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Buildings
Infrastructure
Transport & Environment

Project Title
Hillingdon Water Sports Facility and Activity Centre

Report Title
Detailed Construction Logistics Plan

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Prepared For
London Borough of Hillingdon

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1 Paris Garden
London
SE1 8ND

T +44 (0)20 3773 7880
E london@robertwest.co.uk
W www.robertwest.co.uk

Consulting Engineers

Registered office: 147A High Street, Waltham Cross, Hertfordshire, EN8 7AP Registered in Cardiff No: 2901674
Robert West Consulting Ltd (trading as Robert West)

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Rev A	Updated masterplan	10/07/2023	WH	SB
Rev B	Updated construction programme	21/09/2023	WH	SB

CONTENTS

1.0 INTRODUCTON

1.1 Robert West has been appointed to provide transport planning and highways advice in relation to the development proposals at Broadwater Lake, Moorhall Road, Harefield, UB9 6PE, London Borough of Hillingdon (LBH) (hereafter referred to as "the site"), following the permanent closure of the former Hillingdon Outdoor Activity Centre (HOAC) at Dews Lane, Harefield. Once relocated the collective facilities at Broadwater Lake will be known as Hillingdon Water Sport Facility and Activity Centre (HWSFAC).

1.2 This document is a detailed Construction Logistics Plan (CLP) which outlines details with respect to construction management and construction traffic management during the construction phase of the development. It is intended to establish the broader strategy for the construction of the development subject to further development beyond approval stage, which is expected to be secured by planning condition.

1.3 A principal contractor has not been appointed and therefore whilst the overall strategy is expected to be taken forward, some details of the CLP are expected to change between approval and construction.

1.4 The principal contractor will be responsible for complying with the CLP and will be responsible for ensuring that all sub-contractors conform to restrictions, mitigations and obligations contained within the CLP.

CLP objectives

i. Optimise the efficient delivery and collection of goods and materials to the site.

ii. Lower emissions by timing construction vehicle movements in off-peak hours where possible and avoiding congested routes.

iii. Enhance safety – improved vehicle and road user safety, especially along the site access road.

iv. Reduce congestion – reduced trips overall to the site.

v. Minimise disturbance to ecological receptors within the site caused by construction.

1.5 To support the realisation of this objective, several sub-objectives have been agreed and include:

i. Promote smarter operations that reduce the amount of vehicle trips required to the site (i.e. bringing multiple building materials from one supplier).

ii. The use of FORS accredited vehicles.

iii. Managing the on-going development and delivery of the CLP with construction contractors.

iv. Deliveries to be scheduled out of network peak hours where possible.

v. Avoid all Heavy Goods Vehicle (HGV) movements to avoid Harefield Village.

Site context

1.6 The site is rural in nature and is located to the south of Harefield on the outskirts of Greater London. The site falls within the Mid Colne Valley Site of Specific Scientific Interest (SSSI). The site is bound by the Grand Union Canal to the east, Moorhall Road to the south and the River Colne to the north and west. The site is accessed from Moorhall Road to the south of the site.

1.7 The site is currently occupied by Broadwater Sailing Club (BSC) and Gerrards Cross and Uxbridge District Angling Club (GCUDC). It is noted there are a number of other users who have interest in the site, but do not permanently occupy the site or use the site on an ad-hoc basis.

Development proposals

1.8 LB Hillingdon are the developer of the site and at this stage a principal contractor is not yet appointed. Once appointed site contact details for in and out of hours will be included in an updated version of the CLP.

1.9 A description of the development proposals are included below:

> *"Redevelopment of the site to create the Hillingdon Water Sports Facility and Activity Centre including demolition of existing Broadwater Lake Sailing Club (BSC) clubhouse at the north of the lake and erection of a building to be occupied by HOAC and BSC including changing facilities, meeting rooms, storage, Workshop and seasonal worker accommodation (sui generis), activity shelters; installation of pontoons and concrete slipways; boat shed; equipment storage huts (north of lake and at entrance); boat parking and racking areas; camping area; outdoor activity areas; ecological enhancement throughout the site; new pedestrian routes through the peninsula; landscaping including new woodland, dense vegetation screens and boundary treatment; new access and access road; localised dredging and land reclamation; relocation of existing sailing area and creation of floating and fixed islands within the lake; coach drop off and turning area; vehicle parking; cycle parking; and associated works."*

1.10 The proposed site masterplan is attached at Appendix A

1.11 The total site area is 79.95 hectares and there is 150 sqm gross internal area (GIA) of existing floorspace that is to be demolished. A total of 4,274 sqm (GIA) of floorspace is proposed.

1.12 Site operation hours will be from Monday to Friday between 08:00 and 18:00. Site operation hours

on Saturday will be between 08:00 and 13:00. No construction works will take place on Sunday or Bank holidays.

1.13 No Temporary Traffic Management Orders (TTMOs) are required throughout the construction phase of the development.

CLP structure

1.14 The CLP will set out the key methodology that the principal contractor will follow to manage construction traffic during the proposed phases of the development. This will include the scope of construction works and type of construction, the means by which construction vehicles will access the site, and mitigation proposed to reduce the impact of construction vehicles on the local highway network, road users and local residents.

1.15 The remainder of this report includes the following:

i. The context, considerations and challenges are outlined in Section 2.0.

ii. The construction programme and methodology are described in Section 3.0.

iii. The vehicle routing and access arrangements are explained in Section 4.0

iv. The strategies to reduce impacts are discussed in Section 5.0.

v. The estimated vehicle movements are included in Section 6.0.

vi. The programme for implementing, monitoring and updating the construction activity is outlined in Section 7.0.

2.0 CONTEXT, CONSIDERATION AND CHALLENGES

Policy context

2.1 This section of the CLP references policies that have been considered in the preparation of this document, which are as followed:

National policy

i. National Planning Policy Framework (NPPF) (July 2021).

ii. The Traffic Management Act.

iii. Designing for Deliveries, Freight Transport Association.

Regional policy

i. Delivering a Road Freight Legacy.

ii. The London Plan (March 2021).

iii. The Mayor's Transport Strategy (2018, updated 2022).

iv. Healthy Streets (2022).

v. The London Freight Plan (2019).

vi. Fleet Operator Recognition Scheme (FORS).

vii. Vision Zero.

Local policy

i. London Borough of Hillingdon Local Plan (2020).

Local access by walking, cycling, public transport and local highway network

Walking

2.2 The pedestrian routes and facilities in the immediate vicinity of the application site are of mixed quality. The site access road leading to the site is paved with asphalt but is often covered in mud and dirt. No footways or street lighting are provided on the site access road. There are public footpaths that provide access to the site. These include the Grand Union Canal towpath to the east of the site, connecting to the Colne Valley trail and the Hillingdon trail.

2.3 The pedestrian routes within the wider area are in good quality and condition. The footways range in widths from approximately 1.2m to 2.5m wide. At the existing site access on Moorhall Road there is a dropped kerb crossing with tactile paving. There are footways present on both sides of Moorhall Road except for the north side of the carriageway, west of the site access. Street lighting is present at regular intervals on the surrounding roads and streets.

Cyclists

2.4 National Cycle Network (NCN) route six runs directly east of the site along the Grand Union Canal towpath. The route is predominantly traffic-free, passing through Uxbridge, West Hyde, Watford, Luton, Nottingham and Manchester and ultimately connects London and Lake District.

2.5 There are no designated local cycle routes within the vicinity of the site.

Buses

2.6 The nearest northbound and southbound bus stops are located on Moorhall Road, approximately 50m (less than a minute walk) to the southeast of the site access and are served by the 331 bus route. Additional bus stops are located on Harvil Road approximately 635m and 785m (eight to 10 minute walk) to the east of the site that are served by the U9 bus route.

2.7 A summary of the local bus services in the network peak hours are included in Table 2.1.

Bus Route	Destination	AM Hourly frequency
331	Belmont Road	3
	Ruislip Station	3
U9	Harefield Hospital	2-3
	Belmont Road	2-3

Table 2.1 Summary of bus services

2.8 There are a minimum of five bus services provided per hour travelling in each direction.

National rail

2.9 The nearest National rail station to the site is Denham station which is located approximately 1.2km to the southwest of the site. Denham station is served by Chiltern Railways. Typical Monday to Friday services includes one train per hour to London Marylebone and one train per hour to Gerrards Cross.

2.10 The nearest London Underground stations to the site are Ickenham and is West Ruislip which are located approximately 4km to the southeast of the site. Ickenham station is the penultimate stop to the terminus of the Uxbridge branches of both the Metropolitan and Piccadilly line. West Ruislip station provides services towards Epping, Hainault and Woodford via Newbury Park.

2.11 Uxbridge station is located 4.5km to the south of the site. Bus service 311 and U9 provide a direct connection from Uxbridge station to the site. Journey time is approximately 14 minutes.

Public Transport Accessibility Level (PTAL)

2.12 A PTAL assessment of the site was undertaken using the TfL WebCAT database. The PTAL value is classified in bands ranging from 1a to 6b where 1a is the lowest level of accessibility (i.e. very poor) and 6a is the highest level of accessibility (i.e. excellent).

2.13 The site has a PTAL rating of 1b indicating it has very poor access to the site by public transport. The PTAL map is shown in Figure 2.1 and the PTAL report is attached at Appendix B.

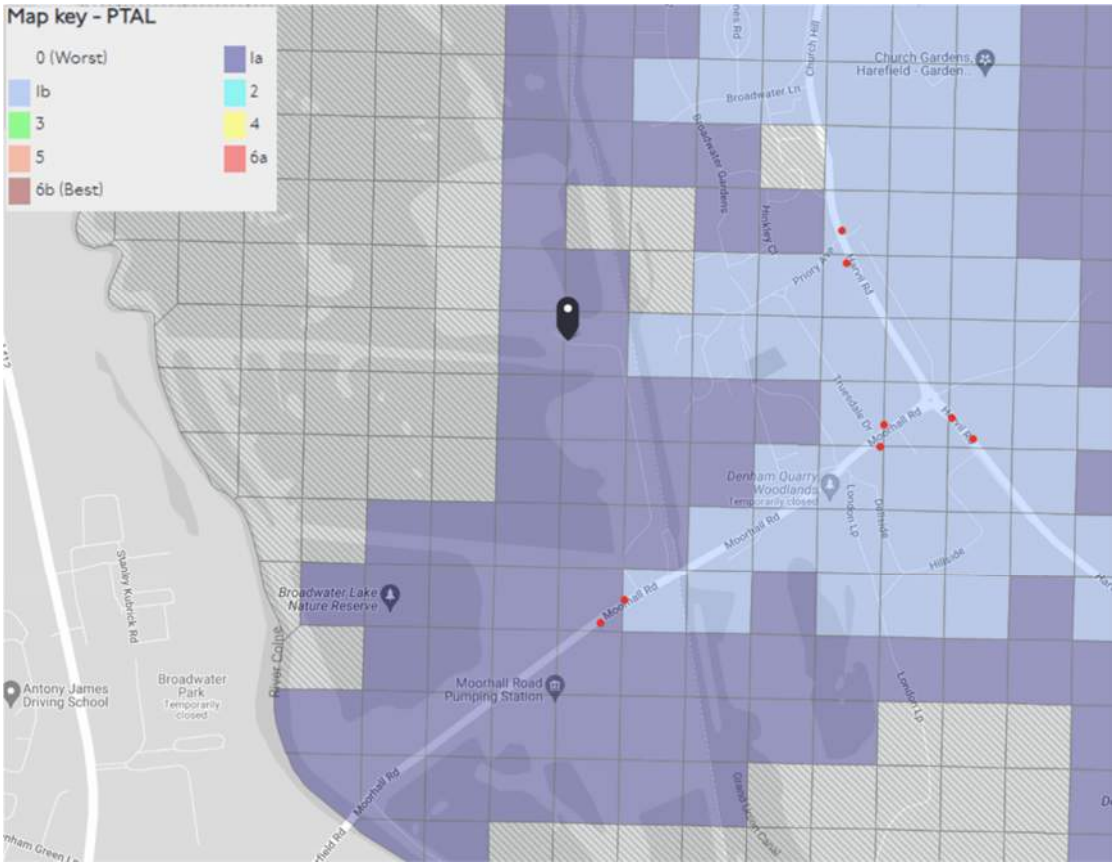

Figure 2.1: PTAL assessment

Local highway network

2.14 Moorhall Road is a two-way single carriageway subject to a 30mph speed limit at the site access located to the south of the site. The speed limit transitions into a 40mph speed limit approximately

180m west of the site access. Moorhall Road runs from the roundabout to the northeast of the site to the southwest of the site where the road transitions into Moorfield Road.

2.15 Within the immediate vicinity of the site along Moorhall Road there are double yellow line markings on both sides of the carriageway and central hatching in the middle of the carriageway. Additionally, there is a bus stop directly east of the site access road. There are no additional parking restrictions on Moorhall Road within the vicinity of the site.

The site and surrounding area

2.16 This section describes the existing Broadwater Lake site conditions, the surrounding public realm, and the accessibility of the site.

2.17 The site is located at Broadwater Lake, Harefield within LBH. The site is predominantly rural in nature and remotely located to the south of Harefield, near the border of Greater London and Buckinghamshire. The site is bound by the Grand Union Canal to the east, Moorhall Road to the south and the River Colne to the north and west.

2.18 The site is currently occupied by BSC and GCUDC. It is noted there are a number of other users who have interest in the site, but do not permanently occupy the site or use the site on an ad-hoc basis.

Context maps

2.19 In line with the Transport for London (TfL)/ Construction Logistics and Community Safety (CLOCS) guidance, the following plans have been produced in conjunction with this CLP:

i. Regional plan

ii. Local context plan

iii. Site boundary plan

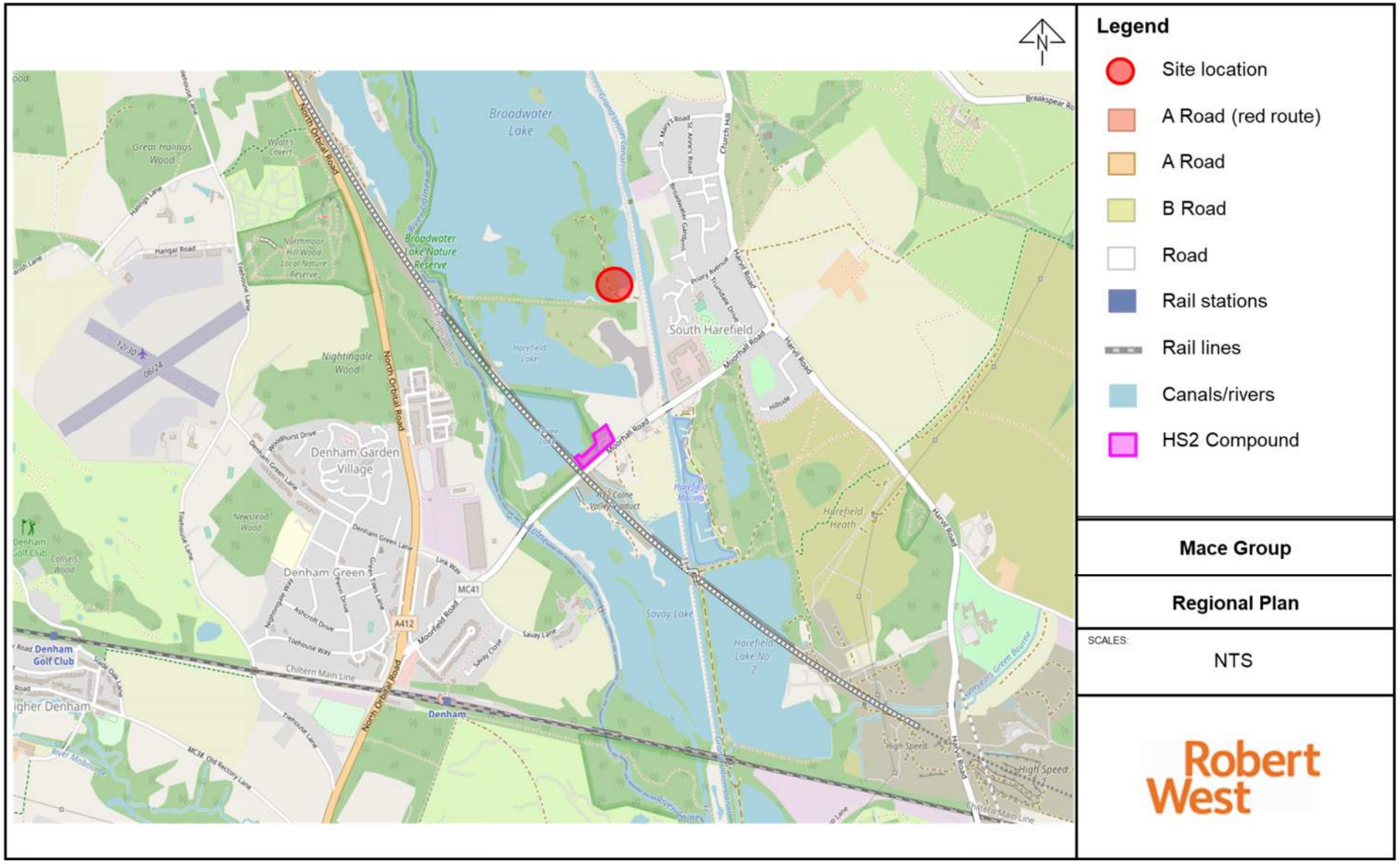

Figure 2.2: Regional plan

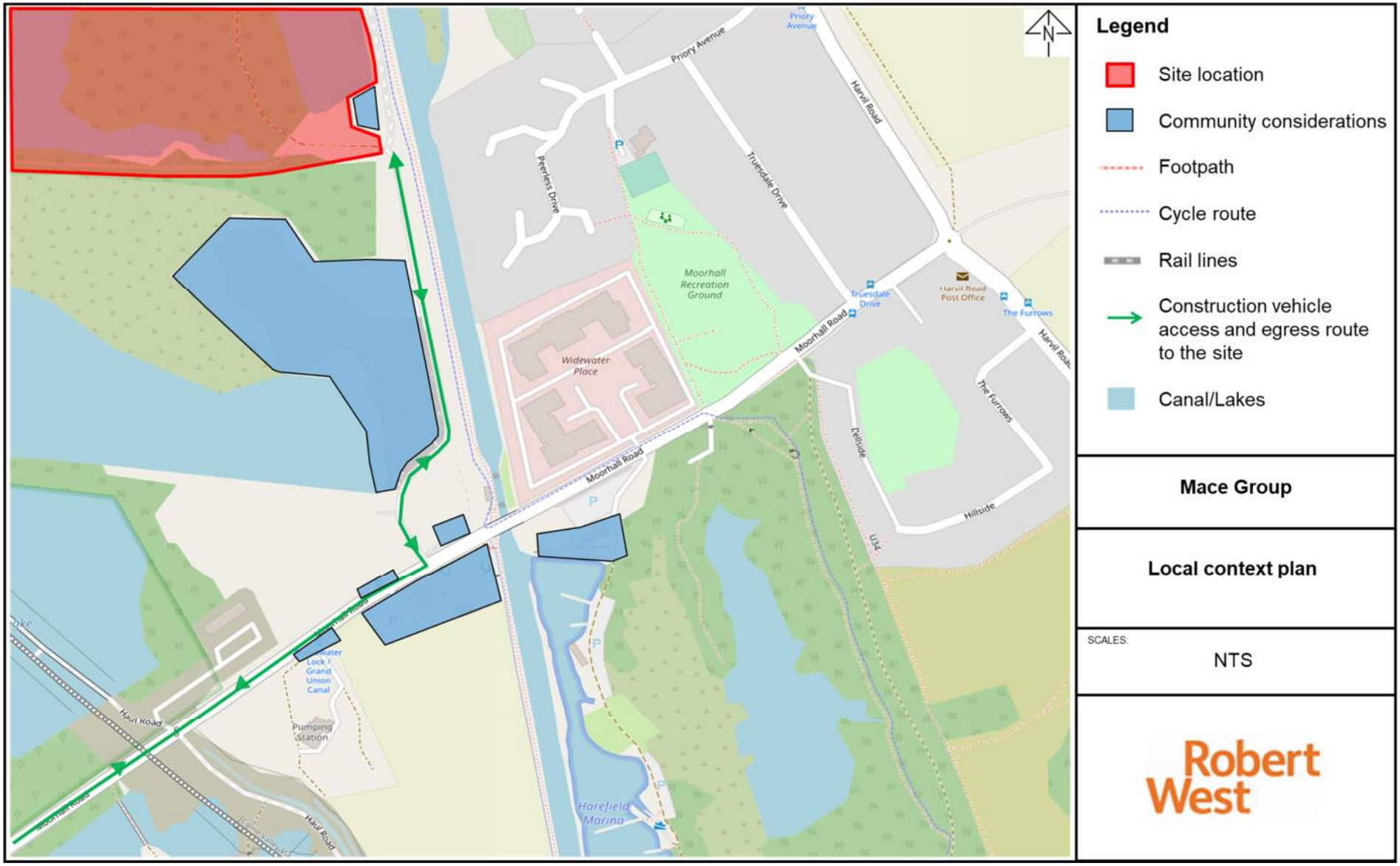

Figure 2.3: Local context plan

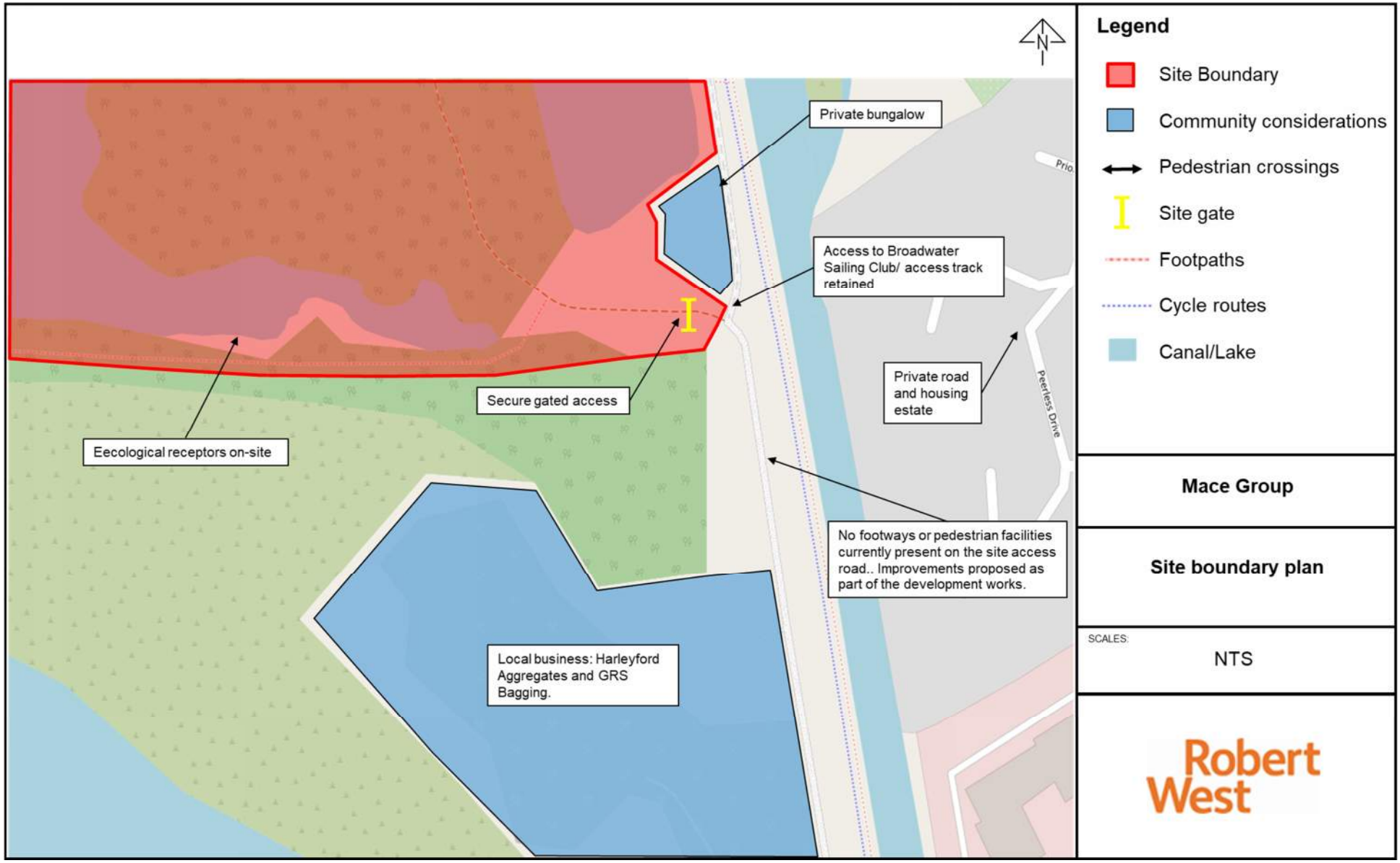

Figure 2.4: Site boundary plan

Considerations and challenges

2.20 The following consideration and challenges below have been identified. Measures to mitigate risks associated with the considerations and challenges identified are included below.

2.21 Broadwater Lake is accessed from a private access road via Moorhall Road to the south of the site. The access road comprises a carriageway that accommodates vehicular access to the site. Pedestrians utilise this access point, although no footways or pedestrian facilities are provided. Additionally, no street lighting present on the access road. Users have rights of access from the site access road. These include GRS Bagging, a construction material wholesaler, Harleyford Aggregates, a sand and gravel supplier, formal and semi-formal residential dwellings.

Access to Broadwater Lake and Broadwater Sailing Club

2.22 No access to the site south of Broadwater Lake will be permitted to the public throughout construction with the exception of permitted anglers and HOAC users towards the end of construction during temporary opening. Access for all users will be strictly controlled and hoarding will be erected at the site access to prevent any unauthorised access.

2.23 Access from the site access road to the existing Broadwater Sailing Club (to the north of Broadwater Lake) and the Grand Union Canal towpath (to the east of Broadwater Lake) will be maintained throughout construction. Access will only be restricted to the construction site to the south of Broadwater Lake.

Adjacent residential properties

2.24 There are formal and semi-formal residential dwellings along the site access road used for construction. Adjacent residents may be sensitive to any noise and vibration from the work.

2.25 To mitigate this, Council permitted construction working hours will be adhered to and the principal contractor will share information about the construction programme with the immediate neighbours via letters. The principal contractor will ensure the highest level of safety is maintained and full transparency achieved around potential noise and vibration. The correct Personal Protective Equipment (PPE) will be used at all times and considerate methods of construction such as auger piling will be used to minimise noise and vibration impacts.

2.26 Access to the residential dwellings will be maintained throughout construction. Residents will be informed by letter of the dates, times and details of any works occurring outside of access to their property. Contact details of a site contact will be made available to residents to further discuss any of the details associated with construction works.

Adjacent businesses

2.27 GRS Bagging and Harleyford Aggregates are adjacent businesses that share access from the site access road. Given the nature of the businesses, HGVs trips are generated. GRS Bagging and Harleyford Aggregates working hours are between 07:00 and 17:00.

2.28 The principal contractor when appointed will be required to communicate with GRS Bagging and Harleyford Aggregates to cooperate and integrate deliveries as far as practically possible.

2.29 As part of the development proposals, highway improvements to the site access road are proposed. Upgrade works will take place from the bell mouth junction with Moorhall Road to the site access to Broadwater Lake.

2.30 To mitigate disruptions for GRS Bagging and Harleyford Aggregates deliveries, part of the upgrade works to the site access road will be undertaken in two halves which allows access to maintained.

2.31 Alternatively, these work may occur outside of for GRS Bagging and Harleyford Aggregates operational times. If works are required outside of the proposed construction hours, the principal contractor will seek permission from the LBH to undertake these works.

2.32 The construction methodology of the site access road will be confirmed once a principal contactor has been appointed.

Canal users

2.33 During the enabling works of the construction programme, works are scheduled to remove the canal bridge over the Grand Union Canal and replace it with a utilities gantry to service the site.

2.34 There is restricted access to the canal bridge from Broadwater Lake and the site access road to the west of the Grand union Canal. Conflicts could arise with pedestrian and cyclists using Grand Union Canal towpath. To address these issues, an agreement with Mayling Transport is in place to access the canal bridge from their yard to the east of the Grand Union Canal.

2.35 Mayling Transport is located to the west of the site accessed from Broadwater Lane. Mayling Transport is bound the Grand Union Canal to the west and provides direct access to the canal bridge that will be replaced by the utilities gantry. No access to the site is permitted from Mayling Transport yard via the canal bridge.

2.36 Grand Union Canal users will be notified about works occurring on the canal by the London borough of Hillingdon. Signage will be placed in prominent locations advising of the relevant dates and times.

Ecological sensitivity

2.37 The development site is located in a SSSI with many ecological receptors that need to be considered throughout construction. Significant measures will be taken to minimise disturbance during construction and on-going discussions are being held with Natural England to ensure this.

2.38 Careful consideration of the spatial phasing and timing has been at the heart of the programme development due to the ecological sensitivity factors with the presence of sensitive ecological receptors present within the Site and the surrounds. A key example is the in-lake dredging as seen as part of phase 4 which is required to be undertaken within the months of September to November only.

2.39 A phased approach is to be undertaken in order to ensure an enabling works package which limits the impact and intensity of the works on the ecology of the site. As noted above, consideration has been given to the best time periods to undertake the works given the sensitive ecological receptors. The enabling works package upon its completion will provide screened areas of the site, reducing the visual impact of the construction works on the lake.

2.40 Methods of construction that minimise the impact on ecological receptors will be utilised throughout construction. This includes auger piling to minimise noise and vibration.

High Speed Two

2.41 High Speed Two (HS2) works care being undertaken within the Colne Valley Viaduct area. Construction vehicles access for the HS2 project is currently being undertaken from Moorhall Road, approximately 300m to the west of the site access road to the site.

2.42 There is no anticipated overlap with the enabling works phase of construction and the end of HS2 works currently on-going. Construction vehicle access from Moorhall Road by HS2 is expected to finish at the end of December 2023.Enabling works are not anticipated to begin until June 2024.

2.43 If there are any delays to HS2 works and access is required beyond December 2023 possibly overlapping construction from development proposals at Broadwater Lake, the principal contractor will explore the possibility of coordinating deliveries with HS2 where possible.

The River Garden

2.44 The River Garden is a public house located to the south of Broadwater Lake opposite the site access road to the site. The River Garden has an associated car park for approximately 30-40 cars.

2.45 Under no circumstances parking on the local highway network will be permitted for contractors or

visitors. This is including no parking along the site access road. This could result in contractors or visitors seeking to park within the River Garden car park.

2.46 To prevent contractor and visitor parking within external car parks the principal contractor will make clear as part of the site rules that car parking in the River Garden or other external car parks within the vicinity of the site will not be permitted. Any contractors found parking off-site may be dismissed by the site manager.

2.47 Appropriate car and cycle parking for contractors and visitors will also be provided on-site. Where possible access by public transport and other sustainable modes will be encouraged.

3.0 CONSTRUCTION PROGRAMME AND METHODOLOGY

3.1 The indicative construction programme is scheduled for approximately 14 months. Construction is anticipated to begin in June 2024 and be completed by August 2025, subject to securing planning permission and other consents and licences.

3.2 A principal contractor is not yet appointed and the construction scheduled is subject to variance once the appointed contractor has reviewed the programme.

3.3 Table 3.1 provides a summary of the anticipated construction schedule.

Construction stage	Start	End
1 – Enabling works – Site access road	Jun-24	Jul-24
2 – Enabling works – in lake works phasing	Jul-24	Nov-24
Phase 1a – Deployment of floating reedbeds to create initial protected areas	Aug-24	Aug-24
Phase 1b - Deployment of floating reedbeds in accessible locations	Aug-24	Aug-24
Phase 2 – Place caissons in preparation for island formation	Aug-24	Sep-24
Phase 3a – Removal of islands & reprofiling of island 2 to create muddy pond and artificial sand martin colony.	Sep-24	Sep-24
Phase 3b – Fill caissons	Sep-24	Sep-24
Phase 3c – Fill – Island formation	Sep-24	Sep-24
Phase 4a - Enabling dredge to clear way for main dredge	Sep-24	Sep-24
Phase 4b – Main dredge of lake	Sep-24	Nov-24
Phase 4c – Peninsula extension / land reclamation	Sep-24	Nov-24
3 – Construction – Main works and peninsula	Dec-24	Aug-25
4 – Construction – Canal bridge	Dec-24	Feb-25
5 – Future ecological enhancements	Dec-24	Aug-25

Table 3.1: Indicative construction programme

3.4 Site operation hours will be from Monday to Friday between 08:00 and 18:00. Site operation hours on Saturday will be between 08:00 and 13:00. No construction works will take place on Sunday or Bank holidays.

3.5 Figure 3.1 below illustrates the indicative locations of the proposed construction compound on-site.

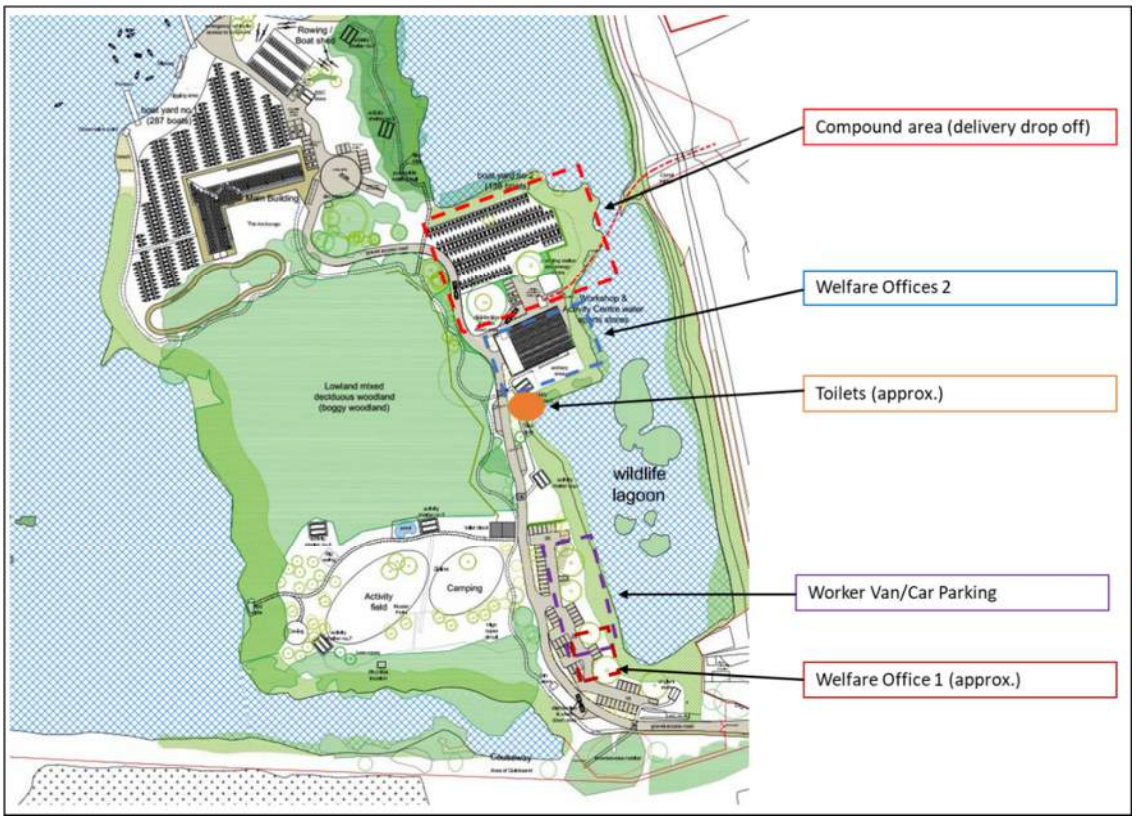

Figure 3.1: indicative on-site construction compound

Enabling works

3.6 The enabling works phase includes site set up and preparation, lake reclamation, ecological screening activities at the peninsula and the canal bridge replacement.

3.7 During site set up and preparation, ecological screening will be the first order of works, reducing the visual impact of the construction works on the lake. The site will be secured with hoarding erected at the site entrance from the site access road. Permanent fencing will be erected around areas of quicksand identified to address health and safety concerns and to prevent any unauthorised access. Welfare facilities will be implemented to the southeast of the site adjacent to the site parking area. A second welfare area will be located adjacent to the substation to the east of the site.

Site access road improvements

3.8 Highway improvements to the site access road are proposed from the junction with Moorhall Road to the site access to Broadwater Lake approximately 400m to the north.

3.9 The access road will be constructed in two stages to minimise disruptions to GRS Bagging and Harleyford Aggregates operations. Access for residents will maintained at all times and access to the existing BSC site and the Grand Union Canal towpath will not be restricted.

3.10 Alternatively, these work may occur outside of for GRS Bagging and Harleyford Aggregates operational times. If works are required outside of the proposed construction hours, the principal contractor will seek permission from the LBH to undertake these works.

3.11 The construction methodology of the site access road will be confirmed once a principal contactor has been appointed.

3.12 During this phase construction materials will be delivered by rigid lorries, paving and roller HGVs will be required.

In lake works

3.13 During the in lake works construction phase deployment of floating reedbeds will take place dredging of the lake will occur and island forming

3.14 Lake dredging and reclamation is thought to be undertaken by suction dredge. Two to three barges are expected to be required. A barge with a cutter/ sucker dredger and an additional floating pontoon with an excavator.

3.15 Where sheet pilling is required, there will be a piling machine mounted on the same pontoon as the excavator.

3.16 At the discharge end of the pipe there will be an excavator spreading the material as it is pumped through, layered to approximately 200mm-300mm thick.

Construction - Main works and peninsula

3.17 The main works and peninsula phase will comprise of site clearance (as required), construction of HWSFAC buildings and facilities, landscaping, vehicle and boat parking, internal access road fencing and gates, land reclamation and cut and fill to form the peninsula.

3.18 Demolition and site clearance of the existing BSC buildings to the north of the site will occur during this phase of construction. Demolition surveys will initially be undertaken. Once the surveys are finished and the results collated and analysed, mobilisation will begin and site hoarding will be erected and secured to the north of Broadwater Lake. Demolition and site clearance of BSC will then take place.

3.19 Traditional masonry construction will be undertaken. Materials will include brick blocks with truss timber roofs, concrete and steel frames. During this phase piling will be required for construction of the main building, workshop and boat shed. Auger pilling will be used to minimise noise and vibration.

3.20 The following construction vehicles and plant will be required the main phase of construction:

i. A 25t mobile crane will be required to lift roof trusses for the buildings.

ii. Deliveries of plant and materials such as bricks and steel beams by large rigid and articulated lorries.

iii. Concrete mixers and pumps will be required for laying concrete slabs where required.

iv. Excavators will be required across the entire site. A larger excavator will be required for removal of the retaining wall to the northwest corner of the peninsula.

v. Large tippers will be required for the movements of aggregate and other material.

vi. Skip lorries will be required to deliver and collect skips to remove non-reusable waste from the site.

vii. Telescopic forklifts will be required to move materials around the site, once delivered.

viii. Concrete crushers will be used on-site to crush and reuse the existing concrete on-site.

ix. Excavators, skip lorries and tippers will be required to remove material from the demolished BSC.

Construction – Canal bridge

3.21 The canal bridge replacement will be undertaken by a barge crane from the Grand Union Canal. Access by a rigid lorry and mobile crane will be required from Mayling Transport's yard that is bound by Grand Union Canal to the west.

Future ecological enhancements

3.22 Ecological enhancements will occur towards the end of the construction phase. Limited HGV movements are expected during this phase.

4.0 VEHICLE ROUTING AND SITE ACCESS

4.1 This section outlines the site access arrangements for construction vehicles, construction workforce and site visitors.

Construction vehicle routing

4.2 HGV routes have been identified in order to manage the arrival and departure of construction vehicles from the wider strategic road network and local highway network. This is to minimise the impact on existing road users, highway safety and capacity.

4.3 Figure 4.1 and Figure 4.2 illustrate wider and local construction vehicle routing to the site. HGVs are required to approach the site from Denham via the M25, M40, A40 or the A412. Once on the A412, HGVs will be required to turn then east onto Moorfield Road, continuing onto Moorhall Road until the site access road. Once at the site access junction HGVs will turn left onto the site access road proceeding to the site entrance. HGVs are not permitted to travel through Harefield village under any circumstances. The principal contractor will make this clear to companies materials are sourced from and any appointed sub-contractors before appointment.

4.4 Light Goods Vehicles (LGVs) and cars will utilise the local highway network and are not restricted to permitted routes.

4.5 During the enabling works phase, a small number of construction vehicles will be required to travel to Mayling Transport Yard, 50m to the east of the site via Broadwater Lane. Construction vehicles require to travel to Mayling Transport Yard will be notified ahead of departure and will be checked in at this location.

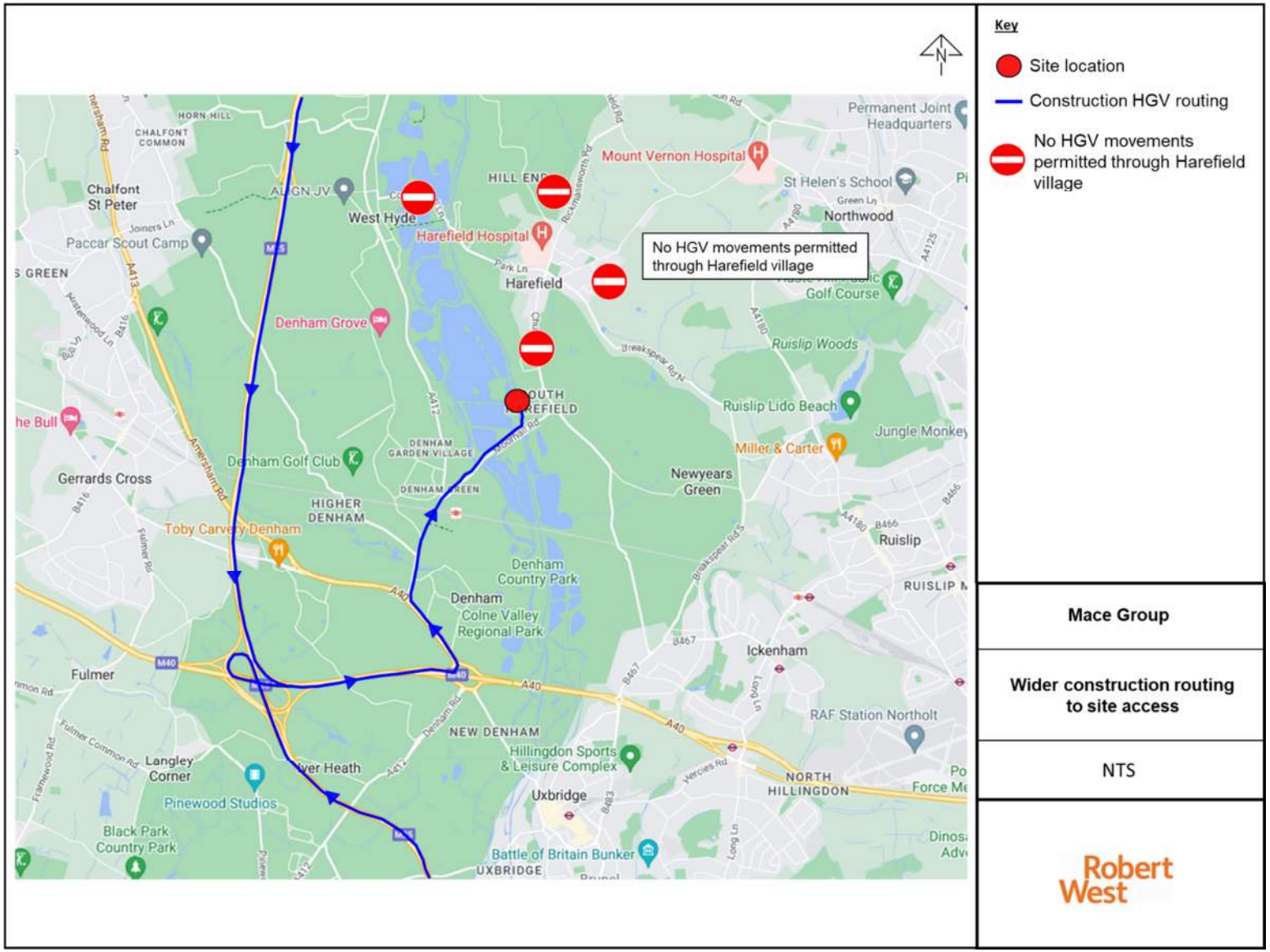

Figure 4.1. Wider construction vehicle routing to site

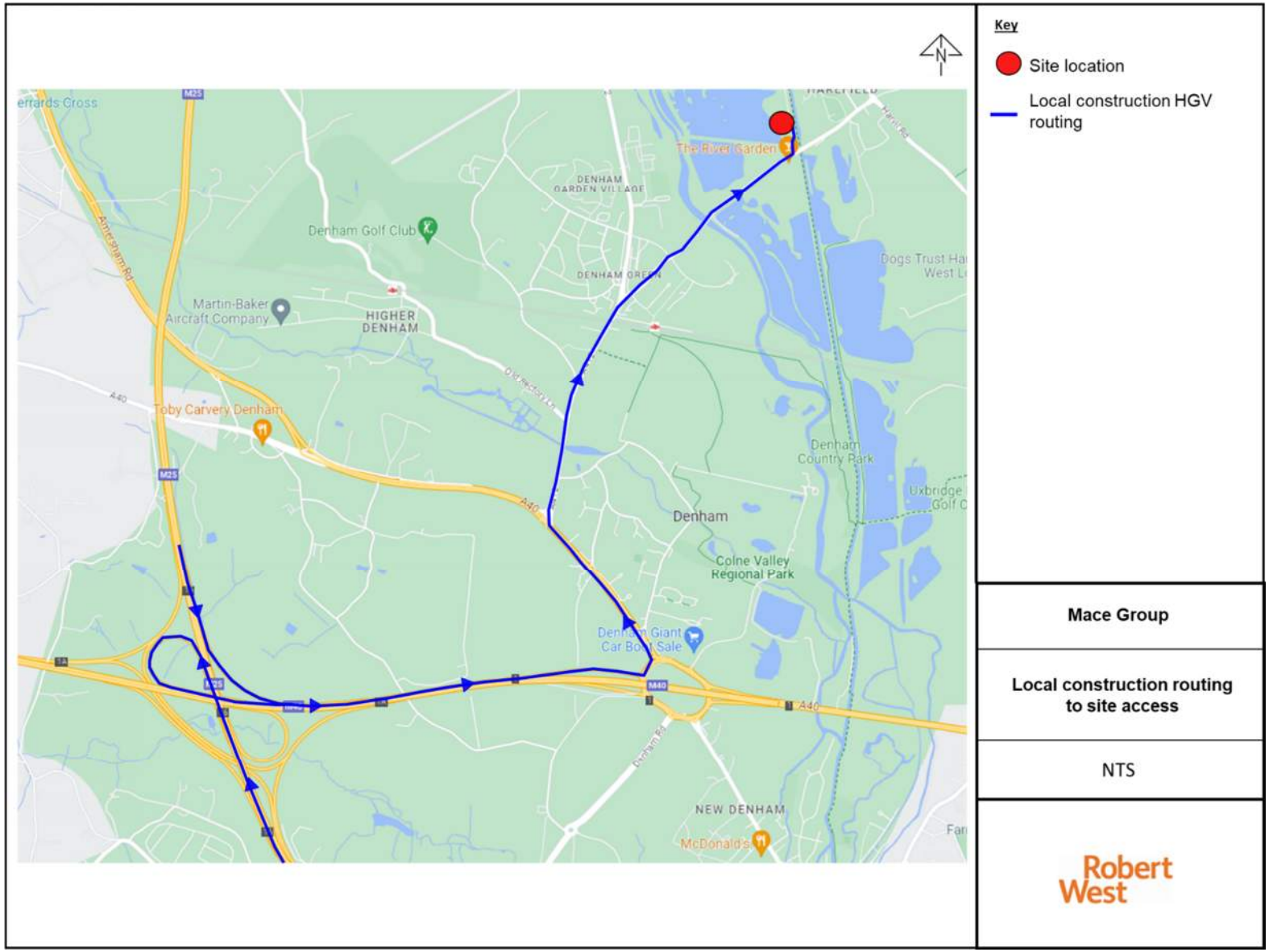

Figure 4.2: Local construction vehicle routing to the site

Construction vehicle and deliveries

4.6 Construction vehicles will have a dedicated time of arrival slot that will be required to be pre-booked in with the site logistics manager. A gateman/ banksman will be present at the site access to check all construction vehicles and undergo any necessary vehicle checks. The gateman will prevent unauthorised access to the site.

4.7 The gateman/ banksman will also prevent any waiting or queuing of HGVs on the site access road waiting to enter the site. In the event that this occurs vehicles will either enter the site, be re-routed or asked to leave and be rescheduled.

4.8 All HGV movements will be restricted during the network peak hours (08:00-09:00 and 17:00-18:00).

4.9 All construction vehicles will load/ unload within the site boundary and preform turning manoeuvres within the site, preventing these movements on the local highway network or the site access road.

4.10 All vehicles leaving the site will be checked prior to alighting onto Moorhall Road ensuring no debris is taken off-site. Wheel washing facilities will be present at the site access to be used before construction vehicles leave the site.

Parking suspensions

4.11 No Temporary Traffic Management Orders (TTMOs) are required to facilitate construction.

Construction vehicles

4.12 The following construction vehicles are expected to travel to/ from the site:

i. Articulated lorries.

ii. Rigid lorries

iii. 25t mobile cranes.

iv. Concrete mixers.

v. Excavators.

vi. Large tippers

4.13 The largest vehicle expected to travel to/from the site is a 16.5m articulated lorry.

4.14 Swept path analysis drawings of the largest vehicles expected to travel to the site are attached at Appendix C.

Construction worker and visitor parking

4.15 Car parking for contractors will be provided on-site within the secure site boundary. This will be located to the southeast of the site adjacent to the site entrance. Approximately 30 parking spaces will be provided.

4.16 Secure cycle parking will be provided on-site for construction worker personnel to the southeast of the site and take of cycling will be encouraged.

4.17 Under no circumstances parking on the local highway network will be permitted for contractors or visitors. This is including no parking along the site access road. Parking in the River Garden public house opposite the site access road will also not be permitted. Any contractors found parking off-site may be dismissed by the site manager.

5.0 STRATEGIES TO REDUCE IMPACTS

High impact site planned measures checklist	Committed	Proposed	Considered
Measures influencing construction vehicles and deliveries			
Safety and environmental standards and programmes	X		
Adherence to designated routes	X		
Delivery scheduling	X		
Re-timing for out of peak deliveries	X		
Re-timing for out of hours deliveries		X	
Use of holding areas and vehicle call off areas			X
Use of logistics and consolidation centres			X
Measures to encourage sustainable freight			
Freight by water		X	
Freight by rail			X
Material procurement measures			
DfMA and off-site manufacture			X
Re-use of material on site	X		
Smart procurement		X	
Other measures			
Collaboration amongst other sites in the area	X		
Implemented a staff travel plan		X	

Table 5.1: Measures influencing construction vehicles and deliveries

Measures influencing construction vehicles and deliveries

Safety and environmental standards and programmes

5.1 All contractor and sub-contractor vehicles arriving at the site will comply with sufficient safety measures and requirements relating to Work-Related Road Risk.

5.2 All vehicles and driver management practices will comply with the Fleet Operators Recognition Scheme (FORS) and CLOCS. FORS accreditation will be required by all sub-contracted transport/ haulage providers that the contractor intends to use.

5.3 A collision reporting system will be mandated to ensure all collisions and accidents involving the projects' vehicle and drivers are reported to the Project Manager and any relevant parties. The 'FORS Manager' reporting tool will be used; www.fors-online.org.uk.

Adherence to designated routes

5.4 Details of advisory routes to be used for journeys to and from the site for road operations are provided in Section 4.0. These access routes have been reviewed with respect to potential impacts, conflicts and hazards.

5.5 A copy of the final route plan will be given to all suppliers when orders are placed to ensure drivers are fully briefed on the required route to take. The suppliers will be made aware that these routes are required to be followed at all times unless agreed or alternate diversions are in place.

Delivery scheduling

5.6 A delivery management system will be used to control the volume of deliveries to the site. This system will work by defining the number of resources the site has and thus can service in 30 minutes intervals. It then limits the number of delivery bookings per half-hour to this defined capacity.

5.7 Sub-contractors and hauliers (if required) must be booked in a minimum of 48-hours in advance in order to allow the request to be reviewed and subsequently approved/ declined. The system can be accessed by completing a new user application form and submitting it, countersigned by the site manager or the delivery manager.

Re-timing for out of network peak hour deliveries

5.8 HGV deliveries will be scheduled outside of network peak hours (08:00-09:00 and 17:00-18:00). This is to avoid construction vehicles adding capacity to the local highway network, adding to any congestion during these hours. Scheduling HGV deliveries outside of network peak hours will also reduce the risk of conflicts between HGVs and any vulnerable road users such as cyclists.

Re-timing for out of hours deliveries

5.9 Permission for out of hours deliveries will be sought by the principal contractor if required.

Use of holding and vehicle call off areas

5.10 The use of a holding area of vehicle call of area will be investigated by the principal contractor, if required.

Use of logistics and consolidation centres

5.11 The use of logistics and consolidation centres will be explored when a principal contractor is appointed, if required.

Measures to encourage sustainable freight

Freight by water

5.12 To reduce the overall number of HGV construction vehicle movements, waste transportation via boat along the Grand Union Canal is being considered. Powerday have a wharf at their Willesden Recycling Centre that could be utilised.

5.13 Once appointed, the principal contractor will explore this possibility.

Freight by rail

5.14 The possibility of using the nearby rail lines to transport freight will be investigated by the principal contactor once appointed.

Material procurement measures

DfMA and off-site manufacture

5.15 DfMA and off-site manufacturing will not be required for the development other than deliveries

i. Prefabricated steel reinforced concrete.

ii. Concrete planks.

iii. Trusses.

iv. Pontoons.

v. The energy centre.

Re-use of material on site

5.16 Existing concrete and masonry on-site will be mined, crushed and reused to form concrete slabs for the build. Materials dredged from Broadwater Lake will be used to form new islands within Broadwater Lake.

Smart procurement

5.17 Suppliers that use different modes of transport will be explored in the procurement stage, as well as sourcing local suppliers to contribute to the local economy. Also, opportunities to source materials from the same supplier(s) from sites in close proximity to the site will be explored.

Other measures

Collaboration amongst other sites in the area

5.18 The principal contractor will explore the possibility of coordinating with the HS2 site on Moorhall Road to the southwest if still operational when construction begins.

Implement a staff travel plan

5.19 On-site parking will be provided to eliminate contractor parking on the local highway network and the site access road. On-site parking provided includes secure cycle parking for contractors and visitors. Staff will be encouraged to use sustainable transport including the frequent bus services provided within the vicinity of the site.

6.0 ESTIMATED VEHICLE MOVEMENTS

6.1 This section of the CLP provides predicted levels of construction traffic in relation to construction works, deliveries, the construction workforce and visitors.

6.2 A contractor is not yet appointed and therefore construction vehicle volumes are subject to change. The final estimates of vehicles movements will be checked and confirmed by the contractor and will be included in a revised CLP.

6.3 The total number of HGV construction vehicles required during each construction phase is illustrated in Figure 6.1. Table 6.1 presents the monthly forecast of HGV trips during each construction phase.

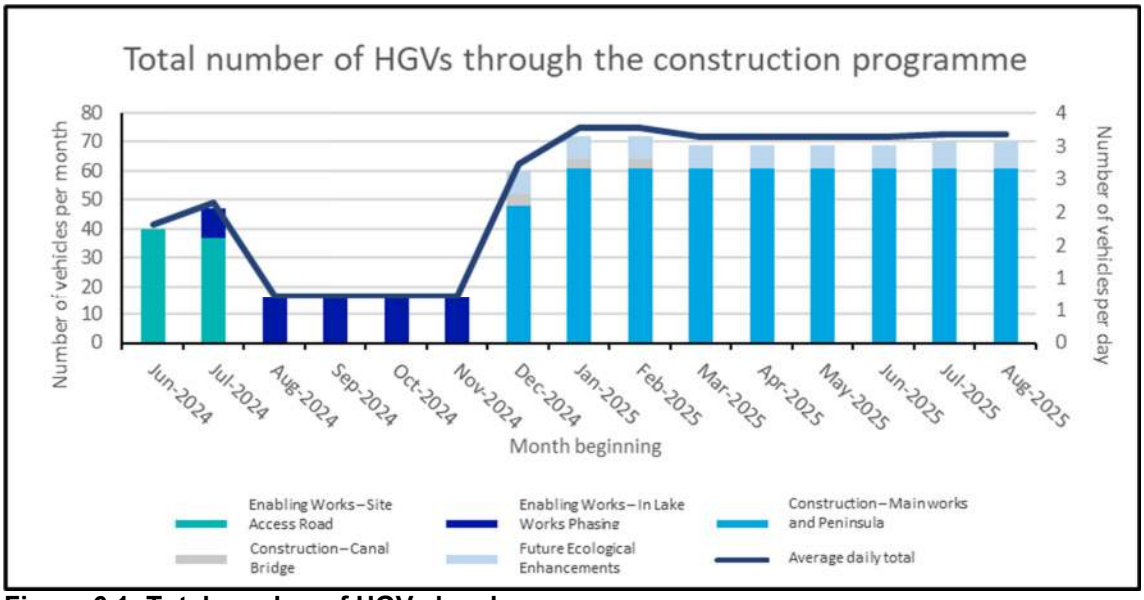

Figure 6.1: Total number of HGVs by phase

Construction phase	Period of stage	Average no. of trips (monthly)	Average no. of trips (daily)
Enabling works – Site access road	Q2 2024 - Q3 2024	10	0
Enabling works – in lake works phasing	Q3 2024 - Q4 2024	25	1
Construction – Main works and peninsula	Q4 2024 - Q3 2025	40	2
Construction – Canal bridge	Q4 2024 - Q1 2025	35	2
Future ecological enhancements	Q4 2024 - Q3 2025	13	1
Peak period of construction	Q1 2025 – Q1 2025	72	3

Table 6.1 Monthly HGV trips by phase

6.4 A total of 771 HGV are estimated to be required throughout the entire construction phase. The peak construction period will be during Q1 2025 where up to 72 HGVs are expected to travel to the site each month with an average of three daily HGV trips.

6.5 Total HGV trips may be reduced if it is decided waste will be transport off-site via the Grand Union

Canal. This will be confirmed once a principal contractor has been appointed.

6.6 In addition to HGV trips, LGV (light vans) and car trips to the site are expected daily throughout construction by contractors and visitors. During peak construction up to 30 van and car trips are expected daily. Outside of peak construction there is more likely to be between 15-20 van and car trips daily.

6.7 The site manager/ principal contractor will be responsible for coordinating deliveries. All deliveries will be scheduled outside of network peak hours (08:00-09:00 and 17:00-18:00).

7.0 IMPLEMENTING, MONITORING AND UPDATING

7.1 Once appointed, the construction logistics manager will be in charge of implementing the CLP. Their job description will include collecting data on:

i. Number of vehicle movements to the site; collected through a delivery booking-in system.

a. Total.

b. By vehicle type/ size/ age.

c. Time spent on site.

d. Consolidation centre utilisation.

e. Delivery/ collection accuracy compared to schedule.

ii. Breaches and complaints.

a. Vehicle routing.

b. Unacceptable queueing.

c. Unacceptable parking.

d. Supplier FORS accreditation.

e. Ultra-Low Emissions Zone (ULEZ) compliance.

iii. Safety.

a. Logistics-related accidents.

b. Record of associated fatalities and serious injuries.

c. Vehicles and operations not meeting safety requirements.

iv. Description of the contractor's handbook.

v. Description of the driver's handbook.

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Appendix A – Site masterplan

2915/068/004B

Scale (metres)

0 10 20 30 40 50 100

lake

Pontoon

Slipway

Pontoon

beach

emergency vehicular access to foreshore

Rowing / Boat shed

activity shelter no.1

Slipway

Pontoon

rigging area

accessible mini bus parking

BSC store

4no. cycle spaces

boat yard no.1 (287 boats)

activity shelter no.2

Observation point

accessible mini bus parking

staff parking

brown badge parking

beach

French Barn

turning circle R11250

ev ev

coach short term parking

Bird hide

accessible walking trail

boat yard no.2 (138 boats)

18 no. cycle spaces beneath canopy

coach drop off layby

Main Building

The Anchorage

bin store

Canal bridge

gravel access road

pumping station and energy centre

6no. cycle spaces

existing substation & buried cable

new substation

pedal go kart track

Acoustic Fence

disinfection & wash down area

Workshop & Activity Centre water sports stores

archery area

Lowland mixed deciduous woodland (boggy woodland)

coach lay-by

activity shelter no.3

Bird hide

coach lay-by

activity shelter no.4

wildlife lagoon

activity shelter no.5

pond

toilet block

4no. cycle spaces

EV EV PHEV PHEV PHEV PHEV

20

activity shelter no.6

Big swing

Zipline

Camping

Activity field

Muster Point

Bird hide

Caving

activity shelter no.7

High ropes circuit

24

10no. cycle spaces

Low ropes

Bird hide location

private residential bungalow

bin store

anglers store

15

disinfection & wash down area

existing weighbridge

gravel access road

secure gate

new path

secure gate

invertebrates habitat

Causeway

Area of Quicksand

Area of quicksand

HILLINGDON LONDON

NOTES

REVISION	DATE	DESCRIPTION	BY
A	31.10.22	Updated in accordance with client comments	IE
B	13.02.23	Issued for Client approval	IE
C	27.02.23	Updated in line with HDC comments	IE
D	25.05.23	Amended as a result of the arboricultural survey	IE
E	19.06.23	Amended in line with HDC comments	IE

CLIENT

LONDON • MANCHESTER • GLASGOW

SPACE & PLACE
ARCHITECTURE FOR HUMAN BEINGS

SPACE+PLACE
THE CORNERHOUSE
91-93 FARRINGDON ROAD
LONDON
EC1M 3LN

T +44 (0) 20 7831 8877
F +44 (0) 20 3116 6890
E answers@space-place.com
W www.space-place.com

STATUS PLANNING

PROJECT
Hillingdon Water Sports Facility and Activity Centre

DRAWING
BROADWATER LAKE MASTERPLAN

SCALE 1:500 SHEET SIZE A0 DRAWN BY CHECKED BY DATE 21.10.22

PROJECT NO. 3859 DRAWING NO. (03)045 REVISION E

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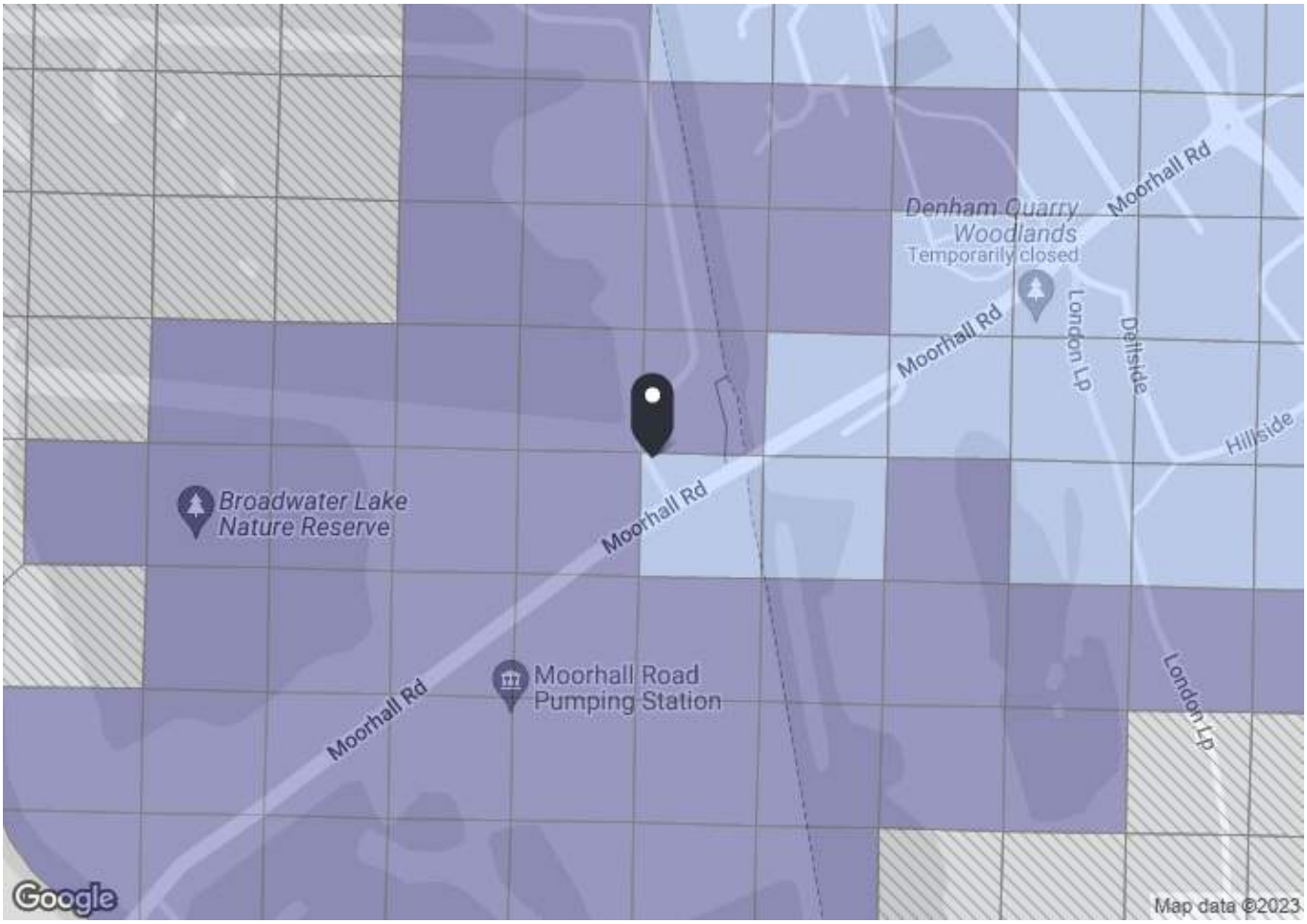
Appendix B – PTAL report

TRANSPORT FOR LONDON



PTAL output for Base Year
1b

Broadwater Lock Grand Union Canal, Harefield, Uxbridge UB9 6PD, UK
Easting: 504906, Northing: 188688

Grid Cell: 123909

Report generated: 12/04/2023

Map key - PTAL

0 (Worst)	1a
1b	2
3	4
5	6a
6b (Best)	

Map layers

PTAL (cell size: 100m)

Calculation Parameters

Day of Week	M-F
Time Period	AM Peak
Walk Speed	4.8 kph
Bus Node Max. Walk Access Time (mins)	8
Bus Reliability Factor	2.0
LU Station Max. Walk Access Time (mins)	12
LU Reliability Factor	0.75
National Rail Station Max. Walk Access Time (mins)	12
National Rail Reliability Factor	0.75

Calculation data

Mode	Stop	Route	Distance (metres)	Frequency(vph)	Walk Time (mins)	SWT (mins)	TAT (mins)	EDF	Weight	AI
Bus	THE FURROWS	U9	587.87	2.5	7.35	14	21.35	1.41	0.5	0.7
Bus	MOORHALL R HORSE & BARGE	331	116	3	1.45	12	13.45	2.23	1	2.23
									Total Grid Cell AI:	**2.93**

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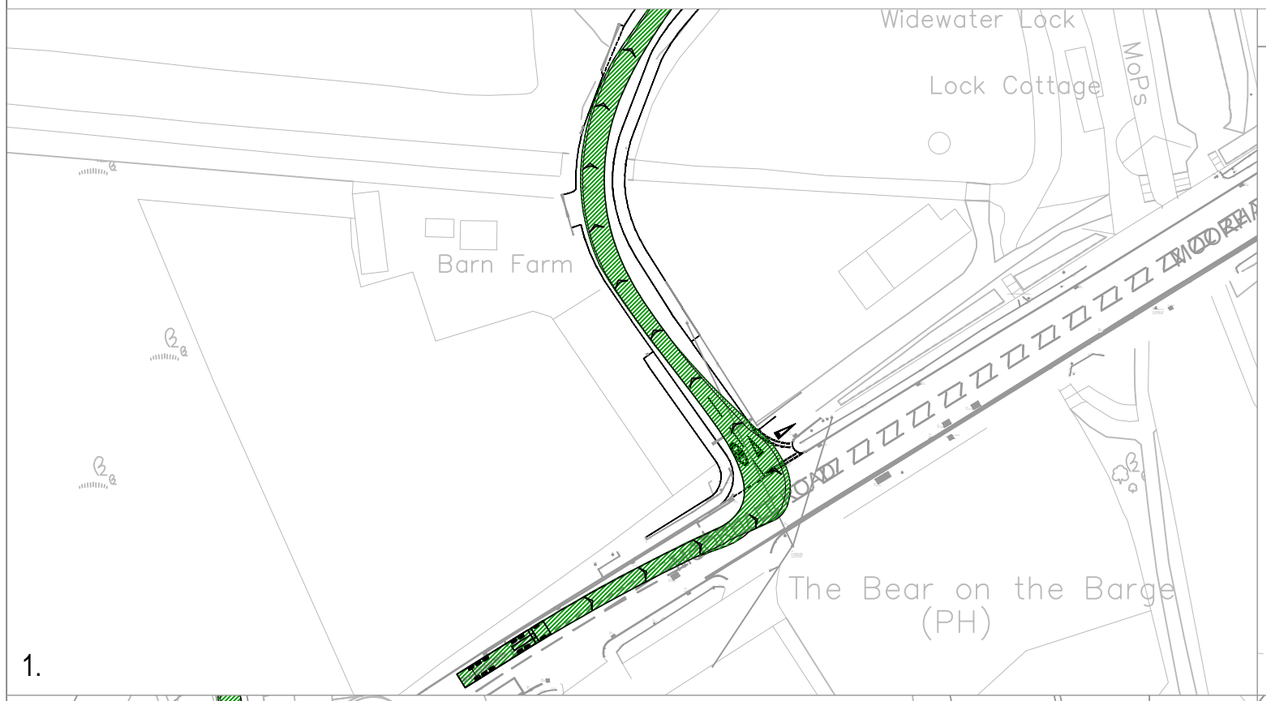
Appendix C – Swept path analysis

DO NOT SCALE OFF THIS DRAWING



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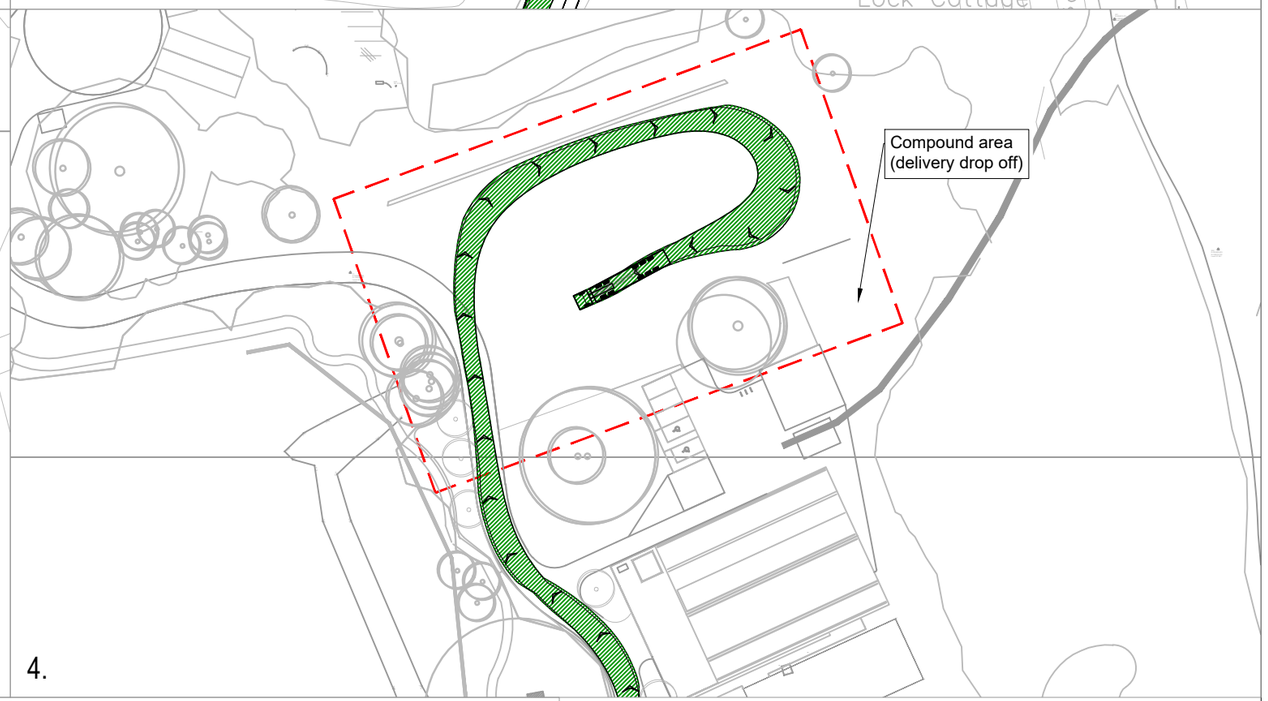

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Scale 1:1000 @ A3

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LB HILLINGDON

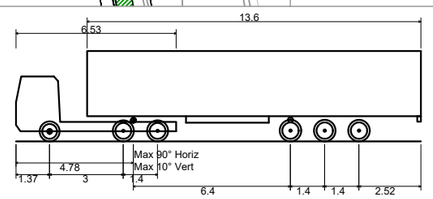
Robert West
1 Paris Garden
London
SE1 8ND
t:0203 773 7880
www.robertwest.co.uk

Project
Hillingdon Water Sports Facility and Activity Centre

Drawing Title
CONSTRUCTION PHASE
16.5m ARTICULATED VEHICLE - ACESSS
SWEPT PATH ANALYSIS

RWCL Internal Register reference: 2915-068 Scales @ A3

2915-068-116-P02



Max Legal Length (UK) Articulated Vehicle (16.5m)

Overall Length	16.500m
Overall Width	2.550m
Overall Body Height	3.681m
Min Body Ground Clearance	0.411m
Max Track Width	2.500m
Lock to lock time	6.00s
Kerb to Kerb Turning Radius	6.530m

Revision History					
Rev	Comment	By	Chkd	Appr	Date
P01	FIRST ISSUE	AA	WH	AMI	03/07/2023
Current Revision					
P02	MINOR AMENDMENTS	AA	WH	AMI	10/07/2023

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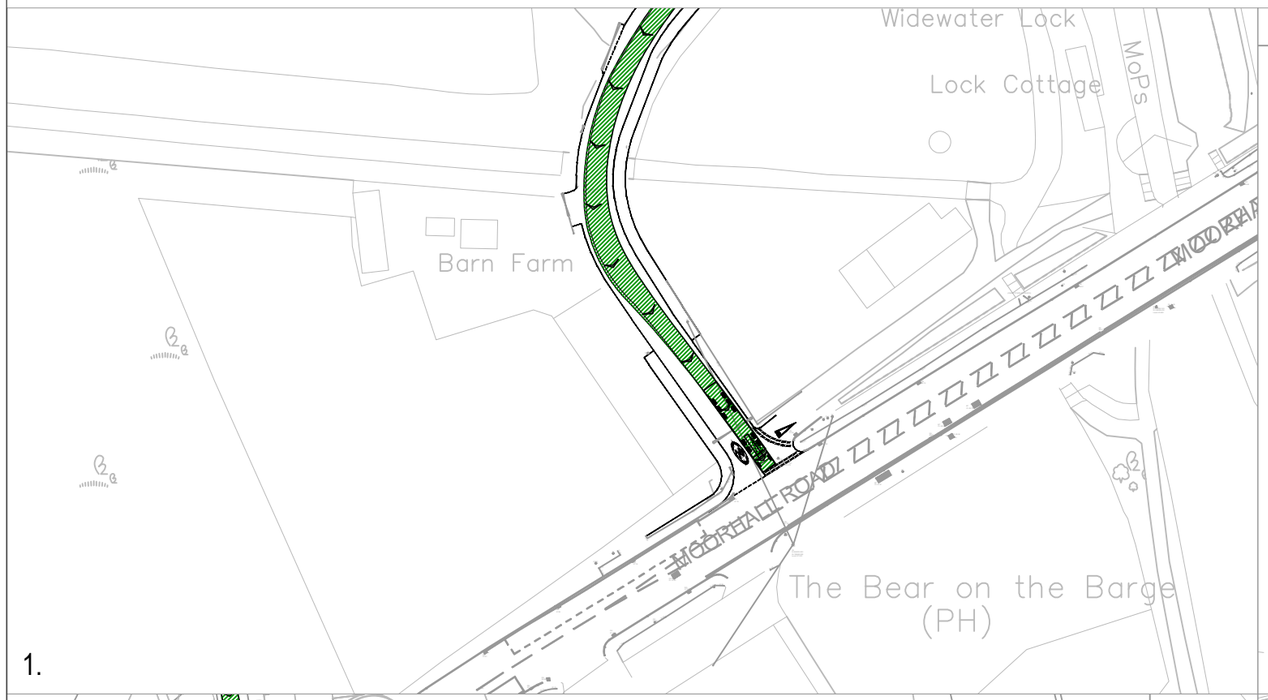

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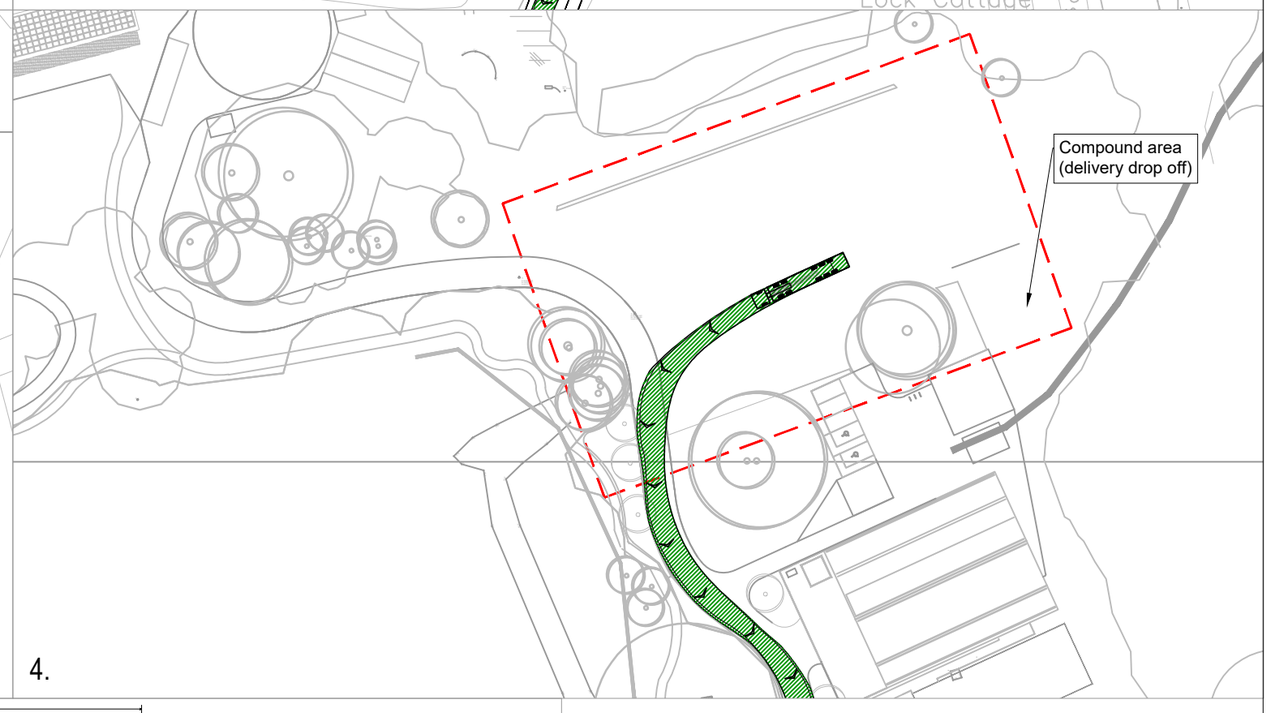

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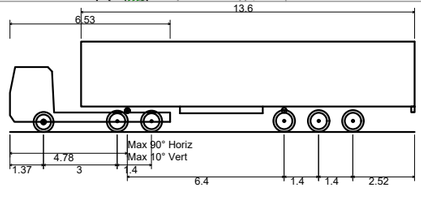

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LB HILLINGDON

Robert West
1 Paris Garden
London
SE1 8ND
t:0203 773 7880
www.robertwest.co.uk

Project
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Drawing Title
CONSTRUCTION PHASE
16.5m ARTICULATED VEHICLE - EGRESS
SWEPT PATH ANALYSIS

RWCL Internal Register reference: 2915-068 Scales @ A3

2915-068-117-P02

Revision History

Rev	Comment	By	Chkd	Appr	Date
P01	FIRST ISSUE	AA	WH	AMI	03/07/2023
	Current Revision				
P02	MINOR AMENDMENTS	AA	WH	AMI	10/07/2023

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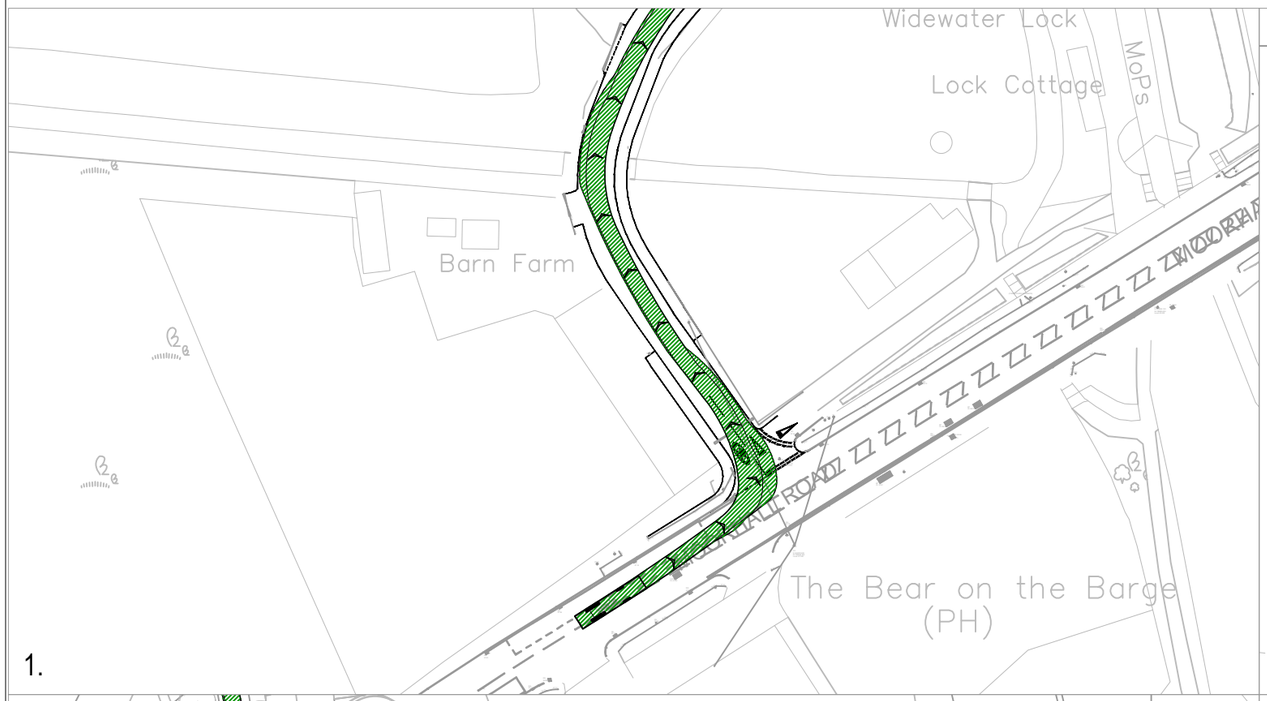

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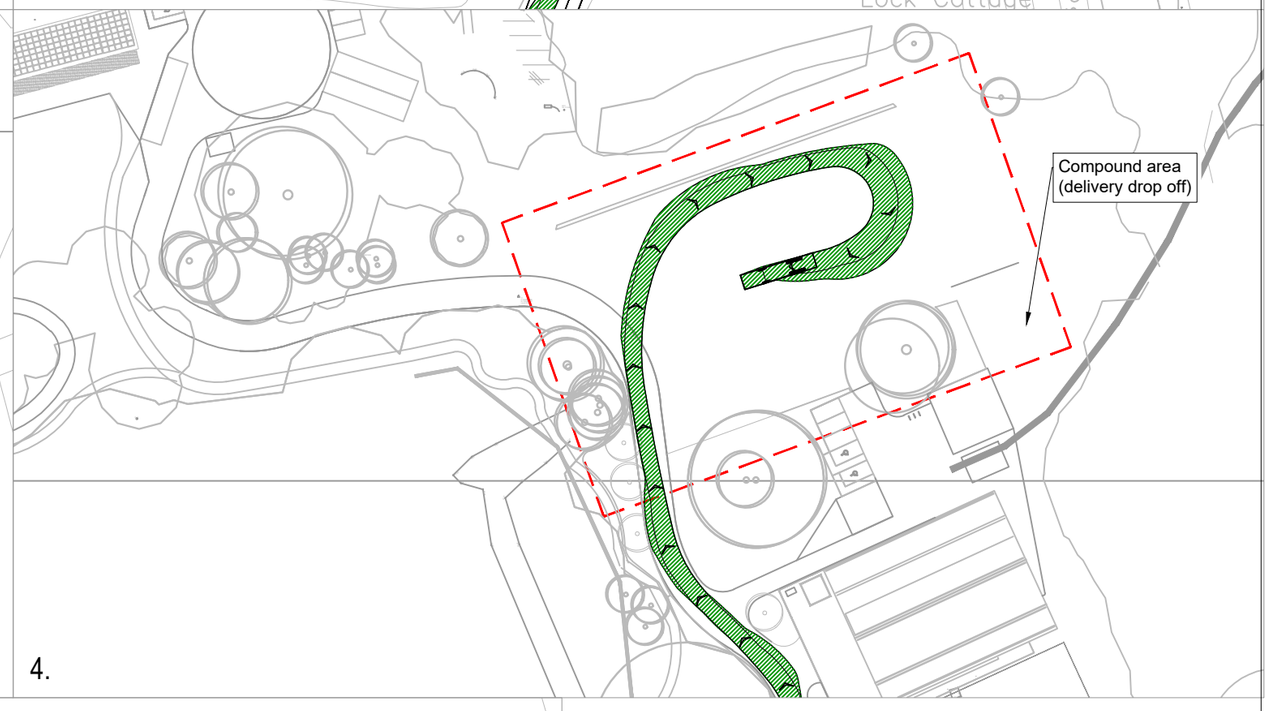

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Scale 1:1000 @ A3

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1 Paris Garden
London
SE1 8ND
t:0203 773 7880
www.robertwest.co.uk

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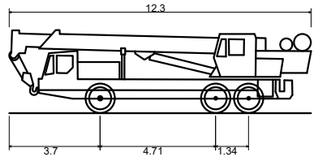
Drawing Title
CONSTRUCTION PHASE
LARGE MOBILE CRANE - ACCESS
SWEPT PATH ANALYSIS

RWCL Internal Register reference: 2915-068 Scales @ A3

2915-068-118-P02



Large Mobile Crane	
Overall Length	12.300m
Overall Width	2.430m
Overall Body Height	3.386m
Min Body Ground Clearance	0.590m
Track Width	2.430m
Lock to lock time	6.00s
Kerb to Kerb Turning Radius	10.000m

Revision History					
Rev	Comment	By	Chkd	Appr	Date
P01	FIRST ISSUE	AA	WH	AMI	03/07/2023
Current Revision					
P01	MINOR AMENDMENTS	AA	WH	AMI	10/07/2023

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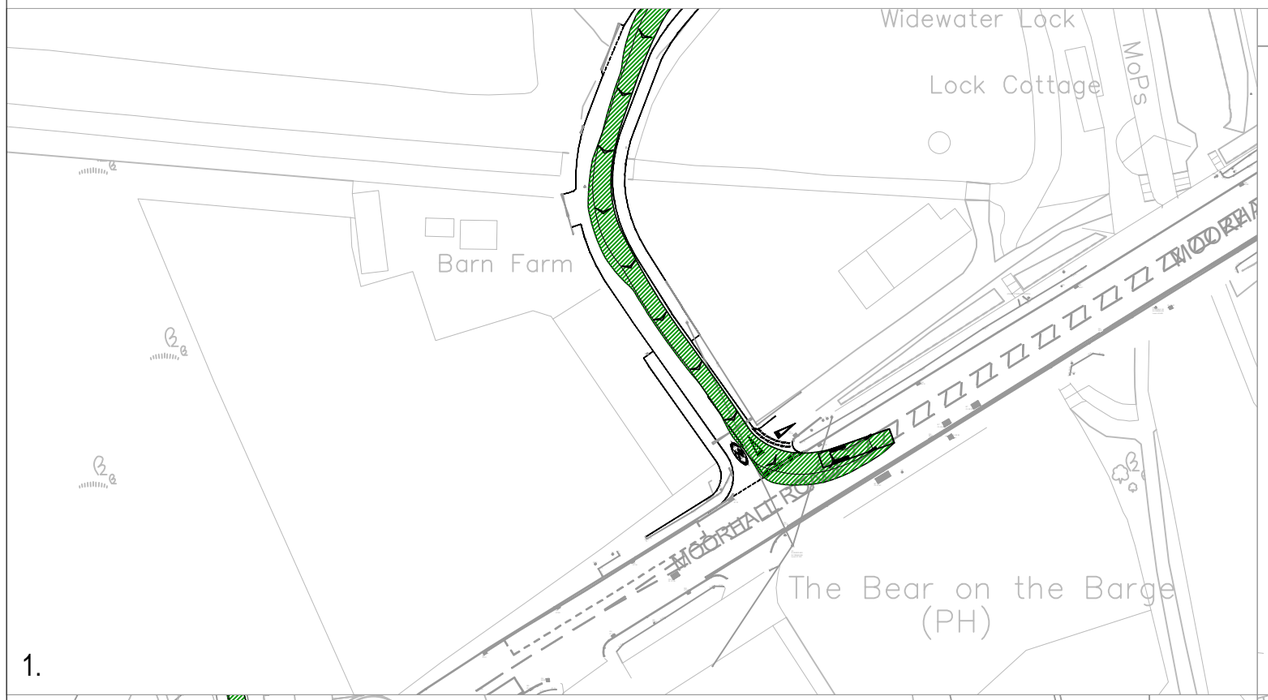

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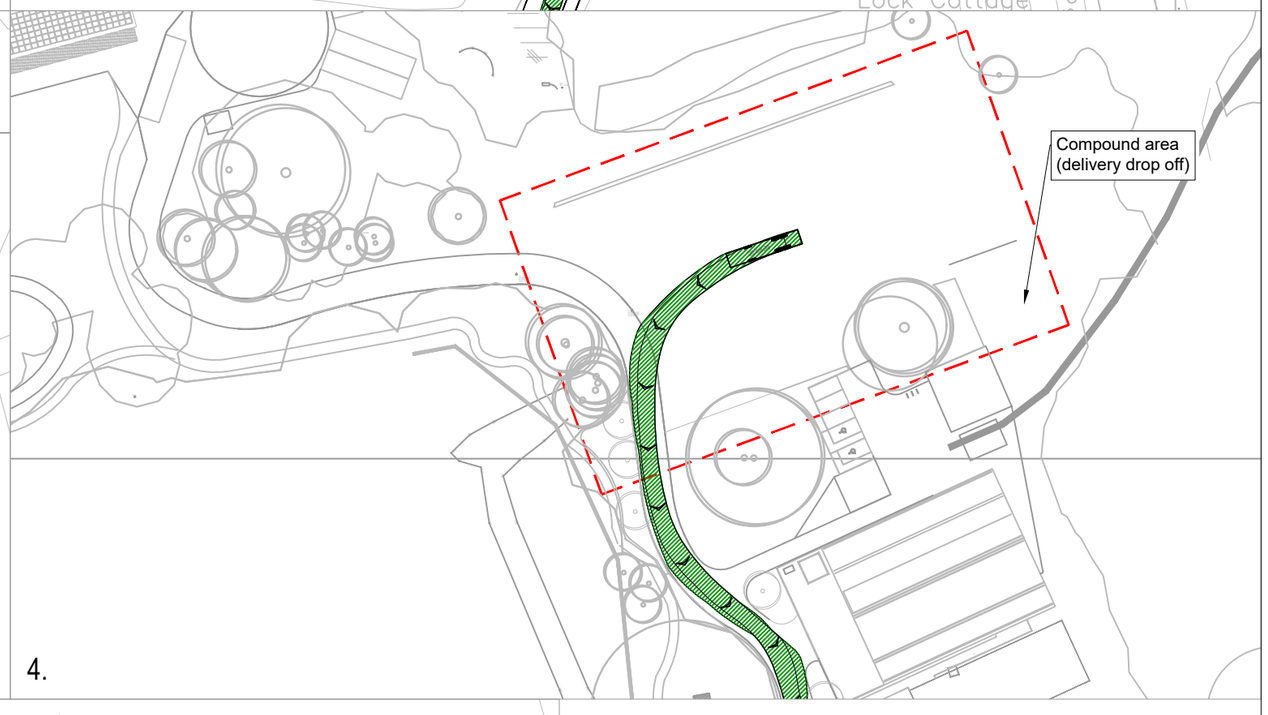

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SE1 8ND
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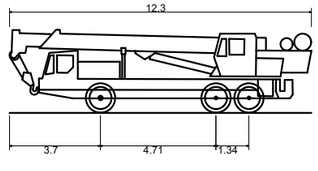
Drawing Title
CONSTRUCTION PHASE
LARGE MOBILE CRANE - EGRESS
SWEPT PATH ANALYSIS

RWCL Internal Register reference: 2915-068 Scales @ A3

2915-068-119-P02



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Track Width	2.430m
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Kerb to Kerb Turning Radius	10.000m

Revision History					
Rev	Comment	By	Chkd	Appr	Date
P02	FIRST ISSUE	AA	WH	AMI	03/07/2023
Current Revision					
P02	MINOR AMENDMENTS	AA	WH	AMI	10/07/2023

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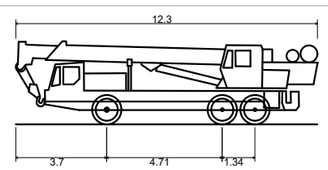
Robert West
1 Paris Garden
London
SE1 8ND
t:0203 773 7880
www.robertwest.co.uk

Project
Hillingdon Water Sports Facility and Activity Centre

Drawing Title
CANAL BRIDGE REPLACEMENT
LARGE MOBILE CRANE - ACCESS
SWEPT PATH ANALYSIS

RWCL Internal Register reference: 2915-068 Scales @ A3

2915-068-120-P02



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Track Width	2.430m
Lock to lock time	6.00s
Kerb to Kerb Turning Radius	10.000m

Revision History					
Rev	Comment	By	Chkd	Appr	Date
P01	FIRST ISSUE	AA	WH	AMI	06/07/2023
Current Revision					
P02	MINOR AMENDMENTS	AA	WH	AMI	10/07/2023

DO NOT SCALE OFF THIS DRAWING

Scale 1:1000 @ A3

20m 0 20m 40m 60m 80m 100m

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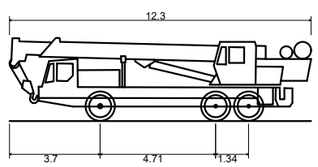
London
SE1 8ND
t:0203 773 7880
www.robertwest.co.uk

Project
Hillingdon Water Sports Facility and Activity Centre

Drawing Title
CANAL BRIDGE REPLACEMENT
LARGE MOBILE CRANE - EGRESS
SWEPT PATH ANALYSIS

RWCL Internal Register reference: 2915-068 Scales @ A3

2915-068-121-P02



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Rev	Comment	By	Chkd	Appr	Date
P01	FIRST ISSUE	AA	WH	AMI	06/07/2023
Current Revision					
P02	MINOR AMENDMENTS	AA	WH	AMI	10/07/2023