Quod

Environmental Statement

Non-Technical Summary

Hillingdon Water Sports Facility and Activity Centre

November 2025

Q220454

Contents

1 Introduction

The London Borough of Hillingdon (LBH) submitted a planning application to LBH (as the local planning authority) for construction and operation of the Hillingdon Water Sports Facility and Activity Centre, and long-term management of the area. The proposals are located at Broadwater Lake, Harefield, Uxbridge, UB9 6PE. Broadwater Lake forms part of the Mid Colne Valley Site of Special Scientific Interest (SSSI) which is designated for its special wildlife interest.

The proposals have been subject to an Environmental Impact Assessment (EIA) process, and the planning application is accompanied by an Environmental Statement. EIA is a process which is required by UK legislation for certain development projects which are likely to have significant impacts on the environment. The purpose of EIA is to ensure that decision makers, and the public, understand the environmental effects of a development before deciding whether to grant planning permission. The EIA process was carried out by a team of competent experts who also prepared the ES. The ES was prepared in line with the relevant UK legal requirements (the EIA Regulations[1], as amended[2]), and good practice. This document provides a summary of the Environmental Statement in non-technical language.

The proposals will provide a replacement watersports and outdoor activity facility to one which formerly operated at Dews Lane, Harefield, UB9 6JN and the adjacent lake, also in LBH. The proposals will also provide a new facility for the Broadwater Sailing Club (BSC). The former watersports and outdoor activity facility, which operated as Hillingdon Outdoor Activity Centre (HOAC) in partnership with LBH by a youth educational charity[1], was forced to close in 2020 due to High Speed 2 (HS2), the new high speed rail line connecting London, Birmingham and Crewe. The former HOAC facility provided outdoor and environmental education for the whole community, but with priority given to young people, particularly those who are disadvantaged or disabled. Activities included sailing, windsurfing, kayaking, canoeing, climbing, archery, and team-building activities.

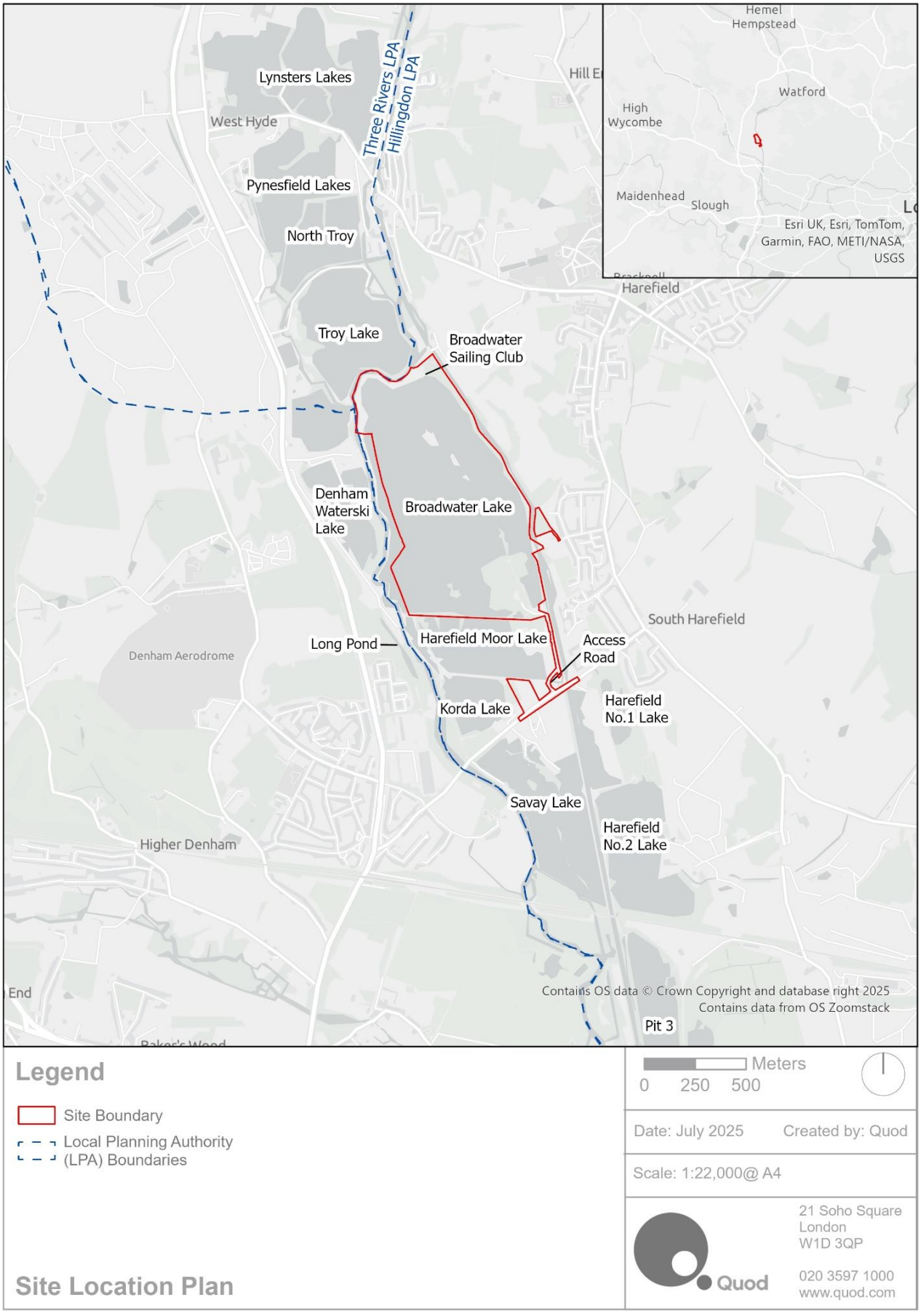
A planning application was submitted to LBH for the replacement HWSFAC facility at Broadwater Lake in November 2023 (Ref: 2382/APP/2023/2906), known as the '2023 Scheme'. This planning application was accompanied by an Environmental Statement (the '2023 ES'). Since then, the proposals have been revised in response to responses to the application and discussions with key stakeholders including LBH, Natural England, and the Environment Agency. The main components of the 2023 Scheme however remain the same. The revised proposals are referred to as the 'Proposed Development'. This document replaces the Non-Technical Summary submitted with the 2023 ES.

A description of the revised proposals is provided in Section 5.

The planning application is available to view on LBH's website and hard copies are available at Hillingdon Council, Civic Centre, High Street, Uxbridge, UB8 1UW. Copies of the ES can also be purchased from Quod by emailing reception@quod.com or calling 020 3597 1000. Additional copies of this NTS are available free of charge.

[1] Colne Valley Youth & Community Association (Registered Charity: 1012242)

Figure 1: Site Location Plan



2 Site and Setting

Where is the Site?

The site of the planning application, shown on **Figure 1 (the 'Site')** is approximately 5km north of Uxbridge and east of South Harefield village in the Colne Valley Regional Park. The Site is in close proximity to the boundaries of Buckinghamshire Council and Three Rivers District Council as shown on Figure 1.

What does the Site include?

The Site covers approximately 80 hectares, with Broadwater Lake occupying around 62 hectares. Broadwater Lake was formed by sand and gravel quarrying that took place between the 1960s - 1990s. It is the largest of four lakes within the Mid Colne Valley SSSI. **Figure 2** shows the key features of the Site.

The Peninsula in the south of the lake was previously used for gravel processing and landfill and still includes some associated infrastructure such as hardstanding and a weighbridge. Since quarrying ceased in 1992, the area has partly been colonised by woodland and shrubs.

Access to the lake is gained via an access road which connects with Moorhall Road in the south and extends along the eastern side of the lake ('Access Road'). The Access Road provides access for a construction material wholesaler and an aggregates plant and supplier. It also provides access for a small number of residential properties located off the Access Road and to the BSC, which operates from a club house on the northern shore of the lake. The BSC also have storage containers, a car parking area and space for around 260 boats.

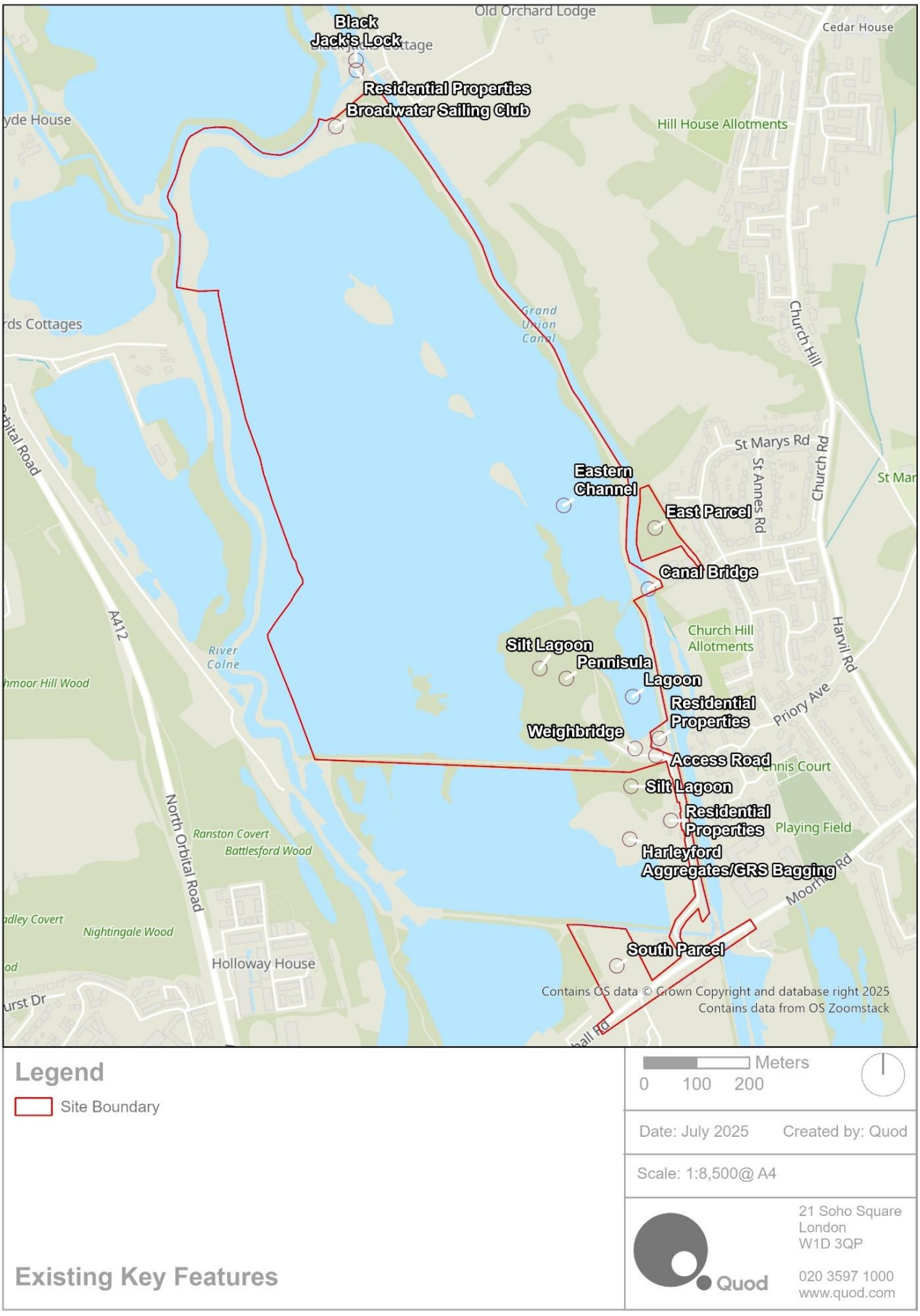
The Site also includes a bridge over Grand Union Canal, part of Moorhall Road and a small parcel of land immediately north of Moorhall Road, comprising a mixture of grassland, shrub, hedgerows and scattered trees, and a parcel of land to the east comprising an area of woodland.

What are the surrounding uses?

The surrounding uses include:

- **East**: Grand Union Canal, London Loop / Colne Valley Public Right of Way, agricultural land, woodland, residential properties and a transport logistics yard;
- **North**: River Colne, Troy Lake and Black Jack's Lock;
- **South**: Harefield Moor Lake, existing businesses and residential properties off the Access Road; and
- **West**: River Colne, Tilehouse North Lake, Tilehouse South Lake and the recently constructed HS2 Colne Valley Viaduct. Denham Aerodrome is c. 700m west of the Site.

Figure 2: Existing Site Features



What are the environmental sensitivities?

Figures 3 and 4 identify the key environmental sensitivities within and close to the Site. The Site is within the Green Belt and Colne Valley Regional Park, which is a large area of parks, green spaces and lakes alongside the River Colne with 200 km of rivers, canals and over 70 lakes.

Most of the Site is within the Mid Colne Valley SSSI, designated for its special wildlife interest for breeding and wintering water birds. The Site is also within the Mid Colne Valley Site of Importance for Nature Conservation (SINC) of Metropolitan Importance and the western part of the lake and adjacent land forms part of a Herts and Middlesex Wildlife Trust nature reserve.

A small part of the Site (Moorhall Road and Access Road) is within the Widewater Lock Conservation Area. Black Jack's and Copper Mill Lock Conservation Area is adjacent to the north eastern boundary of the Site and Harefield Village Conservation Area is c. 250m east. Broadwater Park, Registered Park (Grade II) and Garden is c. 400m south west of the Site. The closest listed buildings to the Site are the Grade II listed Black Jacks Cottage close to the northern eastern boundary of the Site, the Grade II listed Widewater Lock Cottage adjacent to the south east of the Site boundary on the Access Road and Denham Film Studios (Grade II) c. 100m south west. These heritage assets will not be affected by the proposals.

A Public Right of Way is located adjacent to the Grand Union Canal which forms part of the Colne Valley Trail and London Loop (a short section of the London Loop is within the Site). The canal is used for recreation.

How is the Site currently used and managed?

BSC use the lake all year for sailing (an hour after dawn to an hour before dusk), including races and regattas on weekends and some Wednesdays. Angling also takes place around the lake. BSC sail in an approved sailing area in the northern part of Broadwater Lake all year round (up to 50 boats at any one time). The extent of these uses is shown on **Figure 5.**

Broadwater Lake is not accessible to the public however unauthorised activities occur including poaching, dog walking, open water swimming, fly tipping, and wood collection. There is currently no formal management of the Site for wildlife or the water environment.

Figure 3: Environmental Sensitivities Map (1)

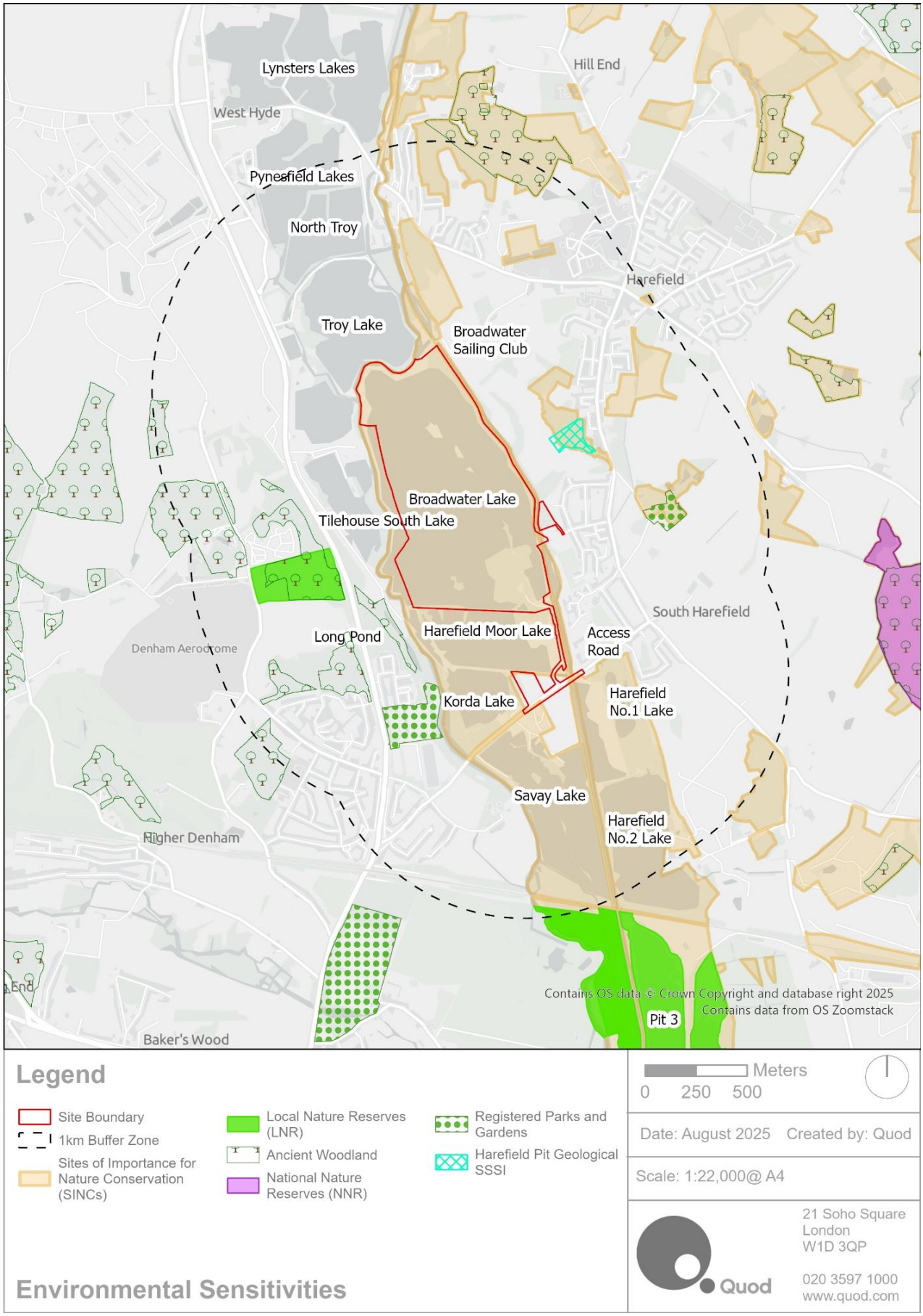


Figure 4: Environmental Sensitivities Map (2)

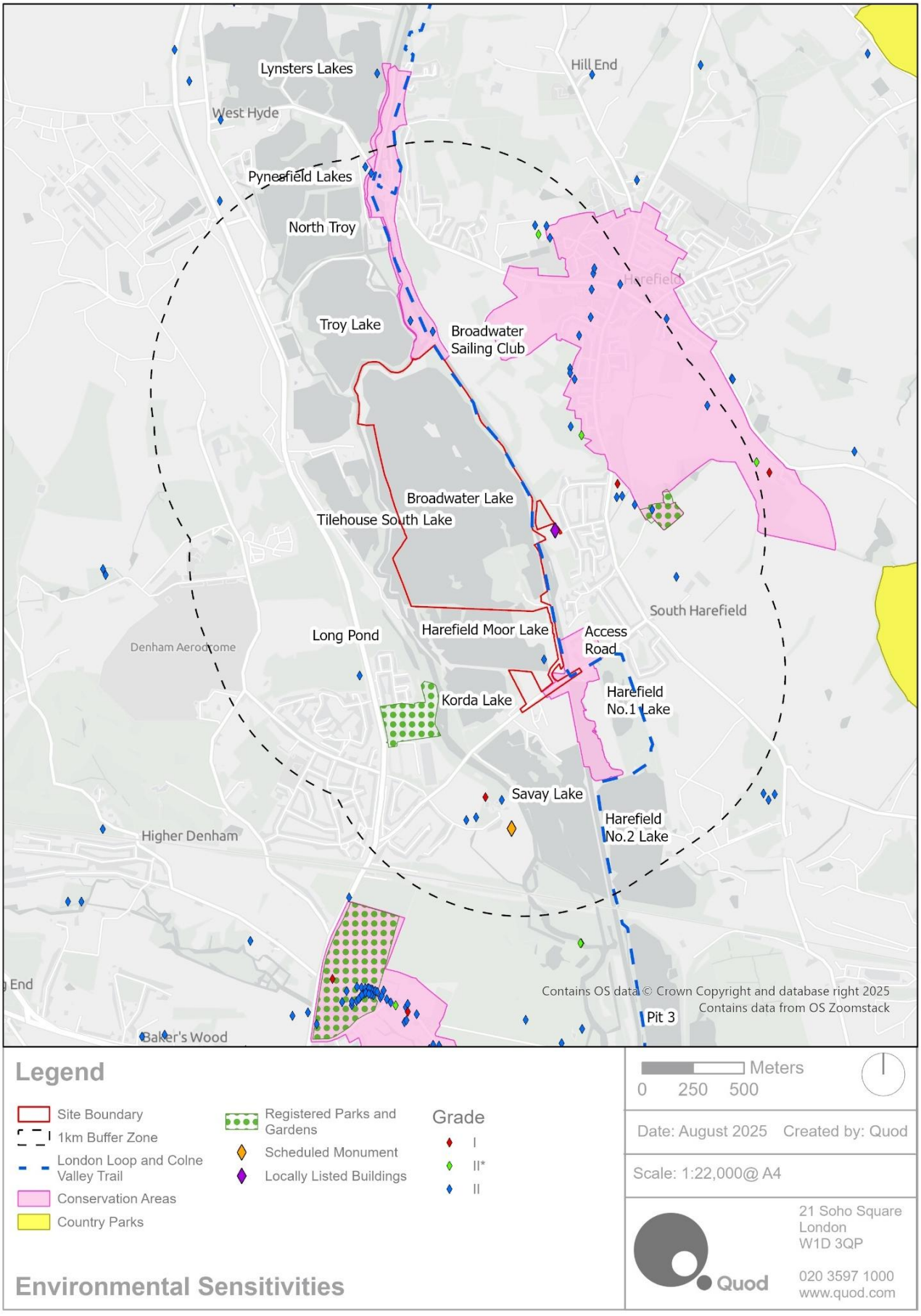
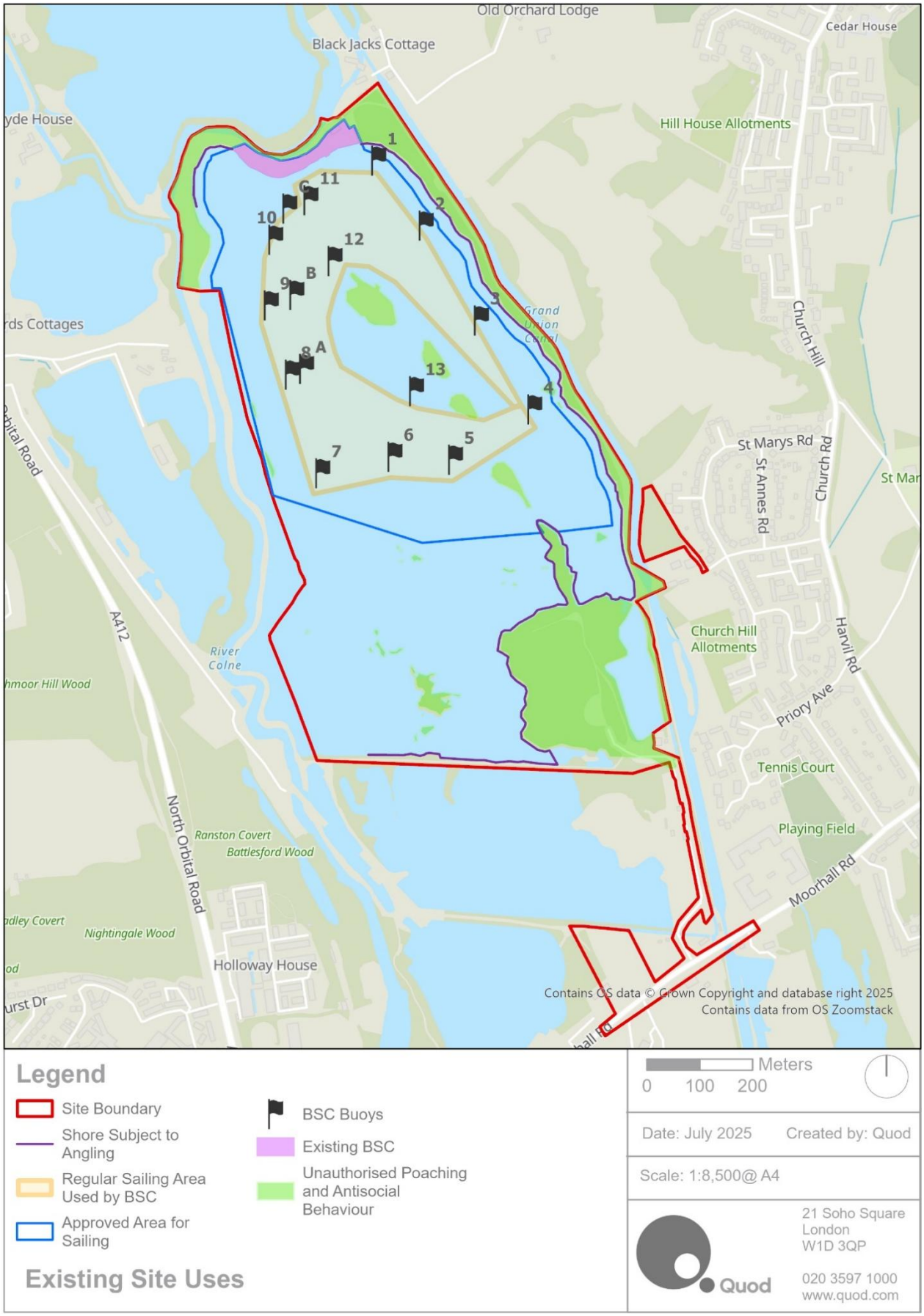


Figure 5: Existing Uses



3 EIA Methodology

An EIA has been undertaken of the Proposed Development by a team of competent experts to meet the requirements of the relevant legislation and the ES provides the information required by the relevant EIA Regulations. The EIA considers the effects of both the construction and operation of the Proposed Development.

How was the scope of the ES agreed?

An EIA scoping study was undertaken by the Applicant's EIA team to establish the 'scope' or focus of the EIA and to identify which environmental topics should be included for further assessment. The scoping study considered relevant legislation, policy and guidance, the current environmental condition (the 'baseline' condition) and the potential effects of the proposals.

An EIA Scoping Report which set out the proposed scope and content of the ES was submitted to LBH in February 2023 alongside a request for a 'Scoping Opinion'. LBH provided a Scoping Opinion in May 2023, which provided their view on the matters to be included in the ES and included advice from stakeholders such as Natural England and the Environment Agency.

LBH agreed the scope of the ES should include the following topics: Biodiversity, Water Resources and Flood Risk, Ground Conditions and Contamination, and Landscape and Visual Impacts. Other topics were scoped out of the ES as significant effects were not identified.

How were significant effects identified?

For each of the environmental topics, the ES provides a description of the baseline conditions and how they may change in the future without the Proposed Development (the 'future baseline'). Receptors are identified which could be affected by the Proposed Development such as designated sites and the water environment.

The ES predicts the environmental effects of construction activities once the development is complete and operational. Detailed construction methods are not yet available; however, the ES is based on reasonable worst-case assumptions and an Outline Construction Environmental Management Plan (CEMP) which includes measures to mitigate construction effects. The timing of construction activities will be limited due to the sensitivity of the Site, and these assumptions are taken into account in the assessment (see Section 6 for further details).

Effects of the completed, operational development are based on the detailed planning application drawings, an Outline Operational Management Plan (OMP) which would control how the facility will operate, and commitments to long-term management set out in the Outline Mitigation and Ecological Management Plan (MEMP) which accompany the ES.

Environmental effects were identified and assessed using a variety of methods. Effects were then assessed as being significant or not significant. Each assessment attaches a level of 'significance' to the effects that were identified, i.e. either major, Moderate, Minor or Negligible. The significance of effects was determined by competent experts using best practice and published standards. Judgements of the significance of the effect typically reflect the relationship between the scale of

predicted change compared to the baseline (i.e. magnitude of the impact) and the sensitivity (or value) of the resource or receptor being affected. Effects are expressed as being either temporary or permanent, and adverse (negative), Negligible or beneficial (positive). Effects are based on worst-case assumptions and take account of measures.

The EIA was undertaken in parallel with the design process and measures to avoid effects, particularly on the special features of the Mid Colne Valley SSSI and SINC, which were designed into the Proposed Development. The revised proposals were also informed by discussions with stakeholders and responses to the 2023 Scheme.

The assessments considers ‘cumulative effects’ which are those that can arise from individual effects of the Proposed Development, interacting and affecting the same receptor. Cumulative effects which could result from the Proposed Development in combination with other development schemes in the vicinity of the Site are also considered. A total of six cumulative schemes were considered within a 4km radius of the Site. The cumulative schemes that are considered included HS2. Construction of the Colne Valley Viaduct was completed in 2024 and therefore only cumulative effects of the operational HS2 are considered.

4 Alternatives

The ES provides a description of the reasonable alternatives to the Proposed Development that were considered by the Applicant in line with the EIA Regulations

Has 'Do Nothing' been considered?

The Proposed Development is designed to provide a replacement watersports and outdoor activity facility to one which formerly operated on approximately 18.2ha of land at Dews Lane, Harefield, UB9 6JN which also used the adjacent Harefield Number 2 Lake. This former facility, operated as HOAC, had to cease operating in October 2020 due to construction of HS2. A legal agreement between HS2 Ltd, the Secretary of State for Transport and LBH was reached in 2017, which requires that LBH will use reasonable endeavours, working together with HS2 Ltd to design and implement a scheme for the relocation of the former HOAC facility to a suitable site(s). A scenario where a replacement to the former HOAC facility is not provided is therefore not considered to be a reasonable alternative.

The Applicant's aims for the Proposed Development are to deliver public, social and health benefits to the local community. The Applicant also seeks to conserve and enhance the special features of the Mid Colne Valley SSSI and the Broadwater Lake waterbody, in accordance with planning policy and other statutory duties. These objectives would be delivered partly through the physical elements of the Proposed Development but also through a commitment to long term management which is secured by the Outline MEMP and Outline OMP.

The Proposed Development provides a sustainable source of funding for the Applicant to secure the long-term active management of the Site in accordance with its statutory duties, and to address current and future challenges, particularly those associated with climate change. It is considered unlikely that active management of the Site to enhance its condition would occur in the absence of sustainable funding.

The Proposed Development will deliver a replacement facility for a community asset which has not been able to operate since 2020. It would provide a broad range of outdoor and environmental educational activities for the communities of Hillingdon, West London, and districts west of London, providing young people, youth organisations, disadvantaged and / or disabled groups, and families access to safe, outdoor and environmental educational facilities. The replacement facility will provide a range of social, health and economic benefits.

Can the former HOAC facility be reused?

The former HOAC facility at Dews Lane is currently being used by HS2 for construction activities. Once HS2 is complete and operational, the land required permanently to construct HS2 will result in both the water-based and land-based operations of the former HOAC facility being impaired due to the available space, noise environment and other issues. As such, re-use of the former HOAC facility is not considered to be a feasible alternative.

What other alternative sites were considered?

An assessment of alternative sites was undertaken by the Applicant which considers whether there are any alternative sites available for delivery of a permanent replacement to the former HOAC facility. This study is presented in an Alternative Sites Assessment which considers alternative sites within a 20km radius of the former HOAC facility. **Figure 6** shows the extent of the study area and the sites considered in the Alternative Sites Assessment.

A total of 71 alternative sites in the study area were assessed by the Applicant against a list of minimum requirements for the replacement watersports and outdoor activity facility, e.g. area for watersports and land-based activities, access, and availability of the site. Of the 71 sites, five were shortlisted for further assessment as potentially suitable alternative sites including: Broadwater Lake (Site 8); Ruislip Lido (Site 13); Bury Lake (Site 20); Aldenham Reservoir (Site 56); and Denham Quarry (also known as Summerleaze Lake and New Denham Quarry) (Site 60).

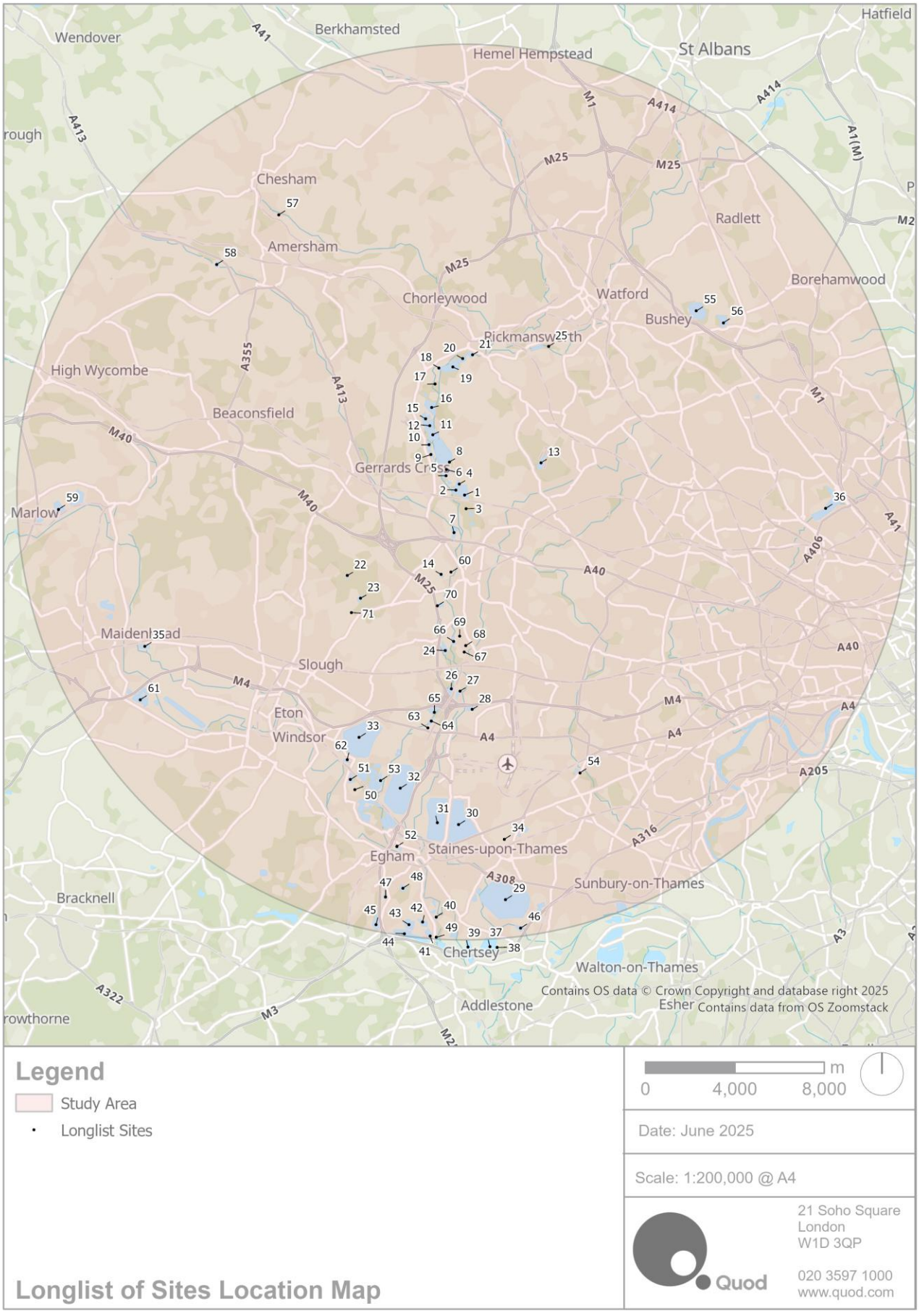
The shortlisted sites were either deemed suitable in their ability to meet the requirements of a watersports and outdoor activity facility, or unsuitable, disqualifying their compatibility. The assessment of alternative sites identified Broadwater Lake to meet the majority of the recreational requirements criteria in terms of lake and land area, accessibility of the lake, water quality, contamination, recreational restrictions, site security, public access, access to wider amenities and site availability.

Despite a comprehensive assessment of alternative sites, considering 70 other alternatives to Broadwater Lake, no other suitable site was identified by the Applicant that would be able to accommodate both the HWSFAC land, water-based activities and recreational requirements.

What about operations being split across sites?

The Applicant considered whether it would be possible to split the proposed facility into two sites, which would involve operating from one base with land-based activities with water-based activities in a different location (off-site). This was discounted as a reasonable alternative for practical reasons including staffing, travel risks, time and costs.

Figure 6: Alternative Sites Considered



What alternatives were considered within the Site?

The Applicant considered retaining BSC in its existing location and locating the proposed facility on the northern shore of the lake. This alternative is not feasible as the site is not large enough and a high-pressure gas main restricts development in this location. This was also rejected as it would lead to a significant increase in traffic along the Access Road adjacent to the lake, which would lead to additional noise and visual disturbance to wildlife.

The Applicant considered the BSC and the Proposed Facility both operating at Broadwater Lake, but from separate locations. This alternative was discounted in favour of co-locating the proposed facility and BSC as it would significantly increase disturbance effects during the bird breeding season and limit the ability to mitigate such effects.

The Peninsula was selected primarily for the proposed facility as there is vegetation which will minimise visual effects, ease of access to the water and the Access Road, and as it is previously developed land with areas of hardstanding which can be re-used. Locating both BSC and the new watersports and outdoor activity facility at the Peninsula also ensures efficient use of the previously developed land within the Site, with facilities designed to modern safety and sustainability standards which can be shared between uses. It also allows the environmental effects of activities to be managed more easily.

What alternative development layouts were considered?

A range of alternative designs were considered by the Applicant for the layout of the proposals at the Site which included use of the Peninsula only, reclaimed land to the west of the Peninsula and to the north of the Peninsula. Early layouts included development on the existing Peninsula only. This was discounted due to the loss of sensitive habitat and as it would have led to bird disturbance effects on all sides of the Peninsula.

The Applicant considered reclaiming land from the lake (west of the Peninsula) using dredged materials which would avoid the loss of wet woodland and deliver the Main Building, boat parking and habitat mitigation / enhancement. This was discounted as it would lead to significant loss of open water habitat and would cause disturbance to birds using the southern part of the lake.

The north side of the Peninsula was then selected as best location for land reclamation as it would minimise impacts on sensitive ecological habitats (including wet woodland).

In response to feedback on the 2023 Scheme and further engagement with LBH, Natural England, the Environment Agency and other stakeholders, the following changes were made to the layout of the 2023 Scheme:

- **Land Reclamation** - The area of land reclamation has been significantly reduced in scale from c. 16,110m^2 to 2,900m^2. The area of reclaimed land nowavoids losing open water habitat and potential pollution risks associated with landfilled areas. A much smaller area of reclaimed land is now proposed on the northeastern tip of the Peninsula to provide boat storage and access to the lake via the Eastern Channel which benefits from visual screening, minimising bird disturbance.
- Dredging **and Island Removal –** The 2023 Scheme was predicted to generate over 47,000 cubic metres of material. This has been significantly decreased to just over 7,000 cubic metres

which reduces the impacts of dredging on wildlife and the water environment. The 2023 Scheme involved the loss of two islands and the creation of eight new islands. Only one island will now be removed and two islands with be altered to improve their value for birds.

- **Open Water Loss** - The 2023 Scheme would have led to a loss of 3% of open water due to land reclamation and new islands. The Proposed Development will lead to a net gain of c. 700m^2 of open water.
- **Building Locations** - The 2023 Scheme proposed buildings on reclaimed land in the north west of the Peninsula. Buildings are now sited on existing hardstanding in the centre of the Peninsula, so that the western and most ecologically sensitive part of the lake now benefits from screening provided by existing trees.

Were alternatives buildings and structures considered?

Initially, BSC and the proposed watersports and activity centre facility were designed as separate buildings, each with their own dedicated spaces and facilities. However, the uses are now combined into a single building (the Main Building) which avoids the visual impact of separate buildings.

The number and scale of the proposed buildings has been reduced from the 2023 Scheme to minimise visual effects and effects on the openness of the Green Belt. The overall building footprint has been reduced by approximately 880m^2 Gross External Area from the 2023 Scheme by removing the Boat Shed, more efficient layout and reducing certain space requirements.

The appearance of buildings and structures of the 2023 Scheme has also been changed in response to feedback from LBH. These changes include elongated roofs that sit below the tree line which soften the appearance of the buildings in the landscape. Changes to the materiality have also been proposed e.g. from brick to concrete, reflecting the previous use of the Site as a quarry and the left-over concrete remnants on the Site.

Were alternative uses and activities considered?

Given the legal agreement in place, not providing a replacement to the former HOAC facility is not considered to be a reasonable alternative. An exact ‘like-for-like’ replacement is not a reasonable alternative as the former HOAC facility did not meet modern design standards.

The 2023 Scheme has been changed to minimise disturbance effects on wildlife as follows:

- All water-based activities (BSC and HWSFAC) will now access the lake via the Eastern Channel rather than from the west of the Peninsula.
- Only BSC users and HWSFAC dinghies and windsurfers would be able to use the Sailing Area. All other water-based activities will only be allowed to use the Eastern Channel.
- The southern extent of the Sailing Area has been moved further north to create a refuge area for birds in the south west corner of the lake.
- Archery, a big swing, high and low ropes, zip wire and pedal carting proposed in the 2023 Scheme are no longer included. All uses would be below the woodland tree line.
- Only one bird hide is now proposed to reduce the number of buildings on the Peninsula (the 2023 Scheme had three).

Some of the reasonable worst-case assumptions about how the facility would operate made in the 2023 ES have been refined and reduced, e.g., operating times, maximum number using the facilities (reduced from 200 to 120).

Was alternative site access considered?

There are no Public Rights of Way within the Site, apart from a short section of the London Loop adjacent to Grand Union Canal. The Applicant considered providing public access throughout the Site, but this was not considered possible due to safeguarding and safety concerns as well as disturbance risks to wildlife.

Vehicular access from the north was discounted as this would potentially result in additional significant effects to ecological receptors, residential receptors and heritage assets at Black Jack's Cottage and lock.

5 Description of the Development

What would the Proposed Development deliver?

The Applicant's main objectives for the Proposed Development are to provide a replacement to the former HOAC facility displaced by HS2 designed to modern standards for safety and accessibility. The new facility has been designed to provide equal access to watersports for people of all abilities, promote mental and physical health and provide a safe space for children and young people to build confidence and learn skills for life. The Applicant also aims to protect the SSSI and take positive steps to improve the condition of Broadwater Lake and its special features through design measures and the long-term management of the Site.

Figure 7 shows the layout of the whole Proposed Development. **Figure 8** shows the location of proposed buildings.

The existing BSC club house and facilities on the northern lake shore will be removed and this part of the Site will be restored for nature. BSC will then operate from the new facility at the Peninsula.

The main built components include:

- Main Building – The Main Building will be shared by BSC and the operator of the HWSFAC and comprises two connected buildings sited on existing hardstanding on the western side of the Peninsula. It will be two storey and will provide changing facilities, toilets, meeting and training rooms, storage, seasonal worker accommodation and an observation deck. **Figure 9** provides an image of the Main Building;
- Equipment Store and Workshop – a single storey building sited on existing hardstanding on the eastern side of the Peninsula. The north part of the building will include a boat store and energy centre. The south part of the building will include a Workshop. A covered service yard is located between the two parts of the building;
- Camp Zone – providing a camping area, single story activity shelter and toilet / changing facilities;
- Activity shelters and a bird hide;
- Facilities for outdoor land-based activities including artificial above-ground caving, zip-line, big swing, bird watching, foraging, pond dipping and environment training and education;
- Areas for boat storage, car and cycle parking, and coach drop-off and turning; and
- A small area of land reclamation, two pontoons and two concrete slipways at the north eastern tip of the Peninsula providing access to the water.

The buildings will provide a total of 3,802m^2 Gross External Area.

The new facility will be accessed via Moorhall Road and the existing Access Road. This road will be improved with a new road surface, pedestrian footway and street lighting. Emergency access will also be available from the north.

The majority of HWSFAC users will arrive at the Site by coach, so a turning and drop off area is provided. A total of 50 car parking spaces will be provided on existing hardstanding / gravel in the southern part of the Peninsula for all users together with cycle parking shelters.

The Applicant's aim is for HSWSFAC to be operated as a carbon neutral development. Solar panels would be provided on the Main Building and the Workshop to provide clean energy. A water source heat pump system will be installed drawing water from the lake as an energy source. This green technology is a self-contained system which is ecologically safe and non-polluting and will help improve the water quality of the lake.

All new services (e.g., electricity, water) would be routed underground using specialist drilling methods below the Grand Union Canal. A lighting strategy has been developed which includes measures to minimise ecological disturbance and visual effects of lighting.

What ecological mitigation and enhancement measures are proposed?

The Proposed Development has been designed to avoid habitat loss and mitigate adverse ecological effects. A package of enhancement measures has also been developed and forms part of the landscape strategy. The key ecological mitigation and enhancement measures include:

- **Islands** - remodelling of two islands to benefit wading birds and the removal of a small island in the Eastern Channel to mitigate the loss of open water from land reclamation. These works will increase the total surface area of open water in the lake by approximately 716m^2.
- **Bird Refuge Zone –** this will be created in the south west of the lake by introducing willow planting to help screen activities in the Sailing Area. Fishing will no longer be allowed on the southern lake shore. This will increase the area of undisturbed open water from approximately 3.42ha to 14.72ha. There will be a 200m buffer between the Bird Refuge Zone area and the Sailing Area. Floating reed beds and rafts for nesting birds will also be introduced.
- **Wet Woodland** – a section of the Peninsula would be planted with native trees.
- **Woodland living green wall / screen** – this would be installed around the edge of the woodland at the Peninsula to mitigate visual and noise effects from land-based activities and prevent access to the woodland.
- **Existing BSC site** – buildings and structures will be removed and the area restored for wildlife.
- **North west lake corner –** floating pontoons, rafts and floating reedbeds will provide visual screening and habitats to benefit nesting birds, proving a further refuge area.
- **Eastern Channel** – floating reedbeds and a narrow gravel bank to provide habitat for wildlife.
- **Peninsula** – This area will include a new native orchard, sensory garden, wildlife pond and bird hide.

The Outline MEMP includes measures designed to conserve and enhance the Site for wildlife, in particular the SSSI and its special features. A detailed MEMP will be developed with stakeholders, including LBH, Natural England and the Environment Agency and will be approved by LBH.

Figure 7: Proposed Development Masterplan

KEY

Site

- Application boundary
- Existing waterbody, sailing zone
- Buffer zone (no sailing)
- Wildlife refuge (no sailing)
- Existing woodland to be protected (exempt from use / access)
- Sporadic tree groups on hard standing
- Existing tree cover
- Existing native groundcover shrubs on top of existing hardstanding
- Exposed existing concrete hardstanding to be used as driveway, footpath, car parking and pedal karting track surface

Hardworks

- Vehicular Tarmac / Blacktop
- Pedestrian Tarmac / Blacktop
- Pedestrian coloured Tarmac / Buff
- Vehicular coloured Tarmac / Buff
- Grass-concrete paving (Grasscrete)
- Gravel surface with native wildflower overseeding for dinghy parking and rigging
- In-situ concrete surface around the camp zone building and under the main activity shelter
- 2.0m high living acoustic barrier (Gramm EcoSoundBlok)
- 1.2m high chestnut paling fence
- 1.8m high V-mesh security fencing
- 1.2m high & 1.0m wide dry hedge with shrub planting alongside to close gaps in existing vegetation barrier;
- 1.5m high hazel hurdle panels attached to dry hedge

Softworks

- Native tree planting
- Willow planting in submerged planters
- Native hedge planting
- Woven willow barriers
- Native shrub planting
- Other neutral grassland seeding
- Lowland meadow seeding
- Woodland improvement planting
- Floating reedbeds

Rev	Amendments	Date	Drwn	Chkd
12	Updated building layout	17.11.25	KH	PO
11	Updated building and layout	14.11.25	JR	PO
10	Zipline, Big Swing & Sand Martin habitat re-included	14.08.25	DB	PO
09	Zipline omitted	14.08.25	JR	DB
08	Northern pond omitted	16.07.25	JR	DB
07	Entrance boat wash relocated	03.07.25	DB	PO
06	Updated to Client comments	03.07.25	DB	PO
05	Updated layout	16.06.25	DB	PO
04	Updated layout	20.11.24	TK	PO
03	Updated layout	04.11.24	TK	PO
02	Updated layout	01.10.24	TK	PO
01	First issue	26.09.24	TK	PO

Project
HWSFAC - Broadwater Lake

Drawing Title
Overall Landscape Masterplan

Project No.
2121

Scale @ A0
1:1500

Project Status
RIBA Stage 3

Drawing No.
HWSFAC-COL-00-XX-DR-L-1109

Revision
12

York 0190 49 25 888
London 0203 92 49 888
Newcastle 0191 24 24 224
colour-udl.com

colour

Figure 8: Peninsula Layout

KEY

Site

- Application boundary
- Existing waterbody
- Existing woodland to be protected (exempt from use / access)
- Sporadic tree groups on hard standing
- Existing tree cover (blue dashed = root protection zone blue dashed line)
- Existing native groundcover shrubs on top of existing hardstanding
- Exposed existing concrete hardstanding to be used as driveway, car parking, footpath and pedal karting track surface

Hardworks

- Vehicular Tarmac / Blacktop
- Pedestrian Tarmac / Blacktop
- Pedestrian coloured Tarmac / Buff
- Vehicular coloured Tarmac / Buff
- Grass-concrete paving (Grasscrete)
- Gravel surface with native wildflower overseeding for dinghy parking and rigging
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- 1.2m high chestnut paling fence
- 1.8m high V-mesh security fencing
- 1.2m high & 1.0m wide dry hedge with shrub planting alongside to close gaps in existing vegetation barrier
- 1.5m high hazel hurdle panels attached to dry hedge

Softworks

- Native tree planting
- Willow planting in submerged planters
- Native hedge planting
- Woven willow barriers
- Native shrub planting
- Other neutral grassland seeding
- Lowland meadow seeding
- Woodland improvement planting
- Floating reedbeds
- Big swing to be micro-located so as to avoid existing vegetation

Rev	Amendments	Date	Drwn	Chkd
18	Updated building layout	17.11.25	KH	PO
17	Updated Red Line Boundary and layout	14.11.25	KH	PO
16	Updated layout	10.11.25	JR	PO
15	Building location updated	05.11.25	kh	PO
14	Bid swing location updated	25.09.25	JR	PO
13	Zip line omitted	14.08.25	JR	DB
12	Updated to Client comments	04.08.25	DB	PO
11	Updated layout	16.06.25	DB	PO
10	Removed activity structures, amended acoustic barrier	15.01.25	TK	PO
09	Amended woodland activity/ camping area	19.11.24	TK	PO
08	Amended zip line and boat wash locations	06.11.24	TK	PO
07	Amended building locations	31.10.24	TK	-
06	Amended EV charging parking bays	28.10.24	TK	PO
05	Amended car parking & coach reversing	25.10.24	TK	PO
04	Added woodland planting	10.10.24	TK	PO
03	Relocated Tarp Shelter	01.10.24	TK	PO
02	Updated layout	23.09.24	TK	PO
01	First Issue	17.09.24	TK	PO

Project
HWSFAC - Broadwater Lake

Drawing Title
Proposed Landscape Layout
Part 2 of 2 : Peninsula

Project No. 2121
Scale @ A0 1:500
Project Status RIBA stage 3
Drawing No. HWSFAC-COL-XX-XX-DR-L-1120
Revision 18

York 0190 49 25 888
London 0203 92 49 888
Newcastle 0191 24 24 224
colour-udl.com
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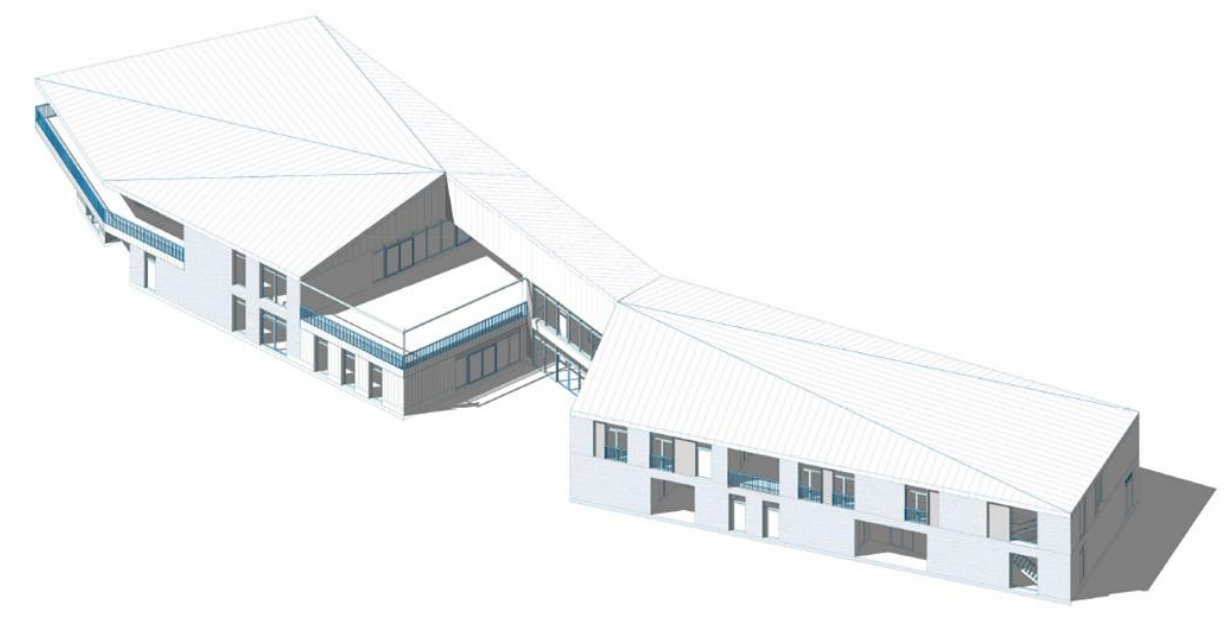
Figure 9: 3D Image of the Main Building



How will the Proposed Development be used?

HWSFAC will be owned by LBH and operated in partnership with a third party. The facility will be used by schools and other educational establishments, children, young people and adults with disabilities and additional needs, local guides and scout groups, families, emergency services and BSC members. Residential trips, summer camps and volunteering opportunities will also be offered.

HWSFAC would only operate water sports and outdoor activities between 1 April and 31 September. There would therefore be no activities which could disturb wintering birds. Land and water-based activities would only take place between 10:00 and 15:00 throughout the week. Camping will be between Friday and Sunday.

Land-based activities on offer would include indoor fencing, outdoor team building activities, bird watching, camping, foraging, pond dipping, artificial above-ground caving system, zip-lining, big swing, and environment training and education. Water-based activities would include dinghy sailing and occasional windsurfing in the sailing area only. No motorised boats would be allowed. Other water activities would only be allowed in the Eastern Channel, including kayaking / canoeing, dragon boats, paddleboarding and raft building.

Broadwater Lake would continue to be used by BSC all year as they do currently, although from the new facility rather than the northern lake shore. It is expected that the total number of HWSFAC users would be 120 children and 12 adults, plus HWSFAC staff at any one time. Only 6 dinghies and up to 6 windsurfers would use the lake at any one time. Other activities in the Eastern Channel would have up to 48 children. Figure 9 shows the existing and proposed sailing areas and location of the Eastern Channel.

An Outline OMP has been prepared which provides a framework for controlling the operational activities of HWSFAC and its users. The Outline OMP also includes a code of conduct that future users will have to abide by. The detailed OMP would be developed with key stakeholders and will

include measures designed to prevent pollution, minimise disturbance and ensure the security and safety of users.

Figure 9: Existing and Proposed Sailing Areas

6 Construction

When will construction take place?

Construction is expected to take place over a period of approximately 16 months. The timing of works has been carefully designed to minimise disturbance to birds. Certain works including demolition of BSC, dredging and land reclamation will only be undertaken in September as this is the least sensitive period for both breeding and wintering birds. Working hours will be controlled by a CEMP and agreed with LBH.

What will the construction works involve?

Access for construction will only be via Moorhall Road and the Access Road. HGVs will be required to approach the Site from Denham via the M25, M40, A40 or the A412. Construction compounds would be carefully sited to minimise ecological and noise impacts. Security fencing and fencing to protect habitats and trees will be in place from damage and disturbance. This includes the screen around the woodland on the Peninsula. Construction activities will be phased to minimise disturbance. Most of the hardstanding at the Peninsula would be retained.

What works are proposed in the lake?

Localised dredging of the lake is proposed in the Eastern Channel to facilitate sailing and to provide material from land reclamation. The following works are proposed in Broadwater Lake:

- A small area of land reclamation to extend the northeastern part of the Peninsula to provide an area for boat storage and a ‘beach’.
- Installation of two slipways and two pontoons at the Peninsula;
- Removal of one island and reshaping of two islands; and
- Installation of sunken willow planters, floating reedbeds, pontoons and tern rafts.

How will construction works be manged and monitored?

An Outline CEMP has been prepared and is provided as part of the ES. The Outline CEMP sets out the measures to avoid, minimise or offset environmental effects during all works that contractors would have to adhere to. A detailed CEMP would be developed by the contractor (once appointed) and agreed with key stakeholders before works commence.

Construction works will be monitored to ensure that measures proposed to protect ecological receptors and water resources are effective. If an issue is identified, the methods or activities would be reviewed and appropriate action taken wherever possible.

How will wildlife be protected during construction?

A range of measures will be in place to protect important ecological features which are included in the Outline CEMP. The most important being the timing of certain of works which would be controlled through the CEMP. Existing habitats to be kept would also be protected using fencing and other measures. The living green wall around the Peninsula woodland would be installed before works commence to mitigate noise and visual disturbance from works. Invasive species such as Japanese knotweed and Buddleia would subject to a treatment programme.

Construction would be undertaken during daylight hours and should lighting be needed, this would follow good practice guidance to avoid adverse effects on bats and other species. A range of pollution prevention measures would also be in place to protect water quality and avoid adverse effects on plants and animals.

Will material be managed and reused?

Some material will be generated from demolition of BSC, dredging and other construction work. This would be re-used in construction and for land reclamation if it is shown to be suitable. This will avoid the need to import material. The CEMP will include measures to ensure materials are used effectively and that waste is avoided, minimised or re-used wherever possible.

7 Biodiversity

How were the environmental effects identified?

An assessment was undertaken based on industry standard guidance[2]. The ecological baseline conditions were established through desk studies, surveys of habitats and species between 2021 and 2025, and consultation with stakeholders. The impacts, potential effects and their significance were then assessed using professional judgement.

What is the baseline?

Broadwater Lake is one of the larger lakes in the Colne Valley, an area which has many lakes, parks and the River Colne. Most of the Site is within the Mid Colne Valley SSSI, as shown on **Figure 10**, a nationally important nature site. The SSSI also includes Harefield Lake, Korda Lake, Tilehouse South Lake and a grassland at Coppermill Down. Broadwater Lake was assessed recently by Natural England as being in 'unfavourable' condition. The SSSI is designated due to its special value for breeding birds and wintering birds. Assemblages of breeding birds (scrub, woodland and variety of species) were also found to be in 'unfavourable condition'.

Broadwater Lake is the largest habitat in the Site and has small areas of plants growing along the shoreline around the lake. The River Colne is adjacent to the north and west of the Site and part of the Grand Union Canal is in the Site. No veteran / ancient trees or areas of ancient woodland are at the Site. There is a limited range of other habitats due to the Site's use as a gravel pit until the 1990s. Most of the Peninsula is covered by hardstanding, with Buddleia and willows that have grown in cracks in the concrete. Young wet woodland is also at the Peninsula in a former silt lagoon.

A range of waterbirds use the lake and its islands. During three years of winter surveys, 26 species were recorded including ducks, geese, waders, gulls, grebes and other water birds, although only six species were regularly present. The Site is assessed as being of National importance for wintering birds, although only Shoveler and Pochard were present in nationally important numbers. 46 native species of breeding birds were recorded across four years of surveys. The Site is of National importance for breeding birds, however most species using the lake are of local importance or less.

Bats use the lake and woodland areas for feeding, although no bat roosts were identified in buildings or trees to be removed. The Site is also used by badger, otter, grass snake and hedgehog. Fish provide food for herons, cormorants, otter and European eel is also present. The value of the Site for terrestrial and aquatic invertebrates is good where there is a range of flowering or aquatic plants, but there are few of these areas present.

Invasive and species not native to the UK include Buddleia, Japanese knotweed and Giant knotweed. Signal crayfish are also present in the lake.

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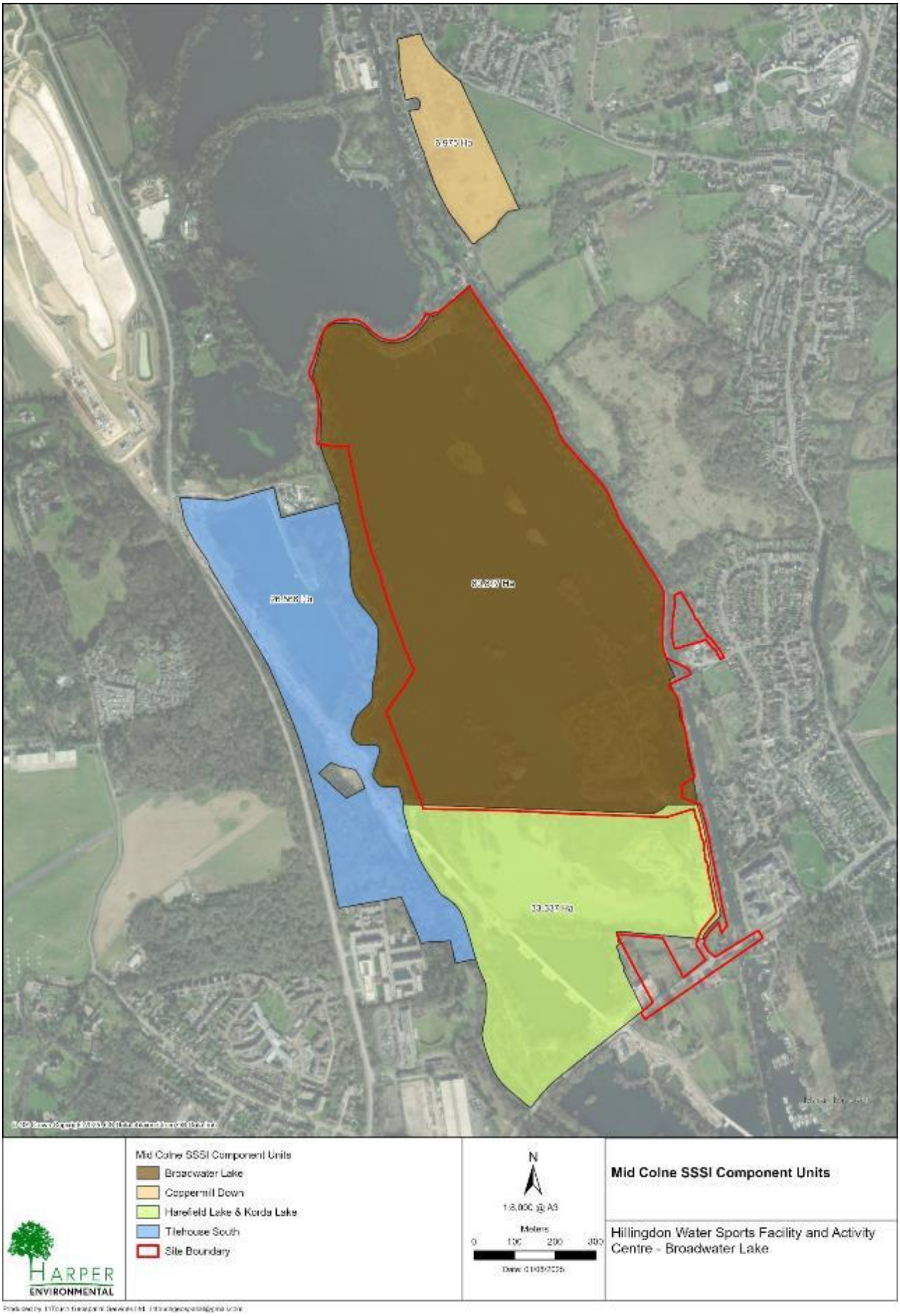
[2] Chartered Institute of Ecological and Environmental Management (CIEEM) (2019) Guidelines for Ecological Impact Assessment

Figure 7.1: Units of the Mid Colne Valley SSSI showing the Site boundary



The ecological value of the Site would likely experience either a negative or neutral impact in the future due to future pressures of climate change and other issues.

What are the potential effects during construction?

Protecting and improving the value of the Site for wildlife is one of Applicant's main aims. The proposals avoid the loss of valuable habitat as far as possible. At the Peninsula, all buildings will be sited on hardstanding left from its former use as a quarry. The Outline CEMP includes measures to protect habitats which will be kept during construction.

Some disturbance to birds during construction is unavoidable but works will be timed to minimise effects as far as possible and works would only take around 16 months. Works in the lake such as dredging, altering islands and restoration of the existing BSC site, will be done in September to avoid both the sensitive bird breeding and wintering. A living green wall (fence) around the wet woodland will help screen activities and noise for birds using this part of the Peninsula.

Works within the lake will occur during September only, this month is after the breeding season of birds and before the main concentrations of wintering birds arrive, thus avoiding significant impacts. Clearance of vegetation of potential nesting value to birds on the Peninsula and in the Eastern Channel would only take place outside of the bird breeding season.

A small area of land reclamation is proposed to provide storage for boats and access to the lake via slipways / pontoons. The north east corner of the Peninsula has been chosen as the most appropriate location, as this area avoids disturbing areas where the highest concentration of birds are found - the south west corner of Broadwater Lake. The north east corner of the Peninsula is fully screened from the south western corner of the lake by dense woodland, other vegetation and islands.

No significant negative effects are assessed during the construction phase. Some Minor negative effects are identified during construction (Mid Colne Valley SSSI / SINC, London Canal's SINC, breeding and wintering birds, badgers and otter).

What are the potential effects of the Completed Development?

The Proposed Development has been designed to minimise noise and visual disturbance to birds as far as possible, for example by creating a Bird Refuge Area and confining water-based activities (other than sailing and windsurfing) to the Eastern Channel. Ecological enhancements are also proposed including floating pontoons, rafts, reedbeds and changes to two islands. The HWSFAC activities will be controlled by an OMP which includes measures designed to avoid damage and disturbance to wildlife and the water environment as far as possible.

HWSFAC activities are a source of potential visual and noise disturbance to birds. These activities will only take place between 1 April to 31 September each year – this is outside of the season which is important for wintering birds.

All water-based activities (other than dinghy sailing and windsurfing) will only occur in the Eastern Channel. Woodland, other vegetation and islands will screen these activities and prevent disturbance of breeding birds using the Bird Refuge Area. Any birds outside this area will have plenty of other places to go within the lake if they are disturbed temporarily by activities. The most sensitive bird

species have mainly been recorded in areas of the lake with natural screening already present, such as around islands. These species are therefore not considered likely to be significantly disturbed by the HWSFAC activities. Bird species not sensitive to disturbance will remain within the Sailing Area.

During winter, only BSC will operate using the new launch area at the Peninsula. Willow screening is predicted to reduce the visual disturbance effects of these existing activities in the Bird Refuge Area. This is considered to be a Minor positive effect for wintering birds.

Access to the lake shore will be restricted to the pontoons, beach and launch areas in the Eastern Channel to minimise disturbance effects. Angling, which can disturb birds, will no longer be allowed on the southern lake shore in the Bird Refuge Area. The wet woodland at the Peninsula will be fenced to prevent damage to the woodland and minimise disturbance to breeding birds.

No significant negative effects are predicted to the designated features of the SSSI. In other words, the 'favourable condition' status of breeding and wintering birds will remain unchanged. The species assemblages are unlikely to show significant benefits, however positive effects for some bird species may be recorded. This is due to the improved and greater areas of breeding habitat that will be provided, e.g., floating reedbeds, pontoons, rafts and areas of emergent planting. The Proposed Development will lead to an increase in open water of approximately 700m^2. Effects on breeding birds would be Minor positive and negative (not significant).

The condition of Broadwater Lake is expected to improve as a habitat for wildlife through an increase in plants growing within the water and at its edges. Floating reedbeds and aquatic planting will remove nutrients from the water, improving its quality. They will also increase the amount of habitat for invertebrates and fish, benefitting the birds by increasing their food resources. This is predicted to lead to improved biodiversity, greater food resources for birds and better-quality water. This will also strengthen the lake's resilience to climate change such as warming future temperatures. Warming temperatures due to climate change are likely to lead to loss of open water, reduced water quality and algal blooms, which in turn could adversely impact birds, fish and other wildlife. The habitat improvements to Broadwater Lake would result in a Minor positive effect and would help ensure that the lake continues to support important assemblages of breeding and wintering birds in the future.

The Applicant will has committed to the long-term management of the Site to conserve and enhance the value of the Site and this part of the SSSI / SINC for wildlife, in particular for breeding and wintering birds. The Outline OMP also includes measures to protect and improve the water environment. Detailed management plans would be developed in consultation with stakeholders.

Ecological enhancements proposed will benefit a range of species of conservation concern or with priority status including otter, bats, grass snake, water vole and hedgehog. These enhancements will provide Minor positive effects at a Local level (not significant).

Overall, the Proposed Development would not result in long-term significant adverse effects. Effects on the Mid Colne Valley SSSI / SINC would be Minor / positive. Effects on habitats including wet woodland and open water would be Minor positive. Effects on breeding and wintering birds would be Minor positive. Effects on other species would be Negligible, Minor positive or there would be no change.

Ecological monitoring would be undertaken to inform the future of management of the Site. The management plans (MEMP and OMP) would also be reviewed and updated regularly in consultation with key stakeholders. Monitoring will allow progress to be measured and changes to be made where needed.

What would be the cumulative effects with other developments?

The only potential cumulative impacts are from visual and noise disturbance to birds using Broadwater Lake once HS2 trains are running. The Colne Valley Viaduct includes visual and noise barriers and HS2 are providing landscaping to shield the viaduct so that train movements are not visible from the level of the water within the lake (where the birds will be). HS2 also proposed tern rafts within the south west corner of the lake, close to the Peninsula, to mitigate these effects.

The HWSFAC activities may cause more breeding birds to use the south-west corner as a result of increased daily sailing activities on the central part of the lake during April – September. If HS2 then disturbs this area, the value of the area as a refuge from increased sailing activities could be reduced. However, a 100m buffer from the Colne Valley Viaduct has been allowed for (100m being the accepted zone within which disturbances arising on land to birds on the water may occur). The Proposed Development will also provide a new refuge area in the north western corner of the lake, well away from HS2 and from the HWSFAC activities. This refuge area will be screened by floating reedbeds in a long chain, behind which tern rafts will be provided. As a result, there would be no significant cumulative disturbance effects with HS2.

8 Water Resources and Flood Risk

How were the environmental effects identified?

Water resources and flood risk effects have been identified using desk studies and field surveys including a lake depth survey, water quality and lake sediment sampling. The Applicant has also consulted with LBH as the Lead Local Flood Authority, the Environment Agency and Affinity Water.

The significance of effects has been determined using the industry standard guidance and criteria. The ES chapter is accompanied by a Flood Risk Assessment which has been prepared in line with national planning policy and guidance.

What is the baseline?

Broadwater Lake is an artificial lake which formed as a result of sand and gravel quarrying. The lake is between 1m to over 5m deep. The River Colne, Grand Union Canal and a number of other gravel pit lakes are adjacent to the Site. A small section of the Grand Union Canal is within the Site. The Site overlies the Chilterns Chalk Groundwater Body which is a Principal Aquifer[3] and is used to provide drinking water. Because of the presence of adjacent and underlying gravels, the majority of the area is in direct contact with groundwater.

The water quality of the lake is considered to be 'Moderate' by the Environment Agency but varies depending on a range of existing factors. The underlying groundwater is currently considered to be in 'poor' overall condition by the Environment Agency. The sediment quality associated with the lakebed is considered to be generally acceptable in terms of published human health and environmental standards which means it does not pose a safety or contamination risk.

Whilst the lake itself is subject to a higher risk of flooding, the land associated with the Proposed Development is considered to be within the lowest category of flood risk from rivers.

What are the potential effects during construction?

Construction activities associated with the Proposed Development are not expected to cause the water quality in Broadwater Lake and the River Colne to significantly deteriorate due to the measures that will be in place to control sediment and pollutants in the Outline CEMP. Overall, the impact on surface water quality and flows during construction will be Negligible to Minor adverse (not significant). A small area of dredging proposed in the Eastern Channel and well-established working methods would be used to minimise disturbance to the lakebed and impacts on water quality due to disturbance of lake sediments.

Risks to groundwater will be minimised through effective implementation of measures included with the CEMP which specifies how to store and discharge water, fuels, oils and other potentially

[3] A major underground layer of rock or sediment that holds and transmits significant amounts of groundwater.

hazardous materials in accordance with best practice pollution prevention guidelines. The CEMP also includes details on how to mitigate for a leak or spill and how to minimise dewatering effects during construction. Construction effects on groundwater quality and flow will be Negligible.

Construction activities will be undertaken in accordance with the surface water drainage strategy and measures included the Outline CEMP designed to avoid pollution, protect water quality the workers/property during construction. Flooding risks during construction and effects on surface water quality would not be significant.

What are the potential effects of the completed Development?

A surface water drainage strategy has been developed which aims to manage surface water sustainably and ensure that the Proposed Development is able to withstand future impacts of climate change.

Rainfall run-off from hard surfaces will be treated in vegetated swales before being discharged to the lake, the woodland, and lagoon. Potentially contaminated run-off (e.g., fuels and oils) will therefore not be released into surface or groundwater. Pollution prevention measures will also be in place. The Proposed Development will have a Minor beneficial effect on water quality of Broadwater Lake through the drainage strategy and other design measures.

Significant beneficial effects (Moderate beneficial) would result at Broadwater Lake by improving the lake edge habitats and other habitat enhancements. There would be no adverse effects from the new activities.

Developments can affect flood risk by generating additional surface water runoff from rainwater falling on hard surfaces. However, the drainage system will collect surface water during stormwater events and the release of this water to watercourses would be controlled to avoid flood risk both within the Site and the surrounding area. The finished floor levels of the buildings and surrounding areas will be above the flood level, taking account of climate change. Its future users will therefore be safe from flooding and there will be no adverse effects off-site. A Flood Warning and Evacuation Plan will be in place as standard practice.

Waste water from the Proposed Development will be discharged into the public foul water sewer located east of the Site. there would be no significant effects on drinking and foul water infrastructure due to the scale of the Proposed Development.

An Outline OMP accompanies the ES and includes measures and monitoring that will be implemented for the operation of the Proposed Development. The Outline OMP sets out measures that will minimise the risk of negative effects to surface and groundwater quality, flood risk and hydro-morphological features of importance associated with Broadwater Lake and other water bodies. A detailed OMP will be developed in consultation with stakeholders.

What would be the cumulative effects with other developments?

There would be no significant cumulative effects with HS2 or other developments in the local area.

9 Ground Conditions and Contamination

How were the environmental effects identified?

The baseline has been determined through desk-based research and a site investigation. The assessment of effects has been based on an industry standard methods and guidance which involves identifying sources of potential contaminants and ways which they might affect human health, controlled waters, built and ecological receptors.

The ground conditions and contamination effects have been considered assuming reasonable worst-case assumptions about the construction and operational phase activities. The significance of effects has been determined using criteria set by professional judgement.

What is the baseline?

The majority of the Site was formerly used as a sand and gravel works; Broadwater Lake was formed between the 1960s and 1990s. As a consequence of this use, made ground (reworked or infilled ground) is present in areas at the Peninsula. Underlying the made ground is alluvium, gravel, and Chalk bedrock geology. A significant amount of the Peninsula is covered by concrete hardstanding.

The site investigation indicates that groundwater levels are shallow beneath the Site (approximately 1m below surface). Groundwater samples, when tested, showed some small exceedances of the water quality standards for heavy metals. Groundwater in continuity with Broadwater Lake, the River Colne and other waterbodies. Records indicate that areas within the Peninsula have been used for historic landfilling.

A site investigation at the Peninsula identified sources of potential contamination including heavy metals, and localised hydrocarbons associated with a former above ground storage tank. These sources may pose a risk to surface water, groundwater and ecological receptors. There is also potential for construction phase works to introduce additional contamination sources to the Site, including fuels / oils for plant machinery (due to ineffective controls) and dredging of lakebed sediment.

Identified sources of potential ground gas / vapour may also pose a potential gas / vapour risk to construction workers and future users of the Site.

What are the potential effects during construction?

Potential risks to human health during the construction phase are that there could be potential exposure to made ground associated with historical landfilling and mineral extraction / processing, and ground gas from this historic landfilling / infilling of ground. The Outline CEMP includes a range of measures which would be implemented to effectively mitigate these potential risks.

The Outline CEMP also includes measures to mitigate potential effects on human health, groundwater, surface water, the built environment and ecology. Appropriate environmental permits will need to be in place before works commence in line with legislation.

A remediation strategy will be prepared before construction starts which will provide details of mitigation and monitoring to ensure the Site is suitable for its proposed use. This would be approved by LBH, the Environment Agency and Affinity Water where appropriate. A report will then be prepared to present evidence to verify that the works set out within the remediation strategy have been completed.

The remediation strategy will set out works and measures required where contaminated soils or groundwater are encountered. If these materials do not meet appropriate standards they would not be re-used on-site and would likely be removed from the Site to a licensed waste facility. It is currently expected that materials from dredging and island removal/alteration will be suitable for re-use in construction.

Only a small area of concrete hardstanding is proposed to be removed at the Peninsula. Groundworks (excavation) would also be kept to a minimum to reduce risks of landfilled areas and made ground materials being disturbed as this could lead to pollution. All other areas of existing hardstanding will be left as a cover layer which will help protect the water environment and other receptors. No buildings or land reclamation is proposed on areas of historic landfill.

No significant adverse effects would arise during construction. Mitigation measures are expected to be secured through the Outline CEMP, planning conditions and environmental permit(s).

What are the potential effects of the Completed Development?

Due to the nature of the Proposed Development, it is unlikely that the HWSFAC activities will give rise to contamination risks. Chemicals, oils and washdown areas would be subject to appropriate pollution prevention measures. The Proposed Development will operate in accordance with environmental legislation and the Outline OMP with appropriate spillage and pollution response procedures.

Clean cover materials and ‘no-dig’ layers will be installed across public open spaces and other soft landscaping areas on the Peninsula to protect future users from health risks.

Investigation of ground conditions at the Peninsula has informed the design of the Proposed Development. No basements are proposed. If required, measures to protect the building and its users from ground gas would be installed.

Effects of the completed Proposed Development will not be significant.

What would be the cumulative effects with other developments?

No other developments would give rise to significant cumulative effects in combination with the Proposed Development.

10 Landscape and Visual Impact Assessment

How were the environmental effects identified?

Desk based research, field surveys, photography and consultation with LBH has informed the assessment. An assessment of landscape and visual impacts of the Proposed Development has been undertaken and considers the impact the proposals will have upon the character of the landscape and the people who view that landscape. The assessment was undertaken in accordance with industry standard guidelines.

Two Accurate Visual Representations of the Proposed Development were prepared as agreed with LBH to assess effects of the Development from two sensitive viewpoints.

What is the baseline?

The Site is a former gravel extraction and processing site comprising a lake with islands, mostly recently colonised by vegetation including invasive species. Significant areas of remnant concrete surface and structures have hindered vegetation establishing.

The Site is not accessible to the public, and views of the Site are limited mainly due to existing vegetation and topography. Only two sensitive public locations were found to offer potential glimpsed views of the Proposed Development. These viewpoints are both to the north east of the lake on the hillside; on the Hillingdon Trail close to Merle Avenue to the southwest of South Harefield and the from the car park of the Old Orchard Inn.

What are the potential effects during construction?

The landscape and visual effects of construction would be temporary, short term and in controlled locations on the Site.

Changes in the landscape resulting from construction activities would include the loss of existing trees due to management, the presence of construction equipment and activities, and hoardings / screening barriers.

Construction would lead to some temporary, Minor adverse (not significant) effects on landscape features within the Site including Broadwater Lake, its islands and shoreline. These effects are predominantly due to the partial loss of features to facilitate construction activity. There would be no significant effects on landscape character areas.

There would also be Minor adverse to Moderate (not significant) visual effects on the individual existing property adjacent to the Site entrance and users of the Grand Union Canal towpath.

There would be no significant effects.

What are the potential effects of the Completed Development?

The Proposed Development masterplan has been ecologically, landscape and visually led to avoid and minimise harm and create benefits to the landscape of the Site and it's setting.

The Proposed Development would result in a Minor increase in the net area of open water, supported by an overall benefit to the landscape and its setting as the condition of existing trees and woodlands are improved.

There would be Minor adverse effect on landscape character in Year 1. Once new planting has matured (Year 15), it is envisaged that there would be significant beneficial landscape effects on Broadwater Lake and the Peninsula. Other landscape effects would be beneficial but not significant.

Visually, there would be Minor beneficial (not significant) effects due to changes to the landscape seen from public places including on the Hillingdon Trail (Viewpoint 03) and from the Old Orchard Inn (Viewpoint 15 – **see Figure 11**). They would see new trees within submerged willow planters and floating reedbeds within the lake that provide visual richness and support wildlife. There would be Minor adverse to Moderate (not significant) effects on the existing property adjacent to Site entrance gate. The effects on all visual receptors would be not significant.

Overall, the Proposed Development would not result in long-term significant adverse effects on the identified landscape and visual receptors.

What would be the cumulative effects with other developments?

There would be no change to the significance of the effect of the proposals as result of the future baseline that will include the HS2 trains moving on the Colne Valley Viaduct within the landscape.

Figure 11: View from the Car Park of the Old Orchard Pub

11 Summary

The section summarises the key mitigation and monitoring measures that will be implemented to minimise potential adverse effects during construction and operational phases of the Proposed Development.

Construction

The Proposed Development has been designed to avoid or minimise effects during the construction phase. Environmental effects would be controlled through a detailed CEMP which would be developed once Contractors are appointed and in line with the measures set out in the Outline CEMP. The Outline CEMP includes a range of mitigation measures, e.g., ecology, dust, noise, water, waste and ground conditions.

The timing of certain construction activities would be subject to principles set out in the Outline CEMP and will avoid sensitive periods to avoid or minimise effects on birds using the lake.

Construction impacts will be temporary and reversible, while longer term impacts will be of low/Negligible magnitude at worst and in most cases a net positive.

There are no significant effects identified during the construction stage.

Completed Development

The Proposed Development has been designed to avoid or minimise effects once it is complete and operational, particularly to the special features of the SSSI, the water environment and the landscape. during the construction phase. The operational activities would be controlled through a detailed OMP which would be developed in consultation with key stakeholders in line based on the principles set out in the Outline OMP. A detailed MEMP would also be developed in a similar way which will provide a framework for the long-term management of the Site to benefit wildlife and the special features of the SSSI in particular.

Land and water-based activities at HWSFAC would only operate between 1 April 31 September to avoid impacts on important wintering bird populations.

There are no significant effects identified for the Completed Development.

There is no significant harm to biodiversity, no adverse effect on the SSSI, and no loss or deterioration of irreplaceable habitats due to the Proposed Development.

Monitoring will be in place for both the construction and operational phases, to inform activities and inform the long-term management of the Site. This will include water quality, key habitats and species.