



Land North-West of Innova Park, Enfield

Preliminary Ecological Appraisal

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1.0. Introduction

1.1 Site Location and description

This report describes an ecological appraisal of approximately 3.5ha of land north-west of Innova Park, Enfield hereinafter referred to as the site. The site centre can be located by National Grid Reference TQ 36650 99606. The boundary of the site is provided in Appendix 1.

The site comprises an area of rough grassland with patches of scrub and ruderal vegetation. A band of dense scrub is present in the west of the site and deciduous woodland is present in the south and south-east of the site. A treeline and a stream are present along the northern boundary beyond which is Mollison Avenue (A1055). Beyond the site boundary to the east and south is an industrial area forming part of Innova Park and beyond the site boundary to the west is a railway line, beyond which is residential housing. Detailed descriptions of the habitats present are outlined below.

This document reviews the potential effects of the proposed development on any ecology and nature conservation value of the proposed site and/or adjacent sites or habitats. It explains the work that has been carried out to date to identify the biodiversity value of the site and the potential impacts to it. Where appropriate, any negative ecological impact is described, and mitigation measures are proposed to reduce or eliminate this impact.

1.2 Development proposals

The site is being promoted for inclusion within the local plan for the provision of industrial development. Proposals for the site should include the provision of at least 16,445m² of employment floorspace (such as light industrial, general industrial, storage and distribution) with associated infrastructure and landscaping.

2.0. Methodology

2.1 Desk Study

One of Thames Water's qualified ecologists conducted a desk-based assessment of existing ecological and nature conservation data relevant to the site from Hertfordshire Environmental Records Centre (HERC), Essex Wildlife Trust Records Centre (EWTRC),



Greenspace Information for Greater London (Gigl) and the 'Multi Agency Geographic Information for the Countryside' (MAGIC) online database (magic.defra.gov.uk).

The online desk study area extended approximately 2km from the site for protected species records and up to 10km from the site for designated sites. The results of the desk study are summarised in Section 3 below and the results are given in Appendix 2.

2.2 Field Survey

A qualified Thames Water ecologist conducted an extended Phase 1 habitat survey of the site and its immediate surrounds on 4th August 2021. Approximately 2 hours was spent carrying out the survey and the weather conditions were warm, calm, bright and dry.

Habitat Survey

The Phase 1 habitat survey followed the standard method of habitat assessment as described by the Joint Nature Conservation Committee (2010) to identify the presence of any habitats of nature conservation importance at the site.

Protected species

The potential for protected species and/or Habitats and Species of Principal Importance identified under Section 41 of the 2006 NERC Act to be present within the site has also been assessed on the basis of the habitats and features present at the site in combination with the results of the desk study.

Limitations

Some areas of the site could not be accessed to adequately carry out the phase 1 habitat survey. These areas were surveyed through the fence as much as possible and aerial imagery was used to determine likely habitats present. It is considered that, at this time, the level of survey is adequate to allow a robust assessment of the site's likely nature conservation significance and to form the basis of the recommendations provided in Sections 5 and 6 of this report.

3.0. Desk Study

A summary of the desk study findings are outlined below. The protected species data and designated site information provided by Magic are included in Appendix 2.



3.1 Statutory Wildlife Sites

There are no statutory designated wildlife sites including Special Areas of Conservation (SAC), Special Protection Areas (SPAs), Ramsar sites, Sites of Special Scientific Interest (SSSIs), National Nature Reserves (NNRs), or Local Nature Reserves (LNRs) within or immediately adjacent to the site as confirmed by information provided by the Magic online database.

Internationally Designated Areas

Four internationally designated areas are located within 10km of the site, these include:

- Lee Valley SPA and associated Lee Valley Ramsar located approximately 1.4km to the north of the site. This 447.87ha Ramsar and SPA comprises a series of embanked water supply reservoirs, sewage treatment lagoons and former gravel pits. These waterbodies support internationally important numbers of wintering Bittern, Shoveler and Gadwall and nationally important numbers of Cormorant, Great Crested Grebe, Tufted Duck, Pochard and Grey Heron;
- Epping Forest SAC located approximately 4km to the south-east of the site. This 1630.74ha SAC supports Atlantic acidophilous Beech forests in the north-eastern part of the habitat's UK range which are rich in fungi and dead-wood invertebrates. The SAC also supports a significant population of Stag Beetle; and
- Wormley-Hoddesdon Park Woods SAC located approximately 7km to the north-west of the site. This 336.47ha SAC supports sub-Atlantic and medio-European Oak or Oak-Hornbeam forests of the *Carpinion betuli*.

Nationally Designated Areas

Five SSSIs are located within 5km of the site, the closest of which is Turnford & Cheshunt Pits SSSI, located approximately 1.4km to the north of the site. This 173.28ha SSSI comprises ten former gravel pits which form part of the internationally important Lee Valley complex described above. The pits are of national importance for wintering birds including Gadwall (regularly supporting 2.9% of the UK population) and Shoveler (about 1.3% of the UK population).



Other SSSIs located within 5km of the site include:

- Cornmill Stream and Old River Lea SSSI located approximately 1.5km to the north-east of the site;
- Waltham Abbey SSSI located approximately 1.6km to the north-east of the site;
- Chingford Reservoirs SSSI located approximately 1.7km to the south of the site; and
- Epping Forest SSSI located approximately 4km east of the site.

No National Nature Reserves are located within 5km of the site and no Local Nature Reserves are Located within 2km of the site.

Impact Risk Zones

Impact Risk Zones (IRZs), as provided on the MAGIC online database, assist Natural England in assessing planning applications for likely impacts on SSSIs/SACs/SPAs & Ramsar sites in the absence of appropriate mitigation or avoidance measures.

The site is located within the following IRZs:

- 1km-2km IRZ for Lee Valley SPA and Ramsar
- 1km-2km IRZ for Turnford & Cheshunt Pits SSSI
- 1km-2km IRZ for Chingford Reservoirs SSSI
- 1km-2km IRZ for Cornmill Stream and Old River Lea SSSI
- 1km-2km IRZ for Waltham Abbey SSSI
- 3km-5km IRZ for Epping Forest SAC and SSSI

The potential impact risk on designated sites should be determined once plans for the site have been finalised and its long term use is known.

Notwithstanding the above, the IRZs in which the site is located identify the following schemes as having a potential impact on designated sites:

- **Infrastructure:** Pipelines, pylons and overhead cables. Any transport proposal including road, rail and by water (excluding routine maintenance). Airports, helipads and other aviation proposals.
- **Wind & Solar Energy** Solar schemes with footprint > 0.5ha, all wind turbines.



- **Minerals, Oil & Gas** Planning applications for quarries, including: new proposals, Review of Minerals Permissions (ROMP), extensions, variations to conditions etc. Oil & gas exploration/extraction.
- **Rural Non Residential** Large non-residential developments outside existing settlements/urban areas where footprint exceeds 1ha.
- **Residential** Residential development of 50 units or more.
- **Rural Residential** Any residential development of 50 or more houses outside existing settlements/urban areas.
- **Air Pollution** Any industrial/agricultural development that could cause AIR POLLUTION (incl: industrial processes, livestock & poultry units with floorspace > 500m², slurry lagoons > 200m² & manure stores > 250t).
- **Combustion** General combustion processes >20MW energy input. Incl: energy from waste incineration, other incineration, landfill gas generation plant, pyrolysis/gasification, anaerobic digestion, sewage treatment works, other incineration/ combustion.
- **Waste Landfill.** Incl: inert landfill, non-hazardous landfill, hazardous landfill.
- **Composting** Any composting proposal with more than 75000 tonnes maximum annual operational throughput. Incl: open windrow composting, in-vessel composting, anaerobic digestion, other waste management.
- **Discharges** Any discharge of water or liquid waste of more than 5m³/day to ground (ie to seep away) or to surface water, such as a beck or stream.
- **Water Supply** Large infrastructure such as warehousing / industry where total net additional gross internal floorspace following development is 1,000m² or more.
- **Notes 1** For new residential development in this area an HRA is required on the likely significant effects of recreation on Epping Forest SAC. For developments within 3km of the SAC, financial contributions are expected to offset recreational impacts.

3.2 Non-Statutory Wildlife Sites

There are no non-statutory designated wildlife sites including Local Wildlife Sites (LWSs) or Sites of Nature Conservation Importance (SNCIs) within or immediately adjacent to the site as confirmed by information provided by Herts Environmental Records Centre (HERC), Essex Wildlife Trust Records Centre (EWTRC) and Greenspace Information for Greater London (GiGL).



3.2.1 Local Wildlife Sites

HERC and EWTRC provided records of four Local Wildlife Sites (LWS) within 2km of the site including:

- Thistly Marsh and Area W. of Cheshunt Marsh LWS (81/001/03);
- Gunpowder Park LWS (Ep4);
- Sewardstone/Osier Marshes LWS (Ep3); and
- Northfield Marsh LWS (Ep2)

The closest LWS to the site is Gunpowder Park LWS located approximately 780m to the south-east of the site. Gunpowder Park LWS supports an extensive area of rough grassland, scattered scrub and ditch habitats which support at least 11 nationally rare Red Data Book invertebrate species and a locally very important population of breeding Skylark, an Essex Red Data List breeding bird species.

3.2.2 Sites of Nature Conservation Importance

GiGL provided records of two Sites of Metropolitan Nature Conservation Importance (SNCI) within 2km of the site, including:

- Lea Valley SNCI (M071); and
- New River SNCI (M096).

The closest SNCI to the site is Lea Valley SNCI (M071), located approximately 135m to the east of the site. This 947.24ha SNCI is in the valley of the River Lea and includes lakes, reservoirs, marshes and wet grassland. The diverse range of wetland habitats are particularly noted for supporting rare plants and birds.

3.2.3 Open Space

GiGL also identified that the site falls into the following classifications:

- 'Open Space 'Other' - Vacant land is land with no formal land use. This includes many "urban commons" which are used by people for informal recreation and which may be very valuable for nature conservation. If sites have formalised access and management for nature conservation, record as commons or nature reserves as appropriate'; and



- 'Green belt - Land which has been specifically designated as such, either by legislation or through the preparation of development plans, with the aim to protect the open character of the countryside next to urban areas.'

3.2.4 Ancient Woodland

No areas of ancient woodland are located within 2km of the site.

3.3 Protected Species

HERC, EWTRC and GiGL provided records of protected and notable species within a 2km radius of the proposed site. No high resolution records of protected or notable species pertaining directly to the site were provided during the desk study.

Protected and notable species recorded within 2km of the site that receive legal protection include: bats, Otters, Water Vole, Badgers, birds, Great Crested Newts, reptiles, invertebrates and plants. A summary of the desk study records is provided below and the potential presence of these species within the site is discussed further in Section 6.

3.3.1 Bats

All native bat species and their roosts are legally protected in the UK under the Wildlife and Countryside Act 1981 (as amended) and are afforded additional protection under the Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019.

In addition, seven species of bat are also included as priority species on the UKBAP and listed as Species of Principal Importance under Section 41 of the 2006 NERC Act (including Barbastelle, Bechstein's, Noctule, Soprano Pipistrelle, Brown Long-eared, Greater Horseshoe and Lesser Horseshoe).

The protected species data obtained from HERC provided 92 records of bats, EWTRC provided 20 records of bats and GiGL provided 8 records of bats within 2km of the site.

Species recorded include Common Pipistrelle, Soprano Pipistrelle, Nathusius's Pipistrelle, Brown Long-eared, Noctule, Brown Long-eared, Natterer's bat, Daubenton's bat and unidentified species of Pipistrelle and Long-eared bat.



The closest record to the site was provided by EWTRC for Nathusius's Pipistrelle, located approximately 730m to the east of the site, dating from 2010.

3.3.2 Otter

Otters, their breeding sites and their places of shelter are protected in the UK under the Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019 and through its inclusion on Schedule 5 of the Wildlife and Countryside Act, 1981 (as amended).

In addition, Otters are a Biodiversity Action Plan species in the UK and also a Species of Principal Importance identified under Section 41 of the 2006 NERC Act.

The protected species data obtained from HERC provided 4 records of Otter, EWTRC provided 1 record of Otter and GiGL provided 1 record of Otter within 2km of the site.

The closest record to the site was provided by GiGL for a location approximately 887m to the east of the site, dating from 2000-2001.

3.3.3 Water Vole

Water Voles and their places of shelter are protected under Schedule 5 of the Wildlife and Countryside Act, 1981 (as amended) and is also a Biodiversity Action Plan species for the UK and is listed as a Species of Principal Importance under Section 41 of the 2006 NERC Act.

The protected species data obtained from HERC provided 37 records of Water Vole, EWTRC provided 1 record of Water Vole and GiGL provided 16 records of Water Vole within 2km of the site.

The closest record to the site was provided by HERC for a location approximately 240m to the east of the site, dating from 1995.



3.3.4 Badger

Badgers and their setts are protected by UK legislation under the Protection of Badgers Act 1992.

The protected species data obtained from HERC provided 8 records of Badger within 2km of the site. EWTRC and GiGL did not provide any records of Badger.

All locations for the Badger records provided by HERC were either for the 10km grid square within which the site is located or within 1km grid squares in the vicinity of the site.

3.3.5 Birds

All birds, their nests and their eggs are protected under the Wildlife and Countryside Act, 1981 (as amended).

In addition, there are a number of birds that receive additional protection under Schedule 1 of the Act. These birds and their young receive protection against disturbance whilst at the nest.

The protected species data obtained from HERC provided 918 records of 101 bird species, EWTRC provided 22 records of 17 bird species and GiGL provided 146 records of 118 bird species within 2km of the site.

The closest high resolution bird record to the site pertains to House Sparrow at a location approximately 246m south-west of the site dating from 2017, as provided by GiGL. House Sparrow is included on the Birds of Conservation Concern Red List and is included in the UK Biodiversity Action Plan and is a Species of Principal Importance under the NERC Act 2006.

Other protected and notable bird species recorded within 2km of the site are provided on the table below:

Common Name	Birds of Conservation Concern (RSPB, 2015)	Annex I of the Birds Directive	Schedule 1 Wildlife and Countryside Act 1981	Section 41 Species (NERC Act)
Mute Swan	Amber			
Bewick's Swan	Amber	Y	Y	Y



Common Name	Birds of Conservation Concern (RSPB, 2015)	Annex I of the Birds Directive	Schedule 1 Wildlife and Countryside Act 1981	Section 41 Species (NERC Act)
Whooper Swan	Amber	Y	Y	
Greylag Goose	Amber		Y	
Barnacle Goose	Amber	Y		
Brent Goose	Amber			Y
Ruddy Shelduck	Green	Y		
Shelduck	Amber			
Wigeon	Amber			
Gadwall	Amber			
Teal	Amber			
Mallard	Amber			
Pintail	Amber		Y	
Garganey	Amber		Y	
Shoveler	Amber			
Pochard	Red			
Scaup	Red		Y	Y
Common Scoter	Red		Y	Y
Goldeneye	Amber		Y	
Smew	Amber	Y		
Grey Partridge	Red			Y
Red-throated Diver	Green	Y	Y	
Black-throated Diver	Amber	Y	Y	
Great Northern Diver	Amber	Y	Y	
Bittern	Amber	Y	Y	Y
Little Egret	Green	Y		
Purple Heron		Y	Y	
Spoonbill	Amber	Y	Y	
Red-necked Grebe	Red			
Slavonian Grebe	Red	Y	Y	
Black-necked Grebe	Amber		Y	
Honey Buzzard	Amber	Y	Y	
Red Kite	Green	Y	Y	
Marsh Harrier	Amber	Y		
Hen Harrier	Red	Y	Y	Y
Montagu's Harrier	Amber	Y	Y	
Sparrowhawk	Green			
Osprey	Amber	Y	Y	
Water Rail	Green			
Spotted Crake	Amber	Y	Y	
Stone curlew	Amber	Y	Y	Y
Oystercatcher	Amber			
Golden Plover	Green	Y		
Grey Plover	Amber			
Lapwing	Red			Y
Little Ringed Plover	Green		Y	
Ringed Plover	Red			
Whimbrel	Red		Y	
Curlew (Eurasian)	Red			Y
Black-tailed Godwit	Red		Y	Y

Common Name	Birds of Conservation Concern (RSPB, 2015)	Annex I of the Birds Directive	Schedule 1 Wildlife and Countryside Act 1981	Section 41 Species (NERC Act)
Bar-tailed Godwit	Amber	Y		
Ruff	Red	Y	Y	
Dunlin	Amber	Y		
Green Sandpiper	Amber		Y	
Greenshank	Amber		Y	
Wood Sandpiper	Amber	Y	Y	
Redshank	Amber			
Woodcock	Red			
Snipe	Amber			
Black Tern	Green	Y	Y	
Sandwich Tern	Amber	Y		
Common Tern	Amber	Y		
Arctic Tern	Amber	Y		
Black-headed Gull	Amber			
Little Gull	Green	Y	Y	
Mediterranean Gull	Amber	Y	Y	
Common Gull	Amber			
Lesser B.b. Gull	Amber			
Herring Gull	Red			Y
Yellow-legged Gull	Amber			
Great B.b. Gull	Amber			
Turtle Dove	Red			Y
Cuckoo	Red			Y
Barn Owl	Green		Y	
Tawny Owl	Amber			
Short-eared Owl	Amber	Y		
Swift	Amber			
Kingfisher	Amber	Y	Y	
Wryneck			Y	
Lesser Sp. Woodpecker	Red			Y
Kestrel	Amber			
Merlin	Red	Y	Y	
Hobby	Green		Y	
Ring-necked Parakeet				
Firecrest	Green		Y	
Marsh Tit	Red			Y
Willow Tit	Red			Y
Skylark	Red			Y
House Martin	Amber			
Cetti's Warbler	Green		Y	
Wood Warbler	Red			Y
Willow Warbler	Amber			
Grasshopper Warbler	Red			Y
Starling	Red			Y
Ring Ouzel	Red			Y
Fieldfare	Red		Y	
Song Thrush	Red			Y

Common Name	Birds of Conservation Concern (RSPB, 2015)	Annex I of the Birds Directive	Schedule 1 Wildlife and Countryside Act 1981	Section 41 Species (NERC Act)
Redwing	Red		Y	
Mistle Thrush	Red			
Spotted Flycatcher	Red			Y
Nightingale	Red			
Pied Flycatcher	Red			
Black Redstart	Red		Y	
Whinchat	Red			
Duncock	Amber			Y
House Sparrow	Red			Y
Tree Sparrow	Red			Y
Yellow Wagtail	Red			Y
Grey Wagtail	Red			
Tree Pipit	Red			Y
Meadow Pipit	Amber			
Brambling	Green		Y	
Hawfinch	Red			Y
Bullfinch	Amber			Y
Linnet	Red			Y
Twite	Red			Y
Lesser Redpoll	Red			Y
Mealy (Common) Redpoll	Amber			
Crossbill (Common)	Green		Y	
Parrot crossbill	Amber		Y	
Lapland Bunting	Amber		Y	
Yellowhammer	Red			Y
Reed Bunting	Amber			Y

3.3.6 Great Crested Newt

Great Crested Newts (GCN) and their habitats are protected in the UK under the Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019 and through its inclusion on Schedule 5 of the Wildlife and Countryside Act, 1981 (as amended). It is also a Species of Principal Importance identified under Section 41 of the 2006 NERC Act.

The protected species data obtained from HERC provided 5 records of GCN within 2km of the site. The closest high resolution GCN record to the site pertains to a location approximately 1.8km north of the site, dating from 2014.

GiGL and EWTRC did not provide records of GCN within 2km of the site.

A review of Great Crested Newt Class Survey Licence Returns on the MAGIC online database indicates that GCN were recorded approximately 1.7km and 1.8km to the north of the site in 2014.

3.3.7 Reptiles

All six native species of reptile are legally protected in the UK under the Wildlife and Countryside Act, 1981 (as amended) and are listed as Species of Principal Importance under Section 41 of the 2006 NERC Act. Smooth Snakes and Sand Lizards receive additional protection due to their rarity.

The protected species data provided records of Adder, Grass Snake, Slow-worm and Common Lizard within 2km of the site. HERC provided 12 records of 3 reptile species and GiGL provided 33 records of 3 reptile species. EWTRC did not provide any records of reptiles.

The closest high resolution reptile record to the site pertains to Grass Snake at a location approximately 650m south-east of the site dating from 2016, as provided by GiGL.

3.2.4 Other species

Invertebrates:

The protected species data obtained from HERC provided 545 records of 207 invertebrate species, EWTRC provided 134 records of 11 invertebrate species and GiGL provided 73 records of 68 invertebrate species within 2km of the site. No invertebrate records pertain to the site or within the immediate vicinity of the site.

Flowering Plants:

The protected species data obtained from HERC provided 17 records of 7 flowering plant species, EWTRC provided 4 records of 3 flowering plant species and GiGL provided 110 records of 110 flowering plant species within 2km of the site.



Records of invasive plant species within 2km of the site were also provided with species including New Zealand Pigmyweed, *Rhododendron ponticum*, Indian Balsam and Japanese Knotweed.

No high resolution plant records were provided for within or in the immediate vicinity of the site, however a number of low resolution records were provided for the 1km and 10km grid squares in which the site is located.

Other:

No records of Hazel Dormouse were provided for the desk study.

3.3 Planning Policy

The Enfield Plan Core Strategy (2010) forms part of the Local Plan for Enfield and provides an overall planning strategy to 2025.

Relevant policies relating to nature conservation and the natural environment from the Core Strategy include:

CORE POLICY 36 BIODIVERSITY

The Council will seek to protect, enhance, restore or add to biodiversity interests within the Borough, including parks, playing fields and other sports spaces, green corridors, waterways, sites, habitats and species identified at a european, national, London or local level as being of importance for nature conservation by:

- *Continuing to protect, restore, and enhance sites, habitats and species identified for their biodiversity importance at the national, London, or borough level. The Development Management Document will set out criteria to assess development proposals that are likely to have an adverse ecological impact;*
- *Requiring improvements to biodiversity provision, with priority given to areas of deficiency identified in the Enfield Open Space Study and proposals which assist in achieving Biodiversity Action Plan objectives;*
- *Reviewing the schedule of Sites of Importance for Nature Conservation in light of the findings of GLA survey of the Borough and other appropriate evidence, in order to set out a hierarchy of locally important sites in the Development Management Document; and*
- *Preparing a Local Biodiversity Action Plan to set out the Borough's actions and objectives with regard to biodiversity, and to contribute towards the UK and London Biodiversity Action Plan targets and objectives.*



A new Local Plan for Enfield is being prepared and is currently under consultation. The Enfield Local Plan (ELP): 2019-2039 will provide a single planning policy document for the borough and a new vision for how Enfield will spatially develop to 2039 and beyond.

Chapter 6 'Blue and Green Enfield' of the draft ELP outlines draft strategic policies relating to nature conservation and the natural environment. Some of these are included below:

Strategic Policy SP BG1: Blue and green infrastructure network

1. Proposals will be expected to contribute to the creation of a more integrated, multifunctional and accessible blue and green infrastructure network and address deficiencies in quantity, quality and access across the Borough. This will be achieved through:

- a. protecting and enhancing areas of Green Belt and Metropolitan Open Land to maintain their function, quality and openness;*
- b. ensuring development protects and enhances significant ecological features, achieves biodiversity net gain and maximises opportunities for urban greening through appropriate landscaping schemes and the planting of street trees;*
- c. reviewing Sites of Importance for Nature Conservation (SINCs) and areas of biodiversity deficiency every five years to ensure development contributes as appropriate to the borough's nature recovery network;*
- d. improving the quality, character, value and accessibility of existing publicly accessible open spaces and water spaces across the Borough, in line with the priorities of the Blue and Green Strategy;*
- e. maximising green grid links to enhance access through walking, cycling and public transport to key destination points (e.g. town centres), community facilities and publicly accessible open spaces, especially along rivers and waterways;*
- f. protecting, improving and enhancing access to blue spaces and the wider water environment and improving relationship with the river and naturalising the riverbank through the removal of hard engineered walls and culverts and introducing new habitats to the river corridor;*
- g. protecting and enhancing existing residential moorings located on the River Lee;*
- h. maximising opportunities to create and increase publicly accessible open space and outdoor sports (including playing pitches and ancillary sporting facilities) with a range of sizes across a range of users, particularly in locations which experience the highest level of deficiency within the Borough;*
- i. protecting and enhancing the Borough's habitat and wildlife resources, including linking green spaces with identified wildlife corridors, protecting and enhancing species and habitats identified in the Blue and Green Infrastructure Audit and London Biodiversity Action Plan or updated equivalent, and creating new nesting and roosting sites; and*
- j. supporting community food growing through development and building new partnerships with social enterprise and voluntary organisations that aspire to designate important local open spaces as local green spaces.*

2. Future blue-green interventions will be prioritised in the following locations (as shown on the key diagram) through:



- a. creation of a continuous 'green-loop' – a walking and cycling route extending from the open countryside, via the river valleys, into the main urban area and onto the Lee Valley Regional Park and Enfield Chase;
- b. provision of world-class sport villages at Enfield Playing Fields, Hotspur Way and Firs Farm;
- c. expansion of routes into the Lee Valley Regional Park alongside open spaces and river corridors;
- d. naturalisation and catchment restoration of Salmons Brook, Turkey Brook and Pymmes Park through natural flood management
- e. creation of a new publicly accessible landscape (Enfield Chase – London National Park City) comprising new woodland, open space and extensive rewilding;
- f. new continuous and publicly accessible linear parks (including Brooks Park and Edmonton Marshes) across strategic development sites;
- g. grey-to-green corridors: Public realm improvements along main routes (e.g. A10, A406 and A101) and at key stations and town centre gateways, such as sustainable drainage systems (e.g. rain gardens, buffer strips and wildflower verges), civic squares and water features;
- h. new crossings/bridges over the A10, A406 and Lee Valley line to overcome eastwest severance;
- i. sensitive restoration and enhancements of registered historic parks and gardens (Trent Park, Grovelands Park, Myddelton House Gardens and Broomfield Park) and associated visitor attractions; and
- j. revitalisation of open spaces and leisure/recreational activities at Banbury Reservoir, Picketts Lock, Hotspur Way, Ponders End and Whitewebbs Park.

Strategic Policy SP BG2: Protecting nature conservation sites

1. Development will be expected to protect, maintain and enhance the biodiversity and geodiversity value of the borough's international, national and local wildlife and geological sites in line with the following principles.

International

2. Development will not be permitted where it would adversely affect (directly or indirectly) the integrity of Special Protection Areas (SPAs) and Special Areas of Conservation (SACs), unless it meets the requirements set out in the regulations¹¹. Where such potential exists, applicants should seek advice from Natural England to determine whether a habitat regulations assessment would be required as part of the planning application. The assessment will need to demonstrate that the development will not adversely impact on the integrity of a SPA or SAC.

3. Development involving over 100 new homes within 6km of the boundary of the Epping Forest SAC (known as the "zone of influence" as shown on the Policies Map) will need to secure appropriate mitigation and avoidance measures in the form of strategic alternative nature green space (SANG) to offset any potential effects arising from increased recreational pressure and air pollution on the Epping Forest SSAC (either 'alone' or 'in combination' with other relevant plans and proposals) in consultation with Natural England, Epping Forest Conservators and other relevant bodies.

National

4. Development will not be permitted where it would adversely affect (directly or indirectly) the integrity of Covert Way Local Nature Reserves, William Girling Reservoir and Chingford



Reservoirs Site of Special Scientific Interest (SSSI), as shown on the Policies Map). Exceptions will only be made where the benefits of the development would clearly outweigh the impacts on the special conservation features of the site and appropriate measures are provided to mitigate and/or compensate harmful impacts.

Metropolitan, Borough and local

5. Development affecting the integrity of a Site of Importance for Nature Conservation (as shown on the Policies Map), priority habitats/species, non-designated sites or features of biodiversity interest (directly or indirectly) will only be supported where:

- a. the mitigation hierarchy has been applied in line with the London Plan to offset the loss of habitats and species;*
- b. it will protect, restore, enhance and provide appropriate buffers around wildlife and geological features as well as links to the wider ecological network; and*
- c. the benefits of the proposed development would clearly outweigh the adverse impact on the biodiversity and geodiversity value of the site.*

Strategic Policy SP BG3: Biodiversity net gain, rewilding and offsetting

1. All development proposals shall be considered in light of the mitigation hierarchy (avoid, mitigate and compensate) to protect most valuable ecological features of the site and minimise harm to nature. Measures will also be sought to increase or improve biodiversity through the restoration and re-creation of priority habitats and ecological networks and the protection and recovery of protected wildlife populations, especially where there are gaps across existing corridors.

2. Applicants must submit an action plan setting out how biodiversity will be improved as a result of the development to offset the loss or degradation of natural habitat on site (using the DEFRA metric model). The action plan will need to provide evidence of how the development will achieve a minimum of 10% net gain, including habitat creation, preferably on site.

3. Where the 10% minimum requirement cannot be met on site, or would be better served elsewhere, adequate off-site compensation provision must be provided to an equivalent of better standard to offset the loss of habitats arising from the proposed development. Provision will be directed towards projects that contribute to Enfield's nature recovery network and other biodiversity and landscape-scale conservation priorities, particularly within the following locations: a. Areas of nature deficiency (e.g. Enfield Chase and Chingford Reservoirs); b. Riparian corridors; and c. Bug life B-line (as shown on Figure 6:3).

Strategic Policy SP BG3: Biodiversity net gain, rewilding and offsetting

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development will achieve a minimum of 10% net gain, including habitat creation, preferably on site.

3. Where the 10% minimum requirement cannot be met on site, or would be better served elsewhere, adequate off-site compensation provision must be provided to an equivalent of better standard to offset the loss of habitats arising from the proposed development. Provision will be directed towards projects that contribute to Enfield's nature recovery network and other biodiversity and landscape-scale conservation priorities, particularly within the following locations: a. Areas of nature deficiency (e.g. Enfield Chase and Chingford Reservoirs); b. Riparian corridors; and c. Bug life B-line (as shown on Figure 6:3).

3.4 The Enfield Biodiversity Action Plan (BAP)

The Enfield Biodiversity Action Plan (BAP) 'Nature for People: A Biodiversity Action Plan for Enfield' was adopted in 2011 and reviewed in 2021. The aim of the BAP is to ensure the conservation and enhancement of biodiversity is fully integrated to the activities of Enfield London Borough Council and other BAP partners to promote recognition of the value of biodiversity and the services it provides, and to promote equitable access to nature.

The BAP identifies Action Plans for habitats and species. Habitat action plans have been prepared for:

- 1. Farmland
- 2. Grassland
- 3. Hedgerows
- 4. Parkland and urban spaces
- 5. Veteran trees
- 6. Brownfield sites
- 7. Waterways
- 8. Woodlands
- 9. Ponds and Lakes
- 10. Allotments

The site is identified in the Enfield Habitat Action Plan as grassland on the *Broad habitats in Enfield's open spaces* plan (Enfield Council, 2011).

Species action plans have been prepared for:

- Bats



- Amphibians
- Reptiles
- Black Poplar

4.0. Phase 1 Habitat Survey

The site comprises land belonging to Thames Water located to the north-west of Innova Industrial Park, Enfield, North London. In summary, the site comprises rough grassland with areas of scrub, ruderal vegetation and woodland. A wet ditch is present along the northern boundary and ponds are also present within and in the immediate vicinity of the site.

A brief description of the habitat features found around the site are described below and target notes, photos and a plan showing the results of the Phase 1 habitat survey is provided in Appendix 3.

A1. Woodland – Broadleaved

Broadleaved woodland is present in the east of the site and along the southern site boundary. Some of the woodland has been planted, with tree guards still present on some trees. Species present include Ash, Pedunculate Oak, Hawthorn, Blackthorn, Hazel, Willow, Elder, Birch, Privet, and Cypress sp., with Hazel dominant within the southern band. Ground flora is relatively sparse due to heavy shading, with occasional Ground Ivy, Wood Avens, Greater Burdock and Red Dead-nettle.

A2. Scrub

Areas of dense and scattered scrub are present across the site with species including Bramble, Buddleia, Dog-rose and Willow. A small patch of non-native shrub, *Lonicera nitida*, was also recorded.

A3. Scattered Trees - Broadleaved

A treeline is present adjacent to the northern site boundary with species including Willow, Turkey Oak, Pedunculate Oak, Hazel, Ash, Hawthorn, Elder, Birch, Rowan and Blackthorn.

B2. Semi-improved neutral grassland

The site is dominated by a large area of unmanaged semi-improved neutral grassland which is relatively species-poor, with patches of greater species richness along a dis-used track in the north of the site. The grassland is dominated by grasses including False Oat-grass, Cock's-foot, Tall Fescue, Couch and Common Bent, with scattered forb species including Germander Speedwell, Mugwort, Lucerne, Mayweed, Common Nettle, Wild Carrot, Comfrey, Field Poppy, Hogweed, Creeping Cinquefoil, Mallow, Black Horehound, Ragwort, Smooth Sow-thistle, Teasel, White Dead-nettle, Red Dead-nettle, Yarrow, Ribwort Plantain, Redshank, Common Vetch, Black Medick, Cleavers, *Pesicaria* sp., Horseradish and Perforate St Johns Wort.

C3.1 Tall ruderal

A steep sided bank is present in the west of the site which is dominated by tall ruderal vegetation including Common Nettle, Creeping Thistle and Hemlock.

G1 Standing water

An off-site, 'L' shaped, freshwater pond is located to the south-west of the site and was viewed from the southern site boundary. The pond has steep sided banks dominated by Willow and Bramble scrub. Dense algae and duckweed covers the surface of the pond, other marginal and aquatic vegetation could not be seen from the site.

A review of aerial and OS maps indicates that there is a second pond located within the south-eastern area of the site. This area was not accessible during the survey and the presence of this pond could not be confirmed.

G2 Running water

A steep sided concrete lined ditch flows in an easterly direction along the northern site boundary. The ditch had a water depth of at least 20cm at the eastern end but became dry at the western end at the time of survey. The ditch did not support aquatic vegetation.



J1.3 Ephemeral

An area of more recently disturbed ground with patches of bare earth and scattered vegetation is present in the west of the site. Scattered vegetation includes Redshank, Scarlet Pimpernel, Groundsel, Common Knotgrass, Wild Radish and Ribwort Plantain.

5.0. Habitat Considerations

Potential impacts of the proposed scheme on habitats within and in the vicinity of the site have been considered below.

5.1 Designated sites

The results of the desk study indicate that there are no habitats of international, national or local nature conservation value located within or immediately adjacent to the site. As such no designated wildlife sites are expected to be directly affected by the proposed development.

Notwithstanding the above, the IRZs for the site identified 'large non-residential developments outside existing settlements/urban areas where footprint exceeds 1ha' and 'large infrastructure such as warehousing / industry where total net additional gross internal floorspace following development is 1,000m² or more' as potential risks on designated sites. These potential impacts are considered further below.

Lee Valley SPA and associated Lee Valley Ramsar and SSSIs (Turnford & Cheshunt Pits SSSI, Cornmill Stream and Old River Lea SSSI and Waltham Abbey SSSI):

The proposed development is located over 1.4km from the Lee Valley SPA and associated Lee Valley Ramsar and SSSIs and it is therefore considered highly unlikely any noise produced during the construction or operational phases of the development would have an effect on the bird populations for which the SPA and associated sites are designated.

Epping Forest SAC and SSSI:

Due to the proposed development being located 4km from Epping Forest SAC and the nature of the development proposed for industrial use, it is considered highly unlikely that Epping Forest SAC would be subjected to any additional recreational pressure as a result of the proposed development. It is therefore considered unlikely that a Habitat



Regulations Assessment (HRA) or financial contributions to offset recreational impacts will be required for the proposed scheme.

Chingford Reservoirs SSSI:

Chingford Reservoirs SSSI is located approximately 1.7km to the south of the site and it is therefore considered highly unlikely any noise produced during the construction or operational phases of the development would have an effect on the bird populations for which the SSSI is designated.

Recommendations

It is recommended that the potential impact risk on designated sites should be re-assessed once plans for the site have been finalised and its long-term use is known.

An assessment of the required water supply for the proposed development and the potential impact this could have on the wetland sites including Lee Valley SPA, Lee Valley Ramsar and associated SSSIs and Chingford Reservoir SSSI should also be made following final plans.

5.2 Habitats

Although individually the habitats recorded at the site are not particularly diverse and are considered to be of no more than low local or site value in their own right, together they combine to form a network of habitats that have the potential to support a range of protected and notable species, offer undisturbed areas for invertebrates, provide valuable foraging habitat for a variety of species and provide connectivity to facilitate the movement of wildlife within the site and the wider area.

In addition, the desk study identified the site is located within two local open space designations including 'Open Space 'Other'' and 'Green belt', with the aim to protect the open character of the countryside next to urban areas.

Where impacts to the on-site habitats are unavoidable, measures should be taken to minimise effects wherever possible, such as by:

- prioritising loss of habitats of lowest interest;
- re-creating lost habitats elsewhere within the site or agreed off-site locations;



- maintaining suitable buffers between development and retained habitats;
- reducing fragmentation within the site; and
- maintaining the connectivity currently provided by the network of woodland, scrub and trees bordering the site.

Where retention of existing habitat is not possible new habitat should be created through the planting of new species-rich grassland, species-rich hedgerows, scrub belts and treelines. Further habitat considerations are provided below.

Woodland, trees and scrub

Wherever possible, woodland, tree and scrub habitats should be retained within the scheme, as they form a network of habitats that provide connectivity across the site and with similar habitats in the wider area, benefitting a number of protected and notable species.

Recommendations

Retained woodland and trees should be protected during the works in accordance with BS5837 'Trees in relation to design, demolition and construction: Recommendations.' and NJUG 4 'Guidelines for the planning, installation and maintenance of utility services in proximity to trees'.

Wherever possible, a buffer of vegetation including scrub and rough grassland habitats should be maintained between woodland/trees and development to protect the trees and provide high quality habitat for species of nature conservation interest. Any excavation and piling works should avoid the root protection areas of retained trees.

It is recommended that the potential impact to woodland and trees is re-assessed by a suitably qualified ecologist once plans for the footprint of the development have been finalised. Where impacts to woodland and trees are unavoidable, further survey by a suitably qualified arboricultural consultant may be required.

Where any woodland, tree or scrub habitats are lost to the proposed development this loss should be compensated through planting of similar habitat within the site as part of a biodiversity enhancement scheme.



Grassland, ruderal and ephemeral vegetation

The site is dominated by species-poor semi-improved neutral grassland and ruderal vegetation which are generally of limited species diversity, and similar and higher quality habitat is likely to occur in the wider area. Notwithstanding this, the site provides a relatively sizeable area of grassland habitat within an urban environment and this habitat should be retained and/or enhanced wherever possible. In addition, the site is identified as grassland on the *Broad habitats in Enfield's open spaces* plan (Enfield Council, 2011).

Recommendations

Where loss is unavoidable, this loss should be focused in areas of the grassland with the lowest value such as the areas dominated by dense Common Nettle, Hemlock and Thistle.

Any permanent loss of grassland should be compensated for within the site through creation of areas of species-rich neutral grassland and the establishment of rough tussocky grassland margins along woodland edge habitats.

Flowing water and standing water

Although the ditch along the northern site boundary and pond habitats in the south and east of the site are low quality examples of these habitat types, they contribute to a wider network of wetland and aquatic habitats in the local area and provide suitable habitat for a number of protected and notable species. As such, the pond and ditch habitats should be retained within the scheme wherever possible.

Recommendations

The following measures should be implemented to protect retained pond and ditch habitats on site and the wider network of watercourses they connect to:

- Maintain a suitable buffer of vegetation between the working area and the ponds/ditches to reduce the risk of disturbance and/or damage to the banks, vegetation and associated protected species;
- Avoid storage of any materials or vehicles within this buffer and install temporary fencing (eg. Heras) along the buffer boundary for the duration of the works;



- Work in accordance with appropriate pollution prevention guidelines¹ to ensure no pollution enters the watercourse, this would include ensuring no pollution accesses the ditch and standing water habitats which could subsequently flow or leach into the Small River Lea and the wider wetland network; and
- Employ appropriate dust suppression and quiet methods of working.

Where possible the pond habitats should be restored and enhanced as part of the biodiversity compensation scheme.

Where these habitats will be lost to the scheme, new aquatic habitats should be created as part of the biodiversity enhancements and compensations at the site. Any new aquatic habitats created at the site should be of wildlife friendly design, with gently shelving margins and planting of native aquatic and marginal species.

6.0. Protected and Notable Species Considerations

The potential presence of protected species has been taken into consideration so that the proposed work is undertaken in accordance with the *Wildlife and Countryside Act 1981* (as amended) and the *Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019*.

6.1 Bats

Roosting bats:

Trees are present within and immediately adjacent to the site that may have potential to support roosting bats.

¹ Environment Agency (2019) 'Pollution Prevention for Businesses' Available from: <https://www.gov.uk/guidance/pollution-prevention-for-businesses>;

The Environment Agency's Pollution Prevention Guidance (PPG) Notes (although now withdrawn these still provide relevant information);

Environment Agency (2013). Groundwater Protection: Principles and Practice (GP3);

CIRIA (2001). Report C532: Control of water pollution from construction sites;



Foraging bats:

The grassland, scrub, tree lines, pond, ditch, woodland edge and woodland habitats provide suitable habitat for foraging and commuting bats.

Recommendations

It is recommended that a bat scoping assessment survey is undertaken to identify the extent of potential bat roosting features in trees potentially affected by the proposed development. Depending on the outcome of the scoping survey results, further surveys comprising emergence/re-entry surveys or climbing surveys may be required. Emergence/re-entry surveys are carried out between May and September and identify the presence/likely absence of roosting bats (BCT, 2016).

It is also recommended that a bat activity transect survey is undertaken to determine the use of the site by foraging and commuting bats. This would comprise a series of walked nocturnal transects and automated detector surveys undertaken between April and early October in accordance with current best practice guidelines (BCT, 2016).

Retained and new foraging and commuting habitat and potential bat roosts within the site and its surrounds, should be conserved through the sensitive use of lighting during both the construction and operational phases of the scheme.

6.2 Hazel Dormouse

The Hazel Dormouse, their breeding sites and resting places are protected in the UK under the Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019 and through its inclusion on Schedule 5 of the Wildlife and Countryside Act, 1981 (as amended).

In addition, Hazel Dormice are a Biodiversity Action Plan species in the UK and also a Species of Principal Importance identified under Section 41 of the 2006 NERC Act.

No Hazel Dormice records were provided for the desk study area. A review of Granted European Protected Species Licences on Magic identified the closest Hazel Dormouse record approximately 22km to the west of the site.



Although the woodland and scrub habitats on site provide some habitat for Dormice, it is considered highly unlikely that Hazel Dormice are present at the site due to this species not being identified within the desk study area and the limited connectivity with more suitable Dormouse habitat in the wider area. Given this, no further surveys or mitigation in relation to Dormice is deemed necessary for this project.

6.3 Otter

It is considered highly unlikely that Otter are present at the site due to the sub-optimal habitat the ditch and ponds provided for this species. Notwithstanding this, due to the records of Otter provided during the desk study and the ditch connecting to the Small River Lea, it is possible Otters could use the site for occasional foraging.

Recommendations

It is recommended that a vegetated buffer of at least 8m is retained between the area of works and the ditch to reduce risk of disturbance or loss to Otter habitat.

If any digging or excavation works are required within 8m of the ditch it is recommended that an Otter survey is carried out to identify presence / absence of this species within the vicinity of the works to inform any appropriate mitigation.

Otter surveys can be carried out at any time of year, however spring is generally considered the best time of year for such work to be conducted as receding water levels allow Otter signs to be more readily located.

6.4 Water Vole

It is considered highly unlikely that Water Vole are present at the site due to the concrete sided ditch reducing burrowing opportunities and the lack of aquatic and marginal vegetation within the ditch and pond.

Recommendations

It is considered highly unlikely that Water Vole are present within the site and no further survey or mitigation is recommended at this time.



6.5 Badgers

The grassland, woodland, ruderal and scrub habitats within the site provide suitable foraging and sett building habitat for badgers.

No Badger setts, or evidence of Badger (such as hairs, dung pits, prints or foraging signs), were incidentally recorded during the site visit.

Recommendations

It is recommended that a Badger survey of the site and accessible areas within 30m of the site is carried out. The most suitable time for a Badger sett location survey is between November and March whilst vegetation is low.

In the event an active Badger sett is likely to be damaged/disturbed during the works, a Natural England licence will need to be sought and granted and the sett closed, prior to works commencing. Active Badger setts can only be closed between July-November inclusive, outside of the Badger breeding season.

To protect Badgers and other mammals that may be moving around the site during the works, it is recommended that excavations are covered overnight, and any temporarily open pipes plugged to prevent entrapment. In the event a steep sided excavation is left open overnight it should be equipped with a board placed at no more than a 30° angle from the base to the top of the pit to provide a mammal ladder.

6.6 Nesting Birds

The rough grassland, scrub, tree, woodland and pond habitats provide habitat for a range of nesting bird species.

The site does not support suitable habitat for the bird species for which the Lee Valley SPA, Turnford & Cheshunt Pits SSSI, Cornmill Stream and Old River Lea SSSI, Waltham Abbey SSSI and Chingford Reservoirs SSSI are designated and these species are not expected to use the site.

Recommendations

Where vegetation clearance is required to facilitate the works, it is recommended that this



is undertaken outside of nesting bird season (generally taken as mid-March to end-August).

In the event that vegetation clearance is required during the nesting period, it is important that a suitably qualified ecologist carries out a check for nests immediately prior to removing the vegetation. If any occupied nests are found within the vegetation, works within the vicinity of the occupied nest should stop and a suitable buffer of vegetation around the nest retained until the birds have fledged and nesting activity is complete.

6.7 Great Crested Newts

One potential waterbody is located in the east of the site and a further waterbody is located immediately adjacent to the south-western corner of the site. In addition, a review of OS maps and aerial imagery indicate there are five further ponds potentially suitable for breeding GCN within 500m of the site.

Woodland, scrub, tall ruderal and rough grassland habitats at the site provide suitable terrestrial habitat for Great Crested Newts.

Recommendations

It is therefore recommended that a Great Crested Newt Habitat Suitability Index (HSI) and eDNA survey is carried out to determine the presence/likely absence of this species in the ponds at the site and within 500m of the site to inform whether GCN are likely to be present within the site during breeding and/or terrestrial phases.

The season for eDNA surveys runs from 15th April to 30th June inclusive. An early season eDNA survey will allow for any follow up work, such as a population estimate survey, to be completed the same year if required.

6.7 Reptiles

Woodland edge, scrub, tall ruderal and rough grassland habitats at the site provide suitable terrestrial habitat for reptiles. In addition, the bare ground / ephemeral area in the west of the site provides further habitat for Common Lizard.

Recommendations

It is recommended that a reptile survey is undertaken to establish the status of this group



at the site. Reptile surveys are carried out over seven visits between April and mid-June and/or September to early October.

6.8 Invertebrates

The presence of a mosaic of habitats including woodland, rough grassland and scrub in addition to the pond at the site provide suitable habitat for a range of invertebrate species.

Recommendations

It is recommended that an invertebrate survey is carried out of land potentially affected by the development proposals. Invertebrate surveys can be carried out from April to October.

To enhance the site for invertebrates following development it is recommended that any planting at the site includes flowering and fruiting species of trees and shrubs and any grassland creation is species-rich with the presence of wildflowers.

6.9 Plants

No protected or notable plants have been recorded within the working area or immediately adjacent to the working area. No further survey or mitigation is recommended for this group.

7.0. Invasive Species Considerations

Under the Wildlife and Countryside Act 1981 (as amended) it is an offence to cause the spread of a number of invasive plant species. These are listed under Schedule 9 of The Act and include species such as Japanese Knotweed, Himalayan Balsam and Giant Hogweed.

No invasive plant issues have been identified within the site, although garden escapes are present. As such, it is important to stay vigilant for the presence of invasive species to avoid their spread within and outside of the site during the works.

In addition, through the Weeds Act 1959 it is an offence to cause the spread of five species of weed, including Spear Thistle, Creeping Thistle, Curled Dock, Broad-Leaved Dock and Common Ragwort to agricultural land.



8.0. Biodiversity Enhancements

Where appropriate, development proposals should seek to maintain and provide new opportunities for wildlife in accordance with national and local planning policy and guidance (NPPF, 2019; ODPM, 2005) and the 2006 NERC Act.

The Environment Bill sets out a mandatory biodiversity net gain (BNG) requirement for all new development to increase the quality and/or quantity of habitats in comparison to the original condition or baseline. This includes a minimum 10% biodiversity net gain target and 30-year legacy. Prior to planning permission being sought for the site it is recommended that the biodiversity baseline and net gain is calculated using the most up to date metric.

A selection of potential opportunities for biodiversity enhancement at the site include:

- Woodland management and enhancement, such as management of selected broadleaved woodland trees, including coppicing, creation of open areas and glades and planting of smaller shrub species to create an enhanced understory;
- Establishment of a buffer to protect and enhance woodland edge habitats through the creation of ecotone habitats;
- Providing new wildlife corridors such as hedgerow, tree and scrub planting;
- Enhance existing pond habitats by reducing the impacts of nutrient enrichment and through planting of native aquatic/marginal species;
- Creation of new wildlife friendly wetland habitats such as ponds, ditches and swales, as standalone features or as part of the site surface water drainage strategy;
- Using native species typical of the local area for landscape planting and avoiding invasive species and cultivars. These should be sourced from stock of local provenance, where possible;
- Using nectar rich, pollen rich and fruit and nut producing species for landscape planting to benefit a number of species such as invertebrates, bats, Badgers and birds;
- Install bat boxes and bird boxes on existing trees and on new buildings;
- Create log and brash piles along woodland edge habitats to benefit amphibians, reptiles, small mammals and invertebrates.



- Design a lighting scheme that will avoid adverse effects on nocturnal wildlife and avoid light spill on to woodland edge (e.g. using timers, using minimum levels required for safety, using hooded and bollard lighting, low UV bulbs, etc.).

Ecological enhancements should be agreed with a suitably qualified ecologist once final plans for the site have been confirmed and an appropriate mitigation strategy will need to be developed and incorporated.

9.0. Summary of Ecological Impact

A summary of the above assessment is provided below:

- There are no statutory or non-statutory designated wildlife sites located within the site or immediately adjacent to the site. Notwithstanding this, the site is located within a number of Impact Risk Zones and potential risks to off-site designated sites should be fully assessed following production of final plans for the site.
- The grassland, scrub, woodland, ditch and pond habitats within the site should be protected and retained wherever possible. Loss of these habitats should be compensated within a biodiversity enhancement scheme.
- The site has the potential to support a number of protected and notable species on at least an occasional basis including bats, Badgers, birds, Great Crested Newts, reptiles and invertebrates. Protected species surveys are recommended in Section 6.
- Development proposals should seek to maintain and provide new opportunities for wildlife including a minimum 10% biodiversity net gain target and 30-year legacy.

10.0. Conclusion

Subject to the implementation of the measures recommended for protection of off-site designated sites and on-site habitat retention, creation and enhancement, no significant reduction in the ecological interest of the site or surrounding area is likely to arise as a result of the proposed scheme.



Through ensuring a minimum of 10% biodiversity net gain for any proposed scheme and the inclusion of the measures outlined in Sections 5, 6 and 8 above, development at the site could in fact provide opportunities to enhance the value of the site in the long-term for a range of habitats and species.

Protected species surveys should be carried out to inform appropriate mitigation for the construction and operational phases of any development at the site.

It is therefore concluded that, beyond the requirements to avoid potential impacts on protected species and to maintain and enhance key elements of the habitat resource of the site, there will be no significant nature conservation impacts that would prevent the proposed works at the site.



11.0. Disclaimer

Please note this report is accurate at the time of writing. Any findings or recommendations stated are based on circumstances and facts as they existed at the time the ecology and heritage report was produced.

This document is only valid for six months after production as legislation and circumstances in the natural environment can change.

This report may not be relied upon by any other parties without the expressed written agreement from the Ecology and Heritage Team.

For further advice on the implications of any of the above issues, please contact:

- Senior Ecologist – Hayley Snowdon on 07747642794
- Ecology Projects Executive – Rebecca Elliott on 07747642156

12.0. References

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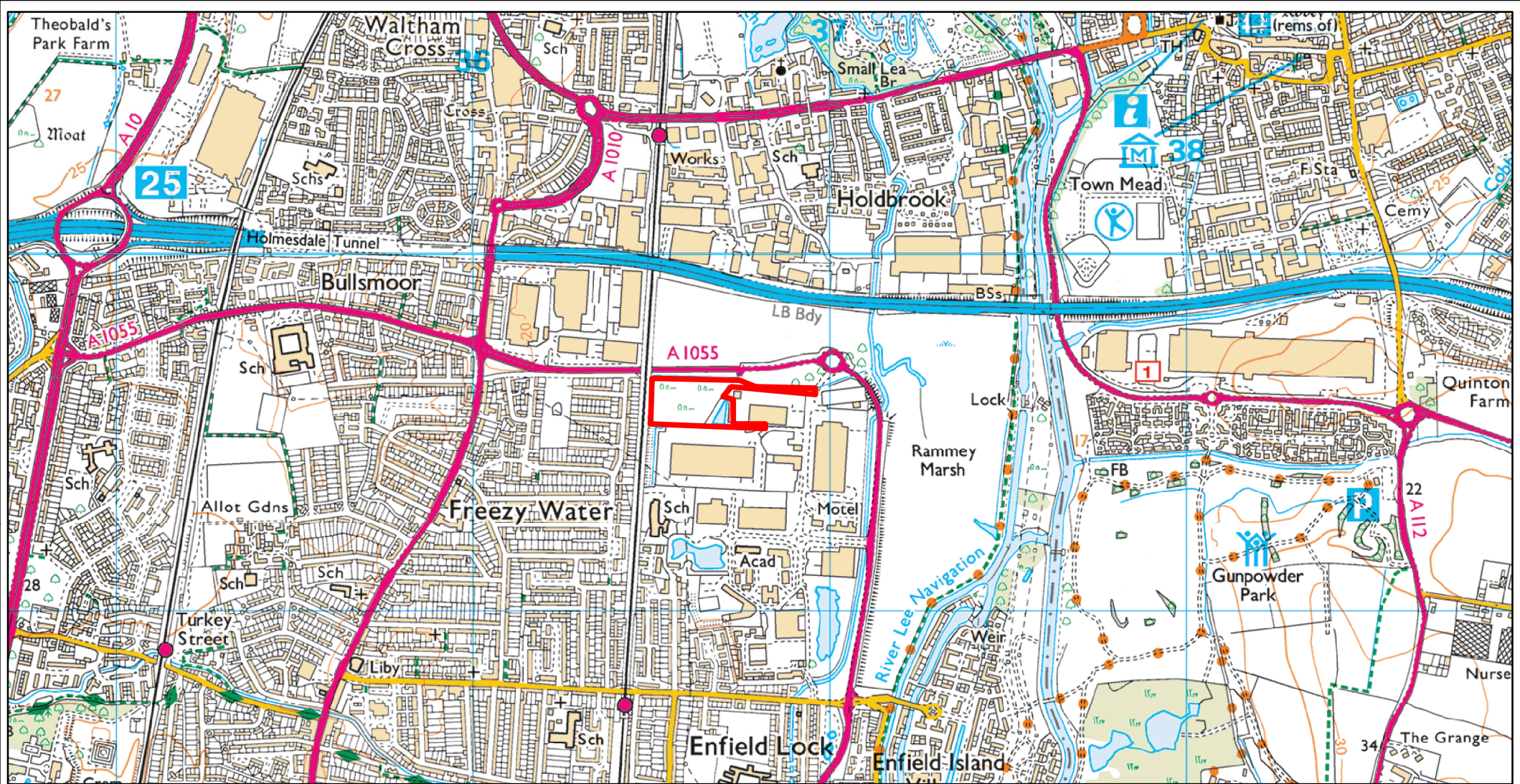
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Appendix 1

- Site Location

Location of land north-west of Innova Park

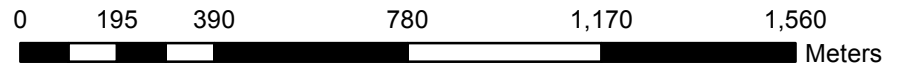


Thames Water
Map



Printed By: HSnowdon
Print Date : 09/09/2021

Map Centre On : 536605, 199601
Centre Tile No. : TQ3699NE



Disclaimer: Based on the Ordnance Survey Map with the Sanction of the Controller of H.M Stationery Office License Number:- 100019345

Current Scale : 1:15,210

Comments:

The site location is outlined in red.

The position of the apparatus shown on this plan is given without obligation and warranty, and the accuracy cannot be guaranteed.

Service pipes are not shown but their presence should be anticipated. No liability of any kind whatsoever is accepted by Thames Water for any error or omission. The actual position of mains and services must be verified on site before any works are undertaken.

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Appendix 2

- Desk Study Results

MAGiC Internationally Designated Sites within 10km



Legend

- Ramsar Sites (England)
- Special Areas of Conservation (England)
- Special Protection Areas (England)

Projection = OSGB36

xmin = 491400

ymin = 181500

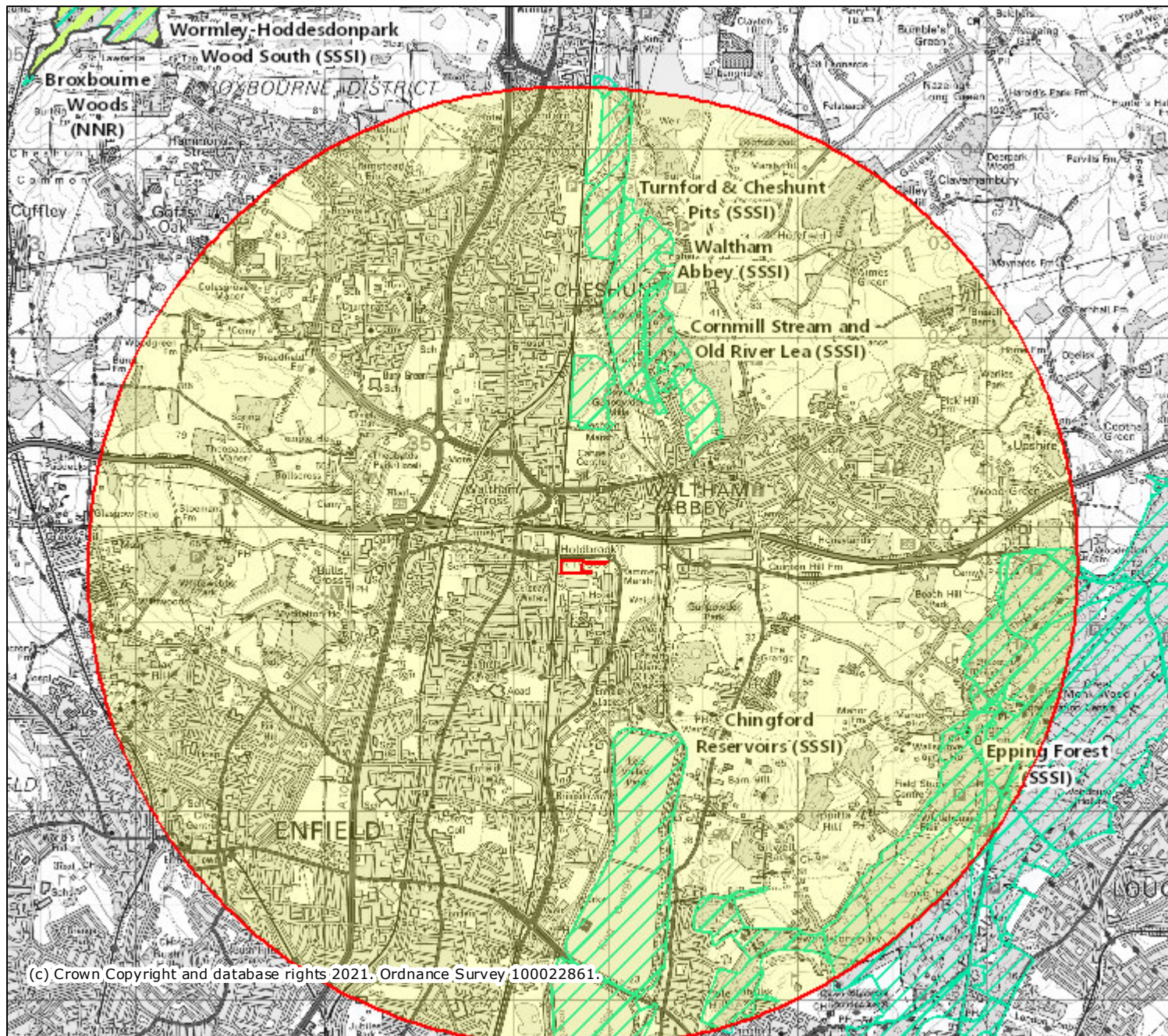
xmax = 584700

ymax = 224300





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Legend

-  National Nature Reserves (England)
-  Sites of Special Scientific Interest (England)

Projection = OSGB36
 xmin = 524300
 ymin = 194100
 xmax = 549400
 ymax = 206000



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MAGiC Ancient Woodland and Protected Species within 2km



Legend

Ancient Woodland (England)

- Ancient and Semi-Natural Woodland
- Ancient Replanted Woodland

Granted European Protected Species Applications (England)

- Amphibian
- Bat
- Cetacean
- Invertebrate
- Other Mammal
- Plant
- Reptile

Great Crested Newt Class Survey Licence Returns (England)

Great Crested Newt Pond Surveys 2017 - 2019

- 10 FIG present
- 10 FIG absent
- 10 FIG inconclusive
- 8 FIG present
- 6 FIG present
- 4 FIG present
- 4 FIG absent
- 4 FIG inconclusive

Projection = OSGB36

xmin = 525100

ymin = 195300

xmax = 547700

ymax = 205200



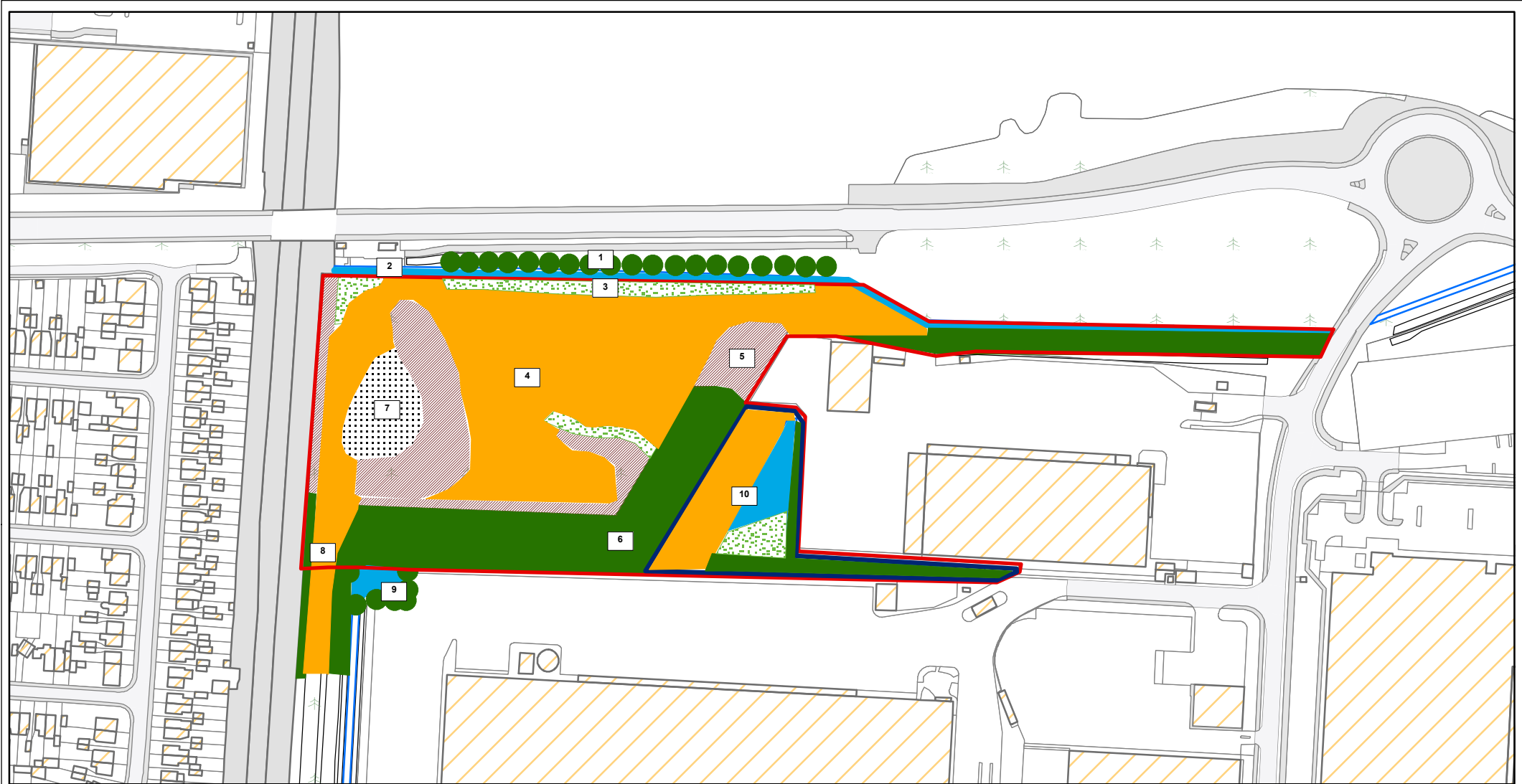
Map produced by MAGiC on 8 September, 2021.

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Appendix 3

- Phase One Habitat Survey Plan and Target Notes

Land North-west of Innova Park



Thames Water
Map

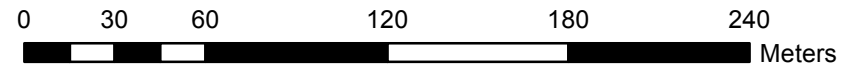


Printed By : HSnowdon
Print Date : 07/09/2021

Map Centre On : 536674, 199554
Centre Tile No. : TQ3699NE

Comments:

Phase 1 Habitat Survey Plan



Current Scale : 1:2,500

Disclaimer: Based on the Ordnance Survey Map with the Sanction of the Controller of H.M Stationery Office License Number:- 100019345

The position of the apparatus shown on this plan is given without obligation and warranty, and the accuracy cannot be guaranteed.

Service pipes are not shown but their presence should be anticipated. No liability of any kind whatsoever is accepted by Thames Water for any error or omission. The actual position of mains and services must be verified on site before any works are undertaken.

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Target Notes

1. Off-site species-rich tree line of Willow, Turkey Oak, Pedunculate Oak, Hawthorn, Elder, Birch, Rowan and Blackthorn with scattered Bramble. Ground flora below the treeline comprises a band of grassland and ruderal vegetation with species including False-oat grass, Common Couch, Cock's-foot, Rough Meadow-grass, Comfrey, Wild Carrot, Smooth Sow-thistle, Yarrow, Black Horehound, Teasel, Creeping Cinquefoil, Daisy, Ragwort, White Clover, White Dead-nettle, and Broadleaved Dock.
2. A steep sided ditch with concrete banks and a gravel base, approximately 1.5m wide with a water depth of approximately 20cm at the time of survey. The ditch is heavily shaded by Bramble scrub and trees and had no aquatic vegetation.
3. Patch of dense Bramble with scattered Willow and Buddleia. Tall Nettle and Hedge Bindweed are also present.
4. Unmanaged, neutral grassland with patches of tall ruderal vegetation and scrub. The grassland is generally species-poor, with greater species richness recorded along a track that runs through the northern area of the site. Species present include, False-oat grass, Cock's-foot, Common Couch, Common Bent and Tall Fescue with Germander Speedwell, Mugwort, Lucerne, Scentless Mayweed, Creeping Thistle, Common Nettle, Wild Carrot, Comfrey, Field Poppy, Hogweed, Greater Burdock, Common Mallow, Black Horehound, Ragwort, Creeping Cinquefoil, Teasel, Smooth Sow-thistle, White Dead-nettle, Yarrow, Red-dead nettle, Ribwort Plantain, Redshank, Common Vetch, Black Medick, Horse Radish, Perforate St John's Wort, Hogweed and Cleavers. Bramble, Willow, Dog-rose and Buddleia scrub is scattered throughout.
5. An earth bank dominated by Common Nettle, Cow Parsley and Hemlock.
6. Broadleaved woodland with a dense scrubby understorey. Some of the trees and scrub have been planted, with tree guards still present on some trees. Species present include Ash, Pedunculate Oak, Hawthorn, Blackthorn, Hazel, Willow, Elder, Birch, Privet, and Cypress sp., with Hazel dominant within the southern band. Ground flora is relatively sparse due to heavy shading, with occasional Ground Ivy, Wood Avens, Greater Burdock and Red Dead-nettle.
7. An area of more recently disturbed ground with patches of bare earth and scattered vegetation. Scattered vegetation includes Redshank, Scarlet Pimpernel, Groundsel, Common Knotgrass, Wild Radish and Ribwort Plantain.
8. An embankment with steep sided banks. The top of the embankment is dominated by species-poor grassland dominated by Perennial Rye-grass with scattered forb species. Scrubby woodland is present to either side.
9. A pond with steep sided earth banks. Evidence of eutrophication with dense algae and duckweed cover on the surface. The pond could not be fully viewed, however no aquatic or marginal vegetation could be seen.
10. Area of the site could not be accessed during survey due to security fencing preventing access. The area was viewed from the fenceline, and in addition to the

use of aerial photographs, it is considered the area comprises grassland with scattered trees and scrub and a pond bordered by scrub and trees.

Target Note Reference	Photo
1	
2	
3	No photo

4	
5	

6	
7	
8	

9	
10	