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INTRODUCTION

2.1 This chapter describes the existing physical and environmental characteristics of the application site and its surrounding environs. Allied to this, a number of the chapters within this volume provide descriptions of the application site in relation to particular environmental topics, providing *inter alia* 'baseline' surveys.

2.2 In this respect, Chapter 6 considers the water environment whilst Chapter 7 describes the local highway network. Chapter 8 describes the landscape character and topography of both the application site and its surroundings and Chapter 9 describes local air quality. The noise environment is described in Chapter 10, with ecological features within the application site described in Chapter 11. Finally features of cultural heritage interest are described in Chapter 12.

LOCATION

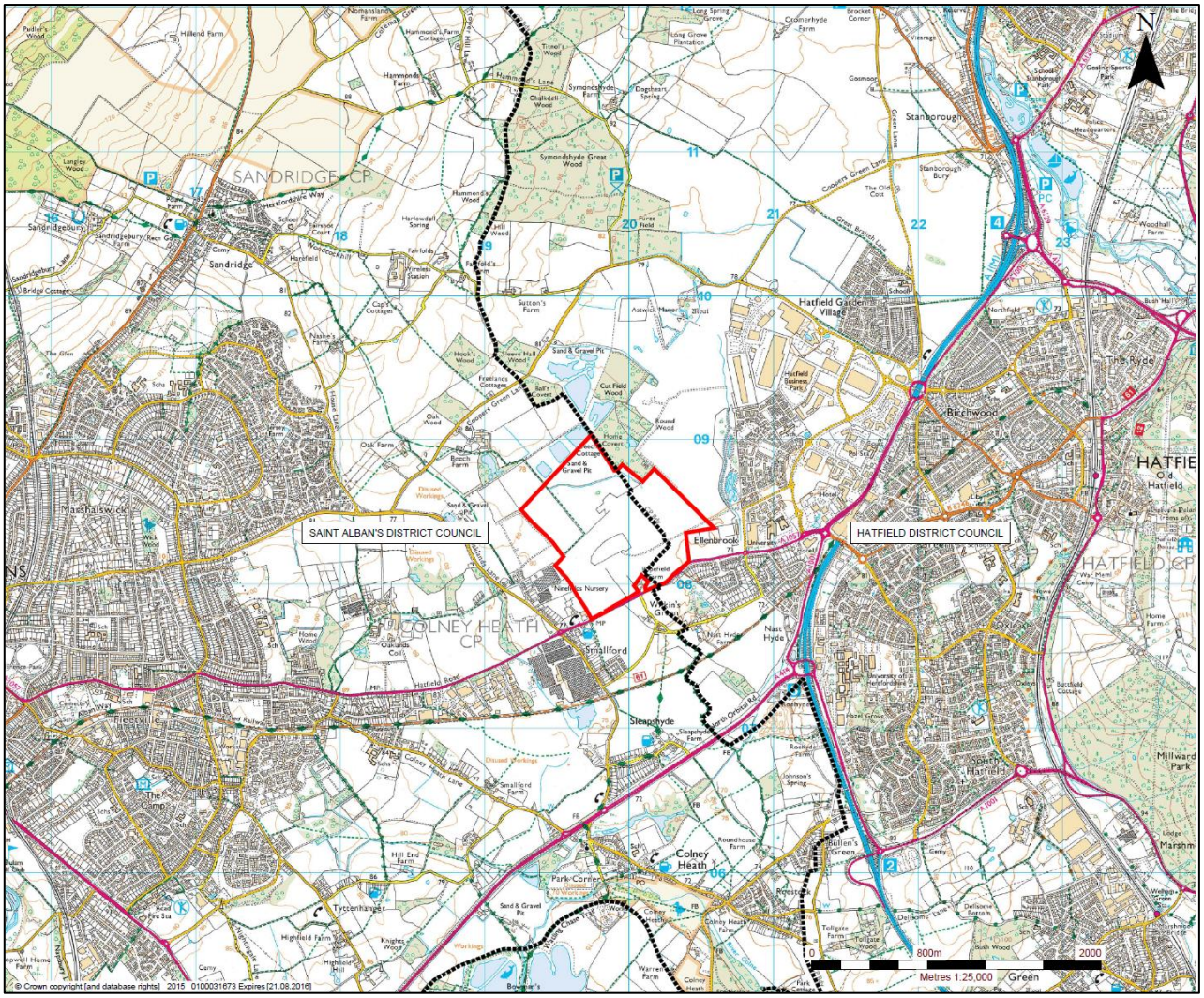
2.3 The application site is located on the north-western edge of Hatfield and to the east of St Albans on land associated with the former Hatfield Aerodrome.

2.4 It lies within an area enclosed by the A1057 (Hatfield Road/St Albans Road) to the south, Oaklands Lane to the west, Coopers Green Lane to the north and the western fringe of Hatfield to the east. For identification purposes the application site is centred on National Grid Reference (NGR) TL 199084.

2.5 In terms of local governance, the application site is located in the county of Hertfordshire and straddles the boundary between the districts of St Albans and Welwyn Hatfield (the boundary between the two districts being shown by a solid black line on Figure 2-1 with St Albans lying to the west of the line).

2.6 Figure 2-1 illustrates the location of the applications site, being an extract from **Drawing HQ 2/1.**

Figure 2-1
Site Location



SITE DESCRIPTION

Context

2.1 The application site covers an area of approximately 87.1 hectares (ha) and comprises the southern part of the former aerodrome. It is the same area as applied for in the previous planning application ref. 5/0394-16 (see Chapter 1). The application site comprises a broadly rectangular area of unoccupied land that is used for grazing, but is also crossed by a number of informal paths allowing public access. As such, the application site does not have any dominant land use at the current time following the closure of the aerodrome.

Figure 2-2
Site Context – Aerial Photograph (Google Earth Imagery dated October 2020)

2.2 The application site is bounded by the A1057 (Hatfield Road) to the south, the boundary of which is characterised by a mature hedgerow. To the north lie CEMEX's Hatfield Quarry, and more specifically a set of silt lagoons. To the west the boundary is predominantly formed by a mature hedgerow, particularly in the vicinity of the garden centre and residential development (see below), with the northern section being more open in aspect. At the north eastern corner is Home Covert, a small area of broadleaf woodland. The eastern boundary cuts across the former aerodrome to join up with the sports pitches located at the south eastern corner of the application site. The approximate extent of the application site is shown edged in red on Figure 2-2 and in more detail on **Drawing HQ 2/2**.

2.3 Within the application site a concrete roadway extends west into the centre of the application site from Albatross Way to the east; a number of other tracks also cross the application site.

2.4 A number of earth bunds and banks are present on site from the earlier aerodrome. There are some remnant hedgerows that cross the site. Since the publication of the 2016 ES the site has not changed significantly in terms of features, vegetation or use; in this respect an aerial image of the site in 2015 is provided in Figure 2-3 below (for comparison with Figure 2-2 above).

Figure 2-3
Site Context – Aerial Photograph (Google Earth Imagery dated 2015)

Topography

2.5 The ground surface falls gently from northwest to southeast across the application site as illustrated on **Drawing HQ 2/3** and described below:

- ground elevations are at their lowest between 74m AOD and 76m AOD adjacent to the A1057 at the southern edge of the application site.
- levels rise to between 77m AOD and 78m AOD) in the northwest and northeast corners of the application site.
- ground elevations are approximately 75m AOD to 76m AOD adjacent to the southwest side of Home Covert.

Land Use

2.6 Following closure of the aerodrome, in common with the adjoining land to the north, the application site does not have any formal land use. Part of the application site is used for conservation cattle grazing (thus having an agricultural connotation), with areas within the western part of the application site forming hay meadow. The application site also enjoys informal recreational uses through a network of linking permissive footpaths through the areas of

grassland and cattle grazing, suitable for walkers and cyclists[1]. Beyond the paths the ground is uneven making it difficult for walking or cycling.

2.7 A formal public footpath is routed in the vicinity of the western boundary of the application site; this path then heads in a north-easterly direction into the site, before heading north-west through the application site to the northern site boundary, where it heads towards Beech Farm. Other rights of way branch off this footpath: one passing through a new housing development (next to Radio Nursery) and another following the western site boundary.

Access

2.8 Vehicular access into the site can currently be gained off Albatross Way at NGR TL 207085. The southern boundary of the application site is formed by the A1057. As set out in Section 3 below, it is proposed that a new access would be constructed onto this road, to the west of Popefield Farm. The A1057 provides a link with the A1(M) at junction 3, together with the A414 and A1001.

Habitats

2.9 Based on the ecological assessment (Chapter 11 of the 2016 ES and this ES) the application site contains the following main habitat types (based on the UKHab classification):

Primary habitat classifications include:

- Other lowland dry acid grassland
- Other neutral grassland
- Modified grassland
- Hedgerow (Priority Habitat)
- Eutrophic standing waters
- Standing open water and canals
- Lines of trees
- Blackthorn scrub
- Bramble scrub
- Mixed scrub
- Building
- Other lowland mixed deciduous woodland
- Developed land/sealed surface

Secondary habitat classifications include:

[1] https://www.enjoystalbans.com/listing/ellenbrook-fields/

- Scattered scrub
- Scattered trees
- Scattered rushes
- Tall herb
- Ruderal/ephemeral
- Plantation
- Semi-natural woodland
- Secondary woodland
- Fresh water man-made
- Freshwater natural
- Grazed
- Bare ground
- Unmanaged
- Green lane
- Nature reserve
- Temporary water bodies
- Ditch
- Recreation ground.

Geology

Regional Geology – London Basin

2.10 The application site is located on the northern limb of the London Basin which forms an asymmetrical syncline with its axis trending southwest-northeast and plunging east. The boundary of the synclinal basin is formed by the Chilterns to the north and the North Downs to the south where the Chalk forms the predominant hard geology.

2.11 The Chalk is subdivided into Lower, Middle and Upper and is overlain in the centre of the London Basin by Paleogene rocks (Thanet Sands, Reading Beds), and the Eocene London Clay. The solid geology beneath the application site comprises the Lewes Nodular Chalk being the lowermost part of the Upper Chalk, with a characteristic hard band close to the Chalk sub crop. The solid geology is overlain by Quaternary superficial deposits comprising glacial gravels infilling valleys cut into the Lewes Nodular Chalk, with boulder clay and clay with flints across higher ground.

Local Geology – Vale of St Albans

2.12 The application site lies within the Vale of St Albans; a broad northeast to southwest orientated plain between higher land to the northwest and southeast. The higher land to the west comprises

Upper Chalk solid geology at outcrop locally with a cover of superficial drift (Clay with Flints). In contrast the higher land to southeast comprises Upper Chalk overlain by the feathering margins of the Lower London Tertiaries and some superficial drift.

2.13 The Vale of St Albans corresponds with the route of a pre-glacial water course (Proto-Thames) that is understood to have flowed northeast into East Anglia[2]. Tertiary period strata are absent beneath the application site and the Vale of St Albans and the chalk solid geology is shown sub cropping[3] beneath a sequence of glacial deposits comprising boulder clay and gravels.

2.14 Within the Vale of St Albans a number of previous studies[4,5,6] have identified three broad superficial drift units comprising an upper and lower granular formations (sands, gravels) separated by thin boulder clay. The following geological sequence is indicated to be present beneath the application site area.

Figure 2-4
Geological sequence within application site

Drift/Solid	Geological Unit
Superficial Drift	Upper Mineral Horizon (UMH)
	Boulder Clay (BC)
	Lower Mineral Horizon (LMH)
Solid Geology	Upper Chalk (Lewes Nodular Chalk)

2.15 The chalk surface contours illustrates that the application site sits within a trough or paleo-valley with the chalk surface rising up to the northwest and southeast and falling towards the northeast and the south. This feature also coincides with the watershed between the River Colne and the River Lea surface water catchments.

Hydrogeology

2.16 Groundwater in the Chalk and the LMH is regionally extensive, hydraulically connected vertically, with an east southeast flow direction beneath the application site.

2.17 The LMH and Chalk aquifer is both confined and unconfined by the overlying interburden in certain areas of the application site and during different times of the year. This is due to:

- seasonal fluctuation of piezometric water levels;
- non uniform interburden base (confining unit); and

[2] Catt J. Hertfordshire Geology and Landscape. 2010.
[3] British Geological Survey Sheet 239 Drift. Hertford. 1978.
[4] Symes D K, 1998: Sand & Gravel Assessment, Hatfield Aerodrome. On behalf of Hertfordshire County Council
[5] Cook S J. The Hydrogeology of Bromate Contamination in the Hertfordshire Chalk: Incorporating Karst in Predictive Models. EngD Thesis UCL. April 2011.
[6] Little J A & Atkinson J H. Some Engineering Properties of Anglian Tills in the Vale of St Albans. QJEG. 21. Pp183-199. 1988.

- inconsistent pumping of the Chalk groundwater plus distance from the Hatfield boreholes.

2.18 Analysis indicates that, although the LMH/Chalk aquifer becomes confined during high water level periods beneath the southern application site, there are periods (between approximately July to December) when the water level drops and the aquifer becomes unconfined in places.

2.19 The application site is located within the outer source protection zone (SPZ2) of two public water supply ('PWS') wells (Hatfield and Colney Heath) located 1,500m southeast and 2,200m south southeast from the application site, respectively. The Hatfield boreholes are not used for public supply. The Colney Heath boreholes are utilised for potable water supply.

2.20 The UMH aquifer is perched on the interburden, has been identified by SLR to be beneath the southern half of the application site and flows in a north to northeast direction. This flow direction coincides with the direction of dip of the interburden surface. The aquifer is seasonally confined and unconfined and its saturated thickness varies across the southern half of the application site between 3.0m and 0.3m.

Hydrology

2.21 The application site lies on or near what is considered to be the watershed between the River Colne catchment to the south-southwest and the River Lea to the northeast.

2.22 Two surface water streams are present on and in the vicinity of the application site:

1) Ellenbrook - which rises to the east northeast of the application site (within the remaining land associated with the former aerodrome) and flows south along the eastern perimeter of the former aerodrome site.

2) Nast - which flows onto site from the west-northwest and then flows southeast across the application site in a shallow open channel and then though a culvert beneath the former runway. It outfalls on the northern side of the A1057 before entering a culvert that passes beneath the road. Its route from the A1057 is not known but it is thought to either pass south beneath the adjacent housing estate or run east beneath the A1057 to the top of Ellenbrook Lane where a culvert outfalls into an open channel that flows south down the eastern side of Ellenbrook Lane and joins Ellenbrook as it outfalls from a culvert midway down the road.

2.23 To the west of the application site is the Butterwick Brook, which flows roughly north – south parallel with the Site's western boundary. This brook joins the Ellenbrook at Colney Heath which then joins the River Colne a further 400m downstream.

THE SURROUNDING AREA

Landscape

2.24 The broader area around the application site is typically flat. "Area 31 De Havilland Plain" within the Welwyn Hatfield Landscape Character Assessment (Hertfordshire Landscape Strategy) describes how it "*represents a subtle watershed between the Colne and the Lea. Levels vary by as*

little as 2-3m over 6km. The land rises locally to the west and south". The altitude range is describes as "*Typically around the 80m contour but falling to 70m at Ellenbrook and rising to 100m within the undulating grounds of Oakland College on the edge of St Albans*."

2.25 The Ellen Brook runs in a north to south direction approximately 300m east of the proposed mineral extraction area. As noted above, the River Nast currently runs in a culvert across the application site.

2.26 There are blocks of woodland to the north of the application site, including Home Covert, Cut Field Wood and Ball's Covert and areas of ancient woodland within 5km of the application site (Symondshyde Great Wood, Home Wood, Oak Wood, Hazel Grove and Hooks Wood).

2.27 "*Area 31 De Havilland Plain*", describes how there is very limited woodland cover, few hedgerows (except to some of the roads) and few isolated trees. The vast majority of the land has been disturbed over the last century. Some of the former mineral workings support a mix of flooded gravel pits, scrub and marshland habitats.

2.28 Whilst not a landscape designation, the application site is located within a Green Belt.

Land Use

2.29 To the south of the application site the area is rural, interspersed with small settlements, areas of woodland and the highway network; clusters of housing can be found fronting the highway network, often being developed around road junctions. An area of industrial development lies to the south of the A1057, west of Station Road (in the vicinity of Smallford). To the southwest of the application site are a garden centre (operated by Notcutts), a public house, a petrol station and a small residential area.

2.30 To the north, the area is similarly rural. Immediately to the north are a series of lagoons associated with an existing mineral working (Hatfield Quarry, CEMEX); the processing plant lies to the northwest of the application site, having its access off Oaklands Lane. Also immediately to the north is an area of woodland (Home Covert).

2.31 To the east of the application site is the urban area of Hatfield, with an industrial/distribution estate, residential development and the University of Hertfordshire campus present. Between the application site and Hatfield lie the remainder of the former aerodrome, surface water drainage infrastructure (an open drain and series of lagoons, known as Ellenbrook Linear Park) and some sports pitches and associated pavilion. An outline planning application has been lodged for a large-scale mixed use development including 1,100 new homes and supporting infrastructure including a primary school, local centre and open space within this area (application 6/2018/2768/OUTLINE).

2.32 Finally, to the west the rural aspect gives way to the urban area of St Albans.

Sensitive Receptors

2.33 Based on the MAGIC website, within 2km of the site boundary there are no:

- Areas of Outstanding Natural Beauty

- National Nature Reserves
- Sites of Special Scientific Interest
- Special Protection Areas
- Special Areas of Conservation
- Ramsar Sites
- Scheduled Monuments
- Registered Battlefields
- Registered Parks and Gardens

Land Use Designations - Ecology

2.34 Based on the MAGIC website, within 2km of the site boundary there are:

- Five areas of ancient woodland:
  - Symondshyde Great Wood
  - Home Wood
  - Oak Wood
  - Hazel Grove
  - Hooks Wood
- One Local Nature Reserve
  - Colney Heath

2.35 Based on information provided by Herts Environmental Records Centre (refer to Chapter 11 of this ES) there are 15 Local Wildlife sites within 2km of the boundary of the application site. The closest is Home Covert, which lies adjacent to the application site.

Land Use Designations - Heritage

2.36 There are several listed buildings in the vicinity of the application site. The closest (being a cluster of three) are located at Popefield Farm on the southern boundary:

- Popefield Farmhouse;
- Granary and adjoining outbuilding;
- Barn range.

2.37 Two more are located close to the southwestern corner of the application site:

- Milepost approximately 70 metres east north east of the Three Horseshoes Public House;
- Three Horseshoes Public House

2.38 Seven more listed buildings are located along Wilkins Green Lane.

Residential/Human Receptors

2.39 The nearest property to the application site is Popefield Farm, which fronts the northern side of the A1057. Further to the south is Wilkinsgreen Farm, beyond which is a small cluster of properties.

2.40 To the southwest are a number of properties on the south side of Hatfield Road and east of Station Road, with a further small row of properties located off Oaklands Lane to the west of the application site. A housing development has been established off Oaklands Lane (Pasture View) to the west of the application site, with a further small residential development (Jove Gardens) established on land to the north of the garden centre.

2.41 A small residential area lies to the southeast of the application site centred on Poplars Close, Poplar Avenue and Bramble Road (known as Ellenbrook). Other residential properties front the northern side of Wilkins Green Lane to the south of this area. A larger residential area can be found on the western edge of Hatfield, with the nearest properties being on Nimrod Drive, Flamingo Close and Walker Grove (all off Cunningham Avenue).

SITE HISTORY

2.7 Based on a review of historical maps from the period 1937 to 2011 the salient features are mentioned in Table 2-1 below.

Table 2-1
Historical Map Features Summary

Year	Site	Wider Area
1937	• The application site comprises fields and pasture. • Home Covert is as today with a small cottage, a pond and paths crossing through the woodland. • The Nast follows its current open water and culverted route. • The Ellenbrook is not recorded. • A Race Track occupies an area northwest of Popefield Farm	• East: Fields and pasture. • West: Fields and pasture. • North: Astwick Manor, fields and woodland. • South: Some housing, nursery/greenhouses and fields.
1960	• The application site is completely within the former Hatfield Airfield with the runway extending northeast to southwest across the centre of the application site, with part of the taxiway skirting the southern side of the development area. • Home Covert is an area of woodland on the northwestern boundary that appears to occupy the same area as today. • Remaining areas appear to be open and	• East: Airfield and aircraft works to the northeast • West: Woodland and fields • North: Astwick Manor, fields and woodland. • South: Housing, nursery/greenhouses and fields

Year	Site	Wider Area
	undeveloped. • The Nast is shown flowing onto site at the northwestern boundary before ending on the northern side of the runway where it enters a culvert (as today) • The Ellenbrook is not recorded.	
1975	• As 1960	• As 1960
1990	• As 1975	• As 1975
1999	• As 1960 • The outline of a small rectangular industrial area north of Home Covert is suspected to be related to aerodrome operations in the 1990s. Further examinations of historical aerial photographs of this feature are intriguing but not entirely clear. • A small area southwest of Home Covert is an aircraft parking stand with a fire training area. Further detail is shown on the historical aerial photographs • The Ellenbrook is not present	• The aerodrome works buildings have been removed and new commercial buildings are cover about 30% of the former aerodrome works.
2006	• The runway has been removed. • The taxiway remains. • The rectangular area northeast of Home Covert remains. • Ellenbrook is present in its current form.	• The runway has been removed and has been largely replaced with commercial warehouse-like buildings and some residential properties. • Aircraft works buildings southeast of the aerodrome taxi-way have been demolished and are in the process of being replaced with new commercial buildings. • Hatfield University buildings/campus is in place. • Ellenbrook balancing lagoons are in place adjacent to the application site.
2011	• The runway has been removed. • The taxiway remains. • The rectangular area northeast of Home Covert remains. • The Nast remains culverted across the application site. • The Ellenbrook is in place.	• Northeast: The aerodrome buildings have been redeveloped with additional commercial buildings. • Residential property has been built east of Ellenbrook. • Hatfield University is built to the south of the residential buildings. • Northwest: Mineral extraction and lagoons are present along the northwestern site boundary.