardous to members of the public). • To protect any badger setts remain from disturbance by the public and during routine maintenance operations (although badgers use the site no active badger setts have been located during the surveys, it is possible that a small sett may remain undetected within areas of dense scrub, care should be taken when clearing any areas of dense vegetation).			

At present the woodlands are too small and isolated to be of value to dormice, but as new woodlands become established (inc the adjacent gravel restoration) it may be appropriate to consider changes in management to create conditions that favour dormice (e.g. an extension to coppicing and planting or layering of hazel) prior to a possible re-introduction programme.

- To maintain and enhance the value of the woodland habitat for invertebrates, reptiles and roosting, hibernating and foraging bats.
- To maintain and enhance the value of the woodland and margins for nesting and foraging birds, particularly barn owls and tree sparrows. A number of owl nesting boxes have been set up in surrounding trees and one of the smaller buildings by the former taxiway improved to provide a suitable roost site.

Prescriptions		Timing	Done by	Schedule Ref
	Management Reviews			
PR6	Identify/review compartments/areas of open ground shown on Figures 10 and 12 (update plans over time and review proportions of cover/open areas). Review management to retain the open character of these areas. (Compartments e and h)	Annual – September	ARC / Trust	
	Glades, Rides & Edges Management; Tree Felling/Coppicing/Pollarding			
PR7	Selectively thin areas to promote the development of canopy trees with large crowns. Only one compartment should be thinned (up to 30% by volume) in any one year, allow five years between each compartment and approximately ten years before treating the same compartment. Leave some of the felled timber on the ground to decay naturally. (Compartment a, b c). See Prescription 39 and 40 also. Monitor distribution of notable trees identify long-term specimens with potential as veterans, good quality timber or regeneration seed source. (All compartments). Accurately locate and record individuals and conditions. Open opportunities for natural regeneration from key native specimens; halo thin competition trees in potential regrowth areas. (All compartments)	Annual – Autumn/Winter	ARC / Trust	
PR7	Maintain small areas of coppice on a ten-year cycle including multi-stemmed trees in Compartment g.	Annual – Autumn/Winter	ARC / Trust	

	Brash to be piled around the cut stumps or used to create dead-hedges to discourage browsing by deer and rabbits (alternatively install deer protection around cut stool). If the stems are not removed as a saleable product, leave some on the woodland floor to decay, use remaining for deadwood piles.			
Prescriptions		**Timing**	**Done by**	**Schedule Ref**
PR8	Remove trees and shrubs from the rides/tracks, introduce short rotation coppice regime to track edges. (Compartments c, g, h). Coppice trees and shrubs two-to-eight metres either side of tracks, leave some lower growing shrubs to create a graded/varied margin with scallops and pinch points. Cut back overhanging branches. Treat any Sycamore stumps with systemic herbicide. Repeat once every five years. Fell /prune unsafe trees close to the paths. Undertake work in September/October when roosting bats are less likely to be present. (Compartments c, g, h). See also PR54.	Annual – Autumn/Winter As necessary	ARC / Trust	
PR9	Pollard boundary Hornbeams on rotation (small number to be pollarded in winter of 2018-19 to commence plan). Pollard 25% or less in any one year; allow approximately 20 years before repollarding. (Compartments b, c, d, g, h, k) Selectively remove/coppice adjoining trees and shrubs to encourage the development of the pollards. Undertake this work at the same time (Compartments b, c, d, h, k). Remove selected trees and shrubs along the north-eastern boundary leaving the Hornbeam pollards to form the woodland edge. This to benefit the pollards and encourage development of weedy flora of possible value to tree sparrows.	Annual – autumn/winter	ARC / Trust	

PR10	Selectively thin the trees and shrubs around the ponds to allow more light to penetrate. (Compartments a and c). Leave some of the felled timber on the ground to allow it to decay naturally.	Annual – Autumn/Winter	ARC	
PR11	Open up woodland edge on south east corner (on edge next to compartments g,c and d); felling and scrub clearance back to former woodland edge to provide scalloped new edge area of mixed grasslands and lower shrub edge and allow additional light into hornbeam pollards. Area intended as focus for main increase in public access – allow for occasional tree trunk 'benches' and interpretation board.	Annual – Autumn/Winter Establishment Work – Autumn/Winter	ARC	
Prescriptions		**Timing**	**Done by**	**Schedule Ref**
	Natural Regeneration			
PR12	Encourage regeneration of native trees and shrubs, this may be limited by shade; open areas that are at least 0.1 Ha maybe necessary. Success of any regeneration to be monitored and in first year, if necessary, take steps to protect growth from deer and rabbits. This may include tree guards, deer or rabbit fencing. Also herbicide control in areas, to prevent excessive weed competition. (All compartments) As young stock develops (years 2 – 3) identify and protect with tree guards the better saplings of selected species to encourage the development of a more diverse understorey. (All compartments). Review the need to protect maturing regeneration or ground flora from pest species. Pest control may be required as a last resort, but methods of protection of plant stock shall be fully explored first. Pest control to reduce squirrel damage likely to be necessary for regrowth of sycamore. (All compartments)	Annual – Autumn/ Winter	ARC / Trust	

	If natural regeneration is unsuccessful consider supplementary tree and shrub planting with native species of UK regional-provenance or if possible thinnings from the areas of natural regeneration outside the woodlands. Scope to engage public in raising stock from seeds harvested on site. (All compartments)			
	Habitat Enhancement Prescriptions			
PR13	Install/maintain approximately 20 bird nest boxes and bat roosting boxes within the woodlands. Install the boxes close to the tracks to allow relocation, but out of view and reach of members of the public. (All compartments) Clean out the nest boxes on an annual basis in the autumn, repair and/or replace any damaged boxes. (All compartments)	Annual – Autumn/Winter	ARC / Trust	
Prescriptions		**Timing**	**Done by**	**Schedule Ref**
	Habitat Enhancement Prescriptions cont..			
	Maintain barn owl nest boxes as located on plans (key position close to the site of former Beech Cottage provided to compensate for the loss of this old nesting site Compartment h). Install clusters of nest boxes suitable for tree sparrows on the Hornbeam pollards.			
PR14	If an active badger sett is found during any of the management operations, review the work and seek ecological advice. If possible avoid clearing vegetation around any sett.		Trust	
PR15	Wherever possible, trees carrying deadwood to be retained. Where to felling or trees need major tree surgery investigate for the presence of roosting bats. If any are located, options for the felling or surgery of the trees to be reviewed. To avoid impacts on bats undertake works ideally in October	Annual – October	Trust	

PR16	Retain standing dead wood, if safety considerations allow. (All compartments). Ring bark small no. of smaller trees to be thinned, to produce standing dead wood. (All compartments subject to health and safety assessment)		Trust	
PR17	Retain brash/timber from operations not of saleable quality. Leave some material strewn on the woodland floor and construct woodpiles with the remainder. Retain some large stems intact as fallen timber. (All compartments)		Trust	
	Access Works			
PR18	Review cutting of vegetation colonising rides/tracks. (Compartments c, g, h) Use brashings, felled stems and other natural barriers to discourage the public from deviating from these tracks in sensitive locations. (Compartments c, g, h)	Annual – Autumn/ Winter	ARC / Trust	
Prescriptions		**Timing**	**Done by**	**Schedule Ref**
	Access Works cont			
PR19	Inspect the boundary fences and undertake any repair works or fencing necessary to maintain an effective boundary.	Annual – Autumn/ Winter	ARC / Trust	
PR20	Allow the retention of occasional trunk benches from felled trees in appropriate locations.		ARC / Trust	
PR21	Install vandal resistant interpretation board(s) at a strategic location to highlight interest and value of the woodlands. Include information regarding the plans for the entire Ellenbrook Fields as appropriate. Consider scope for other methods/material to engage the public with the local landscape and		ARC / Trust	

	ecology (local wildlife trust, leaflets, guided walks, talks etc.)			
	Pond works			
PR22	Restoration of the main woodland pond included in establishment phase (1st recorded works in history since creation of airfield – assume repeat works not required for at least 50 years plus). Monitor silt/leaf build up, protection of fauna, reforming of side ditches, aquatic and marginal planting; and for recurrence of alien species. (Compartments g/c) Allow for access to waterside for occasional seating space / path connections, managing sunlight access to pond surface,	Establishment works project – timing subject to ecological survey	ARC Trust	
	General works			
PR23	As newly planted and regeneration areas develop alongside the mature woodland, review management to ascertain whether the park habitat as a whole could be made suitable for, use by dormice. Re-assess management prescriptions, in particular related to coppicing and replanting/regeneration.	Annual – Autumn/ Winter	ARC / Trust	
Prescriptions		**Timing**	**Done by**	**Schedule Ref**
PR24	Check for rhododendron regrowth treat any occurrence with a systemic herbicide. Dispose of the cuttings off site (Compartment h).	Annual – Autumn/Winter	ARC	
PR25	Remove the debris/rubbish from the woodlands and dispose of offsite (progressively remove the elements of concrete debris from the former uses that surface in areas). Do not attempt to remove the piles that are constructed from large blocks of concrete, since these may be used by hibernating reptiles and/or amphibians.	Annual – Autumn/ Winter	ARC / Trust	
PR26	Note the indicated locations of cultural features such as the former cottage and other buildings, ditches, banks and		Trust	

	rides. Ensure works do not diminish such features.			

New Woodlands/Tree and Shrub Planting Areas

Management Aims/Objectives		**Timing**	**Done By**	**Schedule Ref**
Areas of new woodland and scrub cover have been established within sections of the site through natural regeneration and planting. Other areas will be planted within the Northern Fields reflecting the original establishment works proposals and in the Southern Fields as areas become available in relation to the minerals development proposals in accordance with the mineral planning permission. These all designed and managed to; Encourage the development of new diverse woodlands that mimic local semi-natural woodland communities by planting native tree and shrub species and allowing self-seeding of established species. Encourage the development of a well-stratified canopy of value to wildlife. Encourage the development of dense scrub along the new woodland margins. Encourage a diverse woodland ground flora. Provide areas of potential value to dormice in the longer-term. Enhance the nature conservation value of the existing hedgerows.				
New Woodland Prescriptions				
PR27	New planting areas, trees and hedgerows and hedge reinforcement to be established in accordance with mineral planning approval submissions. Detailed planting plans and schedules to be provided at completion.	Initial works to establish additional cover including screening planting & then phased as part of mineral operation	ARC / Mineral Operator	
New Woodland Prescriptions		**Timing**	**Done By**	**Schedule Ref**
PR28	In the first two years following planting replace any dead or diseased trees, ensuring that the original species mix is maintained	To rolling programme	ARC/ Mineral Operator	
PR29	Monitor proportions of sycamore or any other exotic tree and shrub species that emerge with natural regeneration. Remove unwanted exotics by hand-pulling, if possible or treat with systemic herbicide	Autumn review	ARC/ Mineral Operator / Trust	

PR30	In the initial year after planting herbicide treat weeds and any grass within a one-metre radius. After year 1 review need for further weed control in areas of trees and shrubs planting or natural regeneration. Review methods of control depending upon the stage of growth of the trees and the development of any ground flora.	Years 1 – 3 after planting Feb/March	Mineral Operator	
PR31	Review the need for thinning of trees and shrubs in order to encourage the growth of individual trees.	After 5 years Feb/March	Trust	
PR32	After five years review the need to diversify the canopy structure by coppicing selected trees and shrubs.	Autumn/Winter	Trust	
PR33	On older established areas consider introducing woodland herbs by 'plug-planting' once the tree/shrub canopy has developed in the newly planted woodlands and possibly in the areas of natural regeneration. Potential public engagement project.	Spring	Trust	

Grasslands

Management Aim/Objective	**Timing**	**Done by**	**Schedule Ref**
• Maintain and enhance the botanical diversity of the mosaic of grassland habitats, by variations in mowing regimes. • Graze the central part of the site following the established principle of livestock grazing with the conservation herd of Longhorns in coexistence with the recreational access • Reduce the abundance and spreading of ruderal species within the areas of disturbed grassland. • Enhance the potential value of the habitat for hunting owls and raptors, particularly barn owls and short-eared owls • Maintain and enhance the value of the grassland habitat for ground nesting birds particularly skylarks, meadow pipit and grey partridge and brown hares. • Enhance the nature conservation value of the grassland for invertebrates, particularly Lepidoptera and Orthoptera and for reptiles and amphibians • Create species-rich grasslands on the areas of disturbed /excavated ground			

Management Aim/Objective		**Timing**	**Done by**	**Schedule Ref**
PR34	Annual hay and aftermath cuts. Cut to approx. 5cm, during period of consistent warm dry weather. Allow the cuttings to dry for a few days,	Mid-August (to avoid the hare and bird-breeding seasons)	ARC / Mineral Operator / Trust	

	turning cuttings once. Remove arisings, by baling for hay or to compost off-site. Aftermath cut - remove arisings.	2nd cut late September		
PR35	Annual hay cut - no aftermath – as above – no second cut.	Mid-August	ARC / Mineral Operator / Trust	
PR36	Bi annual hay cut	Mid-August – alternate years	ARC / Mineral Operator / Trust	
PR37	Prior to undertaking hay cut walk the area to ensure to check for ground nesting birds and hares. If nests, birds with dependent young or leverets are located or suspected in the grassland, it should not be cut. Repeat survey one week later.		ARC / Mineral Operator / Trust	
PR38	In areas of recreational grassland cut grass eight times each year. Remove arisings on each cut.	April to October	ARC / Mineral Operator / Trust	

Note:
Biennial hay-cut in some areas and not undertaking an aftermath cut in others to create tussocky grassland of value to field voles in particular. These are a valuable prey for owls and raptors. However, the grasslands cut for growth of young grass shoots are of value to voles and therefore helpful if all grassland is cut at least once every two years.
Delaying hay-cuts until late August allows ground-nesting birds to continue breeding. Public access to be encouraged along relatively restricted network of paths to ensure nesting birds and Brown Hares are less disturbed by people and dogs.
In addition, stock-fencing installed around woodlands edges and grassland ensure hares have somewhere safe retreats if disturbed by people and dogs.

	Grazing			
PR39	Graze at stocking density approx. 2 cattle per hectare per year. Periodically review the timing and size of herd. More animals may be used for shorter periods. Remove or relocate to avoid areas of poached sward or if average sward height is below 5cm. Limited poaching around wet scrapes may be advantageous for biodiversity. Remove animals from areas if the ground becomes saturated for	Minimum, graze the area between the months of September and March – approx. 28 weeks	Grazer	

	prolonged periods. Any supplementary feeding for management and welfare reasons, should be placed within the areas of lesser botanical interest to prevent excessive trampling in richer areas.			
Management Aim/Objective		**Timing**	**Done by**	**Schedule Ref**
	Grazing cont..			
PR40	Maintain and regularly inspect stock fencing. Protect planted trees/hedgerows With fencing min 2 metres from the centre of the hedge, further if natural regeneration is intended alongside.	Fencing replaced as part of establishment works. Thereafter regular inspections	ARC / Mineral Operator Grazer	
PR41	Maintain and regularly inspect cattle-proof 'kiss gates' or similar in fence-line. Maintain and regularly inspect large gate access points for grazing animals and management machinery.		Grazer	
PR42	Maintain and regularly inspect water supply in each area to be grazed.		Grazer	
PR43	Maintain and regularly inspect stock-proof fencing installed for hare refuges.		Grazer	

Wetland Habitats

Management Aim/Objective/Prescriptions		**Timing**	**Done By**	**Schedule Ref**
Wetland habitats on site include the pond and ditches in Home Covert, the Ellenbrook and new water bodies to be created as part of the minerals development works. The objective for these areas is to protect the nature conservation value, particularly with regard to their use by breeding amphibians, potentially including great crested newts. This aim overlaps with the grasslands and woodlands sections but are included to highlight the following specific objectives to; • Protect the nature conservation value of the grassland habitat on the banks of the Ellen Brook. • Provide nesting and foraging habitat for lapwing and other ground nesting wetland birds. • Maintain wetland habitats suitable for grass snakes. • Maintain wetland habitats which are potentially suitable for use by water voles.				
PR44	Restore the water body of the main Home Covert Woodland, including for removal of excess silt and leaf build up, protect native fauna, remove alien species, and	Establishment Works	ARC	

	introduce native aquatic and marginal planting.			
PR45	Remove debris, rubbish wind-blown litter within and around ponds / water courses; dispose offsite.		ARC/ Mineral Operator / Trust	
PR46	Monitor the wetland vegetation; remove any invasive alien species or any trees and large shrubs that obstruct ditches or start to colonise.		Mineral Operator / Trust	
Management Aim/Objective/Prescriptions		**Timing**	**Done By**	**Schedule Ref**
PR47	Aim to maintain 20% open water surface in the ponds; when removing vegetation necessary but maintain diverse wetland communities.		Mineral Operator / Trust	
PR48	Check effectiveness of all wader scrapes for extent of water retained. Aim for scrapes to stay damp throughout the year, but only hold water in winter or periods of very heavy rainfall.		Mineral Operator / Trust	

7.0 Monitoring and Review

It is important that this LMD is subject to regular monitoring in order to establish its success or failure. The results of any monitoring scheme should feed directly into any future review of this LMD (see below).

An annual monitoring report (**Annual Report**) will be submitted to the Authorities until the Establishment Works have been completed in accordance with this LMD and the Deed of Variation. Each Annual Report will set out: (i) the steps/measures that were taken pursuant to this LMD in the preceding 12 month period; and (ii) the projected steps/measures that are proposed to be carried out pursuant to this LMD for the next 12 months.

The first Annual Report will be submitted to the Authorities on the date that is 12 months after the date of the Deed of Variation. A further Annual Report will be submitted on each subsequent anniversary of this date until the Establishment Works have been completed (as above).

This LMD applies to the initial 10 year period from commencement of the Establishment Works. It is envisaged that during this period the Trust would have been granted a leasehold interest in part of Ellenbrook Park (as required by the Deed of Variation). Once the Trust has been granted a leasehold interest, it will assume responsibility for monitoring this LMD, progressing any review of this LMD and proposing any changes to it. The Deed of Variation provides that this LMD cannot be amended without the approval of the Authorities.

8.0 References

- (Cresswell Associates 2010) Hatfield Green Summary of Ecological Surveys. Unpublished report. [Copy appended as Appendix 1]
- (Cresswell Associates 2008) *Ecological Appraisal of Hatfield Green.* Unpublished report.
- (Cresswell Associates 1999) *Ecological Appraisal of Hatfield Business Park – Stage 2.* Unpublished report.
- (Esus Forestry and Woodlands 2001) *Home Covert, Round Wood and Cutfield Wood. Management Plan.* Unpublished report.
- (Hertfordshire and Middlesex Wildlife Trust 1998). A 50-year vision for the wildlife and natural habitats of Hertfordshire (A local Biodiversity Action Plan). Published by Hertfordshire and Middlesex Wildlife Trust.

- LDA Hatfield EIP Allocation – Ecological Appraisal 2015 [Copy appended as Appendix 2]
- SLR Consulting surveys for Brett Aggregates Environmental Statement [Copy appended as Appendix 3]

APPENDICES

1.0 Cresswell Associates 2010 – Hatfield Green Summary of Ecological Surveys. Original Surveys

2.0 LDA Hatfield EIP Allocation – Ecological Appraisal 2015

3.0 SLR Consulting Ecological Survey for Brett Aggregates Environmental Statement (2014/2015)

4.0 Park Ranger Duties and Responsibilities

Hatfield Business Park Land - Ellenbrook Fields

Landscape Management Plan-Figures

REVISION G
February 2024

Macgregor Smith

Contents

Original Work and Existing Conditions

FIGURE 1 - Location Plan
FIGURE 2 - Aerial Photograph
FIGURE 3 - Future Context Plan
FIGURE 4 - Management Areas Plan
FIGURE 5 - Historic Site Map (1981-1990)
FIGURE 6 - Historic Aerial Photograph (2000)
FIGURE 7 - Previous Site Clearance & Preparation Works
FIGURE 8 - Existing Right of Way and Main Permissive Access Routes
FIGURE 9 - Combined Phase 1 Habitat Surveys

Management Compartment 1 - Home Covert & Cutfield Woodland

FIGURE 10 - Updated Site Survey
FIGURE 11 - Proposed Establishment Works
FIGURE 12 - Management Proposals

Management Compartment 2 - Northern Fields

FIGURE 13 - Updated Site Survey
FIGURE 14 - Proposed Establishment Works
FIGURE 15 - Management Proposals

Management Compartment 3 - Southern Fields

FIGURE 16 - Updated Site Survey
FIGURE 17 - Proposed Establishment Works - Before Commencement of Minerals and Indicative Early Minerals Phases
FIGURE 18 - Proposed Establishment Works - With Non Implementation of Minerals Operation
FIGURE 19 - Management Proposal
FIGURE 20 - Illustrative Landscape Management Plan
FIGURE 21 - Jogging circuit / Parkrun route - Indicative Options
FIGURE 22 - Original Furniture & Signage Designs
FIGURE 23 - Proposed Minerals Area Restoration Plan
FIGURE 24 - Post Extraction Whole Site Illustrative Masterplan
FIGURE 25 - Ditch Crossing Detail

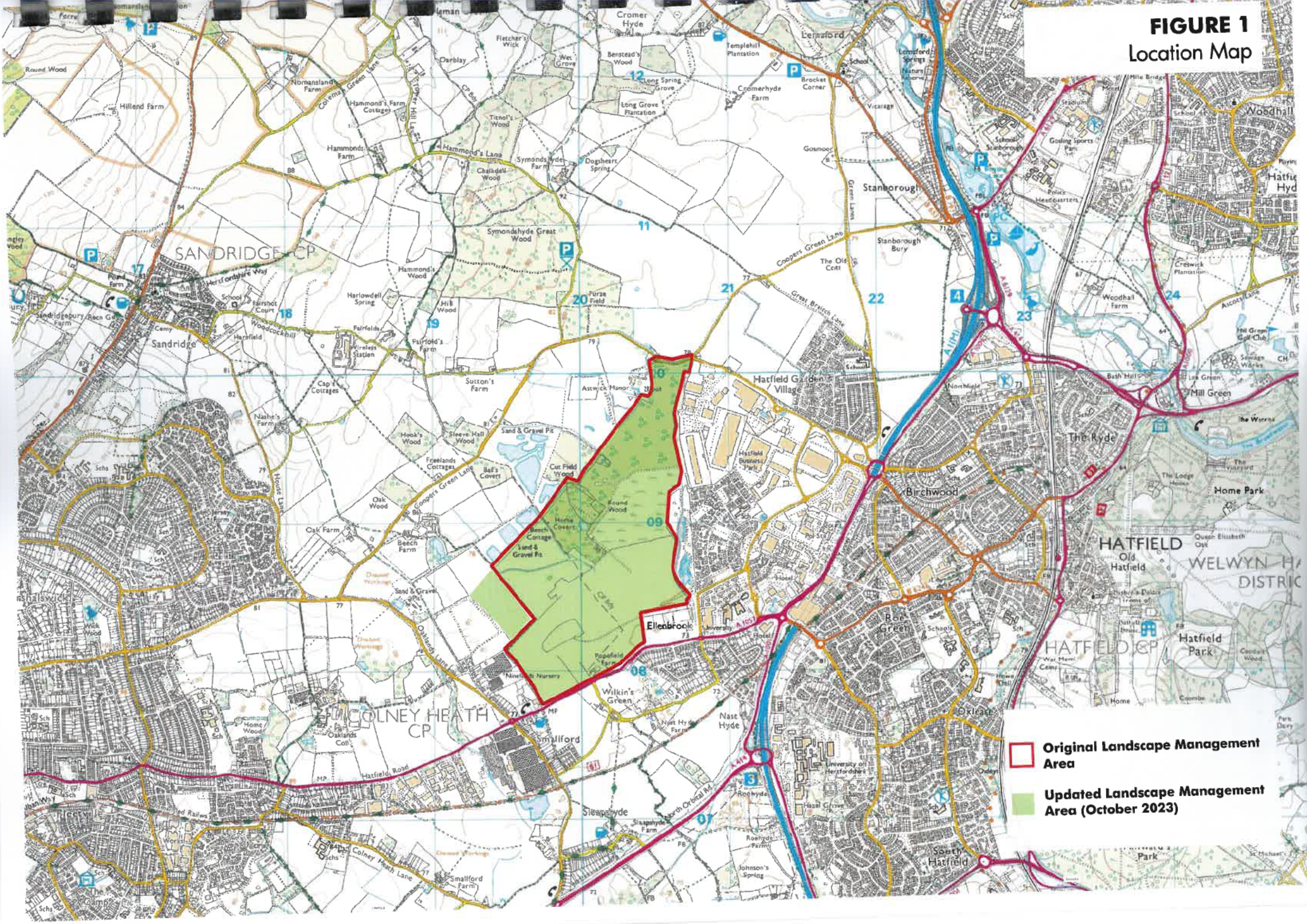


FIGURE 1
Location Map
Original Landscape Management Area
Updated Landscape Management Area (October 2023)
SANDRIDGE CP
COLNEY HEATH CP
HATFIELD CP
Sandridge
Hatfield Garden Village
Ellenbrook
Smallford
Wilkin's Green
Sleapshyde
Birchwood
The Ryde
Home Park
Hatfield Park
Stanborough
Woodhall
Mill Green
Lemsford
Cromer Hyde
Symondshyde Great Wood
Hammonds Wood
Sutton's Farm
Astwick Manor
Cut Field Wood
Round Wood
Horse Covert
Beech Cottage
Sand & Gravel Pit
Oak Farm
Beech Farm
Oaklands Coll
Hatfield Road
Colney Heath Lane
North Orbital Rd
A1(M)
Coopers Green Lane
Great Bramfield Lane
Hammonds Lane
Cole Green Lane
Green Lanes
Oaklands Lane
House Lane
Hertfordshire Way
Nast Hyde
Rose Green
Old Hatfield
South Hatfield
Queen Elizabeth Oak
Bush Hall
Lea Green
Cranwick Plantation
Woodhall Farm
Stanborough Bury
The Old Cott
Gosmoor
Cromerhyde Farm
Templehill Plantation
Benstead's Wood
Long Spring Grove
Long Grove Plantation
Darblay
Fletcher's Wick
Wet Grove
Tinnol's Wood
Chalkdell Wood
Symonds Hyde Farm
Dogsheart Spring
Harlowdell Spring
Hill Wood
Fairfolds
Fairfold's Farm
Wireless Station
Purse Field
Freelands Cottages
Bell's Covert
Sleeve Hall Wood
Hook's Wood
Oak Wood
Cap'd Cottages
Nashe's Farm
Hillend Farm
Round Wood
Normanslands Farm
Hammond's Farm Cottages
Hammonds Farm
Fairshot Court
Woodcocknill
Harefield
Sandridgebury Rech Golf
Sandridgebury Farm
Piggle Farm
Wick Wood
Home Wood
Oaklands Coll
Colney Heath Lane
Smallford Farm
Johnson's Spring
Roehyde Farm
Nast Hyde Farm
Popefield Farm
Nine Elms Nursery
Hatfield Business Park
Hatfield Hotel
Hazel Grove
Gosling Sports Park
Police Headquarters
Vicarage
Mill Bridge
Stadium
Lemsford Springs
Nature Reserve
Brocket Corner
Northfield
The Lodge House
The Vineyard
The Warren
Sewage Works
Hatfield Golf Club
Queen Elizabeth Oak
Park
Park Dairy
Coombe
Home
Oldcastle
Roehyde
Sleapshyde Farm
Johnson's Spring
Smallford Farm
Colney Heath Lane
Oaklands Coll
Home Wood
Wick Wood
Nine Elms Nursery
Popefield Farm

FIGURE 2
Aerial Photograph

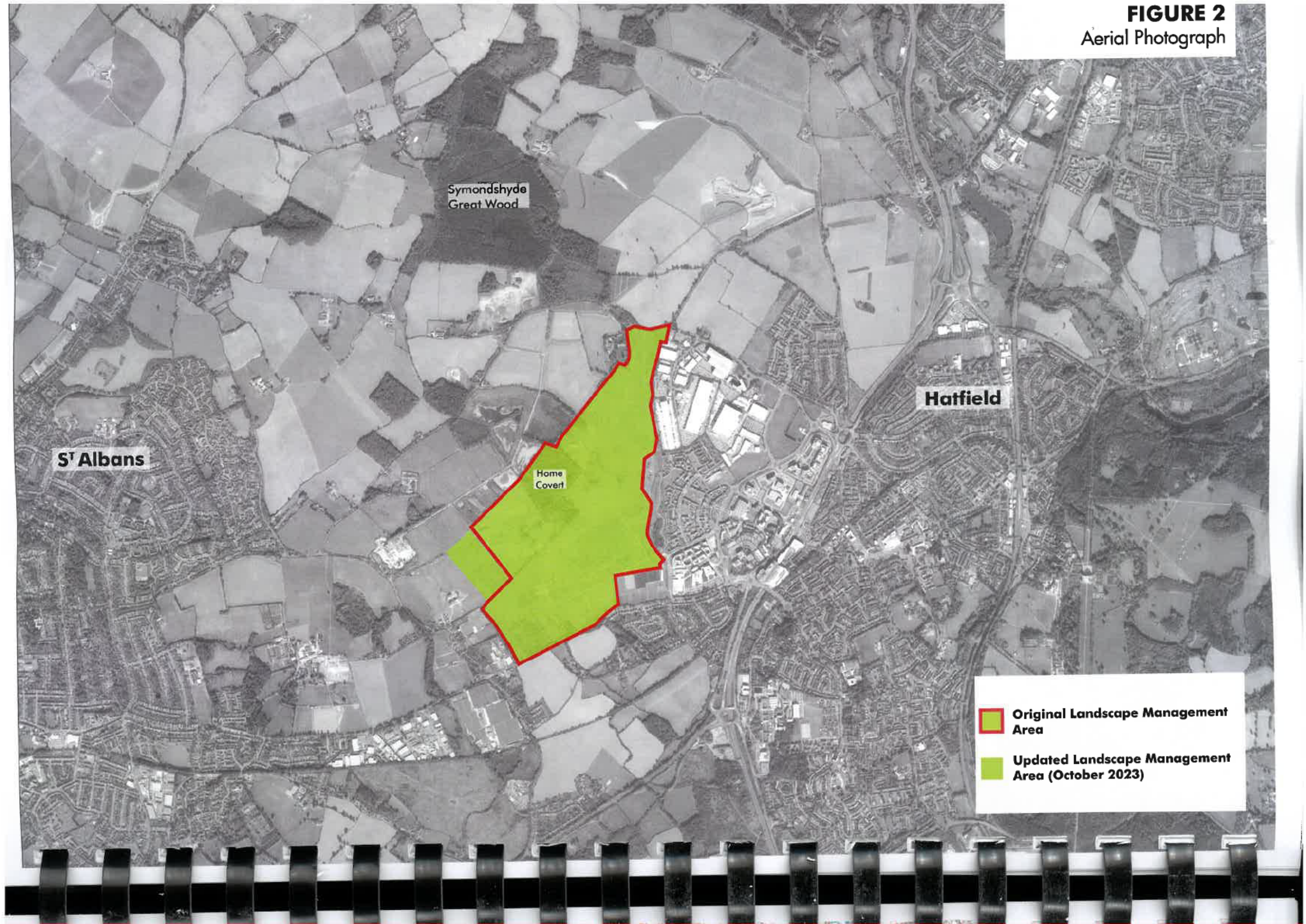
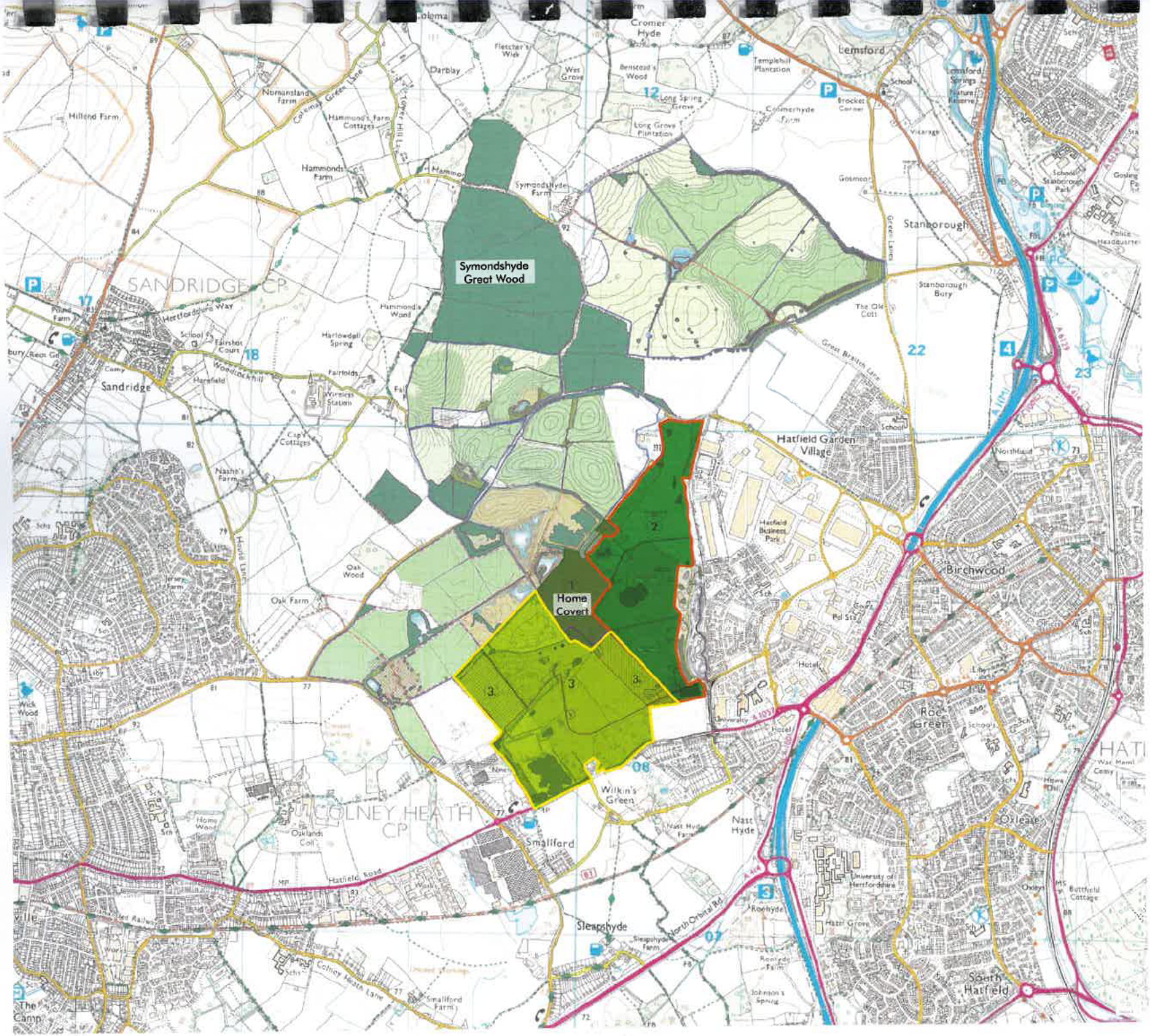


FIGURE 3
Future Context Plan



MANAGEMENT AREAS UPDATE

With the granting of planning approval for minerals development in the southern half of the management plan area, some adjustments to the management areas are required. In particular the grazing compartments and the routes of permissive paths are affected by the phases of the extraction process.

The following sections set out a review of the management plan area to highlight the issues and opportunities involved in each main section of the site. These relate to;-

Area 1 – The Home Covert Woodland Area
Area 2 – The Northern Fields area to remain as grazing / hay cropping and informal access land
Area 3 – The Minerals Extraction Site Area – to be managed for the duration of the extraction by Brett Aggregates

The respective areas of these are indicated on Figure 2 and equate to:-
Area 1 – 15.7 ha
Area 2 – 66.3 ha
Area 3 – 78.9 ha
Area 3a – 9.5 ha

Totals 170.4 ha

Total area of site with Ellenbrook Park 8.9 ha & Sports Pitches 6.8 ha equates to 186.1 ha

The basic objectives in reviewing the management proposals are to:-

Maintain the positive management of the area as part of the local landscape

Maintain or enhance the biodiversity interest of the site areas

Maintain the continuity of the informal permissive public access network established across the site areas

FIGURE 4
Management Areas Plan

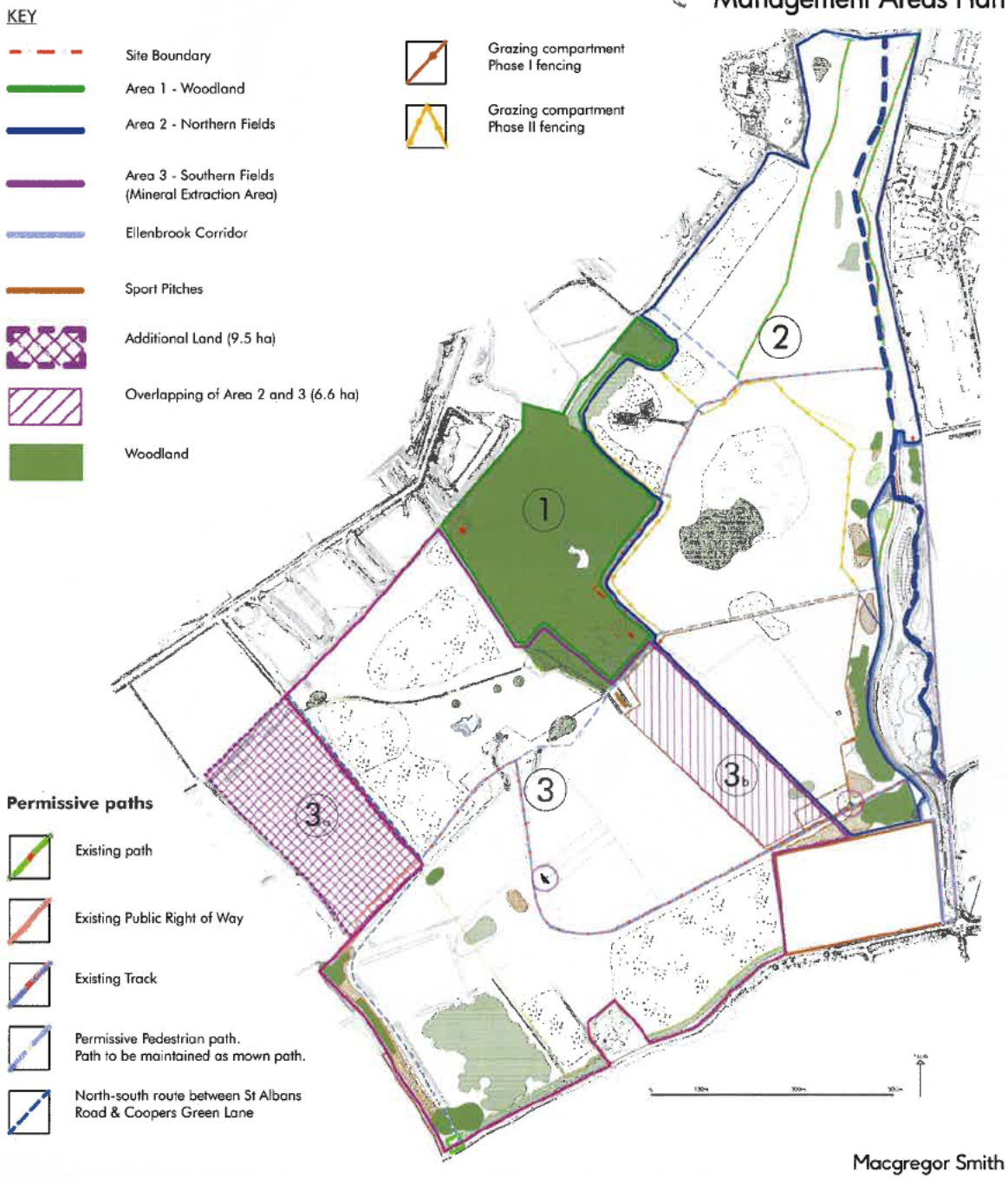


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FIGURE 5
Historic Site Map

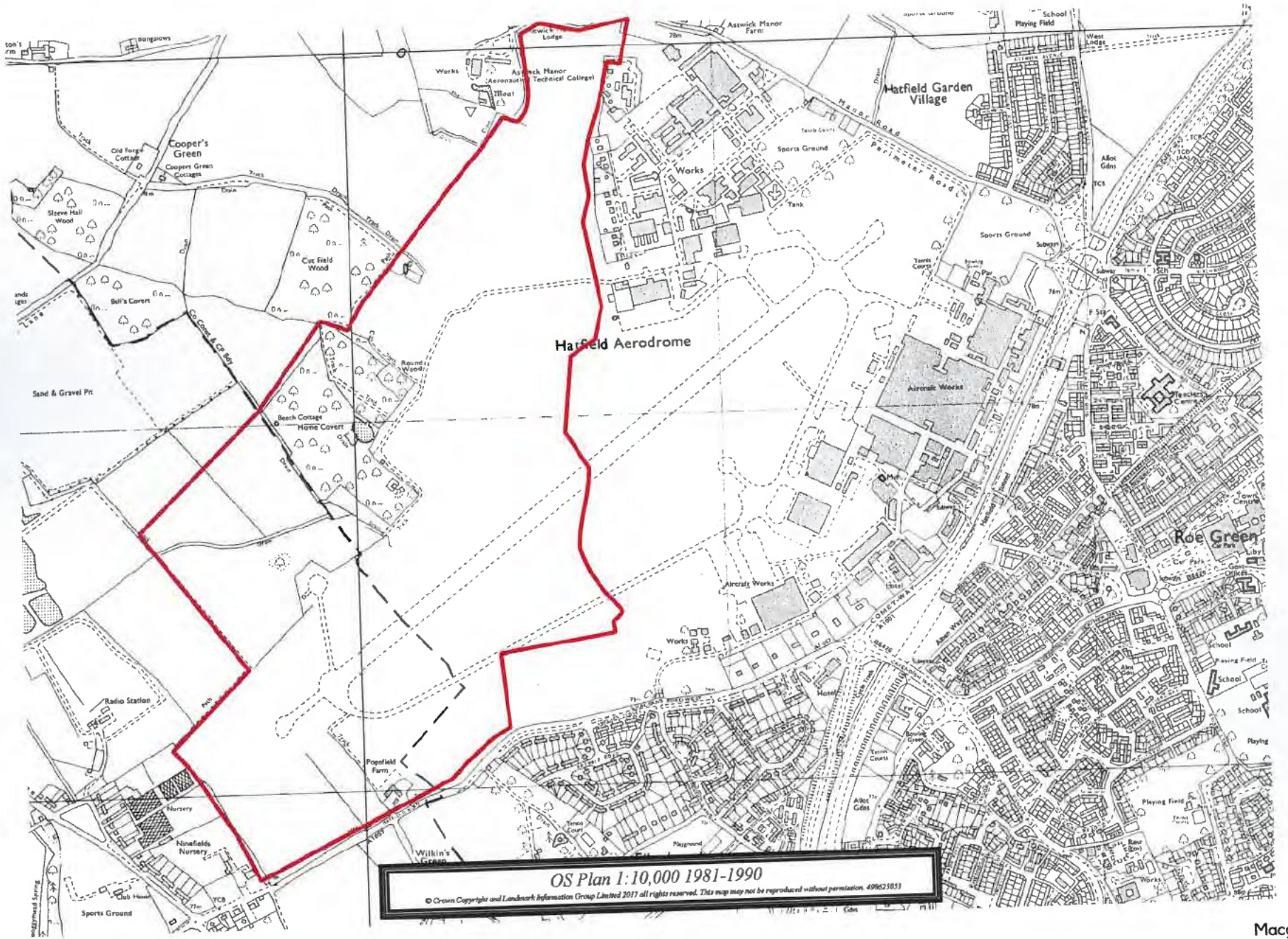

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FIGURE 6
Historic Aerial Photograph - 2000

MANAGEMENT COMPARTMENTS

1. Ellenbrook Corridor (Condition 13 Area)
2. Home Covert and Cuffield Wood
3. Northern area of undisturbed grassland
4. Southern area of undisturbed grassland

5a. Grazing compartment

5b. Grazing compartment

6. Natural regeneratiuon grassland
7. New planting areas
8. Managed scrub/tree cover regeneration

Management Compartments

This drawing illustrates the intended management compartments for the site. The broad objectives for management have been set out in the previously issued outline management objectives document and the management plans for Home Covert. A fuller management plan will be drawn up for approval of the management group.

2010 LANDSCAPE MANAGEMENT AIMS

The proposals for Ellenbrook Fields is to open up public access on the undeveloped section of the Hatfield Redevelopment Site. This is intended as a means to protect and manage the environmental condition of the area prior to the longer term intention to use the land for mineral extraction (as the area is a priority site for sand and gravel extraction in the County Mineral Local Plan). The design objectives area based on retaining the existing landscape character of the site as an open expansive area. The area will encompass new permissive pedestrian routes providing circular and through routes for public access. An equestrian route may be added in the future subject to agreement with third party land holders. The general character of the site will be defined by the various existing landscape habitat area. The areas where the site adjoins the main development will have more of a transitional quality between the naturalistic environment and the formal landscape of the development. Areas of new woodland planting are included to provide interest and structure to the landscape.

The site is not expected to act as a major visitor attraction. The main users are anticipated as local residents from both the housing areas near the site and the residential areas on the main development area.

The area will be managed to create a landscape which allows for informal public access, but also retains and maintains the existing features of ecological value (the woodland, grassland and wetlands); to introduce additional diversity to these habitats to further enhance their nature conservation value; to maintain the populations of protected species and species of conservation concern; and to create new habitat features (woodlands, grasslands and wetlands) of value to wildlife, particularly protected species and those identified in the UK and local Biodiversity Plans.

FIGURE 7
Previous Site Clearance & Preparation Works

KEY

- Site boundary
- Established woodland
- Disturbed grassland
- Undisturbed grassland
- New planting area
- Areas to be allowed to naturally regenerate around new planting
- Grazing compartment Phase I fencing
- Grazing compartment Phase II fencing

Natural regeneration areas

- Areas approaching a closed canopy / bramble / blackthorn thickets
- Areas with sporadic tree / shrub cover
- Permanent water body

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FIGURE 8
Existing Right of Way and Main Permissive Access Routes

KEY:

- Site Boundaries
- Ellenbrook Fields & Park
- Woodlands
- Natural Regeneration of Vegetation
- Water Bodies
- Footpaths/ Public Right of Way
- Old Taxi Way
- Permissive Footpaths

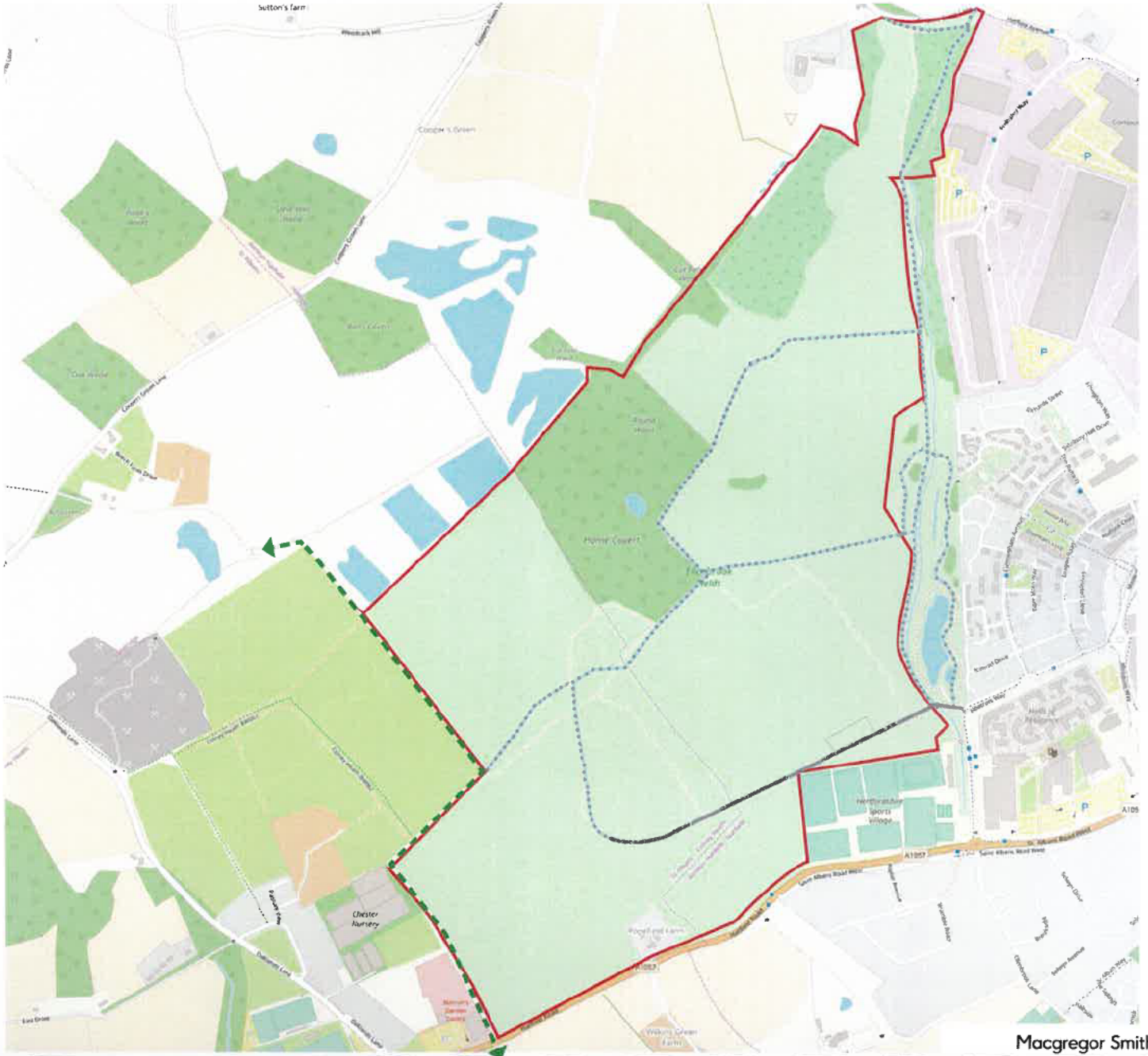

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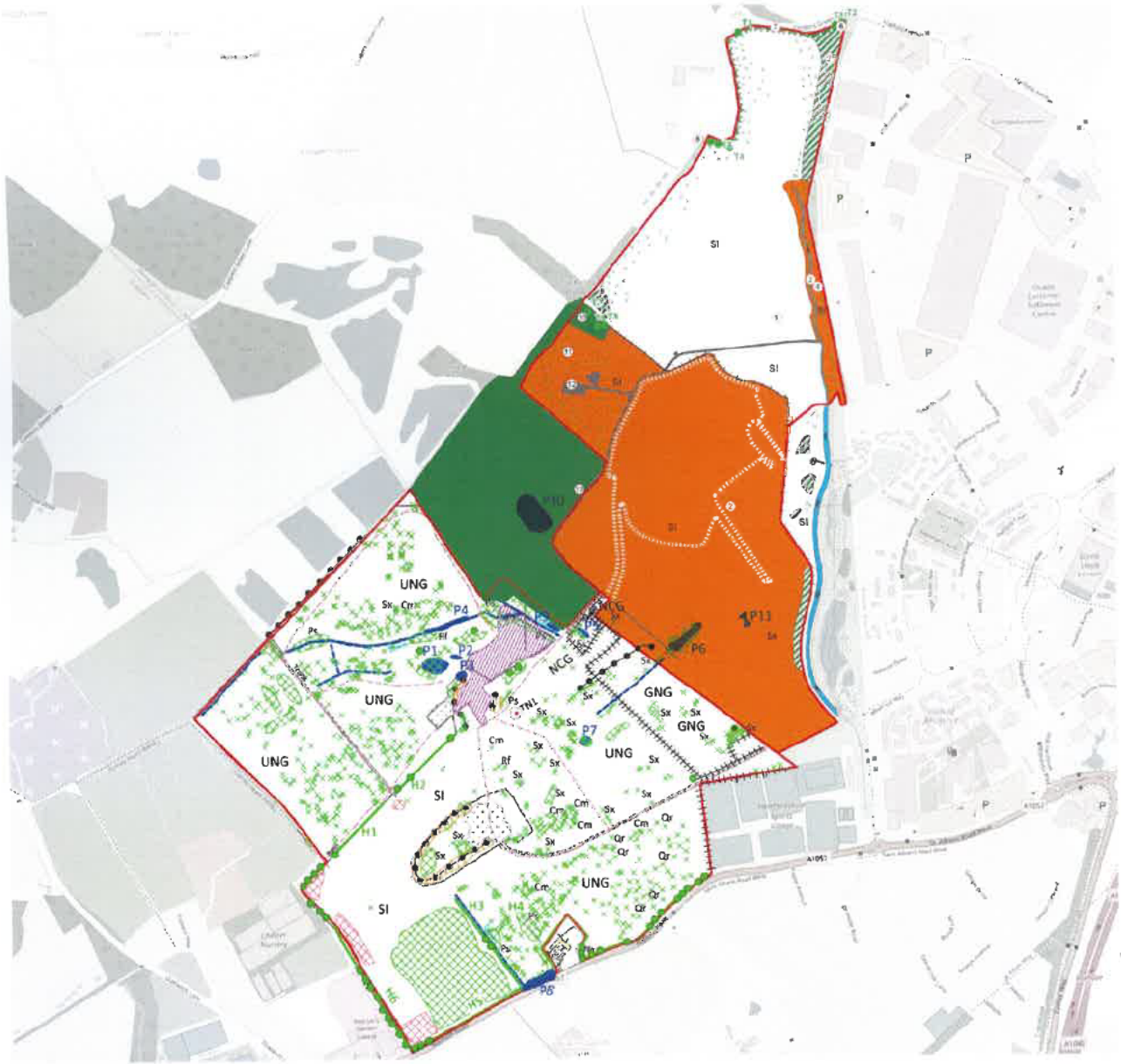
FIGURE 9
Combined Phase 1 Habitat Survey Plans

DIAGRAM
Combined Phase 1 Habitat Survey Plans from LUC (Northern Area Appraisal 2015)
SLR (Southern Areas 2014/15)



KEY

- Study areas
- Unmanaged neutral grassland
- Species-poor Semi-improved mown grassland
- Grassed neutral grassland
- Neutral / calcareous grassland
- Neutral to acidic grassland
- Disturbed / bare ground
- Semi-improved / grazed neutral grassland
- Species poor semi-improved
- Dense scrub
- Broad-leaved woodland
- Broad-leaved plantation woodland
- Tall ruderal
- Waterbodies (with reference)
- Landscape planting
- Hedgerow (with reference)
- Defund species-rich hedge
- Scattered shrub
- Fence
- Bund
- Footpath / track
- Seasonally wet ditch
- Running water (arrows indicate flow direction)
- Mature Tree
- Tree with tree reference
- Structure
- Target note - Bioscan (UK) Ltd
- Target note - LDA Design
- Qr — Q. robur
- Sx — Salix sp.
- Cm — C. monogyna
- Ps — P. spinosa
- Rf — R. fruticosus
- Hardstanding
- Film set disturbed area

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MANAGEMENT COMPARTMENT 1:

HOME COVERT & CUTFIELD WOODLANDS

Area 1 - Woodland

EXISTING SITUATION

Previous detailed survey and detailed management plan

The area of Home Covert and Cut Field woodland is indicated on **Figure 10**. This is a composite drawing from earlier topographic and site survey, ordnance survey mapping information and recent site visit observations. Information on the woodland types and NVC classifications are taken from the current management plan and remain consistent with the conditions on site.

The boundary indicated on the southern edge of the woodland is defined by the approved minerals planning application boundary. Sections of the woodland boundary are defined by stock or site boundary fences (mainly on the northern edge of Home Covert and the western boundary to the adjoining land holding. Some sections of the boundary are undefined by fencing on the ground, in places ditches may help define the legal boundary line (land ownership check and marking of the boundary to be discussed).

The plans from pre 2010 indicated the locations of 'existing' buildings. Most these have since been removed or remain as minor collections of masonry (which offer potential habitat). The outline of the former buildings are retained on the plans for historical interest/reference. Fences installed as part of the 'establishment works' are now marked as existing (the condition of these is noted below). A nesting box for barn owls is indicated where this was installed in 2010 on the southern woodland edge.

Areas of contiguous woodland or natural regeneration are indicated as part of the woodland context. Some of the woodland areas have developed a scrub edge that extends beyond the compartment boundary. The management of this will be picked up within the corresponding areas to be considered as part of the overall woodland habitat, but managed as part of the adjoining compartments.

Previous objectives

The main objectives of the woodland management plan were to;

- Improve structure and diversity of woodland cover
- Remove weed species
- Restore hornbeam edge
- Maintain the rides

Implemented works

The works within woodland area included the demolition and clearance of the main derelict buildings. This included Beech Cottage and various dilapidated sheds which included large amounts of concrete / masonry debris and general rubbish. The remains of a small brick outbuilding are still located in Cut Field Wood as access for heavy plant to remove would have caused more disruption. An adjoining well shaft noted from the original woodland survey was filled (its location indicated for historical interest).

The small patch of Rhododendron previously noted appears to have been successfully treated (again its location is marked for reference).

Some occasional hazardous tree checking and making safe has been undertaken within the woodland but the more extensive control over sycamore and the re-pollarding of the hornbeam pollards has not occurred. It is understood the management contractor had concern over the requirement for felling licences for this work and so the work did not progress.

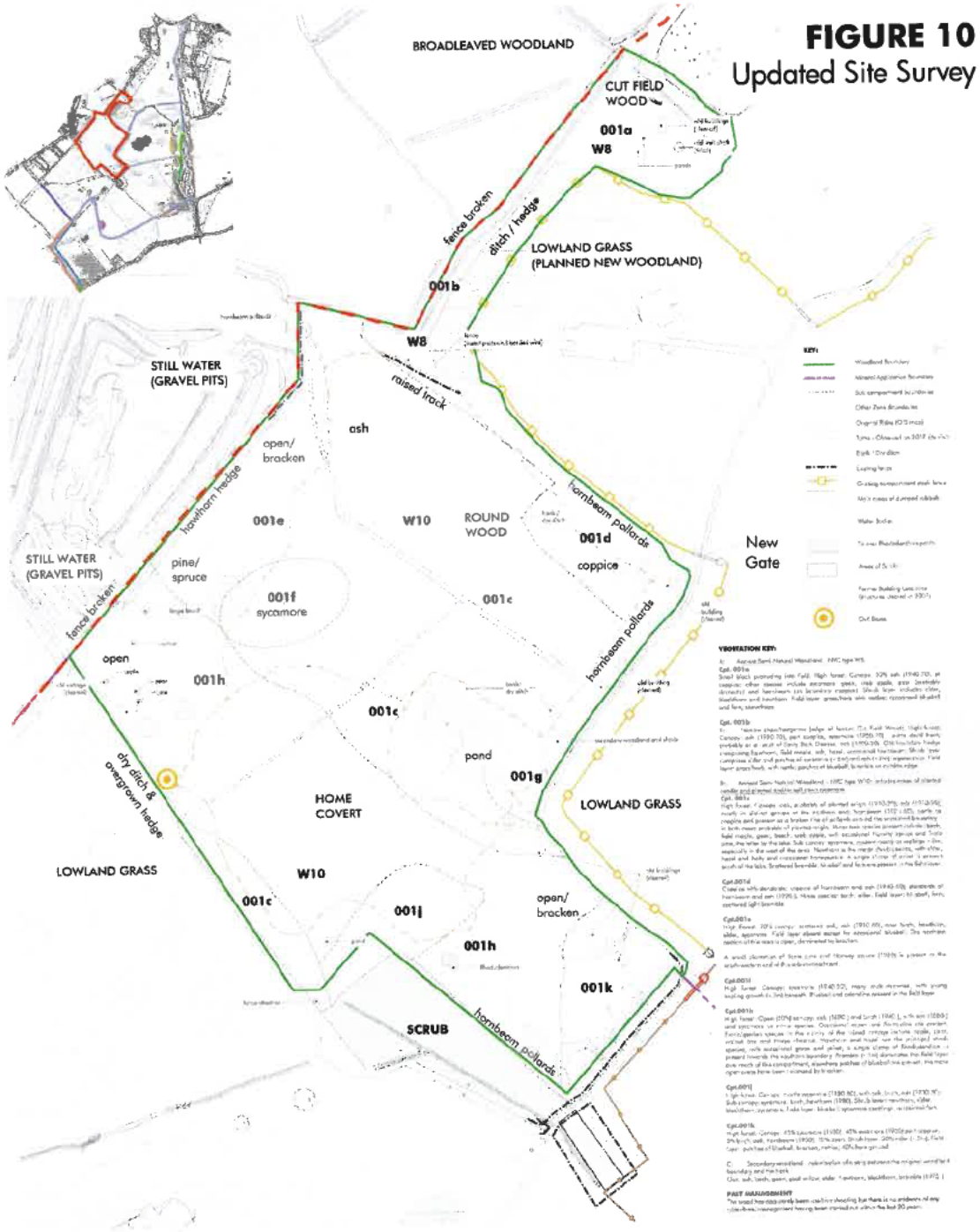

FIGURE 10
Updated Site Survey

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FIGURE 11
Proposed Establishment Works

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Area 1 - Woodland

OBJECTIVES FOR FUTURE MANAGEMENT

Generally the woodland would benefit from more proactive management of the tree cover, understory and public access. This would be of benefit to the condition of the woodland in the longer term, enhance the biodiversity value of the wood and encourage public enjoyment of the site. The woodland could be a major asset to the nearby residential areas. Public access is already occurring, positive encouragement and control to create the sense of a valued environment will help reduce antisocial activity.

- More positive management of tree cover to develop more continuous supply of future mature large scale trees would help ensure the character of the covert as woodland. Continuous cover forestry approach allows for natural restocking of tree cover rather than periodic replanting. Encourage Oak, birch and hornbeam regeneration, control squirrel numbers to allow establishment of more mature sycamore. Pollard old hornbeams and develop areas of coppice hazel.

- Protection and encouragement of high quality timber trees provides a potential source of income for management activity. Develop range of other forest products from woodland such as coppiced hazel, and firewood from thinning and pollards. (Objective for part of wider objective for Ellenbrook Fields to be in positive land use).

- Open up managed rides and edges to allow greater cross section of stratified habitat for invertebrates and other wildlife, allows more easy access for public to follow preferred routes and direct people away from other areas.

- Manage ground flora with control over extent of bramble and bracken (allow some areas of dense bracken as existing but limit further growth in rest of woodland). Monitor extent of bluebell cover and encourage spread. (May require some public information to allow enjoyment without pressure on flowering areas).

- Manage public access as positive benefit to woodland, with light touch control over activities such as den building and cycle jumps. Discourage or focus fire setting.

Key

- Vehicular access track
- Original woodland rides
- Path routes (mostly existing informal paths)
- Haul road
- Log Benches location
- Interpretive signage

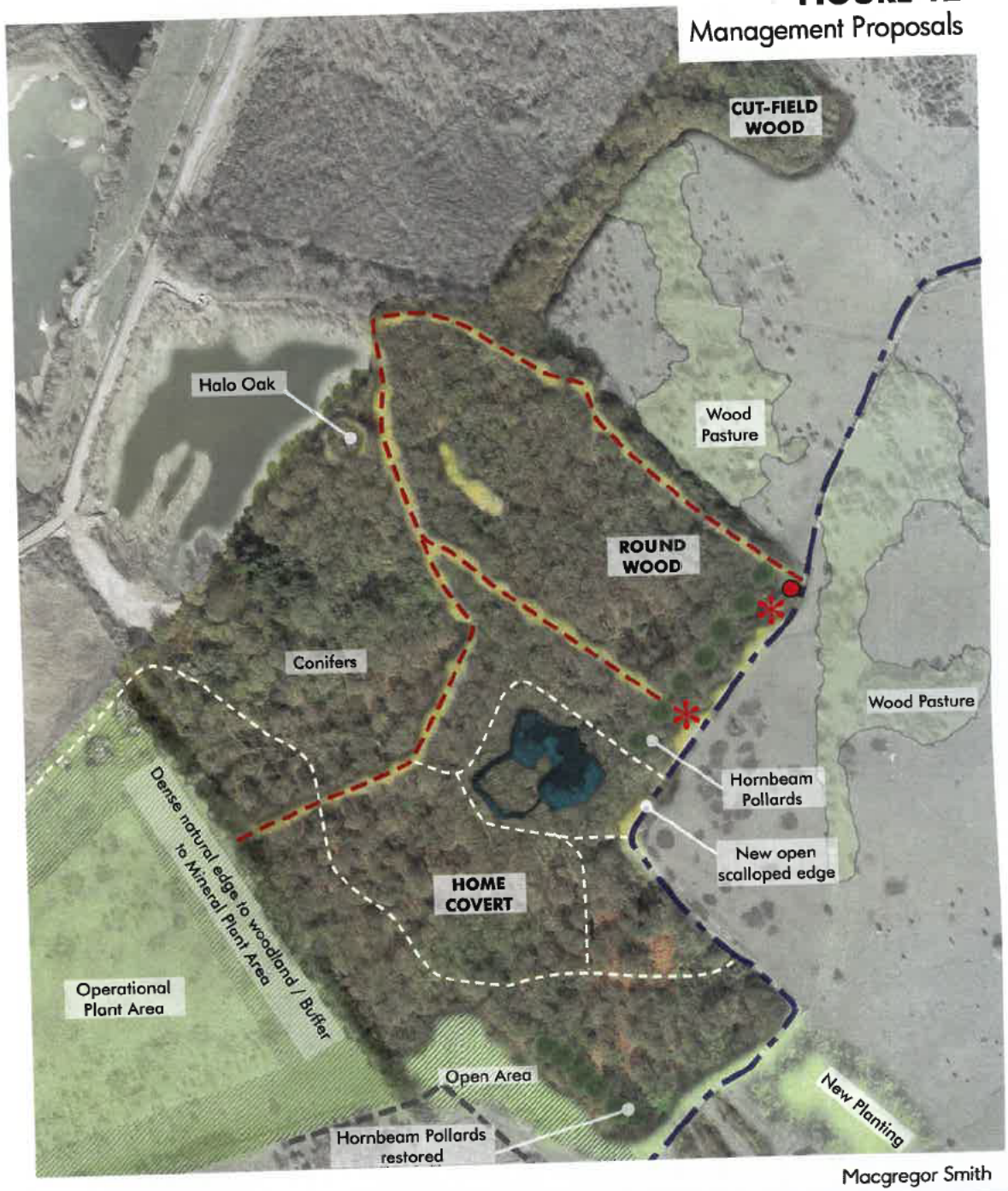

FIGURE 12
Management Proposals

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MANAGEMENT COMPARTMENT 2:
NORTHERN FIELDS

Area 2 - Northern Fields
(overlaps with southern half of site)

EXISTING SITUATION

Previous site survey – implementation works

The extent of the northern fields are indicated on **Figure 13**. This is based on the original site survey and the as built drawing. The ground levels, main path routes and overall site area are indicated from original topographic surveys. The fence lines and extent of different management/vegetation cover have been taken from the proposed site plans and amended to as built information from site visits. The boundary between this area and the Mineral Extraction site (Area 3) falls within one of the grazing compartments set up within this part of the site.

This area was subdivided into the main extent of the grazing land, hay cropping land and areas for natural regeneration. The two grazing compartments were created over areas previously disturbed with the runway removal and the film set areas. The hay cropping area related to the outer areas of the former airfield that remained mainly undisturbed in the middle of the more northern section of the site.

Previous Objectives

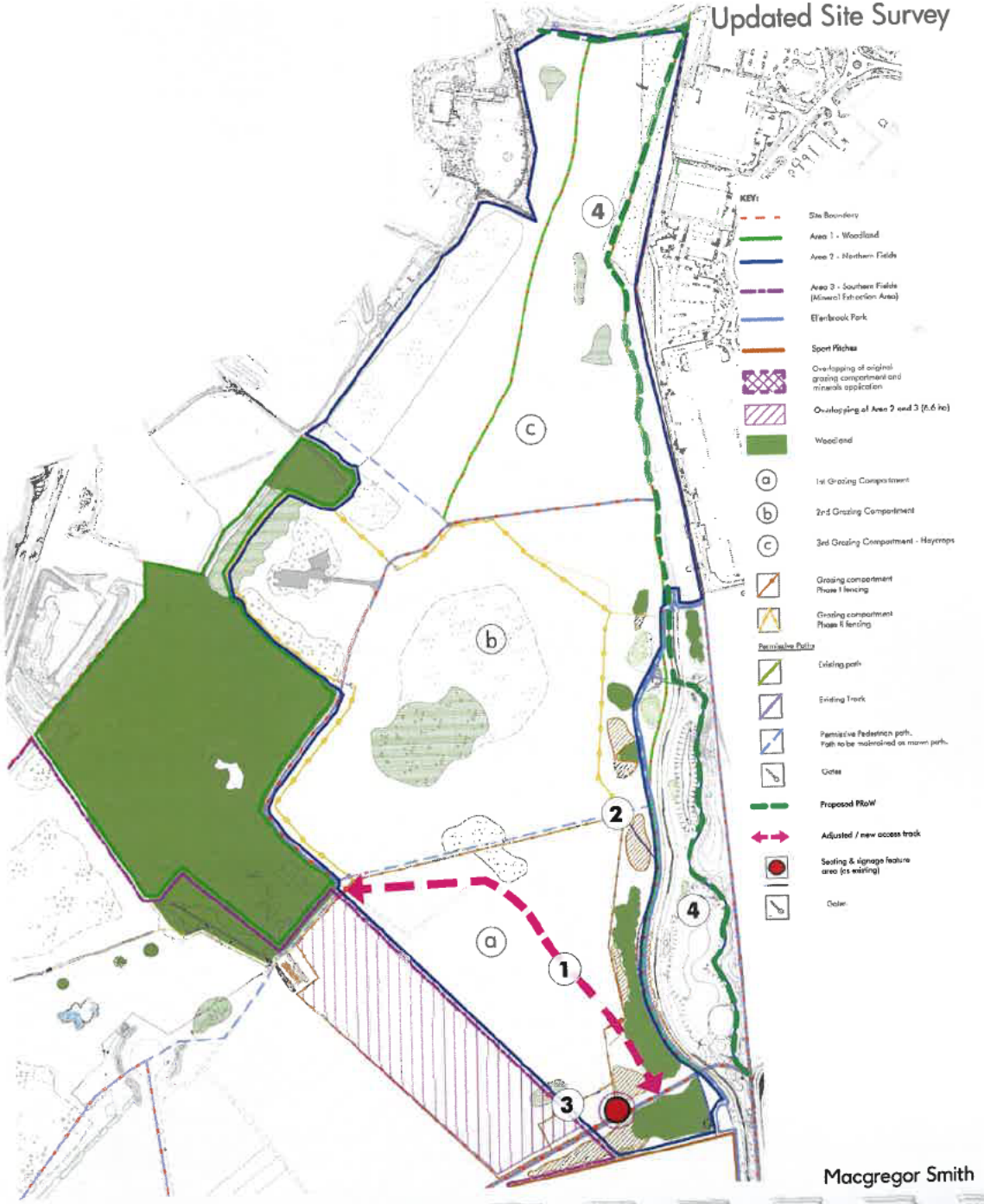
- Bring areas into positive management
- Utilise the grasslands as grazing and hay cropping to allow grassland character to remain
- Allow some natural regeneration to allow for diversity of the site intent an character/
- Create public access network - path routes shown on figure 15

Implemented Works

The works to create the cattle grazing compartments involved 4693 lin/m of stock fencing. A small corral was created close to the main site entrance off the taxi way to allow a holding areas for managing the heard close to the vehicular access point. A water supply was installed for drinking troughs in both compartments.

The two compartments were created as broadly equal areas to allow control/flexibility over stocking. The southern area Compartment 1, extended to some 17 ha, but this area overlaps with the proposed minerals area (Area 3). The remaining area of Compartment 1 is some 10.4 ha. Compartment 2 is approx. 21.6 ha. Areas of scrub were deliberately included in both compartments to provide the stock with shade.

The hay lift area is around 16 ha; and the areas defined for natural regeneration equate to around 12.5 ha. These areas were previously managed as short grass so did not need much physical preparation. Some scrub encroachment was cut back to create suitable extent and access for the hay lift. An item to control ragwort was included in the establishment/early years management.



Area 2 - Northern Fields

The success of the grazing arrangements provides some opportunities. The loss of a small part of the southern compartment 1 will require some minor adjustments to fencing lines but the remaining area remains viable. With the extent of land to the north there is scope for some extension of the grazing. This would work as either additional compartments or for the grazing to follow the hay cropping in late summer through until the spring. The number of cattle could be increased on the site to twice the existing numbers. Some additional fencing / replacement fencing to the site boundary would be required to secure the stock.

An advantage of extending the grazing would be for some distribution of wildflower seed into the wider grassland.

With the mineral working area a new vehicular access route may be needed for access to the northern fields.

Replacement seating and some additional interpretive information could help manage the visitor perception of the site area.

Proposals

1. New access track / permissive routes
2. Stile for access out of compartment
3. Adjustment to corral layout
4. Existing path route upgraded to Public Right of Way

FIGURE 14
Proposed
Establishment Works

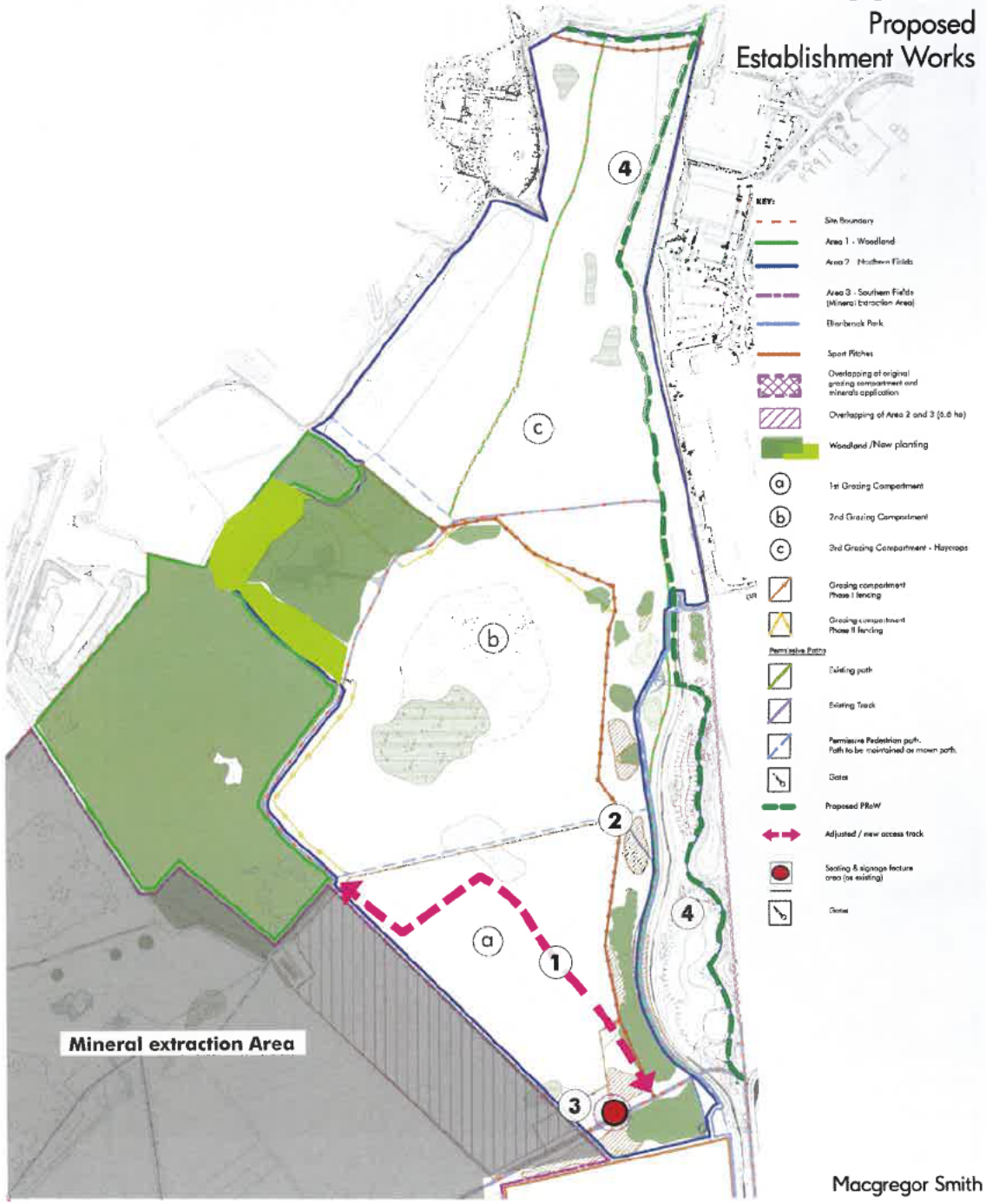


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FIGURE 15
Management Proposals

Key

- Site Boundaries
- Southern Fields & Existing Woodland area
- Natural regeneration areas
- Existing Vegetation
- Hay cropping compartment
- Grazing compartment
- Permissive path routes
- Public right of way
- Seating
- Signage location

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MANAGEMENT COMPARTMENT 3:
SOUTHERN FIELDS

Area 3 - Southern Fields

Mineral Extraction Area

EXISTING SITUATION

Previous site survey – implementation works

Figure 16 illustrates the existing layout of this area. This is based on the original topographic survey updated with as built information. Figure 17 provides overlay of the first phases of the mineral extraction operations. Additional land has been acquired for the mineral operation this is indicated on the existing layout.

- Fencing and Clearance – all done (basically) – therefore now these form the new base plan/ survey

Previous Objectives

- Bring areas into positive management
- Utilise the grasslands as grazing and hay cropping to allow grassland character to remain
- Allow some natural regeneration to allow for diversity of the site intent and character
- Create public access network

Implemented Works

Within this area a small portion of the first cattle grazing compartment was established with fencing and a corral.

A section of the former taxiway was retained as a footpath route. This provides vehicular access from the main development area to the managed grasslands of the southern part of the fields. The taxiway ends at a former stock pile area where some materials remain. Some information signage and markers were installed near this point to demarcate the end of the main aerodrome runway.

Some stock piles of crushed concrete and soils remain. This includes a stockpile with Japanese Knotweed growing in. This invasive weed was treated with herbicide during the establishment works but has returned in the last year or two (this is an issue that will need to be addressed before the later phases of the mineral works).

The most southern section of this area has been part of the hay cropping. As with the northern area the condition of the resultant hay has improved over the recent years although there are areas of thinner grass cover and some larger areas of ragwort. The height of the cutting has been reduced to improve hunting conditions for the barn owls.

The extent of regenerating scrub has been managed as per the extent evident at the start of the works. These areas are now becoming well established as tall scrub cover.

Areas of new woodland planting were installed as part of the initial establishment works on the southern edge of the site.

New permissive path routes were indicated on interpretive signage installed at the southern end of the site. A set of interpretation boards and areas of seating (ground level timber deck 'wings') were installed at the end of the original aerodrome runway.

FIGURE 16
Updated Site Survey

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Area 3 - Southern Fields

Minerals development proposals

FIGURE 17
Proposed Establishment Works -
Before Commencement of Minerals and Indicative Early Minerals Phases

Key

- Area 1 - Woodland
- Area 2 - Northern Fields
- Area 3 - Southern Fields
- Operational Plant Area
- Access Road
- Lagoons / Extraction Area
- Proposed Bunds as per detailed minerals application scheme
- First Phase - New grazing compartment
- Existing hay lift - Area retained - within grazing area
- Hay lift - Area extended - within grazing area
- Proposed Newt Ponds
- Existing Vegetation
- Existing / Proposed Path Routes
- Diverted / Existing Public Right of Way
- Existing Access Retained
- Home Covert track improved
- Airfield marker protected & retained
- Highway Access Point
- Existing Signage retained for initial phase of works
- Stockpile to be removed

Site layout for initial phase of extraction with plant, lagoons and extraction areas indicated.

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Area 3 - Southern Fields

FIGURE 18
Proposed Establishment Works -
With Non Implementation of Minerals Operation

Key

- Area 1 - Woodland
- Area 2 - Northern Fields
- Area 3 - Southern Fields
- Open Grassland Areas - grazing /annual cut (hay lift)
- Maintained Grassland Areas (Bi-annual cut)
- Sparse Shrub Areas (maintain at present level)
- Concentrations of natural regeneration / growth
- Existing blocks of mature scrub / tree cover
- Existing Ponds
- Existing / Proposed Path Routes
- Existing Public Right of Way
- Existing Access Track Retained
- Airfield marker retained & protected
- Existing Signage retained for initial phase of works
- Grazing Compartment Fence

NOTE: In the circumstance that the minerals operation is delayed, the Southern Fields would continue to be managed with establishment works based around the continued positive management of the area.

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FIGURE 19
Management Proposals

Key

- Site Boundaries
- Existing Vegetation
- Hay lift
- New grazing compartment
- Indicative path routes (detail of routes to be approved pursuant to the relevant minerals planning permission and related Section 106 Agreement)
- Diverted / Existing Public Right of Way
- Proposed vegetation screening
- Lagoons
- Operational plant areas
- Newt ponds
- Proposed Bunds as per detailed minerals application scheme
- Airfield marker protected & retained
- Proposed access road

Illustrative plan for initial extraction phase

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FIGURE 20
Illustrative Landscape Management Plan

Key

- Site Boundaries
- Existing Vegetation
- Natural regeneration areas
- Hay cropping compartment
- Grazing compartment
- Permissive path routes
- Diverted / Existing Public Right of Way
- Existing woodland pond
- Proposed vegetation screening
- Operational plant areas
- Lagoons
- Newt ponds
- Proposed Bunds as per detailed minerals application scheme
- Airfield marker protected & retained
- Access Road

Illustrative masterplan for whole of Ellenbrook site area during initial extraction phase

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FIGURE 21

Jogging circuit / Parkrun 5K route - Indicative Options

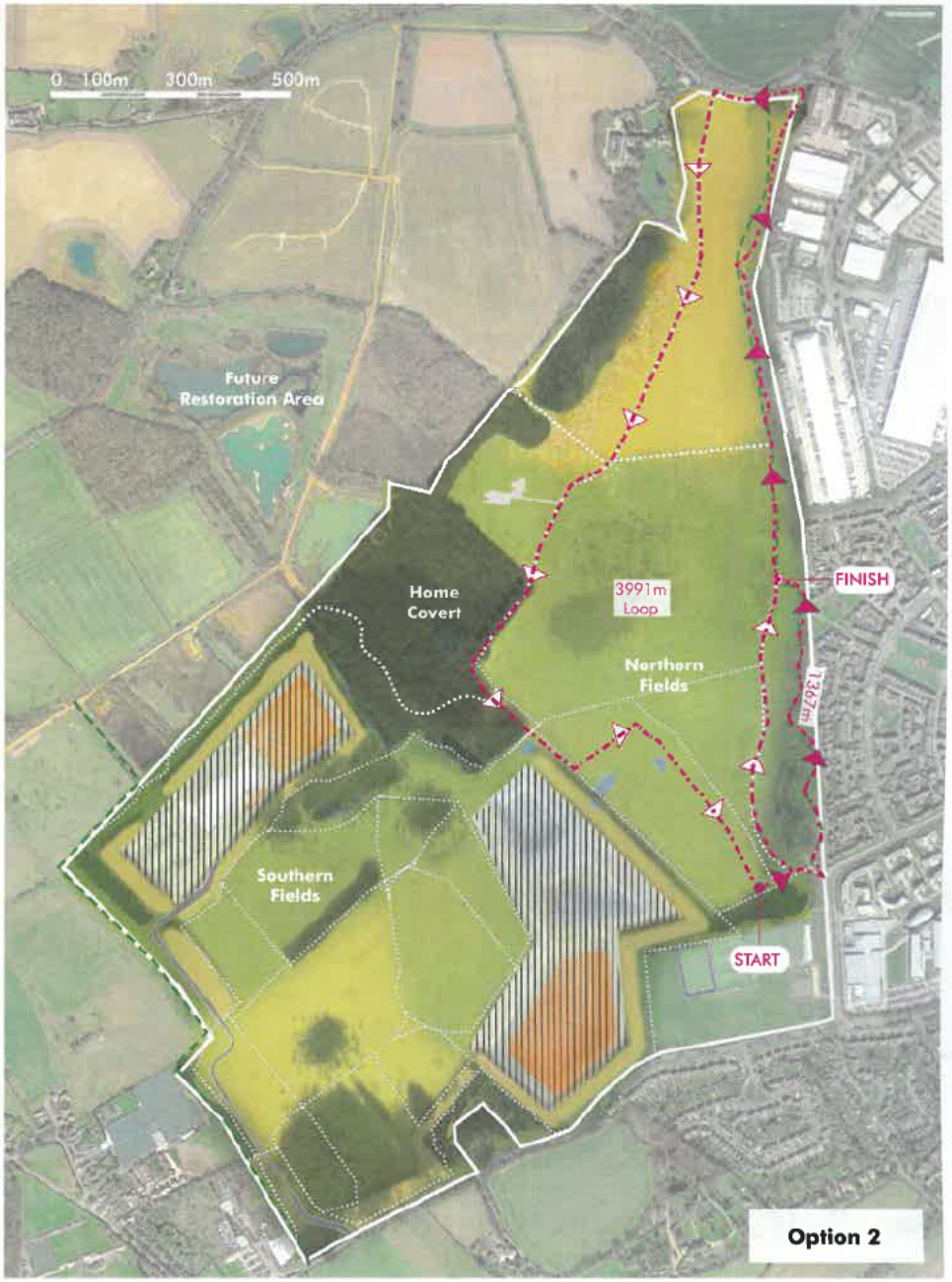
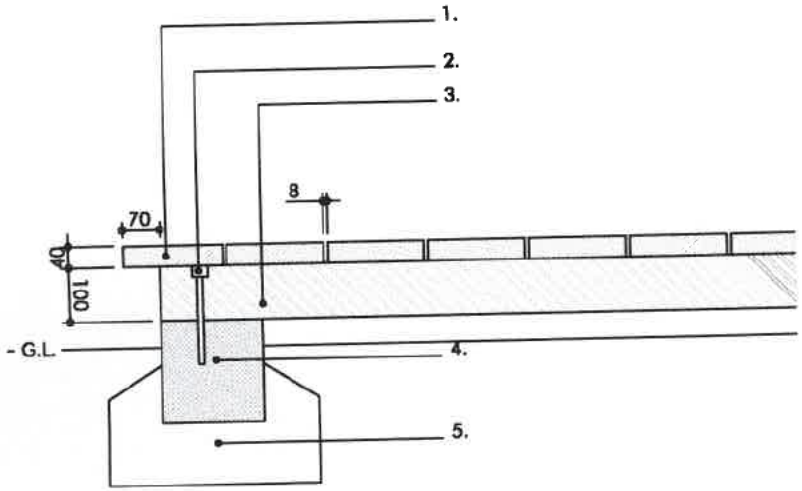
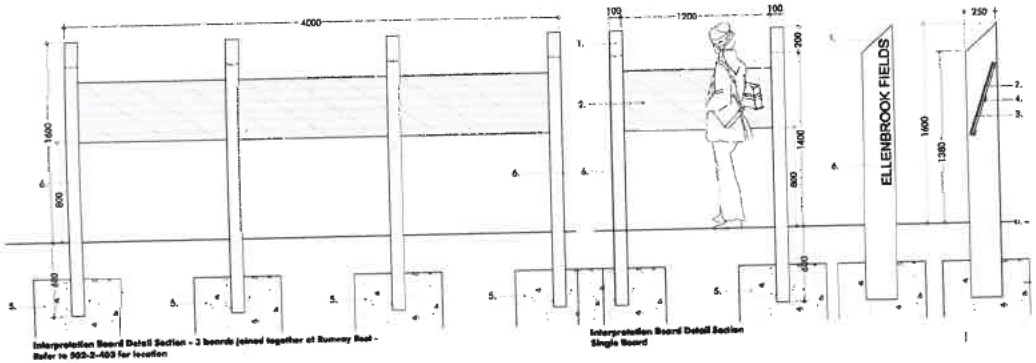


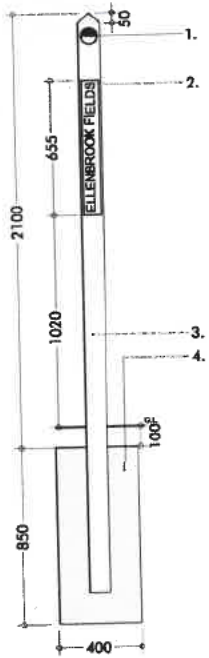
FIGURE 22
Original Furniture & Signage Designs



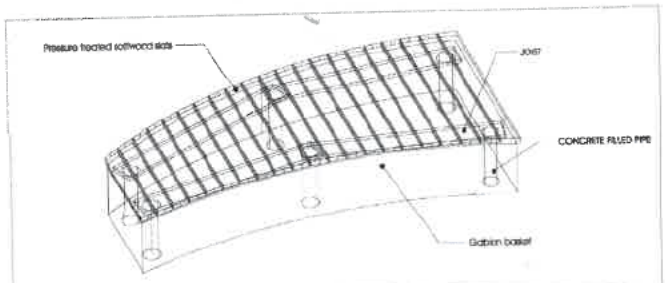


Interpretation Board Detail Section - 2 boards joined together at Runway End - Refer to 502-2-403 for location

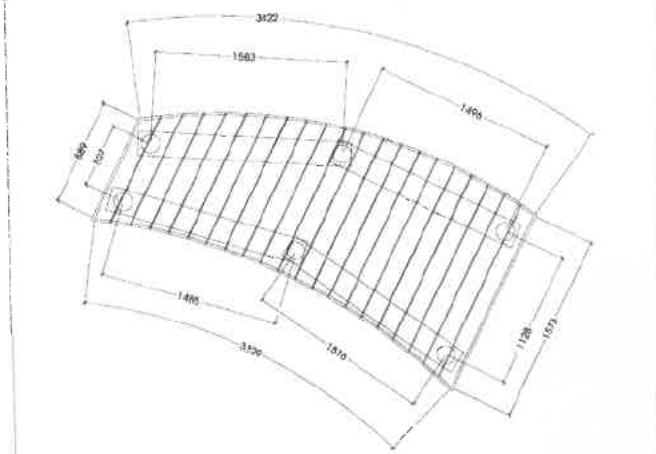
Interpretation Board Detail Section Single Board



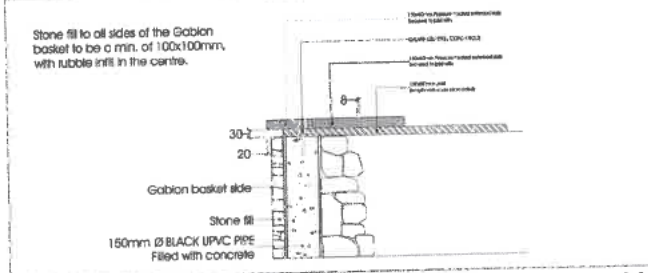
Finger Post Detail Section



D-5 TYPICAL GABION SEAT- ISOMETRIC 1:20



D-6 TYPICAL GABION SEAT 1:20



D-7 GABION SEAT EDGE 1:10

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FIGURE 23
Proposed Minerals Area Restoration Plan

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FIGURE 24
Post Extraction Whole Site Illustrative Masterplan

Key

- Site Boundaries
- Mineral Extraction Area
- Existing Vegetation
- Natural regeneration areas
- Proposed woodland planting blocks
- Hay cropping compartment
- Grazing compartment
- Public Right of Way
- Bridleway to be dedicated
- Permissive paths
- Permanent waterbody with reedfringe habitat
- Newt ponds
- Marginal vegetation / reedbeds with interconnecting swales
- Airfield marker retained & protected
- Carpark
- New hedgelines

Illustrative whole site masterplan - post extraction

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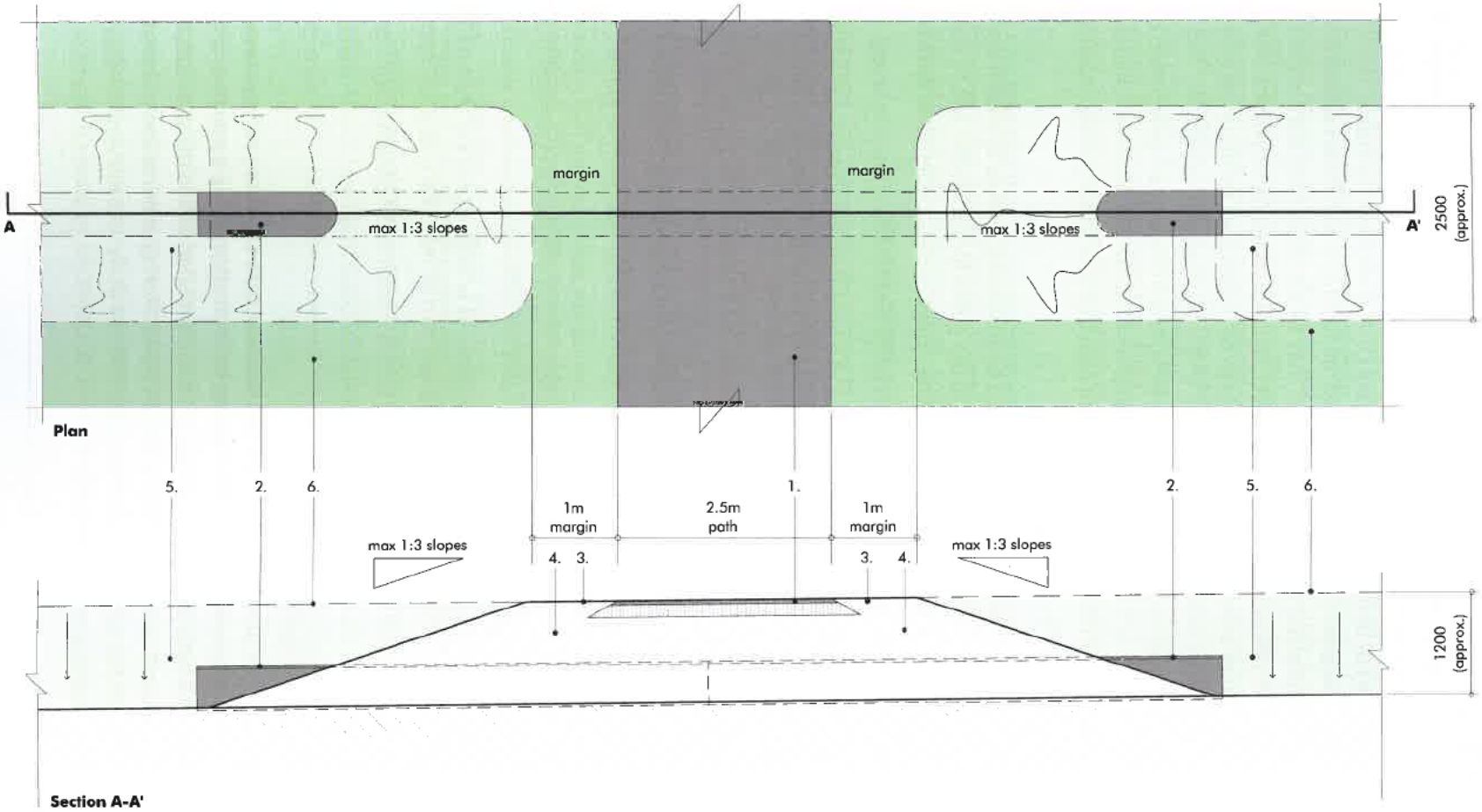
FIGURE 25
Ditch Crossing detail



Key

1. Self Binding Gravel Surface
2. 450mm PVC Unperforated Twinwall Pipe (6m) - size and spec per Engineer Specifcation
3. Top Soil (Seeded)
4. Sub Soil
5. Existing Ditch (profile approximate)
6. Top of slope.

Notes

Localised earthworks and grading to cover as much of the pipe as possible without exceeding slopes of 1:3.

Hatfield Green Summary of Ecological Surveys

Introduction

In June 2008 a Phase 1 habitat and protected species survey was undertaken by Cresswell Associates (a Hyder Consulting group company) within the area of land to the west of Hatfield Business Park, which was previously part of Hatfield airfield. The report that presented the survey results identified that further detailed ecological surveys would be required to inform any impact assessment associated with future development proposals (gravel may be extracted from part of the site). This included surveys for invertebrates, great crested newts, reptiles, breeding birds, bats, dormice and water voles. Whether all of these surveys would need to be undertaken to inform an ecological impact assessment would be dependent on the detail of the development proposals. The 2008 survey builds on from previous survey work and assessments that have been undertaken by Cresswell Associates to inform the Environmental Statement (ES) for the planning application for the Hatfield Business Park and to inform the management plan that was subsequently produced for the retained part of the airfield site

In April 2010 Cresswell Associates were commissioned to undertake surveys to inform the works that would be required to open the retained airfield to the public for recreation and to enable some of the grassland to be managed by conservation grazing. Surveys were undertaken between April and June 2010 and comprised surveys for the following species/groups:

1. Great crested newts - to confirm the presence of a breeding population within the airfield site and to assess the suitability of the gravel pits to the north for use by breeding great crested newts.
2. Reptiles - to confirm their presence or absence on the airfield site and to assess the size of any reptile population present.
3. Breeding birds - to assess the value of the grassland for birds since previous surveys revealed that the site supported ground nesting birds and barn owls. Further desk study was undertaken to inform this assessment.
4. Water voles – the 2008 survey confirmed suitable habitat within the site. Surveys were undertaken in 2010 to confirm their presence or absence.

The results of the surveys are summarised below and features of importance are indicated by red and yellow dots (Target Notes) on Figure 1 (this figure was part of the 2008 Ecological Appraisal report consequently not all of the Target Notes shown on the figure are referred to in the text below).

Great crested newt survey

Surveys were undertaken in June 1999 to inform the business park ES. These surveys revealed that the waterbodies that were present at that time supported a small breeding population of great crested newts. Since this time more waterbodies have been created within the site. Subsequent site visits in both 2008 and 2009 revealed great crested newts sheltering under waste material (pieces of board and rubble) within the site. It was therefore considered likely that the waterbodies within the site would support breeding great crested newts.

Surveys were undertaken in April and May 2010 to confirm the presence or absence of a breeding population of great crested newts within each water body on the site (identified by red Target Notes 1, 3, 9, 17 and yellow Target Note 32 on the attached figure). Four survey visits to each water body were undertaken and on each occasion a variety of survey techniques were used including torchlight survey, bottle trapping, egg searches and sweep netting.

The suitability of the woodland pond identified by yellow Target Note 16 and the Ellenbrook Park Balancing Ponds was assessed for breeding great crested newts. However, it was not considered safe to undertake nocturnal surveys of these waterbodies due to the large amounts of silt in the woodland pond and the steep nature of the slopes on the balancing ponds. However, these ponds were found to support fish and thus considered unsuitable for use by breeding great crested newts. In 2008 the ditch identified by red Target Note 18 was identified as potentially suitable for use by breeding great crested newts. In April 2010, this ditch no longer contained any water and thus was considered unsuitable for use by breeding great crested newts. 16 gravel pits north of, but close to, the airfield were also assessed for their suitability for use by breeding great crested newts was also assessed.

The surveys revealed that the ponds identified by red Target Notes 1, 3, 9 and yellow Target Note 32 supported breeding great crested newts. Overall, the great crested newt sub-population on the airfield site was assessed as a 'medium sized' population.

Some of the gravel pits were assessed as being either 'poor' or 'below average' value to breeding great crested newts and therefore considered to represent sub-optimal habitat for newts. However, the majority scored more highly and it would appear that the majority of the gravel pits have the potential to support breeding great crested newts. Although further surveys would be required to confirm the presence or absence of great crested newts within the gravel pits it is considered unsafe to undertake surveys of these waterbodies. Anecdotal evidence supplied by site staff indicated that great crested newts have been seen on the site in the past.

Given the proximity of the gravel pits to the airfield site (eight are adjacent to the site boundary and the rest are within 500 metres of the site boundary) it is considered likely that the newts breeding on the airfield sites may be part of a larger population that breed in the gravel pits. Given the size of the gravel pits it is considered possible that they may support a 'large' sub-population of great crested newts. In addition any newts that breed in the gravel pits are likely to forage within the airfield site. Thus the airfield could represent a valuable foraging resource for newts.

Great crested newt populations in Hertfordshire are considered to be in decline and threatened by the loss of ponds, thus a 'medium' sub-population of great crested newts is likely to be considered to be of County importance to nature conservation and a 'large' population would be of greater importance.

Great crested newts are a European protected species and thus any development proposal would need to take place under licence to Natural England. One of the conditions of this licence would be to maintain the favourable conservation status of the local great crested newt population, thus any proposal would need to ensure that it maintains and enhances the value of the site for great crested newts. For example, it would be necessary to consider habitat creation measures for newts in the

northern part of the site, such as new ponds and grassland/scrub habitats to compensate for the habitats that would be lost as a result of development. Once established this part of the site would provide a receptor site for any newts captured as part of a relocation exercise associated with the potential gravel extraction area and any subsequent redevelopment. This habitat would need to be safeguarded from future development as part of the licensed mitigation strategy.

Reptile survey

The surveys that were undertaken to inform the previous ES revealed the presence of a small population of slow-worms on the airfield site. In order to assess the current population size and to confirm whether or not reptiles continue to be present, artificial refuges known as 'reptile tins' were set out in 2010 in strategic locations across the site. These refuges have been checked on at least seven separate occasions in parallel with the other ecological surveys that have taken place on the site. Further checks will be undertaken in September in parallel with the Ecological Clerk of Works duties.

In 2008 most of the grassland on the site had not been managed for a number of years. The mosaic of grassland and scrub that had developed comprised potentially valuable habitat for foraging reptiles and thus it was considered likely that the reptile population may have increased since the earlier surveys. In autumn/winter 2009 large areas of the grassland were cut with a flail and thus the habitat was less suitable for reptiles. The surveys that have been undertaken to date have not confirmed the presence of reptiles on the site. It would therefore appear that the site supports, at most, a small population of reptiles and is therefore considered to be of no more than local importance to reptiles.

In the event that reptiles are found to be present on site a translocation operation would need to be put in place prior to site clearance works. The terrestrial habitat that would need to be set aside or created for great crested newts would provide habitat suitable for reptiles. Any reptile translocation operation could be undertaken in parallel with the great crested newt translocation operation.

Breeding bird survey

A breeding bird appraisal of the land was conducted between the months of April and June 2010. This included a desk study that aimed to identify any existing ornithological information relating to the site and its surroundings, and a breeding bird survey that aimed to assess the value of the site for breeding birds, in particular ground-nesting species. The breeding bird survey was undertaken by walking transects that were spaced approximately 100 metres apart and which bisected the site in a NW/SE orientation. This focused on the areas of rough grassland and scattered scrub and disregarded the areas of Home Covert, Round Wood and Cut Field Wood. Any birds flushed from the ground or heard singing were recorded.

The collated results suggest that the site is of County importance for ground nesting birds including skylark, meadow pipit and cuckoo; and scrub-nesting species including whitethroat. This is indicated by the large numbers of these species recorded on site during each survey visit and can be attributed to the extent of suitable nesting and foraging habitat and the relative lack of disturbance experienced on site. Skylark and cuckoo are both 'Red List' Birds of Conservation Concern and UK Biodiversity Action Plan (UK BAP) 'Priority Species'. Their designations result from a severe decline in

the UK breeding population (recently or historically) of more than 50%. Meadow pipit and whitethroat are 'Amber List' Birds of Conservation Concern due to a moderate decline of more than 25% but less than 50% in their UK breeding populations.

Barn owl, which is specially protected under the Wildlife and Countryside Act 1981 (as amended) and is also a UK BAP 'Priority Species' and an 'Amber List' Bird of Conservation Concern, was recorded hunting on site during two of the three survey visits, and is known to have previously nested on site within the remains of Beech Cottage. This would therefore suggest that the habitat mosaic of rough grassland and scrub is of local importance to this species. Other notable species that the site is considered to be of local importance to include reed bunting, lapwing and linnet.

The site is considered to be of value to birds in particular skylark, meadow pipit, cuckoo, whitethroat and barn owl. Although other areas of rough grassland and scrub are present within the wider landscape, preliminary investigations suggest that disturbance through agricultural practices and regular use by members of the public, particularly dog walkers, is far greater within such areas. Also, the extent of the comparable habitat within any given area in the wider landscape is generally smaller than that on this site. Therefore the abundance of ground nesting species in particular, such as skylark and meadow pipit, and therefore consequentially cuckoo which parasitize meadow pippits, is likely to be lower. This notion is supported by the results of the desk study which indicate these species are present in the surrounding areas but in apparently lower numbers.

It is therefore considered likely that any change in the land use of the site that results in any significant alteration in the extent and/or quality of the rough grassland and scattered scrub habitat would need to be appropriately mitigated to prevent a reduction in the value of this site for birds. Such mitigation may include compensatory habitat enhancement within unaffected areas to improve such areas and thus encourage any displaced birds to remain within the local area.

Water vole survey

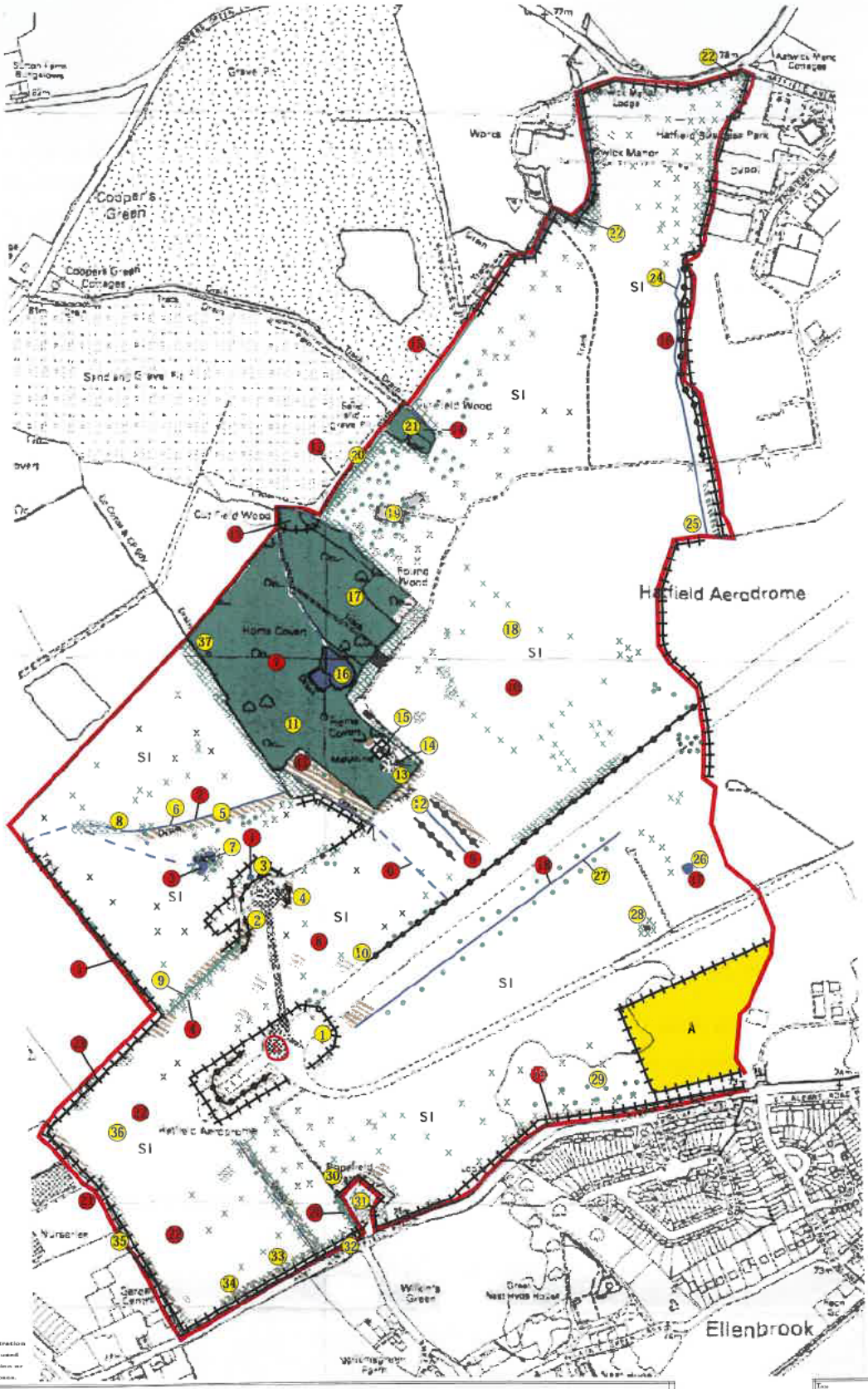
The Ellen brook, ditches and watercourses on site were surveyed in May 2010. The Ellen Brook provided habitat suitable for water voles but no confirmatory signs of water vole activity were recorded. The ditches identified by red Target Notes 15 and 18 were dry at the time of the survey and therefore represented sub-optimal habitat for water voles. No conclusive signs of water vole activity were recorded and it would appear that water voles are not present on the airfield site.

Other constraints

Although detailed surveys for badgers were not undertaken as part of the 2010 surveys. It was apparent that the main badger sett in the location identified by yellow Target Note 2 was active. Although badgers are not a species of conservation concern they and their setts are protected. Further surveys would need to be undertaken to confirm the status of the sett and to inform any assessment of impacts resulting from development proposals.

As outlined in the 2008 dependent on the nature of future development proposals and liaison with statutory consultees further surveys may be required to inform any future ecological impact assessment as part of an Environmental Statement. This could include:

1. Dormouse surveys, if the woodlands are affected;
2. Invertebrate surveys, if the woodlands are affected;
3. Invertebrates surveys of the grasslands, dependent on consultation with the statutory consultees, given the species-poor nature of the grassland they may consider that such surveys are not required;
4. Bat surveys, to assess the value of the trees within the woodlands for roosting bats if affected. Any trees suitable for use by roosting bats would require further surveys to confirm the presence or absence of bats;
5. Bat activity surveys, to assess the value of the site for foraging bats, dependent on consultation with the statutory consultees, given the species-poor nature of the grassland the open and unsheltered nature of the site they may consider that such surveys are not required.



The purpose of this figure is for the illustration of ecological data only. It should not be used for design, estimation, scaling, construction or any other technical or engineering purposes.

Key

- Broad-leaved semi-natural woodland
- Broad-leaved plantation woodland
- Dense/continuous scrub
- Scattered scrub
- Broad-leaved parkland/scattered trees
- SI Species-poor semi-im proved grassland
- Continuous Bracken
- Tall ruderal herbs
- Open standing water
- Running water
- S Spoil
- A Amenity grassland
- Ephemerals/short perennials
- Introduced shrub
- Intact species-rich hedge
- Intact species-poor hedge
- Defunct species-poor hedge
- Intact species-rich hedge and trees
- Fence
- Dry ditch
- Earth bank
- Buildings
- Hard standings
- Bare ground
- Survey boundary
- Plant/Habitat Target Note
- 1 Protected Species Target Note

Title: Hatfield Green

Figure 1: Phase 1 Habitat Survey Results

Cresswell Associates

Contract No.	Drawn by
WX82186-C1186	CW
Scale	Version No. - date
NTS	A - 11/07/08
Sheet	Modified by - date
1/1	CB - 26/08/08

Project Name: Hatfield EIP Allocation
Report Title: Ecology Appraisal
Date: 12/06/2015
Author: Tom Flynn, Senior Ecology Consultant
Checked/Approved: Paul Lishman, Associate

1.0 Introduction

1.1 Background to Commission

LDA Design was commissioned in March 2015 to undertake an Ecology Appraisal of land at Hatfield Green (the "Site")

1.2 Site Description

The Site at Hatfield Green encompasses 68 ha of land located to the west of Hatfield, Hertfordshire, and is centred on National Grid Reference TL 204093. It forms part of the site of the former Hatfield Aerodrome. It is dominated by rough grassland with occasional scrub and areas of track and hard standing. It is currently managed for public access as Ellenbrook Country Park, with conservation grazing of some of the grassland.

Commercial warehouse development borders the east of the Site, and a new residential area borders the southeast. To the north is arable land with hedgerows and woodland. To the west is arable land and grassland/pasture, woodland and lakes. To the south are areas of grassland/pasture and sports pitches.

The soils at the Site include freely draining slightly acid loamy soils and slowly permeable seasonally wet acid loamy and clayey soils (Cranfield University, 2015)

1.3 Proposed Works

It is understood that the Site is being promoted for allocation for residential development, to include up to 1400 units. Since this proposed development is at an early stage of design, a detailed Site layout is not yet available, however, a concept masterplan and landscape strategy have been prepared.

1.4 Scope and Aims

This study comprises an ecology desk study, an extended Phase 1 habitat survey, a habitat suitability assessment for great crested newt, an assessment of the potential ecological impacts of proposed residential development at the Site, makes general recommendations for measures to avoid, mitigate, or compensate for such impacts, and identifies opportunities for enhancement to ensure that such development will be acceptable in planning terms. Recommendations are provided for further ecology surveys as appropriate. The UK and European legislation and planning policy underpinning this study is summarised in Appendix 1.

2.0 Methodology

2.1 Desk Study

The Hertfordshire Environmental Records Centre (HERC) was contacted to obtain information and records on designated wildlife sites and protected or otherwise notable species[1] relevant to the Site and its surrounding area.

Information on Natura 2000 and internationally designated wildlife sites was obtained from within 10 km of the Site centre (this includes all such sites within 9 km of any part of the Site).

Information on nationally designated wildlife sites was obtained from within 5 km of the Site centre (this includes all such sites within 4 km of any part of the Site).

Information on local designated wildlife sites was obtained from within 3 km of the Site centre (this includes all such sites within 2 km of any part of the Site).

Records of protected and notable species were obtained from within 5 km of the Site (this includes all such records from within 4 km of the Site).

Online mapping resources including the Multi-Agency Geographic Information for the Countryside database (MAGIC, 2015) and online aerial photography including Bing and Google maps were also to check for designated wildlife sites and surrounding land-use respectively in the vicinity of the Site.

A search was made for ponds within 500 m of the Site using the MAGIC website, OS mapping and publicly available aerial imagery, to assist in determining the possibility that great crested newts might be present on or close to the Site.

The following existing documents relating to the Site were also reviewed as part of the ecology desk study:

- *Ecological Appraisal of Hatfield Green* (Cresswell Associates, 2008).
- *Hatfield Green Summary of Ecological Surveys* (Cresswell Associates, 2010)
- *Hatfield Green Ecology Assessment* (LDA Design, 2013)
- *Landscape and Energy Strategy* (LDA Design, undated)

2.2 Field Survey

2.2.1 Extended Phase 1 Habitat Survey

An extended Phase 1 habitat survey of the Site was carried out on 7 April 2015 by a suitability qualified ecological consultant.

Ponds within 250 m of the Site found during the desk study were visited where access was available. The survey methodology was based on that described in Handbook for Phase 1 Habitat Survey (JNCC, 2010). Habitats present at the Site were identified and mapped onto a base map. The weather during the survey was sunny and calm.

Target notes were made for any additional features of ecological interest, and the potential of the Site to support protected or otherwise notable species was assessed. Any hedgerows present were assessed against the Wildlife and Landscape criteria of Schedule 1 of the Hedgerow Regulations 1997.

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[1] Notable species here include those of national or local conservation interest. Species of national conservation interest are those listed in Red Data Lists for England or the UK, the *Birds of Conservation Concern* list (Eaton *et al.*, 2009), and species designated Nationally Scarce or Nationally Notable. Species of local conservation interest are those listed as Rare or Vulnerable (or for old records, Extinct) in county lists such as the *Flora of Hertfordshire* (James, 2010) or *Moths of Hertfordshire* (Plant, 2008).

2.2.2 *Great Crested Newt Habitat Suitability Index*

Natural England recommends calculation of HSI scores for ponds as a tool to assess habitat quality in a repeatable, objective manner (Natural England, 2013). In particular, the HSI allows individual factors that influence newt presence to be easily identified. Natural England suggests that ecological consultants apply the adapted HSI methods used by the National Amphibian and Reptile Recording Scheme (Herpetological Conservation Trust, 2008) in order to determine the HSI value of each waterbody. This adapted method simplifies the way in which terrestrial habitat is evaluated.

The suitability index is calculated by allocating scores to features associated with each waterbody; these include features such as size, quality of surrounding habitat and presence of fish. These scores are then used to calculate the overall HSI for each waterbody as a number between 0 and 1, with 0 being the least suitable and 1 being the most suitable. The HSI score allows each waterbody to be placed in one of five pre-defined categories defining its suitability for great crested newts as follows: <0.5: poor; 0.5–0.59: below average; 0.6–0.69: average; 0.7 – 0.79: good; >0.80: excellent.

2.2.3 *Limitations to Methods*

The survey was carried out within the optimal time of year for Phase 1 habitat survey (which is late March to mid-October in Southern England, extending into November in a mild season (JNCC, 2010)).

Of the 13 ponds within 250 m of the Site that were identified in the desk study, 12 were accessible or visible during the field survey and could be assessed for their suitability for great crested newts. A pond at Astwick Hall is indicated on the OS base map on the MAGIC website (labelled as a moat) but was not accessible during the survey. Its suitability for great crested newts could therefore not be assessed. In order to ensure a robust assessment of ecological constraints at the Site, this pond has been assumed to provide suitable habitat for great crested newts at the Site in this study.

Areas of hard standing now becoming encroached with grassland in the west of the Site were not surveyed in detail due to the presence of a herd of cattle in this area at the time of the survey. However, since the encroaching grassland had a similar structure to that of adjacent areas, and no other vegetation was noted on the hard standing itself, this is not considered significant limitation to the habitat classification or ecological assessment carried out in this study.

3.0 Results

3.1 Summary of Existing Documents

Ecological Appraisal of Hatfield Green (Cresswell Associates, 2008)

This document reports an ecological assessment of an area of land including the Site, but also including considerable further areas to the west and south. It is based on survey and desk study work carried out in 2008, and on previous appraisals carried out in 1999–2001 (Cresswell Associates 1999, 2001a, 2001b). The dominant habitat was found to be species-poor semi-improved neutral grassland, with scrub in some areas. This grassland was found to support ground nesting birds (including song thrush *Turdus philomelos*, sky lark *Alauda arvensis*, lapwing *Vanellus vanellus* and meadow pipit *Anthus pratensis*) and to provide foraging habitat for barn owl *Tyto alba*. Previous surveys found grass snake *Natrix natrix* and slow-worm *Anguis fragilis* (Cresswell Associates 1999) and a population of brown hare within the airfield grassland (Cresswell Associates, 2001b, 2008). Potential for common lizard and adder was noted. Woodland at home Covert and Round Wood LWS was found to contain a large number of trees suitable for roosting bats (outside the Site, to the west). A barn owl roost was found in a disused building within the south of the Site (building not found during the 2015 survey). Further potential bat roosting sites included disused buildings in woodland at Home Covert and Round Wood LWS (outside the Site) and several mature trees on the boundary of the survey area. In previous survey (Cresswell Associates 1999) great crested newt was found to be present in two ponds in the west of the survey area (outside the Site) and in the 2008 survey, a great crested newt *Triturus cristatus* in its terrestrial phase was also found in this area. The presence of habitat (primarily woodland at Home Covert and Round Wood LWS) suitable for dormouse *Muscardinus avellanarius* was noted. The Ellen Brook and a ditch in the south of the Site (later found to be dry) were noted as having potential to support water vole, although no signs of this species were found. No active badger setts were found in the survey area, although a disused sett was present in woodland at Home Covert and signs of badgers were recorded in several areas.

Hatfield Green Summary of Ecological Surveys (Cresswell Associates, 2010)

This document reports on ecological survey work carried out in 2010 relating to the proposal to open the retained airfield area to the public for recreation and to enable some of the areas of grassland to be managed by conservation grazing. These included surveys for great crested newts, reptiles, breeding birds, and water vole.

Presence-absence surveys for great crested newt (involving four survey visits) were carried out at five ponds, including a pond in the southeast of the Site, a pond on the southwest boundary of the airfield, outside the Site, two ponds to the south west of woodland at Home Covert (outside the Site) and a ditch to the south of Home Covert, near the boundary of the Site. Gravel pits to the west of the airfield, and the recently constructed series of ponds at the east of the airfield site (balancing ponds at Ellenbrook Park) were not surveyed for reasons of health and safety. The gravel pits were considered to provide suitable habitat for great crested newts, and anecdotal evidence of their presence was reported from quarry staff. The ponds at the east of the airfield site were assessed as unsuitable for great crested newts due to the presence of fish. Great crested newts were found to be present in all of the ponds surveyed except a pond in the east of the Site (the latter pond was no longer present in 2015; former location indicated in Figure 3); the numbers of individuals found (not specified) indicated the presence of a medium population, assessed to be significant at the county level. It was suggested that the newts in these ponds may form part of a larger population using the gravel pits to the west of the Site. It was suggested that the grassland at the airfield could represent an important foraging area for this species.

The reptile survey did not record any reptiles on the airfield. This is in contrast to earlier surveys which found a small population of slow-worms and grass snake. The cutting of large areas of the site with a

flail in 2009 was suggested as having reduced the suitability of the grassland for reptiles (it had previously been unmanaged for a number of years).

The breeding bird survey focused on birds of open areas of the airfield site. The results suggest that the site is of county importance for ground nesting birds, including skylark, meadow pipit, and cuckoo, and scrub-nesting species including whitethroat. Barn owl was recorded hunting on the site during two of the three survey visits, and the grassland as assessed to be of local importance for this species. The habitat value was attributed to the large area of suitable foraging and nesting habitat, and to the relative lack of disturbance.

The water vole survey did not find any evidence of this species in the Ellen Brook and in ditches at the airfield site, and concluded that this species is absent from the Site.

During the above survey work, evidence was found of badger activity at the badger sett in at Home Covert (west of the Site), previously considered to be disused.

Hatfield Green Ecology Assessment (LDA Design, 2013)

This assessment summarises the results of the 2008 and 2010 surveys above, and does not provide any additional survey results. It assesses the potential ecological impacts of a proposed development and advises on mitigation, compensation and enhancement measures. This includes creation of new habitats; enhancement of retained habitats; and management of off-site woodland as part of the strategy to provide energy from local wood-fuel.

Landscape and Energy Strategy (LDA Design, undated)

This document summarises the results of previous ecology surveys and does not provide any additional ecological data. It sets out the proposed landscape and energy strategy for the Site which includes:

- Country Park, which includes a range of new habitats, open space, and footpath/cyclepaths.
- Linear Park, which provides informal open space for new residents and existing residents of the Ellenbrook estate.
- Energy Hub, which powers the Green Heart and is heated by locally sourced wood fuel.
- Woodland creation and management on-site which will provide a small source of wood-fuel and will contribute to a diverse range of habitats within the Country Park.
- Woodland management off-site which will provide the majority of wood-fuel for the Energy Hub and will also deliver biodiversity gains.

3.2 Designated Sites

There are no Natura 2000 or Internationally designated wildlife sites within 10 km of the Site centre. The closest such site is Wormley Hoddestonpark Woods Special Area of Conservation (SAC), located 10.8 km to the east of the Site at its closest point. This is a 335 ha site designated for woodland dominated by sessile oak *Quercus petraea* and hornbeam *Carpinus betulus*. This represents the EU Annex I habitat Sub-Atlantic and medio-European oak or oak-hornbeam forests of the Carpinion betula. There are no other qualifying features.

There is one Site of Special Scientific Interest (SSSI) within 5 km of the Site centre, Sherrardspark Wood SSSI. This 74.4 ha site is located ca. 4.1 km northeast of the Site. It is notified for its sessile oak *Quercus petraea* and hornbeam *Carpinus betulus* woodland, with areas dominated by mature sessile oak, a habitat now rare in lowland England. There is a diverse ground flora.

There are seven Local Nature Reserves (LNRs) within 5 km of the Site centre. LNRs are sites with wildlife or geological features that are of special interest at the local scale. These are listed in Table 1. The closest is How Dell LNR, ca. 2.1 km to the east of the Site, beyond the town of Hatfield.

Stanborough Reed Marsh LNR (2.3 km east of the Site) is also a Herts and Middlesex Wildlife Trust Nature Reserve.

Table 1. Statutory designated wildlife sites within 5 km of the Site centre.

Designation	Site Name	Area (ha)	Approximate Distance and Direction
SSSI, LNR	Sharrardspark Wood	74.4	4.1 km, NE
LNR	Howe Dell	3.98	2.2 km, E
LNR	Stanborough Reedmarsh	3.34	2.3 km, NE
LNR	Oxleys Wood	1.23	2.3 km, SE
LNR	Colney Heath	22.5	2.6 km, S
LNR	The Wick Wood	3.39	3.5 km, W
LNR	Wheathampstead Development Centre	5.87	4.2 km, NW

All of the national designated sites discussed above are shown on Figures 1a–1d. There are 31 separate Ancient Woodland Inventory sites within 5 km of the Site centre. The closest is Symondshyde Great Wood, ca. 0. 78 km NW of the Site, this supports ancient semi natural woodland. Of the 30 more distant Ancient Woodland Inventory sites, 23 are ancient semi-natural woodlands and seven are plantations on ancient woodland sites.

There are 33 Local Wildlife Sites (LWSs) within 3 km of the Site centre. These are shown on Figure 1e. The closest is Home Covert and Round Wood LWS, directly adjacent to the west of the Site. The woodland in Home Covert is dominated by pedunculate Oak *Quercus robur* and ash *Fraxinus excelsior* with some hazel and hornbeam. Round Wood is dominated by hornbeam coppice. The woodland supports various woodland indicator species. The next closest LNR is Furzefield Wood (near Hatfield), ca. 0.23 km north west of the Site. It supports mature secondary oak-hornbeam woodland with some conifers and supports various woodland indicator species. Of the 29 more distant LNRs, 19 are designated for their woodland, five for grassland/marshy grassland, three are gravel pits; two sites are described as having buildings and environs that are important for protected species (no further information is provided in the site descriptions). Several sites support ponds and amphibians. The LWSs are listed in Table 4.

3.3 Habitats

The Site is dominated by neutral grassland, with dense scrub in the north west and scattered scrub along much of the west side. There is a small block of broad-leaved woodland in the west, and small blocks of young plantation woodland, mainly in the east of the Site. The Ellen Brook is present in the east of the Site. The following paragraphs describe the habitats present in more detail. Habitats at the Site are shown on Figure 2. Accompanying target notes (TN) and photographs are included in Appendix 2 and Appendix 3 respectively.

Semi-improved Neutral Grassland

The southern part of the Site is dominated by 37.8 ha of semi-improved neutral grassland grazed by cattle, which (at the time of the survey) had a sward 10–30 cm in height (Photograph 1; TN 2). Parts of this area appear to consist of made-up or restored ground. The soil appears to be clay. The grasses red fescue *Festuca rubra*, and common bent *Agrostis capillaris* are generally abundant here, and in damper areas, creeping bent *Agrostis stolonifera*, Yorkshire fog *Holcus lanatus*, soft rush *Juncus effusus* and tufted hair-grass *Deschampsia cespitosa* are also present. In areas along the western

boundary amongst scrub, coarser grasses are present, including cock's-foot *Dactylis glomerata* and some false oat-grass *Arrhenatherum elatius*. Forb species (non-grass herbaceous plants) present include ribwort plantain *Plantago lanceolata*, common sorrel *Rumex acetosa*, creeping buttercup *Ranunculus repens*, common vetch *Vicia sativa*, bird's-foot-trefoil *Lotus corniculatus*, yarrow *Achillea millefolium*, and dove's-foot cranesbill *Geranium molle*. The moss *Brachythecium rutabulum* is present in many areas. This grassland does not represent the HPI Lowland Meadows (see Appendix 1).

An area of apparently unmanaged semi-improved neutral grassland that is relatively species-rich is present around the Ellen Brook in the east of the Site (Photograph 2; TN 4). This contains coarse grasses (esp. false oat-grass and cock's-foot) and a wide range of forb species including common knapweed *Centaurea nigra*, ox-eye daisy *Leucanthemum vulgare*, creeping buttercup, hairy tare *Vicia hirsuta*, common vetch, bird's-foot trefoil, hogweed *Heracleum sphondylium*, primrose *Primula vulgaris*, colt's-foot *Tussilago farfara* and the moss *Brachythecium rutabulum*. The lack of a dense thatch in the sward, and the fact that the soil is visible in many areas suggest that this grassland is of recent origin, and is possibly a planted wildflower meadow.

Due to the former use of the Site as an airfield (during which it would have been subject to a regular mowing regime), and since parts of the south of the Site are restored ground, all of the grassland at the Site is presumed to be of 20th Century origin, and is clearly of semi-improved rather than unimproved character. The relatively low species diversity of the majority of the grassland is consistent with this history. The small strip of species-rich grassland in the east of the Site appears to be of recent origin (there is a very poorly developed thatch over the clay soil), and presumably is a sown wildflower meadow associated with the construction of the Ellenbrook Fields Country Park and screening planting adjacent to recent residential and commercial developments at the east of the Site. None of the grassland at the Site corresponds to a HPI under the NERC Act 2006, such as Lowlands Meadow, which includes unimproved neutral grasslands of certain NVC communities (MG4, MG5 and MG8).

Although it occupies a large spatial area, the grassland within the Site is considered to be of low intrinsic and botanical value. None meets the definition of any HPI (Maddock, 2011). However, due to its large area, and its extensive areas of scattered scrub, the grassland does have some ecological value at the local level, particularly for bird species, and such areas also provide suitable habitat for reptiles (discussed below).

Poor Semi-improved Neutral Grassland

The 26.4 ha of grassland in the north of the Site contains a lower diversity of plant species and has the appearance of having been mown since the previous growing season (Photograph 3; TN 1). There is no evidence of grazing. From the dominance and lush growth of grasses it appears relatively fertile. Grasses present include perennial rye-grass *Lolium perenne*, cocksfoot, creeping bent, red fescue with occasional false oat-grass, Yorkshire fog and tufted hair-grass. Forbs present include common sorrel *Rumex acetosa*, common vetch, hogweed *Heracleum sphondylium* and occasional cow parsley *Anthriscus sylvestris*. The grassland does not meet the definition of any HPI (Maddock, 2011).

Scrub

Scattered scrub is present in much of the west of the Site (Photograph 5; TN 11), and in parts of the east. This contains hawthorn, blackthorn *Prunus spinosa*, cherry plum *Prunus cerasifera*, oak, and dog rose, with occasional dog rose *Rosa canina*; there are also areas of bramble. The scrub habitat at the Site does not meet the definition of any HPI (Maddock, 2011).

Semi-natural Broadleaved Woodland

There is an area of 0.42 ha of mature semi-natural broadleaved woodland (Cutfield Wood) in the west of the Site (Photograph 6; TN 10). From the current Ordnance Survey base map, this appears to have

grown upon the site of two former houses and their gardens. The woodland is dominated by ash *Fraxinus excelsior*. There is a sparse shrub layer of elder *Sambucus nigra* and hawthorn. The ground flora contains bluebell *Hyacinthoides non-scripta*, ground ivy *Glechoma hederacea*, common nettle *Urtica dioica*, primrose, snowdrop *Galanthus nivalis*, and lesser celandine *Ranunculus ficaria*. This woodland meets the definition of the HPI Lowland Mixed Deciduous Woodland (Maddock, 2011). Three trees here were noted to have some potential to support roosting bats. These are discussed under *Bats* below. The Ellenbrook stream was not considered to provide suitable habitat for white clawed crayfish.

The Woodland contains an area of brick rubble which appears to be the remains of buildings. This has no potential to support roosting bats. It also contains two damp areas which are assumed to be former ponds (Photograph 6).

Broadleaved Plantation Woodland

An area 2.18 ha of young planted oak woodland is present in several blocks in the east and west of the Site. (Photograph 4; TN 5). In the north east of the Site this is dominated by young pedunculate oak trees with hawthorn *Crataegus monogyna*, and bramble *Rubus fruticosus* agg.

An area of young woodland, dominated by self-sown or planted ash is present to the northeast of the mature woodland described above. The ground layer here remains grass dominated.

Several blocks of young planted tree and shrub species are present in the east of the Site. These contain blackthorn, hazel, beech *Fagus sylvatica*, ash, dogwood, grey poplar *Populus x canescens*, hawthorn, Japanese rose *Rosa rugosa* and goat willow *Salix caprea*. In most areas the ground under these woody plants is bare soil, and may be treated regularly with herbicide to prevent weed growth.

None of this plantation woodland meets the definition of any HPI (Maddock, 2011).

Running Water

The Ellenbrook stream emerges from a culvert in the northeast of the Site and flows south along much of the eastern boundary of the Site (Photograph 2; TN 3). A total of 0.51 km of the watercourse is within the Site; it is slow-flowing with grassy earth banks, and contains abundant marginal vegetation (including reedmace *Typha latifolia*, lesser pond sedge *Carex acutiformis*, yellow flag iris *Iris pseudacorus*, soft rush *Juncus effusus*, great willowherb *Epilobium hirsutum*, and lesser duckweed *Lemna minor*). The water was clear at the time of the survey. This stream does not have characteristics which fit the definition of any HPIs (Maddock, 2011).

Hedgerow

A length of 0.51 km of defunct overgrown species-rich hedgerow is present along the north and north west boundary of the Site (TN 7). This contains hawthorn, blackthorn, ash, holly and pedunculate oak. It contains a number of mature trees described below. The presence of five woody species, an adjacent road, a parallel hedge, and standard trees mean that it qualifies as ecologically "Important" under the meets the definition of the HPI Hedgerows (Maddock, 2011).

Mature Trees

Six mature trees (including pedunculate oak and ash; e.g. Photograph 4) are present along the northern and north-western boundaries of the Site (T1–T6). Further mature trees (ash and wild cherry *Prunus avium*; T7–T9) are present in the block of woodland in the west of the Site. The potential of these trees to support roosting bats is discussed under *Bats* below. Table 2 below gives brief descriptions of these trees.

Table 2. Mature trees identified during the field survey.

Tree Reference	Description
T1	Large mature oak. Light ivy cover.
T2	Dead mature oak in northeast corner of Site.
T3	Semi-mature oak.
T4	Mature ash with dense ivy.
T5	Dead oak.
T6	Mature oak.
T7	Dead cherry tree in ash woodland.
T8	Dead mature ash with abundant ivy.
T9	Dead mature ash with abundant ivy.

These trees do not represent HPIs, although the woodland containing trees T7–T9 does represent a HPI, as stated above.

The desk study returned information on 15 mature and veteran trees within 3 km of the Site centre, including oaks and hornbeams. Of these, two are present on or close to the northern boundary of the Site boundary. One of these apparently corresponds to tree T1 in Table 5. The next closest such tree is ca. 0.1 km east of the Site. The mature trees at or adjacent to The Site are associated with hedgerows or woodland; there is no Wood Pasture and Parkland HPI present at the Site (see also *Grassland* above).

Ponds

No ponds are present within the Site.

A total of 13 ponds are present within 250 m of the Site, shown on Figure 3. These ponds are described and discussed in terms of their suitability to support great crested newts under *Amphibians* below.

A further 9 ponds are present within 500 m of the Site. These include six gravel pits to the west of the Site beyond Pond 6, and three ponds to the south west of Home Covert and Round Wood LWS. The ordnance survey map and aerial photography indicates that these are surrounded by grassland, scrub and woodland habitats that are likely to provide suitable terrestrial habitat for great crested newts.

Hardstanding

A small area of hardstanding is present in the west of the site. This is being encroached by the surrounding grassland. Further areas of hardstanding are present in the form of a public footpath across the centre of the Site. The hardstanding at the Site has no ecological value.

3.4 Protected or Notable Species

Plants

Records of 55 species of plants, lichens and fungi were obtained from within 5 km of the Site centre from HERC. None of the records are from within the Site. Of these, bluebell *Hyacinthoides non-scripta,* is listed on Schedule 8 of the Wildlife and Countryside Act 1981 (as amended); this species is protected against sale only. This species is present in the semi-natural broadleaved woodland in the east of the site. There are three Species of Principal Importance in England under the NERC Act 2006 (SPIs, see Appendix 1): cornflower *Centaurea cyanus*, shepherd's needle *Scandix pecten-veneris* and annual knawel *Scleranthus annuus*, these are weeds of arable/disturbed ground; the Site does not provide suitable habitat for these species. The records include 18 species listed in the *Vascular Plant Red List for England* (Stroh *et al.* 2014). These species are listed in Table 3.

Table 3. Plant species (WCA Schedule 8, SPI and Red Data List species only) recorded within 5 km of the Site centre.

Common Name	Scientific Name	WCA 8	SPI	RDB
Stinking Chamomile	*Anthemis cotula*			Vulnerable
Cornflower	*Centaurea cyanus*		Y	
Good-King-Henry	*Chenopodium bonus-henricus*			Vulnerable
Meadow Saffron	*Colchicum autumnale*			Near Threatened
Galingale	*Cyperus longus*			Near Threatened
Maiden Pink	*Dianthus deltoides*			Near Threatened
Dwarf Spurge	*Euphorbia exigua*			Near Threatened
Common Cudweed	*Filago vulgaris*			Near Threatened
Petty Whin	*Genista anglica*			Near Threatened
Corn Marigold	*Glebionis segetum*			Vulnerable
Opposite-leaved Pondweed	*Groenlandia densa*			Vulnerable
Bluebell	*Hyacinthoides non-scripta*	Y		
Mousetail	*Myosurus minimus*			Vulnerable
Whorled Water-milfoil	*Myriophyllum verticillatum*			Vulnerable
Hoary Cinquefoil	*Potentilla argentea*			Near Threatened
Shepherd's-needle	*Scandix pecten-veneris*		Y	Critically Endangered
Annual Knawel	*Scleranthus annuus*		Y	Endangered
Corn Spurrey	*Spergula arvensis*			Vulnerable
Water-soldier	*Stratiotes aloides*			Near Threatened
Heath Dog-violet	*Viola canina*			Near Threatened

A further 11 plant species are Nationally Rare[2] or Nationally Notable[3], and 26 species are of conservation interest at the county level (Herts Extinct, Rare or Vulnerable; James, 2010). Apart from the Ellenbrook Stream, which could support some of the aquatic species, the habitats present at the site are not suitable for these species. The presence of these species at the Site would be likely to be valued at the Local level in an Environmental Impact Assessment.

Invertebrates

HERC provided five records of white-clawed crayfish *Austropotamobius pallipes* (from 1978–1998) were obtained from within 5 km of the Site centre. 2.6 km. This species is protected under the Wildlife and Countryside Act 1981 (as amended). The part of the Ellenbrook stream within the Site is slow flowing or standing water (indicated by the presence of duckweed and frogspawn) originating from acid soils, and does not provide suitable habitat for this species.

One record of Roman snail *Helix pomatia* (from 1997) was obtained from within 5 km of the Site centre, from Lemsford Springs Herts and Middlesex Wildlife Trust Reserve, ca. 2.7 km north east of the Site, which is a chalk spring. Roman snail is protected under the Wildlife and Countryside Act 1981 (as amended). Habitats suitable for this species include: "Grassland (usually not the shortest most heavily grazed grasslands), scrub and sometimes woodland on calcareous soils" (JNCC, 2007). Given that the soils at the Site are acid in nature, it is not considered to provide suitable habitat for this species.

[2] Nationally Rare species are present in 15 or fewer 10 km grid squares.
[3] Nationally Notable (also called Nationally Scarce) species are present in 16–100 10 km grid squares

A total of 33 records of 20 species of beetle (from 1921–2007) were obtained from within 5 km of the Site centre. These include stag beetle *Lucanus cervus* which is protected against sale only under the Wildlife and Countryside Act 1981 (as amended), is a SPI and is Nationally Notable B.

A further 18 species are Nationally Notable (of which 5 are Nationally Notable B[4]), and two are Near Threatened in the Red Data List. These are listed in Table 4.

Table 4. Beetle species (WCA Schedule 5, Nationally Notable and Nationally Scarce species only) recorded within 5 km of the Site centre.

Common Name	Scientific Name	WCA 5	SPI	RDB: Near Threatened	Nationally Notable (A/B)
A diving beetle	*Aquarius paludum*				B
A rove beetle	*Calodera riparia*				Y
A water scavenger	*Cercyon nigriceps*				B
A water scavenger	*Chaetarthria*				Y
A water scavenger	*Cryptopleurum*				Y
A water scavenger	*Enochrus*				Y
A water scavenger	*Helochares punctatus*				Y
Wheat Mud Beetle	*Helophorus nubilus*				Y
A water scavenger	*Helophorus dorsalis*				B
A water scavenger	*Hydrochus angustatus*				Y
A diving beetle	*Hydroporus*				Y
A diving beetle	*Hydroporus neglectus*				Y
A diving beetle	*Hygrotus nigrolineatus*				Y
An aquatic beetle	*Limnebius papposus*			Y	
Stag Beetle	*Lucanus cervus*	Y	Y		B
Smaller Noterus	*Noterus crassicornis*				Y
A water beetle	*Peltodytes caesus*				Y
Black-headed	*Pyrochroa coccinea*				B
A diving beetle	*Scarodytes halensis*				Y
A diving beetle	*Stictonectes lepidus*			Y	

One old (1947) record of a true bug, a water bug *Aquarius paludum* was obtained from within 5 km of the Site centre. This species is Nationally Notable. It could be potentially be present at the Site in the Eellenbrook Stream.

Assemblages of these beetle and bug species at the Site would be likely to be valued at the Local level in an Environmental Impact Assessment.

A total of 1,154 records of six species of butterflies (from 1970–2013) were obtained within 5 km of the Site centre. These include four SPIs: small heath *Coenonympha pamphilus*, white admiral *Limenitis*

[4] Where sufficient data is available, Nationally Notable species are subdivided into: Nationally Notable B: present in 31–100 10 km grid squares; and Nationally Notable A: present in 16–30 10 km grid squares.

camilla, grizzled skipper *Pyrgus malvae*, white letter hairstreak *Satyrium w-album*. Two further species are Near Threatened[5]: purple emperor *Apatura iris* and chalk hill blue *Polyommatus coridon*.

A total of 1042 records of 215 species of moths (from 1883–2007) were obtained within 5 km of the Site centre, including 58 SPIs and one Nationally Notable species. These species are listed in Table 5. A further 156 moth species are of conservation interest at the County level (Herts Extinct (i.e. old records), Rare, Vulnerable or Endemic; Plant, 2008).

Table 5. Moth species (WCA Schedule 8, SPI and Red Data Book species only) recorded within 5 km of the Site centre.

Common Name	Scientific Name	SPI	Nationally Notable
Grey Dagger	*Acronicta psi*	Y	
Knot Grass	*Acronicta rumicis*	Y	
Forester	*Adscita statices*	Y	
Flounced Chestnut	*Agrochola helvola*	Y	
Brown-spot Pinion	*Agrochola litura*	Y	
Beaded Chestnut	*Agrochola lychnidis*	Y	
Green-brindled Crescent	*Allophyes oxyacanthae*	Y	
Ear Moth	*Amphipoea oculea*	Y	
Mouse Moth	*Amphipyra tragopoginis*	Y	
White-spotted Sable	*Anania funebris*	Y	Y
Large Nutmeg	*Apamea anceps*	Y	
Dusky Brocade	*Apamea remissa*	Y	
Deep-brown Dart	*Aporophyla lutulenta*	Y	
Garden Tiger	*Arctia caja*	Y	
Sprawler	*Asteroscopus sphinx*	Y	
Centre-barred Sallow	*Atethmia centrago*	Y	
Dark Brocade	*Blepharita adusta*	Y	
Minor Shoulder-knot	*Brachylomia viminalis*	Y	
Mottled Rustic	*Caradrina morpheus*	Y	
Streak	*Chesias legatella*	Y	
Latticed Heath	*Chiasmia clathrata*	Y	
Goat Moth	*Cossus cossus*	Y	
False Mocha	*Cyclophora porata*	Y	
Small Square-spot	*Diarsia rubi*	Y	
Figure of Eight	*Diloba caeruleocephala*	Y	
Small Phoenix	*Ecliptopera silaceata*	Y	
September Thorn	*Ennomos erosaria*	Y	
Dusky Thorn	*Ennomos fuscantaria*	Y	
Spinach	*Eulithis mellinata*	Y	
Garden Dart	*Euxoa nigricans*	Y	
Double Dart	*Graphiphora augur*	Y	
Bordered Gothic	*Heliophobus reticulata*	Y	
Small Emerald	*Hemistola chrysoprasaria*	Y	
Ghost Moth	*Hepialus humuli*	Y	

[5] In Britain, this category includes species which occur in 15 or fewer 10 ×10 km grid squares but do not qualify as Critically Endangered, Endangered or Vulnerable.

Common Name	Scientific Name	SPI	Nationally Notable
Rustic	*Hoplodrina blanda*	Y	
Rosy Rustic	*Hydraecia micacea*	Y	
Brindled Beauty	*Lycia hirtaria*	Y	
V-moth	*Macaria wauaria*	Y	
Lackey	*Malacosoma neustria*	Y	
Dot Moth	*Melanchra persicariae*	Y	
Broom Moth	*Melanchra pisi*	Y	
Pretty Chalk Carpet	*Melanthia procellata*	Y	
Rosy Minor	*Mesoligia literosa*	Y	
Shoulder-striped Wainscot	*Mythimna comma*	Y	
Powdered Quaker	*Orthosia gracilis*	Y	
Dark Spinach	*Pelurga comitata*	Y	
Large Wainscot	*Rhizedra lutosa*	Y	
Mullein Wave	*Scopula marginepunctata*	Y	
Shaded Broad-bar	*Scotopteryx chenopodiata*	Y	
White Ermine	*Spilosoma lubricipeda*	Y	
Buff Ermine	*Spilosoma luteum*	Y	
Feathered Gothic	*Tholera decimalis*	Y	
Blood-Vein	*Timandra comae*	Y	
Cinnabar	*Tyria jacobaeae*	Y	
Oak Hook-tip	*Watsonalla binaria*	Y	
Dusky-lemon Sallow	*Xanthia gilvago*	Y	
Sallow	*Xanthia icteritia*	Y	
Dark-barred Twin-spot Carpet	*Xanthorhoe ferrugata*	Y	

Assemblages these butterfly and moth species at the Site would be likely to be valued at the Local level in an Environmental Impact Assessment.

Great crested newts and other amphibians

HERC provided a total of 89 records of great crested newts *Triturus cristatus* within 5 km of the Site centre (from 1977); none of which are from within the Site. The closest are three records (from 2008) from a pond ca. 340 m north of the Site. The next closest record is from ca. 1.5 km southwest of the Site (from 1997).

A survey carried out in 2010 (Cresswell Associates, 2010) found this species to be present in four ponds in the vicinity of the site, including pond P7 on the boundary of the Site, three ponds ca. 200–400 m to the west of the Site, and a pond ca. 600m south of the Site. The population was assessed to be of medium size, with some potential for connectivity with a potential larger population in gravel pits to the west of the Site.

Descriptions of the 13 ponds within 250m of the Site are included in Table 6.

Table 6. Ponds within 250 m of the Site.

Pond Reference	Description	Approximate Distance and Direction from

		Site
P1–P4	Series of four rectangular ponds on edge of arable field. Surrounded by semi-mature alder and goat willow. Little marginal vegetation present, presumably due to heavy shade. Some reedmace *Typha latifolia* and a sedge *Carex* sp. present. See Photograph 7.	10 m, W
P5	Lake within woodland at Home Covert. Margins contain reedmace *Typha latifolia*, yellow flag iris *Iris pseudacorus* and a sedge *Carex* sp. See Photograph 8.	31 m, W
P6	Large lake (flooded gravel pit). With steep sides. Water not accessible. Some areas of marginal plants, including reedmace *Typha aquatica* and common reed *Phragmites australis*. See Photograph 9.	93 m, W
P7	Steep-sided narrow pond to the south of Home Covert with stony margins and little marginal vegetation. Adjacent ash *Fraxinus excelsior* and goat willow *Salix caprea* scrub. See Photograph 10.	0 m, W (on Site boundary)
P8–P12	Cluster of five large landscaped ponds associated with the adjacent business park and residential area.	See below
P8	The southernmost pond has limited marginal vegetation (e.g. occasional curled dock *Rumex crispus* and reedmace *Typha latifolia*), and a dense strandline of dead vegetation and plastic litter over black mud. The water is a black colour. This pond appears to be fed by drainage from adjacent developed land and may be polluted. It appears to have a fluctuating water level. See Photograph 11.	65 m, E
P9–12	A series of four landscaped ponds having abundant marginal vegetation dominated by beds of common reed *Phragmites australis*, with some reedmace *Typha aquatica* and lesser pond sedge *Carex acutiformis*, and occasional yellow flag iris *Iris pseudacorus*. See Photograph 13. Abundant surrounding willow scrub (*Salix caprea* and *Salix fragilis*).	30–70 m, E
P13	Pond shown on Ordnance Survey base map at Astwick Manor, labelled as a moat. Not accessed during survey.	60 m NW

The suitability of the 12 accessible ponds within 250 m of the Site to support great crested newts was determined using the HSI approach. The outcome of the HSI assessment is shown in Table 7. Four ponds (P6, P9, P11, P12) have *excellent*, two ponds (P5, P8) have *good*, five ponds (P1, P2, P3, P4, P7) have *average* and one pond (P10) has *below average* suitability for great crested newts.

Table 7. Results of great crested newt habitat suitability assessment.

Pond Number	P1	P2	P3	P4	P5	P6	P7	P8	P9	P10	P11	P12
1. Location	1	1	1	1	1	1	1	1	1	1	1	1
2. Pond area	0.6	0.6	0.5	0.4	>20	>20	0.18	0.97	0.87	>20	>20	0.95
3. Pond drying	0.9	0.9	0.9	0.9	0.9	0.9	0.5	0.9	0.9	0.9	0.9	0.9
4. Water quality	0.67	0.67	0.67	0.67	0.67	0.67	0.67	0.67	0.67	0.01	0.67	0.67
5. Shade	0.2	0.2	0.2	0.2	1	1	1	1	0.8	0.8	0.8	1
6. Fowl	1	1	1	1	0.67	1	1	1	0.67	0.67	0.67	1

7. Fish	0.67	0.67	0.67	0.67	0.67	1	1	1	1	1	1	1
8. Ponds	1	1	1	1	1	1	1	0.85	0.85	0.85	0.85	1
9. Terrestrial	0.67	0.67	0.67	0.67	1	1	0.67	0.67	0.67	0.67	0.67	1
10. Macrophytes	0.3	0.3	0.3	0.3	0.4	0.6	0.4	0.3	0.7	0.7	0.7	0.9
HSI Score	**0.63**	**0.63**	**0.62**	**0.60**	**0.78**	**0.89**	**0.66**	**0.79**	**0.80**	**0.54**	**0.81**	**0.94**
Suitability class[1]	**a**	**a**	**a**	**a**	**g**	**e**	**a**	**g**	**e**	**ba**	**e**	**e**
[1] Suitability classes: e: excellent; g: good; a: average; ba: below average.												

Given the presence of ponds with suitability for great crested newts in the vicinity of the Site, the presence of suitable terrestrial habitat, and the presence of great crested newt records from the search area, including from a pond on the south west boundary of the Site (from 2010), the Site has potential to support great crested newts and other amphibians. These species may breed within the ponds outside the Site and may forage or hibernate within hedges, ditches, woodland, semi-improved neutral grassland and scrub present within the Site. As a European Protected Species, great crested newt is fully protected in the UK. It is also a SPI.

A total of 16 records of common toad *Bufo bufo* were obtained from within 5 km of the Site centre (from 1983 to 2004), none of which are from within the Site. The closest are six records (from 1986) from Furzefield Wood, ca. 500 m north of the Site.

During the field survey, three adult common toads were found on the western boundary of the site, close to ponds P1–P4. This species is a SPI. Abundant spawn of common frog *Rana temporaria* was present in the Ellenbrook stream in the east of the Site. Both common frog and common toad are protected against sale only under the Wildlife and Countryside Act 1981 (as amended).

Reptiles

HERC provided eight records of slow worm *Aguis fragilis* (1997–2010) from within 5 km of the Site centre; none are from within the Site. The closest are two from south Hatfield, ca. 1.9 km southeast of the Site (1999).

HERC provided seven records of common lizard *Zootoca vivipara* (1988–2005) from within 5 km of the Site centre; none are from within the Site. The closest is a record from Smallford, ca.1.9 km south west of the Site (1986).

HERC provided 24 records of grass snake *Natrix natrix* (1976–2004) from within 5 km of the Site centre; none are from within the Site. The closest are three records from Smallford, ca.1.6 km south west of the Site (1986–2000).

The woodland edge, scrub and Ellenbrook stream (and associated unmown grassland) provides suitable habitats for reptiles at the Site. A survey carried out in 2010 found no evidence of reptiles at the site, despite previous evidence of a small population of slow-worm being present (Cresswell Associates 2010) and grass snake being recorded within the airfield grassland (Cresswell Associates 1999). All reptiles native to England are protected from intentional killing or injury under the Wildlife and Countryside Act 1981 (as amended) and are SPIs.

Fish

Five records of bullhead *Cottus gobio* (1979–1997) and two records of brown trout *Salmo trutta* were obtained from within 5 km of the Site centre from HERC, all from the River Lea, ca. 2.7 km north east of the Site. Bullhead is listed on Annex II of the Habitats Directive, and brown trout is a SPI. The Ellenbrook stream within and adjacent to the site is slow-flowing and does not provide habitat suitable for these species.

Birds

A total of 21,815 records of birds were obtained from HERC from within 5 km of the Site centre. These records include 36 species included on Schedule 1 of the Wildlife and Countryside Act 1981 (as amended) and 21 SPIs. A list of these species is included in Table 8.

Table 8. Bird species (WCA Schedule 1 and SPIs only) recorded within 5 km of the Site centre.

Common Name	Scientific Name	WCA 1	SPI
Lesser Redpoll	*Acanthis cabaret*		Y
Goshawk	*Accipiter gentilis*	Y	
Skylark	*Alauda arvensis*		Y
Kingfisher	*Alcedo atthis*	Y	
Pintail	*Anas acuta*	Y	
Greylag Goose	*Anser anser*	Y	
Tree Pipit	*Anthus trivialis*		Y
Bittern	*Botaurus stellaris*	Y	Y
Goldeneye	*Bucephala clangula*	Y	
Ruff	*Calidris pugnax*	Y	
Cetti's Warbler	*Cettia cetti*	Y	
Little Ringed Plover	*Charadrius dubius*	Y	
Black Tern	*Chlidonias niger*	Y	
Hawfinch	*Coccothraustes coccothraustes*		Y
Quail	*Coturnix coturnix*	Y	
Cuckoo	*Cuculus canorus*		Y
Bewick's Swan	*Cygnus columbianus*	Y	
Whooper Swan	*Cygnus cygnus*	Y	
Yellowhammer	*Emberiza citrinella*		Y
Reed Bunting	*Emberiza schoeniclus*		Y
Merlin	*Falco columbarius*	Y	
Peregrine	*Falco peregrinus*	Y	
Hobby	*Falco subbuteo*	Y	
Brambling	*Fringilla montifringilla*	Y	
Little Gull	*Hydrocoloeus minutus*	Y	
Mediterranean Gull	*Larus melanocephalus*	Y	
Linnet	*Linaria cannabina*		Y
Black-tailed Godwit	*Limosa limosa*	Y	
Grasshopper Warbler	*Locustella naevia*		Y
Common Crossbill	*Loxia curvirostra*	Y	
Red Kite	*Milvus milvus*	Y	
Yellow wagtail	*Motacilla flava*		Y
Spotted Flycatcher	*Muscicapa striata*		Y
Curlew	*Numenius arquata*		Y
Whimbrel	*Numenius phaeopus*	Y	
Osprey	*Pandion haliaetus*	Y	
Bearded Tit	*Panurus biarmicus*	Y	

Common Name	Scientific Name	WCA 1	SPI
House Sparrow	*Passer domesticus*		Y
Tree Sparrow	*Passer montanus*		Y
Grey Partridge	*Perdix perdix*		Y
Black Redstart	*Phoenicurus ochruros*	Y	
Black-necked Grebe	*Podiceps nigricollis*	Y	
Spotted Crake	*Porzana porzana*	Y	
Dunnock	*Prunella modularis*		Y
Bullfinch	*Pyrrhula pyrrhula*		Y
Avocet	*Recurvirostra avosetta*	Y	
Firecrest	*Regulus ignicapilla*	Y	
Turtle Dove	*Streptopelia turtur*		Y
Wood Sandpiper	*Tringa glareola*	Y	
Green Sandpiper	*Tringa ochropus*	Y	
Redwing	*Turdus iliacus*	Y	
Fieldfare	*Turdus pilaris*	Y	
Song Thrush	*Turdus philomelos*		Y
Ring Ouzel	*Turdus torquatus*		Y
Barn Owl	*Tyto alba*	Y	
Hoopoe	*Upupa epops*	Y	
Lapwing	*Vanellus vanellus*		Y

The Site and immediately adjacent areas do not provide suitable habitat for any of the Schedule 1 species except red kite *Milvus muilvus* and barn owl *Tyto alba*. Red kite could breed in woodland at the west of the Site. However, no signs of nests of this species were seen during the survey. Barn owl was recorded hunting in grassland at the Site in surveys carried out in 2010 (Cresswell Associates, 2010), and was recorded as nesting in Home Covert and Round Wood LWS and roosting in a derelict radar building in the south of the Site (Cresswell Associates 2010).

From the habitats present, the Site is likely to provide nesting and foraging habitat for a range of bird species of woodland, scrub and open grassland, including SPIs such as song thrush, meadow pipit dunnock *Prunella modularis* yellowhammer *Emberiza citrinella* and linnet *Linaria cannabina*. Skylark, also a SPI, was found to be abundant at the Site during the Phase 1 habitat survey and was also recorded on the Site in 2010 (Cresswell Associates 2010). The semi-improved neutral grassland and species-poor semi-improved neutral grassland at the Site provide suitable nesting habitat for this species, and it is considered likely to breed within the Site.

The Site provides suitable habitat for several further bird species included on the Red and Amber lists in *Birds of Conservation Concern*, including (red listed): starling *Sturnus vulgaris* and (amber listed): green woodpecker *Picus viridis*, house martin *Delichon urbicum*, kestrel *Falco tinnunculus*, meadow pipit, swallow *Hirundo rustica* and swift *Apus apus*.

All nesting birds are protected from disturbance, killing and injury under the Wildlife and Countryside Act 1981 (as amended).

Bats

HERC provided a total of 205 records of bats within 5 km of the Site centre (from 1976 to 2014). The majority of these records are specified to only 4 figure grid references (i.e. to 1 km squares). There are

19 records of unidentified bat species (1992–2009), of which four are records of bat roosts, the closest being ca. 2.9 km north east of the Site (1 bat).

Of the records received, there are 93 records of common pipistrelle *Pipistrellus pipistrellus* (1985–2014), of which 20 are for roosting bats, and five are for nursery colonies. The closest nursery colony is located ca. 2.2 km south west of the site, containing ca. 200 bats. There are two records of soprano pipistrelle *Pipistrellus pygmaeus* (1998–2001), of which one is recorded as a possible roost (1 bat recorded), located in the vicinity of Brocket Park, ca. 2.5 km north of the Site. There are five records of unidentified pipistrelles *Pipistrellus* sp. (2002–2006), all of which are records of roosts; the closest is from ca. 1.7 km east of the Site (number of bats not specified).

There are nine records of Daubenton's bat *Myotis daubentonii* (1987–2000) and one record of whiskered bat *M. mystacinus* (1998), none of which are for roosts. There are five records of Natterer's bat *M. nattterii* (1985–2006), of which three are for roosting bats (2 km south, 3.8 km north west and 4.8 km north east of the Site; one bat recorded in each location). There are two records of unidentified *Myotis* species (1997–2003), neither of which were recorded as roosts.

There are 46 records of brown long-eared bat *Plecotus auritus* (1984–2014), of which 21 are for roosting bats and five are for nursery colonies. Of the nursery colonies, four are ca. 3 km distant form the Site and one is located within 1 km of the Site, containing 16 roosting bats). This species in known to forage in woodland, and individuals from this roost could forage within the Site. There is also one record of an unidentified *Plecotus* species (not a roost) form the search area.

There are four records of serotine *Eptesicus serotinus* (1985–2008), of which one is a record of a bat roost, located 3.8 km east of the Site (roost size not specified). There are five records of Leisler's bat *Nyctalus leisleri* (1987–1994), of which two are for roosting bats, both ca. 3.9 km east of the Site. There are 13 records of noctule *Nyctalus noctula* (1985–2003), of which one is recorded as a roost (located within 1 km of the site), and one as a possible roost (3.3 km north of the Site).

The above records provided by HERC indicate that nine species of bats are present in the local area of the Site. The Site provide habitat suitable for foraging bats, particularly woodland, woodland edge, scrub and the Ellenbrook Stream. The presence of known roosts for pipistrelle, soprano pipistrelle, Natterer's bat, brown long-eared bat, Leisler's bat, serotine and noctule within the search areas suggest that these species are likely to forage at the Site. The strips of scrub along the east and west boundaries, and the Ellenbrook stream provide potential commuting routes, although habitats along the eastern boundary of the Site do not connect to suitable habitats at the south.

There is limited potential for bats to roost within the Site. Of the six mature trees present on the northern/north-western boundary of the Site, five have some potential to support roosting bats (T1, T2, T4, T5, T6). Tree T3 has no potential to support roosting bats. Of the trees present in the mature woodland in the west of the Site, three have some potential to support roosting bats (T7–T9). The mature trees are described in Table 9. A dead ash tree with some potential to support was roosting bats was noted during the 2007 survey, on the boundary of the site between Home Covert and Round Wood LWS and the small area of mature woodland to the north east of this (Cresswell Associates, 2008). This tree was not found during the 2015 survey and may no longer be present. Several disused buildings with some potential to support roosting bats were noted within Home Covert and Round Wood LWS. These are outside the Site boundary. A further disused building in the south of the Site was found to provide suitable habitat for roosting bats in 2008 (Cresswell Associates, 2008). This building was not found in the 2015 survey, and is thought no longer to be present.

Table 9. Mature trees identified during the field survey.

Tree Reference	Description
T1	Large mature oak. Light ivy cover.

T2	Dead mature oak in northeast corner of Site.
T3	Semi-mature oak.
T4	Mature ash with dense ivy.
T5	Dead oak.
T6	Mature oak.
T7	Dead cherry tree in ash woodland.
T8	Dead mature ash with abundant ivy.
T9	Dead mature ash with abundant ivy.

Dormouse

Three records of dormouse were obtained from within 5 km of the Site centre. Of these, two were old records (1975, 1985) from ca. 2.5 km north and ca. 0.8 km southeast of the Site. The only recent record is from Sherrardspark Wood in Welyn Garden City (4 km north east of the Site beyond the A1(M) motorway.

The scrub, woodland and hedgerow at the Site provide suitable habitat for this species, and there is relatively good connectivity to other suitable habitats (principally mature woodland) in the vicinity of the Site.

Otter and Water Vole

A total of five records of otter *Lutra lutra* were obtained from within 5 km of the Site centre (1967–2005). The closest (from 2000) is from the River Lea, north of Hatfield, ca. 2.3 km north east of the Site. From OS mapping, this appears unconnected to Ellenbrook stream.

There are 44 records of water vole *Arvicola amphibius* (1974–2007), the closest is also from the River Lea, ca. 2.3 km north east of the Site.

The Ellenbrook stream within the Site has potential to support water vole, and could provide an occasional foraging area or commuting route for otter. No evidence of these species was found during a water vole survey carried out in 2010 (Cresswell Associates 2010) or during the 2015 habitat survey. These species are protected under the Wildlife and Countryside Act 1981 (as amended), and are SPIs, and otter is a European protected species (see Appendix 1).

Badgers

A total of 123 records of badgers were obtained from HERC from within 5 km of the Site centre (from 1981 to 2014), none of which are from within the Site. The closest are six records from within 100 m of the west of the Site (all from 2003) indicating the presence of two setts. There is a further record of an active badger sett in Home Covert, within 100m west of the Site. There were no further records of badgers from within 1 km of the Site.

No signs of badgers were recorded within the Site during the field survey (there were extensive signs of fox and deer).

Other Notable Mammals

A total of 14 records of brown hare *Lepus europaeus* (1985–2013) were obtained from within 5 km of the Site centre from HERC. Of the two records for which detailed location information was available, one (from 2013) was from within the Site (towards the centre) and one was from ca. 1.6 km northeast of the Site.

Nine old records of harvest mouse *Micromys minutus* were obtained from HERC for within 5 km of the Site centre (1974–1985), of these, one is from within the Site (in the centre west) and the next closest

is from ca. 2 km north west of the Site. The areas of longer grassland around the scattered scrub at the east and west of the Site provide habitat suitable for this species.

A total of 22 records of hedgehog were obtained from HERC for within 5 km of the Site centre (1985-1987). The grassland, woodland and scrub habitats at the Site provide habitat suitable for this species.

4.0 Potential Ecological Constraints and Opportunities

Key ecological constraints and opportunities for development at the Site are shown on Figure 4 which should be reviewed in conjunction with the text below.

Measures for biodiversity, including those to ensure that wildlife is able to continue to move through, and use the Site, should be incorporated into development proposals and opportunities for this have been identified below.

The delivery of any necessary ecological mitigation (as outlined below) during the construction phase should be co-ordinated through the implementation of a Construction Environmental Management Plan (CEMP). The CEMP would comprise a series of method statements to ensure that impacts on sensitive receptors are minimised during construction and compliance with nature conservation legislation.

The opportunities for habitat creation and enhancement identified below should be delivered through a Landscape and Ecological Management Plan (LEMP). This would include measures to ensure that the future value of the site for wildlife is maximised and mitigation and enhancement measures successful. The LEMP would consider all protected species, retained habitats, the potential for new habitats and the nature conservation aims. The LEMP would also consider other objectives of green infrastructure within the site to ensure that an integrated approach to future management of these spaces is achieved.

Specific constraints and opportunities which would be addressed through the above broad mechanisms, are outlined below. Detailed measures should be informed by the results of the recommended further surveys should proposals progress.

4.1 Designated Sites

No significant adverse impacts on Natura 2000 sites, internationally designated or nationally designated wildlife sites are anticipated to arise from the proposed development, since no such sites are in close proximity to the Site. (The closest Natura 2000/international site, SSSI and LNR are 10.6 km, 4.1 km and 2.1 km distant, respectively).

There is potential for impacts (primarily through increased visitor pressure, visual and noise disturbance and wood removal) on Home Covert and Round Wood LWS which is adjacent to the west of the Site. Such impacts could result in reduced species diversity in the ground flora of these woodland sites, and reduced habitat value for animal species including bats and reptiles and saproxylic invertebrates. However if appropriately managed, with the retention of suitable quantities of large diameter deadwood within the woodland, coppicing may have the potential to improve the habitat value of some areas of this woodland.

The retention of areas of scrub or planted woodland around the mature woodland in the west of the Site, and adjacent to Home Covert and Round Wood LWS would serve to buffer the effects of the development on the habitat value of these woodlands (for example by limiting light pollution, noise pollution, disturbance from vehicles and pedestrians, predation by domestic cats and changes in hydrology). There is an existing public right of way through this site. Any new public rights of way should be provided away from the LWS site and other mature woodland in the west of the Site.

4.2 Habitats

Development at the Site could result in the loss of Lowland Mixed Deciduous Woodland (at the west of the Site) and Hedgerow (at the north and north west of the Site). These are both HPIs. Their location is shown on the Ecological Constraints and Opportunities Plan Figure 4.

The mature woodland qualifies as Lowland Mixed Deciduous Woodland, a HPI (see Appendix 1). It supports mature trees and a well-developed ground flora and could not realistically be translocated or

re-created on a like-for-like basis. Paragraph 109 of the National Planning Policy Framework (NPPF) states that the planning system should contribute to and enhance the natural and local environment by minimising impacts on biodiversity and by providing net gains in biodiversity, including by establishing coherent ecological networks. It is therefore recommended that this relatively small area of woodland on the boundary of the Site is retained as part of an ecological network that includes a green corridor along the western boundary of the Site.

The hedgerow on the north and north west boundary of the Site is Important under the hedgerow regulations and is a HPI. The retention of this boundary hedgerow is recommended.

Without any ecology mitigation, development at the Site could also result in the loss of semi-improved neutral grassland, poor semi-improved neutral grassland, scattered scrub within the grassland, running water, mature trees and hardstanding. Of these further habitats, although none are HPIs, the Ellenbrook stream and associated strip of relatively species-rich (presumably recently planted) grassland in the east of the Site and the scattered scrub around the east, north and west of the Site are of greatest ecological value are likely to provide habitats valued at the Local level.

The Ellenbrook stream provides a valuable area of wetland and marginal habitat and supports amphibians such as common frogs. The Ellenbrook stream, associated species-rich grassland, and scattered scrub is of relatively recent origin and could be recreated over the short to medium term (e.g. 5-15 years). However, this scrub vegetation, watercourse and grassland, which is associated with the series of ponds outside the Site boundary, provide a good opportunity for a corridor of green infrastructure along the eastern boundary of the Site, which would also provide screening between the new development and the existing commercial development to the east of the Site. The relatively species-rich grassland surrounding the Ellenbrook Stream could be retained as part of the eastern green corridor.

As set out in the Landscape and Energy Strategy, the coppice management of on-site and off-site woodland will also provide biodiversity benefit and help to achieve the objectives for ancient woodland within the Hertfordshire Biodiversity Action Plan. The coppice management plan will ensure that the amount of standing or fallen dead wood in these woodlands, a habitat which is of value for invertebrates, will not decrease as a result of such management.

4.3 Protected or Notable Species

Invertebrates

From the desk study, a number of nationally notable or nationally scarce aquatic beetle species were found to be present in the area. Given the lack of ponds within the Site, the potential for the proposed development to have impacts on these species is limited. If the Ellen Brook remains unaffected by the development, there will be no such impacts. Stag beetle is also known to be present within the area. If the mature trees on the north and northwest boundaries of the Site and the mature woodland at the west of the Site are retained within the development, no impacts on his species are anticipated. No other significant impacts on invertebrates are anticipated form the development and they are not considered to be a constraint to development.

The provision of new ponds at the Site would enable the proposed development to provide a net gain in aquatic habitat suitable for invertebrates and amphibians as enhancement. The provision of additional dead wood habitat within woodland at the Site and the retention of some cut wood within woodland areas in the future management of vegetation at the Site, has the potential to provide a net gain in habitat for wood-feeding beetles such as stag beetle at the Site.

Plants

The proposed development is not anticipated to have any impacts on plant species of conservation importance. The mature semi-natural broadleaved woodland at the west of the Site, which represents

a HPI and supports a well-developed woodland ground flora, including bluebell, represents an ecological constraint, and it is recommended that this habitat is retained in the development. The addition of buffering areas of planted woodland adjacent to this semi-natural woodland provide an opportunity to increase its habitat value and prevent or reduce disturbance from the development.

Amphibians

If great crested newts are present within ponds in the vicinity of the Site, development at the Site has the potential to cause the loss of terrestrial habitat for this species, and to cause the killing or injury of, or disturbance to individual animals (all of these actions are offences). Also newts could use the network of scrub woodland and hedgerow at the Site for dispersal. This species typically moves up to 250 m from breeding ponds in the terrestrial phase, and in some cases up to 500 m depending upon the distribution of suitable terrestrial habitat (English Nature, 2001).

Although no ponds are present within the Site, thirteen ponds are present within 250 m of the Site. One of these one has *below average* suitability for great crested newts, and the others all have *average* to *excellent* suitability. It is therefore recommended that these ponds are surveyed for this species. There are a further six ponds within 500 m of the site. These form a cluster of gravel or silt pits to the west of the Site. Due to the quantity of suitable terrestrial habitat associated with these, it is unlikely to be necessary to extend the survey beyond 250 m from the Site.

The presence or absence of great crested newts at the Site cannot be determined without targeted survey. However given the surveys undertaken in 2010 (Cresswell Associates, 2010), it is highly probable that great crested newts use terrestrial habitat in the west of the Site. In order to determine whether this species is present or absent at a site, four survey visits are carried out between mid-March and mid-June, with at least two visits between mid-April and mid-May. Should this species be found, a further two visits (carried out between mid-March and mid-June, with one visit between mid-April and mid-May) would be necessary to assess population size (which would be necessary in order to assess development impacts). Alternatively, to assess presence or absence only, environmental DNA (eDNA) can be sampled from ponds in the period May to June. For example, this method could be used to rule out impacts on great crested newts from all or part of the scheme, if it shows them to be absent from ponds within 250 m of the Site. If great crested newts are present close to the Site, appropriate mitigation would likely involve the provision of compensatory terrestrial habitat and licenced exclusion and capture of animals from areas of suitable habitat to be disturbed or lost that are within 250 m of known breeding ponds. In the first instance, development proposals should aim to retain suitable terrestrial habitat within 50m of any ponds used by great crested newts.

The Constraints and Opportunities Plan (Figure 4) shows areas that may be enhanced to strengthen ecological networks across the Site. Several areas are identified on this plan where habitat suitable terrestrial habitat for great crested newts could be enhanced as part of a capture and release programme, should the need arise.

Reptiles

The woodland edge, scattered scrub, Ellen Brook and associated unmown grassland at the Site provides suitable habitat for reptile species such as grass snake, slow-worm and common lizard. The retention of areas of scattered scrub adjacent grassland in proposed green corridors at the east and west of the Site, and the retention of the Ellen Brook and its associated grassland would maintain habitats suitable for these species at the Site.

In order to determine likely presence / absence and distribution of reptiles at the site, and to estimate their population sizes (if present), a targeted survey for reptiles is recommended. Standard guidelines (Froglife, 1999) suggest that such a survey should involve the deployment of artificial reptile shelters at a density of 10 per ha in suitable habitats, and seven visits at suitable times of year (April, May and September being optimal). Suitable habitats present at the Site include the areas of semi-improved

neutral grassland and scrub in the centre-south and the northeast, and woodland and hedgerow margins.

Once the presence and approximate population size of reptiles at the Site is known, an appropriate approach to mitigation can be developed to avoid the killing or injury of reptiles, and ensure that development of the Site does not have an adverse effect on the local conservation status of reptiles. If small numbers are present and likely to be affected by development, a precautionary approach could be adopted. This would involve any vegetation clearance works, or any earth works affecting hedges, ditches, pond or scrub taking place outside the hibernation period (i.e., outside the period October to April inclusive). Alternatively, if greater numbers of reptiles are present, and likely to be affected by development, it may be necessary to compensate habitat loss through (for example) the enhancement, extension and conservation management of areas of retained grassland at the Site.

The Constraints and Opportunities Plan (Figure 4) shows areas that may be enhanced to strengthen ecological networks across the Site, and areas currently providing the most suitable habitat at the Site for reptiles which should be avoided if possible. Areas within the proposed green infrastructure corridors at the east and west of the Site could be enhanced as part of a capture and release programme for reptiles at the Site, should the need arise.

Bats

The Site has limited opportunities to support roosting bats. They could also be present in mature trees within the woodland in the west of the Site and in mature trees along the northern and eastern boundaries of the Site. If this area of woodland and these trees are retained then there will be no direct impacts on roosting bats from the development. If a green corridor is retained/created along the western boundary, and in the northwest corner of the Site, then indirect impacts on any bat roosts (such as light pollution) will be minimal. A disused building in the south of the Site was found to provide suitable habitat for roosting bats in 2008 (Cresswell Associates, 2008). This building was not found in the 2015 survey, and is thought no longer to be present.

In order to avoid the killing and injury of individual bats, and the destruction of bat roosts (all of which are offences), further inspections of mature trees and any buildings present at the site will be necessary if there is potential for any of these features to be directly affected by development at the Site. This bat roost assessment would classify trees at the Site as having high, medium, low or negligible potential to support roosting bats. Thereafter, for any trees that must be removed or pruned, any having medium or high potential to support roosting bats should be subject to further surveys to determine whether bat roosts are present (i.e., aerial inspections and/or emergence/re-entry surveys). Any tree containing a confirmed bat roost can only be felled under a European Protected Species Mitigation licence, which would likely require soft felling under watching brief by a licenced bat worker and appropriate mitigation (i.e. the provision of an alternative artificial roost).

Development at the Site has the potential to cause the loss of bat foraging habitat and commuting routes, and, through the felling of trees, to cause the killing or injury of, or disturbance to bats, or damage to or the destruction of bat roosts. These constitute offences under national and European legislation.

In order to determine the extent to which habitats at the Site provide important foraging areas or commuting routes for bats, and to inform appropriate mitigation, a bat activity survey should be undertaken to identify any features of particular importance for foraging and commuting bats on site and identify the assemblage of species using the site in order to inform the development proposals in accordance with best practice (Hundt, 2012). The level of survey effort that would be appropriate would depend on the extent of the development. For example, for a development site 15 ha in extent such as this one, current standard guidance suggests that one survey visit per month (April to September/October) with additional automated surveys at two locations per transect would be an appropriate level of survey effort (Hundt, 2012).

Should bats utilize the woodland at the west side and the scrub at the east and the west sides of the Site for foraging or commuting (which is considered likely at this stage), the direct (e.g. removal) and indirect impacts (e.g. lighting) on these features would need to be considered in detail, and would likely necessitate mitigation in the form of retained dark habitat corridors and/or feeding areas. Figure 4 shows how existing wildlife corridors at the Site may be strengthened to provide robust ecological networks connections between key ecological resources (e.g. on the west of the Site: woodland at Home Covert and Round Wood LNR, woodland in the west of the site, hedgerows to the north of the Site and woodland to the north of the Site at Furzfield Wood LWS; at the east of the Site: ponds east of the Site, the Ellen Brook, screening trees on the eastern boundary of the Site and hedgerows north of the Site).

Dormouse

Development at the Site has the potential to cause the killing or injury of, or disturbance to dormouse, and the destruction of its habitat. These are offences under national and European legislation. A survey (over a maximum of six months in the period April to November) is considered necessary to determine whether this species is present (Bright *et al.*, 2006). If dormouse is found to be present within scrub, woodland or hedgerow at the Site, disturbance to or clearance of these habitats may need to take place under European Protected Species Mitigation licence, with appropriate mitigation in place. Such mitigation would likely involve constraints on time of year of clearance to avoid the hibernation season (which is November to March inclusive), the presence of a licenced ecologist during such works, and provision of compensation habitat for hedgerow, woodland and scrub losses.

Increasing the density of woodland and scrub through planting of a range of native fruit and seed-bearing shrubs in the proposed green corridors at the east and west of the Site could increase the value of the Site for this species. However these habitats are only likely to be colonised if this species is already present on or in the vicinity of the Site.

Otter and Water Vole

Development at the Site has the potential to remove or affect habitat (the Ellen Brook) suitable for water vole and for occasional use by otter.

There is potential for disturbance, killing or injury of water voles during construction, which are all offences under the Wildlife and Countryside Act 1981 (as amended).

There is also potential to affect habitat suitable for occasional foraging and dispersal by otter. Otters and their places of rest and shelter are protected under the Conservation of Habitats and Species Regulations 2010 (as amended) and the Wildlife and Countryside Act 1981 (as amended).

A water vole and otter survey is recommended (during the period April to September) to determine whether these species are present on the Ellen Brook. The avoidance of works close to the stream, and the retention of green corridors of habitat adjacent to the banks should avoid direct impacts on these two species.

Creation of new attenuation features close to the Ellen Brook as part of development, would provide an opportunity to enhance the habitat resource available for these species.

Badgers

Due to the absence of badger setts within the Site, and the lack of evidence of badger activity within the Site, the effect of the proposed development on badgers is likely to be limited and badgers are not currently considered to be a constraint to development of the Site. The development is not likely to cause offices under the Protection of Badger Act 1992. Since there are badger setts within 100 m of the west of the Site, the loss of grassland and scrub habitats could cause a reduction in foraging habitat for this species. However, there are extensive areas of woodland and grassland to the west of

the Site which will continue to provide habitat suitable for this species. The construction of new access roads at the Site could cause some additional badger fatalities through collisions within vehicles, however, the majority of roads at the Site are likely to have low average speeds, and the likely impacts on local badger populations is considered to be minimal. It should be noted that badgers may excavate new setts and an update survey should be undertaken prior to commencement of any development.

Other Notable Mammals

Development at the Site has the potential to remove habitat suitable for hedgehog, harvest mouse and brown hare. It could reduce populations of these SPIs within the local area, although it should be noted that large areas of woodland and grassland habitats are present to the west of the Site, meaning that development is not likely to cause the complete eradication of this species from the local area. The retention of habitats suitable for brown hare within the Site is unlikely to be possible without the retention of large areas of open grassland.

The provision of green corridors at the east and the west of the Site, providing woodland and woodland edge habitats will retain and strengthen the best habitat for hedgehogs at the Site.

The retention of some habitat suitable for harvest mouse at the Site could be achieved through the retention of strips of unmown grassland within scrub, away from areas likely to be accessible to domestic cats.

Birds

Development at the Site has the potential to cause the loss of habitats suitable for SPI bird species (especially farmland birds) using hedgerow, scrub and open grassland habitats such as yellowhammer, linnet, and fieldfare). The retention of green corridors at the east and west of the Site would maintain extensive areas of habitat suitable for such species at the Site. Of the SPI, red and amber listed species returned in the ecology desk study that are likely to be present on and near the Site, dunnock, starling, swallow and swift are often associated with residential areas and there is potential for enhancing the proposed development in order to provide suitable nesting sites for these species.

Development at the Site would cause the loss of an extensive area of grassland suitable for nesting skylark which is also a SPI. Compensation for this impact would be difficult without off-site mitigation in grassland or arable areas. Because of the potential impacts on birds that are SPIs, a breeding bird characterization survey at the Site is recommended, carried out over the period April to June.

There is potential for development at the Site to cause the killing or injury of individual nesting birds, or the damage to or destruction of active nests (all of which are offences). Such impacts can be avoided through ensuring that vegetation clearance works only take place outside the bird nesting season, which is March to August inclusive. Vegetation clearance would however need to be mindful of the potential presence of reptiles and / or great crested newts, as discussed in previous sections.

The proposed development provides opportunities to provide additional nesting sites for a number of SPI and red/amber-listed bird species that are commonly associated with urban areas, including starling, house sparrow, swallow, house martin and swift. Appropriate nest boxes for these species can be built into the fabric of new buildings in order to provide long-term unobtrusive nesting sites. Colony nesting species such as a house sparrow and swift require several boxes to be installed in close proximity.

Appropriate landscape planting in the proposed development, including native hedgerows and native and fruiting trees and shrubs, will help to enhance the availability of nesting, roosting and feeding habitat for urban and garden bird species. To maximize the suitability of house sparrow nesting sites, hedgerow or shrub cover should be provided in adjacent areas for this species.

4.4 Further Ecology Surveys

The above recommendations for further ecological surveys are summarised in Table 12.

These surveys should be undertaken should the Site be taken forward for development. The results of the surveys should be used to inform the site masterplan such that ecological impacts can be avoided, mitigated and where necessary compensated within the proposals and that opportunities for enhancement can be incorporated into the development. All further surveys should be completed prior to the submission of any planning application.

The extent to which these surveys are appropriate, and can be targeted at particular areas of the Site largely depends upon the footprint of future development (i.e. its location and extent within the Site). Alternatively, a suite of broad surveys could be undertaken across the Site at an early stage in order to obtain broad baseline information to inform the detailed design process. Many of the surveys are recommended to begin in April. Surveys that start later in the year (e.g. May) may require follow-up work the following year or an adjustment to the approach to survey.

Table 12. Recommended ecology surveys.

Survey Type	Method	Timing	Relevant Legislation
Water Vole and Otter Survey	Survey of Ellen Brook Stream for this species. Survey in spring or in late summer / autumn. One survey visit (Strachan *et al.* 2011).	April–Oct	Cons Regs WCA NERC Act
Bat Activity Survey	Survey and evaluation of the use of the Site by bats for feeding and commuting. Night transects across the Site using bat detecting equipment, and the deployment of static detectors (Hundt, 2012).	April–Oct	Cons Regs WCA
Bat Roost Assessment	External assessment of trees at the Site for their potential to support roosting bats. Note that further extensive bat surveys may be required if trees with bat potential are to be affected by the development (Hundt, 2012)	Any time	Cons Regs, WCA
Dormouse survey	Survey of woodland, hedgerow and scrub for presence (and approximate population size) using nest tubes. These are placed out in April and checked monthly until the end of September for signs of dormouse (English Nature, 2006).	April-Sept	Cons Regs WCA NERC Act
Breeding Bird Characterization Survey	Breeding bird characterisation survey involving three site visits in the breeding season.	April–June	WCA NERC Act
Reptile Survey	Up to seven survey visits, focussed on scattered scrub, margins of dense scrub, and pond/watercourse banks to identify presence / likely absence of reptiles, following standard reptile survey guidance (Froglife, 1999).	April–May, or Sept	WCA
Great Crested Newt Survey	Four survey visits involving netting, torching, bottle trapping and egg searches of ponds, to determine presence / likely absence, following standard	March–June (with at least 2 visits mid-	Cons Regs, WCA NERC Act

	Natural England (English Nature, 2001) guidance. Two further visits to confirm population size class would be necessary should the presence of great crested newts be detected. Alternatively, presence/likely absence survey can be assessed using environmental DNA (eDNA) sampling, carried out over one visit.	April–mid-May) May–June	
Relevant Legislation: H Regs: Hedgerow Regulations 1997; NERC Act: Natural Environment and Rural Communities Act 2007; Cons Regs: Conservation of Habitats and Species Regulations 2010; WCA: Wildlife and Countryside Act 1981 (as amended).			

5.0 Summary

LDA was commissioned in March 2015 to conduct an ecological appraisal of land at Hatfield Green (the "Site"). The ecological appraisal supplements previous ecological surveys prepared by Cresswell Associates in 2008 and 2010.

This study comprises an ecology desk study, an extended Phase 1 habitat survey, a habitat suitability assessment for great crested newt, an assessment of the potential ecological impacts of residential development at the Site, and makes general recommendations for measures to avoid, mitigate, or compensate for such impacts such that development will be acceptable in planning terms, including the identification of ecological constraints and opportunities at the Site. Recommendations are also provided for further ecology surveys as appropriate.

The Site at Hatfield Green encompasses 68 ha and is located to the west of Hatfield, Hertfordshire, centred on National Grid Reference TL 204093. It forms part of the Site of the former Hatfield Aerodrome. It is dominated by rough grassland with occasional scrub and small areas hard standing. It is understood that the Site is being promoted for allocation for residential development, to include up to 1,400 units. Since this proposed development is at an early stage of design, a detailed Site layout and landscape plan are not yet available.

The Hertfordshire Environmental Records Centre was contacted to obtain information on designated wildlife sites (out to 10 km for international sites, 5 km for national sites, and 3 km for local sites) and records of protected or otherwise notable species (out to 5 km). A search was made for ponds within 500 m of the Site using the MAGIC website, OS mapping and publicly available aerial imagery, to assist in determining the possibility that great crested newts might be present on or close to the Site.

An extended Phase 1 habitat survey of the Site was carried out on 7 April 2015. Ponds within 250 m of the Site found during the desk study were visited where access was available. The survey methodology was based on that described in Handbook for Phase 1 Habitat Survey (JNCC, 2010). Target notes were made for any additional features of ecological interest, and the potential of the Site to support protected or otherwise notable was assessed.

In order to provide a robust assessment for the potential presence of great crested newts within and in the immediate vicinity of the Site, a habitat suitability assessment was undertaken, where possible, for ponds within 250 m of the Site. The simplified method for determining HSI values, developed by Amphibian and Reptile Groups of the United Kingdom (ARG UK, 2010) was used.

There are no Natura 2000 or internationally designated wildlife sites within 10 km of the Site centre. There is one Site of Special Scientific Interest (SSSI) within 5 km of the Site centre, Sherrardspark Wood SSSI. This 74.4 ha site is located ca. 4.1 km north east of the Site. There are seven Local Nature Reserves (LNRs) within 5 km of the Site centre. The closest is How Dell LNR, ca. 2.1 km to the east of the Site, beyond the town of Hatfield. There are 31 separate Ancient Woodland Inventory sites within 5 km of the Site centre. The closest is Symondshyde Great Wood, ca. 0. 78 km north west of the Site.

There are 33 Local Wildlife Sites (LWSs) within 3 km of the Site centre. The closest is Home Covert and Round Wood LNR, directly adjacent to the west of the Site. The woodland in Home Covert is dominated by pedunculate Oak *Quercus robur* and ash *Fraxinus excelsior* with some hazel and hornbeam. Round Wood is dominated by hornbeam coppice. The woodland supports various woodland indicator species.

The Site is dominated by neutral grassland (including 37.8 ha of grazed semi-improved neutral grassland in the south, and 26.4 ha of apparently ungrazed species-poor semi-improved neutral grassland in the north), with scattered scrub along much of the west side. There is 0.5 km of species-rich hedgerow along the north and north east boundary of the Site containing several mature oak and

ash trees. There is a small (0.42 ha) block of semi-natural broadleaved woodland in the west (dominated by mature ash), and small blocks (totalling 2.18 ha) of young plantation woodland, mainly in the east of the site. The Ellen Brook (0.51 km) is present in the east of the Site. An area of apparently unmown and ungrazed grassland that is relatively species-rich and likely of recent origin is present around the Ellen Brook in the east of the Site. No ponds are present within the Site. A total of 13 ponds are present within 250 m of the Site and a further six ponds are present within 500 m.

The Ellen Brook may support nationally notable water beetles, and woodland and mature trees at the site could support stag beetle. Of the 12 accessible ponds within 250 m, four ponds have excellent, two ponds have good, five have average and one pond has below average suitability for great crested newts, indicating that the Site could support this species in its terrestrial phase. This species has been recorded in 2010 from a pond on the south west boundary of the Site, and is present in ponds beyond 250 m to the south and west of the Site. Common Toad (a SPI) is present directly adjacent to the west of the Site. The woodland edge, scattered scrub, Ellen Brook and associated unmown grassland at the Site provides suitable habitat for reptile species such as grass snake, slow-worm and common lizard. Mature trees in the north and north west of the Site and in woodland at the west of the Site could provide roosting sites for bats. The Site provides suitable foraging and commuting habitats for bats. Scrub and woodland at the site could provide habitat for dormouse at the Site, and the Ellen Brook could provide suitable habitat for water vole, and an occasional foraging areas for otter. No badger setts were found within the Site. Suitable foraging habitats for this species are present within the Site, and sets are present on adjacent land within 100 m of the west of the Site. The site provides a large area of open grassland and scattered scrub which support skylark, and could support other birds included as Species of Principal Importance (SPIs) under the NERC Act 2006.

No significant adverse impacts on Natura 2000 sites or internationally or nationally designated wildlife sites are anticipated to arise from the proposed development. Without mitigation there is potential for impacts (for example through recreational disturbance, predation by domestic cats and changes in hydrology) Home Covert and Round Wood LNR which is adjacent to the west of the Site.

Development at the Site could result in the loss of semi-natural broadleaved woodland (representing the HPI Lowland Mixed Deciduous Woodland) at the west of the Site and Hedgerow (also a HPI) at the north and north west of the Site.

Without any ecology mitigation, development at the Site could also result in the loss of semi-improved neutral grassland, poor semi-improved neutral grassland, scattered scrub within the grassland, running water, mature trees and hardstanding. Of these further habitats (not HPIs), the Ellen Brook and associated strip of relatively species-rich (presumably recently planted) grassland in the east of the Site and the scattered scrub around the east, north and west of the Site are of greatest ecological value are likely to provide habitats valued at the Local level.

The retention and strengthening of ecological networks (specifically green corridors at the east and west of the Site, and the hedgerow at the north of the Site) is recommended to limit the ecological impacts of the proposed development. In the absence of mitigation there is potential for impacts on badgers, bats, dormouse, water vole, brown hare, harvest mouse, birds (including nesting birds), reptiles, amphibians (in their terrestrial phase, including great crested newts), and some invertebrates.

Appropriate measures to avoid and mitigate these impacts in the development are discussed, including the incorporation of measures to encourage biodiversity within the development, the implementation of a CEMP during construction and an LEMP to ensure the long term success of habitat creation and enhancement measures. Further surveys for water vole and otter, bat activity, bat roost assessment, dormouse, breeding birds, reptiles and great crested newts are recommended and should be undertaken prior to any planning application being submitted.

6.0 References

- ARG UK (2010) ARG UK Advice Note 5: Great crested newt habitat suitability index. http://www.arguk.org/download-document/9-great-crested-newt-habitat-suitability-index-arg-advice- note-5
- Bright, P. *et al.* (2006) *Dormouse Conservation Handbook.* Second Edition. English Nature.
- Cranfield University (2015) *Soilscapes Map.* http://www.landis.org.uk/soilscapes/index.cfm
- Cresswell Associates (1999) *Ecological Appraisal of Hatfield Business Park.* Cited in Cresswell Associates (2008).
- Cresswell Associates (2001a) Ellen Brook Park, Botanical Surveys. Cited in Cresswell Associates (2008).
- Cresswell Associates (2001b) Ground Nesting Bird and Brown Hare Survey of Ellen Brook Park. Cited in Cresswell Associates (2008).
- Cresswell Associates (2008) *Ecological Appraisal of Hatfield Green.*
- Cresswell Associates (2010) *Hatfield Green Summary of Ecological Surveys.*
- LDA Design (2013) *Hatfield Green Ecology Assessment*
- LDA Design (undated) *Landscape and Energy Strategy*
- English Nature (2001) *Great Crested Newt Mitigation Guidelines.* English Nature.
- English Nature (2006) *The Dormouse Conservation Handbook.* Second edition. English Nature.
- Froglife (1999) Froglife Advice Sheet 10: Reptile Survey. Froglife.
- Hundt L. *et al.* (2012) *Bat Surveys: Good practice guidelines.* 2nd Edition. Bat Conservation Trust.
- James T. J. (2010) *Flora of Hertfordshire.* HNHS.
- JNCC (2007). *Second Report by the UK under Article 17 on the implementation of the Habitats Directive from January 2001 to December 2006.* JNCC, Peterborough. www.jncc.gov.uk/article17
- JNCC (2010) *Handbook for Phase 1 Habitat Survey: A technique for environmental audit.* Revised edition. JNCC.
- Maddock A. (2011) *UK Biodiversity Action Plan Priority Habitat Descriptions.* JNCC. http://jncc.defra.gov.uk/PDF/UKBAP_PriorityHabitatDesc-Rev2011.pdf
- Oldham R. S. *et al.* (2000) Evaluating the suitability of habitat for the great crested newt Triturus cristatus. *Herpetological Journal* 10 (4): 143–155.
- Plant, C. N. (2008)*The Moths of Hertfordshire.* HNHS.
- Stroh P. A. *et al.* (2014) *A Vascular Plant Red List for England.* BSBI, Bristol.

8.0 Figures

Figure 1a: National Sites within 5 km

Figure 1b: National Sites within 5 km

Figure 1c: National Sites within 5 km

Figure 1d: National Sites within 5 km

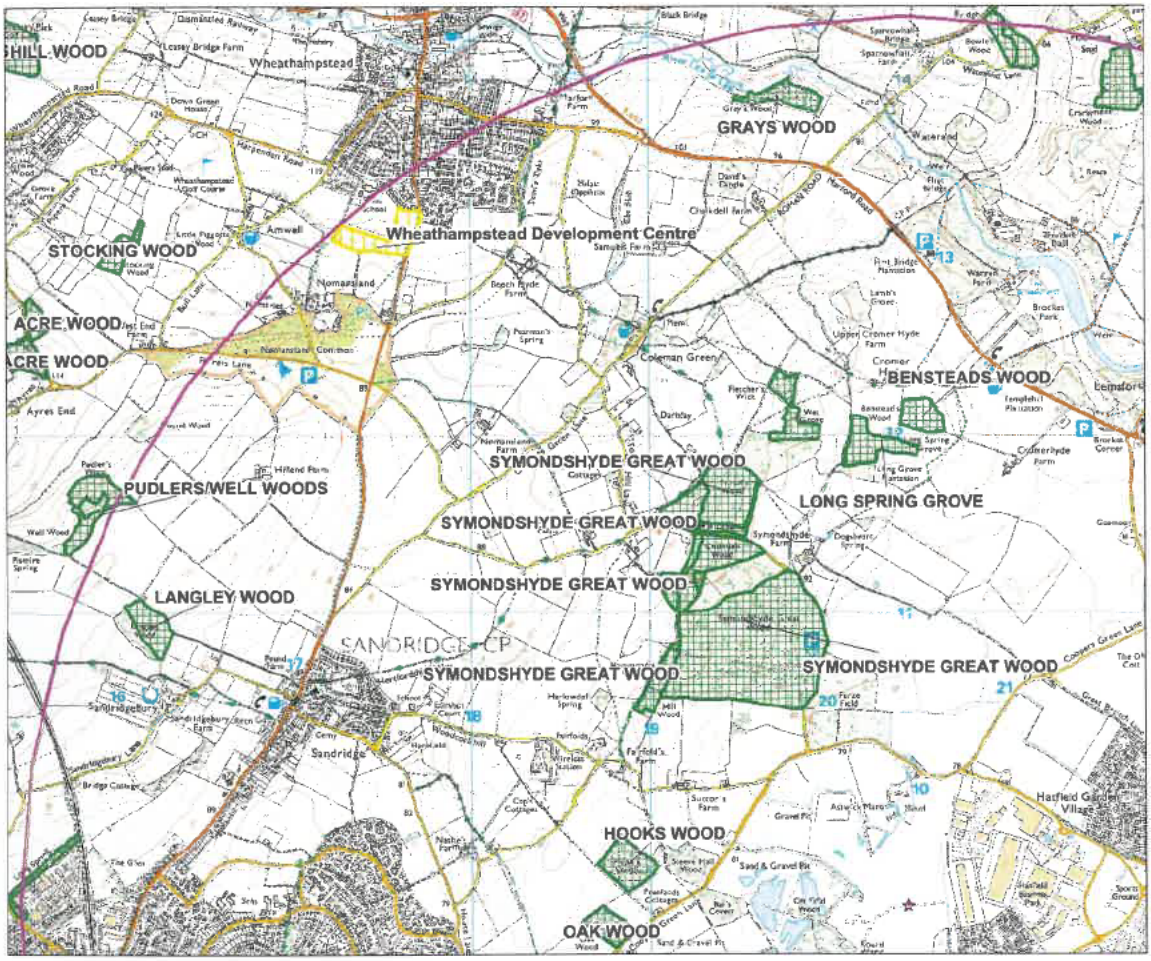
Figure 1e: Local Sites within 3 km

Figure 2: Phase 1 Habitat Plan

Figure 3: Ponds within 250 m

Figure 4: Ecological Constraints and Opportunities Plan

Figure 1a: **National Sites within 5 km**



Data Search Results

County Boundary

Statutory Sites

LNR	(39)
NNR	(1)
Ramsar	(1)
SAC	(2)
SPA	(1)
SSSI	(43)

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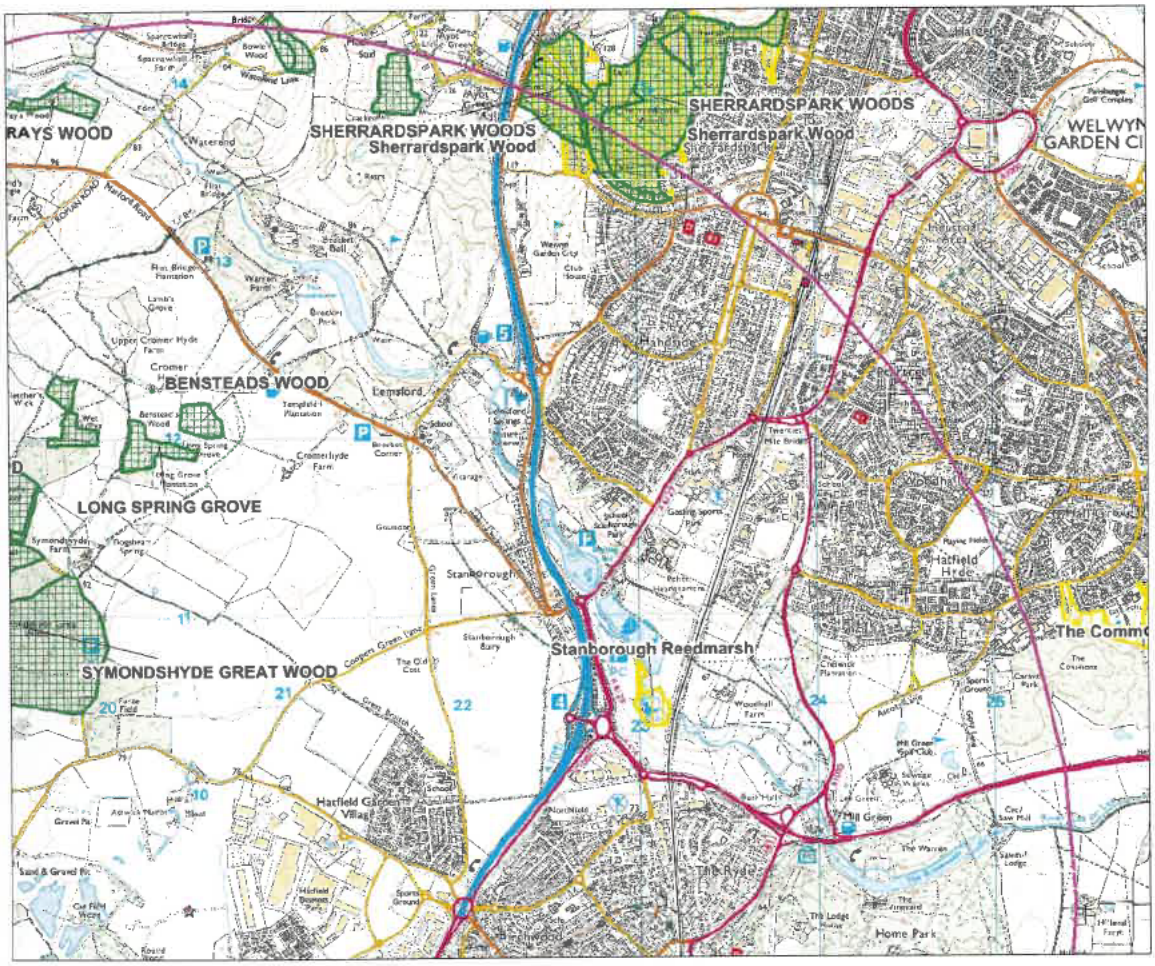
Figure 1b: **National Sites within 5 km**



Data Search Results

County Boundary

Statutory Sites

LNR	(39)
NNR	(1)
Ramsar	(1)
SAC	(2)
SPA	(1)
SSSI	(43)

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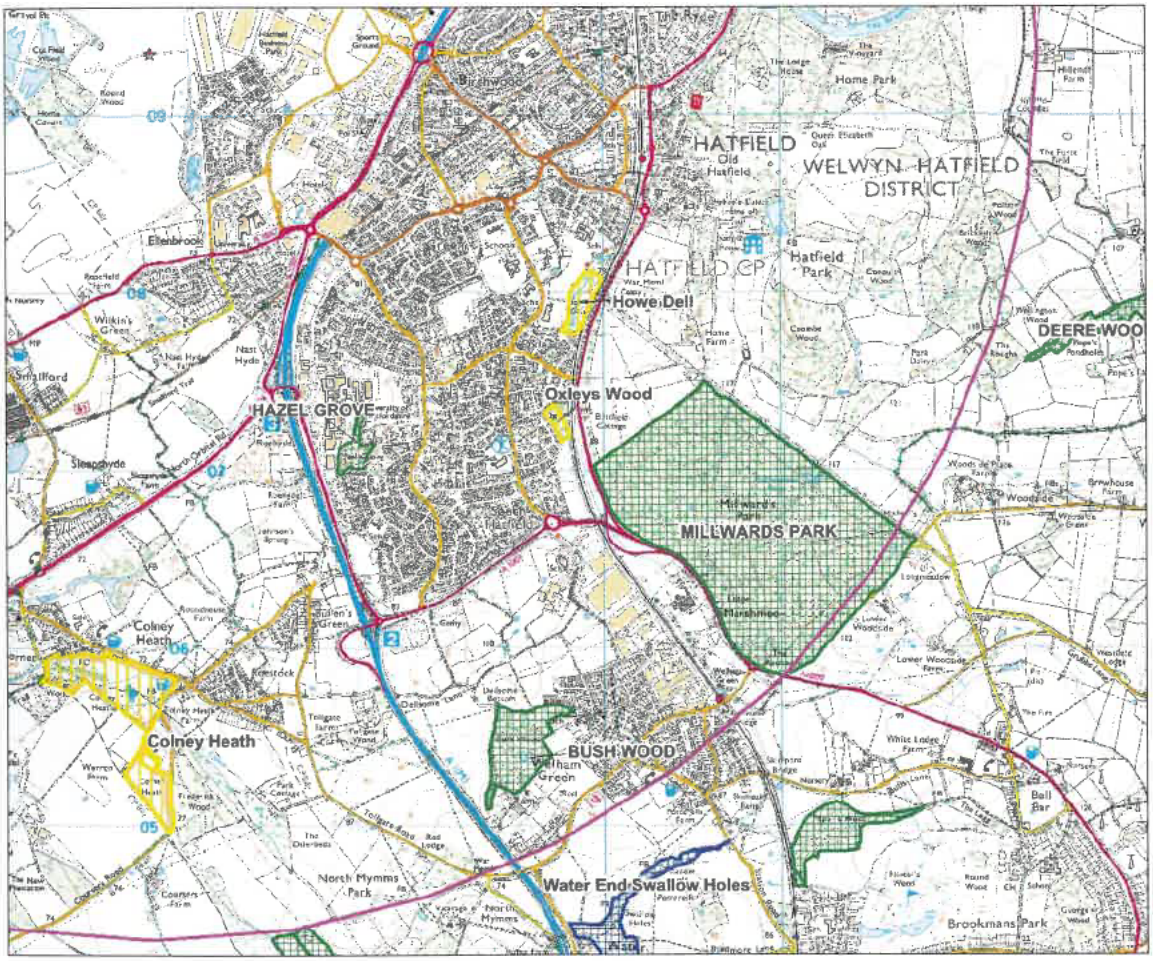
Figure 1c: **National Sites within 5 km**



Data Search Results

County Boundary

Statutory Sites

LNR	(39)
NNR	(1)
Ramsar	(1)
SAC	(2)
SPA	(1)
SSSI	(43)

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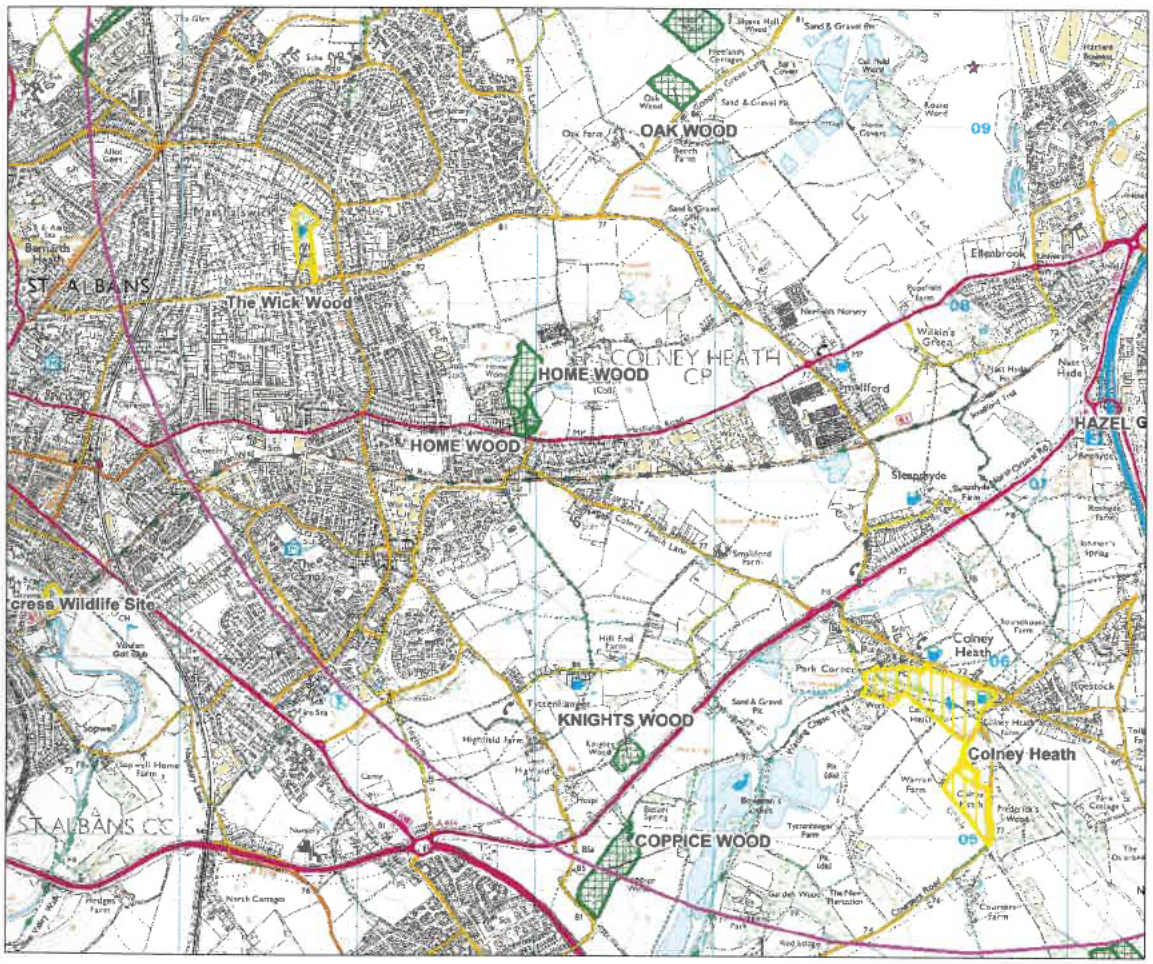
Figure 1d: National Sites within 5 km



Data Search Results

County Boundary

Statutory Sites

LNR	(39)
NNR	(1)
Ramsar	(1)
SAC	(2)
SPA	(1)
SSSI	(43)

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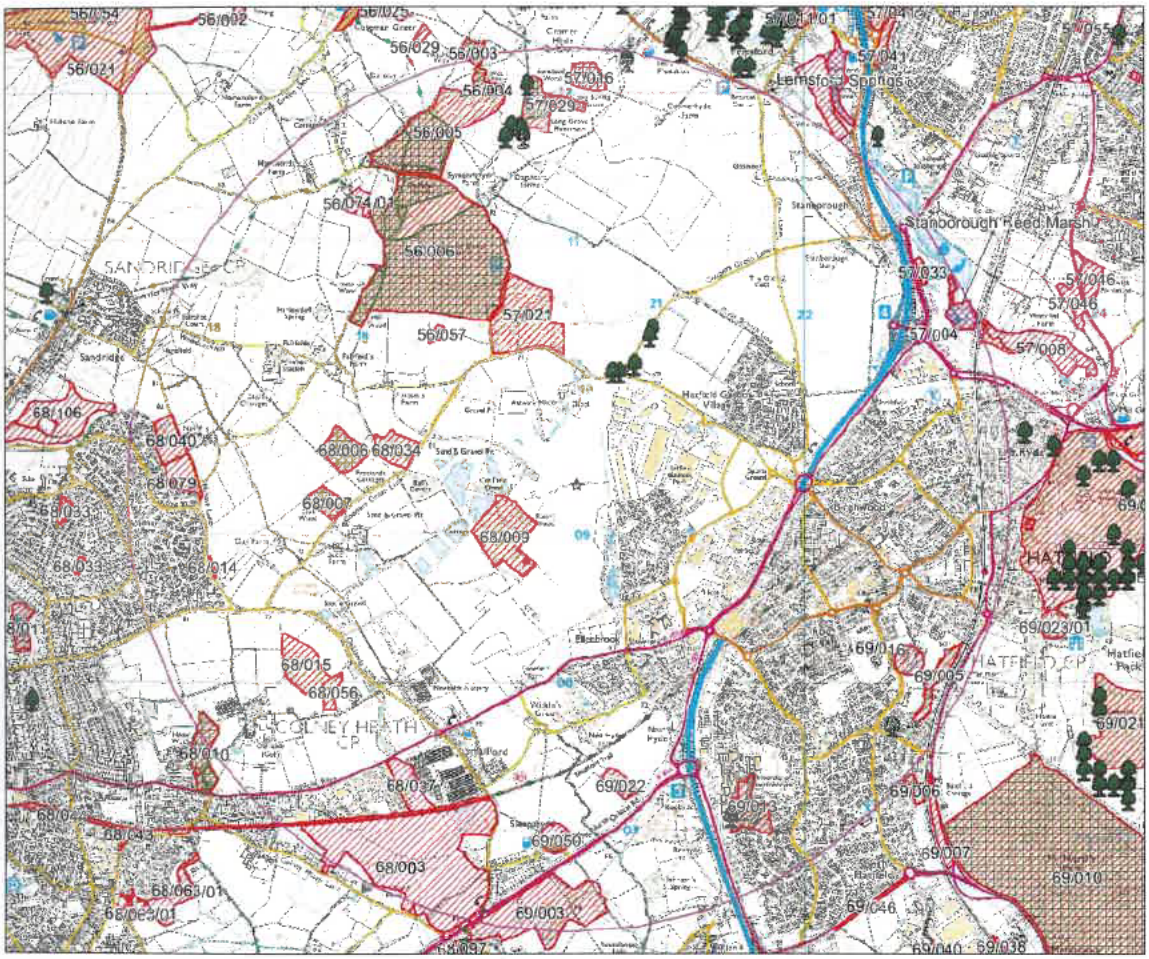
Figure 1e: **Local Sites within 3 km**



Data Search Results

County Boundary

HMWT Reserve

Local Wildlife Site

RIGS

Veteran Mature Tree

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Figure 2: **Phase 1 Habitat Plan**

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PROJECT TITLE
HATFIELD EIP ALLOCATION

DRAWING TITLE
Figure 2: Phase 1 Habitat Plan

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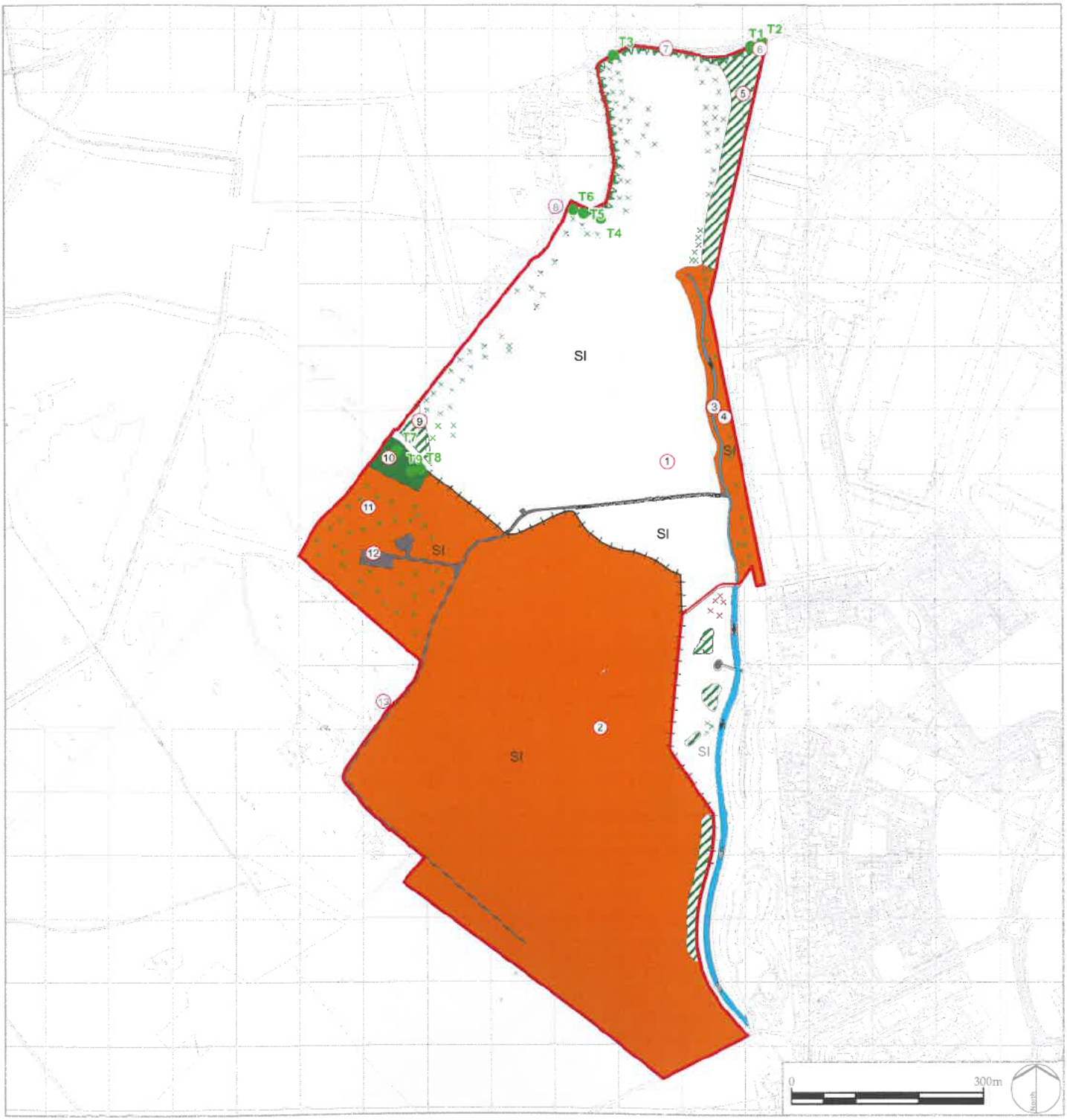
STATUS	Draft	APPROVED	JMG



LEGEND

- Site boundary
- Target note
- Broadleaved semi-natural woodland
- Broadleaved plantation woodland
- Semi-improved neutral grassland
- Species-poor semi-improved
- Running water (arrows indicate flow direction)
- Hardstanding
- Defunct species-rich hedge
- Fence
- Scattered scrub
- Tree with tree reference

L:\Contracts\Live Contracts\8001 - 8100\8083 Hatfield EIP Allocation\Work in Progress\Mapping\02 GIS\01 projects\8083_fig2_phase1.mxd

Figure 3: **Ponds within 250 m**

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STATUS	Final	APPROVED	JMG

PROJECT TITLE
HATFIELD EIP ALLOCATION

DRAWING TITLE
Figure 3: Ponds within 250m of site boundary

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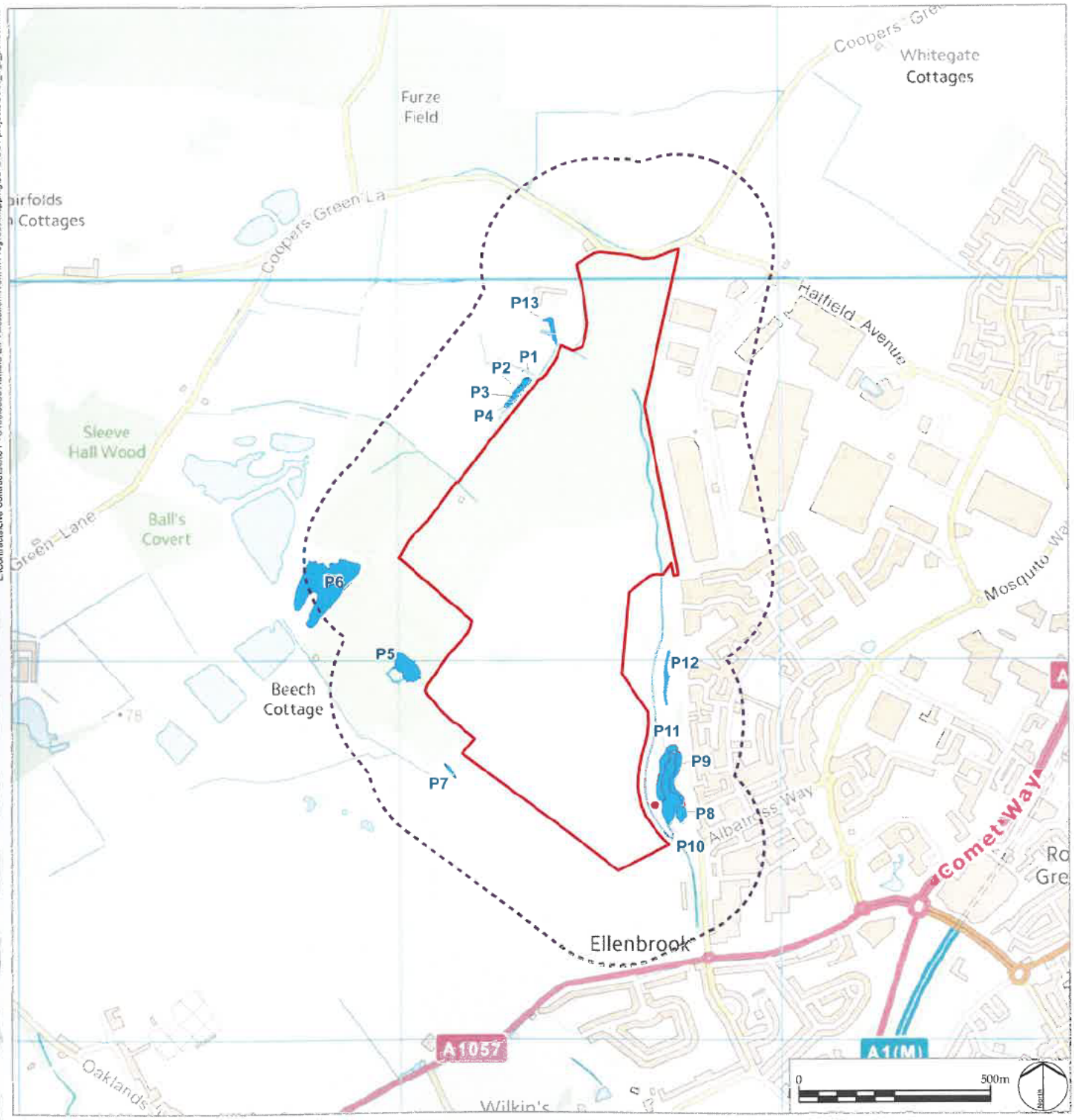

LEGEND

- Site boundary
- 250m radius from site boundary
- Pond within 250m radius from site boundary
- Pond outside of 250m radius from site boundary
- Pond no longer present

Figure 4: **Ecological Constraints and Opportunities Plan**

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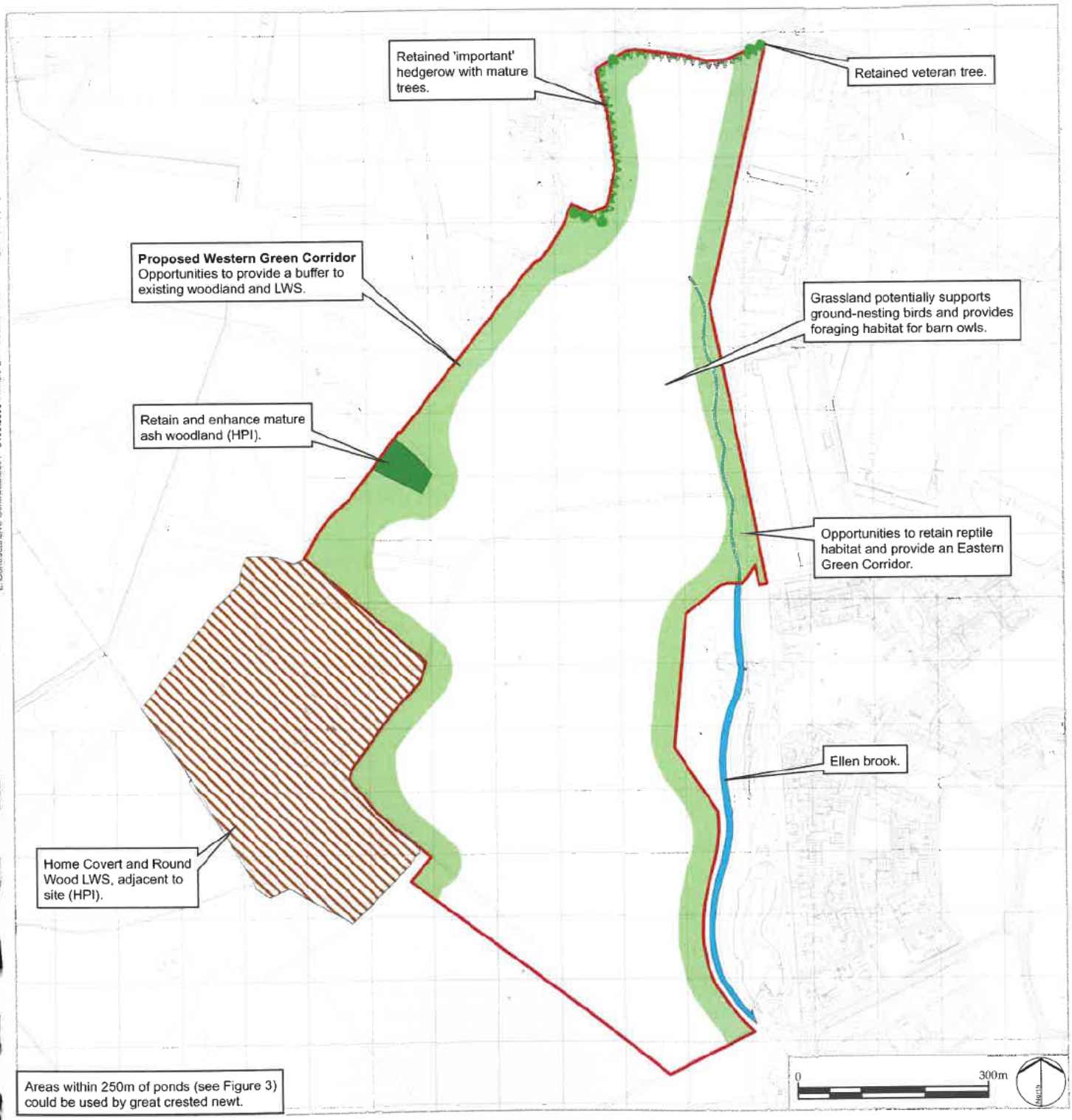
DATE	06 May 2015	DRAWN	COH
SCALE @A3	1:6,000	CHECKED	TF
STATUS	Draft	APPROVED	JMG

PROJECT TITLE
HATFIELD EIP ALLOCATION

DRAWING TITLE
Figure 4: Ecological Constraints and Opportunities Plan



LEGEND

- Site boundary
- Local Wildlife Site (LWS)
- Proposed green corridor
- Retained woodland
- Stream
- Defunct species-rich hedge

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7.0 Appendices

Appendix 1: Summaries of Relevant Policy, Legislation and Other Instruments

This section briefly summarises the legislation, policy and related issues that are relevant to the main text of the report. The following text does not constitute legal or planning advice.

National Planning Policy Framework (England)

A1.1 The Government published the National Planning Policy Framework (NPPF) on 27th March 2012. Text excerpts from the NPPF are shown where they may be relevant to planning applications and biodiversity including protected sites, habitats and species.

A1.2 In conserving and enhancing the natural environment, the NPPF (Paragraph 109) states that 'the planning system should contribute to and enhance the natural and local environment' by:

a. Recognising the wider benefits of ecosystem services;

b. 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;

c. Preventing both new and existing development from contributing to or being put at unacceptable risk from, or being adversely affected by unacceptable levels of soil, air, water or noise pollution or land instability.

A1.3 In paragraph 111, the NPPF refers to brownfield land as follows: 'planning policies and decisions should encourage the effective use of land by re-using land that has been previously developed (brownfield land), provided that it is not of high environmental value.'

A1.4 Paragraph 117 refers to how planning policies should aim to minimise impacts on biodiversity, to: 'identify and map components of the local ecological networks, including the hierarchy of international, national and locally designated sites of importance for biodiversity, wildlife corridors and stepping stones that connect them and areas identified by local partnerships for habitat restoration or creation;' and to '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.'

A1.5 Paragraph 118 of the National Planning Policy Framework advises how, when determining planning applications, local planning authorities should aim to conserve and enhance biodiversity by applying the mitigation hierarchy. The mitigation hierarchy advises that 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.

A1.6 Where proposals or activities require planning permission, the NPPF states that '...local planning authorities should aim to conserve and enhance biodiversity by applying the following principles:

d. Proposed development on land within or outside a Site of Special Scientific Interest likely to have an adverse effect on a Site of Special Scientific Interest (either individually or in combination with other developments) should not normally be permitted. Where an adverse effect on the site's notified special interest features is likely, an exception should only be made where the benefits of the development, at this site, clearly outweigh both the impacts that it is likely to have on the features of the site that make it of special scientific interest and any broader impacts on the national network of Sites of Special Scientific Interest;

e. Development proposals where the primary objective is to conserve or enhance biodiversity should be permitted;

f. Opportunities to incorporate biodiversity in and around developments should be encouraged;

g. Planning permission should be refused for development resulting in the loss or deterioration of irreplaceable habitats, including ancient woodland and the loss of aged or veteran trees found outside ancient woodland, unless the need for, and benefits of, the development in that location clearly outweigh the loss; and

h. The following wildlife sites should be given the same protection as European sites:

   i. potential Special Protection Areas and possible Special Areas of Conservation

   ii. listed or proposed Ramsar sites; and

   iii. sites identified, or required, as compensatory measures for adverse effects on European sites, potential Special Protection Areas, possible Special Areas of Conservation, and listed or proposed Ramsar sites.'

A1.7 In respect of protected sites, the NPPF requires local planning authorities to make 'distinctions…between the hierarchy of international, national and locally designated sites 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.'

A1.8 In paragraph 125 the NPPF states that 'by encouraging good design, planning policies and decisions should limit the impact of light pollution from artificial light on local amenity, intrinsically dark landscapes and nature conservation.' This applies to protected species that are a material consideration in the planning process including bats and may also apply to other light sensitive species.

Government Circular ODPM 06/2005 Biodiversity and Geological Conservation (England only)

A1.9 Paragraph 98 of Government Circular 06/2005 advises that "the presence of a protected species is a material consideration when a planning authority is considering a development proposal that, if carried out, would be likely to result in harm to the species or its habitat. Local authorities should consult Natural England before granting planning permission. They should consider attaching appropriate planning conditions or entering into planning obligations under which the developer would take steps to secure the long-term protection of the species. They should also advise developers that they must comply with any statutory species' protection provisions affecting the site concerned..."

A1.10 Paragraph 99 of Government Circular 06/2005[6] advises that "it is essential that the presence or otherwise of protected species, and the extent that they may be affected by the proposed development, is established before the planning permission is granted, otherwise all relevant material considerations may not have been addressed in making the decision. The need to ensure ecological surveys are carried out should therefore only be left to coverage under planning conditions in exceptional circumstances, with the result that the surveys are carried out after planning permission has been granted".

Standing Advice GOV.UK (England only)

A1.11 The GOV.UK website provides information regarding protected species and sites in relation to development proposals: 'Local planning authorities should take advice from Natural England or the Environment Agency about planning applications for developments that may affect protected species.' GOV.UK advises that 'some species have standing advice which you can use to help with planning decisions. For others you should contact Natural England or the Environment Agency for an individual response.'

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[6] *ODPM Circular 06/2005. Government Circular: Biodiversity and Geological Conservation – Statutory Obligations and their Impacts within the Planning System* (2005). HMSO Norwich.

A1.12 The standing advice (originally from Natural England and now held and updated on GOV.UK[7]) provides advice to planners on deciding if there is a 'reasonable likelihood' of protected species being present. It also provides advice on survey and mitigation requirements.

A1.13 When determining an application for development that is covered by standing advice, in accordance with guidance in Government Circular 06/2005, Local planning authorities are required to take the standing advice into account. In paragraph 82 of the aforementioned Circular, it is stated that: 'The standing advice will be a material consideration in the determination of the planning application in the same way as any advice received from a statutory consultee...it is up to the planning authority to decide the weight to be attached to the standing advice, in the same way as it would decide the weight to be attached to a response from a statutory consultee.'

Natural Environment and Rural Communities (NERC) Act 2006 – Habitats and Species of Principal Importance (England and Wales)

A1.14 The Natural Environment and Rural Communities (NERC) Act came into force on 1st October 2006. Sections 41 and 42 (S41 and S42) of the Act require the Secretary of State to publish a list of habitats and species which are of principal importance for the conservation of biodiversity in England and Wales respectively. The list has been drawn up in consultation with Natural England and Countryside Council for Wales (now NRW), as required by the Act. In accordance with the Act the Secretary of State keeps this list under review and will publish a revised list if necessary, in consultation with Natural England and NRW.

A1.15 The S41 and S42 lists are used to guide decision-makers such as public bodies, including local authorities and utilities companies, in implementing their duty under Section 40 of the NERC Act 2006, to have regard to the conservation of biodiversity in England and Wales, when carrying out their normal functions, including development control and planning. This is commonly referred to as the 'Biodiversity Duty.'

A1.16 Guidance for public authorities on implementing the Biodiversity Duty[8] has been jointly published by Defra and the Welsh Assembly Government. One of the key messages in this document is that 'conserving biodiversity includes restoring and enhancing species populations and habitats, as well as protecting them.' In England and Wales, the administration of the planning system and licensing schemes are highlighted as having a 'profound influence on biodiversity conservation.' Local authorities are required to take measures to "promote the preservation, restoration and re-creation of priority habitats, ecological networks and the protection and recovery of priority species. The guidance states that 'the duty aims to raise the profile and visibility of biodiversity, clarify existing commitments with regard to biodiversity, and to make it a natural and integral part of policy and decision making.'

A1.17 In 2007, the UK Biodiversity Action Plan (BAP) Partnership published an updated list of priority UK species and habitats covering terrestrial, freshwater and marine biodiversity to focus conservation action for rarer species and habitats in the UK. The UK Post-2010 Biodiversity Framework[9], which covers the period from 2011 to 2020, now succeeds the UK BAP. The UK priority list contained 1150 species and 65 habitats requiring special protection and has been used as a reference to draw up the lists of species and habitats of principal importance in England and Wales.

A1.18 In England, there are 56 habitats of principal importance and 943 species of principal importance on the S41 list. These are all the habitats and species found in England that were identified as requiring action in the UK BAP and which continue to be regarded as conservation priorities in the subsequent UK Post-2010 Biodiversity Framework.

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[7] https://www.gov.uk/protected-species-and-sites-how-to-review-planning-proposals#standing-advice-for-protected-species

[8] Defra, 2007. *Guidance for Public Authorities on Implementing The Biodiversity Duty.* (http://www.defra.gov.uk/publications/files/pb12585-pa-guid-english-070516.pdf)

[9] JNCC and Defra (on behalf of the Four Countries' Biodiversity Group). 2012. *UK Post-2010 Biodiversity Framework.* July 2012. (http://jncc.defra.gov.uk/page-6189)

European Protected Species (Animals)

A1.19 The Conservation of Habitats and Species Regulations 2010 (as amended) consolidates the various amendments that have been made to the original (1994) Regulations which transposed the EC Habitats Directive on the Conservation of Natural Habitats and of Wild Fauna and Flora (Council Directive 92/43/EEC) into national law.

A1.20 "European protected species" (EPS) of animal are those which are present on Schedule 2 of the Conservation of Habitats and Species Regulations 2010 (as amended). They are subject to the provisions of Regulation 41 of those Regulations. All EPS are also protected under the Wildlife and Countryside Act 1981 (as amended). Taken together, these pieces of legislation make it an offence to:

a. Intentionally or deliberately capture, injure or kill any wild animal included amongst these species

b. Possess or control any live or dead specimens or any part of, or anything derived from a these species

c. deliberately disturb wild animals of any such species

d. deliberately take or destroy the eggs of such an animal, or

e. intentionally, deliberately or recklessly damage or destroy a breeding site or resting place of such an animal, or obstruct access to such a place

A1.21 For the purposes of paragraph (c), disturbance of animals includes in particular any disturbance which is likely—

a. to impair their ability—

i. to survive, to breed or reproduce, or to rear or nurture their young, or

ii. in the case of animals of a hibernating or migratory species, to hibernate or migrate; or

b. to affect significantly the local distribution or abundance of the species to which they belong.

A1.22 Although the law provides strict protection to these species, it also allows this protection to be set aside (derogated) through the issuing of licences. The licences in England are currently determined by Natural England (NE) for development works and by Natural Resources Wales in Wales. In accordance with the requirements of the Regulations (2010), a licence can only be issued where the following requirements are satisfied:

a. The proposal is necessary 'to preserve public health or public safety or other imperative reasons of overriding public interest including those of a social or economic nature and beneficial consequences of primary importance for the environment'

b. 'There is no satisfactory alternative'

c. The proposals 'will not be detrimental to the maintenance of the population of the species concerned at a favourable conservation status in their natural range.

Definition of breeding sites and resting places

A1.23 Guidance for all European Protected Species of animal, including bats and great crested newt, regarding the definition of breeding and of breeding and resting places is provided by The European Council (EC) which has prepared specific guidance in respect of the interpretation of various Articles of the EC Habitats Directive.[10] Section II.3.4.b) provides definitions and examples of both breeding and resting places at paragraphs 57 and 59 respectively. This guidance states that 'The provision in Article 12(1)(d) [of the EC Habitats Directive] should therefore be understood as aiming to safeguard the ecological functionality

[10] Guidance document on the strict protection of animal species of Community interest under the Habitats Directive 92/43/EEC. (February 2007), EC.

of breeding sites and resting places.' Further the guidance states: 'It thus follows from Article 12(1)(d) that such breeding sites and resting places also need to be protected when they are not being used, but where there is a reasonably high probability that the species concerned will return to these sites and places. If for example a certain cave is used every year by a number of bats for hibernation (because the species has the habit of returning to the same winter roost every year), the functionality of this cave as a hibernating site should be protected in summer as well so that the bats can re-use it in winter. On the other hand, if a certain cave is used only occasionally for breeding or resting purposes, it is very likely that the site does not qualify as a breeding site or resting place.'

European Protected Species (Plants)

A1.24 The Conservation of Habitats and Species Regulations 2010 (as amended) consolidate the various amendments that have been made to the Regulations. The original (1994) Regulations transposed the EC Habitats Directive on the Conservation of Natural Habitats and of Wild Fauna and Flora (Council Directive 92/43/EEC) into national law.

A1.25 "European protected species" (EPS) of plant are those which are present on Schedule 5 of the Conservation of Habitats and Species Regulations 2010. They are subject to the provisions of Regulation 45 of those Regulations.

A1.26 Regulation 45 makes it an offence to deliberately pick, collect, cut, uproot or destroy a wild plant of an EPS. It also makes it an offence to have in possession or control any live or dead plant or part of plant which has been taken in the wild and which is an EPS (or listed in Annexe II(b) or IV(b) of the Habitats Directive).

Competent Authorities

A1.27 Under Regulation 7 of the Conservation of Habitats and Species Regulations 2010 (as amended) a "competent authority" includes "any Minister of the Crown..., government department, statutory undertaker, public body of any description or person holding a public office.

A1.28 In accordance with Regulation 9, "a competent authority, in exercising any of their functions, must have regard to the requirements of the [Habitats and Birds] Directives so far as they may be affected by the exercise of those functions". This means for instance that when considering development proposals a competent authority should consider whether EPS or European Protected Sites are to be affected by those works and, if so, must show that they have given consideration as to whether derogation requirements can be met.

Birds

A1.29 All nesting birds are protected under Section 1 of the Wildlife and Countryside Act 1981 (as amended) which makes it an offence to intentionally kill, injure or take any wild bird or take, damage or destroy its nest whilst in use or being built, or take or destroy its eggs. In addition to this, for some rarer species (listed on Schedule 1 of the Act), it is an offence to disturb them whilst they are nest building or at or near a nest with eggs or young, or to disturb the dependent young of such a bird.

A1.30 The Conservation of Habitats and Species (Amendment) Regulations 2012 has placed new duties on competent authorities (including Local Authorities and National Park Authorities) in relation to wild bird habitat. These provisions relate back to Articles 1, 2 and 3 of the EC Directive on the conservation of wild birds (2009/147/EC, 'Birds Directive'[11]) (Regulation 9A(2) & (3) require that 'in the exercise of their functions as they consider appropriate' these authorities must take steps to contribute to the 'preservation, maintenance and re-establishment of a sufficient diversity and area of habitat for wild birds in the United Kingdom, including by means of upkeep, management and creation of such habitat...'

[11] 2009/147/EC Birds Directive (30 November 2009. European Parliament and the Council of the European Union.

A1.31 In relation to the duties placed on competent authorities under the 2012 amendment Regulation 9A (8) states: 'So far as lies within their powers, a competent authority in exercising any function [including in relation to town and country planning] in or in relation to the United Kingdom must use all reasonable endeavours to avoid any pollution or deterioration of habitats of wild birds (except habitats beyond the outer limits of the area to which the new Wild Birds Directive applies).'

Badger

A1.32 Badger is protected under the Protection of Badgers Act 1992. This makes it an offence to wilfully kill, injure, take, possess or cruelly ill-treat a badger, or to attempt to do so; or to intentionally or recklessly interfere with a sett. Sett interference includes disturbing badgers whilst they are occupying a sett, as well as damaging or destroying a sett or obstructing access to it. A badger sett is defined in the legislation as "a structure or place, which displays signs indicating current use by a badger".

A1.33 ODPM Circular 06/2005[12] provides further guidance on statutory obligations towards badger within the planning system. Of particular note is paragraph 124, which states that "The likelihood of disturbing a badger sett, or adversely affecting badgers' foraging territory, or links between them, or significantly increasing the likelihood of road or rail casualties amongst badger populations, are capable of being material considerations in planning decisions."

A1.34 Natural England provides Standing Advice[13], which is capable of being a material consideration in planning decisions. Natural England recommends mitigation to avoid impacts on badger setts, which includes maintaining or creating new foraging areas and maintaining or creating access (commuting routes) between setts and foraging/watering areas.

Reptiles

A1.35 All native reptile species receive legal protection in Great Britain under Schedule 5 of the Wildlife and Countryside Act 1981 (as amended). Viviparous lizard, slow-worm, grass snake and adder are protected against killing, injuring and unlicensed trade only. Sand lizard and smooth snake receive additional protection as "European Protected species" under the provisions of the Conservation of Habitats and Species Regulations 2010 (as amended) and are fully protected under the Wildlife and Countryside Act 1981 (as amended).

A1.36 All six native species of reptile are included as 'species of principal importance' for the purpose of conserving biodiversity under Sections 41 (England) and 42 (Wales) of the NERC Act 2006.

A1.37 Current Natural England Guidelines for Developers[14] states that 'where it is predictable that reptiles are likely to be killed or injured by activities such as site clearance, this could legally constitute intentional killing or injuring.' Further the guidance states: 'Normally prohibited activities may not be illegal if 'the act was the incidental result of a lawful operation and could not reasonably have been avoided'. Natural England 'would expect reasonable avoidance to include measures such as altering development layouts to avoid key areas, as well as capture and exclusion of reptiles.'

1.38 The Natural England Guidelines for Developers state that 'planning must incorporate two aims where reptiles are present:

- To protect reptiles from any harm that might arise during development work;

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[12] *ODPM Circular 06/2005. Government Circular: Biodiversity and Geological Conservation – Statutory Obligations and their Impacts within the Planning System* (2005). HMSO Norwich.
[13] http://www.naturalengland.org.uk/ourwork/planningdevelopment/spatialplanning/standingadvice/specieslinks.aspx
[14] English Nature, 2004. *Reptiles: guidelines for developers.* English Nature, Peterborough. http://publications.naturalengland.org.uk/publication/76006?category=31018

- To ensure that sufficient quality, quantity and connectivity of habitat is provided to accommodate the reptile population, either on-site or at an alternative site, with no net loss of local reptile conservation status.'

Water Vole

1.39 Water vole is protected under the Wildlife and Countryside Act 1981 (as amended). This makes it an offence to kill, injure or take any water vole, damage, destroy or obstruct access to any place of shelter or protection that the animals are using, or disturb voles while they are using such a place. Water vole is listed as a Species of Principal Importance under the provisions of the NERC Act 2006.

White-Clawed Crayfish

A1.40 The white-clawed crayfish is scheduled under the Wildlife and Countryside Act 1981 (as amended), listed under the EC Habitats Directive (Annexe II and V) and is on the IUCN Red Data List for endangered and threatened species. It is also a Species of Principal Importance under the provisions of the NERC Act 2006.

A1.41 Under the Wildlife and Countryside Act 1981 (as amended) it is illegal to take or sell white-clawed crayfish. Whilst it is not an offence under the Act to disturb or kill white-clawed crayfish or to damage or destroy their habitat, both Natural England and the Environment Agency recommend that anyone carrying out any form of management or development work on suitable watercourses take into account the conservation of this species.

A1.42 Signal crayfish and several other invasive non-native crayfish species are listed on Schedule 9 of the Wildlife and Countryside Act 1981 (as amended). Strictly speaking, this makes it an offence to return to the wild any signal crayfish, even if inadvertently captured. Any signal crayfish or other non-native crayfish captured should be humanely destroyed (once their identification has been confirmed by a suitably qualified and experienced ecologist).

Wild Mammals in General

1.43 The Wild Mammals (Protection) Act 1996 (as amended) makes provision for the protection of wild mammals from certain cruel acts, making it an offence for any person to intentionally cause suffering to any wild mammal. In the context of development sites, for example, this may apply to rabbits in their burrows.

Hedgerows

A1.44 Article 10 of the Habitats Directive[15] requires that 'Member States shall endeavour...to encourage the management of features of the landscape which are of major importance for wild fauna and flora. Such features are those which, by virtue of their linear and continuous structure...or their function as stepping stones...are essential for the migration, dispersal and genetic exchange of wild species'. Examples given in the Directive include traditional field boundary systems (such as hedgerows).

A1.45 The aim of the Hedgerow Regulations 1997[16], according to guidance produced by the Department of the Environment[17], is "to protect important hedgerows in the countryside by controlling their removal through a system of notification. In summary, the guidance states that the system is concerned with the removal of hedgerows, either in whole or in part, and covers any act which results in the destruction of a hedgerow. The procedure in the Regulations is triggered only when land managers or utility operators want to remove a hedgerow. The system is in favour of protecting and retaining 'important' hedgerows.

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[15] Council Directive 92/43/EEC of 2i May 1992 on the conservation of natural habitats and of wild fauna and flora.
[16] Statutory Instrument 1997 No. 1160 – The Hedgerow Regulations 1997. HMSO: London

[17] The Hedgerow Regulations 1997: a guide to the law and good practice, HMSO: London

A1.46 The Hedgerow Regulations set out criteria that must be used by the local planning authority in determining which hedgerows are 'important'. The criteria relate to the value of hedgerows from an archaeological, historical, wildlife and landscape perspective.

Appendix 2: Photographs

Photograph 1: Foreground - ungrazed grassland in north of Site. Background - grazed grassland in south of Site.

Photograph 2: Strip of relatively species-rich grassland (probably of recent origin) adjacent to Ellenbrook stream at east of Site.

Photograph 3: Ungrazed grassland in north east of Site.

Photograph 4: Mature oaks (T1 and T2) in north east corner of Site.

Photograph 5: Scattered scrub towards western boundary of Site, and mature ash tree on boundary (T4).

Photograph 6: Mature ash woodland in west of Site, showing trees within dense ivy cover.

LDĀDESIGN

PROJECT TITLE

HATFIELD EIP ALLOCATION

ISSUED BY	Oxford	T: 01865 887050
DATE	28 Apr 2015	DRAWN COH
SCALE@A3	1:2500	CHECKED TF
STATUS	Final	APPROVED JMG

DRAWING TITLE

Appendix 2: Photographs

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Photograph 7: Ponds P1–P4, west of Site.

Photograph 8: Pond P5, within Home Covert woodland, west of Site.

Photograph 9: Pond P6, west of Site.

Photograph 10: Pond P7, west of Site.

Photograph 11: Pond P8, east of Site.

Photograph 12: Ponds P9-11, east of Site.

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Appendix 3: Target Notes

1	Apparently ungrazed species-poor semi-improved neutral grassland. Apparently mown since the previous growing season. Containing: perennial rye-grass *Lolium perenne* (A) cocksfoot *Dactylis glomerata* (A), creeping bent *Agrostis stolonifera* (A), red fescue *Festuca rubra* (A), false oat-grass *Arrhenatherum elatius* (O), Yorkshire fog *Holcus lanatus* (O) and tufted hair-grass (O), common sorrel (O), common vetch (O), hogweed *Heracleum sphondylium* (O) and occasional cow parsley *Anthriscus sylvestris* (O).
2	Grazed semi-improved neutral grassland. Containing: red fescue *Festuca rubra* (A), common bent *Agrostis capillaris* (A), creeping bent *Agrostis stolonifera* (A), Yorkshire fog *Holcus lanatus* (O), soft rush *Juncus effusus* (O) and Tufted hair-grass, *Deschampsia cespitosa* (R), ribwort plantain *Plantago lanceolata* (O), common sorrel *Rumex acetosa* (O), creeping buttercup *Ranunculus repens* (O), common vetch *Vicia sativa* (O), bird's foot trefoil *Lotus corniculatus* (R), yarrow *Achillea millefolium*, and dove's-foot cranesbill *Geranium molle*. The moss *Brachythecium rutabulum* is present in many areas. Taller, coarser grassland is present around areas of scattered scrub (where grazing pressure is presumably lower) with cock's-foot *Dactylis glomerata* (A) and some false oat-grass *Arrhenatherum elatius* (A).
3	Ellen Brook (stream). Ca. 2–3 m wide and 1–1.5 m deep (water depth ca. 0.5 m). Abundant vegetation including common reedmace *Typha latifolia*, lesser pond sedge *Carex acutiformis*, yellow flag iris *Iris pseudacorus*, soft rush *Juncus effusus*, great willowherb *Epilobium hirsutum*, and lesser duckweed *Lemna minor*. Abundant spawn of common frog *Rana temporaria*.
4	Strip of semi-improved neutral grassland adjacent to Ellen Brook. Relatively species-rich, but apparently of recent origin (possible a sown wildflower meadow), evidenced by areas of bare clay soil. Containing false oat-grass *Arrhenatherum elatius* (A) and cock's-foot *Dactylis glomerata* (A) common knapweed *Centaurea nigra* (A), ox-eye daisy *Leucanthemum vulgare* (F), creeping buttercup, hairy tare *Vicia hirsuta* (O), common vetch *Vicia sativa* (O), bird's-foot trefoil *Lotus corniculatus* (O), hogweed *Heracleum sphondylium* (O), primrose *Primula veris* (O), colt's-foot *Tussilago farfara* (R) and the moss *Brachythecium rutabulum* (O).
5	Young planted woodland in the northeast of the site. Dominated by pedunculate oak *Quercus robur*, with hawthorn *Crataegus monogyna* and bramble *Rubus fruticosus*.
6	Two mature pedunculate oak trees *Quercus robur* in northeast corner of Site, with potential to support roosting bats.
7	Overgrown hedgerow along northern and northwestern boundary of Site. Species-rich (contains five woody species Hawthorn *Crataegus monogyna* (D), blackthorn *Prunus spinosa* (O), holly *Ilex aquifolium* (O), ash *Fraxinus excelsior* (O), pedunculate oak *Quercus robur* (O)).
8	Several mature pedunculate oak *Quercus robur* to west of Site, outside Site boundary. Stream (possibly northern section of Ellen Brook) outside Site boundary.
9	Area of ash saplings *Fraxinus excelsior* ca. 5 m in height.
10	Area of mature ash *Fraxinus excelsior* woodland, apparently growing on an area of two former houses and gardens. No building structure remaining (just overgrown brick rubble). Also a dry

	former pond present. Woodland has a well-developed ground flora dominated by bluebell *Hyacinthoides non-scripta*.
11	Area of open scrub (hawthorn *Crataegus monogyna* (A), pedunculate oak *Quercus robur* (F) and cherry plum *Prunus cerasifera* (F)).
12	Area of hard standing now heavily encroached by surrounding grasses. This area was not surveyed in detail due to presence of a herd of cattle.

CONTENTS

Introduction 11-1
Ecological Context And Pre-Existing Survey Data 11-1
Physical and Ecological Context of the Site 11-1
Pre-existing Surveys 11-2
Scoping 11-4
Scoping Submission 11-4
Scoping Responses 11-4
Scoping Decision Notice 11-5
Baseline Data Collection 11-5
Methodology 11-5
Baseline Conditions 11-17
Evaluation and Identification of Key Receptors 11-56
Evaluation Criteria 11-56
Evaluation and Identification of Key Receptors 11-57
Avoidance by Design and Description of Proposals 11-60
Ecological Input to Design Process 11-60
Summary Description of The Proposals in the Context of Likely Ecological Effects 11-61
Impact Assessment 11-62
Methodology 11-62
Assessment 11-65
Further Avoidance, Mitigation, Compensation and Enhancement 11-73
Specially Protected Species 11-73
Phasing of Works to Avoid Impact on Nesting Birds 11-75
Residual Effects 11-75
Conclusions 11-77

INTRODUCTION

11.1 Hatfield Aerodrome lies between the conurbations of Hatfield to the east and St Albans to the west on land to the north of the A1057. The airfield ceased operation in the 1990's and the easternmost part, on the fringe of Hatfield itself and incorporating the former hangars and other main buildings, was redeveloped in the 1990s/00s. That area now houses a business park, the University of Hertfordshire campus, areas of housing and a landscaped linear park.

11.2 The remaining undeveloped areas of former airfield are identified in the adopted Hertfordshire Minerals Local Plan 2007 as a 'Preferred Area' for sand and gravel extraction. Pursuant to this allocation, Brett Aggregates Limited instructed Bioscan (UK) Ltd in July 2014 to commence a programme of ecological surveys to inform the design and subsequent assessment of a proposal for mineral extraction on leasehold land within the western part of the Preferred Area. The proposal is for the phased extraction of some eight million tonnes of sand and gravel, with on-site processing, and for progressive restoration using imported inert fill.

11.3 The undeveloped parts of the airfield have since the early 2000's been managed as an informal country park (Ellenbrook Fields) and are today crossed by permissive paths with interpretation sign-boards stationed at a few key locations. Parts are also actively grazed or mown. The restoration scheme has been drawn up with the intention of reinstating similar uses in the future, and in cognisance of national and local nature conservation objectives, the site's geology and its historical and present-day ecology. As part of this process the Hertfordshire and Middlesex Wildlife Trust have been actively consulted in drawing up the restoration proposals.

11.4 This Ecological Impact Assessment (EcIA) considers the likely significant effects of the proposal on ecological resources following the guidelines set out by the Chartered Institute of Ecology and Environmental Management (CIEEM 2006, 2016). The following chapters set out the information sources that have informed the assessment (including the methodologies and results of surveys undertaken); the baseline ecological conditions existing at the site; the key ecological receptors; the likely significant ecological effects on these receptors arising; the mitigation measures proposed if and where appropriate to prevent, reduce or compensate for any of these effects adjudged to be significant and adverse; and finally the predicted residual effects after these measures have been employed (including any positive benefits arising).

ECOLOGICAL CONTEXT AND PRE-EXISTING SURVEY DATA

Physical and Ecological Context of the Site

11.5 The application red-line encompasses some 87ha in the western part of the former British Aerospace landholding (Figure 1). It is bordered to the south by the A1057, with a nursery/garden centre and small-scale development off Oaklands Road bordering the site to the south-west. An existing sand and

gravel quarry (Hatfield CEMEX Quarry) adjoins the site to the northwest, with the CEMEX landholding also including the mature woodland of Home Covert immediately to the north. Bordering the application site to the north-east is the remaining undeveloped area of the former airfield, with the University of Hertfordshire sports pitches adjoining the site to the south-east.

11.6 The mineral deposit comprises glacio-fluvial origin sands and gravels in two horizons lying over the Upper Chalk and separated by a boulder clay interburden layer. In the natural condition, the upper deposit would be covered by chalky boulder clay and silty drift soils, mapped as belonging to the Hamble 2 association[1], and tending to moderately droughty with some seasonal waterlogging[2]. However, the modern depth of soil cover on the site has been influenced by significant episodes of disturbance during the 20th Century and there are localised areas on the site where more stony and gravelly subsoils are apparent at the surface.

11.7 In terms of regional ecological characteristics, the application site sits towards the northern edge of the London Basin Natural Area[3] . The nature conservation priorities set out for this natural area in 1997 remain relevant today, and include protection and enhancement of a range of priority habitats characteristic of the region, including (of particular relevance here) neutral and acid grassland and grass-heath. These priorities are also reflected in the 'appropriate actions and principles' for the site indicated by the Hertfordshire Ecological Network Mapping project[4], which uses a county-wide habitat inventory to generate opportunity maps identifying areas most suitable for targeted and appropriate habitat creation or enhancement efforts in order to maintain or enhance landscape-scale networks.

Pre-existing Surveys

11.8 The former airfield has been subject to several previous campaigns of ecological surveys dating back to 1999. These have been undertaken in connection with the now completed redevelopment of the easternmost portion, the subsequent management of the remainder as an informal country park, and more recently the promotion of the eastern area for housing. These studies are discussed in chronological order below.

11.9 Cresswell Associates reported on an ecological appraisal of the airfield in June 1999, and subsequently produced a management plan for the undeveloped balance of the site in July 2001, a report on botanical surveys (also in July 2001) and a report on ground-nesting birds and brown hare surveys (December 2001). Esus Forestry and Woodland also produced a survey and management plan for Home Covert, Round Wood and Cut Field Wood, north of the airfield, in April 2001.

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[1] Jarvis et al (1984). Soils and their Use in Eastern England. Soil Survey of England and Wales Bulletin No. 13. Harpenden

[2] Other sources (e.g. De Haviland Plain landscape character area description) identify Gresham series soils as present on the airfield site

[3] Natural Area Profile 66 – London Basin. English Nature (1997)
http://www.naturalareas.naturalengland.org.uk/Science/natural/profiles%5CnaProfile70.pdf

[4] http://www.hertswildlifetrust.org.uk/sites/default/files/files/Hertfordshire's%20ecological%20networks%20report%20-%20Final%20Aug%202014.pdf

11.10 This body of work was reviewed and updated in an ecological assessment produced for the current site owners, Goodman, in 2008[5] . This report also set out the results of an updated desk study, Phase 1 habitat survey and a protected species assessment. It assessed the grassland resource on the site as falling short of qualification as a County Wildlife Site, identifying the adjoining Home Covert as of greater habitat and botanical interest. The site's population of great crested newts was assessed as unlikely to be of more than local value, although no surveys of population size were carried out. The report refers to both slow worm and grass snake having been recorded in 1999-2001 and suggested that common lizard and/or adder could also be present, by virtue of the extent of suitable habitat. Barn owl was noted as present (in both 2001 and 2008) and attention was drawn to the high density of skylark and meadow pipit, and the presence of other declining farmland birds (lapwing was recorded as a breeding species in 2001). Reference was made to local records of four bat species, and to the presence of a number of mature trees and buildings potentially suitable for use by roosting bats, although no bat surveys were carried out. The presence of brown hare was also noted, with signs of badger, but no setts, found.

11.11 Based on recommendations for further survey work set out in the above study, and to inform proposals to open up the remainder of the airfield for public recreation, further targeted surveys were commissioned and carried out during 2010[6] . These included detailed surveys for great crested newts, reptiles, breeding birds and water voles. These surveys identified the following:

- a 'medium' population of great crested newts occupying ponds scattered across the airfield site and potentially linked to a wider metapopulation centred on the adjoining gravel pits to the north;
- no reptiles, despite the availability of abundant suitable habitat;
- a breeding bird assemblage assessed to be of 'importance in a local context' with high densities of skylark, meadow pipit and whitethroat and with cuckoo and barn owl also present;
- no evidence of water voles;
- the presence of badger setts.

11.12 The above survey work informed a review and updated ecology assessment carried out by LDA Design in 2013[7] in connection with the promotion of land to the east for residential development, although no further survey work was commissioned at that time.

11.13 Separately, in 2013, the Wildlife Sites Survey team of the Hertfordshire and Middlesex Wildlife Trust carried out a series of habitat and botanical survey visits, focussed on the eastern and northern part of the airfield, but covering

[5] Cresswell Associates/Hyder Consulting (2008) Ecological Appraisal of Hatfield Green. Report No. WX82186/C1186/V1 Produced for Goodman UK Ltd.
[6] Cresswell Associates/Hyder Consulting (2010) Hatfield Green Summary of Ecological Surveys. Briefing document Produced for Goodman UK Ltd
[7] LDA Design (2013) Hatfield Green Ecology Assessment. Report produced as Appendix 2 to a 'Landscape and Energy Strategy' for Goodman UK Limited.

around half of the Brett application site[8] . They classified the areas of former airfield they surveyed as a mixture of species-poor and locally quite species-rich, predominantly neutral, grasslands, with ranker areas and areas of scrub and ponds. They also noted a number of local indicator species and concluded that much of the site met the criteria for designation as a Local Wildlife Site (LWS).

11.14 Most recently, further baseline survey work for the land to the east of the application site was commissioned by Goodman in 2015. This survey work, which was carried out by LDA Design in parallel with the Bioscan surveys of the application site, and in some instances overlapping, included an Extended Phase 1 Habitat Survey and a great crested newt habitat suitability survey[9] and latterly a great crested newt eDNA survey of certain ponds[10] . The results have been shared with Bioscan and, where relevant to the assessment, are assimilated into the baseline conditions section of this chapter.

SCOPING

Scoping Submission

11.15 3.1.1 A request for a scoping opinion was submitted to Hertfordshire County Council in June 2015. The request was accompanied by a report outlining draft details of the project, including the intended restoration to a combination of nature conservation and amenity after-uses and including a summary of relevant ecological issues identified by the surveys and data reviews carried out up to that point, including the confirmed presence of great crested newts and barn owl, and a range of other bird species of elevated conservation significance that use the site regularly or on a transitory basis.

Scoping Responses

11.16 Hertfordshire County Council's formal screening and scoping opinion was received in November 2015. In respect of nature conservation matters, the Council's response was informed by consultation responses from Natural England, the Environment Agency and the Council's outsourced ecological advisor Martin Hicks (Hertfordshire Ecology).

11.17 Each of these screening and scoping responses relevant to ecology is reviewed below:

Natural England

11.18 Natural England's response to HCC, dated 10 August 2015, sets out generic guidance for what should be included in an Environmental Impact Assessment, based on established case law and guidance. No specific

[8] Wise, et al (2013) Wildlife Site Survey Report for: Ellenbrook Fields. Unpublished report for Hertfordshire and Middelsex Wildlife Trust.
[9] LDA Design (2015). Hatfield EIP Allocation – Ecology Appraisal. Report for Goodman UK Ltd.
[10] LDA Design (2015). Hatfield EIP Allocation: GCN eDNA Report. Report for Goodman UK Ltd.

comments on particular ecological receptors, or on the ecological information provided within the scoping report, were provided.

Environment Agency

11.19 The Environment Agency's response to HCC dated 2 October 2015 made no specific reference to ecological receptors, but commented upon the need for the restoration scheme to consider the potential for bromate contamination and indicated that the likely requirement for imported fill would necessitate an Environmental Permit.

Hertfordshire Ecology

11.20 The response from Hertfordshire Ecology offered a more detailed review of the approach set out in the scoping document. The proposal to restore to a wildlife and amenity end use was welcomed, and suggestions were made as to appropriate approaches to restoration, and how phasing and aftercare should be detailed in the ES. The response goes on to state that the ES needs to include clear demonstration of how net loss will be avoided and net gain delivered, and suggests that the evaluation of the existing resource should be informed by reference to the existing Wildlife Site criteria. On the scope of the baseline ecological surveys, the response stated that "these should be sufficient to enable a satisfactory description of the site and its principle (sic) ecological interests to be made".

Scoping Decision Notice

11.21 The final scoping opinion notice issued by Hertfordshire County Council on 19th November 2015 echoed Hertfordshire Ecology's comments in seeking details of restoration phasing, and further confirmed that the ES should address how the suggested future country park would be delivered, including management to minimise disturbance to wildlife. It also indicated that the assessment should extend to impacts on county wildlife sites and resources of geological significance.

BASELINE DATA COLLECTION

Methodology

Rolling Desk Study & Data Review

11.22 A broad range of data sources have been consulted and in many instances re-consulted over time in assembling information on the baseline ecological conditions on the site, and putting it into the appropriate context, as follows:

Web-based and Archive Search

11.23 A search of relevant internet sources included the on-line 'Magic' database managed by Natural England (http://magic.defra.gov.uk/home.htm) for information on statutory designations and priority habitats, the planning

portals of both Welwyn Hatfield and St Alban's Council for information from any ecological surveys submitted with current or recent planning applications for adjoining land, and web-based literature on the relevant Natural Area and on the Hertfordshire and Middlesex Wildlife Trust's 'Living Landscapes' and ecological networks projects. Local special-interest websites, including the Hertfordshire Natural History Society, Herts Bird Club and Herts and Middlesex Bat Group were also accessed for sighting data and other records pertaining to the site, and to put the records obtained from fieldwork into context.

11.24 A review of Bioscan's in-house data archive was also conducted.

Environmental Records Centre

11.25 A formal data request was submitted to the Hertfordshire Environmental Records Centre (HERC) in October 2015, and information was received on protected / notable species records as well as areas designated for their nature conservation interest. HERC were asked to provide records within a 2km radius of the centre of the site (taken as TL199083).

Herts and Middlesex Wildlife Trust

11.26 Early in the design and survey processes of the project, the Herts and Middlesex Wildlife Trust were consulted on appropriate restoration principles and objectives, and a visit to their offices was made in order to review data related to the ecological networks project and unpublished information they held from surveys of the site carried out in 2013. The latter survey data was later obtained once appropriate landowner release-permissions had been secured.

Previous Consultancy Survey Reports

11.27 The reports of previous ecological surveys of the airfield were obtained from LDA Design in October and November 2015. These reports comprise the following:

- Ecological Appraisal of Hatfield Green (Cresswell Associates/Hyder 2008)
- Hatfield Green Summary of Ecological Surveys (Cresswell Associates/Hyder 2010)
- Hatfield Green Ecology Assessment (LDA Design 2013)
- Hatfield Ecology Appraisal (LDA Design 2015)
- Hatfield GCN eDNA Report (LDA Design 2015)

11.28 The data within these reports is summarised and drawn upon where relevant in the description of baseline conditions.

Barn Owl Nest Box Monitoring Data

11.29 By agreement with Goodman, four barn owl nest boxes and one kestrel nest box have previously been erected on mature trees falling within the Brett application site, with additional boxes in other parts of the Goodman and/or adjoining CEMEX landholdings. These boxes are monitored by Barry Trevis[11], who is also the warden of the nearby Herts and Middlesex Wildlife Trust reserve at Lemsford Springs. Information from the monitoring undertaken of these boxes is supplied by Mr Trevis to Goodmans, who in turn have supplied the latest report (relating to the 2014 breeding season) to Bioscan. Mr Trevis also supplied the same information to Bioscan via the Wildlife Trust.

11.30 Information from all of the above listed sources has been used in this assessment where corroborated by up-to-date survey or otherwise considered to still be relevant to assessing the baseline ecological status of the land.

Extended Phase 1 Habitat Surveys

11.31 An extended Phase 1 survey of the application site by Bioscan took place over several dates during the course of 2014 and 2015. An initial walkover survey and Phase 1 habitat mapping was carried out in July 2014, with completion and refinement taking place on subsequent visits and ultimately finalised in November 2015. The many visits for bird surveys and other purposes between these two dates were also used to augment and refine the mapping and botanical recording element, ensuring coverage across all seasons. In this way, a detailed picture of current habitat distribution and quality has been built up.

11.32 The habitat and botanical work followed the Phase 1 approach as devised by the former Nature Conservancy Council (now Natural England), and updated periodically by the Joint Nature Conservation Committee[12] . This technique provides an inventory of the broad habitat types present on the site and targets areas of more interest which are then subject to more detailed examination either at the time or on subsequent visits. Additional detail was provided in the form of representative lists of species compiled for each habitat (an 'extended' Phase 1 survey).

11.33 The habitats on the site were also assessed to see if any qualify as 'priority' habitats, as listed by the Government further to the provisions of sections 40-41 of the Natural Environment and Rural Communities Act 2006. Where appropriate this involved consideration of grassland community assemblages up to NVC/Phase 2 level - i.e. against the community classifications set out in the National Vegetation Classification[13] . The site's hedgerows were further assessed for their potential to meet the ecological criteria of an 'Important' hedgerow as defined by the Hedgerows Regulations 1997. This involved assessing the number of woody species (as listed on Schedule 3 of the

[11] British Trust for Ornithology Ringing Licence Number A3821
[12] JNCC, (2010), Handbook for Phase 1 habitat survey - a technique for environmental audit
[13] Rodwell, J (ed) British Plant Communities Volumes 1-5. Cambridge

Hedgerows Regulations 1997) in a sample 30m stretch of hedgerow (for hedgerows between 100m and 200m in length two 30m stretches of hedgerow were surveyed and an average taken, and for hedgerows in excess of 200m in length, three 30m stretches of hedgerow were surveyed and an average taken). Relevant features along each hedgerow were recorded, such as ditches, banks, standard trees, lack of gaps, parallel hedgerows, multiple connections with other hedgerows/woodland/ponds, and woodland ground flora (as listed on Schedule 2 of the Hedgerows Regulations 1997).

11.34 A hedgerow is considered to be 'Important' under the Regulations if it, amongst other criteria, has:

- an average of at least 7 woody species per 30m length
- averages at least 6 woody species per 30m and has at least 3 qualifying additional features (e.g. ditches and banks)
- averages at least 5 woody species per 30m and has at least 4 qualifying features
- averages at least 6 woody species per 30m including one of: black poplar, large-leaved lime, small-leaved lime or wild service-tree
- averages at least 4 woody species per 30m, has at least 2 qualifying features and is adjacent to a public right of way (PROW)

11.35 For the purposes of this assessment, a hedgerow was also considered to be 'species-rich' if it contained five or more native woody species per 30m section on average, and 'species-poor' if it contained four or fewer native woody species per 30m section on average.

11.36 In addition to habitat classification and mapping, attention was also focused during the Phase 1 surveys on searching for any signs of protected species utilising the area, such as field sign evidence of badger *Meles meles,* potential bat roosting opportunities and any field signs of other protected species that could utilise the site. The results were used to inform and/or augment the separate targeted work on great crested newts, reptiles, bats, badgers, birds and invertebrates that is described below.

Bat Surveys

Bat Activity Survey

11.37 The principal aim of the bat activity surveys were to assess the overall levels of bat activity within the site, the bat species composition, and to identify any landscape features used for commuting/foraging. The methodology for this survey was derived from the industry-standard BCT Survey Guidelines[14] for a large site of low quality bat habitat. The guidelines state for this category that there should be '*one visit per transect each season (spring, summer and autumn)*'.

[14] Hundt, L. (2012). Bat surveys – good practice guidelines, 2nd edition. Bat Conservation Trust.

11.38 Transect surveys were undertaken in June, July and September 2015. During the June visit the site was walked as a continuous transect by a single surveyor, and for the July and September visits two surveyors each covered separate areas of the site (broadly the northern part of the site and the southern). The transects not only followed existing landscape features such as hedgerows, footpaths, woodland edges, but due to the relative paucity of upstanding landscape features, the transect also covered the more open aspects of the site (see Figure 2 for the transect routes walked on each survey).

11.39 Surveyors were equipped with an Anabat (SD1, SD2 or Express) and a Pettersson D240X time expansion and heterodyne bat detector connected to a MP3 recorder. The Pettersson is employed in addition to the Anabat to aid real-time identification in the field, to allow reactive effort to be directed towards obtaining good recordings of any unusual or uncertain species and to provide supplementary recordings for use in corroboration of the Anabat data more generally.

11.40 The June transect survey commenced at around sunset and the subsequent July and September 2015 transect surveys commenced approximately one hour after sunset, following on from emergence surveys (see below). Table 11-1 below provides the details of each survey.

Table 11-1
Dates, Timings and Weather for each Bat Activity Survey in 2015

Date	23/06/2015	29/07/2015	07/09/2015
Cloud	1/8	8/8	3/8 at start to 0/8 at end
Wind	Little/ none	Little/ none	Little/none
Moon	1st quarter	Not visible	Not visible
Start temperature (°C)	16	13	14
End temperature (°C)	12	12	9.5
Start time	21:33	21:53	20:35
End time	23:40	23:46	22:11
Sunset	21:25	20:53	19:35

11.41 Analysis of the survey recordings was undertaken at the Bioscan offices using propriety software (Analook for the Anabat recordings and Batsound v10.0 software for the D240X recordings).

11.42 The Anabat system records in 15 second segments when sound (bats or otherwise) triggers the detector. For example, if one bat is detected for two seconds one sound file is created; if four bats are recorded continuously for 15 seconds again one sound file is created. Identifying and labelling bat calls within recording segments was undertaken with the aid of published species call parameters[15] , as well as Bioscan's in-house library of calls. The label(s) for each sound file were then tallied to produce the file count for each transect. It should be noted that registration or call tallies derived from

[15] J Russ, (2012). British Bat Calls: A Guide to Species Identification. Pelagic Publishing

Anabat recordings reflect the number of sound files for each species rather than reflecting the number of bats present. The D240X recordings were used to corroborate and/or cross-check uncertain or difficult calls identified from the Anabat analysis.

Automated Bat Survey

11.43 Additional detectors were deployed at various locations around the site to collect data over a longer time-series, helping to improve certainty about the overall species-composition present, but also providing additional data on foraging and commuting activity specific to certain landscape or habitat features. The methodology for this survey was derived from the BCT Survey Guidelines[16] for a large site of low quality bat habitat. This category recommends that there should be '1 [automated detector] location per transect. *Data to be collected on 4 consecutive nights each season (spring, summer and autumn)'.*

11.44 Anabat Express detectors were deployed in three different locations in each of June, July and September and were left to record for a minimum of four nights (Figure 2 provides the locations where each Anabat Express was deployed). Table 11-2 below provides details of the duration and weather conditions of each static survey period.

Table 11-2
Details of the Automated Bat Detector Surveys

Month of survey	June	July	September
Deployment location	A1	A2	A3
Start date	23/06/2015	29/07/2015	07/09/2015
End Date	29/06/2015	12/08/2015	16/09/2015
Total number of nights recorded	6	15	9
Average mean night-time temperature over each survey period (°C)[17]	14.7	14.6	11.7
Lowest recorded night-time temperature over each survey period (°C)[17]	9	6	7.5

Bat Tree Roost Assessment

11.45 The mature trees within the site were subject to an initial (ground-based) examination to identify any features that could be of potential use for roosting bats (such as splits, cracks, rot holes, coverings of ivy, peeling bark, or similar), using binoculars where necessary. The potential of each tree to support roosting bats was then ranked in accordance with the following criteria:

- **Negligible Potential** - Trees which lack any significant opportunities for bats to roost.

[16] Hundt, L. (2012). Bat surveys – good practice guidelines, 2nd edition. Bat Conservation Trust.
[17] The Anabat Express contains a temperature logger and records the temperature approximately every five minutes. This temperature information is downloaded concurrently with the extraction of the bat calls.

- **Low Potential**- Trees with minor roosting opportunities such as loose bark plates, small cracks in limbs or ivy cover.
- **Medium Potential** - Trees with medium roosting opportunities such as significant areas of flaking bark or relatively large splits or cracks.
- **High Potential** - Trees with major roosting opportunities such as woodpecker holes or large, deep cracks or fractures, thereby having the potential to support roosting bats all year round.

Built Structure Inspection

11.46 The only built structure within the application site (B1) is the former radio beacon/aerial lighthouse building located in the east of the application site. This was subject to a structural inspection for evidence of bats, and the likelihood of it being utilised by roosting bats assessed.

Bat Emergence Survey

11.47 Two trees were identified on the site that appeared to a) fall within the proposed extraction area and b) contained features that could be utilised by roosting bats (see T1 and T2 on Figure 2 for their location). Two surveyors undertook emergence surveys of these trees prior to the July and September bat activity surveys. The surveys commenced approximately 15 minutes prior to sunset and were concluded approximately one hour after sunset when it became too dark to determine with certainty if any bats subsequently detected had emerged.

Great Crested Newt survey

11.48 Few ponds are indicated as being present on the site by OS mapping, however it rapidly became apparent during the early phases of survey work that in addition to these the site contains a number of both well-established and recent artificial ponds not shown on OS maps. Whilst undertaking the wintering bird survey visits of the site, the locations of all waterbodies present within and immediately adjacent to the site were therefore recorded on a map. In total eight waterbodies or waterbody complexes were found within the application site boundary, with an additional three accessible for survey outside of the site but within close proximity. Figure 3 provides the locations of these waterbodies. Around one of these, Pond P1, fencing has been erected and a sign indicates that great crested newts are present. Efforts were made to establish the origin of this sign and whether it related to past mitigation work (e.g. speculated to relate to the use of the site as a film set in the 1990's). However neither Goodman nor the Hertfordshire and Middlesex Wildlife Trust were able to confirm its origin.

11.49 Presence/absence and population size class assessment surveys for great crested newts were carried out between April and June 2015 following industry-standard methodology[18] . Survey visits were conducted between the 29th April 2015 and 9th June 2015. The commencement of the survey was deliberately delayed because of the exceptional run of low overnight

[18] Following English Nature (2001*): Great Crested Newt Mitigation Guidelines*

temperatures experienced in southern England during spring 2015. In the event, sub-optimal overnight temperatures lasted well into May, but it was evident from the survey results that this did not preclude amphibian activity.

11.50 During each survey visit a minimum of three survey techniques were used. The techniques were primarily egg-searches, torching and bottle trapping, although netting was deployed in later visits within certain waterbodies that were close to drying out. A minimum of four survey visits to each waterbody was made in this period, with those ponds confirmed as supporting great crested newts subject to a total of six visits to obtain data from which to derive a broad population 'size class' for assessment purposes.

11.51 Each waterbody was also assessed for its habitat quality and/or potential to support great crested newts using the Habitat Suitability Index[19] (HSI) system. This allocates scores to ten physical attributes of the waterbody and its surrounding environment that are known to affect the likelihood of newt presence, and is now the standard repeatable technique applied when assessing how suitable a waterbody is for great crested newts. A HSI score of 1 suggests optimal habitat and 0.01 suggests unsuitable habitat, although the system has to be applied with caution as it is not sufficiently precise to be able to conclude that a pond with a high score will support newts, or that a pond with a low score will not[20] .

Reptile Survey

11.52 The presence of reptiles was assessed on the initial visits as being likely, due to the large expanses of suitable habitat in the form of rough grassland over the majority of the site. In order to sample the species assemblage and derive broad population size-class assessments, a reptile survey using artificial refugia was conducted over the spring and early summer of 2015. A total of 466 refugia, comprising a mixture of corrugated bitumen sheeting and roofing felt approximately 0.5m^2 in size, were placed within the five areas of highest quality reptile habitat within the site. The refugia were placed in each of these areas to a density of approximately ten per hectare. For general surveying purposes a minimum of five to ten refugia per hectare is recommended[21] . Therefore, the density of the refugia placed on the site is on the higher side of that suggested by applicable best practice guidelines. Each refugium was checked on at least seven occasions throughout the survey period (due to the high number of refugia deployed not all could be checked during suitable weather conditions during one visit).

11.53 Refugia of this type heat up faster than the surrounding substrate, and they therefore serve as an attractant for reptiles to bask on and shelter beneath in order to attain optimal body temperature more efficiently. The technique thereby allows these often elusive animals to be detected more readily.

[19] Oldham R.S., Keeble J., Swan M.J.S. & Jeffcote M. (2000). Evaluating the suitability of habitat for the Great Crested Newt *(Triturus cristatus)*. Herpetological Journal 10(4), 143-155.
[20] Amphibian and Reptile Groups of the United Kingdom advice note 5: Great Crested Newt Habitat Suitability Index. ARG UK May 2010
[21] Froglife (1999) Reptile Survey: an introduction to planning, conducting and interpreting surveys for snakes and lizard conservation. Froglife Advice Sheet 10. Froglife, Halesworth

11.54 Table 11-3 below provides the number of refugia used in each reptile survey area R1-R5 and the size of each area. Figure 3 provides the locations of these areas.

Table 11-3
Size and Number of Reptile Refugia uses in each Area

Reptile Area	Approximate size of area (ha)	Number of refugia deployed
R1	14	140
R2	7.5	80
R3	11	110
R4	9	126
R5	1	10
Total	42.5	466

Bird Survey

Wintering Birds

11.55 Continuous transect surveys of wintering bird activity within the application site were undertaken in each of November 2014, December 2014, January 2015 and February 2015. The methodology essentially replicates the territory mapping technique used for breeding surveys and based on the British Trust for Ornithology's (BTO) Common Bird Census[22] technique. The surveyor attended the site soon after sunrise in the morning of each visit and walked a continuous transect around the site taking in all field boundaries and concentrations of scrub, as well as more open habitats, and recording all visual and aural registrations of birds present onto a large scale map using standard species identification and activity notation. The start and end point and direction of travel along transects was varied between visits to avoid sequential bias.

11.56 Due to the known historic use of the site by owls, including in particular short-eared owl *Asio flammeus* and barn owl *Tyto alba*, a visit was made in the late afternoon/ early evening of the January visit in order to detect these species. The visit involved walking the site as a transect concentrating on areas perceived to offer high quality owl foraging habitat.

11.57 Table 11-4 below provides the details of each wintering bird survey visit.

Table 11-4
Details of Wintering Bird Survey Visits

Date	28/11/2014	15/12/2014	20/01/2015	20/01/2015	25/02/2015
Start time	07:25	08:10	08:10	15:27	06:55
End time	10:30	11:15	11:30	17:10	11:35
Sunrise	07:41	08:02	07:57	-	07:01

[22] Bibby, C. J., N.D. Burgess, D.A. Hill, and S.H. Mustoe. 2000. Bird census techniques. 2nd ed. Academic Press, London and San Diego, Calif. 302 p.

Date	28/11/2014	15/12/2014	20/01/2015	20/01/2015	25/02/2015
Sunset	-	-	-	16:27	-
Cloud	8/8	0/8 to 8/8	0/8 to 8/8	8/8	8/8
Wind	Breezy at times	Little/no wind	Little/no wind	Little/no wind	Little/no wind
Temperature	10°C	6°C to 8°C	-3.5°C rising to 4°C	4°C dropping to 3.5°C	5°C to 8°C
Notes	Survey commenced prior to sunrise in order to detect owls		Heavy frost	Dusk survey	Light drizzle through most of survey. Clearing towards end.

Breeding Birds

11.58 A continuous transect breeding bird survey of the application site was undertaken during each of April, May and June 2015. The methodology is based up the application of the territory mapping technique as forms the basis of the British Trust for Ornithology's (BTO) Common Bird Census[23] approach. The surveyor attended the site just after sunrise and walked a continuous transect around the site taking in all field boundaries, as well as the more open aspects of the site, recording all visual and aural observations of birds present onto a large scale map using standard species identification and behavioural notation. Table 11-5 below provides the details of the breeding bird survey visits.

Table 11-5
Details of Breeding Bird Survey Visits

Date	15/04/2015	21/05/2015	24/06/2015
Start time	06:15	05:30	05:31
End time	10:25	10:00	09:48
Sunrise	06:04	04:58	04:41
Cloud	0/8	0/8	7/8- high cloud
Wind	Little/no wind	Little/no wind	Westerly 2-3
Temperature	5.5°C to 12.5°c	4.5°C to 13.5°C	14°C to 18°C

11.59 Surveys were only carried out during suitable weather; conditions that could suppress bird activity or otherwise compromise the effectiveness of the technique (e.g. strong wind, rain) were avoided.

11.60 Each species recorded during the survey was assigned to one of the following evidence categories[24] to assess the likelihood of breeding within the study area. The highest category observed over the three visits is used to inform the breeding status assessment for each species.

[23] Bibby, C. J., N.D. Burgess, D.A. Hill, and S.H. Mustoe. 2000. Bird census techniques. 2nd ed. Academic Press, London and San Diego, Calif. 302 p.
[24] Derived from the methodology of the UK Breeding Bird Atlas 2007-11

Non-breeding

- Flying over
- Feeding on the site only (likely to be breeding off-site)

Possible breeder

- Species observed in suitable nesting habitat
- Singing male in suitable nesting habitat

Probable breeder

- Pair present in suitable nesting habitat
- Territory present between survey visits
- Courtship/ displaying
- Visiting probable nest
- Agitated behaviour from a parent bird
- Nest building

Confirmed breeding

- Recently fledged young in suitable nesting habitat
- Adults entering or leaving a nest site
- Adult carrying a faecal sac or food
- Nest with eggs
- Nest with young

11.61 At the completion of the three surveys, the visit maps were analysed and the number of apparent territories, based on individual singing males or other indications of territory holding/breeding, were counted to arrive at a site territory total for each species.

Badger survey

11.62 Badger field signs searched for include prints, push-throughs, snagged hair, latrines, foraging evidence, paths and active or disused setts. Setts were assessed for activity and classified according to standard criteria[25] . Incidental observations of badgers were also made during the bat and bird surveys undertaken during 2014 and 2015.

Invertebrate survey

11.63 A specific assessment of the invertebrate interest of the study area was conducted between June and October 2015. Three different surveyors, with different specialist skills, were involved in the site visits in order to maximise the potential for recording different invertebrate groups.

11.64 The site was visited and terrestrial invertebrates were sampled on a total of five occasions as follows:

- 13th May 2015,

[25] Harris, Cresswell & Jefferies (1989) Surveying Badgers. The Mammal Society

- 12th June 2015,
- 7th August 2015,
- 7th September 2015, and
- 7th October 2015.

11.65 On these dates, terrestrial invertebrate sampling was undertaken by direct observation and by the following active sampling methods:

- sweep-netting. A stout hand-held net is moved vigorously through vegetation to dislodge resting insects. The technique may be used semi-quantitatively by timing the number of sweeps through vegetation of a similar type and counting selected groups of species.
- beating trees and bushes. A cloth tray, held on a folding frame, is positioned below branches of trees or bushes and these are sharply tapped with a stick to dislodge insects. Black or white trays are used depending upon which group of invertebrates has been targeted for search. Insects are collected from the tray using a pooter – a mouth-operated suction device.
- suction Sampling. This consists of using a converted leaf blower to collect samples from grass and other longer ground vegetation. The sample is then everted into a net bag and the invertebrates removed with a pooter. The advantage of suction sampling is that it catches species which do not fly readily or which live in deep vegetation. It is particularly productive for Coleoptera, some Diptera and Arachnida.

11.66 In addition, overnight moth trapping was undertaken over the following nights:

- 13-14th June 2015
- 28th-29th July 2015
- 12th-13th August 2015
- 7th-8th October 2015

11.67 The methods used during each nocturnal visit comprised the following:

- MV light-trapping. Mercury-vapour (mv) light bulbs are used to attract nocturnal insects - especially moths. These bulbs emit ultra-violet light at a wavelength which causes moths to be attracted, but the wavelength used is harmless to humans. The bulbs are mounted over catching chambers filled with cardboard egg-trays and moths entering the chambers settle on these trays and may be examined. Bulbs were powered from portable generators. Light trapping is the single most effective method of recording moths. It is also valuable for recording some other nocturnal insect groups.
- actinic light trapping. Small size actinic traps, operated from 12-volt burglar-alarm batteries were left running from early evening to the following morning. These units are discrete because, whilst still having an output in the safe zone of the UV range, their light output in the visible part of the spectrum is reduced; thus, they can be tucked away in undergrowth at the side of a track without passers-by noticing them. For

the same reasons, they attract moths and other insects from a much shorter distance and so the resultant catch is usually more representative of the habitat selected, in comparison with that in mercury vapour traps which attract flying species from a much wider area of the countryside.

11.68 The moth recording was not designed to be exhaustive; the objective was to obtain representative samples of the moth fauna from the various habitats present to ensure complete sampling coverage.

11.69 **Passive sampling**. This occurs in the absence of the surveyor. The use of a malaise trap for this purpose was regarded as highly desirable, but given the near constant presence of the general public on the site it was judged likely that the trap would probably not survive. Consequently, malaise trapping was judged impractical, and pitfall trapping was used.

- **Pitfall trapping**. Vending-machine cups or similar are placed in the ground with the rim flush with, or slightly below, the surface. A fluid is added, containing ethylene glycol, sodium chloride and formalin with a little detergent to reduce surface tension. Traps may be covered or uncovered and are typically left in position for a month at a time. Holes made in the sides of the cups a couple of centimetres below the rim permit flood or rain water to drain without the traps over-flowing and the catch becoming lost. Invertebrates simply fall into the traps. This is the single most effective means of recording ground beetles *(Carabidae)* but is also effective for rove beetles *(Staphylinidae),* some other beetle groups, spiders and most non-insect soil-dwelling arthropods.

11.70 **Survey constraints**. The main constraint of the invertebrate survey related to the digging up of the pitfall traps by dogs or foxes. Therefore, a limited amount of data was obtained from using this survey technique.

Baseline Conditions

Nature Conservation Designations

11.71 The application site is not subject to any statutory or non-statutory nature conservation designation.

11.72 Table 11-6 below lists statutory nature conservation designations within 5km of the application site boundary.

Table 11-6
Statutory Nature Conservation Sites within 5 km of the Application Site Boundary

Site Name	Designation	Brief description	Distance and orientation from site
Colney Heath	Local Nature Reserve	One of the few remaining acid heathlands in Hertfordshire.	South. 1.9km
Howe Dell	Local Nature Reserve	Comprises a stream lying at the bottom of a deeply incised valley containing a woodland.	East. 2.3km
Oxleys Wood	Local Nature Reserve	A woodland providing habitat for insects and common birds.	South-east. 2.4km
The Wick Wood	Local Nature Reserve	Ancient semi-natural woodland, with a seasonal pond and an informal playing field.	West. 2.5km
Stanborough Reedmarsh	Local Nature Reserve	A wet woodland, reed marsh, and river bank.	North-east. 3.3km
Water End Swallow Holes	Site of Special Scientific Interest	A site of geological importance. Although there is a willow carr/ swamp community that is of biological importance.	South-east. 4.4km
Watercress Wildlife Site	Local Nature Reserve	Old watercress beds and allotments. Bounded by the River Ver.	South-west. 4.6km
Wheathampstead Development Centre	Local Nature Reserve	Secondary woodland with scrub and unimproved neutral grassland.	North-west. 4.7km

11.73 In addition to the above, there are 23 non-statutory Local Wildlife Sites (LWS) within two kilometres of the application site boundary. Appendix 11/1 provides a list of the sites along with the description for each.

11.74 The nearest LWS is 'Home Covert & Round Wood' LWS which adjoins the northern boundary of the application site. The description provided by HERC for this site states the following:

"*Two areas of ancient semi-natural broadleaved woodland. Home Covert is predominantly Pedunculate Oak* (Quercus robur) *and Ash* (Fraxinus excelsior) *with remnant Hazel* (Corylus avellana) *coppice with some old Hornbeam* (Carpinus betulus), *including pollards, around the woodland edge. Sycamore* (Acer pseudoplatanus) *is frequent and Pedunculate Oak has been planted. Other canopy species include* Betula pendula, *Field Maple* (Acer campestre) *and rare Beech* (Fagus sylvatica). *The ground flora supports woodland indicators such as Bluebell* (Hyacinthoides non-scripta), *Dog's Mercury* (Mercurialis perennis), *Yellow Archangel* (Lamiastrum galeobdolon) *and Common Dog-violet* (Viola riviniana) *along with a good fern flora of Broad Buckler-fern* (Dryopteris dilatata) *and Male Fern* (Dryopteris filix-mas). *Round Wood is primarily a Hornbeam coppice with some Ash and Silver Birch standards and an occasional Holly* (Ilex aquifolium) *with Bluebell below. The bank along the eastern margin supports old coppiced Hornbeam, and Pedunculate Oak and Field Maple also occur at the woodland edge. Wildlife Site criteria: Ancient Woodland Inventory site; woodland indicators.*"

11.75 Reviewing the Ancient Woodland Inventory provided by HERC highlighted that Home Covert was not mapped as an Ancient Woodland Inventory site, and a review of old map evidence similarly suggested it was secondary in origin. Subsequent correspondence with HERC revealed that the site was designated as a LWS on the basis of the presence of ancient woodland indicator species, rather than due to it being ancient woodland per se.

11.76 A total of seven Ancient Woodland Inventory Sites are however present further afield, and within 2km of the application site boundary. The closest, Oak Wood, is located approximately 0.75km to the north-west. Appendix 11/2 provides the list of these sites.

11.77 The application site is identified as lying within an opportunity area for 'acidic' grassland and/or heath creation in the Hertfordshire Ecological Networks Project.

Habitats

11.78 The application site contains the following main habitat types:

- Unmanaged neutral grassland
- Species-poor semi-improved mown grassland
- Grazed neutral grassland
- Neutral to acidic grassland
- Early succession communities with calcareous element
- Tall ruderal
- Hedgerows
- Scattered / dense scrub
- Recent plantation

- Waterbodies
- Watercourse / wet ditches
- Recently disturbed/bare ground
- Hard surfaces

11.79 A description of each habitat follows below, with an account of the dominant or more notable plant species recorded in each. A full list of vascular plant species recorded on the application site is given in Appendix 11/3.

Unmanaged Neutral Grassland

11.80 This is the dominant habitat type across large areas of the site, presenting itself as a more or less homogenous expanse of tall graminoid dominated vegetation punctuated by scattered saplings and small bushes, which locally become closer-spaced and mark a transition to scrub. The community owes much of its outward homogeneity to the dominance of a few bulky grass species, of which false oat-grass *Arrehantherum elatius* is the most typical, although in some areas it is subordinate to cocksfoot *Dactylis glomerata* in cover. A broad range of other grass species make up the rest of the bulk in these outgrown swards, typically including timothy *Phleum pratense*, Yorkshire fog *Holcus lanatus*, couch *Elytrigia repens*, meadow foxtail *Alopecurus pratensis*, and occasionally, tall fescue *Festuca arundinacea*. Finer leaved species include rough meadow grass *Poa trivialis*, creeping bent *Agrostis stolonifera* and red fescue *Festuca rubra* – the increasing dominance of the last of these marking a transition to typically more herb-rich examples. Of more scattered occurrence are perennial rye-grass *Lolium perenne,* soft brome *Bromus hordaceus*, barren brome *Anisantha sterilis,* sweet vernal grass *Anthoxanthum odoratum*, common bent *Agrostis capillaris,* smooth meadow grass *Poa pratensis* and more localised still are wood false brome *Brachypodium sylvaticum*, tufted hair-grass *Deschampsia cespitosa* and crested dog's-tail *Cynosurus cristatus*. A few clumps of the non-native pampas grass *Cortaderia sp.* and pendulous sedge *Carex pendula* (here likely to derive from imported material or of garden-escape origin) are also present in the central part of the site.

11.81 Herb diversity in these swards varies from areas where ruderals are prominent, to fairly species-rich swards, within which are a restricted suite of species indicative of semi-natural 'unimproved' conditions. The former areas are characterised by the presence of stinging nettle Urtica dioica, creeping thistle *Cirsium arvense*, hogweed *Heracleum sphondylium* and cleavers *Galium aparine* while the latter areas, the most diverse of which are often signposted by an increase to co-dominance of red fescue amongst the graminoid component, are commonly characterised by stands of common knapweed *Centaurea nigra*, with a variety of other herb species. These include, variously, wild carrot *Daucus carota*, bird's-foot trefoil Lotus corniculatus, stone parsley Sison ammomum, common toadflax *Linaria vulgaris,* ox-eye daisy *Leucantheum vulgare,* goat's-beard *Tragopogon pratensis*, smooth tare *Vicia tetrasperma,* tufted vetch *Vicia cracca*, red clover *Trifolium pratense,* hedge bedstraw *Galium mollugo,* lady's bedstraw *Galium verum,* red bartsia *Odontites vernus*, hawkweed ox-tongue *Picris hieracioides* meadow vetchling *Lathyrus pratensis* and hairy tare *Vicia*

hirsuta. A notable find was the county-rare green-winged orchid *Orchis morio,* present in a relatively short-sward area in the central part of the site (see target note 1)

11.82 In general, there appears to be a good representation of the various sub-communities of *Arrehatherum elatioris* grassland recognised as community MG1 in the NVC. The F. rubra subcommunity MG1a, including both the *Bromus sterilis* and *Epilobium angustifolium* variants is certainly present, as is the *Urtica dioica* sub-community MG1b (including the *Artemisia vulgaris* variant). The more species-rich knapweed-dominated stands on the site also conform to the *Centaurea nigra* sub-community MG1e, with a particular concentration of these in the central part of the site along the course of the former run-way, and potentially indicative of the exposure of low-fertility soils beneath the now-removed concrete. In some ways, the chief interest of these grasslands, which are not dissimilar to the type of unmanaged grasslands commonly found on road-verges, over and above their unbroken extent (which is unusual), is the presence in one place of several sub-communities of MG1.

Species-poor semi-improved mown grassland

11.83 This habitat occurs in the western part of the application site, occupying one large irregularly shaped area that is maintained by periodic mowing. It is essentially little different in composition to the more species-poor examples of MG1 described above, although false oat-grass is sub-dominant in this area and the increased presence of species such as perennial rye-grass and robust fodder varieties of timothy and meadow foxtail testify to some input of fertiliser or other nutrients, either recently or in the past. Herb-wise, this area is very poor in species, with species such as creeping buttercup Ranunculus repens, ribwort plantain Plantago lanceolata and creeping cinquefoil Potentilla reptans being typical, although bird's-foot trefoil was still noted in one area.

Grazed neutral grassland

11.84 The eastern part of the application site encompasses part of a fenced-in enclosure that is subject to grazing by longhorn cattle. The sward here is close-cropped, although punctuated by scattered taller individuals of less palatable species (such as ragwort Senecio jacobaea and knapweed), and with scattered topiaried survivals of pre-existing scrub, indicating that these areas were much like any other neglected area on the airfield prior to the comparatively recent introduction of grazing. More established thickets of (predominantly willow) scrub in this area are also developing a clear browse-line. The grassland species diversity here is quite high, probably reflective of the choice of location for the grazing enclosure more than a response to the grazing, with species such as wild carrot, yarrow *Achillea millefolium*, bird's-foot trefoil, common sorrel *Rumex acetosa*, meadow buttercup *Ranunculus acris,* hoary ragwort *Senecio erucifolius* and self-heal *Prunella vulgaris* noted here. The alien species goat's rue *Galega officinalis* is also present in this part of the site, probably introduced with disturbance associated with the break-out of the former runway.

Neutral to acidic grassland

11.85 This habitat occurs mainly in an area of rabbit-grazed short sward in the northern part of the site, with outlying representations occurring to the north and east of here at the boundaries of Home Covert. It is distinguished by the presence of certain species collectively indicative of a change in soil chemistry, and by the differing proportions of more broad-tolerance species such as common bent and sweet vernal grass, which become more prominent. In the main area, between Pond P1 and Home Covert, rabbit grazing acting in concert with past disturbance and compaction, has resulted in an expanse of close-cropped short turf with localised ruts and depressions that hold water after rain and during the winter. The grassland is comprised mainly of red fescue, common bent, creeping bent, Yorkshire fog, smooth meadow grass and annual meadow grass *Poa annua* with the moss *Rhytidiadelphus squarrosus* abundant throughout. Herb species recorded here include bird's-foot trefoil, lesser trefoil *Trifolium dubium*, common centaury *Centaurium erythraea,* self-heal, dove's-foot cranesbill *Geranium molle,* sticky mouse-ear *Cerastium glomeratum*, sheep's sorrel *Rumex acetosella,* wall speedwell *Veronica arvensis,* thyme-leaved speedwell *Veronica serpyllifolia*, changing forget-me-not *Myosois discolor*, procumbent pearlwort *Sagina procumbens*, common centaury, parsley piert *Aphanes arvensis* and creeping cinquefoil. In seasonally damp ruts and depressions, creeping bent becomes prominent with creeping buttercup, procumbent pearlwort, fleabane *Pulicaria dysenterica*, marsh cudweed *Gnaphalium uliginosum* and the moss *Calliergonella cuspidata* with upstanding clumps of compact rush *Juncus conglomeratus* and hard rush *Juncus inflexus*, and a little toad rush *Juncus bufonis* also found. A seedling stage, green-leaved sedge assumed to be false-fox sedge *Carex otrubae* was also recorded here. Bracken *Pteridium aquilinum* and lesser stitchwort *Stellaria graminea* become prominent components of the drier and taller woodland edge grasslands eastwards of here and adjoining Home Covert, and similarly indicate a more acidic substrate.

Neutral-calcareous grassland

11.86 In a very few areas of the site, recent episodes of disturbance appear to have exposed lenses of quite calcareous boulder clay, or disturbed soils have otherwise been admixed with crushed concrete or other calcium-rich artificial substrates. In these areas, and in addition to the more typical suite of neutral grassland species, a very limited suite of *calcicoles* is found, including blue fleabane *Erigeron acer* but with wild marjoram *Origanum vulgare*, hawkweed ox-tongue, and wild basil *Clinopodium vulgare* also noted, alongside typically higher cover of bird's-foot trefoil, knapweed and wild carrot.

Early succession communities

11.87 Grass-poor and herb-rich communities with a high proportion of bare ground occur in certain areas of the site that have been subject to disturbance in the relatively recent past. Examples include the steep banks bordering pond P7, and locally along the course of and around the end of the former runway, with

similar, although more species-poor, examples also found encroaching onto tarmac at the edges of the former taxi-way.

11.88 Typical dominants in these areas include creeping cinquefoil, smooth hawk's-beard Crepis capillaris, dove's-foot cranesbill, black medick Medicago lupulina, ribwort plantain, daisy Bellis perennis, scented mayweed Matricaria recutita, perforate St. John's wort Hypericum perforatum, colt's-foot Tussilago farfara, scarlet pimpernel Anagallis arvensis, American willowherb Epilobium ciliatum and Canadian fleabane Conyza canadensis. Less frequent are more robust rosette-forming herbs such as teasel Dipsacus fullonum, weld Reseda luteola and great mullein Verbascum thapsus.

Tall ruderal

11.89 This habitat is found on raised banks of loosely consolidated material, associated with two main areas of the site. Growing on these are tall, near monotypic stands of stinging nettle, with other species including elder, broad-leaved dock *Rumex obtusifolius*, hogweed and mugwort *Artemisia vulgaris.*

Hedgerows

11.90 The hedgerow resource on the site is relatively sparse given the extent of land area, reflecting rationalisation of Enclosure-age field boundaries and later 20th century removals to create the open area of the airfield. Consequently, most of the hedgerows on the site occur as remnant stretches, with the most robust examples demarcating the western and southern boundaries of the former airfield. Each hedgerow is described below with reference to Figure 1:

Hedgerow H1

11.91 This hedgerow extends into the site from the eastern boundary, is partly sited on an indistinct bank, and adjoins a public right of way. It is dominated by hawthorn *Crataegus monogyna*, field maple *Acer campestre* and blackthorn *Prunus spinosa*, the last of which is suckering outwards into the adjoining grasslands in places. Less frequent woody species include hazel *Corylus avellana,* holly Ilex *aquifolium,* elder *Sambucus nigra*, oak *Quercus robur,* ash *Fraxinus excelsior* and hornbeam *Carpinus betulus*. There are a small number of standards, comprised of ash, oak and field maple, some of which are multi-stemmed from past cutting, with hornbeam at the western end. The ground-flora is species-poor, in part due to intense rabbit activity, although hedge garlic *Alliaria petiolata,* wood dock *Rumex sangineus* and wood false brome are present. Woody species-diversity is around five species per 30m, which in conjunction with the adjoining public footpath, qualifies it as 'Important' under Schedule 2 of the Hedgerows Regulations 1997.

Hedgerow H2

11.92 This is an eastward continuation of H1 above, although without the adjoining public right of way. The same complement of species are present, with standards comprised of ash, hornbeam and field maple. The hedgerow is

close to the qualification threshold for an 'Important' hedgerow set out under Schedule 2 of the Hedgerows Regulations but likely to fall just short.

Hedgerow H3

11.93 This is a relict stretch of hedgerow extending part-way into the former airfield site from the southern boundary and with a shallow associated ditch. It comprises remnant lengths or isolated shrubs of woody vegetation, in between which are gaps filled with linear thickets of bramble *Rubus fruticosus agg*, itself permeated with ruderals such as stinging nettle and rosebay willowherb *Chamerion angustifolium.* Woody species diversity averages around 2-3 per 30m, comprising hawthorn, with elder and suckering elm *Ulmus procera* at the southern end, an area of dense blackthorn thicket in the central stretch, two small oak standards and one ash. The ground flora contains no woodland species. This hedgerow does not meet the criteria for importance under Schedule 2 of the Hedgerows Regulations 1997.

Hedgerow H4

11.94 Another stretch of relict hedgerow extending a short way northwards into the site from Popefield Farm. The longest stretch is almost entirely dominated by blackthorn, which has expanded outwards to form a dense domed thicket. Closer to Popefield Farm the species mix includes goat willow *Salix caprea*, hawthorn and oak. This hedgerow does not meet the criteria for importance under Schedule 2 of the Hedgerows Regulations 1997.

Hedgerow H5

11.95 This mature hedgerow runs along the southern boundary of the application site adjoining the A1057 Hatfield Road. It is an unmanaged feature with a significant complement of large mature trees, including specimens of probably 19th century planted origin east of Popefield Farm. The woody species complement, in approximate order of abundance, includes hawthorn, oak, field maple, blackthorn, elder, ash, hazel, holly, wild cherry, common lime, beech, field maple and Norway maple, the last five of which occur as standards in the easternmost section. West of Popefield Farm the standards are mostly oak, with some ash. Ground flora includes wood avens, wood dock, rough meadow grass, lords and ladies, wood false brome and herb Robert. East of Popefield Farm, the northern side of this hedgerow is gradually beginning to merge with adjoining scrub, with a intervening transitional band of the non-native snowberry *Symphoricarpos alba* present here. This hedgerow averages between five and six qualifying woody species per thirty metres and in conjunction with other features meets the criteria for importance under Schedule 2 of the Hedgerows Regulations 1997.

Hedgerow H6

11.96 A mature hedgerow, locally a double-rowed feature on indistinct banks, which forms the south-western boundary of the site and adjoins a public right of way. It is a neglected feature, suffering from the effects of damage from foot traffic, dumping (including of garden waste) and shading due to proximity of

buildings, but retains a fine complement of mature standards, mostly of oak but with some ash. Other woody species include hazel, hawthorn, hornbeam, field maple and holly. Ground flora includes greater stitchwort *Stellaria holostea*, wood avens, wood dock and hedge garlic. This hedgerow averages between five and six qualifying woody species per thirty metres and in conjunction with other features such as the presence of the public right of way within or adjoining it, meets the criteria for importance under Schedule 2 of the Hedgerows Regulations 1997.

Scattered / dense scrub

11.97 Scattered self-sown scrub is an ever-present feature over the majority of the grasslands on the site, the main exception being the regularly mown areas in the south-west. Generally it comprises shrubs and small trees up to around 3-4m in height occurring as isolated individuals, small groups or more concentrated patches which are beginning to occlude the remaining areas of grassland and influence their composition through light competition.

11.98 The make-up of the scrub across the site appears to vary based on soil conditions and/or the history of past disturbance. In the driest and least-disturbed areas, hawthorn is generally the most prevalent species, with localised dense thickets of blackthorn, but there are also areas in the southern part of the site east of Popefield Farm where oak seems to be dominant or co-dominant. Over most of the central and eastern portion of the site, these species give way to willow, variously goat willow, white willow *Salix alba* or (very locally) *osier Salix viminalis* and grey willow *Salix cinerea*, with hybrids between these also appearing to be present. More locally encountered are dog rose *Rosa canina* and field maple.

11.99 Scattered through this backdrop of hawthorn, oak or willow dominated scrub are various other species, some of which have evidently arrived as garden throw-outs or in otherwise imported material, have been actively planted or in some instances may be bird-sown. They include cherry plum *Prunus cerasifera var 'Atropurpurea'*, damson *Prunus domestica*, laburnum *Laburnum anagyroides*, golden willow *Salix alba var 'Vitellina'*, apple *Malus domestica*, silver birch *Betula pendula*, false acacia *Robinia pseudoacacia*, Italian alder *Alnus cordata*, buddleia *Buddleja davidii* and broom *Cytisus scoparius*.

11.100 The expanse of occluding scrub cover in the south-western part of the site is influencing the composition of the grasslands beneath, with an increase in shade-tolerant species such as male fern *Dryopteris filix-mas* and increases in the cover of mosses such as *Brachythecium rutabulum*.

Recent Plantation

11.101 Several discrete areas of recent tree and shrub planting are present in the south-western part of the application site, at the edges of the open area of mown grassland. The complement of species used is diverse, with blackthorn, field maple, goat willow, hornbeam, hawthorn and dog rose present, alongside dogwood *Cornus sanguinea*, silver birch, wild privet

Ligustrum vulgare, guelder rose *Viburnum opulus* and other species that are otherwise scarce on the site.

Waterbodies

11.102 Contained within the application site are a restricted number of long-established ponds, and a similar number of more recently created waterbodies. Each is described below with reference to Figure 3. Only those ponds falling within the application site boundary are fully described below, hence the numbering is not sequential:

Pond P1

11.103 This pond is indicated on 19th century maps as a former small gravel pit. It now consists of two adjoining basins (P1a and P1b) set within an area of scrub and mature trees and enclosed within post and wire fencing of recent origin. P1a is the larger, western depression and the more heavily shaded, with emergent vegetation restricted to a little reed canary grass *Phalaris arundinacea* and yellow flag iris *pseudacorus* at the southern end. The pond appears to dry out annually, although in the summer the invasive non-native aquatic plant New Zealand Pigmyweed *Crassula helmsii* becomes abundant. P1b is part unshaded, and although it also appears to dry up annually or near-annually, supports a much more luxurious complement of emergent vegetation, including reed canary grass, yellow flag, soft rush *Juncus effusus*, gypsywort *Lycopus europeaus*, bittersweet *Solanum dulcumara*, clustered dock *Rumex conglomerates*, marsh bedstraw *Galium palustre*, pale persicaria *Persicaria lapathifolia*, common duckweed *Lemna minor*, marsh cudweed, water forget-me-not *Myostotis scorpiodes*, and a drawdown zone with rough meadow grass, chickweed *Stellaria media* and many-seeded goosefoot *Chenopodium polyspermum*. Moorhen nests in this pond.

Pond P2

11.104 This is actually a group of three very small depressions (potentially bomb craters left over from the WWII film set), close to P1 and overshaded by grey willow. Two retain standing water in the early part of the year, although the only vegetation associated with them is a mat of creeping bent.

Pond 3

11.105 This waterbody is a somewhat larger crater-like steep-sided depression close to P1. It retains standing water in the early part of the year, and is shaded on two sides by dense willow, bramble, dog rose and tall ruderals. Wetland vegetation comprises mainly a dense mat of creeping bent, but there is also a little creeping buttercup, gypsywort and water forget-me-not.

Pond P4

11.106 Rather than a pond, this is a length of steep-sided ditch forming part of the course of the Nast, and which retains standing water for much of the winter and the early part of the year. It only appears to function as part of a flowing water system in periods of high precipitation and surface water run-off.

Emergent vegetation includes tufted hair grass, lesser pond sedge *Carex acutiformis*, water mint, meadow vetchling, compact rush, hoary willowherb *Epilobium parviflorum*, and bittersweet with, of some note, sneezewort *Achillea ptarmica* and he hybrid mint *Mentha x verticillata* also noted*acutiformis,* water mint, meadow vetchling, compact rush, hoary willowherb *Epilobium parviflorum*, and bittersweet with, of some note, sneezewort *Achillea ptarmica* and he hybrid mint *Mentha x verticillata* also noted.

Pond P5

11.107 This is an artificial waterbody of recently created origin and set down between steep raised banks. It appears to hold standing water on a semi-permanent basis, and has a reasonable complement of emergent vegetation including reedmace *Typha latifolia*, water plantain *Alisma plantago-aquatica,* common spike rush *Eleocharis palustris*, jointed rush *Juncus articulatus,* marsh bedstraw, branched bur-reed *Sparganium erectum* and cyperus sedge *Carex pseudocyperus*, with grey willow saplings.

Pond P7

11.108 This is a complex of small, very shallow depressions within a stand of willow, and supporting sparse but tall growth of common reed *Phragmites australis*. They all dry up by late spring/early summer.

Pond P8

11.109 This waterbody close to Popefield Farm at adjoining the southern boundary of the application site pre-dates the airfield and appears on 19th Century maps. Currently, it is a fairly good-sized but silted, shallow and heavily shaded feature by virtue of the adjoining outgrown hedgerow and associated dense scrub, and retains little emergent vegetation. It appears to also receive surface water run-off from the adjoining A1057 which may affect its water quality.

Pond P9

11.110 Similar to P4 in that this is a section of the surface water drainage ditch system that carries the flow of the Nast watercourse. This section is immediately upstream of the culvert that takes the Nast below the airfield, and the frequency of standing water here may be a symptom of backing up of flow (for example if the culvert capacity is compromised by collapse or silting up). Mostly it is densely overshaded with no aquatic or emergent vegetation, but there are unshaded lengths with dense stands of great willowherb *Epilobium hirsutum,* lesser pond-sedge and/or reed canary grass.

Watercourse / wet ditches

11.111 Crossing the northern part of the application site is a narrow ditch carrying a minor watercourse known as the Nast. South of Home Covert this watercourse enters a culvert which takes it beneath the main area of the former airfield, to re-emerge at a point adjacent to the A1057 Hatfield Road.

The remaining sections of open channel are for much of the year dry or only damp, although locally holding ponded lengths of static water in the spring (see P4 and P9 above).

11.112 Where not densely overshaded by adjoining scrub, the dampest areas support wetland vegetation distinct from the surrounding grasslands. In places this is merely stands of great willowherb, but there are also sections dominated by lesser pond sedge and reed canary grass with associates including clustered dock, soft rush and false fox-sedge *Carex otrubae*. In other (typically no more than damp) stretches, species include creeping bent, tufted hair-grass, bittersweet, water mint and meadow vetchling. In the section described above as P4, sneezewort and the hybrid *Mentha x verticillata* were recorded.

Recently disturbed / bare ground

11.113 This habitat occurs in two distinct areas of the site – a patch of ground in the northern part of the site which appears to have been recently stripped and laid to hardcore, and a fenced-off mounded area, and adjacent spoil heaps, in the central part of the site comprised of crushed concrete and other materials, and which is evidently still being regularly treated with herbicide to address Japanese knotweed contamination. The complement of pioneer species found in these areas is close to that described under 'Early Succession Communities' above, but with certain ruderals and opportunists such as teasel, colt's-foot, buddleia and American willowherb being particularly prevalent.

Hard surfaces

11.114 This habitat type is restricted to the still-sealed concrete surface of the former taxi-way and the former Airfield Radio Beacon / Aerial Lighthouse: a single surviving, small, brick-built airfield structure adjoining the eastern boundary of the application site. No plant species not already described or otherwise of any particular note are associated with these areas.

Bats

Desk Study

11.115 HERC provided a total of 71 bat records for the search area, with these records relating to soprano pipistrelle *Pipistrellus pygmaeus*, common pipistrelle *Pipistrellus pipistrellus*, pipistrelle sp., brown long-eared bat *Plecotus auritus*, *noctule Nyctalus noctula*, Natterer's bat *Myotis nattereri* and unspecified "bat species". No bat records were listed as specific to the application site itself, although brown long-eared bat, Natterer's bat and common pipistrelle records were provided for the three 1km squares[26] in which the site sits. These are the only pre-existing data obtained - none of the previous surveys of the airfield reviewed earlier in this chapter incorporated specialist bat surveys.

[26] TL1907, TL2008 and TL1908

Bat activity surveys

11.116 Figures 4 to 6 afford an appreciation of the distribution of bat registrations recorded on each of the three transect surveys carried out in June, July and September 2015. Table 11-7 below lists the species recorded and the number of sound files for each recorded on each survey visit.

Table 11-7
Species and Number of Sound Files Recorded for each Species during each Bat Transect Survey

Species	Scientific Name	23/06/2015	29/07/2015		07/09/2015		Total	Percentage of files
Area		All	South	North	South	North		
Common Pipistrelle	*Pipistrellus pipistrellus*	35	39	40	31	16	161	69.1
Pipistrelle sp. (Nathusius'/common)[27]	*Pipistrelle sp.*	1	8	4	4	5	22	9.4
Pipistrelle sp. (common/soprano)[28]	*Pipistrelle sp.*	6	1	0	4	0	11	4.7
Soprano Pipistrelle	*Pipistrellus pygmaeus*	13	1	3	3	1	21	9
Noctule	*Nyctalus noctula*	3	4	1	2	3	13	5.6
Long-eared bat[29]	*Plecotus sp.*	1	0	0	1	0	2	0.9
Daubenton's bat[30]	*Myotis daubentonii*	0	0	0	1	0	1	0.4
Whiskered/Alcathoe/Brandt's bat[30]	*Myotis mystacinus/ Myotis alcathoe/ Myotis brandtii*	0	0	0	0	2	2	0.9

11.117 By far the most frequently recorded species on the transect surveys was common pipistrelle, which accounted for at least 69% of all registrations. Much less frequently encountered were soprano pipistrelle (at least 9% of registrations), noctule (5.6%), Daubenton's bat (0.4%) and whiskered/Alcathoe/Brandt's bat (0.9%). A significant number of registrations around the 40kHz frequency were made, but none were conclusively attributable to the rare Nathusius' pipistrelle, and it remains possible that the species labelled as 'Pipistrelle sp. (Nathusius'/common)' in Table 11-8 may be common pipistrelle bats calling at unusually low frequency.

11.118 Figure 7 shows the locations of confirmed foraging and other constant activity recorded across the study area over all of the surveys. The areas of the site most frequently utilised by bats were, not surprisingly, locations which held water, mature trees and/or shelter (e.g. hedgerows).

[27] Where Pipistrelle calls were around 40kHz these have been noted to genus level only, as the calls could not be definitively attributed to either Nathusius' or common pipistrelle.
[28] Where Pipistrelle calls were at approximately 50kHz these have been noted as Pipistrelle sp. Both species can produce calls at or around 50kHz and as such it is not possible to directly attribute a call of this frequency to either species.
[29] Almost certainly brown long-eared bat.
[30] The use of the 'slope' function in Analook is used to aid in the identification of *Myotis* species (*Myotis* calls are generally difficult to attribute to species); however, where slope is ambiguous these have been noted as *Myotis* sp. Calls attributed to Daubenton's bat and to the WAB group (whiskered/Alcathoe/ Brandt's bat) are 'probable' identifications.

Automated Bat Survey

11.119 Table 11-8 below provides the results of the automated bat surveys carried out on the site during each of June, July and September 2015.

Table 11-8
Number of Files for each Species at each Automated Survey Point

Survey Period	June 2015		July 2015		September 2015			
Detector Location (see Figure 2)	A1		A2		A3		Total	
Species	No. of files	%	No. of files	%	No. of files	%	No. of files	%
Common pipistrelle	124	59.62	1512	84.19	69	41.07	1705	78.5
Pipistrelle (Nathusius'/common)[31]	44	21.15	106	5.90	0	0.00	150	6.9
Noctule	12	5.77	30	1.67	32	19.05	74	3.4
Pipistrelle (common/soprano) [32]	5	2.40	83	4.62	27	16.07	115	5.3
Long-eared bat[33]	7	3.37	4	0.22	15	8.93	26	1.2
Natterer's bat[34]	0	0.00	2	0.11	19	11.31	21	1.0
Myotis sp.[34]	5	2.40	21	1.17	3	1.79	29	1.3
Soprano pipistrelle	5	2.40	28	1.56	1	0.60	34	1.6
Nathusius' pipistrelle	4	1.92	2	0.11	1	0.60	7	0.3
Whiskered/Alcathoe/Brandt's bat[34]	1	0.48	0	0.00	0	0.00	1	0.0
Bat (unidentified)[35]	1	0.48	2	0.11	1	0.60	3	0.1
Daubenton's bat[34]	0	0.00	1	0.06	0	0.00	1	0.0
Serotine/Noctule[36]	0	0.00	5	0.28	0	0.00	5	0.2

11.120 Broadly speaking, the automated results mirror those obtained on the transect surveys with again by far the most frequently recorded species being common pipistrelle (at least 78% of all registrations). Non-Pipistrellus species cumulatively make up less than 10%; they include noctule, long-eared bat (almost certainly brown long-eared), Daubenton's, Natterer's and whiskered/Alcathoe/Brandt's bat, with five sound-files (0.28% of the total) possibly attributable to serotine.

[31] Where calls were around 40kHz these have been noted to genus level only, as the calls could not be definitively attributed to either Nathusius' or common pipistrelle.
[32] Where Pipistrelle calls were at approximately 50kHz these have been noted as Pipistrelle sp. Both species can produce calls at or around 50kHz and as such it is not possible to directly attribute a call of this frequency to either species.
[33] Likely to be brown long-eared bat.
[34] The slope function in Analook is used to aid in the identification of *Myotis* species (*Myotis* calls are generally difficult to attribute to a specific species); however, where slope is ambiguous these have been noted as *Myotis* sp. The *Myotis* species above (Daubenton's bat, Natterer's bat, whiskered/Alcathoe/ Brandt's bat) are probable identifications and are in addition to the number of *Myotis* files.
[35] This label has been used where it is possible to identify that a bat was present, but where there was insufficient call data to attribute the registration to Family or Genus level.
[36] This label was used where a 'big bat' (Eptesicus/Nyctalus sp) was present but due to the quality of the call it was difficult to determine the species.

Assessment of Roosting Potential

11.121 Table 11-9 below provides the results of the bat tree roost assessment of the two mature trees near the centre of the site (T1 and T2), and of the Airfield Radio Beacon / Aerial Lighthouse building adjoining the eastern boundary (B1).

Table 11-9
Bat Roosting Assessment

Tree/Building Reference	Bat roosting potential	Notes
T1	High	Two woodpecker holes- 12m east. Decaying branch on south-east with raised bark and cracks present.
T2	Medium/high	Decaying branch on south side, with knot holes at end of branch and at fork. Rotted knot hole on south side of main trunk
B1	Negligible	Brick built single storey structure, with a flat roof and no void. Small gaps behind barge-boarding filled with cobwebs or too narrow for bat access. No bat droppings noted inside and interior signs of both vandalism and use by cattle.

11.122 The two trees (T1 and T1) were additionally subject to emergence surveys in July and September 2015, with no bats found to emerge.

Evaluation of bat interest of the site

11.123 By far the most frequently detected bat species during the bat activity and automated surveys was common pipistrelle. This species is Britain's and Hertfordshire's[37] most common bat species and can be found in a wide range of habitats[38] . Common pipistrelle is showing long-term (and short-term) increases in population trends in the UK[39] . This species is a generalist being found in a wide variety of habitats, and its occurrence on the site is entirely to be expected.

11.124 Soprano pipistrelle was also encountered on the site, but to a substantially reduced degree compared with common pipistrelle. This is likely to be due to the relative lack of this species' preferred foraging habitats, which tend to be more focused on riparian and wetland habitats than the more generalist common pipistrelle. As with common pipistrelle, this species is a common bat in both Britain and Hertfordshire36.

11.125 There were low levels of activity indicated for Nathusius' pipistrelle on the site, with seven registrations recorded during the automated bat survey

[37] http://hmbg.org.uk/bats-in-hertfordshire-middlesex/
[38] Hundt (2012). Bat Surveys- Good Practice Guidelines, 2nd Edition. Bat Conservation Trust, London.
[39] Bat Conservation Trust (2014) The State of the UK's bats- National Bat Monitoring Programme Population Trends 2014. BCT

element. Nevertheless, there were approximately 170 records/files of pipistrelles calling within the 40kHz range, some of which could also be Nathusius' pipistrelle. This species is considered by Hertfordshire and Middlesex Bat Group (HMBG) to be widespread, but scarce. Nationally this species is considered rare, and confirmed roosts are not often found, but there has been an increase in records in recent years. This may be due to an increase in bat surveyors looking for this species coupled with advances in technology and analysis software.

11.126 Noctule was regularly though sparsely recorded during the surveys, with most registrations being of bats flying high over the site, often very soon after sunset, and possibly indicative of transient bats commuting over the site to more favoured foraging habitats (possibly the gravel pit settling ponds to the north). HMBG describes the status of this species as "widespread, but relatively scarce". The species has shown population declines in Britain in the past due to the loss of good feeding habitats, mainly from agricultural intensification. However, there does not appear to currently be a significant change in the population trend for this species38.

11.127 Due to the difficulty of identifying bats from the Myotis genus to species level, especially where foraging in terrestrial environments rather than over open water, many of the Myotis species records from the site have been identified to genus level only. However, probable identification to species level was attempted using the recordings from the Anabat and the 'slope' feature in Analook. This analysis identified probable Daubenton's bat, probable Natterer's bat and probable whiskered/Alcathoe/Brandt's bat, but it should be stressed that these are probable identifications; the most conclusive method of identifying these species is through capture and identification in the hand. Of these species, Natterer's has been recorded from the locality in the past [source: HERC data].

11.128 Different Myotis species prefer different habitats but the habitat requirements of the above species assessed to be present on the site are met, particularly given the presence of mature woodland adjoining the application site to the north. On balance it is considered likely that the majority of the unspecified Myotis registrations made will be from, Natterer's, Daubenton's and whiskered or Brandt's bats.

11.129 Daubenton's bat population trends are showing a very slight steady increase, whilst for whiskered/Brandt's bat the trend has shown an increase with a slight decrease in the last few years[40] . Daubenton's bat is fairly widespread in Hertfordshire[41] and the UK, whilst whiskered bat is assumed to be rare[42].

11.130 Although there were 28 registrations of long-eared bats encountered on the site, this is likely to be unrepresentative due to the difficulty that bat detectors have in picking up the very quiet calls from the Plecotus genus. The most likely Plecotus on the site, brown long-eared bat, is one of the UK's and Hertfordshire's commonest bat species. Its habitat preferences include

[40] Bat Conservation Trust (2014) The State of the UK's bats- National Bat Monitoring Programme Population Trends 2014.BCT
[41] http://hmbg.org.uk/bats-in-hertfordshire-middlesex/
[42] Bat Conservation Trust (2010) BCT Brown long-eared - Species information leaflet. Bat Conservation Trust

woodland, as well as rivers, lakes and grassland . Brown long-eared bats are currently showing a slight long-term and short-term decrease in population; the reasons for this are unknown but may be related in part to the management neglect of woodlands and the loss of traditional agricultural buildings to neglect or conversion.

11.131 Overall, the bat activity recorded on the site was comparatively low in consideration of the site area. This is not unexpected given the open nature of the site, the relative lack of upstanding features and habitat 'edges' and the sparseness of favoured foraging resources such as woodland, waterbodies, and hedgerows.

Great Crested Newt Survey

Desk Study

11.132 HERC provided fifteen great crested newt records for the search area, with the nearest relating to a site 0.4km to the west, and the latest record from 2006.

11.133 The 2008 Cresswell Associates report stated that in 1999, two ponds (P1 and P3 on Figure 3) contained a small population of great crested newts. A site walkover in 2010 by Cresswell Associates also encountered a great crested newt under a refugium near a bund approximately 30m south-east of P3. An update survey by Cresswell in 2010 again found great crested newts in P1 and P3, with this species also confirmed in P5 and P8 (see Figure 3). It was assessed at this time that there was a 'medium-sized' population on the site.

11.134 In 2015 LDA Design undertook a great crested newt eDNA survey of 13 waterbodies within the vicinity of the northern part of Ellenbrook Fields. Two of the surveyed waterbodies (P7 and P10 on Figure 3) were also encompassed within the scope of the great crested newt surveys undertaken by Bioscan in 2015. The results from the eDNA survey confirmed the presence of great crested newt within three of the waterbodies; these comprised a waterbody to the north of Home Covert, a pond within the Ellenbrook Linear park at the eastern edge of the airfield and P7 immediately east of the application site. A negative result was also returned for P10 (off-site and within Home Covert).

11.135 Further great crested newt records for ponds to the north and north-west of the application site were obtained from a review of the St Alban's District Council planning portal. These relate to a live planning application for restoration of part of the CEMEX Hatfield Quarry, the supporting information for which refers to positive records for great crested newts in ponds at Beech Farm (c.300m NW of the application site) and Ball's Copse (just under 375m north of the application site)

Ponds Surveyed

11.136 Habitat descriptions of each waterbody within the application site are given earlier in this section. Table 11-10 below lists further details of the suitability

of each of these for great crested newts, including HSI scores, as well as equivalent details for three further waterbodies outside the application site, but which were also included within the great crested newt surveys carried out in 2015 by Bioscan and/or LDA Design. The locations of each of these waterbodies are indicated on Figure 3.

Table 11-10
Waterbody Information and HSI Results

Waterbody Reference	Approximate size (m^2)	Notes/Brief description (see also habitat descriptions above)	HSI Score	Suitability for GCN
P1a and P1b	P1a- 190 P1b- 100	The water level in P1a became very low by the end of the newt surveys, whilst P1b had dried up by the fifth visit.	P1a- 0.78 P1b- 0.58	P1a- Good P1b- Below average
P2	3	Two to three crater-like depressions to the east of P1. These had dried up by the third newt survey visit.	0.36	Poor
P3	30	Few suitable egg laying plants were noted. The water level decreased through the newt surveying season, and by the sixth visit no water remained.	0.59	Below average
P4	30	Part of the Nast ditch system. It was very shallow and became dry by the third visit.	0.55	Below average
P5	70	A deep linear feature near Home Covert. A wide variety of invertebrates were noted. The water level decreased during each survey visit, but it did not dry out.	0.75	Good
P6	480	A linear feature just outside of the site boundary. Surrounded by young willows, although the waterbody is still relatively open. Dry by the summer. Appears to be used by the grazing cattle as a watering resource.	0.79	Good
P7	40	Shallow depressions in a stand of trees. Dried up by the fourth visit.	0.40	Poor
P8	200	Immediately adjacent to the A1057 (Hatfield Road). It is fairly shallow and looks to be fed from surface water run-off from the road.	0.63	Average
P9	150	Part of the Nast ditch system and on the edge of Home Covert. Large parts of the periphery of waterbody are overgrown with vegetation. Dry by the second visit.	0.51	Below average
P10	1900	A large long-established pond in Home Covert. The waterbody has a small island. Due to the large amounts of leaf litter the depth of the waterbody could not be determined. The presence of spent shotgun	0.65	Average

Waterbody Reference	Approximate size (m^2)	Notes/Brief description (see also habitat descriptions above)	HSI Score	Suitability for GCN
		cartridges suggests this waterbody is used for shooting waterfowl. It may also have fish.		
P11	80	Two shallow depressions next to a path. Likely to be used by the grazing cattle as a water resource. Dried up by the fourth visit.	0.49	Poor

Survey Results

11.137 Five of the 11 waterbodies surveyed in 2015 within and immediately adjacent to the site were found to support great crested newt, although only two of these were confirmed as in use for breeding or attempted breeding. Table 11-11 below shows the peak number of great crested newts encountered whilst torching and bottle trapping, together with the results of the egg searches.

Table 11-11
Peak Number of Great Crested Newts Recorded from Torching and Bottle Trapping over the Survey Period and the Results of the Egg searches for each Waterbody

Waterbody reference (Fig 3)	Maximum number of GCN recorded during torching	Maximum number of GCN recorded during bottle trapping	Maximum number of GCN recorded from both methods	GCN eggs present?
P1a	26	12	26	Yes
P1b	2	1	2	No
P2	0	0	0	No
P3	2	1	2	No
P4	0	0	0	No
P5	1	1	1	No
P6	8	2	8	Yes
P7	0	0	0	No
P8	0	0	0	No
P9	2	1	2	No
P10	0	0	0	No
P11	0	0	0	No

11.138 Terrestrial surveys for the species were not carried out, but during the reptile survey a great crested newt was found under a reptile refugium along a bank in the western corner of area R1 (see Figure 3) during a visit on the 30th April 2015.

Evaluation

11.139 Using the population size class assessment system[43] , the results from the field survey indicate that the site supports a 'medium' population of great crested newts. Taking each waterbody individually, P1a supports a medium population, whilst the remainder of the waterbodies where the species was found support a small population. A review of historic maps and aerial photographs of the site shows that P1 has been in existence for at least 110 years, whilst P5, P6, P7 and P11 were created between 2000 and 2005, and this may in part explain the population sizes of each waterbody.

11.140 The presence of an individual adjacent to the gravel pits to the north could indicate that these off-site waterbodies on CEMEX land are used by great crested newts and could be part of the metapopulation within the area. The Cresswell Associates 2010 report stated the following in regards to this: *"Given the proximity of the gravel pits to the airfield site it is considered likely that the newts breeding on the airfield may be part of a larger population that breed in the gravel pits. Given the size of the gravel pits it is considered possible that they may support a 'large' sub-population of great crested newts."*

11.141 The results of the eDNA sampling undertaken by LDA Design in 2015 of the two off-site waterbodies P7 and P10 corroborate the simultaneous Bioscan surveys of these ponds, with great crested newt confirmed in P7 and a negative result returned for P10.

Other amphibians

11.142 In 2008 Cresswell Associates reported the presence of common frog *Rana temporaria* and common toad *Bufo bufo* on the site. These species were also recorded by Bioscan in 2015 whilst carrying out the great crested newt surveys, along with good numbers of smooth newts. Table 11-12 below provides the peak count of smooth newt and the results of the egg searches for each waterbody shown on Figure 3.

[43] English Nature (2001) Great crested newt mitigation guidelines. English Nature

Table 11-12
Peak Count of Smooth Newt and the Results of the Egg Search for each Waterbody

Waterbody reference	Maximum number of smooth newt recorded during torching	Maximum number of smooth newt recorded during bottle trapping	Maximum number of smooth newt recorded from both methods	Smooth newt eggs present?
P1a	18	32	32	Yes
P1b	4	0	4	No
P2	0	0	0	No
P3	18	35	35	Yes
P4	2	0	2	No
P5	36	32	36	No
P6	18	6	18	Yes
P7	3	1	3	No
P8	2	7	7	No
P9	0	0	0	No
P10	2	3	3	No
P11	3	1	3	No

11.143 In total, smooth newts were encountered in nine waterbodies, with a 'medium' population[43] of this species on the site. Higher numbers of individuals were found in P5, P3 and P1a.

Reptile Survey

Desk Study

11.144 HERC provided 14 records of reptiles for the search area. Of these records, eleven relate to grass snake Natrix natrix, three for slow-worm *Anguis fragilis* and one for common lizard *Zootoca vivipara*. The closest records to the application site relate to grass snake, the nearest being 0.65km to the south-west of the application site boundary. The most recent reptile record provided by HERC is from 2007.

11.145 Creswell Associates reported in their 2008 report on the results of a survey of the whole Ellenbrook Fields site in 1999 when *"small numbers of slow-worm were ... recorded within the grassland and a single grass snake was also found"*. It is unknown which part of Ellenbrook Fields these individuals were recorded from. However a later reptile survey undertaken in 2010 by Cresswell Associates of "strategic locations across the site" did not confirm the presence of any reptiles.

2015 Field Survey

11.146 Table 11-13 below provides a summary of the results of the reptile survey carried out during 2015. Just one reptile, a grass snake, was encountered on

the site during the total of seven surveys (the location of this individual is provided on Figure 3). This individual was found on the last reptile survey visit, 24th June 2015, in the eastern part of R4.

Table 11-13
Results of the Reptile Survey during 2015

Reptile Area	Number of grass snake recorded
R1	0
R2	0
R3	0
R4	1
R5	0
Total	1

Evaluation

11.147 Whilst population sizes derived from refugia data are notoriously unreliable, the results from the survey would suggest, based on Froglife's population score system[44], that the site supports a 'low' population of grass snake. At first pass this is somewhat surprising given the presence of large areas of what appears to be suitable reptile habitat on the site. A combination of factors could explain the apparent absence of reptiles, including the historic use of the site as an aerodrome (and the likely intensive mowing of any grassland at that time), the lack of reptile populations within the vicinity from which colonisation of the site could occur once it became neglected and more suitable, the presence of roads surrounding the site which may act as further barriers for reptile colonisation, and the regular waterlogging of the site during the winter which may reduce opportunities for reptile hibernation.

Bird Survey

Desk Study

11.148 The results from the data request from HERC produced 18,168 bird records for the search area (nearly 93% of all the records provided by HERC). A total of 402 of these records relate directly to either 'Ellenbrook Fields' and/or 'Hatfield Aerodrome'. It should be noted that both Ellenbrook Fields and Hatfield Aerodrome comprise a larger area than the application site; nevertheless, all records with these site names have been included in the analysis given below. In addition, 113 bird records are made at a coarser 1km scale, and relate to the three 1km squares in which the application site sits, not necessarily to the site itself.

11.149 In total, 75 species have been noted for Ellenbrook Fields, Hatfield Aerodrome or for the three 1km squares straddled by the application site.

[44] Froglife (1999) Reptile Survey: an introduction to planning, conducting and interpreting surveys for snakes and lizard conservation. Froglife Advice Sheet 10. Froglife, Halesworth

This is broken down into 54 species for Ellenbrook Fields/Hatfield Aerodrome and 43 for the three 1km squares as shown by Table 11-14 below.

Table 11-14
Number of Records relating to Ellenbrook Fields and Hatfield Aerodrome, and for the three 1 km squares in which the Sit sits

Species	Number of records pertaining to 'Ellenbrook Fields' and/or 'Hatfield Aerodrome'	Number of records for the three 1km squares in which the site sits
Barn Owl	13	0
Black Redstart	2	0
Black-headed gull	0	7
Black-tailed Godwit	1	0
Blue tit	0	5
Bullfinch	4	1
Buzzard	9	3
Canada goose	0	1
Coal tit	0	1
Common gull	0	2
Cuckoo	58	1
Curlew	1	0
Dunnock	0	6
Fieldfare	21	2
Goldcrest	0	1
Goldfinch	2	5
Grasshopper Warbler	20	0
Great spotted woodpecker	0	3
Great tit	0	6
Green Woodpecker	4	5
Grey Partridge	8	0
Grey Plover	1	0
Grey Wagtail	3	0
Hen Harrier	1	0
Herring gull	0	2
Hobby	4	1
House Martin	6	0
House Sparrow	1	6
Kestrel	4	0
Lapwing	5	1
Lesser black-backed gull	0	1
Lesser Redpoll	1	1
Lesser Spotted Woodpecker	2	0
Linnet	4	2

Species	Number of records pertaining to 'Ellenbrook Fields' and/or 'Hatfield Aerodrome'	Number of records for the three 1km squares in which the site sits
Little owl	0	1
Mallard	0	3
Mandarin Duck	16	0
Marsh Harrier	1	0
Meadow Pipit	10	0
Moorhen	0	2
Peregrine	1	0
Pied wagtail	0	5
Pochard	0	1
Quail	1	0
Red Kite	24	1
Redshank	5	0
Redstart	5	0
Redwing	11	2
Reed Bunting	3	0
Ring Ouzel	4	0
Robin	1	7
Sand Martin	1	0
Short-eared Owl	16	0
Skylark	12	0
Snipe	10	0
Song thrush	0	3
Sparrowhawk	4	1
Spotted Flycatcher	5	0
Starling	3	5
Stock dove	0	1
Stonechat	3	0
Swallow	7	2
Swift	2	1
Tawny Owl	2	0
Teal	0	1
Tufted duck	0	1
Waxwing	2	0
Wheatear	24	1
Whinchat	16	0
Whitethroat	14	1
Willow Warbler	9	1
Woodcock	4	0
Wren	0	5

Species	Number of records pertaining to 'Ellenbrook Fields' and/or 'Hatfield Aerodrome'	Number of records for the three 1km squares in which the site sits
Yellow Wagtail	5	0
Yellowhammer	1	3

11.150 The background records listed at Table 11-14 above indicate that the site is fairly well monitored by local ornithologists and that it supports a range of resident and transient species that is typical of inland airfield sites. This includes scarcer wintering species not uncommonly found on airfield sites by virtue of their open nature, such as short-eared owl, barn owl and peregrine, as well as passage migrants attracted to open country such as wheatear and ring ouzel, and scarcer or declining breeding species present at least in some years by virtue of the large expanses of grassland, such as grasshopper warbler, grey partridge and cuckoo.

11.151 The 2008 Cresswell Associates report stated that "*in 2001 the site supported a number of bird species of conservation concern, including song thrush, skylark and lapwing. The presence of these species on the site was reconfirmed in 2008*".

11.152 A breeding bird survey was undertaken by Cresswell Associates in 2010 of the northern part of Ellenbrook Fields. The 2010 report stated "*The collated results suggest that the site of County Importance for ground nesting birds including skylark, meadow pipit and cuckoo; and scrub-nesting species including whitethroat. This is indicated by the large numbers of these species recorded on site during each survey visit and can be attributed to the extent of suitable nesting and foraging habitat and the relative lack of disturbance.*"

11.153 The most recent annual report (2014) produced for Goodman by Barry Trevis in relation to the barn owl and kestrel nest boxes erected on the site revealed that of the four barn owl boxes on the site three were used to successfully rear barn owls in that year. Other species noted to be nesting in the boxes include stock dove *Columba oenas*, and Mandarin duck *Aix galericulata* (with 25 eggs present- probably from two females); however, this nest was abandoned, possibly due to the box having been taken over by a pair of barn owls. No kestrels were reported to have nested on the site in 2014. It was stated in the report that in previous years barn owl use and occupation of the nest boxes on the site "*was considered to be generally low taking into account the amount of suitable foraging habitat*". However, 2014 was more successful, and this appears to have mirrored the national trend for this species for that year, with the Barn Owl Trust stating that "*2014 turned out to be an exceptional year for barn owls across the UK*[45]". The reason/s for the breeding success of barn owl in 2014 could have been due to the larger small mammal populations, the previous milder winter, and a dry and warm spring and summer.

[45] http://www.barnowltrust.org.uk/wp-content/uploads/State-of-the-UK-Barn-Owl-Population-2014-updated-links.pdf

11.154 The latest Birds of Hertfordshire publication[46] (largely incorporating data from the 2007-2011 BTO-run bird atlas survey) reports that short-eared owls have been regular at Ellenbrook Fields (along with other sites such as the adjacent Beech Farm Gravel Pits) and the site now has a certain notoriety for this species amongst local ornithological circles, albeit with concerns that increasing public use may be suppressing its interest for disturbance-sensitive species.

2015 Wintering and Breeding Bird Surveys

11.155 A total of 57 bird species were noted on the site over the wintering and breeding bird survey visits. This is broken down into 41 species recorded during the wintering bird survey, and 47 species recorded during the breeding bird survey. Figures 8 to 11 provide the results of each wintering bird survey, and figures 12 to 14 provide the results of each breeding bird survey visit. Table 11-15 below summarises the number of individuals recorded during the wintering bird survey, and the number of territories assessed to be present during the breeding season.

Table 11-15
Results of the Wintering (2014/15) and Breeding Bird Survey (2015)

		Number of individuals during wintering bird survey				Breeding bird survey	
Common Name[47]	Conservation status*	28/11/2014	15/12/2014	20/01/2015	25/02/2015	Estimated number of territories in 2015	Highest breeding evidence
Barn owl	Sch1	0	0	1	2	1-3	Pair occupying box
Blackbird		29	34	21	14	4-8	Permanent territory
Blackcap		0	0	0	0	5-8	Permanent territory
Blue Tit		18	30	31	16	8-12	Fledged young
Bullfinch	SPI/Amber	3	5	2	1	2-3	Suitable habitat
Buzzard		0	0	1	0	0-1	Suitable habitat
Carrion Crow		1	0	1	3	0-1	Suitable habitat
Chaffinch		2	2	2	9	4-7	Permanent territory
Chiffchaff		0	0	0	0	4-6	Permanent territory
Coal tit		0	0	2	0	-	-
Cuckoo	SPI/Red	0	0	0	0	0-1	Permanent territory
Dunnock	SPI/Amber	17	8	8	18	12-17	Permanent territory
Fieldfare	Sch1/Red	37	1	8	0	-	-
Garden warbler		0	0	0	0	0-1	Singing
Goldcrest		2	0	0	1	1-2	Singing

[46] Smith, K., Dee, C., Fearnside, J. & Ilett, M. (2015) Birds of Hertfordshire. *Hertfordshire Natural History Society*
[47] See Appendix 5 for the scientific names of each species

Common Name[47]	Conservation status*	Number of individuals during wintering bird survey				Breeding bird survey	
		28/11/2014	15/12/2014	20/01/2015	25/02/2015	Estimated number of territories in 2015	Highest breeding evidence
Goldfinch		18	2	10	13	0-1	Suitable habitat
Great Spotted Woodpecker		1	0	0	0	0	Suitable habitat
Great Tit		11	7	31	20	2-4	Fledged young
Green Woodpecker		5	5	2	3	0-1	Suitable habitat
Greenfinch		2	0	1	0	0-1	Suitable habitat
Grey Heron		2	0	0	0	0	Flying over
Jackdaw		0	0	0	0	0	Not breeding
Jay		3	5	0	2	0	Flying over
Kestrel	Amber	2	1	2	1	0-1	Flying over
Lapwing	SPI/Red	0	0	0	0	0	Flying over
Lesser whitethroat		0	0	0	0	0-1	Singing
Linnet	SPI/Red	4	0	1	6	8-10	Permanent territory
Long-tailed Tit		11	4	9	7	1-3	Suitable habitat
Magpie		16	8	11	17	5-8	Suitable habitat
Mallard	Amber	4	0	0	4	0-1	Suitable habitat
Meadow Pipit	Amber	7	17	18	56	0-1	Suitable habitat
Moorhen		0	0	0	0	1	Suitable habitat
Partridge sp.		0	0	3	1	-	Suitable habitat
Pheasant		3	6	4	2	1-3	Suitable habitat
Pied Wagtail		6	1	2	1	-	Suitable habitat
Red-legged partridge		0	0	0	0	1-2	Suitable habitat
Red Kite	Sch1	0	1	0	1	0	Flying over
Redwing	Sch1/Red	17	4	10	6	-	Not breeding
Reed Bunting	SPI/Amber	8	4	2	6	6-8	Permanent territory
Reed warbler		0	0	0	0	0-1	Singing
Robin		18	11	13	21	10-14	Permanent territory
Sedge warbler		0	0	0	0	0-1	Singing
Skylark	SPI/Red	1	3	1	12	8-11	Permanent territory
Snipe	Amber	1	0	3	1	-	Not breeding
Song Thrush	SPI/Red	10	8	13	15	1-2	Permanent territory
Sparrowhawk		2	0	0	0	-	Not breeding
Starling	SPI/Red	0	0	0	0	0	Not breeding
Stock Dove	Amber	0	3	2	3	1-3	Pair
Stonechat		2	0	3	3	-	Not breeding
Swallow		0	0	0	0	0	Flying over

Common Name[47]	Conservation status*	Number of individuals during wintering bird survey				Breeding bird survey	
		28/11/2014	15/12/2014	20/01/2015	25/02/2015	Estimated number of territories in 2015	Highest breeding evidence
Wheatear		0	0	0	0	0	Migrant
Whitethroat		0	0	0	0	26-31	Permanent territory
Willow warbler	Amber	0	0	0	0	5-7	Permanent territory
Woodcock	Red	3	2	3	4	-	Not breeding
Woodpigeon		13	24	9	5	2-3	Permanent territory
Wren		16	23	12	8	6-8	Permanent territory
Yellowhammer	SPI/Red	1	1	0	0	-	Not breeding

*Notes:
Sch.1: Schedule 1 species that are specially protected under Part 1 of the Wildlife and Countryside Act 1981 (as amended)
SPI: Species of Principal Importance further to s.40 of the Natural Environment and Rural Communities Act 2006.
Red/Amber List: Species having undergone a decline of >50% in the 25 years to 2009 (Red List) or a 25-49% decline over the same period (Amber List). (After Eaton *et al.* (2015)[48]

11.156 During the targeted owl survey undertaken in the late afternoon/early evening of the January visit, two barn owls were noted. The first bird was noted at 15:30 hunting over a small field of rough grassland immediately north-west of the application site (outside the site boundary). The second bird was noted at 16:08 hunting in the south-east of the application site. No short-eared owls were noted.

11.157 Whilst undertaking the targeted owl visit in January, a relatively large number of corvids, particularly jackdaw as well as magpie, were noted to enter a roost within the dense scrubby area in the south-west of the site.

11.158 Birds were also recorded just outside the site boundary whilst undertaking the bird survey visits, and these species may overfly or otherwise use the site on occasion. Such species included common gull *Larus canus* (sitting on the University playing fields to the south-east), great spotted woodpecker *Dendrocopos major*, jay *Garrulus glandarius*, nuthatch *Sitta europaea*, treecreeper *Certhia familiaris* and woodpigeon (>1000 leaving roost) in Home Covert and both coot *Fulica atra* and water rail *Rallus aquaticus* in the reedbed/ gravel pits to the north of the site. Species of note recorded just outside the site during the breeding bird survey include great spotted woodpecker, jay and treecreeper (in Home Covert), and little grebe *Tachybaptus ruficollis* and reed warbler *Acrocephalus scirpaceus* in the CEMEX reedbeds to the north.

[48] Eaton MA, Aebischer NJ, Brown AF, Hearn RD, Lock L, Musgrove AJ, Noble DG, Stroud DA and Gregory RD (2015) Birds of Conservation Concern 4: the population status of birds in the United Kingdom, Channel Islands and Isle of Man. British Birds 108, 708–746

Evaluation

11.159 In order to place the results into the local context, the species list and the numbers present on the site were assessed against the requirement for record submission by Hertfordshire Bird Club (HBC). This revealed that no species found on the site are considered to be 'rare'. There are, however, seven species that fall within the 'All' category (i.e. all records of a species are required). The presence on the 'All' list is likely to indicate that a species is uncommon in the county or otherwise of elevated local interest. These species comprise barn owl, cuckoo, red kite, snipe, stonechat, wheatear and woodcock. Records of breeding for selected species are also requested by HBC; with these species on the site comprising bullfinch, goldcrest, kestrel, linnet, reed bunting, skylark and stock dove (and possibly buzzard, green woodpecker, meadow pipit, red-legged partridge and reed warbler). HBC also request records of minimum numbers of individuals of certain species; the following species were found to exceed the quoted numbers on the site; blue tit, fieldfare, goldfinch, great tit, long-tailed tit, magpie, meadow pipit, reed bunting and skylark.

11.160 No short-eared owls were recorded during the bird surveys of the site, and it would appear based on the data from HERC and from BirdTrack[49] that this species has not been regularly recorded at Hatfield Aerodrome since the end of 2011. The reason/s for the absence of this species from what appears to have been a regular site is not known but could be related to the increase in scrub cover and/or the increasing levels of diurnal human activity.

11.161 Overall, the bird interest of the site is not atypical of what would be expected on any inland airfield site of equivalent size that has undergone transition from a more intensively managed operationally active site with short grass to a neglected site with coarse grassland and developing scrub. That transition is likely to be implicated or a contributing factor in the loss of breeding lapwing from the site since the early 00s, but is likely to have increased the suitability of the site for other species, including barn owl, snipe, stonechat and woodcock. The breeding bird assemblage is again typical of the habitats present, although the high number of whitethroat territories is of note, as well as the number of breeding territories of dunnock, linnet, reed bunting and willow warbler. Other breeding species of elevated interest include cuckoo and barn owl. The site also evidently receives passage use by species such as wheatear and, in some years, ring ouzel.

Badger Survey

Desk Study

11.162 The desk study identified 27 badger records for the search area. The closest badger record was approximately 0.9km to the west, with this record pertaining to a sett recorded in 2011.

[49] http://app.bto.org/birdtrack/main/data-home.jsp

11.163 The 2008 Cresswell Associates ecological report identified badger pathways and a latrine along the southern boundary of the site and an inactive outlier sett in Home Covert. The 2010 Cresswell Associates ecological summary report identified the presence of an active main sett near the centre of the site.

Field Survey

11.164 Mapped badger activity is provided in a separate confidential annex to this document with restricted circulation in order to avoid it falling into the hands of anyone involved in the illegal persecution of the species. In summary a 20 entrance hole main badger sett is present near the centre of the site (the same sett identified by Cresswell Associates in 2010). Other than occasional foraging signs, and two outlying latrines, no other signs of activity were found on the site.

Invertebrates

Desk Study

11.165 A total of 1140 invertebrate records were provided by HERC for the search area. Approximately half of the records relate to butterflies, with the other half largely relating to moths. Of the 1140 records, 12 relate to 'Ellenbrook Fields'/'Hatfield Aerodrome' with all 12 of these pertaining to the small heath *Coenonympha pamphilus* butterfly.

2015 Field Survey

11.166 A total of 806 terrestrial invertebrate species were recorded on the site, of which 248 were moths. Appendix 11/4 provides the full invertebrate species list obtained, with a summary of the more notable species set out below under the relevant tiers of formal conservation status:

11.167 Species **of Principal Importance/ Priority Species/Section 41 species (former UK BAP species).** UK BAP priority species were those that were identified as being the most threatened and requiring conservation action under the UK Biodiversity Action Plan (UK BAP). The original list of UK BAP priority species was created between 1995 and 1999. In 2007, a revised list was produced, following a 2-year review of the priority species and habitats lists. Following the review, the list of UK BAP priority species increased from less than 600 to 1150.

11.168 As a result of devolution, and new country-level and international drivers and requirements, much of the work previously carried out by the UK BAP is now focussed at a country-level rather than a UK-level, and in July 2012, the UK BAP was succeeded by the UK Post-2010 Biodiversity Framework. However the UK list of priority species remains an important reference source and was used to draw up statutory lists of species and habitats of principal importance in England, Scotland, Wales and Northern Ireland pursuant to the obligations levied by the Natural Environment & Rural Communities Act, 2006 (sections 40-42).

11.169 No UKBAP priority invertebrates or invertebrate species of principal importance were noted to be present on the site.

11.170 **Red Data Book**. Eight of the species recorded are listed in the British Red Data Books[50],[51]. Table 11-16 below provides each of these Red Data Book species along with notes regarding their ecology and current conservation status.

Table 11-16
Red Book Data Book Species Recorded on the Site

Species	English Name	Notes
Hecatera dysodea	Small Ranunculus moth	This species has re-colonised Britain after one hundred years of apparent extinction. Caterpillars feed on developing seeds of prickly lettuce *Lactuca serriola* and great lettuce *Lactuca virosa*. The species is now widely recorded on neglected and brownfield land in the home counties and the formal Red Data status is no longer warranted.
Stictopleurus abutilon	A ground beetle	Another species formerly believed to be extinct in Britain. It is now recorded fairly widely in warm open flower rich grassland in the south-east. The Endangered status is no longer warranted; a review of the conservation status of several invertebrates is currently in progress and the status of this species may be formally reduced to Nationally Local when it is published.
Stictopleurus punctatonervosus	A ground beetle	As for above species.
Cistogaster globosa	A tachinid fly	This species is known from a few localities in southern England, and given its distinctiveness it is unlikely to be overlooked; it is thus probably genuinely rare, though very recently there seems to be an expansion in range and frequency of both host and fly. It parasitises shield bugs, especially *Aelia acuminata*. The fly appears to favour dry grassland where the host is usually found. Adult flies have been seen nectaring on wild carrot but other species of plant are also likely to be visited.
Datonychus urticae	A weevil	This species is found in tall herb communities and at woodland edges and may be a component of the fauna that occupies transitional zones (edge habitats). The larvae feed in hedge woundwort *Stachys sylvatica*, almost certainly internally within the stems. It is present in southern England and is apparently rare; however, it might be overlooked in some places as it closely resembles another more common species.

[50] Shirt, D. B., (1987). *"British Red Data Books: 2. Insects."* NCC
[51] Bratton, J. H. , (1991). *"British Red Data Books: 3. Invertebrates other than insects."* NCC

Species	English Name	Notes
Lygus pratensis	A plant bug	This species has apparently always been a polyphagous species in Europe, found in weedy species, but in Britain it has long been regarded as an indicator of quality ancient woodland. In the last few years, however, this species has been widely recorded away from woodland in the south of England. The status of Near Threatened is currently unwarranted.
Tephritis matricariae	A picture-winged fly	This species has until recently been recorded in Kent and Essex only. Its host plants are probably *Crepis vesicaria* ssp. *Taraxacifolia* and *Crepis capillaris*. It is currently provisionally classified as a Red Data species within the 'unknown' category K.
Liorhyssus hyalinus	A bug	This species has historically regarded as a rare vagrant to Britain, it has appeared much more frequently since the 1990s and has become established in some areas. Foodplants include storksbill and various composites.

11.171 **Nationally Scarce Species**. Twenty-six Nationally Scarce species were recorded on the site, with eight of these in the former Nationally Notable Na category (see Appendix 11/4). Table 11-17 below provides the Nationally Scarce species in the former Nationally Notable Na category.

Table 11-17
Nationally Scarce Species in the former Nationally Notable Na category recorded on the site

Species	English Name	Notes
Eupithecia millefoliata	Yarrow Pug	Mainly confined to the south-east of Britain. There were no records for this species prior to 1987, and it is now likely to be expanding its range.
Hylaeus cornutus	Yellow-faced Bee	This species is largely confined to the south-central and south-eastern counties of Britain. It is largely found where wild carrot and other white umbellifers are numerous.
Lasius brunneus	Banded Tree Ant	There are insufficient historic records of this species to plot changes in abundance and distribution; however the overall impression is that it has become more common in the south-east in recent years.
Phalacrus championi	Smut Beetle	There is little known information regarding this species beyond the fact that it seems to be rare.
Platynaspis luteorubra	A ladybird	This species is largely found to the south-east of a line between the River Severn and the Wash. The Herts Beetle Recorder has indicated that this is an extremely rare species in this county.

Species	English Name	Notes
Rhinocyllus conicus	Thistle-head Weevil	This species is widespread, but apparently very localised in the southern coastal counties of Britain. Despite this species largely pertaining to coastal areas, the identification of this species was confirmed by the County Beetle Recorder and therefore represents a significant record.
Rhyzobius chrysomeloides	A ladybird	This species was first found in Britain in 1996 in Surrey. Since then it has spread and therefore its formal conservation status as nationally scarce is probably inappropriate.
Xantholinus elegans	Rove Beetle	This species' precise requirements are unknown, but other members of the group are found in tussocks and the adults may be predatory on other invertebrates.

11.172 A further 18 of these Nationally Scarce species are in the former Nationally Notable Nb category or are uncategorised Nationally Scarce ('Notable') Diptera. These are listed at Table 11-18 below. Several of these species do not appear on the latest version of the JNCC 'Taxon designations' spreadsheet, indicating that they have been demoted from the nationally scarce category following recent reviews, most commonly due to significant expansions in population and range (e.g. in the case of Roesel's bush cricket):

Table 11-18
Nationally Scarce (Categories Nb and N) Invertebrates Recorded on the Site

Species	English name	Main ecological associations
Agnocoris reclairei	a mirid bug	Willows, especially *Salix alba*, in Fens and gravel pits
Athysanus argentarius	a plant hopper	in a variety of grassland habitats, usually near the coast
Bembecia ichneumoniformis	Six-belted Clearwing	*Lotus*, *Anthyllis* and *Hippocrepis* – in the rootstock
Bianor aurocinctus	a spider	dry, ruderal sites
Drymus latus	a plant bug	amongst vegetation litter, moss etc
Evergestis pallidata	a pyralid moth	cruciferous plants - especially *Barbarea vulgaris*
Hippodamia variegata	variegated ladybird	ruderal or sandy habitats
Idiocerus herrichi	a plant hopper	on Poplars and Willows and also on Alder
Longitarsus dorsalis	a flea beetle	Ragworts (*Senecio* species) – now a fairly common species in the south
Metrioptera roeselii	Roesel's Bush-cricket	tall grassland, now everywhere in the south of England
Microplontus triangulum	a weevil	associated with *Achillea millefolium*; the larvae feed inside flowering stems
Philodromus albidus	a spider	lower branches of broad-leaved trees at the edge of woodland rides
Poecilium alni	a longhorn beetle	larvae feed in small branches and

Species	English name	Main ecological associations
		twigs of various tree species
Ptilodon cucullina	Maple Prominent	field maple, very rarely on sycamore
Sibinia primitus	a weevil	dry sandy areas
Sitona waterhousei	a weevil	*Lotus corniculatus*
Trichosirocalus barnevillei	a weevil	Yarrow (*Achillea millefolium*) in ruderal habitats
Merzomyia westermanni	a picture-winged fly	various ragwort species

11.173 **Nationally Local Species**. Twenty-five species are listed formally as Nationally Local. Table 11-19 below provides a list of the Nationally Local species recorded on the site.

Table 11-19
Nationally Local Invertebrates Recorded on Site

Species	English name	Main ecological associations
Acidia cognata	a picture-winged fly	*Tussilago* and *Petasites* plants – mining the leaves
Acupalpus dubius	a ground beetle	damp moss, damp litter and similar habitats
Agalenatea redii	a spider	lower than one metre in heather and gorse, and also in rough grassland
Amara tibialis	a ground beetle	open, sandy areas, especially costal dunes
Anaceratagallia ribauti	a plant hopper	on the ground amongst grasses in dry places - common in the south-east
Anomoia purmunda	a picture-winged fly	Larva feeds in the flesh of hawthorn Berries
Aphrodes bicinctus	a plant hopper	grasses in dry situations
Aphthona euphorbiae	a leaf beetle	widely polyphagous
Apolygus lucorum	a plant bug	low plants
Bruchidius villosus	a leaf beetle	On broom
Byrrhus pilula	a pill beetle	associated with moss or rabbit-grazed turf, in open situations.
Centrotus cornutus	a froghopper	oak, aspen and other sapling trees
Chorthippus albomarginatus	Lesser marsh Grasshopper	grasslands - has spread inland from coastal stations
Chrysotoxum festivum	a hoverfly	grassland with open scrub - the larvae feeding on root aphids
Chrysotoxum verralli	a hoverfly	grassland with associated scrub
Cordylepherus viridis	a beetle	a common grassland species
Coremacera marginata	a snail-killing fly	dry habitats, especially grasslands
Corizus hyoscyami	a plant bug	Stork's-bill, mainly south-western
Crossocerus nigritus	a sand wasp	nests in broken stems of shrubs and reedmace (*Typha*)
Cryptocephalus fulvus	a leaf beetle	possibly on sheep's-sorrel, but adults are found on a variety of flowers
Curculio glandium	a weevil	Oak trees - in developing acorns
Cyclosa conica	a spider	spring species of trees and bushes, preferring damp, dark woodland
Cymus melanocephalus	a plant bug	associated with *Juncus* wherever it

Species	English name	Main ecological associations
		grows
Eilema depressa	Buff Footman	lichens and algae on trees
Epitrix pubescens	a beetle	associated with Woody Nightshade
Euproctis chrysorrhoea	Brown-tail	rosaceous trees and shrubs - sometimes other trees and shrubs
Hypena rostralis	Buttoned Snout	hops - hibernating as adult in sheds, hollow trees, cellars etc
Hypsosinga pygmaea	a spider	grassland (especially calcareous) and low vegetation
Idaea rusticata	Least Carpet	withered leaves of ivy, *Clematis*, *Alyssum saxatile*, etc
Kalama tricornis	a lacebug	Dry ruderal habitats and sand dunes
Lamprotettix nitidulus	a plant hopper	arboreal species, mostly in the south
Mangora acalypha	a spider	Gorse and Heather in heathland and woodland in southern Britain
Metidiocerus rutilans	a plant hopper	on sallows, but found overwintering in pines
Neoscona adianta	a spider	rough grassland and heathland.
Notiophilus substriatus	a ground beetle	open, usually dry habitats especially if there is minimal vegetation
Oedemera lurida	a beetle	a common grassland species
Olibrus liquidus	a smut beetle	possibly associated with sap runs on trees
Oncotylus viridiflavus	a plant hopper	widespread in grassland habitats, usually on flowering heads of knapweed
Oxystoma craccae	a seed weevil	feeds in the developing seeds of vetches
Pipiza fenestrata	a hoverfly	Edge habitats
Pseudovadonia livida	a longhorn beetle	larvae feed in dead wood of deciduous and coniferous trees
Psylliodes chrysocephala	a leaf beetle	various Cruciferae
Rhamphus oxyacanthae	a weevil	larva mines in leaves of hawthorn
Rhopalus subrufus	a plant bug	St John's Wort (*Hypericum perforatum*)
Sphenella marginata	a picture-winged fly	on various ragwort species, in late summer and autumn
Stigmella aceris	a micro moth	caterpillar mines leaves of maple
Taeniapion urticarium	a weevil	nettles - larvae feed inside stem nodes
Tephritis formosa	a picture-winged fly	larvae gall the flowers of sow thistle
Tetrix subulata	Slender Ground-hopper	bare mud and sparse vegetation in marshy places, especially dune slacks
Tritomegas luctuosus	a plant bug	feeds on forget-me-nots (*Myosotis* species) in dry places
Tychius junceus	a weevil	*Medicago lupulina*
Xanthogramma pedisequum	a hoverfly	larvae feed in ants nests

11.174 **'Research Only' UKBAP moths:** The original list of UK BAP Priority Species of moths was divided into two sections. In the first, a total of 81 species are afforded the status of UK BAP Priority Species; none of these is recorded in the surveyed area nor is any likely to be present. However, the second section is a list of 69 species that have declined in population by a

significant amount in the past 25 years. These were defined as "not yet rare" and were flagged as UK BAP species for the purposes of further research only. They may be seen as having equivalence with bird species listed on the UK amber list by virtue of recent population declines as opposed to genuine rarity.

11.175 Table 11-16 below provide the "Research Only" moth species recorded on the site.

Table 11-16
"Research Only" Moth Species Recorded on the Site

Species	English name	Caterpillar food plant
Acronicta psi	Grey Dagger	deciduous trees and bushes
Agrochola litura	Brown-spot Pinion	deciduous trees and shrubs and herbaceous plants (requires both)
Agrochola lychnidis	Beaded Chestnut	deciduous trees and shrubs and herbaceous plants (requires both)
Allophyes oxyacanthae	Green Brindled Crescent	rosaceous trees and shrubs
Apamea remissa	Dusky Brocade	grasses
Aporophyla lutulenta	Deep-brown Dart	grasses, hawthorn, blackthorn
Atethmia centrago	Centre-barred Sallow	ash - buds then flowers
Callistege mi	Mother Shipton	coarse grasses, including reeds
Caradrina morpheus	Mottled Rustic	herbaceous plants
Chiasmia clathrata	Latticed Heath	*Medicago, Trifolium*
Diarsia rubi	Small Square-spot	herbaceous plants
Ecliptopera silaceata	Small Phoenix	willow herbs, enchanter's nightshade
Ennomos fuscantaria	Dusky Thorn	Ash
Hoplodrina blanda	Rustic	herbaceous plants
Scotopteryx chenopodiata	Shaded Broad-bar	vetches and clovers
Spilosoma lubricipeda	White Ermine	herbaceous plants
Spilosoma lutea	Buff Ermine	herbaceous plants and also trees and shrubs
Timandra comae	Blood-vein	Polygonaceae
Tyria jacobaeae	Cinnabar	Ragwort
Watsonalla binaria	Oak Hook-tip	oak - occasionally birch

Evaluation

11.176 In order to provide a high level indication of site quality, useful for comparison with other sites with a broadly similar level of recording effort, a Species Quality Index can be calculated. This requires that recorded invertebrate species are scored according to their national status as follows:

- RDB species 100 points
- Notable - Na species 50 points
- Notable - Nb species 40 points
- Notable - N species 40 points
- Local species 20 points
- Common species no score

11.177 These scores are derived from Ball (1986)[52]. Adding together the scores in each category provides an 'Invertebrate Index' which is then calibrated for sampling effort through simple division of the total Invertebrate Index by the total number of species recorded.

11.178 On sites where it is evident that a significant number of the species recorded have exhibited dynamic positive or negative changes in national status that are not always reflected in the formal categorisations, it may be appropriate to revise scorings to better reflect current rarity. This is appropriate here where, amongst other things, three of the species found were considered 'extinct' in Britain prior to 1994 but have since either been re-found or have recolonised, and furthermore gone on to become widespread in south-east England. Revised scorings suggested for this site are indicated in Table 11-20.

Table 11-20
Revised allocation of invertebrate scores and calculation of Species Quality Index

Status category	Score in Ball (1986)	Revised score	Number of taxa on this site	Total Score for site	SQI
BAP(Research only)*	-	20	20	400	-
Extinct*	100	20	3	60	-
RDB 1	100	100	1	100	-
RDB 3	100	100	2	200	-
RDB K	100	100	2	200	-
NS(Na)	50	50	8	400	-
NS (Nb & N)	40	40	18	720	-
Local	20	20	25	500	-
Subtotal	-	-	**79**	2580	-
Common	0	0	727	0	-
Totals	-	-	**806**	**2580**	**3.20**

*specifically the species recorded in this present report only.

11.179 In the context that Species Quality Index outputs can be categorised as indicating a site of national importance where above 7, the total revised Species Quality Index value of 3.20 is fairly low and indicates a site of modest importance to invertebrate conservation. This is despite the inclusion of 'Research only' UKBAP moths, many of which remain very common, and despite no correction being made for certain other species that are undoubtedly abundant but retain a formal 'nationally scarce' status, such as Roesel's bush cricket. On the other hand, the high proportion of the invertebrate species total that relates to moths may skew the result because the vast majority of moths recorded in light traps are common species and for most sites moths are unlikely to have been recorded to an equivalent degree. As a consequence, the analysis of the full species dataset from the application site may not be directly comparable with other areas. This can be corrected for by removing the 248 moth species from the calculation and recalculating using only the remaining 558 non-moth invertebrates. This results in only a modest increase in SQI value, however: to 4.62.

[52] Ball, S. C. (1986) Terrestrial and freshwater invertebrates with Red Data Book, Notable or habitat indicator status. Invertebrate Site Register internal report number 66. NCC

11.180 Invertebrate Species-habitats Information System. An alternative means of evaluation commonly employed in modern invertebrate assemblage assessments is the Invertebrate Species-habitats Information System (ISIS). This is a tool introduced by Natural England and used by them to undertake common standards monitoring (i.e. to monitor the condition of invertebrate assemblages), score them based on the invertebrate assemblage types present (similar to how the NVC is used to assess plant communities) and evaluate their conservation value. It is thus a tool designed to measure invertebrate conservation value within the context of certain pre-existing parameters, and must be used on sites outside that context only with care.

11.181 The ISIS assemblage types are defined by lists of characteristic species that are generally found together in assemblages under natural or semi-natural. Broad assemblage types (BATs) are a comprehensive series of assemblages characterised by more widespread species. Specific assemblage types (SATs) are characterised by stenotopic (ecologically restricted) species, and therefore are more likely to be of intrinsic nature conservation value.

11.182 The software can therefore be used to approach the question of invertebrate habitat value assessment from the opposite direction i.e. predicting both the habitat types present, and their quality and value in invertebrate conservation terms, by looking at the full suite of species recorded and cross-checking their habitat requirements. Thus, if a large proportion of the total possible species with a particular specialised habitat requirement are present, the software indicates that the habitat must be both a) present and b) in good (favourable) condition.

11.183 Using the full dataset of 806 recorded invertebrate species, ISIS generates the following results for the application site:

11.184 **Broad Assemblage Types.** The top Broad Assemblage Types identified as present are presented in Table 11-21 below.

Table 11-21
The Broad Assemblage Types from ISIS assessment of the invertebrates recorded on the application site.

BAT	BAT name	Representation (1-100)	Rarity	Condition	BAT species richness
F2	grassland & scrub matrix	19	123		238
A1	arboreal canopy	9	125		117
F1	unshaded early successional mosaic	5	245	favourable	62
A2	wood decay	2	150		20
W2	mineral marsh & open water	1	111		18
F3	shaded field & ground layer	1	142		12
W3	permanent wet mire	1	100		11

11.185 Not surprisingly, the largest assemblage is associated with the grassland and scrub matrix. The arboreal canopy lies in second place and is undoubtedly so positioned because of the presence of a large number of moths on the list. The unshaded early successional mosaic assemblage of species is in

favourable condition; the state of the habitat that supports this assemblage is, therefore, of high quality.

11.186 **Specific Assemblage Types:** The most important Specific Assemblage Types identified as present from ISIS analysis of the species inventory are presented in Table 11-22 below.

Table 11-22
The Specific Assemblage Types from the ISIS assessment of the invertebrates recorded on the application site.

SAT	SAT name	No.	Condition	Percentage of national species pool	Related BAT rarity score
A215	epiphyte fauna	3		15	150
F001	scrub edge	15	favourable	8	
F112	open short sward	12		6	245
F002	rich flower resource	6		2	
A212	bark & sapwood decay	12		2	150
F003	scrub-heath & moorland	7		2	
F111	bare sand & chalk	6		1	245
A211	heartwood decay	2		1	150

11.187 The results of analysis of the species inventory using ISIS therefore indicate that the site's value for invertebrates is primarily centred on the presence of unshaded early successional mosaic habitats and scrub edge. Thus the areas of the site recovering from past disturbance may hold a disproportionate amount of the invertebrate interest, although it is also clear that the large expanses of grassland in association with scrub also have value, despite the relative absence of 'flower-rich' representations of this habitat.

Other fauna

11.188 The 2008 Cresswell Associates report stated that in 2001 the site supported up to six brown hares *Lepus europaeus*, with individuals also noted during visits in 2008. Only a single record of this species was made during the survey work carried out in 2014 and 2015, and this was outside the application site in the north-eastern part of the former airfield. It is possible that the increased presence of dogs in the more heavily trafficked areas of the site may be suppressing the site's potential value to this species. Other mammals noted during the course of the fieldwork in 2014 and 2015 included muntjac *Muntiacus reevesi*, grey squirrel *Sciurus carolinensis*, field vole *Microtus agrestis*, fox *Vulpes vulpes* and common shrew *Sorex araneus*.

EVALUATION AND IDENTIFICATION OF KEY RECEPTORS

Evaluation Criteria

11.189 For the purposes of assessing likely significant effects, key ecological receptors are drawn out from the baseline information set out in the preceding section. The decision as to which ecological receptors are 'key' in this context is to a substantial extent a value judgement, informed by factors such as national and local conservation status and legal protection. The current guidance for Ecological Impact Assessment issued by the Chartered Institute for Ecology and Environmental Management (CIEEM)[53] recognises that professional judgement and a certain level of subjectivity is unavoidable when apportioning value to individual ecological receptors. However certain parameters and points of reference can be used to help ensure consistency – these are discussed below.

11.190 Sites already possessing statutory or non-statutory nature conservation designations will have been subjected to some form of evaluation process in the past, and their importance defined at a geographical scale (e.g. international, national, local). For these, evaluation will generally reaffirm their qualifying attributes, or in some cases may identify where designation may no longer be appropriate.

11.191 Factors such as extent, naturalness, rarity, fragility and diversity are all relevant to the determination of ecological value, and for the evaluation of sites and habitat features outside designated sites, these and other criteria as described by Ratcliffe (1977), may be applied. Ratcliffe's criteria are integral to the procedure for selecting both Sites of Special Scientific Interest and many non-statutory designation systems in the UK, and therefore remain an accepted standard for site evaluation.

11.192 In applying these criteria, attention may be drawn to the relative scarcity or abundance of features within the survey area and in the wider geographical context. Some criteria are however absolute and not relative to scale. Ancient woodland, for example, is fragile irrespective of whether it is being considered in an international or local context. Similarly, the value of an otherwise poor habitat may be elevated if it is central to the survival of a rare species.

11.193 Where evaluation is important for the purposes of informing decisions related to land-use planning and development control, the above approach needs to be supplemented by consideration of whether individual species are subject to legal protection[54], or whether habitats or species are present which have been identified as 'priorities' for biodiversity conservation in the UK[55]. Planning authorities have a statutory duty[56] to have regard to protected

[53] CIEEM (2016) *Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater and Coastal, 2nd edition.* Chartered Institute of Ecology and Environmental Management, Winchester

[54] Principal legislation being the Wildlife and Countryside Act 1981 (as amended) and the Conservation of Habitats and Species Regulations 2010 which implements the EC Habitats Directive. Some animals are protected under separate legislation (e.g. the Protection of Badgers Act 1992).

[55] As published by the Secretary of State further to their duties under Section 41 of the Natural Environment and Rural Communities Act 2006

[56] Section 40 of the Natural Environment and Rural Communities Act 2006.

species and to further biodiversity objectives and the presence of such resources may therefore be material to the determination of development control decisions (ODPM Circular 06/2005).

11.194 Finally, attention may be drawn to species not necessarily subject to legal protection or identified by Government as a priority for biodiversity conservation, but which nonetheless have an 'unfavourable' conservation status as defined by the Red Data Book system[57] or the Red and Amber lists for birds[58], or which are otherwise known to be rare or scarce in a local or regional context.

11.195 Scales of comparison varying from international to the context of the local area may be used to define the measure of importance (or value) attached to individual features. The definition of geographic terms can vary, but in this evaluation the following geographic frame of reference is used:

- International;
- UK;
- National (i.e. England/NI/Scotland/Wales);
- Regional (e.g. relevant Natural Area or area covered by a regional records' centre)
- County (or Metropolitan - e.g. in London);
- District (or Unitary Authority, City, or Borough);
- Local or Parish; and
- within zone of influence only (which might be the project site or a larger area)

Evaluation and Identification of Key Receptors

11.196 The application site is not subject to any statutory or non-statutory nature conservation designation. The nearest such site is Home Covert, a Local Wildlife Site which adjoins the application site to the north-east. Being in sufficient proximity to fall within the zone of influence of certain potential impacts, this site is identified as a key receptor.

11.197 The application site itself is dominated by essentially dry unmanaged grasslands, with varying amounts of associated scrub, although there are also areas of grassland actively managed by livestock grazing or mowing. These grasslands range from species-poor examples reflecting past 'improvement' or other enrichment to those with a species composition variously indicative of the chemical properties of the underlying substrate. None of these grasslands are exceptional in terms of quality, most being examples of a widespread community commonly found elsewhere on road verges and other marginal land. Rather than their intrinsic interest, it is their unbroken expanse over large areas that is both unusual and worthy of note. Indeed it is this property, in combination with the relative lack of upstanding features such as hedgerows and other field boundaries, that attracts certain

[57] Following the British Red Data books published by the JNCC/RSNC and the Nationally Notable (Nationally Scarce) categorisations recognised by the JNCC

[58] Eaton, M.A., *et al.* (2009) *Birds of Conservation Concern 3: the population status of birds in the United Kingdom, Channel Islands and the Isle of Man.* British Birds 102, pp296–341.

of the more specialist taxa recorded. Prominent amongst these are open country birds, including large breeding populations of whitethroat, as well as breeding cuckoo, barn owl, kestrel, skylark and meadow pipit, and a wintering assemblage that includes good numbers of woodcock, as well as stonechat, snipe, barn owl and in past years short-eared owl. The site's invertebrate interest is also heavily centred on early successional, scrub edge and open grassland species, and amongst other things includes several nationally and locally rare species of Coleoptera.

11.198 Added to this grassland-focused backdrop are a number of small waterbodies that support great crested newts and other amphibians, and along with the few hedgerows and denser areas of scrub, these also act as feeding loci for local bat populations, which although dominated by one or two common species, also appear to include occasional use by uncommon and scarce species such as Nathusius' pipistrelle. The hedgerows and (mainly by virtue of the presence of great crested newts) four of the ponds also qualify as Habitats of Principal Importance further to section 41 of the Natural Environmental and Rural Communities Act 2006, with three of the hedgerows also meeting the criteria of 'Important Hedgerows' further to the Hedgerows Regulations 1997. Other protected species present include badgers and a sparse population of grass snake.

11.199 Although the site has no Local Wildlife Site (LWS) designation, the areas surveyed by the Herts and Middlesex Wildlife Trust in 2013, including around half of the application site, were all assessed to qualify against the incumbent criteria for LWS designation, based largely on the presence of semi-improved and unimproved grassland supported by 29 qualifying indicator plant species. Within this, a core area of the richest habitats was identified that included the central-eastern part of the application site, as well as much of the former airfield land outside the application site to the east and north. This suggested designation was never ratified and the LWS criteria for Hertfordshire have since been revised[59], however it is evident that the site would qualify for designation under the same, and indeed additional, grounds, under the new criteria and, furthermore, the northern part of the application site (which was not surveyed by the Wildlife Sites team, in 2013), would probably also qualify for inclusion. This is to a large degree a function of the relatively inclusive nature of the LWS criteria; based on intrinsic botanical interest alone, it is arguable at best whether the grassland quality is sufficient to be worthy of designation, however the unbroken extent of the habitat is unusual and provides carrying capacity for a range of species of fauna that are likely to have rather restricted habitat opportunities elsewhere across the county. For this reason, the unmanaged grassland component of the site, together with its associated scattered scrub, is identified as a key receptor of county importance.

11.200 Taking into account the baseline information amassed, and the overall evaluation above, the key receptors to consider in respect of the potential impacts affecting the application site are considered to be as set out in Table 11-23 below:

[59] Hertfordshire Local Wildlife Sites Partnership (2014) Selection Criteria for Local Wildlife Sites in Hertfordshire (9th version).

Table 11-23
Key Receptors

Scale	Key Receptor
International	No receptors of international importance are assessed to be within range of any likely significant effects arising from the proposed development.
UK/National	No receptors of national importance are assessed to be within range of any likely significant effects arising from the proposed development.
Regional	No receptors of regional importance are assessed to be within range of any likely significant effects arising from the proposed development.
County	1. The Home Covert & Round Wood Local Wildlife Site abuts the site to the north. This site was designated due to the presence of ancient woodland indicator species, but is not ancient woodland. Due to the proximity of this designation, there is the potential for indirect hydrological, dust and noise impacts from the proposals. 2. The unmanaged grassland habitat on the site is collectively assessed to be of county importance due to its unusually large and unbroken extent and interconnectivity, and the carrying capacity this provides for associated fauna species, rather than due to its intrinsic botanical interest, which is limited, even though a very few notable (e.g. county-rare) species are present (green-winged orchid, whorled mint). Where scrub occurs as a loose matrix with this grassland resource, providing shelter and habitat edges, this is included as part of the county-valued mosaic.
District	1. Great crested newts: the population on the site is assessed as falling within the 'medium' size class, but it forms part of a wider metapopulation likely to be of District importance. 2. Breeding birds: the site is likely to contain a significant proportion of the total breeding populations of whitethroat and barn owl in the relevant Districts, and in some years also that of other species such as grey partridge and grasshopper warbler. 3. Wintering birds: the site is one of very few in either of the relevant Districts that is likely to be able to accommodate high profile species such as short-eared owl and hen harrier, as well as significant numbers of wintering woodcock. 4. Passage birds: the background records and the site's geography and character suggest it is likely to be a local staging focus for migrating open-country birds and warblers passing between the conurbations of St Albans and Hatfield, especially in Spring. 5. Invertebrates: while county-significant species of Coleoptera have been recorded during the baseline studies, the effect of uneven recording coverage has to be taken into account, and the overall assemblage appears unlikely to exceed the District level of importance given the fairly cosmopolitan habitat preferences of the scarcer species found.
Parish	1. Other grassland habitats, including livestock-grazed and mown areas: These are extensive, but include a more restricted range of species weakly indicative of semi-natural circumneutral grasslands, but no rarities, and their structure precludes significant value for the higher fauna associated with the rougher grasslands on the site. 2. Hedges, mature trees, ponds and denser scrub. These habitat components add to the site mosaic, and in the case of great crested newt, underpin the site population, however their intrinsic interest is relatively modest, by

Scale	Key Receptor
	comparison with neighbouring and wider areas, with some being recent in origin and therefore of low fragility. Of the hedgerows on the site, three qualify as 'Important' under the Hedgerows Regulations 1997, and all qualify as habitats of principal importance, along with (by virtue of the presence of great crested newts) four of the ponds/waterbodies. 3. Bats. In the main, bat use of the site is modest and dominated by a small number of common species, with no roosts found or likely to be affected. However intermittent or localised use of peripheral areas and internal linear or wetland features by a greater range of species evidently occurs, including the nationally uncommon Nathusius' pipistrelle. There are no indications that the site receives any more than transient use by the more uncommon species recorded, and the site's open nature in comparison with surrounding land suggests that it is unlikely to be of elevated importance by comparison. 4. Brown hare. The application site is probably still used by this species of principal importance, although it was only recorded on adjoining airfield land in 2015 and not at the numbers cited in previous surveys.
Immediate local (within zone of influence only)	1. Badgers. A main sett with 20 entrance holes is present near the centre of the site. 2. Reptiles. Just one grass snake was found during the survey. The scope for metapopulation level impacts is assessed as negligible but effects on individual animals are possible, and the species is therefore retained as a key receptor. 3. The representations of other habitats within the application site are either small, of negligible value, or both, and are similarly assessed as of only immediate local (i.e. site) value. They are therefore scoped out as a key receptor

11.201 The remaining sections of this document consider the potential for, and the magnitude and significance of, any impacts arising on the above key receptors from the project, along with any mitigation and/or compensation proposed, and its likely efficacy.

AVOIDANCE BY DESIGN AND DESCRIPTION OF PROPOSALS

Ecological Input to Design Process

11.202 Ecological input has been a significant driver in the design of the proposed restoration scheme, including in terms of seeking to reinstate the key habitat elements for which the site has current value, exploiting opportunities created by extraction in terms of the exposure of mineral substrates and their potential to develop semi-natural plant communities, exploiting opportunities created by changes to drainage patterns and responding to local and national initiatives in terms of appropriate habitat creation objectives, including taking account the views of the Hertfordshire and Middlesex Wildlife Trust, as canvassed at three meetings with their representatives. This has allowed key objectives to be set towards the creation of semi-natural habitats appropriate to the locality and the geology – in particular acid grassland, and to secure significant opportunities for certain fauna, including birds and invertebrates in particular, but also herpetofauna and other taxa.

Summary Description of The Proposals in the Context of Likely Ecological Effects

11.203 Initial establishment of the quarry will include creation of a new site access onto the A1057, involving removal of a section of hedgerow H6 although also exploiting an existing weak point and gap, and the linking of this access to a new processing plant, offices, stockpile area and weighbridge in the northern part of the application site by means of new haul roads that will in part run alongside existing established hedgerows H5, H1 and H2. Establishment of the new processing plant will follow the deposition of a layer of sand and gravel extracted from the recharge lagoons (see below) in order to raise levels. This phase will require the removal of ponds P1, P2 and P3, and will require the diversion of the existing ditch system carrying the Nast watercourse, resulting in the removal of P4. New fresh water and silt lagoons will also be constructed in this part of the site.

11.204 The two recharge lagoons will be excavated at the eastern boundary of the application site, connecting respectively with the upper and lower mineral horizons. Once established, soil and overburden stripping and extraction of mineral is anticipated to take place in a sequence of seven phases, with the working 'cells' progressing east to west. Stripped materials will be stored in peripheral storage mounds and restoration of exhausted phases will progress in tandem with the working sequence, using both on-site materials and imported inert fill sourced from the construction and demolition waste sector and imported to the site under the terms of an Environmental Permit.

11.205 On completion of extraction, each worked out cell will be backfilled with inert material to achieve the required contours to ensure surface water flow is broadly re-established in a NW to SE alignment, towards an overflow connecting to an existing pipe which currently takes the ephemeral Nast flows along or under the A1057. The inert fill material will be covered by an engineered barrier / cap comprised of site-won interburden over which a 'restoration soil profile' of around 1.2m depth will be laid. Restoration soils will be carefully screened and selected to ensure they have suitable physical and chemical properties for the intended after-uses, including in particular acid grassland, species-rich circumneutral grassland and small areas of calcareous grassland. In the early phases of extraction, restoration materials may have to be stockpiled and stored, but in later phases, direct placement may be possible as part of progressive restoration. Micro-topographical diversity, including 'ridge and furrow' will be created in the final phases of restoration and in conjunction with preparation of soils and substrates for seeding, planting or natural regeneration as appropriate.

11.206 Restoration will comprise active planting interventions, potentially including use of harvested seed or 'green hay' from suitable donor sites in the locality, with hedgerow and tree planting sourced from nurseries able to guarantee native provenance. The recharge lagoons will be retained but remodelled to create a single permanent waterbody, with other smaller and more ephemeral waterbodies also created, e.g. through placement and compaction of low permeability materials in shallow depressions. Following an appropriate establishment and aftercare period, the site would be managed

in accordance with an approved management plan, likely to major on livestock grazing to maintain grassland diversity and controlled visitor management to ensure some areas are subject to reduced levels of disturbance as compared with the existing situation.

IMPACT ASSESSMENT

Methodology

Terms of Reference

11.207 The assessment of likely significant ecological effects arising from the project follows the guidelines produced for EcIA by the Chartered Institute for Ecology and Environmental Management (CIEEM)[60]. The approach taken is set out below:

Determining the Sensitivity of Key Receptors

11.208 In order to determine whether a specific effect on the key ecological receptors listed in Table 3 above is 'significant', the sensitivity of the affected habitat, site or species must be considered. The sensitivity of an individual receptor is a product of various factors including:

- habitat extent or population size (at a given geographical level)
- habitat or population fragility (including ability to recover)
- the rarity of a species or habitat; and
- susceptibility to environmental change (e.g. from disturbance or pollution).

11.209 Applying the above criteria, the sensitivity of individual receptors can be put into 'High', 'Moderate' or 'Low' categories as follows:

Table 11-24
Sensitivity

Sensitivity	Habitat Example	Species example
High	Habitat is highly susceptible to nutrient enrichment or invasion from competitive species Habitat has highly specialised hydrological or soil/geology requirements (e.g. calcareous fen) Habitat is present as small and isolated fragments vulnerable to edge effects Habitat takes an extended period to develop full suite of components (e.g. ancient woodland)	Species is highly intolerant of disturbance or pollution Species is present in a small and isolated population and/or has low dispersal rates Species has low recruitment rates and population recovery is likely to be very slow

[60] Institute of Ecology and Environmental Management (2006) *Guidelines for Ecological Impact Assessment in the United Kingdom* and CIEEM (2016) *Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater and Coastal, 2nd edition*. Chartered Institute of Ecology and Environmental Management, Winchester

Sensitivity	Habitat Example	Species example
Moderate	Habitat can tolerate some elevated levels of pollution or will recover within a short-medium term (e.g. <20 years) Habitat has hydrological or soil/geology requirements that can be recreated or are fairly widely met Habitat may be isolated, but is present at an extent that provides resistance to edge effects and is better able to accommodate damage Habitat develops over a moderate timescale given the right conditions (e.g. unimproved acid grassland)	Species is able to tolerate some levels of disturbance or pollution (e.g. sub-lethal effects). Species population is restricted, but large enough to accommodate some temporary reduction without long term consequences for viability. Species has moderate recruitment rates
Low	Habitat is highly resistant to nutrient enrichment or other forms of pollution and physical disturbance (e.g. improved grassland) Habitat has non-specific requirements that are readily met elsewhere Habitat is extensive and well able to accommodate localised or more extensive damage Habitat is easily recreated over a short timescale (e.g. arable)	Species is highly resistant to disturbance and pollution (e.g. most urban wildlife) Species' population is widespread and recolonisation in the wake of any localised range reduction likely to occur readily Species has high recruitment rates likely to lead to rapid recovery of population levels

11.210 As with the identification of key receptors, a certain amount of subjectivity and the application of professional judgment is unavoidable when determining sensitivity, however in addition to firsthand experience of the species/habitat and locality in question, a wealth of scientific literature and/or local conservation status information can often be drawn upon to inform such judgements.

Identification of Impacts and their Magnitude

11.211 Impacts arising from the proposals that have the potential to be significant are identified from review of the scheme details, and tandem assessments for other environmental disciplines based on them, including in this instance the following in particular;

- Environmental Statement Chapter 3 (Development Description) and accompanying drawings HQ 3/1, 3/3, 3/6, 3/7, 3/8, 3/9 and 3,10 showing initial preparation works and extraction phases.
- Proposed final restoration scheme drawing (drawings HQ 3/11 and 3/12).
- Environmental Statement Chapter 6 – Water
- Environmental Statement Chapter 9 – Air Quality
- Environmental Statement Chapter 10 - Noise

11.212 The following terms are used to quantify the 'magnitude' of identified impacts in this assessment:

Table 11-25
Impact Magnitude

Impact Magnitude	Definition
Very High	An example of a very high magnitude impact would be direct mortality or displacement of a significant proportion of a species' population or loss of habitat at a level likely to remove its continued representation at the given geographical level being considered.
High	An example of a high magnitude impact would be direct mortality, indirect displacement or habitat loss that would be likely to substantially reduce the population level or degree of representation at the given geographical level being considered.
Moderate	Moderate impacts include those likely to result in a net reduction of population or habitat representation (at least in the absence of effective mitigation or compensation) at the given geographical level being considered
Minor	Minor impacts include those that may result in loss of a few individuals from a species' population or minor reduction in habitat extent at the given geographical level being considered.
Negligible	Negligible impacts are those that are not likely to give rise to measurable effects on population level or habitat representation at the given geographical scale.

Significance of Effects

11.213 Whether a potential effect is 'significant' or not at the given geographical level that the receptor is valued at, is determined by quantifying the magnitude of effect on each of the receptors identified. Thus for receptors of national or international value and high sensitivity, negative effects measured at high or very high magnitude are likely to represent a significant impact at that geographical scale. In development control terms, such impacts are very likely to conflict with planning policy. At the other end of the scale, minor magnitude effects on receptors of low sensitivity and only immediate local value are likely to be below significance thresholds, and to merit relatively low weight in planning decisions. Substantial effects on high value receptors that are of low sensitivity may fall either side of the significance threshold - in such cases further avoidance or mitigation may be able to be employed to ameliorate effects. A key consideration is whether the 'integrity' of a site or ecosystem (e.g. the coherence of its structure and function) and/or the 'conservation status' of a species or habitat (e.g. the ability of a population/habitat to maintain itself at pre-development levels/quality) will be compromised.

Impact Prediction Confidence

11.214 For the impacts identified, confidence levels in the assessments made may be attributed and/or discussed where there is a significant degree of uncertainty.

Assessment

Potential effects

11.215 Identification of potential effects and their zone of influence has included review of the development description and working scheme (ES Chapter 3) and the results of tandem assessments on water resources (ES Chapter 6), landscape (ES Chapter 8), air quality (ES Chapter 9) and noise and vibration (ES Chapter 10).

11.216 Taking the above into account, the project is considered to have the potential to give rise to a range of potentially significant direct and indirect effects on ecological receptors, including *inter alia*:

11.217 Implementation *phase - direct effects*

- direct and permanent loss of existing grassland, hedgerow and disturbed ground habitats to phased top-soil/overburden stripping, materials storage and the establishment of haul routes, highway access and the processing plant site;
- loss of five waterbodies or waterbody complexes, two of which are known to support breeding great crested newts
- loss of an established, main, badger sett
- loss of habitat for nesting birds, including loss of current barn owl nesting locations in artificial boxes
- loss of habitat used by reptiles, invertebrates and with localised scarce plants

11.218 Implementation *phase - indirect effects*

- potential effects on retained peripheral and adjoining habitat features (including Home Covert LWS and ponds that support great crested newts) from lighting, noise, dust and groundwater drawdown;
- displacement and/or disturbance of fauna using application site due to habitat loss and/or operational activities;
- development and progressive expansion of temporary early-succession habitats in operational and ancillary areas, with potential colonisation by associated fauna.

11.219 *Completed* scheme - *direct effects*

- reinstatement of expansive grassland habitats, with localised scrub and hedgerow and an expanded wetland component;

11.220 Completed *scheme - indirect effects*

- likely changes in use of the site by fauna already associated with the site;
- likely changes involving other species (e.g. colonisation by species not currently present)

Assessment of effects in the absence of mitigation

11.221 Table 11-26 overleaf sets out the likely significant effects on the key ecological receptors identified prior to the application of any additional mitigation measures for both the implementation phase of the project and the post-completion phase. It thus takes into account the avoidance, mitigation and compensation measures taken as part of the design process, as previously set out in this chapter.

Table 11-26
Predicted Effects on key receptors in the absence of additional avoidance or mitigation

Receptor	Value (I N R C B/D P ZoI)	Potential effects	Magnitude	Significance	Additional Avoidance or Mitigation measures proposed?
Home Covert and Round Wood Local Wildlife Site (LWS)	•	1) Indirect effects – disturbance to light-sensitive fauna, or disruption of behaviour through introduction of new sources of artificial light	1) Lighting proposed for plant site only during the winter months (ES chapter 3 para 3.63). Taking account of design mitigation (directional designs and adherence to industry standards for good design practice), potential for minor magnitude residual impacts of a temporary (medium-long term) nature on western side of LWS concentrated on woodland edge, although unlikely to penetrate far into designated area.	1) Not significant in relation to the integrity of the LWS designation. See also 'bats' below.	1) No
		2) Indirect effects – disturbance to noise- sensitive fauna, or disruption of behaviour through introduction of new sources of significant noise	2) Taking account of design mitigation (e.g. cladding of processing plant) and the noise-attenuation effect of peripheral storage bunds (where present) residual potential for minor magnitude impacts of a temporary (medium-long term) nature on western side of LWS concentrated on woodland edge, but unlikely to penetrate far into designated area.	2) Not significant in relation to the integrity of the LWS designation. See also 'breeding birds' below.	2) No
		3) Indirect effects – physical impacts on plant communities affected by windborne dust, and potentially on contained surface water systems affected by significant deposition	3) Potential for negligible to minor magnitude impacts of a temporary (medium- long term) nature on western side of LWS and concentrated on immediate woodland edge.	3) Not significant in relation to the integrity of the LWS designation.	3) No
		4) Indirect effects – groundwater derogation with potential related effects on available soil water for LWS vegetation and habitat features.	4) Essentially free-draining nature of soils in south-western part of LWS, re-charge of retained adjoining section of Nast surface water system via diverted ditch, and design mitigation measures (including re-charge during de-watering of Upper Mineral Horizon and subsequent installation of clay bunds – see Chapter 6, para 6.125) renders the scope for any effects negligible.	4) No likely significant effect on the LWS.	4) None proposed or required.
Unmanaged circumneutral grassland	•	1) Progressive direct loss of c.90% of existing resource on application site.	1) Impact magnitude ameliorated by phased sequence of extraction and restoration such that development of similar vegetation on land released from current grazing or mowing management, and/or reinstated following progressive completion of restoration, is likely to reduce magnitude of loss to perhaps no more than 50% of the existing resource at any given point in time.	1) Significant unavoidable impact on resource arguably qualifying for LWS status (County importance) but the relatively species-poor nature of the existing resource, in part due to its recent origin, means that replication of value in incidentally developing or post-restoration areas likely to be close to 100%, even in worst case.	1) None practical, achievable or proportionate over and above the adoption of phased removal and compensation (through restoration) as already proposed.

Receptor	Value (I N R C B/D P ZoI)	Potential effects	Magnitude	Significance	Additional Avoidance or Mitigation measures proposed?
Great crested newts		1) Loss of 2no breeding ponds (P1 and P3) and de-facto loss of up to 70% of terrestrial habitat within 500m of these, through exclusion and/or operational activities.	1) Major in terms of the on-site population but this is evidently part of a larger metapopulation with a range extending significantly north and east, so metapopulation-level effects no higher than moderate.	1) Potentially significant in terms of maintenance of favourable conservation status at District level. In any event, impact on even one animal would have legal implications and therefore further consideration of avoidance and mitigation techniques is required.	1) Yes – replacement breeding ponds would be created as part of initial operations and a full translocation, including clearance of GCN from aquatic and terrestrial habitat within application site, and exclusion for duration of operations, will be carried out under licence.
		2) Potential for groundwater derogation effects on 2no additional ponds used by the species (P5 and P6) and to be retained close to extraction area.	2) Minor. Scope for significant dewatering of P5 limited by ground-water re-charge through retained (diverted) Nast system and re-charge lagoons and for both P5 and P6 by design mitigation measures (including re-charge during de-watering of Upper Mineral Horizon and subsequent installation of clay bunds – see Chapter 6, para 6.125).	2) Worst case predictions of impact magnitude are for short-term temporary drawdown impacts during earliest phases of operation (e.g. excavation of recharge lagoons). These are unlikely to give rise to significant meta-population level effects but any impact on egg or larval life-stages would have legal implications and therefore further consideration of avoidance and mitigation techniques is required.	2) Yes – monitoring of water levels in these waterbodies is proposed in order to identify any need for intervention. If critical operations (e.g. excavation of re-charge lagoons) occur outside the period when GCN may breed in these ponds, the scope for impact may be avoided entirely.
		3) Loss of 30-40% of terrestrial habitat within 500m of off-site breeding pond P6 through exclusion and/or operational activities, although reinstated in medium-long term.	3) Minor. Much of the terrestrial habitat in question is of reduced suitability for terrestrial phase GCN due to grazing and/or likely to be exploited to a lesser degree than other unaffected habitats (e.g. Home Covert)	3) Assessed as likely to fall below significance thresholds in terms of conservation status at District level. However, impact on even one animal would have legal implications and therefore further consideration of avoidance and mitigation techniques is required	3) Yes. A full translocation, including clearance of GCN from terrestrial habitat within application site, and exclusion for duration of operations, will be carried out under licence.

Receptor	Value (I N R C B/D P ZoI)	Potential effects	Magnitude	Significance	Additional Avoidance or Mitigation measures proposed?
Breeding birds:	*	1) Direct impacts on bird nests, eggs or young through site stripping or other operational activities	1) Phased nature of workings reduces scope for any more than a minor magnitude impact, even at the site level.	1) Not significant at District level for most species, although potentially approaching or exceeding such levels if restricted site population of certain scarcer species (e.g. barn owl, cuckoo) was impacted.	1) Yes. Impact on any active nest would have legal implications and therefore further consideration of avoidance and mitigation techniques is required.
		2) Progressive direct loss of 90-100% of existing breeding bird habitats on the site compromising breeding success or leading to wholesale displacement	2) Minor to moderate in the context of the geographical scale indicated. Scope for higher magnitude effects restricted significantly by phased working sequence which will leave extensive areas under rough grassland initially, and by later phases restoration is likely to have generated suitable replacement breeding conditions for a significant proportion of affected species (e.g. skylark, whitethroat).	2) Not significant at District level for most species due to amelioration effect of phasing, although potentially approaching or exceeding such levels if site population of certain species (e.g. barn owl, cuckoo) was impacted in any given operational phase.	2) None, over and above the measures employed to ensure legal compliance as per (1) above and the incorporated design mitigation.
		3) Changes in breeding bird assemblage using the site in response to temporary exclusion of public, and development of ephemeral and subsequent long-term replacement habitats through progressive restoration.	3) Neutral to minor (positive or negative) depending on uptake of ephemeral habitats by species of conservation importance (e.g. sand martin, little ringed plover), and the success of the restoration scheme long-term in reinstating the current level of ecological interest.	3) If minor magnitude positive or negative effects are manifested these would be significant at District level due to the site's relative importance at that geographical scale.	3) No
Wintering Birds	*	1) Progressive direct loss of 90-100% of existing wintering bird habitats on the site compromising site's attractiveness to such species or leading to wholesale displacement	1) Minor to moderate in the context of the geographical scale indicated. Scope for higher magnitude effects restricted significantly by phased working sequence which will leave extensive areas under rough grassland initially, and by later phases restoration is likely to have generated suitable replacement conditions for a significant proportion of affected species. Given the above, exclusion of public (albeit temporarily) may even temporarily enhance conditions for sensitive species such as short-eared owl.	1) Not significant at District level for most species due to amelioration effect of phasing, although potentially approaching or exceeding such levels if wintering population of certain species (e.g. barn owl) was impacted in any given operational phase.	1) None, over and above incorporated design mitigation.
		2) Changes in wintering bird assemblage using the site in response to temporary exclusion of public, and development of ephemeral and subsequent long-term replacement habitats through progressive restoration.	2) Neutral to minor (positive or negative) depending on uptake of ephemeral habitats by species of conservation importance (e.g. green sandpiper), and the success of the restoration scheme long-term in reinstating the current level of ecological interest, and subsequent management in maintaining that interest.	2) If minor magnitude positive or negative effects are manifested these would be significant at District level due to the site's relative importance at that geographical scale.	2) No.

Receptor	Value (I N R C B/D P ZoI)	Potential effects	Magnitude	Significance	Additional Avoidance or Mitigation measures proposed?
Passage Birds	*	1) Progressive direct loss of 90-100% of existing bird habitats on the site compromising site's attractiveness to such species or leading to wholesale displacement	1) Minor. The nature of passage bird use is that the types of habitat change that will occur during the operational phase and progressive restoration are not likely to significantly affect the openness of the site and its existing attractiveness to passage species.	1) Not significant due to the low magnitude of change and the nature of passage bird use.	1) None, over and above incorporated design mitigation.
		2) Changes in passage bird assemblage using the site in response to temporary exclusion of public, and development of ephemeral and subsequent long-term replacement habitats through progressive restoration.	2) Minor to moderate positive given that the development of ephemeral habitats associated with active extraction is likely to create an additional attractant for species not currently associated with the site. Following restoration, some of this positive change might be retained depending on management and levels of public access.	2) If minor to moderate temporary or longer-term positive effects are manifested these would be significant at District level due to the site's relative importance at that geographical scale	2) No
Invertebrates	*	1) Direct impacts on individuals or populations through site stripping or other operational activities	1) Phased nature of workings and large expanse of macro-habitats reduces scope for any more than a minor magnitude impact, even at the site level.	1) Unlikely to be significant at the assemblage/metapopulation level for any species.	1) No.
		2) Progressive direct loss of 90-100% of existing invertebrate habitats on the site	2) Minor in the context of the geographical scale indicated, and the likely site-wide and local distribution of the species of higher conservation importance. Scope for higher magnitude effects restricted significantly by phased working sequence which will leave extensive areas under rough grassland initially, and by later phases restoration is likely to have generated suitable replacement conditions for a significant proportion of affected species, with some expansion of currently more restricted habitat opportunities (e.g. wetland, acid grassland).	2) Unlikely to be significant at the assemblage/metapopulation level for any species.	2) None, over and above incorporated design mitigation.
		3) Changes in invertebrate assemblage using the site in response to development of ephemeral and subsequent long-term replacement habitats through progressive restoration.	3) Neutral to minor (positive or negative) depending on uptake of ephemeral habitats by species of conservation importance (e.g. solitary bees and wasps), and the success of the restoration scheme long-term in reinstating the current level of invertebrate interest.	3) Positive impacts up to District level of significance are possible.	3) None, over and above incorporated design mitigation.
Other grasslands	*	1) Progressive direct loss of c.100% of existing resource on application site.	1) Impact magnitude ameliorated by phased sequence of extraction and restoration such that development of similar vegetation through progressive restoration is likely to reduce magnitude of loss to perhaps no more than 25% of the existing resource at any given point in time, with equivalent or expanded resource re-created.	1) Taking into account design mitigation, impacts not significant above the immediate site context, and potentially net positive for this receptor.	1) None, over and above incorporated design mitigation.

Receptor	Value (I N R C B/D P ZoI)	Potential effects	Magnitude	Significance	Additional Avoidance or Mitigation measures proposed?
Hedges, mature trees, ponds and denser scrub	*	1) Progressive direct loss of up to c 30-40% of existing resource on application site	1) Minor (ponds, scrub) or negligible (hedges, mature trees) in comparison with Parish resource, with advanced compensatory provision proposed in relation to ponds	1) Not significant above the immediate site level	1) None, over and above incorporated design mitigation.
Bats	*	1) Potential indirect habitat fragmentation effects on local bat populations from permanent losses or breaches of hedgerows.	1) Minor (see also under hedges and mature trees above) in terms of the integrity of commuting and foraging routes in the short-medium term and compensated in the long-term by enhanced conditions for the species recorded, as delivered through the restoration scheme.	1) Effects predicted to remain well below significance thresholds in terms of local population integrity for any bat species	1) Yes – any affected mature trees will be re-surveyed prior to initial operations and prior to each stripping phase to ensure no roosts are established or to inform appropriate mitigation if required in the future.
		2) Temporary loss of foraging area due to removal of vegetation in active extraction areas	2) Minor to negligible. The phased working sequence will limit the extent of land devoid of vegetation at any one time and losses are likely to be compensated or outweighed by benefits as the restoration sequence progresses.	2) Effects predicted to remain well below significance thresholds in terms of local population integrity for any individual bat species.	2) None required
		3) Increased habitat diversity delivered by progressive restoration through operational phase delivering compensatory or new representations of semi-natural grassland, wetland and scrub.	3) Negligible through to minor positive as restoration progresses in tandem with working.	3) Negative effects predicted to remain well below significance thresholds. Significant positive effects progressing from immediate local to Parish level by the completion of the restoration due to enhanced wetland foraging opportunities.	3) None required.
Brown hare	*	• Loss of cover and foraging area due to removal of vegetation in active extraction areas	1) Minor to negligible. The phased working sequence will limit the extent of land devoid of vegetation at any one time and losses are likely to be compensated or outweighed by benefits as the restoration sequence progresses, including temporary benefits from reduced disturbance	1) Negative effects predicted to remain well below significance thresholds in terms of local population integrity. Significant positive effects at the Parish population level are possible, although these may be rendered temporary depending on the future management of public access.	1) None, over and above incorporated design mitigation.
Badgers	*	1) Loss of main sett and high proportion of associated foraging area	1) Major at the geographical level specified (immediate zone of influence) although likely to be no more than minor at Parish or above levels.	2) Potential for significant negative effects up to parish level in the absence of mitigation. Impacts would have legal implications and therefore further consideration of avoidance and mitigation is required.	1) Yes. An artificial sett will be constructed and badgers encouraged to use it prior to the closure of the existing sett under licence. Loss of foraging area adjudged not to require mitigation because progressive restoration will ensure continued availability of sufficient resource.

Receptor	Value						ZoI	Potential effects	Magnitude	Significance	Additional Avoidance or Mitigation measures proposed?
	I	N	R	C	B/D	P					
Reptiles							•	1) Small-scale scope for impacts on individuals from sparse local population of grass snake.	1) Minor. Only very low numbers likely to be at risk.	1) Effects not predicted to be significant in terms of local populations. Effects likely to be reduced by recovery in the short-term.	1) Yes – habitat manipulation will be employed out of season to discourage grass snakes (and any other reptiles colonising/re-colonising in the future) from areas affected by works and/or phased translocation will be employed.
								2) Loss of foraging habitats in ponds and grassland.	2) Negligible through to minor negative effects as restoration progresses in tandem with working. In the longer term, increased habitat diversity for reptile species delivered by progressive restoration through operational phase delivering new representations of semi-natural grassland, wetland and scrub.	2) Not significant.	2) None, over and above incorporated design mitigation

FURTHER AVOIDANCE, MITIGATION, COMPENSATION AND ENHANCEMENT

Specially Protected Species

Great Crested Newts

11.222 Further mitigation is required in respect of this European Protected Species due to the confirmed loss of breeding ponds and damage to/loss of large areas of terrestrial habitat during the operational phase. Due to the extended period of operation, and in order to minimise the loss of foraging area (either through vegetation removal or de-facto loss through exclusion using amphibian fencing) it is proposed that mitigation will be put into effect in phases. These may or may not conform to the seven proposed working phases of the quarry – decisions on the optimum phasing approach for great crested newt mitigation will be made in consideration of factors such as ensuring adequate amount of breeding and foraging habitat is available to displaced great crested newts at any given time, practical considerations (including timing to minimise the scope for impact on breeding or hibernating newts) and cost considerations. It is intended that the pre-application screening service offered by Natural England will be employed to ensure the mitigation approach is designed in consultation with the statutory authority. For the purposes of planning determination however, it is necessary to set out how the mitigation approach can and will meet the three tests imparted by the Habitats Directive in order for derogation to be given in the form of a licence.

11.223 The case that there is overriding public interest in the development proceeding and that there is no satisfactory alternative to the development relates to the site's allocation for minerals extraction in the adopted Minerals Local Plan and the significant contribution it makes to local supply of sand and gravel and the importance of that supply to the local and regional economy. This is as set out in the planning statement (Volume 1) submitted with the application.

11.224 The favourable conservation status of great crested newts, here measured in terms of the site and local metapopulation, will be secured through the following:

- Advanced construction of a minimum of four compensatory breeding ponds at the northern edge of the application site in a location that provides terrestrial habitat corridors to the east and west, and free dispersal routes towards suitable habitat for the species to the north.
- Phased trapping and exclusion of great crested newts from the plant site and eastern areas of the application site initially, and then in a phased progression east to west across the extraction area, thereby ensuring that restored habitats are made available as compensatory provision for the retained on and off-site population.

- The implementation of a restoration scheme that will secure enhanced terrestrial and wetland habitat provision for the species as compared to the existing situation.

Bats

11.225 As set out in Table 7, no impacts on bat roosts are predicted due to the absence of evidence of any roosts in the limited number of mature trees and the single structure on the site, as confirmed by specific survey. This assessment is likely to remain current with respect to most vegetation removed during set up operations, but further checks of mature trees that will be removed during this phase (e.g. in and around the plant site) and of the building in the south-eastern edge of the application site, will be made immediately prior to their felling or demolition respectively.

11.226 In relation to the remainder of the site, while current roosting opportunities are absent or highly limited, the elapse of time over the operational phase renders it possible, albeit unlikely, that the baseline situation could change. To address this, a repeat appraisal of the possibility of roosts being present will be made prior to the commencement of site preparation works on each future phase, and if potential roosts sites are identified these will be subject to full surveys (emergence/climbing) to ascertain that no bat constraint has developed. If bat roosts are found, appropriate mitigation under licence will be enacted prior to the commencement of preparatory works for that phase.

11.227 As an ancillary and unrelated enhancement for bats, the opportunity will be taken to install bat boxes on a number of retained mature trees at the site margins, including the part of the Brett lease-holding that extends party within edge of Home Covert. This would represent an enhancement in terms of the current poor level of bat roosting opportunities on the site.

Badgers

11.228 The main badger sett present on the site will not be affected until the mid to late part of the phased working sequence. The substantial lead-in time before this sett needs to be removed will therefore be used to construct an artificial sett at an appropriate location near to the site boundary, and to begin the process of encouraging badgers to begin using it, in order that they are habituated to it well in advance of staged closure of the existing sett being required under licence. It is envisaged that the detail of the badger mitigation strategy will be secured pursuant to a condition attached to the planning permission, and will in any event be required to inform an application for a licence to close down the existing sett.

11.229 In addition to the above, prior to the commencement of stripping on each working phase, a repeat badger survey of that area will be carried out. If any additional setts are found to have become established, appropriate mitigation measures up to and including exclusion of animals from any sett that happens to be active at that time will be taken under the terms of the relevant licences.

Barn owl

11.230 To ensure an unbroken continuity of nest and winter roost site opportunities for this specially protected species, the existing barn owl boxes on the site will be relocated in the post-breeding / pre-winter period (i.e. once certain any chicks have fledged) prior to their location being affected by any individual working phase. Consideration will be given to the erection of additional permanent pole or tree mounted boxes as part of the final restoration.

Reptiles

11.231 In advance of groundworks on any individual phase, suitably timed habitat manipulation (strimming and/or mowing) will be employed to displace and discourage reptile species from habitat with the potential to support them. Because of the low populations present on the site, and because compensatory habitat will develop in short order on peripheral or already restored land as the working sequence progresses, this is considered an appropriate, proportionate and adequate means to negate or minimise the scope for inadvertent killing or injuring of any individual animals from the sparse local population of grass snake on the site, and indeed any residual population of slow worm.

Phasing of Works to Avoid Impact on Nesting Birds

11.232 It is intended that vegetation removal, overburden stripping and related groundworks for the preparatory phases (including conveyor construction) and for each working phase, will be timed to take place in the autumn or winter period preceding the works themselves. This should avoid conflict with nesting birds. No particularly early nesting species are anticipated on this site and so this approach is likely to successfully avoid any impact from this source.

RESIDUAL EFFECTS

11.233 The residual effects anticipated to arise as an overall consequence of the project (i.e. taking into account both the design mitigation set out above, and the further avoidance, mitigation and compensation measures) are summarised for each of the key receptors in Table 11-28 below.

Table 11-27
Residential Effects

Receptor	Residual effect
Home Covert and Round Wood LWS	With the adoption of best practice and industry guidance in respect of minimising the indirect effects on the LWS habitats from lighting, noise and dust, no significant residual impacts are predicted in terms of the integrity of this designated site.
Unmanaged grasslands	The phased nature of extraction, the likely development of ephemeral unmanaged grassland habitats of not dissimilar nature and conservation significance, and the active creation and future management of such habitats following the completion of restoration ensures that any negative impacts will be of minor to moderate magnitude, temporary and fully compensated in the long term. Residual effects after restoration assessed as not significant and may be positive subject to restoration success and future management.
Great crested newts	A comprehensive mitigation scheme for this species will be implemented, involving the advance construction of replacement breeding ponds, and phased trapping and exclusion from affected habitats. The scheme will require derogation from the provisions of European and UK legislation in the form of a licence from Natural England. The three tests upon which the grant of a licence is contingent are capable of being met. Residual impacts on the species are assessed to be below significance thresholds on the successful completion of mitigation, with scope for significant positive effects in the long-term due to the enhanced wetland habitat provision forming part of the restoration scheme.
Breeding birds	The phased nature of extraction and progressive restoration, in conjunction with the incidental development of ephemeral habitats in operational areas and the exclusion of public access from operational areas during the active working or restoration phase, is likely to ensure operational phase impacts on this receptor remain below significance thresholds. Post-restoration, there is scope for significant positive impacts at the District level to be secured, subject to future management.
Wintering birds	Similarly to the above, the phased nature of extraction and progressive restoration, in conjunction with the incidental development of ephemeral habitats in operational areas and the exclusion of public access from operational areas during the active working or restoration phase, is likely to ensure operational phase impacts remain below significance thresholds. Post-restoration, there is scope for significant positive impacts at the District level to be secured, subject to future management.
Passage birds	The scope for significant negative effects is assessed as remote due to the transient nature of site use by this group of receptors and the phased nature of extraction and progressive restoration, in conjunction with the incidental development of ephemeral habitats in operational areas and the exclusion of public access from operational areas during the active working or restoration phase. Positive effects significant up to the District level are possible post-restoration, subject to an appropriate management regime being delivered.
Invertebrates	Scope for significant negative effects restricted by phased working sequence which will leave extensive areas under rough grassland/scattered scrub initially, and by later phases restoration is likely to have generated suitable replacement conditions for a significant proportion of affected species, with some expansion of currently more restricted habitat opportunities (e.g. wetland, acid

Receptor	Residual effect
	grassland) potentially delivering significant positive effects long-term.
Other grassland habitats	Losses anticipated to be below significance thresholds at the relevant (Parish) geographical level, due to progressive nature of site working and restoration and the compensatory (or expanded) provision built in to the restoration scheme.
Hedges, mature trees, ponds and denser scrub	Losses anticipated to be below significance thresholds at the relevant (Parish) geographical level, in large part due to progressive nature of site working and restoration and the compensatory (or expanded) provision built in to the restoration scheme in respect of ponds, hedges and scrub.
Bats	Short term effects likely to be neutral or net positive (although sub-significant in relation to conservation status of resident local populations) due to very minor habitat loss or fragmentation effects being outweighed by delivery of improved habitat diversity through extraction and progressive restoration. In medium term, mitigation proposed to militate against and/or address future effects further obviates scope for significant effects. Post completion (long term), effects are likely to be significant positive (Parish level) due to expansion and improvement of habitat resources, including provision of new wetland habitat foraging and roosting opportunities in particular.
Brown hare	Negative effects predicted to remain well below significance thresholds in terms of local population integrity. Significant positive effects at the Parish population level are possible during the operational phase, due to exclusion of public (and dog) access although these may be rendered temporary depending on the future management regime.
Badgers	The significant lead-in time available to secure adequate mitigation for sett loss and the effect of phased working and progressive restoration of the site in terms of maintenance of foraging area reduce the scope and magnitude of potential impacts, with residual effects adjudged to be well below Parish-level significance even in the worst case.
Reptiles	With precautionary mitigation, no significant effects anticipated due to phased habitat loss being compensated by delivery of improved habitat by progressive restoration. In medium to long term, effects are likely to be significant positive (Parish level) due to expansion and improvement of habitat resources.

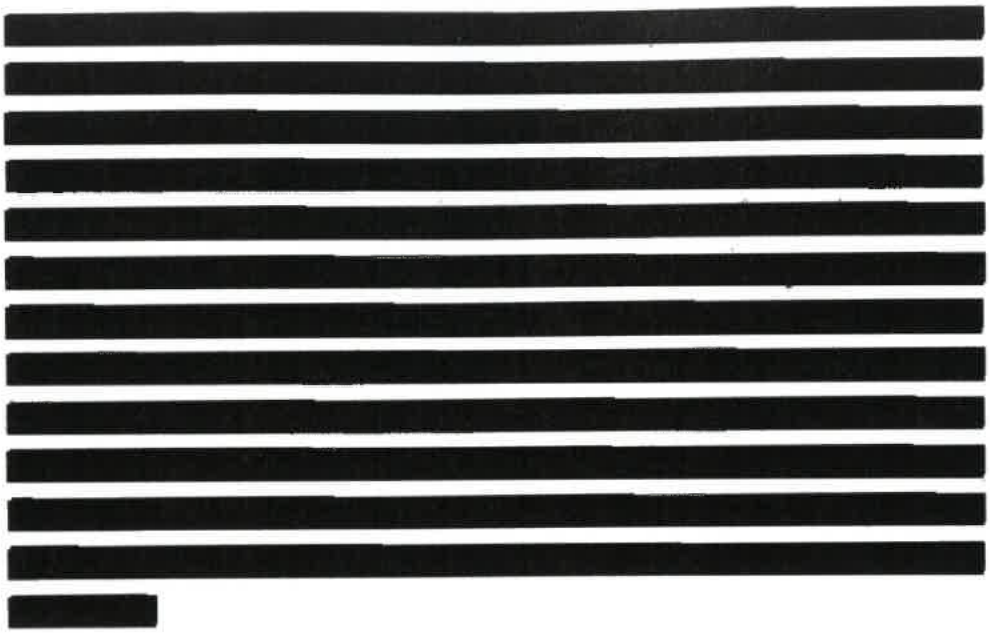
CONCLUSIONS

11.234 As can be seen from Table 11-27, the net residual effect of the proposals in terms of the key ecological receptors is anticipated to be at worst neutral and at best a positive effect measurable at least at the District level of significance. The difference relates to a degree of residual and unavoidable uncertainty over the success of the restoration scheme and subsequent long-term management in securing similar or enhanced habitats to the baseline position and, in particular, the extent of visitor pressure and its management over the long-term.

11.235 The project will give rise to minor temporary negative effects on certain key faunal receptors (in particular great crested newts and badgers) during various stages of the working sequence, but none of these receptors are predicted to be subject to negative effects of high magnitude (e.g. significant in terms of wider local populations), subject to mitigation measures which, in respect of great crested newts and badgers, are required under statute in any

event. There is no impediment to mitigation proposals being delivered that are in accordance with standard best practice, and in that context there is no cause to believe that the requisite licenses will not be forthcoming in due course. There is also a high certainty that all temporary negative effects on key faunal receptors related to habitat loss will be at least fully compensated in the long-term through the restoration scheme.

11.236 The proposals for restoration focus on replication of the higher-value elements of the site in its baseline condition, including in particular the large expanses of rough circumneutral grassland, but also seek to exploit opportunities to secure expanded representations of other semi-natural vegetation, in particular acid grassland and wetland habitats, providing replacement and expanded opportunities for species of conservation importance, including declining open-country birds, scarce plants and insects, great crested newts and others. Depending on the success of restoration delivery, and the future management of the site, the project has the potential to ultimately deliver significant positive effects at District level or above, and to qualify the restored site for non-statutory designation within a relatively short time frame.



Part 4 - Subjections

The rights easements covenants stipulations and other matters contained or referred to in the Registers of Title Number HD3 9202

THE SECOND SCHEDULE

Park Ranger's and Landscape Consultant's Duties and Responsibilities

Ellenbrook Park

Job Description: Park Ranger

Job Title:	Ranger
Location:	Ellenbrook Park, Hatfield
Function:	To help implement the Tenant's aims and objectives to enable use of the park by members of the public as will be set out in the Landscape Management Documents (as defined in section 106 Agreement)

To manage the properties for nature conservation and landscape enhancement.

To manage the properties for public access

Responsible to: Ellenbrook Park Preservation Trust Limited ("the Trust")

This role will be carried out as part of Arlington Business Parks' Management Team which includes Security and Landscape maintenance. It will involve sufficient time dedicated to Ellenbrook Park to meet the defined objectives of the Trust, namely, promotion of bio-diversity, creation of new landscape features, promotion of access to the public, and landscape and woodland management. It is envisaged that the role will be shared within the Management Team.

Key Areas:

1 **PROPERTY MANAGEMENT**

1.1 Assist in the protection and management of nature conservation interests, particularly the monitoring of the development of the woodland, grassland, and aquatic habitats.

1.2 Help to create, improve and maintain access

1.3 Assist in the maintenance to the standards required by the Trust, including car parks, fences, litter clearance, signs, stiles and gates, paths, bridleways, etc. ensuring structures are sound and safe for public use.

1.4 To carry out patrols of Ellenbrook Park by vehicle and on foot as is necessary and appropriate.

2 **STAFF AND SUPERVISION**

2.1 Work effectively with other staff as required, in particular the Park Manager of Arlington Business Park and their appointed Landscape Consultant.

2.2 Assist in maintaining and developing any volunteer programme organised by the Trust for Ellenbrook Park. Help to ensure that all volunteers are adequately supervised, promoting high morale, effective training and that safe working practices are employed according to Trust Health and Safety procedures.

2.3 Identify greater opportunities for work to be undertaken by volunteers and, under delegation of the Trust, organise and supervise appropriate work programmes.

2.4 Assist the Trust in the supervision of contractors working on the Park, ensuring compliance with Health and Safety procedures.

3 PUBLIC RELATIONS AND LIAISON

3.1 Welcome and assist local people and visitors by giving information and guidance. Assist with interpretative work that may be undertaken to improve the visitor appreciation of the property and the Trust.

3.2 Establish and maintain good relationships with local communities and authorities. Create opportunities to explain the Trust's management objectives, and where possible to foster support and understanding.

3.3 Assist the Trust to undertake guided walks and talks. Help supervise educational visits and explain the Trust's Management Plan to help people's understanding and enjoyment.

4 GENERAL

4.1 To undertake other duties that may be reasonably requested by the Trust

4.2 To provide regular written reports to the Park Manager at agreed intervals.

Ellenbrooke Park

Job Description: Landscape Consultant

This role will be provided by Arlington's Landscape Executive and/or retained Landscape Consultant and will involve:-

Job Title	Landscape Consultant
Location	Ellenbrooke Park, Hatfield
Function	To help implement the Trust's aims and objectives of high standards of presentation for the enjoyment of the public as set out in the Landscape Management Plan To manage the properties for nature conservation and landscape enhancement To manage the properties for public access

Responsibility to: The Trust as represented by the Park Manager, Arlington Business Park, Hatfield

Key Result Areas:

1. Inspect the site on no less than six occasions during the year, liaising with Park Rangers. Monitor the progress of the Establishment works in respect of public access, landscape enhancement and habitat creation.

2. Regular attendance at the Trust meetings

3. Provision of a report to the Trust meetings

4. Prepare annual planting and habitat creation proposals, footpath adjustments. Following Trust approval, seek tenders and inspect work to completion

5. Prepare applications for grant funding

The appointment is on a fixed term up to 3 years from The Trust being established.

Ellenbrook Fields – Hatfield

Updated Landscape Management Document

No Minerals Version

December 2024

Prepared by:

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Contents

		Page
1.0	Introduction	4
2.0	Site Description	9
3.0	Management Plan : General Information	13
4.0	Evaluation	20
5.0	Establishment Works	21
6.0	Prescriptions	26
7.0	Monitoring	38
8.0	References	39

Figures

Original Work and Existing Conditions

Figure 1 – Location Map

Figure 2 – Aerial Photograph

Figure 3 – Future Context Plan

Figure 4 – Management Areas Plan

Figure 5 – Historic Site Map

Figure 6 – Historic Aerial Photograph

Figure 7 - Previous Site Clearance & Preparation Works

Figure 8 – Existing Right of Way and Main Permissive Access Routes

Figure 9 – Combined Phase 1 Habitat Surveys

Management Compartment 1 – Home Covert & Cuffield Woodlands

Figure 10 - Updated Site Survey

Figure 11 – Proposed Establishment Works

Figure 12 – Management Proposals

Management Compartment 2 – Northern Fields

Figure 13 - Updated Site Survey

Figure 14 – Proposed Establishment Works

Figure 15 – Management Proposals

Management Compartment 3 – Southern Fields

Figure 16 - Updated Site Survey

Figure 17 – Figure Omitted

Figure 18 – Proposed Establishment Works - With No Minerals Operation

Figure 19 – Management Proposals
Figure 20 - Illustrative Landscape Management Plan
Figure 21 – Ditch Crossing Detail
Figure 22 - Original Furniture & Signage Designs

Appendices

1.0 Cresswell Associates 2010 – Hatfield Green Summary of Ecological Surveys. Original Surveys

2.0 LDA Hatfield EIP Allocation – Ecological Appraisal 2015

3.0 SLR Consulting Ecological Survey for Brett Aggregates Environmental Statement (2014/2015)

4.0 Park Ranger Duties and Responsibilities

1.0 Introduction

This landscape management document (**LMD**) has been prepared by Macgregor Smith Ltd with input from SLR Consulting on behalf of ARC being the owner of land known as Ellenbrook Fields (see Figures 1 and 2 for an overview of the area involved). Macgregor Smith Landscape Architects have been involved with the former Hatfield Aerodrome from before the outline approval for the redevelopment in 2000 (**the Original Permission**). SLR Consulting are the Landscape Consultants working on behalf of the minerals applicant Brett Aggregates.

This updated LMD builds on work undertaken previously to reinstate positive management and open up public access across Ellenbrook Fields. A draft LMD was prepared in 2010 and various works implemented at the same time to facilitate management and public access with the approval of the relevant local planning authorities, namely Welwyn Hatfield Borough Council (**WHBC**) and St. Albans City & District Council (**SACDC**). This LMD sets out proposals for landscape and habitat management to protect and enhance an area of mixed habitats of woodlands, grassland and natural regenerating scrub.

A planning application (reference number PL/0232/21) has been submitted on behalf of Brett Aggregates to carry out minerals works on part of Ellenbrook Fields. At the request of WHBC, two LMDs have been prepared: one on the assumption that minerals works are carried out pursuant to a minerals planning permission and the other on the assumption that minerals works are not progressed. This LMD assumes that the minerals works are not progressed.

The area equates to roughly half of the land that was formerly part of Hatfield Aerodrome. The other half of the landholding has been redeveloped for business and residential use. The master planning for the redevelopment followed Supplementary Planning Guidance (**SPG**) adopted by WHBC and SACDC. As envisaged by the Section 106 Agreement dated 29 December 2000 (**the Original Section 106 Agreement**), which was entered into immediately prior to the grant of the Original Permission, this LMD sets out a landscape strategy for the whole site, including the undeveloped areas the subject of this document. New residential areas adjoin the area covered by this LMD and have access via an area of formal public open space referred to as 'Ellenbrook Corridor'. This is more formal public park space, situated between the area of this LMD and the development; and is not part of the area covered by

this LMD; apart from in relation to the north-south route as set out in the Northern Fields section of the document.

The design proposals for the undeveloped portion of the Aerodrome were set out in an agreed Landscape Framework Document (**LFD**), which is proposed to be amended as part of a deed of variation (**Deed of Variation**) to be entered into in relation to the Original Section 106 Agreement. In the event of any inconsistency between the LFD and this LMD, then this LMD will take priority. This LMD will also be appended to the Deed of Variation and should, therefore, be read alongside the Original Section 106 Agreement (as amended by the Deed of Variation).

The SPG and LFD set out a series of landscape objectives as follows:

- To encourage open uses and informal recreation
- To phase in public access
- To improve environmental quality and landscape character
- To encourage community forest planting
- To enhance ecological/nature value

The documents also identified an approximate division of land uses between woodland and grasslands as :
Woodland 20% - 30%
Grassland, open space for leisure 70% - 80%

A series of specific areas were set out for existing and new woodland and grassland in these documents. The total area was noted as 176.6ha. This total included the area referred to above as Ellenbrook Corridor (including banks and storm water lagoons). The Ellenbrook Corridor area noted as 8.9 ha was covered by a specific planning condition and was constructed as an early phase of the project. Accordingly, this area is omitted from the scope of this LMD apart from in relation to the north-south route as set out in the Northern Fields section of the document [Note the original version of the LMD referred the whole of the open land as Ellenbrook Park. This title was later applied to the 8.9ha area and the title 'Ellenbrook Fields' was occasionally used to describe the wider site area. The title 'Ellenbrook Park' is reverted to for the purposes of this updated LMD]. The area of the university sports fields was also included as part of the overall 176.6ha total.

Since the original draft LMD was prepared an additional parcel of land has been acquired at the south-western end of the site. This measures some 9.5 ha and is included in the Minerals

Application area. With this area included and the 8.9 ha of the Ellenbrook Corridor excluded (as above), the total area covered by this LMD is 170.4 ha (see Figure 4).

The proposals outlined in this LMD have been designed to protect the areas of nature conservation value (and potential) and provide extensive permissive access over the land. Part of the original vision for the area was for the responsibility for the area to be passed over to a trust to oversee the long-term management. This remains the case, but a phased approach is now proposed as set out in this LMD.

The priorities for the habitat protection and enhancement arose through the Original Permission. The Environmental Statement produced for the wider development proposals in 1999 highlighted that one of the main impacts of the development proposals was the loss of a large area of grassland habitat of some value to brown hares and skylarks. Both species at that time were identified in the UK Biodiversity Action Plan (UK BAP) as 'Priority Species'.

Consequently, one of the aims of the LMD is to improve the value of the land for these species. The more valuable habitats and features within the former aerodrome site were the woodlands, wetlands and more diverse grasslands on the western half of the landholding. These were not affected directly by the development proposals and it is these habitats that remain as the open land now referred to as Ellenbrook Fields (as covered by this LMD). A number of protected species/species identified in the UK BAP were found within this area, including great crested newts, common frog, grass snakes, barn owls, and badgers. The LMD seeks to improve the value of the landscape for these species whilst taking account of local priorities identified in the Hertfordshire Biodiversity Action Plan.

Detailed ecological surveys were undertaken between April and July 2001 and updated in 2008 and again in April – July 2010 to help inform the 2010 interim LMD. These included surveys for brown hares, water voles and breeding (principally ground nesting species) birds, particularly skylarks. Detailed botanical surveys of the existing grassland and woodland ground flora were also undertaken.

More recently habitat surveys for promotion of part of the site for housing and the mineral application were undertaken in 2014/15 [1] and 2015 [2]. These two different surveys are

[1] SLR Consulting surveys for Brett Aggregates Environmental Statement
[2] LDA Hatfield EIP Allocation – Ecological Appraisal 2015

provided in Appendix 2 and 3, and the Phase 1 maps[3] are combined as one graphic in Figure 9.

Since the era of the aerodrome operation adjoining land to the north-west has been subject to minerals development and areas of landscape restoration are in progress alongside the Ellenbrook Fields site. The approved master plan for this restoration is noted as part of the future context for the plan area and is illustrated on Figure 3.

This LMD assumes no minerals development is progressed across the Southern Fields.

For the purposes of this LMD the site is divided into three areas namely; the area of Home Covert and Cutfield Wood, the Northern Fields and the Southern Fields. The Southern Fields areas related to the minerals development planning application area. Refer to Figure 4 for the boundaries of the above areas.

The areas and proportions of woodland cover for the respective sections of the site are set out in Table 1 below (these figures reflect the long-term position).

Site Areas & Land Use

Area	Area (ha)	Woodland (ha)	Woodland (%)	Grassland (ha)	Grassland (%)
Home Covert & Cutfield Wood	15.7	15.7	100%	0	0%
The Northern Fields	66.3	16	24%	50.3	76%
The Southern Fields	78.9	15	19%	63.9	81%
Additional Land Parcel	9.5	TBC			
Totals	170.4	46.7	29%	114.2	71%
Ellenbrook Park	8.9	1	11%	7.9	89%
Sports Pitches	6.8	0	0%	0	0%
Combined Totals	186.1	47.7	27%	122.1	69%
TOTAL AREA OF SITE (minus Ellenbrook Corridor)	167.7	46.7	28%	114.2	68%

It is envisaged that this LMD will cover an initial ten-year period starting in 2025. The LMD will be subject to review on the results of periodic monitoring and renewed by the Trust at the end of the 10 year period. This LMD will, however, remain in force unless and until it is replaced by an agreed revised LMD (see further section 7 of this LMD).

[3] This relates to two ecological surveys that were carried out in respect of the northern and southern areas and combined into a single figure so as to provide a reference point for future management i.e. Figure 9

Various works are proposed to tidy up or renew features within the three site areas in preparation for the ongoing management; these are referred to as the Establishment Works. Such works will be undertaken at the cost of ARC or Brett Aggregates during the initial years of the LMD (as more particularly set out in section 5 of this LMD).

The establishment works will be detailed as three separate packages relating to the three main portions of the site. These will encompass the areas as follows;

- Home Covert and Cutfield Wood: including works to define the woodland boundaries, remove and/or replace fencing, remove debris, thin, coppice or pollard trees and open up selected areas/routes, fell or make safe hazardous trees, weed species control, identify and manage suitable path routes, pond clearance and replanting. Permissive routes and interpretive signage and seating features will be provided.
- The Northern Fields: including replacement, additional and relocated grazing fence lines and gates, additional water supply, improved vehicular trackway, replacement signage, interpretation and seating features, weed control.
- The Southern Fields: including stock fencing, additional water supply, permissive path signage and route establishment, gates, interpretive signage and seating features.

Alongside these works within the Ellenbrook Park area some minor adjustments to the Ellenbrook Corridor will be implemented to ensure path routes and signage integrate with the changes to the main site. At the same time the north south path route connection between St Albans Road and Coopers Green Lane that extends through the Ellenbrook Corridor and up through the Northern Fields will be promoted for designation as a public right of way. A fuller description and programme for the Establishment Works area set out in Section 5 below.

2.0 Site Description

Existing Condition

After the closure of the Aerodrome most of the concrete runway and taxiways were removed in the late 1990's through into 2001 (the layout of the airfield is illustrated on the historic site plans and aerial photograph in Figures 5 and 6). Parts of the site were used as a film set alongside the clearance works; leaving areas of heavily disturbed soils and exposed debris. Many structures and demolition materials were removed and disturbed areas of land allowed to revegetate. The extent of disturbed ground is indicated on Figure 7; this was generally the central section of the site. These areas are often undulating ground with a mix of varied soil, drainage and management conditions leading to a mix of grassland habitats.

The undisturbed areas comprise parts of the original outfields of the aerodrome. These are more level ground and continuous grassland with a less varied appearance and vegetation cover. A small part of the outfield grassland was disturbed and/or excavated when a gas pipeline was installed along the western boundary of the site in 1998/1999. This area was reseeded with what appeared to be a simple agricultural grass seed mix. The majority of these areas have been maintained under a hay cropping regime; this has been limited to some extent by the presence of Ragwort within parts of the site.

Areas of natural scrub regeneration have been allowed to develop in many areas of the site creating patches of cover and in places extensive areas of thicket vegetation with young trees starting to establish.

The site contains two blocks of established woodland; one block comprises Home Covert and Round Wood. The other block is a small remnant of an area known as Cutfield Wood, most of which was located on adjoining land to the north-west before being removed as part of a minerasl development project (much of this has since been replanted as a new woodland). The two blocks are linked by an overgrown hedge line/strip of regenerating trees fenced off from a grazing compartment.

The Ellen Brook lies close to the north eastern boundary of the site area (part of the water course is located within the area of Ellenbrook Corridor). In 1999 most of this watercourse ran in a culvert beneath the airfield. In 2001 the brook was uncovered and a new channel created. The Ellen Brook now supports a diverse aquatic and emergent flora.

As part of the management practice set up in 2010 sections of the site have been fenced to create two grazing compartments for cattle (indicated on Figure 7). A herd of some 20-30

adult Longhorn cattle have occupied the area since the spring of 2010; the breeding stock produce a similar number of calves each year which remain on the site for around 6 -7 months. The areas of grassland at the northern and southern ends of the site (representing the undisturbed grassland) have been managed as hay meadows since 2010.

Some extensive areas of woodland planting were installed as part of the 2010 preparation works (Figure 7). These are now well established as young plantations and read as part of the landscape. Other areas of scrub have been deliberately left to regenerate as dense cover for nesting birds and to allow the eventual development of additional woodland.

Access paths, mobility gates, seating features, signage and interpretation boards were installed as part of opening up public access to the land. These encourage permissive access around a series of connected path routes that extend across the site in several directions. Figure 8 illustrates the main routes and connections currently provided within the site.

The landscape design and public access routes tie in with the adjoining area of Ellenbrook Park public open space. This area is considered separately from the Ellenbrook Fields, to be managed by the developer as an open public facility under different arrangements.

Landscape Management Concepts

The arrangements set up in 2010 were designed as an interim position to manage the site in advance of the intended minerals development. The basic aims of the scheme were threefold in that the work sought to;

- Introduce positive management to the landscape,
- To maintain or enhance the biodiversity interest of the site and
- To establish a network of permissive public access routes across the land.

The design objectives were based on retaining the existing landscape character of the site as an open expansive area. The area encompassed new permissive pedestrian routes providing circular and through routes for public access. The general character of the site was defined by the various landscape/habitat areas that already existed. The areas where the site adjoins the main development were intended to have more of a transitional quality between the naturalistic environment and the formal landscape of the development. Areas of new woodland planting were included to provide interest and structure to the landscape.

Significant areas of the site have been allowed to grow wild; with some benefits for wildlife and the sense of a remote experience. Some low levels of anti-social misuse and damage has

occurred with vandalism and motorcycle access. It is intended this is addressed by completing the Establishment Works as quickly as possible (as set out in section 5 of this LMD) and the presence of the cattle and other members of the public are thought to have helped keep these issues to a minimum.

The site was not expected to act as a major visitor attraction. The main users were anticipated as local residents from both the established housing areas near the site and the newer residential areas developed on the main section of the former airfield.

Since 2010 the area has become very popular and well used mainly by local residents, fulfilling the original objectives of Ellenbrook Fields. The conservation grazing scheme has worked well with the herd becoming an accepted part of the site. The grazing layout was deliberately set out around the permissive access routes and the cattle installed prior to the opening for public access. The hay cropping has been undertaken every year with some improvement in the quality of the crop lifted during this time. These activities have significantly improved the sense of the central portions of the site being an area that is cared for and in a positive form of land use.

The site was used as a regular venue for a 'Park Run' event at weekends. A course of around 5 km is set out and upwards of 270 runners turn up for a race (the route often takes in a section of the adjoining Ellenbrook Park). Activity like this and the actual presence of the rare breed cattle are thought to provide a positive attraction for many users to come into the site area. The cattle are also visited by stock handlers on a daily basis which provides a further level of passive site surveillance/security.

During the discussions with HCC, WHBC and SACDC, consideration of the future potential for greater levels of recreational use, including events, was requested. In the short to medium term (5 – 10 years) it is envisaged that the site use would continue very much at current levels

While in the long term there is the potential for alternative recreational activities and events on the site, these would need to be considered in relation to the ecological and broader landscape objectives and the interests of the local community. It is suggested this consideration would be for the Trust to review in future reviews/iterations of this LMD.

In updating this LMD, the same three basic principles underpin the design approach for each area. While parts of the site may effectively be under separate control it is intended that the management would be integrated between each section to maximise efficiency of the work and the potential benefits. It is considered that some extension of the positive land

management of grazing and hay meadow management will help maintain more positive perceptions of the site. It is also considered that by maintaining the agricultural operations as a key part of the management this will provide more sustainable long term management methods well into the future.

Management Arrangements

The Ellenbrook Park Trust is to be established under a framework agreement between the developer (formerly Arlington now ARC) and the local authorities. The management of the area will initially be arranged with contractors working on behalf of ARC; until such time as the Trust is ready to assume control of the various areas. The respective areas will be offered up for the Trust on phased basis (as set out in this LMD) to take over with an agreed inspection and 'adoption' regime. Each phase will be maintained by ARC until new planting/seeding is established before being taken over directly by the Trust.

The management is to be based on the objectives and prescriptions set out in this LMD. Various Establishment Works as set out in Section 5 are required to the respective parts of the site; these will be undertaken by contractors as appropriate. The Authorities will have oversight of the works and involvement as necessary to ensure satisfactory completion of contracts, however the cost of the works will be borne by ARC

The management of much of the site as grazing and hay meadow grassland is now well established and is considered to bring positive benefits and land uses to the site. Public access has been integrated into the grazing and cropping in such a way that neither interest has been compromised. Some extension of the grazing is feasible as the herd can be moved or expanded without significant issues. This will assist in ensuring the site maintains the sense of being cared for. The stocking and hay cropping are currently operated under a short term agricultural tenancy which would be continued with periodic reviews.

As the landscape and activities within it may change over time the Trust will be able to review the objectives and prescriptions for areas and make adjustments from time to time.

3.0 Management Plan : General Information

Site Name : Ellenbrook Fields

Location and Description

Situated on the western edge of Hatfield in Hertfordshire. It is bordered to the south by the A1057 St Albans to Hatfield Road. A large sand and gravel quarry borders the site to the north-west (the extraction of which is well advanced and areas are to be restored). The Ellen Brook forms the eastern boundary of the area with a more formal public park, separating the more open landscape from the adjacent residential/business development. A minor road separates the northern part of the site from open farmland.

Access

There is one existing public right of way that runs alongside part of the western boundary. A network of permissive footpaths cross the whole area of this LMD. The layout of existing main routes is shown on Figure 8, some of these will be adjusted in line with the illustrated plans. The proposed new routes are indicated on the proposed detailed management plans for each area and the overall illustrative master plan.

Ownership/Tenure

The Freehold of Ellenbrook Park is owned by ARC (formerly Arlington). A 125 year lease will be granted to the Trust on a phased basis. The initial phase will be the grant of a 125 year lease of Home Covert, Cutfield Wood and the Northern Fields.

Environmental Information

A series of ecological studies have been undertaken across the Ellenbrook site areas. The most recent of these are reproduced in the appendices of this plan. The following provides a brief summary of the combined key findings from these assessments.

Desk Study Information

Designated Sites of Nature Conservation Value

The largest blocks of woodland within the site have been jointly designated as the Home Covert and Round Wood Local Wildlife Site (LWS). All three woods are largely constituted of semi-natural broad-leaved woodland. They have all been found to support a diverse flora that includes a small number of woodland herbs indicative of ancient woodlands. The HERC description for this site notes "two areas of ancient semi-natural broadleaved woodland" although it is understood the area was designated as an

LWS on the basis of presence of the ancient woodland indicator species rather than it being ancient woodland per se. A large part of Cutfield Wood (outside the airfield site) was felled in 1991 to facilitate gravel extraction. This area was replanted in 2001.

Protected species or species of conservation concern

Bat activity recorded on the site was comparatively low in relation to the overall scale of the site area. This being put down to the lack of major upstanding features and habitat edges and limited foraging resources within the open landscape. Astwick Manor (adjacent to the northern boundary of the site) was previously noted as a potential roost for bat species.

The Southern Fields area was found to contain a medium scale population of great crested newts and a low population of grass snake. No bird species regarded as rare have been recorded within the assessment (for the Brett Aggregates SLR 2014/15) although some 7 species noted as uncommon in the county or of other interest have been noted. These comprise barn owl, cuckoo, red kite, snipe, stonechat, wheatear and woodcock. Breeding bird surveys have been conducted at various times and the findings set out in the appendices above. Species that would be of interest / may be attracted to use the site include bullfinch, goldcrest, kestrel, linnet, reed bunting, skylark and stock dove, buzzard, green woodpecker, meadow pipit, red-legged partridge and reed warbler. The site was previously identified as supporting up to six brown hares in the Cresswell survey of 2008. A single record of this species was noted in the 2014/15 surveys.

Some badger activity is noted in the local area but no detail of this is included in the management plan to prevent information on the local population being published.

Existing survey results

Flora

Grassland

Prior to the introduction of the grazing and hay cropping the majority of the site comprised unmanaged species-poor, neutral grassland dominated by False Oat-grass. Large parts of the grassland were disturbed in the years between the closure of the airfield in the late 1990's up to the grazing introduction in 2010. These include construction of a gas pipeline, activities associated with the site ground investigations and clearance and the creating stage sets for filming and their subsequent demolition. This effected the grassland sward throughout a larger part of the site. Figure 3.

The area affected by the gas pipeline that was installed in 2001 largely comprised False Oat-

grass with very few forbs. The area affected by filming works supported a marginally more diverse sward with less False Oat-grass and more Yorkshire-fog. The area between the old runway and the track leading to it contained large mounds of earth and rubble that had been colonised by False Oat-grass-dominated grassland. Within the largely species-poor grassland were smaller patches of more diverse grassland, which supported forbs associated with neutral soils including Grass-leaved Vetchling, Lesser Stitchwort, Common Bird's-foot-trefoil and Meadow Vetchling. The grassland along the southern boundary of the airfield (to the east of Popefield Farm) was tall and tussocky.

Since the grazing and hay cropping have been introduced the greater proportion of the site has been retained as the dominant grassland with some diversification of the vegetation cover. The more recent survey updates for the minerals application and housing promotion list the following main grassland habitat types.

- Unmanaged neutral grassland
- Species-poor semi improve mown grassland
- Grazed neutral grassland
- Neutral to acid grassland
- Early succession communities with calcareous element
- Tall ruderal

The detail of the species listed for each of these categories from the SLR survey are provided in Appendix 3. The unmanaged neutral grasslands are located in amongst areas of regenerating scrub and would slowly continue to reduce in area if left as they are. Within the hay lift areas this is in effect a low level management regime that is maintaining the status quo for large parts of the grasslands. Small scale variations in sward height within the hay cut areas and grazing occurs as part of the management. This arises due to a number of factors such as; localised occasional flooding (this may result in a reduction in sward height); soil depths and soil nutrient status which vary across the site; as may the moisture retentive qualities of the soil.

A small rectangular area of grassland, situated between close to the western boundary of Home Covert, has been closely grazed by rabbits. This small area previously supported a number of plant species indicative of slightly acid soils. The plants found in this location were not recorded elsewhere within the site and included Tormentil, Heath Speedwell, Oval Sedge, Heath Woodrush and Sheep's Sorrel.

As noted above areas of previous grassland are now more representative of scattered dense

scrub habitat.

Woodland

The main canopy of Cutfield Wood was dominated by Ash trees, and also contained a small number of large Hornbeam trees. The understorey was dense, and comprised mostly Elder, English Elm and

Hawthorn. The abundance of Common Nettle, Cleavers and Chickweed within the field layer indicated that this woodland had been subject to a degree of disturbance. However, a number of woodland herbs were recorded in reasonable numbers, including Bluebell, Stinking Iris, Primrose and Wood Avens. Previously a large number of Martagon Lilies (over thirty flower spikes) were recorded in the north-eastern corner of the wood close to the remains of a building. These large non-native lilies are likely to have been planted. The narrow belt of woodland that linked this wood to Home Covert comprised largely Ash, Hawthorn and Elder, and supported a large population of Bluebells. This belt of woodland also supported several mature Sycamore trees

The main canopy of Home Covert and Round Wood was dominated by Ash, Pedunculate Oak, Hornbeam and Silver Birch (*Betula pendula*). The understorey is dense in places and largely comprised Elder, Hawthorn, Blackthorn and Hazel. Throughout most of the woodland the ground flora is shaded by dense Bramble scrub. Where this growth was less dense a number of woodland herbs were recorded, including Bluebell, Dog's Mercury, Lesser Celandine and Wood Avens. In some areas Sycamore trees and saplings dominate the canopy and understorey.

With the prevalence of Ash Dieback disease, the conditions of the tree cover within these areas is changing and some trees have needed to be felled for safety reasons.

Hedgerows

A small number of hedgerows were recorded within the survey area. The majority were species-poor and largely comprised a mixture of Hawthorn, English Elm and Elder. The more diverse hedgerows also supported Hazel, Field Maple, Blackthorn, Pedunculate Oak and Ash. None of the hedgerows appeared to support a particularly diverse ground flora.

Wetlands

Home Covert contains a large pond heavily shaded by the surrounding trees and containing a substantial amount of leaf litter. It appeared to support few aquatic and emergent plants, though several large clumps of Yellow Iris have been recorded around the southern margin.

During 2017 the pond was noted to have extensive duck weed cover. The ditch to the south of Home Covert contained Bulrush plants.

There were two ponds to the southwest of Home Covert. The larger pond was surrounded by small grass, Floating Sweet-grass, Ivy-leaved Crowfoot and Water Forget-me-not. Trees and shrubs heavily shaded the eastern half of the pond. The shallow water was full of silt and dead leaves and only one water plant Common Water-starwort was recorded.

The small pond to the south of this pond contained a large amount of blanket weed. Water quality appeared to be poor. Water Forget-me-not was the only wetland plant recorded in this feature. The banks appeared to largely comprise concrete rubble covered with False Oat-grass or Common Nettle.

The two ponds within Cutfield Wood were full of rubbish, mainly comprising old planks of wood. These ponds did not support any wetland plants. The areas appeared dry in the summer of 2017.

Overhanging trees, shrubs and tall grass shaded the two ditches within Popefield Farm Meadows. These features did not contain any water or wetland plants. The eastern half of the ditch that runs across the field to the west of Home Covert supported a moderately diverse wetland flora which included Water Mint, Brown Sedge, Water-plantain, Soft-rush, Compact Rush and Floating Sweet-grass. The western half of this ditch was sparsely vegetated by terrestrial grasses. Nettles and rank grasses dominated the banks of this ditch, but a few grassland forbs were recorded. These included Greater Bird's-foot-trefoil, Lesser Stitchwort, Meadow Vetchling, Tufted Vetch and Common Vetch.

In 2001 the Ellen Brook channel was reopened and now flows close to the eastern boundary of the current survey area. Prior to this the brook was in a culvert where it flows across the site. The brook channel had been planted with clumps of mature wetland plants including Yellow Iris, Water-plantain and Common Reed. The adjacent banks have been seeded with a wildflower mix that largely comprised Oxeye Daisy, Common Bird's-foot-trefoil and Common Knapweed.

Fauna

Invertebrates

Although no detailed studies of invertebrates have been undertaken, the large area of grassland comprising the old airfield and adjacent fields was identified as likely to be of some value for a range of invertebrates, particularly those species of Lepidoptera (butterflies and

moths) and Orthoptera (grasshoppers and crickets) associated with long-grass habitats. Home Covert, Round Wood and Cutfield Wood all contained a significant proportion of dead wood and are therefore likely to be of particular value to saproxylic (dead-wood) invertebrates. Water quality within a number of the ponds within the survey area appeared to be reasonable, and these features would be expected to support a range of aquatic invertebrates.

Opening up the Ellen Brook across the site, and the recent successful establishment of aquatic and emergent vegetation is expected to be leading to a long-term improvement in the water quality and associated invertebrate assemblage.

Amphibians

The ponds to the west of Home Covert and the ditch to the south of Home Covert were found to support a medium population of great crested newts. The small road ditch south of Popefield Farm was also found to be used by breeding great crested newts. Amphibians are likely to forage in the adjacent grassland and may hibernate within the woodlands. Great crested newts are protected under the Wildlife and Countryside Act 1981, they are also listed as a 'Priority Species' in the UK BAP (Biodiversity Action Plan). Common frog is listed as a 'Species of Conservation Concern' in the UK BAP.

Reptiles

Slow-worms and a grass snake were recorded within the park area during the 1999 surveys. Survey work carried out to inform the Environmental Statement for the site confirmed the presence of a small population of slow-worms. Survey work carried out in 2010 has not identified the continued presence of reptiles, and it is considered that the site supports, at most, a small population of reptiles.

Birds

Large numbers of ground nesting birds including skylark, meadow pipit and cuckoo; and scrub-nesting species including whitethroat have been recorded on site.

Barn owl, which is specially protected under the Wildlife and Countryside Act 1981 (as amended) and have been recorded hunting on site and is known to have previously nested on site. Other notable species that have been recorded on site include reed bunting, lapwing and linnet.

Bats

An updated suite of bat activity surveys have been undertaken for the minerals application. The findings of these are included in appendix. As noted in the survey summary the overall

level of bat activity recorded on the site was comparatively low in consideration of the overall site area and lack of up standing features in the minerals development area. The woodland edges were previously noted as providing potential foraging zones and mature tree roost sites.

Dormice

Home Covert and the hedgerow to the west were noted in the 2010 surveys as potentially suitable for use by dormice with the comments that the area was 'supporting a number of tree and shrub species that provide food for dormice, including Hazel, Hornbeam and Bramble. A large block of potentially suitable woodland habitat for dormice was also located within 2km to the north of the site; however, there are gravel workings between this woodland and the survey area. Nevertheless, there are hedgerows and belts of recent planting linking these woodlands and it therefore remains possible that dormice may be present'.

Water vole

The ditches and ponds were largely unsuitable for use by water voles and no signs of water vole activity were recorded during any of the surveys that have been undertaken on this site.

Brown hares

Several brown hares were observed within the survey area in the 2001 EIA Survey. One record was made in the SLR minerals development area survey (relating to the southern site area). Although not legally protected, this species is regarded as a 'Priority Species' in the UKBAP. It is also identified in the Hertford Biodiversity Action Plan as being of local conservation concern. Brown hares are often found on airfields, and the large area of grassland is likely to be of significant local value for this species.

4.0 Evaluation

The most valuable areas within the site are Cutfield Wood, Home Covert and Round Wood, which have collectively been designated as a Local Wildlife Site, and as such are considered to be of some importance for nature conservation. These woodlands are varied in structure and have been found to support a valuable flora and fauna. The woods are also likely to be of importance for species of breeding birds, for roosting and foraging bats, and as habitat for foraging and hibernating amphibians and reptiles. The large amount of dead wood present in the woods is likely to constitute an important resource for a diverse community of saproxylic (dead-wood) invertebrates.

A number of wetland features were recorded within the survey area. These features are considered to be of conservation value, particularly since surveys revealed the presence of a medium population of great crested newts in four of the ponds within the site.

The large expanse of grassland, whilst not particularly floristically diverse, does provide nesting and foraging habitat for several bird species which have either been identified as 'Species of Conservation Concern' or 'Priority Species'. It also appeared to be of some value to brown hare, which were at the time of the interim plan listed as 'Species of Conservation Concern' in the UKBAP. The grassland habitat together with the woodlands and scrub habitat support an important breeding bird population.

Three hedgerows identified in the southern section of the site during in the mineral application survey would be classified as 'important' under the Hedgerow Regulations (1997). As such, they may be of some local conservation value, particularly as potential habitat for breeding and foraging birds and for foraging bats.

5.0 Establishment Works

As the Establishment Works are specific to the different sections of the site these are set out under the three main management zones below.

This section and the accompanying Figures set out the minimum scope of works for each management zone. The tables in this section 5 identify the Establishment Works together with a programme for their delivery. The end of this section sets out details of the future maintenance of the Establishment Works once they have been completed. The accompanying narrative in this section sets set some further context for the Establishment Works and is intended to be read alongside the tables. In the event of any inconsistency between the tables and the narrative, then the tables take priority.

As set out in the tables, the Establishment Works for Home Covert, Cutfield Wood and the Northern Fields will be completed by the end of December 2026. Initial work to remove stockpiled materials and replace signage and seating features would be undertaken also before the end of December 2025. All other work within the minerals application area would be held over until the confirmation of the No Minerals scenario. This assumes that the Deed of Variation is competed by the end of December 2024. If, therefore, the Deed of Variation is delayed beyond this date, then each of the dates set out in the tables below shall be extended accordingly e.g. if the Deed of Variation is not completed/issued until the end of December 2024, then the revised date for completion of the Establishment Works shall be the end of December 2026 and each of the dates identified in the tables below shall be extended by a period of 1 month.

Given the proposed minerals development in the Southern Fields, it is proposed that the Northern Fields and Home Covert/Cutfield Wood would be the first areas demised to the Trust once the Establishment Works in these areas have been completed in accordance with this LMD and the Deed of Variation. The Southern Fields will be made available to the Trust once the No Minerals scenario is confirmed

The delayed Establishment Works in respect of the Southern Fields will be implemented in phases subject to any seasonal Ecological/Horticultural constraints that arise following this confirmation, as identified in the table below entitled 'Southern Fields Establishment Works – Before confirmation of the No Minerals Development'. , After confirmation, further works would be carried out and these works are identified in the separate table below entitled 'Southern

Fields Establishment Works - No Minerals Development'. The mechanics of this approach would be set out in the Deed of Variation.

Area 1 – Home Covert and Cutfield Wood

Some establishment works have already been carried out in Area 1, further details of which are set out in the text to Figure 10.

The proposed works to Area 1 are set out in: (i) the table below entitled 'Home Covert & Cutfield Wood Establishment Works'; and (ii) Figures 10-12 (inclusive).

These works will be completed by the end of March 2027 unless otherwise agreed in writing by HCC, WHBC and SACDC (together **the Authorities**) as set out in more detail below. This programme allows for seasonal operations to be undertaken over the two winters of 2025/26 and 2026/27. The works will address the woodland structure issues identified below and improve public access and ensure this is effectively managed.

Some felling and thinning to the woodland would be beneficial to both the ecological value and public enjoyment of this area and will be pursued on the terms set out below. The proposed quantum of felling requires a felling licence from the Forestry Commission (**FC**). Accordingly, as part of the setting up of the Establishment Works in this area the site will be registered by ARC and an application for a felling licence will be submitted for FC approval by the end of June 2025 (see item 1 in the table below). The application will: (i) include a programme for carrying out tree felling; and (ii) identify that element of felling that forms part of the Establishment Works.

Once submitted, ARC shall use reasonable endeavours to obtain a licence (for a period of at least 10 years) from the FC as soon as reasonably practicable. The conditions of any licence that is obtained may influence some of the detail or programme of the Establishment Works and/or the longer term management. If a felling licence is obtained, then all tree felling that forms part of the Establishment Works shall be completed in accordance with the terms of the licence and within 12 months of receipt of the licence (see item 4 in the table below). ARC shall provide a copy of the licence to the Authorities within 7 days of its receipt.

If (despite ARC having used reasonable endeavours) a licence is not obtained by the end of September 2025 (or such longer period as is agreed in writing by the Authorities), then an alternative package of tree works shall be submitted to the Authorities for their approval (see item 4 in the table below). This package of works will be: (i) submitted to the Authorities by the end of December 2025 (or such longer period as is agreed in writing by them); and (ii)

completed within 6 months of receipt of approval from the Authorities (see item 4 in the table below).

In addition:

- boundary treatment (identification of the woodland boundary and the installation of markers on the section(s) of unfenced boundary between the ARC land and adjoining third party land on the northern edge of the woodlands – previously sections of the boundary were open with only remnants of historic fencing remaining at time of last inspection this appeared to have been addressed at least in part) will be carried out (see item 2 in the table below);
- existing redundant fencing will be removed and new stock netting fencing (with two strand line wire) will be provided (see item 3 in the table below);
- the woodland edge alongside trackway (on the south eastern edge of the woodland to the east of the Home Covert Pond) will be opened up to the hornbeam edge so as to create a wider woodland margin (approx. 200 long and between 10m and 20m deep) including public access in order to provide an area of greater interest to people walking alongside the woodland edge (see item 5 in the table below);
- trees will be inspected and any of them that are found to be unsafe would be felled or made safe (see item 6 in the table below);
- existing debris would be removed (see item 7 in the table below);
- 15 bird boxes (appropriate target species selection to be confirmed with an ecologist) and approximately 20 standing deadwood/piles would be installed (see item 8 in the table below); and
- existing bracken would be treated to reduce its coverage, subject to the availability of herbicide (if no herbicide is available then alternative measures to reduce the amount of bracken will be agreed with the Authorities (see item 10 in the table below))[4].

A number of unsurfaced permissive path routes will accommodate more public access into the woodland area. Each of the paths/routes will be available for use by the public except in the case of: (i) any emergencies which require their closure; and (ii) any works of repair/maintenance that are required to be carried out (such works to last for no more than 5 days). In addition, ARC reserves the right to close each path for 1 day per year in order to prevent public rights accruing. Whilst the specific alignment of the paths might be influenced by the felling and thinning operations noted above (including the terms of any licence that is

[4] Previous site inspections (pre-2020) have identified dense bracken cover in one compartment of the woodland. Bracken control can be difficult and the main effective herbicide product is subject to restrictions as to availability and use, hence the LMD retains some flexibility to agree alternative strategies with the Authorities if necessary.

obtained from the FC) they will be: (i) at least as extensive as the red and white paths shown on Figure 12 irrespective of whether a felling licence is obtained from the FC; and (ii) completed (and available for public use) by the end of December 2026 unless otherwise agreed in writing by the Authorities (see item 9 in the table below).

The existing main pond within the woodland will be the subject of a major project to desilt and add new planting to improve the water conditions, the details of which will be the subject of an application for a licence to Natural England (**NE**) (as below) (see item 11 in the table below). As the pond is part of the great crested newt habitat it will be necessary to first carry out surveys before an application for approval is submitted to NE and any approved mitigation measures are implemented.

All necessary surveys will be carried out before the end of August 2025. An application for a licence will be submitted to NE within 4 months of completion of the surveys. Once submitted, ARC shall use reasonable endeavours to obtain a licence (to secure the proposed works to the pond) from NE as soon as reasonably practicable. All works to the pond will be completed within 8 months of receipt of the licence from NE.

If (despite ARC having used reasonable endeavours) a licence is not obtained by the end of April 2026 (or such longer period as is agreed in writing by the Authorities), then an alternative package of measures in respect of the pond shall be submitted to the Authorities for their approval. This package of measures will be: (i) submitted to the Authorities by the end of June 2026 (or such longer period as is agreed in writing by them); and (ii) completed within 6 months of receipt of approval from the Authorities.

The pond is also thought to contain some domestic pet terrapins (which are an alien species to the UK and harmful to the native wildlife interest – particularly newts - of the water body) their removal would also be included in the work. These works are subject to significant seasonal and ecological protection measures that will be planned, coordinated and approved consistent with the wider LMD delivery and completed within the programme set out above.

	Home Covert & Cutfield Wood Establishment Works		
	Establishment Works Type	**Scope**	**Timing**
1.	Registration and Licence Application	Applies to full area of woodland compartment.	Submit application to the FC by the end of June 2025 (the timing of related felling works is set

			out below) and to use reasonable endeavours to obtain a licence as soon as practicable.
2.	Boundary Treatment	Identify the woodland boundary to adjoining third party land on the north side of the woodland where there was dilapidated fencing or where land was previously unfenced and install markers,	Complete by the end of September 2025
3.		Redundant fencing removed and replaced with new stock netting fencing with two strand line wire	Complete by the end of December 2025
4.	Tree works (location of works to be subject to further survey work and no less than 5% and no more than 20% of the trees in this area to be felled)	Felling, coppice & pollarding: – winter work to trees with no bat risk – summer work to trees with potential bat risk	Surveys of potential trees to be felled to be carried out (outside of bird nesting season) by the end of June 2025 Summer work to trees with potential bat presence to be completed by the end of October 2025 Subject to obtaining a licence from the FC, all tree felling to be completed within 12 months of receipt of the licence. If a licence is not obtained by the end of September 2025, alternative measures shall be: (i) submitted to the Authorities (HCC, WHBC and SACDC) by the end of December 2025; and (ii) completed within 6 months of receiving approval of these measures from the Authorities
5.		Opening up woodland edge alongside trackway (on the south eastern edge of the woodland east of the pond approx. 200 long and between 10 – 20 m deep) to open light condition to hornbeam edge & create wider	Complete by the end of August 2025.

		woodland margin (between 10m and 20m) including public access in order to provide an area of greater interest to people walking alongside the woodland edge.	
6.		Hazardous tree inspections / felling / making safe.	Complete targeted work to hazardous trees by the end of December 2025. Subsequent inspections will take place on an ongoing basis at regular intervals (at least every 6 months and all necessary works carried out within 6 months) All inspections to be subject to bat risk assessment and appropriate management
7.		Removal of debris/rubbish in the existing woodland (not to include dead wood suitable for insects) save to the extent that there is any conflict with proposed newt protection and potential roosts for bats (limited as only low structures remain).	Locate material, lift and remove all debris by the end of March 2026
8.	Habitat enhancement	Installation of 15 bird boxes, approximately 20 standing deadwood/piles, throughout wood in suitable locations. Design and location of these enhancement measures to be in accordance with Ecologist advice.	Complete by the end of January 2026
9.	Public Access	Opening up paths and previous rides[5], providing permissive path route through to Beech Cottage Corner all to be capable of being used by the public and as shown marked dashed in red and white on Figure 12. All paths will be clearly marked e.g. by	Complete all permissive paths and related works identified in the scope above (such that each of the paths is open to public use) by the end of December 2026 (or such longer period as is agreed in writing by the Authorities)

[5] Historic maps indicate sections of track/more open routes, which will be opened up where possible (see Figure 10)

		logs, cleared of any existing vegetation and will avoid areas of significant depressions. Log benches and interpretative signage will be provided in the locations shown on Figure 12. Measures to keep walkers on paths with brushwood piles will be provided along the full length of all paths except where vegetation makes this unnecessary	
10.	Weed control	Bracken treatment as appropriate subject to the availability of herbicide (if no herbicide is available then alternative measures to reduce the amount of bracken will be agreed with the Authorities)	Complete by the end of August 2025. Ongoing management thereafter in accordance with section 6 of this LMD.
11.	Home Covert Woodland Pond Restoration	Carry out updated surveys, submit an application for a licence to NE and complete all mitigation measures (including draining and desilting the pond, clearing areas of surrounding vegetation refilling the pond and carrying out additional and/or replacement planting in accordance with the terms of the NE licence)	Complete further surveys by the end of August 2025. Submit an application for a licence to NE within 4 months of completion of the further surveys and to use reasonable endeavours to obtain a licence as soon as practicable. Complete all works within 8 months of receipt of a licence from NE If a licence is not obtained by the end April 2026, alternative measures to be: (i) submitted to the Authorities by the end of June 2026 and (ii) completed within 6 months of receiving approval of these measures from the Authorities (HCC, WHBC and SACDC)

Area 2 - The Northern Fields – Grazing, Hay Lift and Natural Regeneration Areas

Some establishment works have already been carried out in Area 2, further details of which are set out in the text to Figure 13.

The proposed works to Area 2 are set out in: (i) the table below entitled 'Northern Fields Establishment Works'; and (ii) Figures 13-15 (inclusive).

These works will be completed by the end of December 2026 unless otherwise agreed in writing by the Authorities as set out in more detail below.

Some additional fencing, will be installed in Area 2 (see item 1 in the table below). This planned work would involve the installation of higher grade longer life fence materials to provide a reduced future management cost. The adjustments to the grazing compartment fences are illustrated on Figure 14. These works will be completed by the end of December 2026

In addition, the existing vehicular access route around Area 2 may be interrupted by the minerals development work so an alternative route will be provided as shown (dashed pink and numbered 1) on Figure 14 before the existing route is interrupted (involving some work to level and improve an existing rough trackway using MOT type 1 materials so as to ensure that it is at least the same standard as the route that would be interrupted (see item 2 in the table below). These works will be completed by the end of September 2026 (unless otherwise agreed in writing by the Authorities if, for example, the minerals development is delayed).

Ragwort spot treatment would be carried out and completed (see item 3 in the table below).

As part of the Establishment Works the existing North South path route up to Coopers Green Lane within the Ellenbrook Corridor as shown dotted green and numbered 4 on Figure 14 will be upgraded to a 3m wide unsealed shared cycle track / footpath plus bridleway or a wildlife / amenity margin to a suitable specification agreed with HCC / WHBC, or as otherwise agreed with HCC in the public path creation agreement. This route would also be put forward to HCC for designation as a Public Right of Way (PRoW) it is proposed that this would be secured by the completion of a public path creation agreement pursuant to section 25 of the Highways Act 1980 between ARC and HCC (see item 4 in the table below). It is proposed that this agreement (which will include (amongst other things) a proposed specification for the new

PRoW) will be completed before the end of December 2025 (ARC will submit a draft agreement to HCC by the end of March 2025).

In addition, new permissive paths (unsurfaced as the same for Area 1) would be provided for use by the public. These paths will be provided as shown by dotted white lines on Figure 15. These paths will be provided and ready for use by the end of December 2025.

Related to this enhanced public access in Area 2, replacement and/or updated signage and seating will be provided in the locations shown on Figure 15. These works will be completed by the end of December 2025.

	Northern Fields Establishment Works		
	Establishment Works Type	**Scope**	**Timing**
1.		Installation of additional fencing adjacent to Coopers Green Lane to protect road from stray grazing stock or off lead dogs as indicated on Figure 14	Complete by the end of December 2026
2.		Provision of an alternative vehicular access route as shown dashed pink and numbered 1 on Figure 14 (using MOT type 1 materials)	Complete by the end of September 2025 (unless otherwise agreed in writing by the Authorities)
3.	Weed control	Ragwort spot treatment[6]	Complete by the end of August 2025 Ongoing management thereafter in accordance with section 6 of this LMD.
4.	Public Access Improvements	Completion of a public path creation agreement to secure a north-south route to an agreed standard (as shown dotted in green and numbered	Construct the route as a 3m wide unsealed shared cycle track / footpath plus bridleway or wildlife / amenity margin by December 2026, or as

[6] To allow for two visits per Summer. Specification of products to be a matter for the certified operator in line with pesticide regulations.

		4 on Figure 14) as a new PRoW. Construction of this route. The route shall consist of a 3m wide unsealed shared cycle track / footpath plus bridleway or wildlife / amenity margin to a suitable HCC specification, or as otherwise previously agreed with HCC in a public path creation agreement. New permissive (grass) paths as shown by dotted white lines on Figure 15. Replacement and/or updating of signage and seating as shown on Figure 15	otherwise previously agreed with HCC in a public path creation agreement. To submit a draft agreement (in standard terms) to HCC by the end of March 2025. Complete agreement by the end of December 2025. Complete PRoW designation in accordance with the terms of the agreement. Complete by the end of December 2025 Complete by the end of December 2025

Area 3 - The Southern Fields – Grazing, Hay Lift and Natural Regeneration Areas

Some establishment works have already been carried out in Area 3, further details of which are set out in the text to Figure 16. The existing situation is illustrated in Figure 16.

Some Establishment Works will be carried out in Area 3 in advance of Confirmation of the Non Minerals scenario. These works are included in the table below entitled 'Southern Field Establishment Works – Before Confirmation of Non-Minerals Scenario' and comprise:

- removal of all existing stock pile materials (see item 5 in the table below);
- Ragwort spot treatment and continuation of Japanese Knotweed treatment (see item 2 in the table below);
- scrub clearance to allow the grassland hay management to be adjusted (see item 4 in the table below);

- provision of new permissive (grass) paths (including the retention of existing interpretive signage) for the continued public use of Area 3 (see item 3 in the table below);
- improvement of the existing track into Area 3 next to Home Covert with levelling up surface ruts with MOT type 1 materials to allow access for management and the public (see item 1 in the table below);
- works to the former airfield marker building to protect it from further damage and provide a potential barn owl nest site (see item 6 in the table below).

All the above works will be carried out and completed before the end of December 2026 as is more particularly set out in the table below:

	Southern Fields Establishment Works – Before Confirmation of the Non Minerals Scenario		
	Establishment Works Type	**Scope**	**Timing**
1.	Track improvements	Track improvement adjacent to Home Covert works as shown in bold dotted pink line on Figure 18	Complete by the end of August 2026
2.	Weed control	Ragwort spot treatment[7] Throughout the area as appropriate Continued treatment of the Knotweed material as appropriate.	Complete by the end of August 2025. Ongoing management thereafter in accordance with section 6 of this LMD.
3.	Public Access Improvements	New permissive (grass) paths) as shown by grey dashed lines on Figure 18[8] (existing signage will be retained and maintained) (Note : path routes all generally exist as shown as informal routes – permissive use to be confirmed Improvement of the existing track next to Home Covert (as shown in bold pink dotted line on Figure 18) with levelling up surface ruts with MOT type 1 materials to allow access for public and management	Complete by the end of December 2025 Complete by the end of August 2026
4.	Scrub clearance	To be carried out within the area shown coloured pink on Figure 17 of the 'With Minerals' Figures Document	Complete by the end of December 2026
5.	Stock pile removals	Removal of all stock pile materials as shown on Figure 17 of the With Minerals Figures Document. Materials intended to be reused in the	Complete by the end of December 2026

[7] To allow for two visits per Summer. Specification of products to be a matter for the certified operator in line with pesticide regulations.

[8]

		construction of new path / track sections in Northern Fields.	
6.	Habitat works	Works to the former airfield marker as shown on Figure 18. This is an old small brick structure which requires a replacement metal grill/sheet to prevent public access but to allow nesting	Complete by the end of March 2026

Area 3 – Southern Fields – No Minerals Development

If the minerals operation does not occur , then the works identified above (see the table above entitled 'Southern Fields Establishment Works – Before Confirmation of Non-Mineral Scenario') would already have been completed and they will continue to be maintained in accordance with this LMD. The mechanism is set out in the following section of this LMD and the Deed of Variation.

In addition, the following Establishment Works would be carried out in Area 3 (see Figure 18 and the table below entitled 'Southern Fields Establishment Works – No Minerals Development).

- provision of new sections of stock proof fencing and new gates to maintain the former grazing compartment between the taxiway and Home Covert (see item 1 in the table below);
- provision of new permissive (grass) paths (see item 2 in the table below);

	Southern Fields Establishment Works if Minerals Development is Not Implemented		
	Establishment Works Type	**Scope**	**Timing**
1.	Grazing compartment adjustments	To provide new sections of stock proof fencing and new gates to maintain former grazing compartment between taxiway & Home Covert. Refer to Fig 18.	Complete by the end of [June 2029.]
2.	Public Access Improvements	Provision of new permissive (grass) paths as shown with a grey dashed line on Figure 18	Complete by the end of [June 2029.]

		(existing signage will be retained and maintained)	

Maintenance of the Establishment Works

This section 5 has set out above the Establishment Works that will be carried out together with a programme for their delivery (subject, in the case of Area 3, to the status of the minerals operation and the related Section 106 Agreement). Once the Establishment Works (or the relevant part of them) have been completed, they will be maintained by ARC or Brett (as the case may be) pending the grant of a lease(s) to the Trust as set out in the Deed of Variation (see also section 6 of this LMD). Once the Trust has been granted a lease(s) of any part of Ellenbrook Park, it will be responsible for maintenance in respect of that part. Further detail of this arrangement is set out in the Deed of Variation.

Figure 20 identifies for illustrative purposes only a masterplan for the whole of the Ellenbrook Area following completion of the Establishment Works (the specific alignment of permissive paths is likely to be subject to approvals that are obtained in due course).

6.0 Management Prescriptions

Overall Aims

To create a landscape which allows for informal public access but also retains and maintains the existing features of ecological value (the woodland, grassland and wetlands); to introduce additional diversity to these habitats to further enhance their nature conservation value; to maintain the populations of protected species and species of conservation concern (particularly those which were affected most significantly by the adjacent developments); and to create new habitat features (woodlands, grassland and wetlands) of value to wildlife, particularly protected species.

General Site Prescriptions

Management Aim/Objective/		Timing	Done By	Schedule Ref
Overall objectives of planned management and appropriate provision & protection to users/land managers. Note; site management reviews of various elements within sections below. Annual overview to draw together anticipated as part of Trust administration.				
Prescriptions				
PR1	Review risks for general health and safety issues on site – consideration to visitors & landscape managers. Record and review any reported accidents, incidents or near misses.	Ongoing	ARC/ Trust	
PR2	Maintain, and mow as necessary, the permissive path network to ensure safe access to and around the park by the public.	2x cuts per year once new path established.	ARC/ Trust	
PR3	Maintain existing and any new vandal resistant educational interpretation boards to inform the public of the value of the park habitats and the details of their management. Replace where considered necessary.	Establishment Works	ARC/ Trust	
PR4	Allow for wider public interpretation / engagement & activities.	Ongoing	ARC/ Trust	
PR5	Review and maintain site furniture. Replace where considered necessary following a review.	Ongoing	ARC/ Trust	

Existing Woodlands

Management Aim/Objective/Prescriptions	Timing	Done By	Schedule Ref
Overall Aims • To maintain and regenerate the mature woodland, • Provide for public access, safety and interpretation, • Diversify the woodland structure to improve habitat value, resilience and landscape interest, • Produce timber quality trees, • Maintain and enhance nature conservation value of ponds and ditches within the woodlands, • Preserve and protect cultural/heritage features such as building sites and woodland banks, • Maintain the boundary Hornbeam pollards, • Encourage, in the longer term, potential of habitat suitable for dormice.			
Objectives • To encourage development of a high forest structure. With smaller scale Small areas of coppicing undertaken to encourage regeneration and improve structure diversity (maybe beneficial if dormice were to become present). • To maintain the wooded landscape features, avoiding drastic changes in the overall appearance. Control openings to < 0.1 – 0.2 Ha to prevent compromise of the value to the woodland flora and fauna. • Re-establishing currently hard to follow tracks within and on the edge of Home Covert to make management easier and improve access for public enjoyment. • The creation of diverse woodland rides of benefit to flora and fauna, allowing light into the centre of the woodland. • Opening section of wider scalloped edge to regenerate the edge for invertebrates, allow more light into the hornbeam pollards and provide a space as a focus for public access to the edge of the wood. • To enlarge and link the woodlands through natural regeneration and planting. • To monitor and control the presence of exotic trees and invasive shrub species (Sycamore is noted as adding resilience to the high canopy tree cover of the wood; but is itself under pressure from squirrel damage). Rhododendron previously eradicated, monitor to prevent reinvasion. • To maintain or increase dead wood habitat within the woodlands, for saproxylic invertebrates, fungi, hole-nesting birds and roosting bats. • To maintain diverse and valuable woodland ground floras, particularly Home Covert populations of Bluebell. • To maintain a network of well-defined permissive paths, that are in a safe condition for the public to use. Through the strategic use of woodland materials, controlling the public walking throughout the woods to avoid excessive trampling of the ground flora. • Providing interpretive material (to inform the public of the value of the woodlands, as a mature habitat and explain reasons for various management operations such as pollarding or thinning) and occasional log benches.			

- To minimise potential hazards; noting that some contribute to nature conservation value, consideration needs to be given to appropriately managed risks (the location adjacent to a large minerals development works, noted as potentially hazardous to members of the public).
- To protect any badger setts remain from disturbance by the public and during routine maintenance operations (although badgers use the site no active badger setts have been located during the surveys, it is possible that a small sett may remain undetected within areas of dense scrub, care should be taken when clearing any areas of dense vegetation).
  At present the woodlands are too small and isolated to be of value to dormice, but as new woodlands become established (inc the adjacent gravel restoration) it may be appropriate to consider changes in management to create conditions that favour dormice (e.g. an extension to coppicing and planting or layering of hazel) prior to a possible re-introduction programme.
- To maintain and enhance the value of the woodland habitat for invertebrates, reptiles and roosting, hibernating and foraging bats.
- To maintain and enhance the value of the woodland and margins for nesting and foraging birds, particularly barn owls and tree sparrows. A number of owl nesting boxes have been set up in surrounding trees and one of the smaller buildings by the former taxiway improved to provide a suitable roost site.

Prescriptions		Timing	Done by	Schedule Ref
	Management Reviews			
PR6	Identify/review compartments/areas of open ground shown on Figures 10 and 12 (update plans over time and review proportions of cover/open areas). Review management to retain the open character of these areas. (Compartments e and h)	Annual – September	ARC / Trust	
	Glades, Rides & Edges Management; Tree Felling/Coppicing/Pollarding			

PR7	Selectively thin areas to promote the development of canopy trees with large crowns. Only one compartment should be thinned (up to 30% by volume) in any one year, allow five years between each compartment and approximately ten years before treating the same compartment. Leave some of the felled timber on the ground to decay naturally. (Compartment a, b c). See Prescription 39 and 40 also. Monitor distribution of notable trees identify long-term specimens with potential as veterans, good quality timber or regeneration seed source. (All compartments). Accurately locate and record individuals and conditions. Open opportunities for natural regeneration from key native specimens; halo thin competition trees in potential regrowth areas. (All compartments)	Annual – Autumn/Winter	ARC / Trust	
PR7	Maintain small areas of coppice on a ten-year cycle including multi-stemmed trees in Compartment g. Brash to be piled around the cut stumps or used to create dead-hedges to discourage browsing by deer and rabbits (alternatively install deer protection around cut stool). If the stems are not removed as a saleable product, leave some on the woodland floor to decay, use remaining for deadwood piles.	Annual – Autumn/Winter	ARC / Trust	
Prescriptions		**Timing**	**Done by**	**Schedule Ref**
PR8	Remove trees and shrubs from the rides/tracks, introduce short rotation coppice regime to track edges. (Compartments c, g, h). Coppice trees and shrubs two-to-eight metres either side of tracks, leave some lower growing shrubs to create a graded/varied margin with scallops and pinch points. Cut back overhanging branches. Treat any Sycamore stumps with systemic herbicide. Repeat once every five years.	Annual – Autumn/Winter As necessary	ARC / Trust	

	Fell /prune unsafe trees close to the paths. Undertake work in September/October when roosting bats are less likely to be present. (Compartments c, g, h). See also PR54.			
PR9	Pollard boundary Hornbeams on rotation (small number to be pollarded in winter of 2018-19 to commence plan). Pollard 25% or less in any one year; allow approximately 20 years before repollarding. (Compartments b, c, d, g, h, k) Selectively remove/coppice adjoining trees and shrubs to encourage the development of the pollards. Undertake this work at the same time (Compartments b, c, d, h, k). Remove selected trees and shrubs along the north-eastern boundary leaving the Hornbeam pollards to form the woodland edge. This to benefit the pollards and encourage development of weedy flora of possible value to tree sparrows.	Annual – autumn/winter	ARC / Trust	
PR10	Selectively thin the trees and shrubs around the ponds to allow more light to penetrate. (Compartments a and c). Leave some of the felled timber on the ground to allow it to decay naturally.	Annual – Autumn/Winter	ARC	
PR11	Open up woodland edge on south east corner (on edge next to compartments g,c and d); felling and scrub clearance back to former woodland edge to provide scalloped new edge area of mixed grasslands and lower shrub edge and allow additional light into hornbeam pollards. Area intended as focus for main increase in public access – allow for occasional tree trunk 'benches' and interpretation board.	Annual – Autumn/Winter Establishment Work – Autumn/Winter	ARC	
Prescriptions		**Timing**	**Done by**	**Schedule Ref**
	Natural Regeneration			
PR12	Encourage regeneration of native trees and shrubs, this may be limited by shade; open areas that are at least 0.1 Ha maybe necessary.	Annual – Autumn/ Winter	ARC / Trust	

	Success of any regeneration to be monitored and in first year, if necessary, take steps to protect growth from deer and rabbits. This may include tree guards, deer or rabbit fencing. Also herbicide control in areas, to prevent excessive weed competition. (All compartments) As young stock develops (years 2 – 3) identify and protect with tree guards the better saplings of selected species to encourage the development of a more diverse understorey. (All compartments). Review the need to protect maturing regeneration or ground flora from pest species. Pest control may be required as a last resort, but methods of protection of plant stock shall be fully explored first. Pest control to reduce squirrel damage likely to be necessary for regrowth of sycamore. (All compartments) If natural regeneration is unsuccessful consider supplementary tree and shrub planting with native species of UK regional-provenance or if possible thinnings from the areas of natural regeneration outside the woodlands. Scope to engage public in raising stock from seeds harvested on site. (All compartments)			
	Habitat Enhancement Prescriptions			
PR13	Install/maintain approximately 20 bird nest boxes and bat roosting boxes within the woodlands. Install the boxes close to the tracks to allow relocation, but out of view and reach of members of the public. (All compartments) Clean out the nest boxes on an annual basis in the autumn, repair and/or replace any damaged boxes. (All compartments)	Annual – Autumn/Winter	ARC / Trust	
Prescriptions		**Timing**	**Done by**	**Schedule Ref**

	Habitat Enhancement Prescriptions cont..			
	Maintain barn owl nest boxes as located on plans (key position close to the site of former Beech Cottage provided to compensate for the loss of this old nesting site Compartment h). Install clusters of nest boxes suitable for tree sparrows on the Hornbeam pollards.			
PR14	If an active badger sett is found during any of the management operations, review the work and seek ecological advice. If possible avoid clearing vegetation around any sett.		Trust	
PR15	Wherever possible, trees carrying deadwood to be retained. Where to felling or trees need major tree surgery investigate for the presence of roosting bats. If any are located, options for the felling or surgery of the trees to be reviewed. To avoid impacts on bats undertake works ideally in October	Annual – October	Trust	
PR16	Retain standing dead wood, if safety considerations allow. (All compartments). Ring bark small no. of smaller trees to be thinned, to produce standing dead wood. (All compartments subject to health and safety assessment)		Trust	
PR17	Retain brash/timber from operations not of saleable quality. Leave some material strewn on the woodland floor and construct woodpiles with the remainder. Retain some large stems intact as fallen timber. (All compartments)		Trust	
	Access Works			
PR18	Review cutting of vegetation colonising rides/tracks. (Compartments c, g, h) Use brashings, felled stems and other natural barriers to discourage the public from deviating from these tracks in sensitive locations. (Compartments c, g, h)	Annual – Autumn/ Winter	ARC / Trust	

Prescriptions		**Timing**	**Done by**	**Schedule Ref**
	Access Works cont			
PR19	Inspect the boundary fences and undertake any repair works or fencing necessary to maintain an effective boundary.	Annual – Autumn/ Winter	ARC / Trust	
PR20	Allow the retention of occasional trunk benches from felled trees in appropriate locations.		ARC / Trust	
PR21	Install vandal resistant interpretation board(s) at a strategic location to highlight interest and value of the woodlands. Include information regarding the plans for the entire Ellenbrook Fields as appropriate. Consider scope for other methods/material to engage the public with the local landscape and ecology (local wildlife trust, leaflets, guided walks, talks etc.)		ARC / Trust	
	Pond works			
PR22	Restoration of the main woodland pond included in establishment phase (1st recorded works in history since creation of airfield – assume repeat works not required for at least 50 years plus). Monitor silt/leaf build up, protection of fauna, reforming of side ditches, aquatic and marginal planting; and for recurrence of alien species. (Compartments g/c) Allow for access to waterside for occasional seating space / path connections, managing sunlight access to pond surface,	Establishment works project – timing subject to ecological survey	ARC Trust	
	General works			
PR23	As newly planted and regeneration areas develop alongside the mature woodland, review management to ascertain whether the park habitat as	Annual – Autumn/ Winter	ARC / Trust	

	a whole could be made suitable for, use by dormice. Re-assess management prescriptions, in particular related to coppicing and replanting/regeneration.			
Prescriptions		**Timing**	**Done by**	**Schedule Ref**
PR24	Check for rhododendron regrowth treat any occurrence with a systemic herbicide. Dispose of the cuttings off site (Compartment h).	Annual – Autumn/Winter	ARC	
PR25	Remove the debris/rubbish from the woodlands and dispose of offsite (progressively remove the elements of concrete debris from the former uses that surface in areas). Do not attempt to remove the piles that are constructed from large blocks of concrete, since these may be used by hibernating reptiles and/or amphibians.	Annual – Autumn/ Winter	ARC / Trust	
PR26	Note the indicated locations of cultural features such as the former cottage and other buildings, ditches, banks and rides. Ensure works do not diminish such features.		Trust	

New Woodlands/Tree and Shrub Planting Areas

Management Aims/Objectives	**Timing**	**Done By**	**Schedule Ref**
Areas of new woodland and scrub cover have been established within sections of the site through natural regeneration and planting. Other areas will be planted within the Northern Fields reflecting the original establishment works proposals and in the Southern Fields as areas become available in relation to the confirmation of Non-minerals scenario. These all designed and managed to; Encourage the development of new diverse woodlands that mimic local semi-natural woodland communities by planting native tree and shrub species and allowing self-seeding of established species. Encourage the development of a well-stratified canopy of value to wildlife. Encourage the development of dense scrub along the new woodland margins. Encourage a diverse woodland ground flora. Provide areas of potential value to dormice in the longer-term. Enhance the nature conservation value of the existing hedgerows.			

New Woodland Prescriptions				
PR27	New planting areas, trees and hedgerows and hedge reinforcement to be established in accordance with mineral planning approval submissions. Detailed planting plans and schedules to be provided at completion.	Initial works to establish additional cover including screening planting & then phased as part of mineral operation	ARC	
New Woodland Prescriptions		**Timing**	**Done By**	**Schedule Ref**
PR28	In the first two years following planting replace any dead or diseased trees, ensuring that the original species mix is maintained	To rolling programme	ARC/	
PR29	Monitor proportions of sycamore or any other exotic tree and shrub species that emerge with natural regeneration. Remove unwanted exotics by hand-pulling, if possible or treat with systemic herbicide	Autumn review	ARC/ Trust	
PR30	In the initial year after planting herbicide treat weeds and any grass within a one-metre radius. After year 1 review need for further weed control in areas of trees and shrubs planting or natural regeneration. Review methods of control depending upon the stage of growth of the trees and the development of any ground flora.	Years 1 – 3 after planting Feb/March	ARC	
PR31	Review the need for thinning of trees and shrubs in order to encourage the growth of individual trees.	After 5 years Feb/March	Trust	
PR32	After five years review the need to diversify the canopy structure by coppicing selected trees and shrubs.	Autumn/Winter	Trust	
PR33	On older established areas consider introducing woodland herbs by 'plug-planting' once the tree/shrub canopy has developed in the newly planted woodlands and possibly in the areas of natural regeneration. Potential public engagement project.	Spring	Trust	

Grasslands

Management Aim/Objective	Timing	Done by	Schedule Ref
• Maintain and enhance the botanical diversity of the mosaic of grassland habitats, by variations in mowing regimes. • Graze the central part of the site following the established principle of livestock grazing with the conservation herd of Longhorns in coexistence with the recreational access • Reduce the abundance and spreading of ruderal species within the areas of disturbed grassland. • Enhance the potential value of the habitat for hunting owls and raptors, particularly barn owls and short-eared owls • Maintain and enhance the value of the grassland habitat for ground nesting birds particularly skylarks, meadow pipit and grey partridge and brown hares. • Enhance the nature conservation value of the grassland for invertebrates, particularly Lepidoptera and Orthoptera and for reptiles and amphibians • Create species-rich grasslands on the areas of disturbed /excavated ground			

Management Aim/Objective		Timing	Done by	Schedule Ref
PR34	Annual hay and aftermath cuts. Cut to approx. 5cm, during period of consistent warm dry weather. Allow the cuttings to dry for a few days, turning cuttings once. Remove arisings, by baling for hay or to compost off-site. Aftermath cut - remove arisings.	Mid-August (to avoid the hare and bird-breeding seasons) 2nd cut late September	ARC / Trust	
PR35	Annual hay cut - no aftermath – as above – no second cut.	Mid-August	ARC / Trust	
PR36	Bi annual hay cut	Mid-August – alternate years	ARC / Trust	
PR37	Prior to undertaking hay cut walk the area to ensure to check for ground nesting birds and hares. If nests, birds with dependent young or leverets are located or suspected in the grassland, it should not be cut. Repeat survey one week later.		ARC / Trust	
PR38	In areas of recreational grassland cut grass eight times each year. Remove arisings on each cut.	April to October	ARC / Trust	
Note: Biennial hay-cut in some areas and not undertaking an aftermath cut in others to create tussocky grassland of value to field voles in particular. These are a valuable prey for owls and				

raptors. However, the grasslands cut for growth of young grass shoots are of value to voles and therefore helpful if all grassland is cut at least once every two years.
Delaying hay-cuts until late August allows ground-nesting birds to continue breeding. Public access to be encouraged along relatively restricted network of paths to ensure nesting birds and Brown Hares are less disturbed by people and dogs. In addition, stock-fencing installed around woodlands edges and grassland ensure hares have somewhere safe retreats if disturbed by people and dogs.

	Grazing			
PR39	Graze at stocking density approx. 2 cattle per hectare per year. Periodically review the timing and size of herd. More animals may be used for shorter periods. Remove or relocate to avoid areas of poached sward or if average sward height is below 5cm. Limited poaching around wet scrapes may be advantageous for biodiversity. Remove animals from areas if the ground becomes saturated for prolonged periods. Any supplementary feeding for management and welfare reasons, should be placed within the areas of lesser botanical interest to prevent excessive trampling in richer areas.	Minimum, graze the area between the months of September and March – approx. 28 weeks	Grazer	
Management Aim/Objective		**Timing**	**Done by**	**Schedule Ref**
	Grazing cont..			
PR40	Maintain and regularly inspect stock fencing. Protect planted trees/hedgerows With fencing min 2 metres from the centre of the hedge, further if natural regeneration is intended alongside.	Fencing replaced as part of establishment works. Thereafter regular inspections	ARC Grazer	
PR41	Maintain and regularly inspect cattle-proof 'kiss gates' or similar in fence-line. Maintain and regularly inspect large gate access points for grazing animals and management machinery.		Grazer	
PR42	Maintain and regularly inspect water supply in each area to be grazed.		Grazer	

PR43	Maintain and regularly inspect stock-proof fencing installed for hare refuges.		Grazer	

Wetland Habitats

Management Aim/Objective/Prescriptions		**Timing**	**Done By**	**Schedule Ref**
Wetland habitats on site include the pond and ditches in Home Covert, the Ellenbrook The objective for these areas is to protect the nature conservation value, particularly with regard to their use by breeding amphibians, potentially including great crested newts. This aim overlaps with the grasslands and woodlands sections but are included to highlight the following specific objectives to; • Protect the nature conservation value of the grassland habitat on the banks of the Ellen Brook. • Provide nesting and foraging habitat for lapwing and other ground nesting wetland birds. • Maintain wetland habitats suitable for grass snakes. • Maintain wetland habitats which are potentially suitable for use by water voles.				
PR44	Restore the water body of the main Home Covert Woodland, including for removal of excess silt and leaf build up, protect native fauna, remove alien species, and introduce native aquatic and marginal planting.	Establishment Works	ARC	
PR45	Remove debris, rubbish wind-blown litter within and around ponds / water courses; dispose offsite.		ARC/ Trust	
PR46	Monitor the wetland vegetation; remove any invasive alien species or any trees and large shrubs that obstruct ditches or start to colonise.		Trust	
Management Aim/Objective/Prescriptions		**Timing**	**Done By**	**Schedule Ref**
PR47	Aim to maintain 20% open water surface in the ponds; when removing vegetation necessary but maintain diverse wetland communities.		Trust	

7.0 Monitoring and Review

It is important that this LMD is subject to regular monitoring in order to establish its success or failure. The results of any monitoring scheme should feed directly into any future review of this LMD (see below).

An annual monitoring report (**Annual Report**) will be submitted to the Authorities until the Establishment Works have been completed in accordance with this LMD and the Deed of Variation. Each Annual Report will set out: (i) the steps/measures that were taken pursuant to this LMD in the preceding 12 month period; and (ii) the projected steps/measures that are proposed to be carried out pursuant to this LMD for the next 12 months.

The first Annual Report will be submitted to the Authorities on the date that is 12 months after the date of the Deed of Variation. A further Annual Report will be submitted on each subsequent anniversary of this date until the Establishment Works have been completed (as above).

This LMD applies to the initial 10 year period from commencement of the Establishment Works. It is envisaged that during this period the Trust would have been granted a leasehold interest in part of Ellenbrook Park (as required by the Deed of Variation). Once the Trust has been granted a leasehold interest, it will assume responsibility for monitoring this LMD, progressing any review of this LMD and proposing any changes to it. The Deed of Variation provides that this LMD cannot be amended without the approval of the Authorities.

8.0 References

- (Cresswell Associates 2010) Hatfield Green Summary of Ecological Surveys. Unpublished report. [Copy appended as Appendix 1]
- (Cresswell Associates 2008) *Ecological Appraisal of Hatfield Green.* Unpublished report.
- (Cresswell Associates 1999) *Ecological Appraisal of Hatfield Business Park – Stage 2.* Unpublished report.
- (Esus Forestry and Woodlands 2001) *Home Covert, Round Wood and Cutfield Wood. Management Plan.* Unpublished report.
- (Hertfordshire and Middlesex Wildlife Trust 1998). A 50-year vision for the wildlife and natural habitats of Hertfordshire (A local Biodiversity Action Plan). Published by Hertfordshire and Middlesex Wildlife Trust.

- LDA Hatfield EIP Allocation – Ecological Appraisal 2015 [Copy appended as Appendix 2]
- SLR Consulting surveys for Brett Aggregates Environmental Statement [Copy appended as Appendix 3]

APPENDICES

1.0 Cresswell Associates 2010 – Hatfield Green Summary of Ecological Surveys. Original Surveys

2.0 LDA Hatfield EIP Allocation – Ecological Appraisal 2015

3.0 SLR Consulting Ecological Survey for Brett Aggregates Environmental Statement (2014/2015)

4.0 Park Ranger Duties and Responsibilities

Hatfield Business Park Land - Ellenbrook Fields

Landscape Management Plan-Figures

NO MINERAL VERSION

Version reflects the potential position that the proposed minerals operation does not proceed

REVISION G
February 2024

Macgregor Smith

Contents

Original Work and Existing Conditions

FIGURE 1 - Location Plan
FIGURE 2 - Aerial Photograph
FIGURE 3 - Future Context Plan
FIGURE 4 - Management Areas Plan
FIGURE 5 - Historic Site Map (1981-1990)
FIGURE 6 - Historic Aerial Photograph (2000)
FIGURE 7 - Previous Site Clearance & Preparation Works
FIGURE 8 - Existing Right of Way and Main Permissive Access Routes
FIGURE 9 - Combined Phase 1 Habitat Surveys

Management Compartment 1 - Home Covert & Cutfield Woodland

FIGURE 10 - Updated Site Survey
FIGURE 11 - Proposed Establishment Works
FIGURE 12 - Management Proposals

Management Compartment 2 - Northern Fields

FIGURE 13 - Updated Site Survey
FIGURE 14 - Proposed Establishment Works
FIGURE 15 - Management Proposals

Management Compartment 3 - Southern Fields

FIGURE 16 - Updated Site Survey
FIGURE 17 - Figure Omitted
FIGURE 18 - Proposed Establishment Works - With No Minerals Operation
FIGURE 19 - Management Proposal
FIGURE 20 - Illustrative Landscape Management Plan
FIGURE 21 - Ditch Crossing Detail
FIGURE 22 - Original Furniture & Signage Designs
FIGURE 23 - Figure Omitted
FIGURE 24 - Figure Omitted

This document follows the same format as the 'With Minerals' Version –with some figures omitted as not relevant. The figure numbers are retained to allow direct comparison.

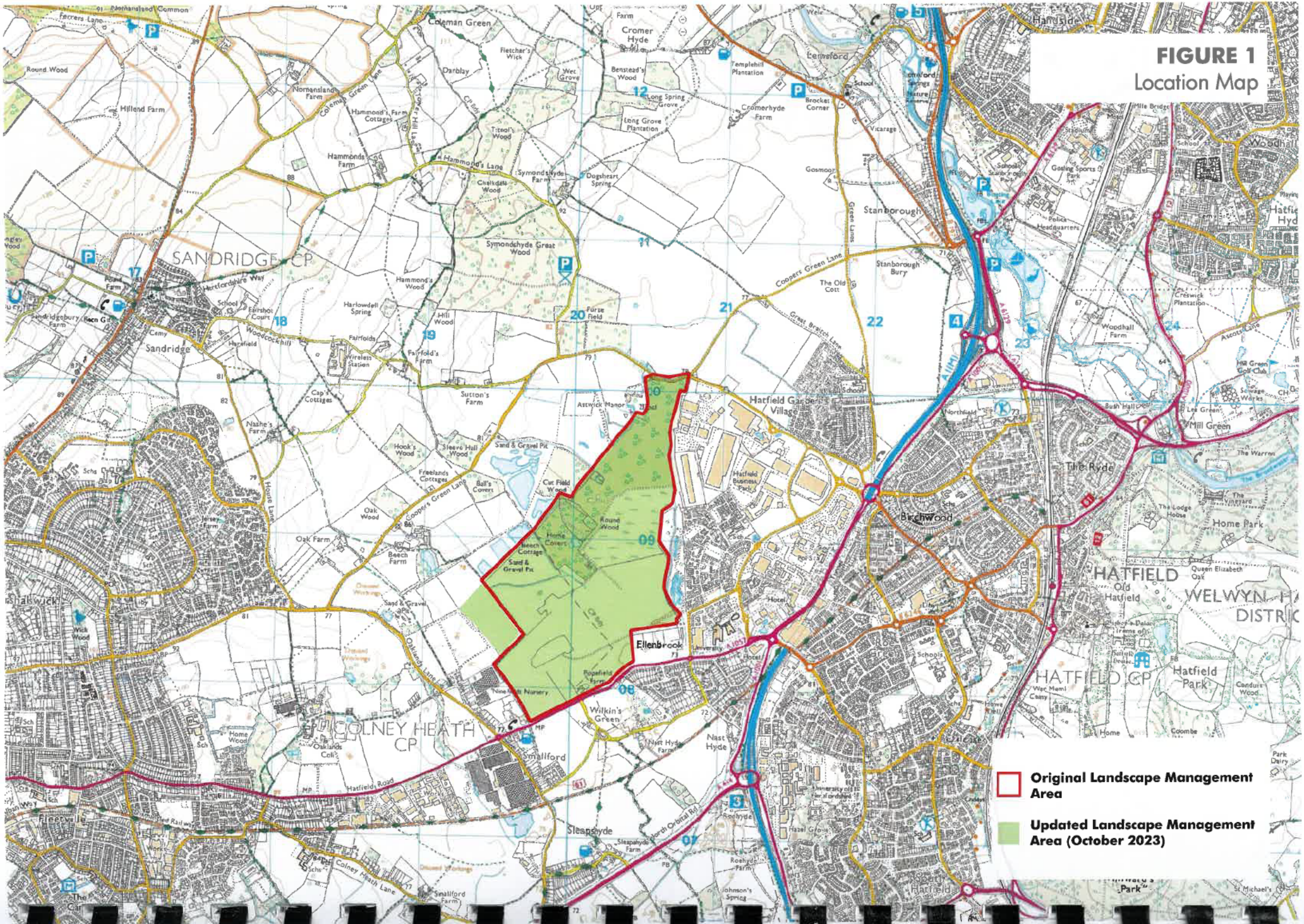
FIGURE 1
Location Map
Original Landscape Management Area
Updated Landscape Management Area (October 2023)
SANDRIDGE CP
COLNEY HEATH CP
HATFIELD CP
HATFIELD
Hatfield Garden Village
Ellenbrook
Wilkin's Green
Smallford
Sleapshyde
Birchwood
The Ryde
Stanborough
Woodhall
Mill Green
Old Hatfield
Hatfield Park
Nast Hyde
Roehyde
Symondshyde Great Wood
Sandridge
Coleman Green
Cromer Hyde
Lemsford
Handside
Hatfield Business Park
Astwick Manor
Sutton's Farm
Oak Farm
Beech Farm
Hillend Farm
Hammonds Farm
Fairfolds Farm
Cooper's Green Lane
Great Bramfield Lane
Hatfield Road
Colney Heath Lane
North Orbital Rd
A1(M)
A414
A1001
A6129
01
02
03
04
07
08
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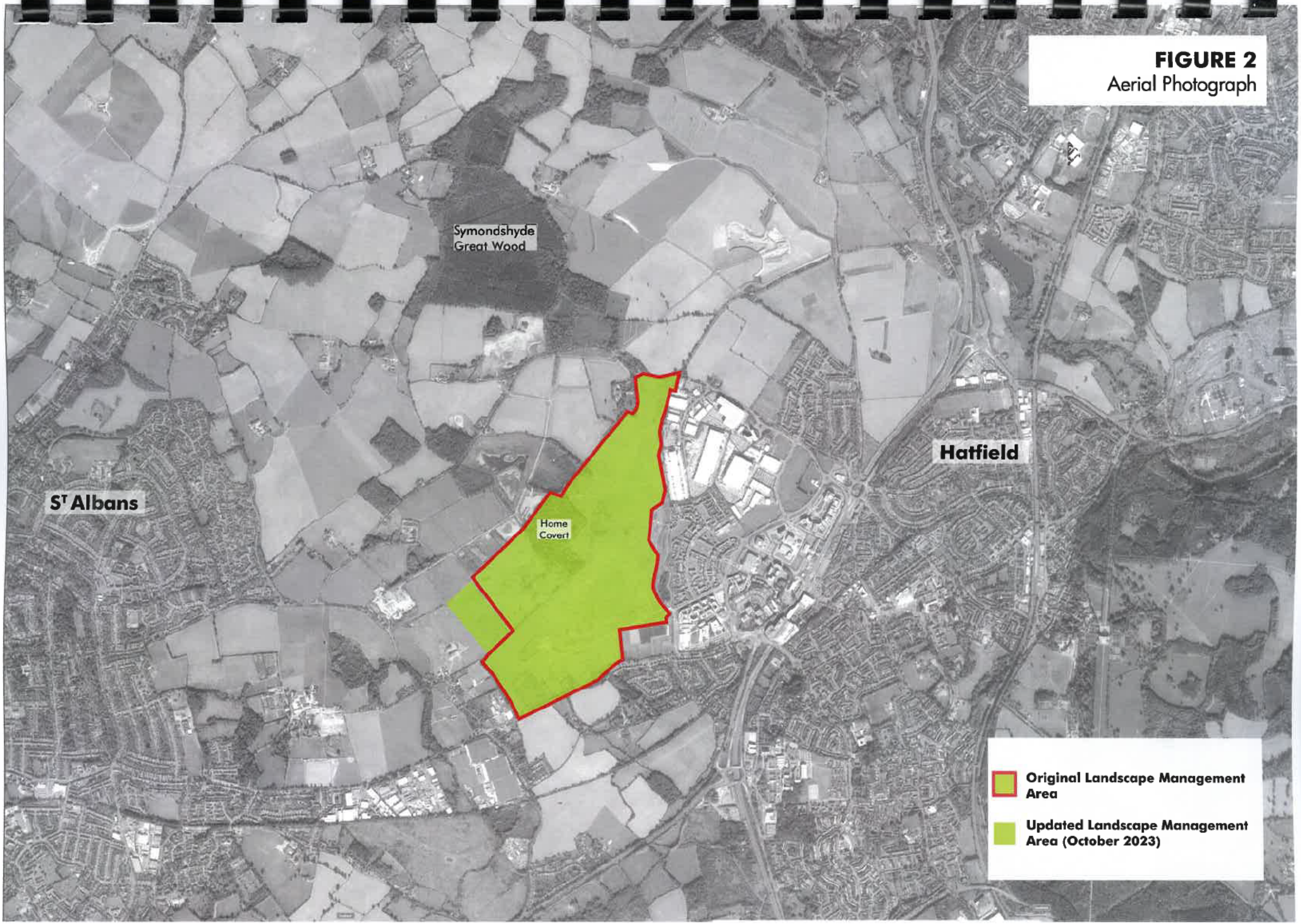
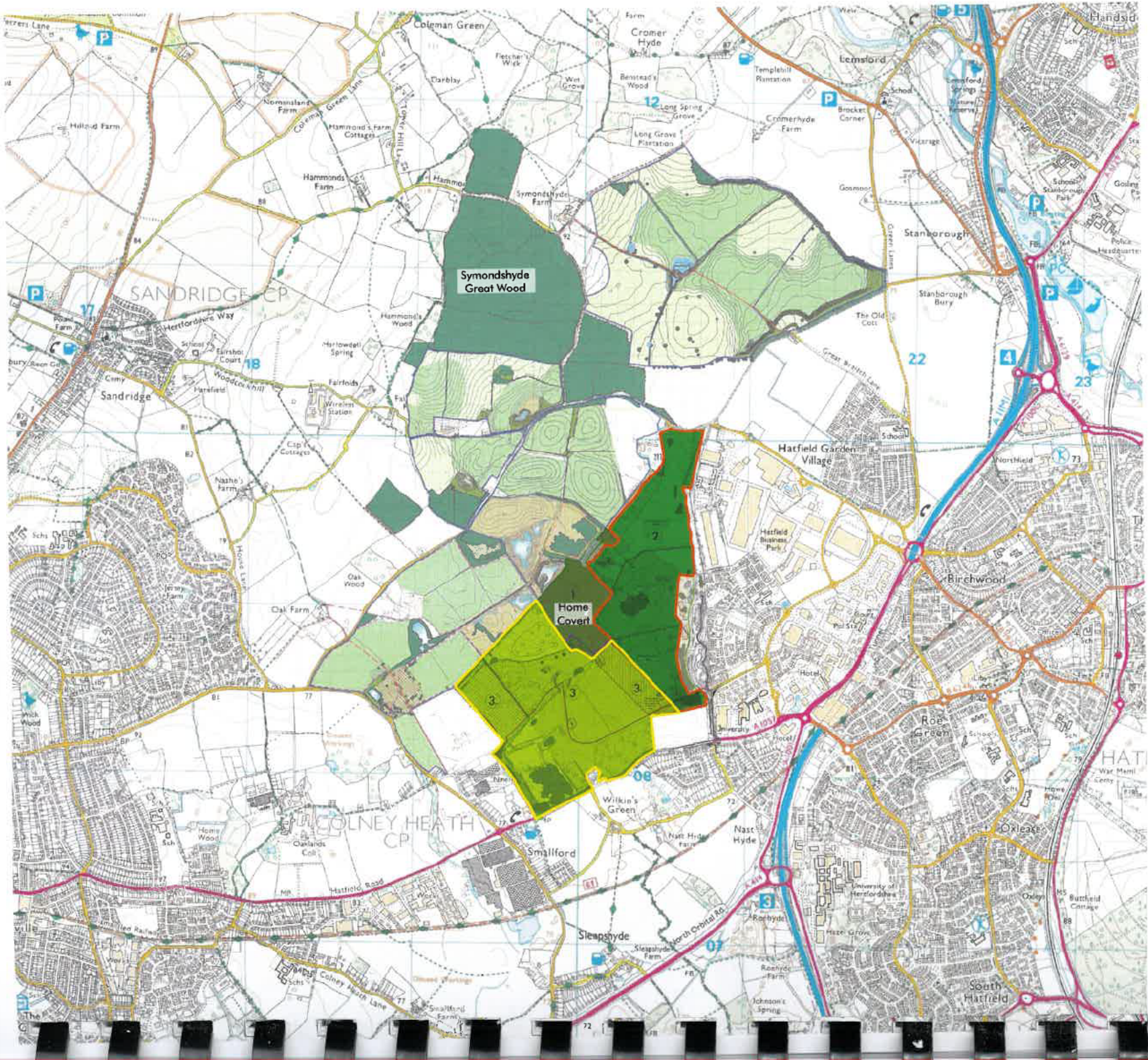


FIGURE 2
Aerial Photograph
Symondshyde
Great Wood
Hatfield
St Albans
Home
Covert
Original Landscape Management Area
Updated Landscape Management Area (October 2023)

FIGURE 3
Future Context Plan



KEY :

- PLANNING BOUNDARY / RESTORATION AREA
- EXTRACTION AREA
- EXISTING VEGETATION
- ADVANCE PLANTING
- PROPOSED RESTORATION PLANTING
- PROPOSED HEDGEROW
- RESTORATION CONTOUR 1.0m INTERVALS
- RETAINED AGRICULTURAL LAND
- RESTORATION TO AGRICULTURE
- CONSERVATION AREA - Acid Grassland / Meadow
- CONSERVATION AREA - Reedbed and Wet Grassland
- Existing Footpath
- Existing Bridleway
- Potential New Footpath
- New Bridleway - Existing Footpath upgraded through Beech Farm. New links to west and east
- Potential Permissive Footpath
- POND - Drainage and Conservation

- Home Covert woodland
- Northern Fields-Grazing and hay cropping
- Southern Fields-Minerals Area -Grazing and hay cropping

NOTE. Composition Plan based on planning approved masterplan from CEMEX UK, Restoration Plan - Drawing No. P7/597/22A. CEMEX proposals added to O/S mapping and existing Ellenbrook fields site plan. Figure provided to show combined outline of site areas. For any detail of CEMEX works please refer to the CEMEX planning approvals.

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MANAGEMENT AREAS UPDATE

With the granting of planning approval for minerals development in the southern half of the management plan area, some adjustments to the management areas are required. In particular the grazing compartments and the routes of permissive paths are affected by the phases of the extraction process.

The following sections set out a review of the management plan area to highlight the issues and opportunities involved in each main section of the site. These relate to;-

Area 1 – The Home Covert Woodland Area
Area 2 – The Northern Fields area to remain as grazing / hay cropping and informal access land
Area 3 – The Minerals Extraction Site Area – to be managed for the duration of the extraction by Brett Aggregates

The respective areas of these are indicated on Figure 2 and equate to:-
Area 1 – 15.7 ha
Area 2 – 66.3 ha
Area 3 – 78.9 ha
Area 3a – 9.5 ha

Totals 170.4 ha

Total area of site with Ellenbrook Park 8.9 ha & Sports Pitches 6.8 ha equates to 186.1 ha

The basic objectives in reviewing the management proposals are to:-

Maintain the positive management of the area as part of the local landscape

Maintain or enhance the biodiversity interest of the site areas

Maintain the continuity of the informal permissive public access network established across the site areas

FIGURE 4
Management Areas Plan

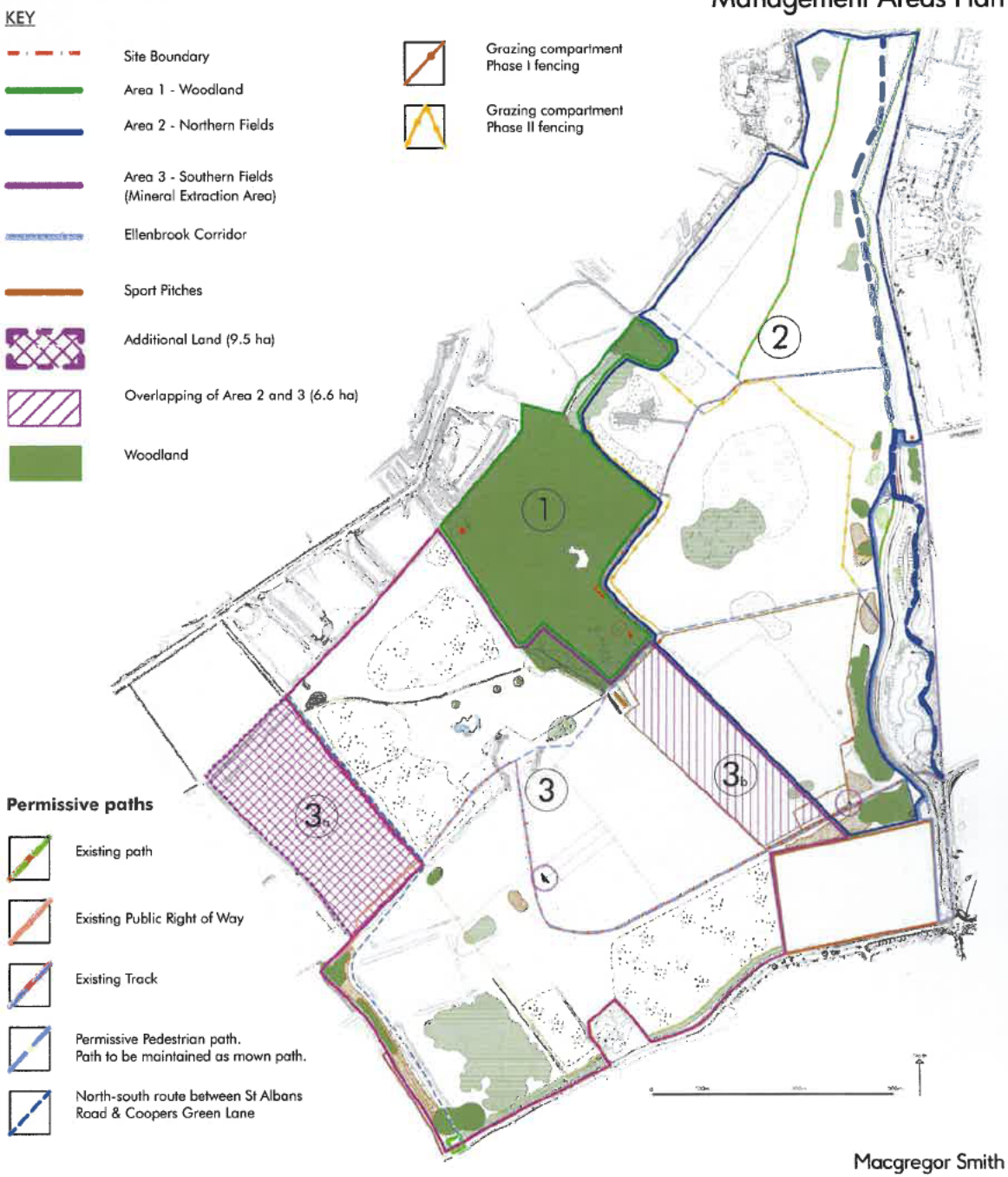

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FIGURE 5
Historic Site Map

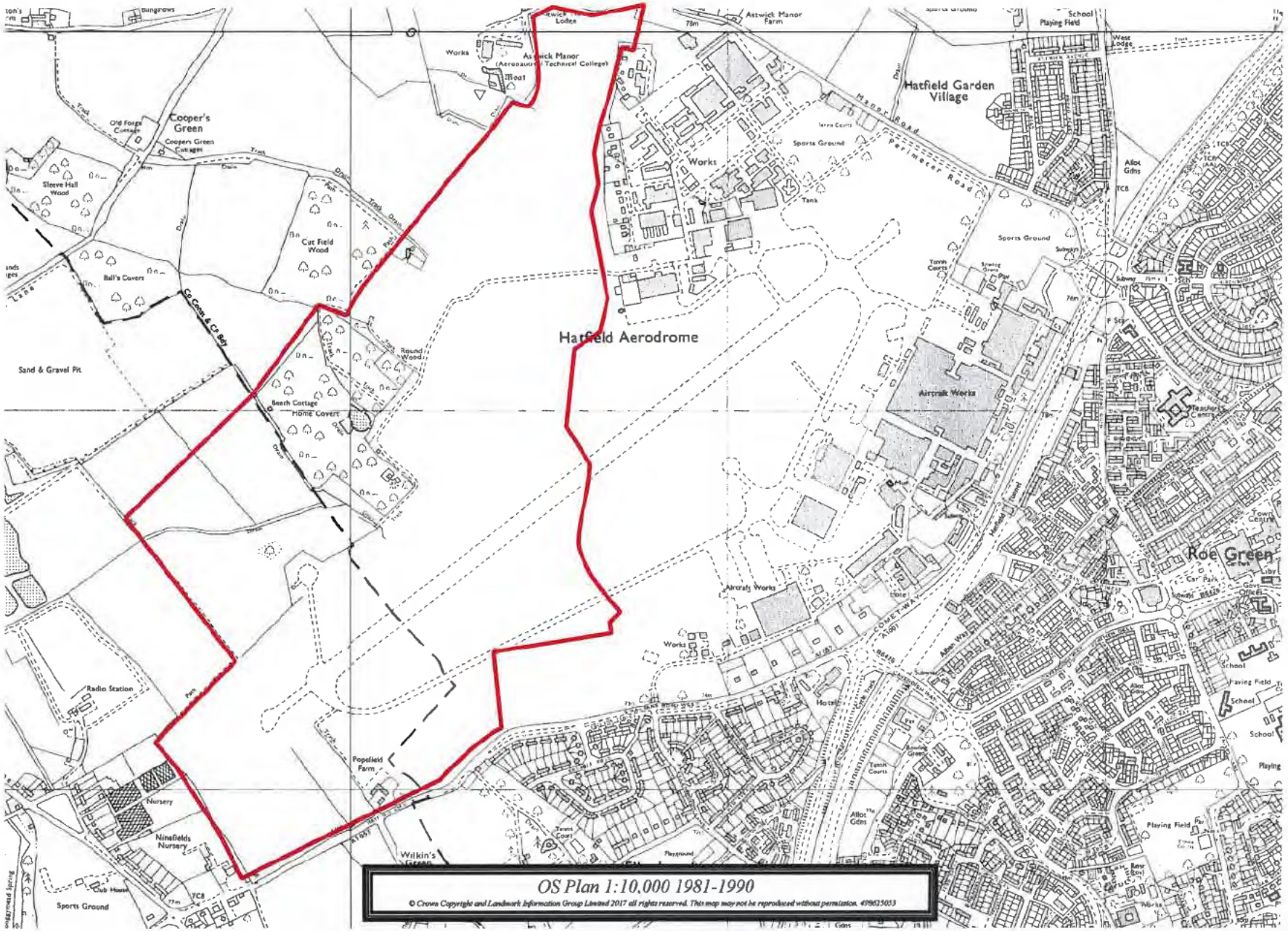

FIGURE 6
Historic Aerial Photograph - 2000

FIGURE 7
Previous Site Clearance & Preparation Works

MANAGEMENT COMPARTMENTS

1. Ellenbrook Corridor (Condition 13 Area)
2. Home Covert and Cutfield Wood
3. Northern area of undisturbed grassland
4. Southern area of undisturbed grassland

5a. Grazing compartment

5b. Grazing compartment

6. Natural regeneratiuon grassland
7. New planting areas
8. Managed scrub/tree cover regeneration

Management Compartments

This drawing illustrates the intended management compartments for the site. The broad objectives for management have been set out in the previously issued outline management objectives document and the management plans for Home Covert. A fuller management plan will be drawn up for approval of the management group.

2010 LANDSCAPE MANAGEMENT AIMS

The proposals for Ellenbrook Fields is to open up public access on the undeveloped section of the Hatfield Redevelopment Site. This is intended as a means to protect and manage the environmental condition of the area prior to the longer term intention to use the land for mineral extraction (as the area is a priority site for sand and gravel extraction in the County Mineral Local Plan). The design objectives area based on retaining the existing landscape character of the site as an open expansive area. The area will encompass new permissive pedestrian routes providing circular and through routes for public access. An equestrian route may be added in the future subject to agreement with third party land holders. The general character of the site will be defined by the various existing landscape habitat area. The areas where the site adjoins the main development will have more of a transitional quality between the naturalistic environment and the formal landscape of the development. Areas of new woodland planting are included to provide interest and structure to the landscape.

The site is not expected to act as a major visitor attraction. The main users are anticipated as local residents from both the housing areas near the site and the residential areas on the main development area.

The area will be managed to create a landscape which allows for informal public access, but also retains and maintains the existing features of ecological value (the woodland, grassland and wetlands); to introduce additional diversity to these habitats to further enhance their nature conservation value; to maintain the populations of protected species and species of conservation concern; and to create new habitat features (woodlands, grasslands and wetlands) of value to wildlife, particularly protected species and those identified in the UK and local Biodiversity Plans.

KEY

- Site boundary
- Established woodland
- Disturbed grassland
- Undisturbed grassland
- New planting area
- Areas to be allowed to naturally regenerate around new planting
- Grazing compartment Phase I fencing
- Grazing compartment Phase II fencing

Natural regeneration areas

- Areas approaching a closed canopy / bramble / blackthorn thickets
- Areas with sporadic tree / shrub cover
- Permanent water body

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FIGURE 8
Existing Right of Way and Main Permissive Access Routes

KEY:

- Site Boundaries
- Ellenbrook Fields & Park
- Woodlands
- Natural Regeneration of Vegetation
- Water Bodies
- Footpaths/ Public Right of Way
- Old Taxi Way
- Permissive Footpaths

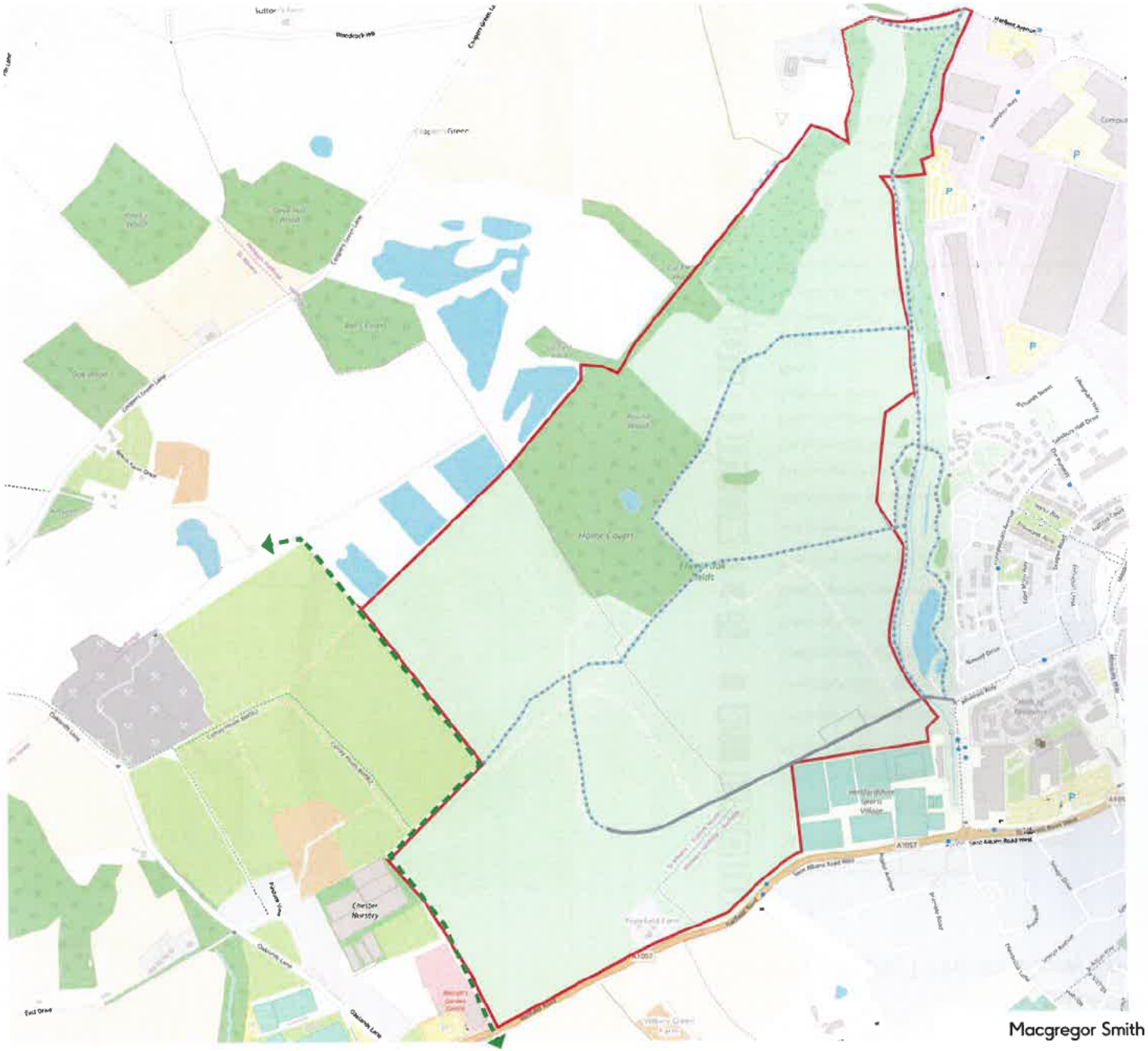

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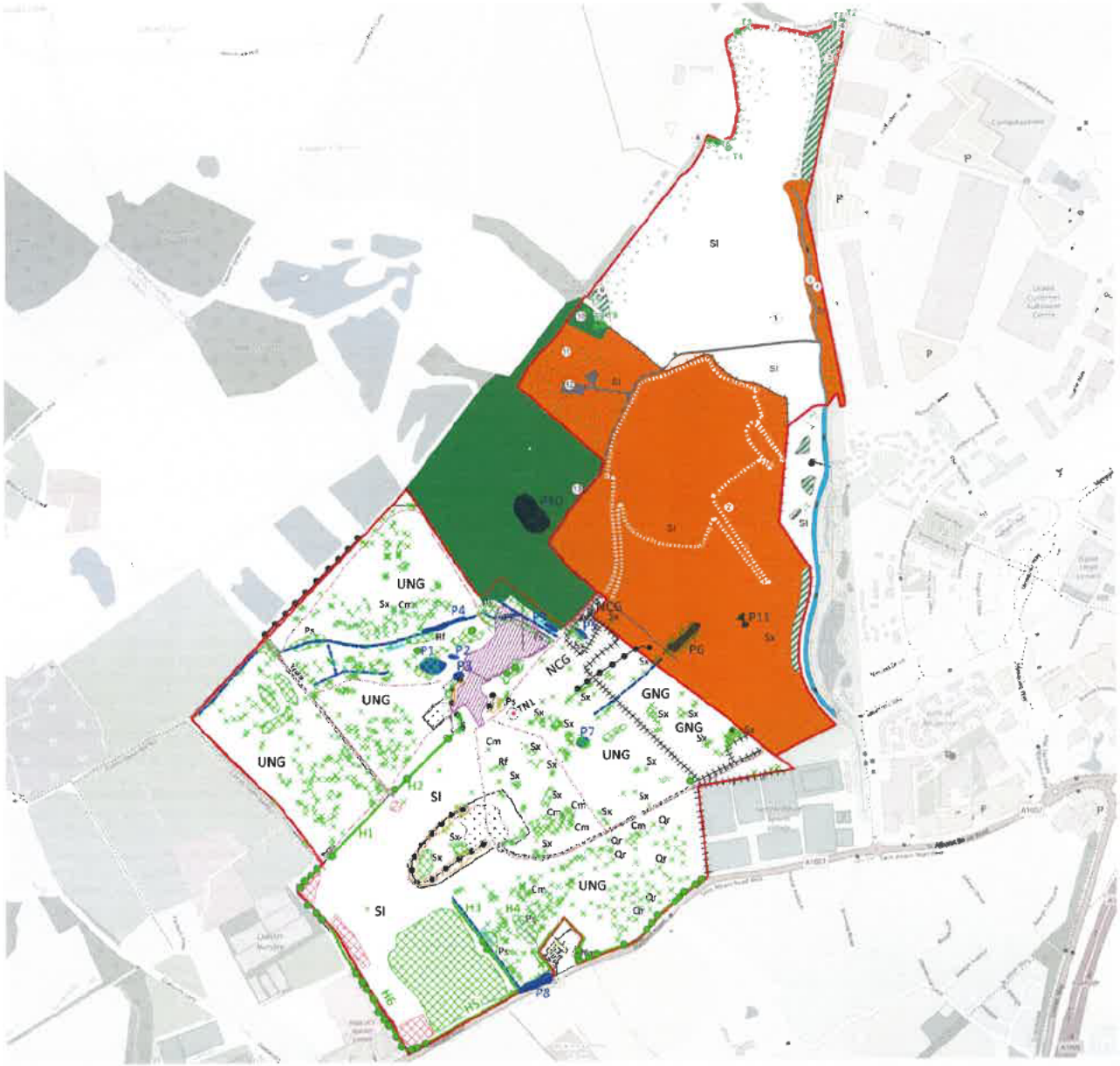
FIGURE 9
Combined Phase 1 Habitat Survey Plans

DIAGRAM
Combined Phase 1 Habitat Survey Plans from LUC (Northern Area Appraisal 2015)
SLR (Southern Areas 2014/15)



KEY

- Study areas
- UNG — Unmanaged neutral grassland
- SI — Species-poor Semi-improved mown grassland
- GNG — Grassed neutral grassland
- NCG — Neutral / calcareous grassland
- Neutral to acidic grassland
- Disturbed / bare ground
- Semi-improved / grazed neutral grassland
- Species poor semi-improved
- Dense scrub
- Broad-leaved woodland
- Broad-leaved plantation woodland
- Tall ruderal
- Waterbodies (with reference)
- Landscape planting
- Hedgerow (with reference)
- Defund species-rich hedge
- Scattered shrub
- Fence
- Bund
- Footpath / track
- Seasonally wet ditch
- Running water (arrows indicate flow direction)
- Mature Tree
- Tree with tree reference
- Structure
- Target note - Bioscan (UK) Ltd
- Target note - LDA Design
- Qr — Q. robur
- Sx — Salix sp.
- Cm — C. monogyna
- Ps — P. spinosa
- Rf — R. fruticosus
- Hardstanding
- Film set disturbed area

MANAGEMENT COMPARTMENT 1:

HOME COVERT & CUTFIELD WOODLANDS

Area 1 - Woodland

EXISTING SITUATION

Previous detailed survey and detailed management plan
The area of Home Covert and Cut Field woodland is indicated on **Figure 10**. This is a composite drawing from earlier topographic and site survey, ordnance survey mapping information and recent site visit observations. Information on the woodland types and NVC classifications are taken from the current management plan and remain consistent with the conditions on site.

The boundary indicated on the southern edge of the woodland is defined by the approved minerals planning application boundary. Sections of the woodland boundary are defined by stock or site boundary fences (mainly on the northern edge of Home Covert and the western boundary to the adjoining land holding. Some sections of the boundary are undefined by fencing on the ground, in places ditches may help define the legal boundary line (land ownership check and marking of the boundary to be discussed).

The plans from pre 2010 indicated the locations of 'existing' buildings. Most these have since been removed or remain as minor collections of masonry (which offer potential habitat). The outline of the former buildings are retained on the plans for historical interest/reference. Fences installed as part of the 'establishment works' are now marked as existing (the condition of these is noted below). A nesting box for barn owls is indicated where this was installed in 2010 on the southern woodland edge.

Areas of contiguous woodland or natural regeneration are indicated as part of the woodland context. Some of the woodland areas have developed a scrub edge that extends beyond the compartment boundary. The management of this will be picked up within the corresponding areas to be considered as part of the overall woodland habitat, but managed as part of the adjoining compartments.

Previous objectives

The main objectives of the woodland management plan were to;
- Improve structure and diversity of woodland cover
- Remove weed species
- Restore hornbeam edge
- Maintain the rides

Implemented works

The works within woodland area included the demolition and clearance of the main derelict buildings. This included Beech Cottage and various dilapidated sheds which included large amounts of concrete / masonry debris and general rubbish. The remains of a small brick outbuilding are still located in Cut Field Wood as access for heavy plant to remove would have caused more disruption. An adjoining well shaft noted from the original woodland survey was filled (its location indicated for historical interest).

The small patch of Rhododendron previously noted appears to have been successfully treated (again its location is marked for reference).

Some occasional hazardous tree checking and making safe has been undertaken within the woodland but the more extensive control over sycamore and the re-pollarding of the hornbeam pollards has not occurred. It is understood the management contractor had concern over the requirement for felling licences for this work and so the work did not progress.

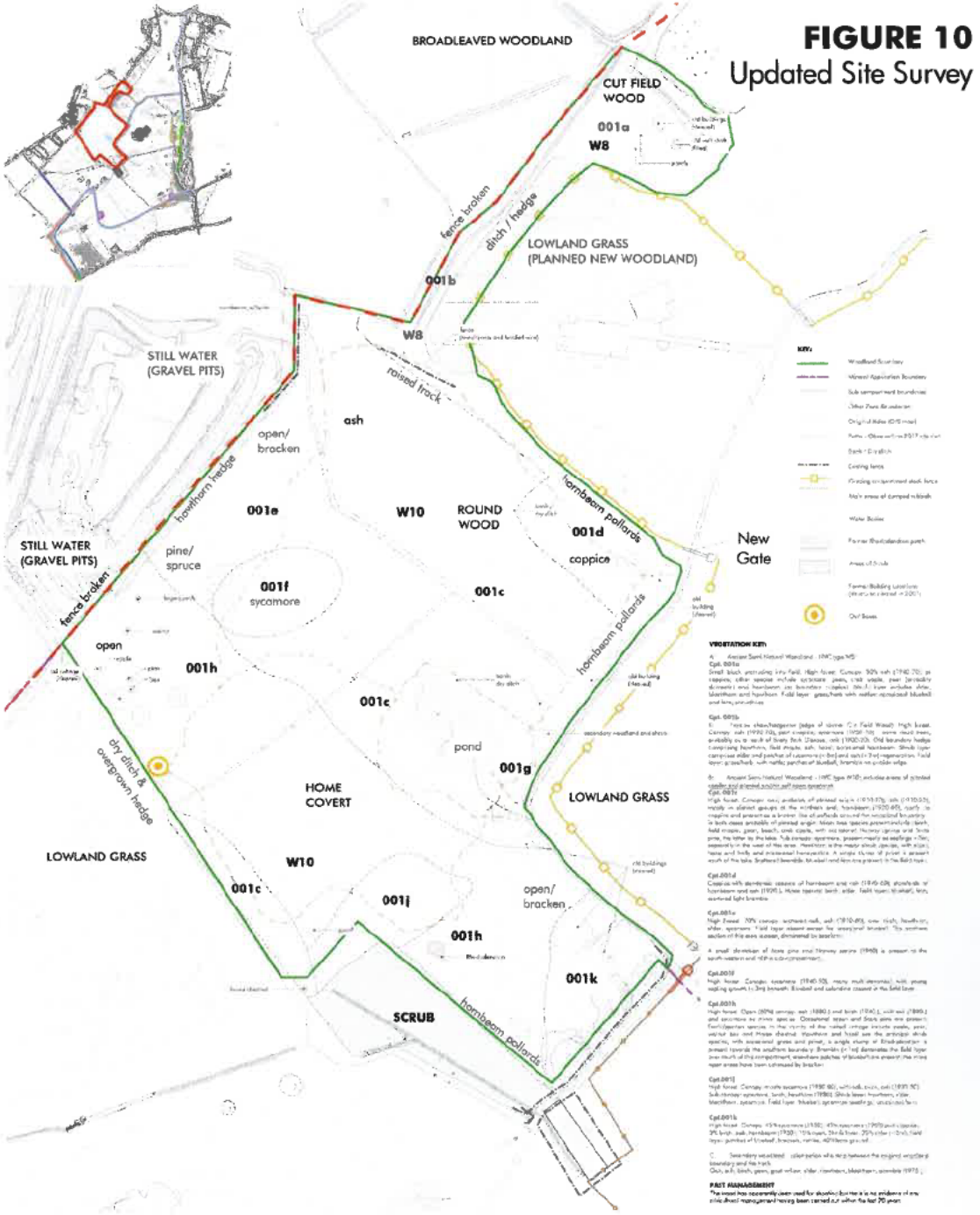


FIGURE 10
Updated Site Survey

FIGURE 11
Proposed Establishment Works

Area 1 - Woodland

OBJECTIVES FOR FUTURE MANAGEMENT

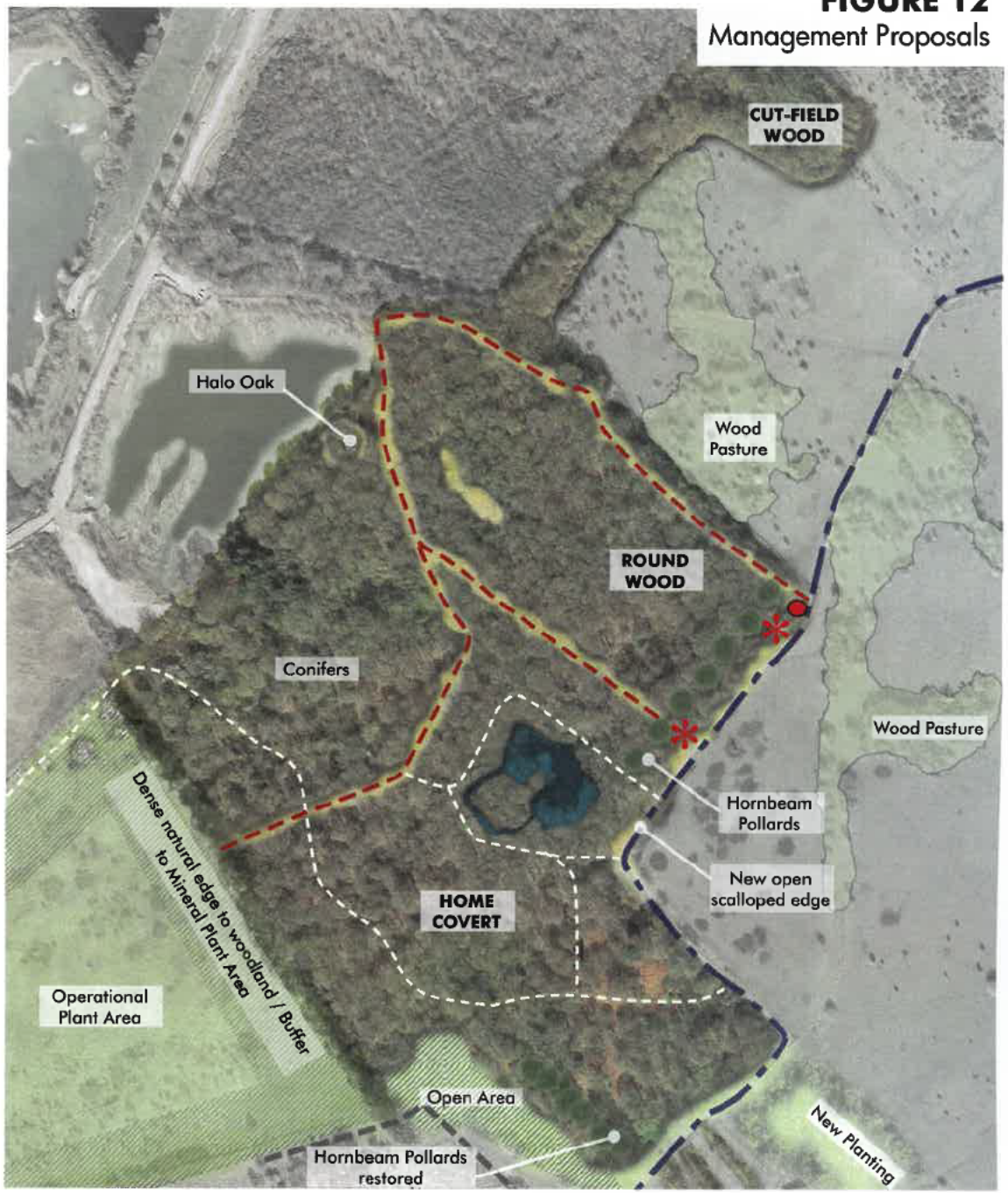
Generally the woodland would benefit from more proactive management of the tree cover, understory and public access. This would be of benefit to the condition of the woodland in the longer term, enhance the biodiversity value of the wood and encourage public enjoyment of the site. The woodland could be a major asset to the nearby residential areas. Public access is already occurring, positive encouragement and control to create the sense of a valued environment will help reduce antisocial activity.

- More positive management of tree cover to develop more continuous supply of future mature large scale trees would help ensure the character of the covert as woodland. Continuous cover forestry approach allows for natural restocking of tree cover rather than periodic replanting. Encourage Oak, birch and hornbeam regeneration, control squirrel numbers to allow establishment of more mature sycamore. Pollard old hornbeams and develop areas of coppice hazel.
- Protection and encouragement of high quality timber trees provides a potential source of income for management activity. Develop range of other forest products from woodland such as coppiced hazel, and firewood from thinning and pollards. (Objective for part of wider objective for Ellenbrook Fields to be in positive land use).
- Open up managed rides and edges to allow greater cross section of stratified habitat for invertebrates and other wildlife, allows more easy access for public to follow preferred routes and direct people away from other areas.
- Manage ground flora with control over extent of bramble and bracken (allow some areas of dense bracken as existing but limit further growth in rest of woodland). Monitor extent of bluebell cover and encourage spread. (May require some public information to allow enjoyment without pressure on flowering areas).
- Manage public access as positive benefit to woodland, with light touch control over activities such as den building and cycle jumps. Discourage or focus fire setting.

Key

- Vehicular access track
- Original woodland rides
- Path routes (mostly existing informal paths)
- Haul road
- Log Benches location
- Interpretive signage

FIGURE 12
Management Proposals



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MANAGEMENT COMPARTMENT 2:
NORTHERN FIELDS

Area 2 - Northern Fields
(overlaps with southern half of site)

EXISTING SITUATION

Previous site survey – implementation works

The extent of the northern fields are indicated on **Figure 13.** This is based on the original site survey and the as built drawing. The ground levels, main path routes and overall site area are indicated from original topographic surveys. The fence lines and extent of different management/vegetation cover have been taken from the proposed site plans and amended to as built information from site visits. The boundary between this area and the Mineral Extraction site (Area 3) falls within one of the grazing compartments set up within this part of the site.

This area was subdivided into the main extent of the grazing land, hay cropping land and areas for natural regeneration. The two grazing compartments were created over areas previously disturbed with the runway removal and the film set areas. The hay cropping area related to the outer areas of the former airfield that remained mainly undisturbed in the middle of the more northern section of the site.

Previous Objectives

- Bring areas into positive management
- Utilise the grasslands as grazing and hay cropping to allow grassland character to remain
- Allow some natural regeneration to allow for diversity of the site intent an character/
- Create public access network - path routes shown on figure 15

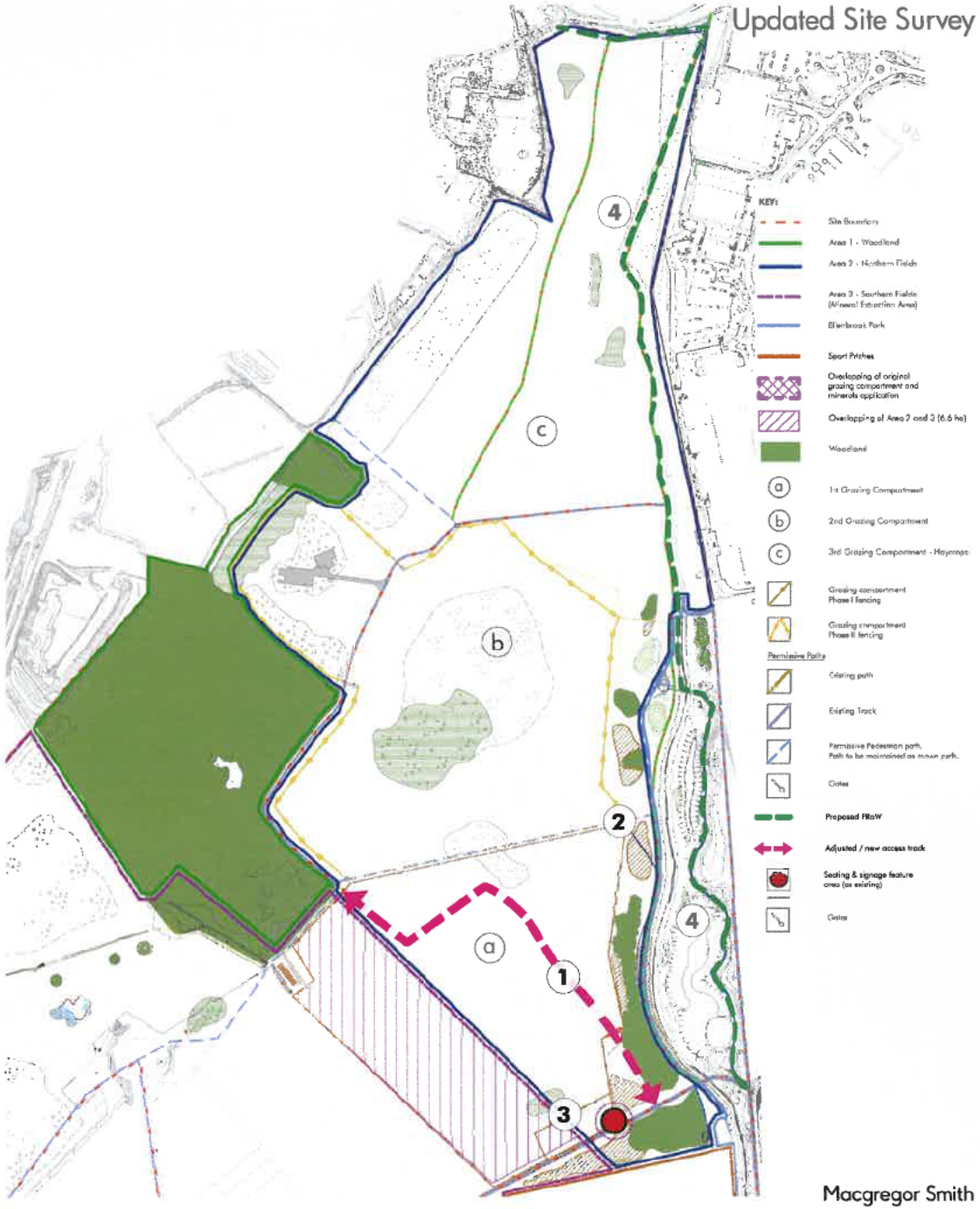
Implemented Works

The works to create the cattle grazing compartments involved 4693 lin/m of stock fencing. A small corral was created close to the main site entrance off the taxi way to allow a holding areas for managing the heard close to the vehicular access point. A water supply was installed for drinking troughs in both compartments.

The two compartments were created as broadly equal areas to allow control/flexibility over stocking. The southern area Compartment 1, extended to some 17 ha, but this area overlaps with the proposed minerals area (Area 3). The remaining area of Compartment 1 is some 10.4 ha. Compartment 2 is approx. 21.6 ha. Areas of scrub were deliberately included in both compartments to provide the stock with shade.

The hay lift area is around 16 ha; and the areas defined for natural regeneration equate to around 12.5 ha. These areas were previously managed as short grass so did not need much physical preparation. Some scrub encroachment was cut back to create suitable extent and access for the hay lift. An item to control ragwort was included in the establishment/early years management.

FIGURE 13
Updated Site Survey



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Area 2 - Northern Fields

The success of the grazing arrangements provides some opportunities. The loss of a small part of the southern compartment 1 will require some minor adjustments to fencing lines but the remaining area remains viable. With the extent of land to the north there is scope for some extension of the grazing. This would work as either additional compartments or for the grazing to follow the hay cropping in late summer through until the spring. The number of cattle could be increased on the site to twice the existing numbers. Some additional fencing / replacement fencing to the site boundary would be required to secure the stock.

An advantage of extending the grazing would be for some distribution of wildflower seed into the wider grassland.

A new vehicular access route for better access to the northern fields.

Replacement seating and some additional interpretive information could help manage the visitor perception of the site area.

Proposals

1. New access track / permissive routes
2. Stile for access out of compartment
3. Adjustment to corral layout
4. Existing path route upgraded to Public Right of Way

FIGURE 14
Proposed Establishment Works

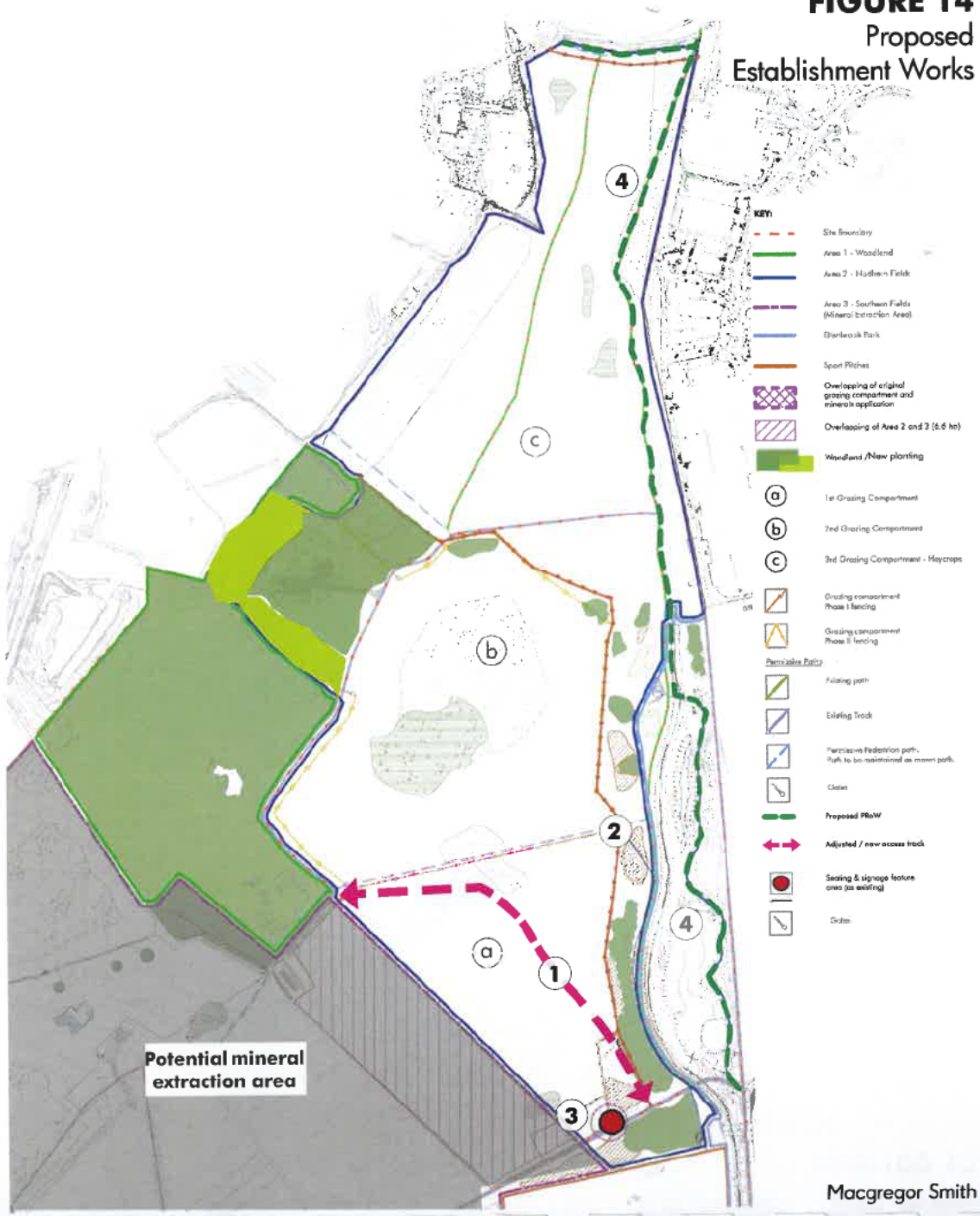

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FIGURE 15
Management Proposals

Key

- Site Boundaries
- Southern Fields & Existing Woodland area
- Natural regeneration areas
- Existing Vegetation
- Hay cropping compartment
- Grazing compartment
- Permissive path routes
- Public right of way
- Seating
- Signage location

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MANAGEMENT COMPARTMENT 3:
SOUTHERN FIELDS

Area 3 - Southern Fields

Potential Mineral Extraction Area

EXISTING SITUATION

Previous site survey – implementation works

Figure 16 illustrates the existing layout of this area. This is based on the original topographic survey updated with as built information. **Figure 17** provides overlay of the first phases of the mineral extraction operations. Additional land has been acquired for the mineral operation this is indicated on the existing layout.

- Fencing and Clearance – all done (basically) – therefore now these form the new base plan/ survey

Previous Objectives

- Bring areas into positive management
- Utilise the grasslands as grazing and hay cropping to allow grassland character to remain
- Allow some natural regeneration to allow for diversity of the site intent and character
- Create public access network

Implemented Works

Within this area a small portion of the first cattle grazing compartment was established with fencing and a corral.

A section of the former taxiway was retained as a footpath route. This provides vehicular access from the main development area to the managed grasslands of the southern part of the fields. The taxiway ends at a former stock pile area where some materials remain. Some information signage and markers were installed near this point to demarcate the end of the main aerodrome runway.

Some stock piles of crushed concrete and soils remain. This includes a stockpile with Japanese Knotweed growing in. This invasive weed was treated with herbicide during the establishment works but has returned in the last year or two (this is an issue that will need to be addressed before the later phases of the mineral works).

The most southern section of this area has been part of the hay cropping. As with the northern area the condition of the resultant hay has improved over the recent years although there are areas of thinner grass cover and some larger areas of ragwort. The height of the cutting has been reduced to improve hunting conditions for the barn owls.

The extent of regenerating scrub has been managed as per the extent evident at the start of the works. These areas are now becoming well established as tall scrub cover.

Areas of new woodland planting were installed as part of the initial establishment works on the southern edge of the site.

New permissive path routes were indicated on interpretive signage installed at the southern end of the site. A set of interpretation boards and areas of seating (ground level timber deck 'wings') were installed at the end of the original aerodrome runway.

FIGURE 16
Updated Site Survey

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FIGURE 17

FIGURE OMITTED

Area 3 - Southern Fields

FIGURE 18
Proposed Establishment Works -
With No Minerals Operation

Key

- Area 1 - Woodland
- Area 2 - Northern Fields
- Area 3 - Southern Fields
- Open Grassland Areas - grazing /annual cut (hay lift)
- Maintained Grassland Areas (Bi-annual cut)
- Sparse Shrub Areas (maintain at present level)
- Concentrations of natural regeneration / growth
- Existing blocks of mature scrub / tree cover
- Existing Ponds
- Existing / Proposed Path Routes
- Existing Public Right of Way
- Existing Access Track Retained
- Airfield marker retained & protected
- Existing Signage retained for initial phase of works
- Grazing Compartment Fence

NOTE: In the circumstance that the minerals operation is delayed, the Southern Fields would continue to be managed with establishment works based around the continued positive management of the area.

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FIGURE 19
Management Proposals

Key

- Site Boundaries
- Existing Vegetation
- Hay lift
- New grazing compartment
- Indicative path routes (detail of routes to be approved pursuant to the relevant minerals planning permission and related Section 106 Agreement)
- Existing Public Right of Way
- Proposed vegetation screening
- Newt ponds
- Airfield marker protected & retained
- Proposed access road

Illustrative plan for no minerals operation

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FIGURE 20
Illustrative Landscape Management Plan

Key

- Site Boundaries
- Existing Vegetation
- Natural regeneration areas
- Hay cropping compartment
- Grazing compartment
- Permissive path routes
- Diverted / Existing Public Right of Way
- Existing woodland pond
- Proposed vegetation screening
- Newt ponds
- Airfield marker protected & retained
- Access Road

Illustrative masterplan for whole of Ellenbrook site area for no minerals operation

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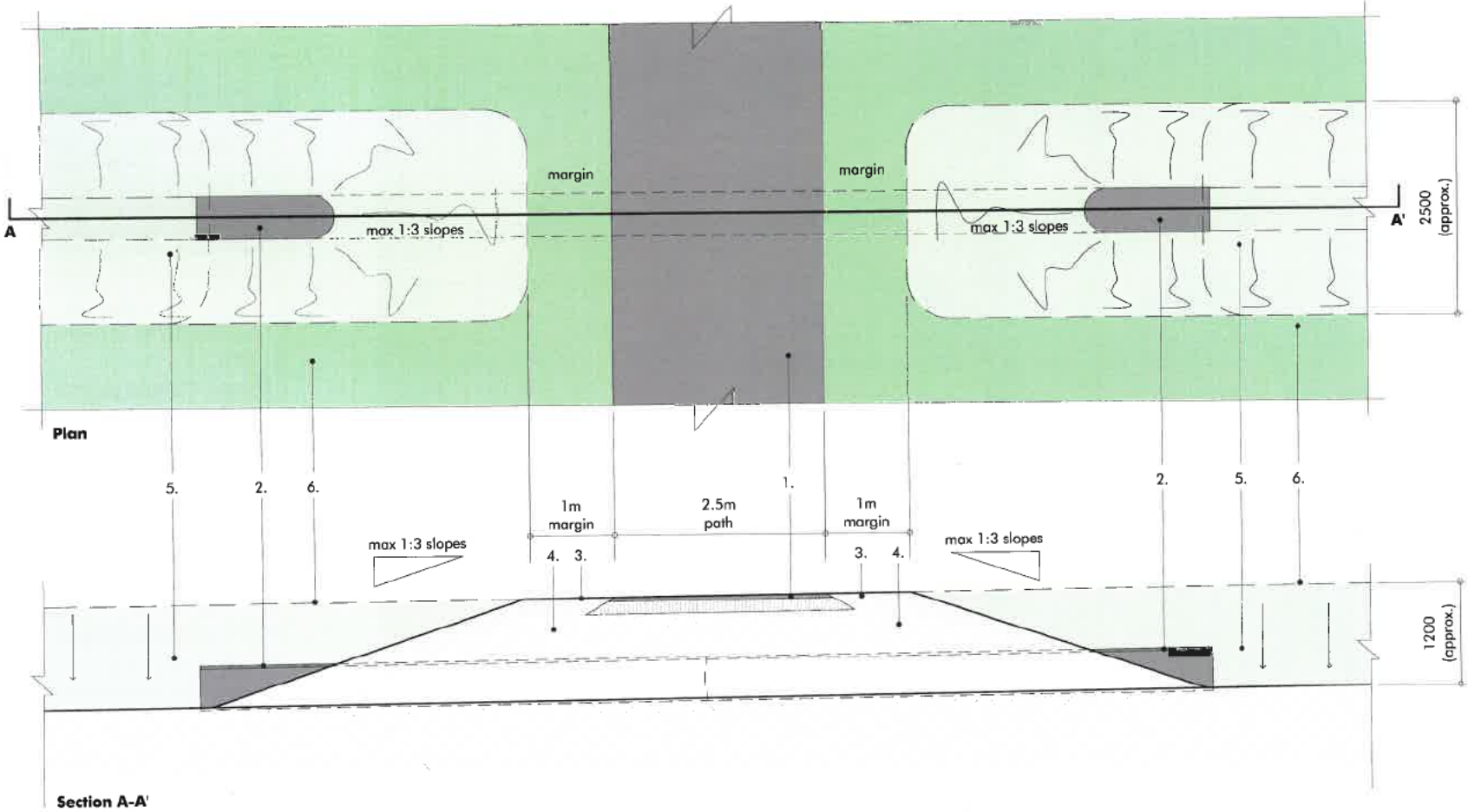
FIGURE 21
Ditch Crossing detail



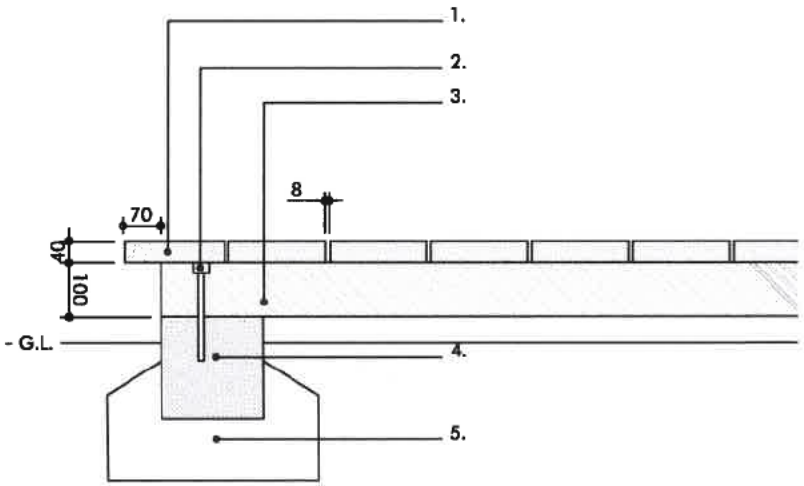
Key

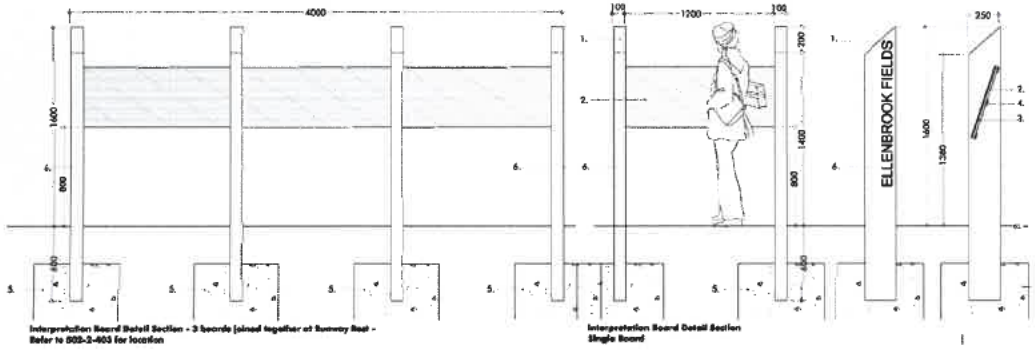
1. Self Binding Gravel Surface
2. 450mm PVC Unperforated Twinwall Pipe (6m) - size and spec per Engineer Specifcation
3. Top Soil (Seeded)
4. Sub Soil
5. Existing Ditch (profile approximate)
6. Top of slope.

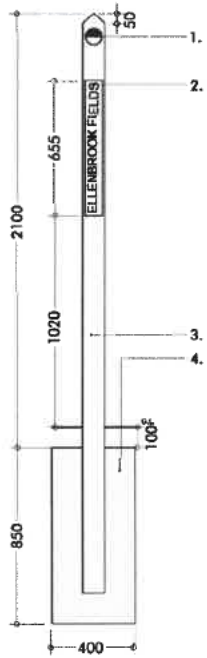
Notes

Localised earthworks and grading to cover as much of the pipe as possible without exceeding slopes of 1:3.

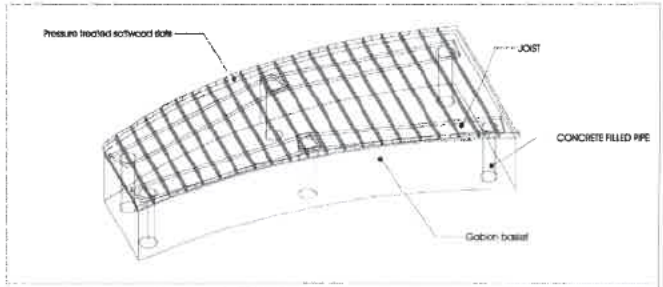
FIGURE 22
Original Furniture & Signage Designs



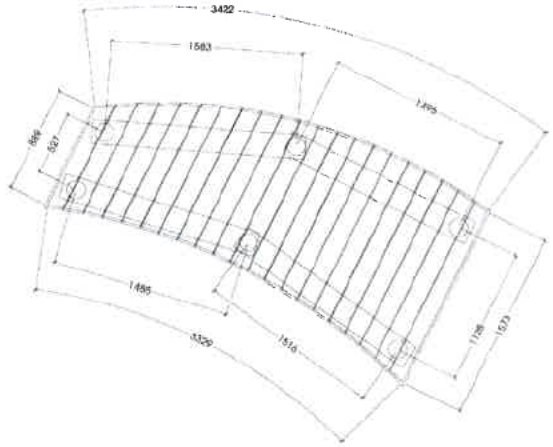




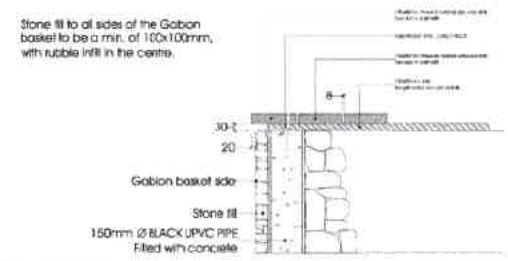
Finger Post Detail Section



D-5 TYPICAL GABION SEAT- ISOMETRIC 1:20



D-6 TYPICAL GABION SEAT 1:20



D-7 GABION SEAT EDGE 1:10

FIGURE 23

FIGURE OMITTED

FIGURE 24

FIGURE OMITTED

Execution page

Deed of Variation

In witness of which this Deed has been executed by the Parties as a **deed** and **delivered** on the date set out at the beginning of this Deed.

[redacted]

Executed as a Deed by affixing the **common seal** of **WELWYN HATFIELD BOROUGH COUNCIL** in the presence of:)
)
)

[redacted]

Authorised Officer

Legal Services Manager

Executed as a Deed by affixing the)
common seal of)
St Albans City and District)
Council
in the presence of:

[redacted]

Authorised Officer

print name:

sign here: [redacted]

Authorised Officer

print name: [redacted]

6325/2024

Executed as a Deed by affixing the)
common seal of)
Hertfordshire County Council)
in the presence of:

sign here: [redacted]

~~Director~~

print name: ~~Pritej Mistry~~
Specialist Planning Lawyer

sign here:

Director / Secretary

print name:

Executed as a Deed on behalf of)
ARC 1 LIMITED PARTNERSHIP by)
its general partner **ADVANCED**)
RESEARCH CLUSTERS GP
LIMITED acting by a director and its
secretary (or two directors)

(affix seal)

sign here:

Director

print name

sign here:

Director / Secretary

print name

Witness signature:		Witness sign here:
Witness name:		print name:
Witness address:		
Witness occupation:		

Executed as a Deed by **BAE Systems plc** acting by a duly authorised signatory, [Dave Cave, under a power of attorney dated 28 March 2020] in the presence of:)
)
)

sign here: _____

Authorised signatory

print name _____

Witness signature: Witness sign here _____

Witness name: print name: _____

Witness address: _____

_____

_____

_____

_____

Witness occupation: _____

Executed as a Deed by)
Brett Aggregates Limited acting by)
a director in the presence of:)

sign here:

Director

print name:

In the presence of:

Witness signature: Witness sign here:

Witness name: print name:

Witness address:

Witness occupation: