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**Project Title**
**Meadow High School Expansion at Harefield Academy**

**Report Title**
Outline Construction Logistics Plan

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## 1.0 INTRODUCTION

1.1 Robert West has been appointed by London Borough of Hillingdon (LBH) to provide construction logistics advice in relation to the proposals for new educational facilities for Special Education Needs and Disability (SEND) to facilitate the expansion of Meadow High School at the Harefield Academy site.

1.2 This document is an Outline Construction Logistics Plan (CLP), which outlines details/assumptions with respect to construction management during the construction phase. It is intended to establish the broader strategy for the construction of the development subject to further development beyond approval stage.

1.3 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.

1.4 It should be noted that the principal contractor is yet to be 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.

1.5 A detailed CLP with further information is expected to be required in due course and secured via planning condition.

### CLP objectives

1.6 The overall objectives of this CLP are to:

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 on residential roads (i.e. Northwood Road).

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

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

i. Construction workers will travel to the site by non-car modes.

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

iii. The use of FORS silver accredited vehicles.

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

v. Deliveries during off-peak hours where possible.

**Site context**

1.8 Meadow High School provides education for SEND pupils aged 11 – 19 years and is currently located on Royal Lane, Uxbridge within the LBH. The school currently has 257 pupils on the school roll. The school was recently subject of a Department for Education (DfE) project which is complete or almost at completion.

1.9 Harefield Academy is secondary school with a sixth form located 9.2km to the north of Meadow High School on Northwood Way, Harefield within the LBH. Harefield Academy is comprehensive secondary school with a sixth form for pupils aged 11 – 18 years. It has current school roll of 317 pupils and 52 staff.

1.10 The site location is illustrated in Figure 1.1.

**Figure 1.1: Meadow High School at the Harefield site location**

1.11 The site is located on Northwood Way, Harefield within the LBH. The site is bound by the existing Harefield Academy School to the north, Northwood Way to the west, Northwood Road to the south and east.

**Development proposals**

1.12 The development proposals are to provide an expansion of the existing Meadow High School at Royal Lane to a satellite site at the Harefield site on Northwood Way. The existing unused boarding block at the Harefield Academy will be repurposed and a two-storey extension will be constructed to provide new SEND facilities for pathway one pupils (pupils with the most severe needs) at Meadow High School.

1.13 Demand for pupil places at existing Meadow High School has increased and further development to accommodate this demand cannot be facilitated at the existing Meadow High School on Royal Lane. Therefore, the satellite school is proposed at the Harefield site for 90 pupils and 45 staff.

1.14 A new pedestrian and vehicular access for Meadow High School is proposed from Northwood Road. In addition to the site access, a 20mph zone will be implemented on Northwood Road Further details of the proposed site access and introduction of a 20mph zone are discussed in the Transport Assessment.

**Construction Access**

1.15 Two potential construction access options have been considered for the proposed site as listed below. Figure 1.2 below shows the location of the access options.

i. Option 1: via existing Harefield School access off Northwood Way through the south-eastern corner of the car park.

ii. Option 2: via previously used construction access off Northwood Road.

1.16 Given safety risk due to potential conflict with pupils and staff using the Harefield School access and car park Access Option -1 is not considered feasible.

1.17 Consequently, Access Option-2 has been adopted as proposed construction access. It allows independent construction access throughout the programme.

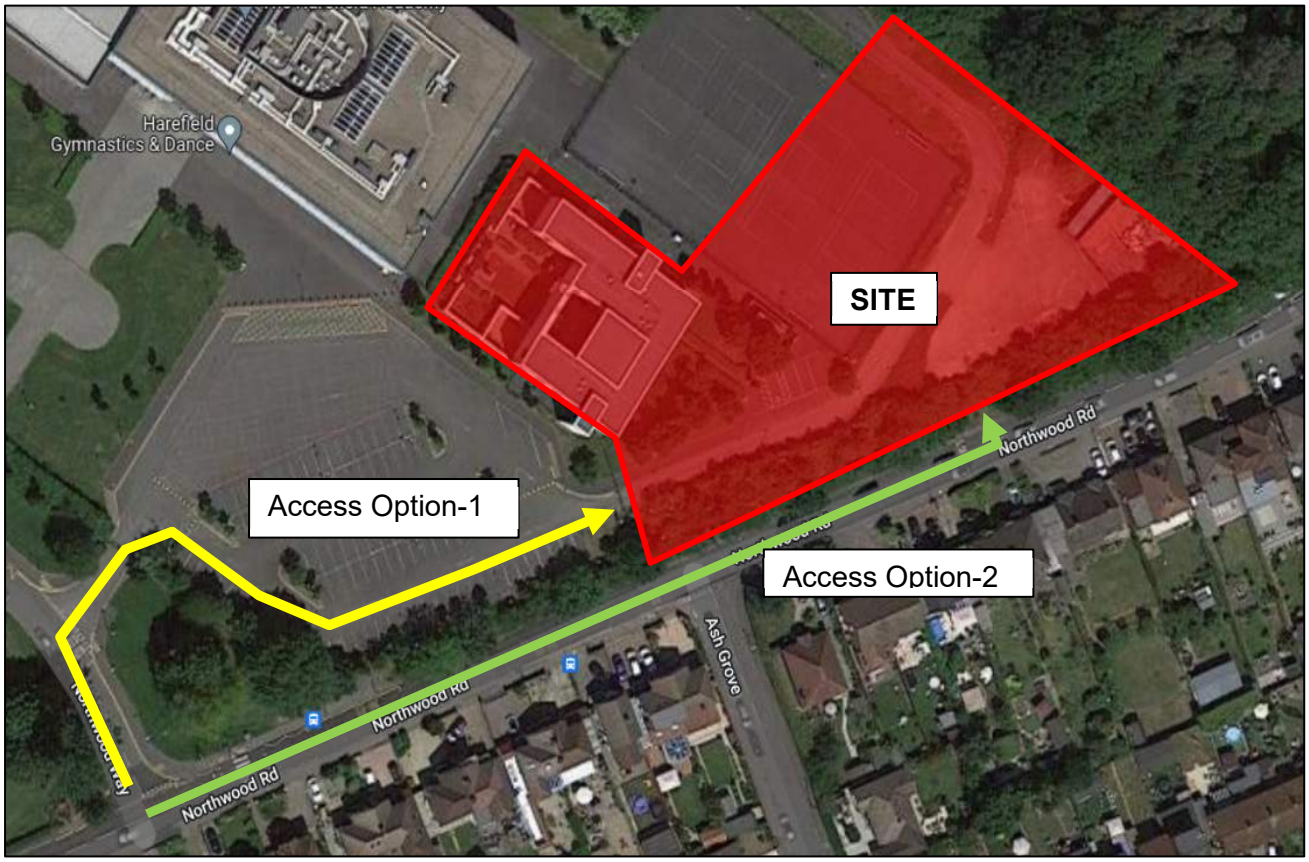


**Figure 1.2 Proposed Construction Access Options**

**CLP structure**

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

1.19 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).

ii. The Traffic Management Act.

iii. Designing for Deliveries, Freight Transport Association.

*Regional policy*

i. Delivering a Road Freight Legacy.

ii. The London Plan.

iii. The Mayor's Transport Strategy.

iv. Healthy Streets.

v. The London Freight Plan.

vi. Fleet Operator Recognition Scheme (FORS).

vii. Vision Zero.

*Local policy*

i. London Borough of Hillingdon Local Plan (2012, 2020)

### Context maps

2.2 In line with the TfL guidance, the following plans have been produced in conjunction with this CLP and included in Appendix A.

i. Regional plan.

ii. Local context plan.

iii. Site boundary plan.

**Local access including highway, public transport, cycling and walking**

*Pedestrians*

2.3 The pedestrian network within the vicinity of the site is comprehensive and includes footways with street lighting at regular intervals.

2.4 There are a number of pedestrian crossing facilities within the vicinity of the site. These include a zebra crossing on Northwood Road to the east of the junction with Northwood Way. Additionally, there are a number of dropped kerb crossing points with tactile paving on Northwood Way where the site is currently accessed from.

2.5 There are two Public Right of Ways (PRoW) footpaths within the vicinity of the site. Footpath U11 to the east of the site which provides a connection between Northwood Road and Jackets Lane to the northeast of the site. Footpath U12 provides a connection between Northwood Road and Newdigate Drive to the southeast of the site.

2.6 It is noted footpath U11 is approximately 1.5km long and provides a connection to Jackets Lane to the west of Northwood away from residential properties. Footpath U11 also appears to be overgrown and is therefore considered unsuitable for use commuting to the school.

*Cyclists*

2.7 There are a lack of dedicated cycle routes within the vicinity of the site. The site is situated on the outskirts of London and is remotely located within a village, therefore lack of cycling routes is considered a typical characteristic. Although there are no dedicated cycle routes, quiet residential streets within the village providing connections to the site are considered suitable for cycling.

**Public Transport**

*Public Transport Accessibility Level (PTAL)*

2.8 A PTAL assessment of the site was undertaken using the Transport for London (TfL) online database (www.tfl.gov.uk/webcat). The PTAL value is classified in bands ranging from 1a to 6b where 1a is the lowest level of accessibility (very poor) and 6b is the highest level of accessibility (excellent).

2.9 The PTAL Report indicates that the site is located in an area with a PTAL of 1a (“very poor” accessibility by public transport).

*Buses*

2.10 The nearest east and westbound bus stops to the site are located on Northwood Road 175m and 250m (2–3-minute walk) to the southeast of the site. Both bus stops are provided with a flag, timetable information and a yellow bus cage.

2.11 Table 2.1 shows the frequency and destinations of the bus routes available within a 640m walking radius of the site. The frequency of the buses is based the morning and afternoon school peak hours.

| Bus Route | Destination | No. buses | |
|---|---|---|---|
| | | AM peak | PM peak |
| 331 | Uxbridge Station | 4 | 3 |
| | Ruislip Station | 3 | 4 |
| R1 | Mount Vernon Hospital | 0 | |
| | Maple Cross | 13:40 and 16:30 | |
| R2 | Mount Vernon Hospital/ Watford | 09:40 and 11:30 | |
| | Maple Cross/ Chorleywood | 13:03 | |

**Table 2.1: Summary of bus services**

*London Underground*

2.12 There are no London Underground (LU) stations within the vicinity of the site.

2.13 The closest LU station to the site is Northwood station 3.5km to the east of the site. Metropolitan services are provided to Watford, Amersham, Chesham, Baker Street and Aldgate.

*National Rail*

2.14 The nearest National Rail station is to the site is Denham station located 3.5km to the southwest site. Chiltern Rail services are provided to Gerrards Cross and Marylebone.

**Local Highway network**

2.15 A description of the key highway links in the vicinity of the site is presented in the following paragraphs.

*Northwood Road*

2.16 Northwood Road is a two-way single carriageway road that connects from Breakspear Road North southwest to northern border of the LBH where the road transitions into White Hill to the northeast of the site.

2.17 The road is subject to a 30mph speed limit and is largely unrestricted within the vicinity of the site. No Traffic Management Orders (TMOs) are present on Northwood Road to the south of the site boundary. Double yellow line restrictions present on Northwood Road to the east of the site where the road bends.

*Northwood Way*

2.18 Northwood Way is a two-way single carriageway loop road which connects to Northwood Road to the southeast of the site. Northwood Way currently provides pedestrian and vehicular access to the site and the adjacent Harefield Academy.

2.19 The road is subject to a 30mph speed limit and double yellow line and school keep clear restrictions are present on the eastern side of the carriageway at the frontage of The Harefield Academy. There are no restrictions in place to the western side of the carriageway.

**Personal Injury Accident data**

2.20 Personal Injury Accident (PIA) data was obtained from Transport for London (TfL) for the most recent three-year period available (ending 31 October 2021) for the highway network surrounding the site. The summary of accidents by year and severity is summarised in Table 2.2

| Severity | Total | | | | |
|---|---|---|---|---|---|
| | 2018 | 2019 | 2020 | 2021 | Total |
| Fatal | 0 | 0 | 0 | 0 | 0 |
| Serious | 1 | 0 | 0 | 0 | 1 |
| Slight | 0 | 1 | 1 | 0 | 3 |
| **Total** | **2** | **1** | **1** | **0** | **4** |

**Table 2.2: number of accidents by severity and year**

2.21 The PIA data summary indicates four accidents occurred over the study period including three slight and one serious accident.

2.22 Three accidents occurred on Northwood Road and one accident occurred on Northwood Way. As both of these roads provide access to the site, these four accidents have been examined further to establish whether there are any specific patterns:

i. A slight accident occurred on Northwood Road at the junction with Vernon Drive, Tuesday 06 November 2018 at 11:15. It was reported that the accident occurred when the road was dry, and the weather was fine. The accident involved a car turning right and the other going ahead. It was noted vehicle one failed to look properly but

is unknown how the collision occurred. A driver and a passenger sustained slight injuries.

ii. A serious accident occurred on Northwood Road at the junction with Ash Grove, Saturday 17 November 2018 at 21:25. It was reported the accident occurred when the road was wet during fog and mist conditions. The accident occurred when a van/goods vehicle turning right from Ash Grove collied with another van/goods vehicle travelling southbound on Northwood Road towards Harefield. It was noted the vehicle turning from Ash Grove preformed a poor turn or manoeuvre and the vehicle travelling ahead failed to judge the other vehicles speed or path. A driver sustained serious injuries.

iii. A slight accident occurred on Newdigate Road East at the junction with Northwood Way, Tuesday 30 July 2019 at 14:30. The accident occurred when the road was wet in rainy conditions between a car and a van/goods vehicle. The accident was self-reported and it is unknown how the accident occurred. A car driver sustained slight injuries.

iv. A slight accident occurred Northwood Road near the junction with Wickham Close, Thursday 08 October 2020 at 13:40. The accident occurred when the road was wet, but the weather conditions were fine. The accident involved a car turning right and a car slowing/stopping. It was noted that the vehicle turning right failed to look properly and vehicle slowing/stopping was following too close. it is unknown how the collision occurred. Both car drivers sustained slight injuries.

2.23 After the further analysis of the accidents, it was concluded that no school pupils were involved in accidents within the study area.

2.24 Whilst it is acknowledged that any accident is unfortunate, the review of accidents showed that all accidents were related to the behaviour of road users rather than the operation of the highway network.

**Considerations and challenges**

2.25 The site is situated towards north-eastern edge of Harefield Town, which is located close to the northern border of LBH, in an area that is predominantly residential in nature.

2.26 It is noted that Northwood Road falls within TfL's low emission zone – 3.5ton safer HGV zone. Consequently, all construction vehicles over 3.5t will have to pay a daily charge if they do not meet the emissions standards.

2.27 The site is adjacent a live school. Pupils of the Harefield school use adjacent footpaths to walk

between the schools and nearby residential areas and transport links. Construction vehicle delivery arrival and departure times will also be scheduled outside of school drop off and pick up peak periods.

2.28 Further appropriate measures including hoarding and information will be utilised to maximise child and pedestrian safety. As such, it is considered there will be low risk to child and pedestrian safety.

2.29 To maximise pedestrian safety traffic marshals will be deployed at this junction upon arrival of construction vehicles and will assist pedestrians, maximising pedestrian safety.

2.30 Presence of a Harefield Hospital along the construction route is particularly sensitive and requires construction vehicles to drive more considerately i.e. observing designated speed limits and avoiding any honking in the proximity of the hospital to prevent causing any disturbance to the patients and staff at the hospital.

2.31 Existing delivery and servicing route for Harefield Academy will be blocked by the proposed construction site. An operational delivery and servicing access route is required to be maintained during construction phase. The construction site needs to provide a clear route through to the servicing area of Harefield. Consequently, suitable measures will be necessary to enable servicing and delivery via proposed construction access/site.

## 3.0 CONSTRUCTION PROGRAMME AND METHODOLOGY

3.1 The proposed development is scheduled to take approximately 50 weeks. The current construction schedule is dated between August 2022 and August 2023. This is subject to approvals.

3.2 Table 3.1 includes an indicative construction programme.

| Construction stage | Start | End |
|---|---|---|
| 1 - Site setup and demolition | Aug 2022 | Oct 2022 |
| 2 - Basement Excavation and Piling | Nov 2022 | Feb 2023 |
| 3 - Sub-structure | Nov 2022 | Feb 2023 |
| 4 - Super-structure | Feb 2023 | May 2023 |
| 5 – Cladding | May 2023 | Aug 2023 |
| 6 - Fit-out, testing and commissioning | July 2023 | Aug 2023 |

**Table 3.1: Indicative construction programme**

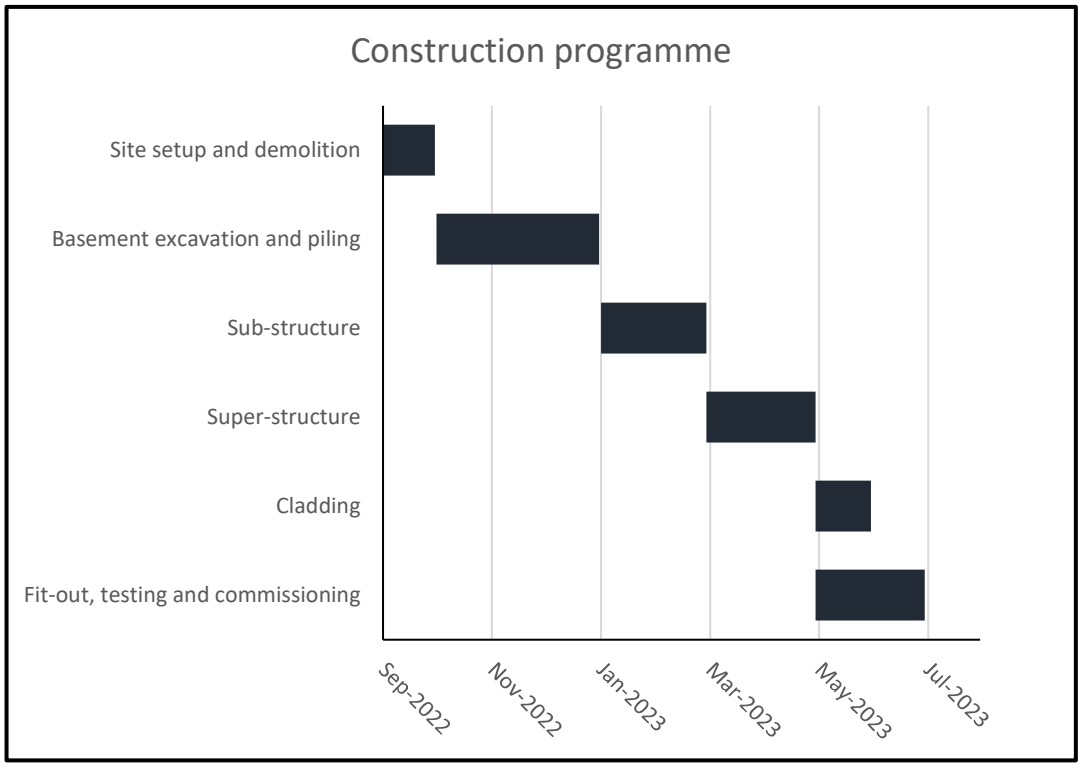


**Figure 3.1: Construction programme**

**Site setup**

3.3 The construction site will be set up in accordance with a site set up plan. Appendix B includes an indicative site setup plan.

3.4 Initial enabling works will be undertaken for site preparation. This includes securing the site boundary and implementing site access gates.

3.5 Wide temporary access with standard visibility splays to ensure safe and free movement of construction vehicles, delivery vehicles and servicing vehicles to Harefield Academy will be constructed.

3.6 Part of the development proposal is to open and retain permanent access onto Northwood Road at the location of the proposed construction access. The temporary access during construction and permanent access during the operation stage of the project will be secured through Section 278 agreement, or other minor works agreement.

3.7 Any vegetation within the standard visibility splay envelope will be cleared to maintain visibility for construction, delivery and servicing vehicles. Appendix C includes indicative proposed construction site access and visibility drawing. This is based on the layout of the permanent access. For construction it is envisaged that the kerblines will be formed and access surfaced, but the junction upgraded to its permanent form towards the end of the programme.

3.8 Securing the site using the hoarding will block the existing servicing access to Harefield Academy through the car park. In order to mitigate the impact, proposed construction access will be used as servicing access for Harefield Academy during the construction stage and continue its use into the operation stage of the project.

3.9 Swept path analysis has been undertaken using a refuse vehicle at the proposed access to ensure accessibility of the Harefield Academy. Appendix D includes a swept path analysis.

3.10 All construction, delivery and servicing vehicles will turn into the site in forward gear where they will load/unload/service and then exit the site in forward gear.

3.11 Access to Harefield Academy servicing area will be secured by a barrier.

3.12 Secure construction compound with secure gates will be constructed to allow sufficiently large and safe area for contractor to store material on site during construction. It is envisaged this compound will be used for construction delivery vehicles to turn.

3.13 A small welfare facility will be provided with a separate portable toilet. The welfare facility will be located to the west of the site.

3.14 A separate car parking area for contractors and visitors to the site will be provided on site.

3.15 No demolition will be necessary.

**Light excavation and Sub-structure**

3.16 During the light excavation period an amount of spoil and other waste materials will be generated and would need to be removed from the site. However, this is expected to be a small amount as the site is already vacant. Waste will be disposed of in licenced skips.

3.17 Concrete will be delivered to site by concrete mixer and rigid trucks respectively. All concreting will be undertaken at site during this construction phase.

3.18 A traffic marshal will be deployed at the entrance to the site to control the interface between the public highway and the site to ensure pedestrian and cyclist safety. They will be responsible for halting construction vehicle movements accessing the site to allow pedestrians to safely pass.

3.19 No vehicles larger than a 12m rigid trucks are expected to travel to/from the site at this phase Building materials will be transported to the site daily as of when they are needed. There is an allocated area for storage of materials within the site towards the west.

3.20 All construction, delivery and servicing vehicles will turn into the site in forward gear where they will load/unload/service and then exit the site in forward gear.

3.21 Deliveries will be arranged during off-peak hours where possible.

**Super-structure**

3.22 During the superstructure phase timber for the assembly of the cross laminated timber (CLT) frame, brick and blockwork will be delivered by 16.5m arctic trucks.

3.23 A traffic marshal will be deployed at the entrance to the site to control the interface between the public highway and the site to ensure pedestrian and cyclist safety. They will be responsible for halting construction vehicle movements accessing the site to allow pedestrians to safely pass.

3.24 The largest vehicles expected include 16.5m articulated vehicles and 80T mobile crane. Building materials will be transported to the site daily as of when they are needed. There is an allocated area for storage of materials within the site towards the west.

3.25 All construction, delivery and servicing vehicles will turn into the site in forward gear where they will load/unload/service and then exit the site in forward gear.

3.26 Deliveries will be arranged during off-peak hours where possible.

**Cladding**

3.27 Brickwork render and glazing will be delivered by rigid trucks.

3.28 A traffic marshal will be deployed at the entrance to the site to control the interface between the public highway and the site to ensure pedestrian and cyclist safety. They will be responsible for halting construction vehicle movements accessing the site to allow pedestrians to safely pass

3.29 Rigid trucks will be required to travel to the site daily during the Cladding construction phase. Deliveries will be arranged during off-peak hours where possible.

3.30 All construction, delivery and servicing vehicles will turn into the site in forward gear where they will load/unload/service and then exit the site in forward gear.

**Fit out**

3.31 During fit out additional contractors are expected to access the site. The largest construction vehicles that will be required to travel to the site will transit vans and box vans

3.32 Principal contractor will manage the space within parking area and time the arrival of sub-contractors to avoid any shortage of spaces within the parking area.

3.33 All construction, delivery and servicing vehicles will turn into the site in forward gear where they will load/unload/service and then exit the site in forward gear.

## 4.0 VEHICLE ROUTING AND ACCESS

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

4.2 During the construction phase, access to the site will occur from Northwood Road. All vehicles travelling to and from the site will arrive and depart outside of network peak hours. Off-peak deliveries may be required due to the presence of the site adjacent a live school.

4.3 A 'stop works sign' (TSRGD 7031) should be considered by the principal contractor when vehicles are required to stop to enable plant and/or construction vehicles accessing/egressing the site. This sign must only be used for a maximum of two minutes and only for the provision of facilitating delivery and construction vehicles. The sign will be double sided, reflective to the standards and to the size stated within the Traffic Signs Regulations and General Directions.

4.4 Advisory construction routes have been identified in order to manage the arrival and departure of vehicles from the wider surrounding highway network, minimising the impact to existing road users and upon highway safety and capacity.

4.5 Drivers of construction vehicles are expected to approach the site via motorways and principal roads given the loads and size of construction vehicles. The following advisory routes have been established in relation to construction vehicles travelling to/from the site and which should be read in conjunction with mapping in Appendix E.

i. Option-1 from North via M25 Junction 17: Construction vehicles will approach the site from the M25 Junction 17 Interchange to northwest of the site. They will travel southbound along A412 Denham Way, turn eastbound onto Chalfont Lane and Copper Mill Lane which continues as Park Lane. Approximately 750m southwest from site, construction vehicles will continue east on to Breakspear Road North. Finally, construction vehicles will turn northbound on to Northwood Road approaching the proposed construction site access.

ii. Option-2 from North via M4 Junction 1: Construction vehicles will approach the site from the M4 Junction 1 Interchange to south of the site. They will travel northbound along A412 Denham Way, turn northeast onto Moorhall Road and then north to Church Hill Copper Mill Lane which continues to become Highstreet. Approximately 750m southwest from site, construction vehicles turn east on to Breakspear Road North. Finally, construction vehicles will turn northbound on to Northwood Road approaching the proposed construction site access.

4.6 Vehicles will load/unload within the site boundary. After exiting construction vehicles will follow the same route used for access.

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

i. 16.5 arctic truck.

ii. 80T mobile crane

iii. Concrete mixer truck

iv. 12m Rigid Truck

4.8 The largest construction vehicle required to travel to/from the site will be a 16.5 arctic truck and 80T mobile crane.

4.9 Contactor will manage space available for deliveries to unload within the delivery area for unloading material and ensure that deliveries are timed to avoid the delivery area being congested.

4.10 A site setup plan is attached at Appendix B and swept path analysis drawings are attached at Appendix F.

## 5.0 PLANNED MEASURES

### Transport of materials

5.1 The planned measures included in Table 5.1 have been identified to help the contractor achieve the goals of the CLP and manage any forthcoming challenges

| High impact site planned measures checklist | Committed | Proposed | Considered |
|---|---|---|---|
| **Measures influencing construction vehicles and deliveries** | | | |
| Safety and environmental standards and programmes | X | | |
| Traffic Management | 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 |
| Preventing HGV movements during network peak times | | | X |

**Table 5.1: Measures influencing construction vehicles and deliveries**

**Measures influencing construction vehicles and deliveries**

*Safety and environmental standards and programmes*

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

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

5.4 A collision reporting system will be used to ensure all collisions and accidents involving the projects' vehicles and drivers are reported to the project manager and any relevant parties.

5.5 Construction vehicles will load/unload within the site. A banksman will be present to assist vehicle movements in and out of the site. A traffic marshal will also be deployed at the entrance to the site to control the interface between the public highway and the site to ensure pedestrian and cyclist safety. They will be responsible for halting construction vehicle movements to allow pedestrians to safely pass. The access gate adjacent to the site will be maintained at all times.

5.6 Traffic management measures in accordance with TfL guidance will be used to allow safe movement of all road users in the vicinity of the proposed construction site.

5.7 HSE guidance will be adhered to ensure the safe separation of pedestrians and construction vehicles on-site.

*Adherence to designated routes*

5.8 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.

5.9 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*

5.10 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.

5.11 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 contractor's manager to the delivery manager.

*Re-timing for out of peak deliveries*

5.12 Re-timing out of peak time will aid the operational efficiency of the construction site and the neighbouring area. Deliveries during off-peak hours may be required due to the presence of the site near a live school.

*Use of holding and vehicle call off areas*

5.13 Due to the small-scale nature of the development and low levels of construction vehicle deliveries travelling to and from the site; a holding area and vehicle call off areas is not considered to be a requirement. These measures will be reconsidered by the principal contractor in due course if necessary.

*Use of logistics and consolidation centres*

5.14 Due to the small-scale nature of the development all materials will be delivered on a just in time basis and a small storage space will be allocated on site. Therefore, the use of a consolidation centre is not required.

**Measures to encourage sustainable freight**

*Freight by water*

5.15 The River Thames lies approximately 6km to the south of the site. The option of transporting material by water is not a possibility due to the significant distance that freight would have to be transported to reach the site. However, this will unlikely be feasible due to the small-scale nature of the development.

*Freight by rail*

5.16 The possibility of using the nearby rail line to the west of the site should be considered to understand its feasibility. However, this will unlikely be feasible due to the small-scale nature of the development.

**Material procurement measures**

*DfMA and off-site manufacture*

5.17 Reducing delivery numbers and effective delivery management is a core value of this development. The use of off-site manufacturing will be explored for the project. cross Laminated timber (CLT) frame will be used in construction of superstructure where beams will be assembled on-site. Glazing is expected to be subdivided to be transported on a modified transit van as commonly used by glazing companies.

*Re-use of material on site*

5.18 Several measures will be explored to re-use material on site. This will include the re-use of crushed concrete from light excavation.

*Smart procurement*

5.19 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 near the site will be explored.

**Other measures**

*Collaboration amongst other sites in the area*

5.20 Potential collaboration with other site has been considered but given the remote location and low construction traffic generated from the site it is not considered suitable.

## 6.0 ESTIMATED VEHICLE MOVEMENTS

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

6.2 Specifically, this section will include the anticipated number, frequency and types of vehicles anticipated to be used during construction including HGV's, light goods vehicles and cars. These movements will be estimated for the length of the construction programme where possible as well as the busiest period of vehicle arrivals and departures within the construction programme.

6.3 No contractor has been appointed at this pre-tender stage and any estimates provided within this section are broadly based on other similar projects. The final estimates of vehicles movements will be checked and confirmed by a contractor at tender stage and submitted as part of a detailed CLP subject of a planning condition.

6.4 The total number of construction vehicles that will be required during the construction phase is illustrated in Figure 6.1. An estimated forecast of monthly construction vehicle traffic during each construction stage is also presented in Table 6.1.

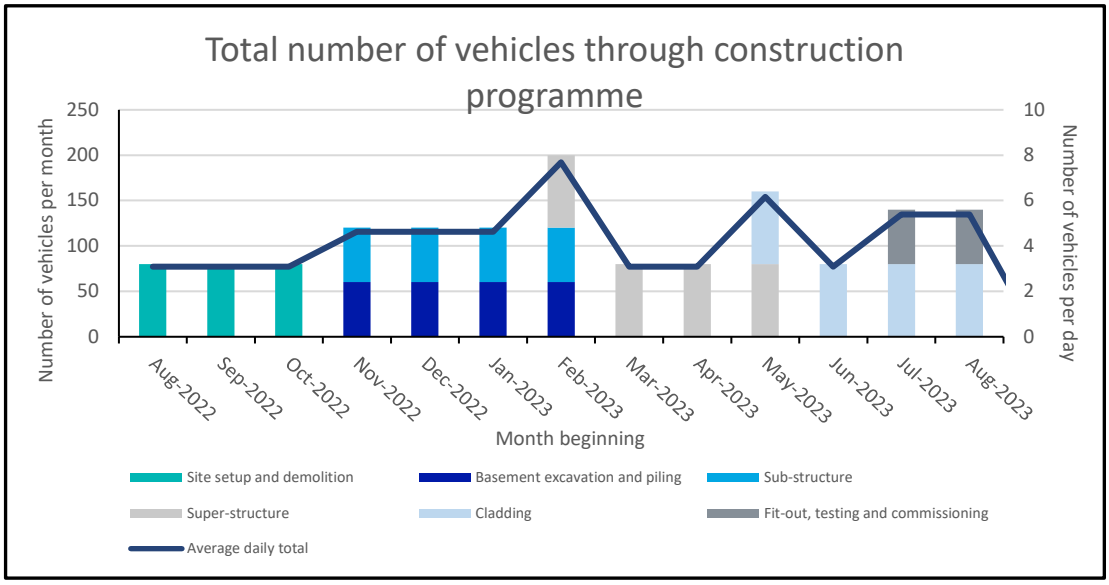


**Figure: 6.1: Total number of construction vehicles during the construction phase**

| Construction phase | Period of stage | No. of trips (monthly) | Peak no. of trips (daily) |
|---|---|---|---|
| Site setup and demolition | Q3 2022 - Q4 2022 | 80 | 4 |
| Basement excavation and piling | Q4 2022 - Q1 2023 | 60 | 3 |
| Sub-structure | Q4 2022 - Q1 2023 | 60 | 3 |
| Super-structure | Q1 2023 - Q2 2023 | 80 | 4 |
| Cladding | Q2 2023 - Q3 2023 | 80 | 4 |
| Fit-out, testing and commissioning | Q3 2023 - Q3 2023 | 60 | 3 |
| Peak period of construction | Q1 2023 - Q1 2023 | 200 | 10 |

**Table 6.1 Monthly construction vehicles trips by phase**

6.5 A total of 200 construction vehicles trips are required throughout the entire construction build. The peak construction period will be combined basement excavation/substructure during Q4 2022 – Q1 2023. This is subject to approvals. Total of 120 construction vehicles are estimated to be required during this period. There will be a peak number of six construction vehicle trip to the site per day during this period. This is an estimate and is subject to change following the appointment of a contractor.

6.6 Figure 6.2 provides an estimate of the minutes between construction arrival and number of construction vehicles per hour to the site during the peak month of construction (Aug 2022).

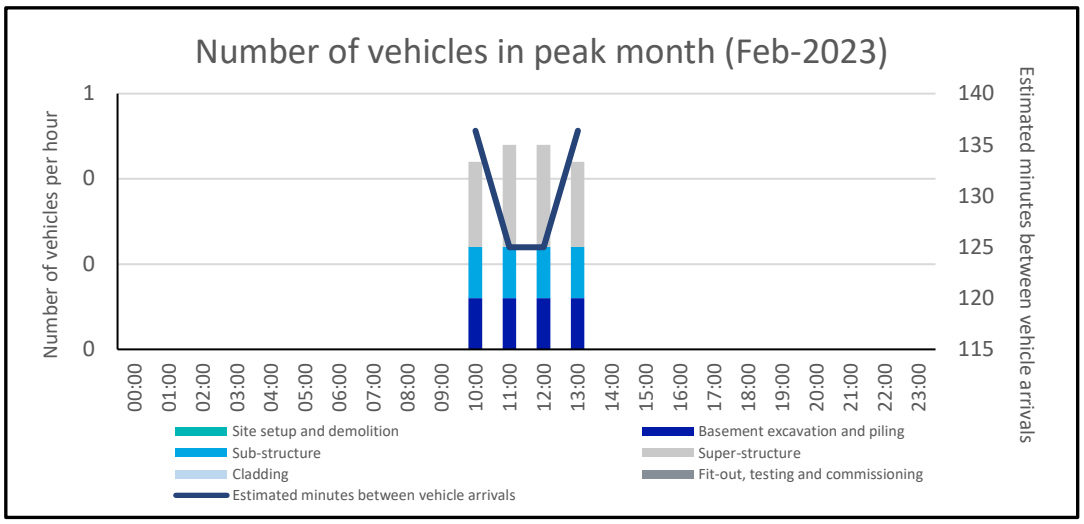


**Figure 6.2: Number of vehicles in peak month**

6.7 All construction vehicles will load/unload within the site boundary. Deliveries during off-peak times may be required due to the presence of the site near a live school. The number and type vehicles of construction vehicles required during each stage of the construction phase will vary. Figure 6.3 illustrates the anticipated number and type of construction vehicles required during each stage of construction.

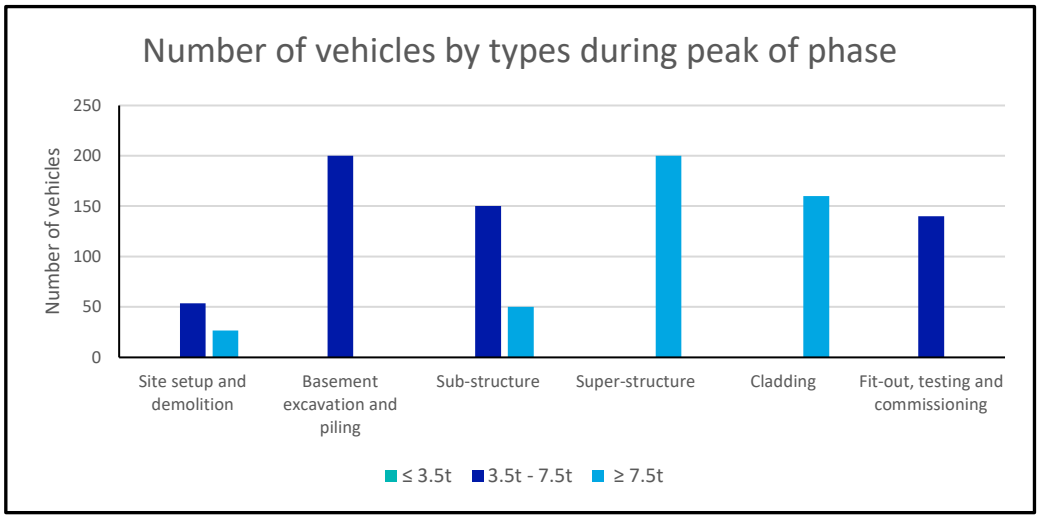


**Figure 6.3: Number and type of construction vehicles by each construction stage**

6.8 The largest construction vehicles expected to travel to the site are 16.5m arctic truck and 80T mobile crane. This primarily occurs during superstructure phase. The artic is required for building materials. The 80T crane is anticipated to install the CLT structure, PV on the roof and the heating system, so not regularly travelling to/ from site.

## 7.0 IMPLEMENTING MONITORING AND UPADTING

7.1 The appointed Construction Logistics Manager will oversee 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 utilization.

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. Low Emissions Zone (LEZ) 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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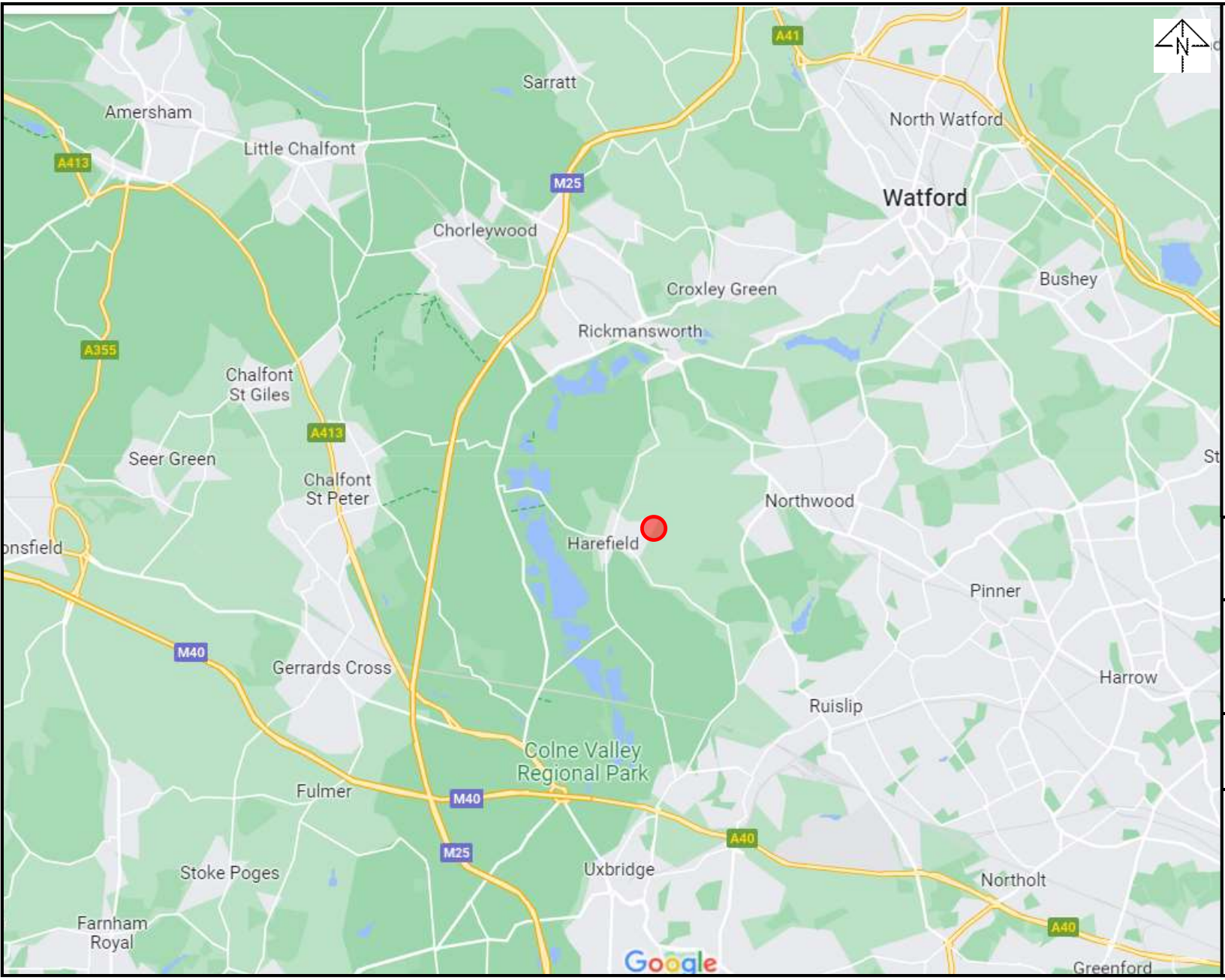
# Appendix A – Site location plans




**Legend**

Site location

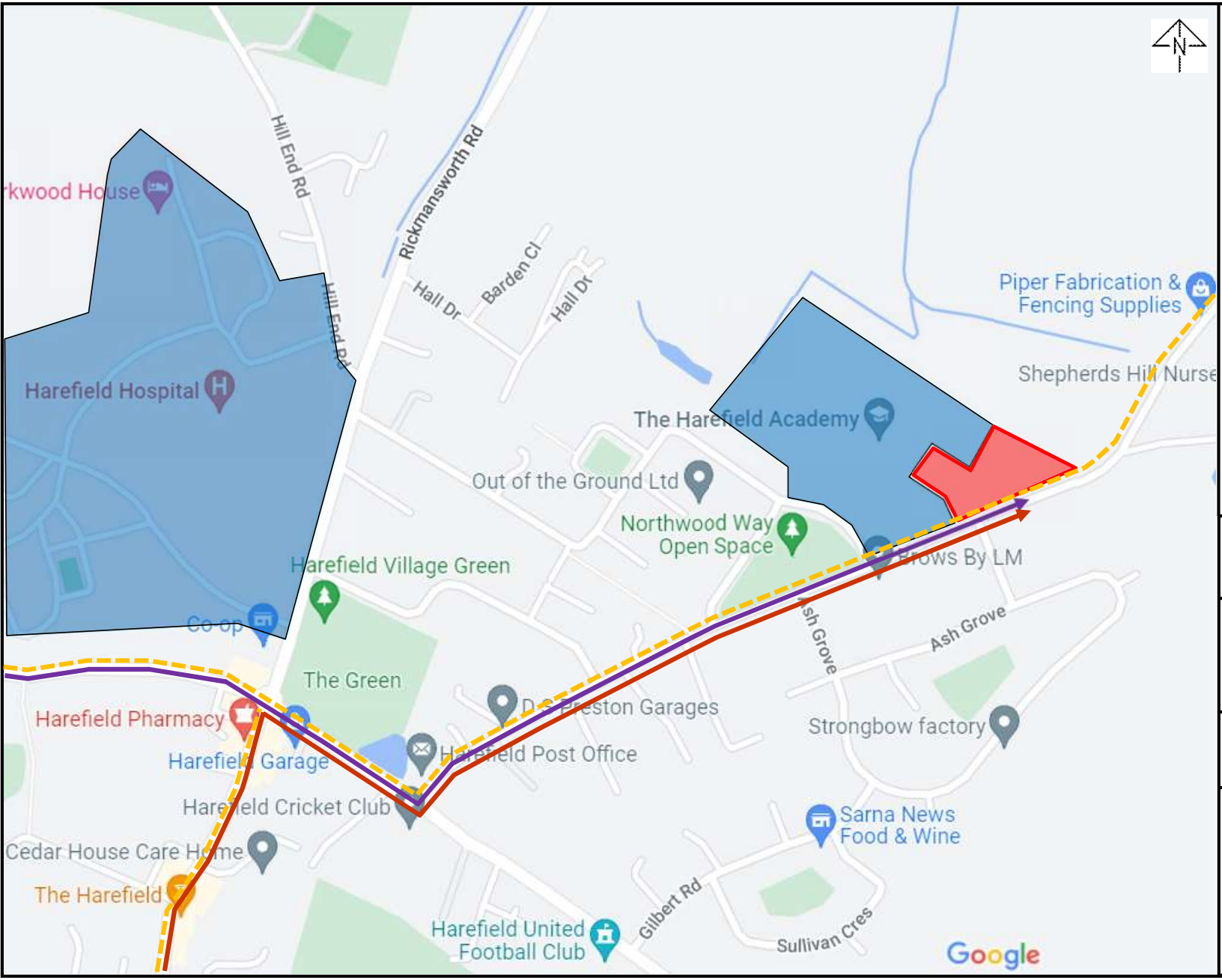
**Meadow High School**

**Regional Plan**

SCALES:

NTS

Robert West




## Legend

- Site location
- Community considerations
- Footpath
- Construction vehicle routes from the north via M25 Junction 17
- Construction vehicle routes from the south via M40 Junction 1

**Meadow High School**

**Local Context Plan**

SCALES:

NTS

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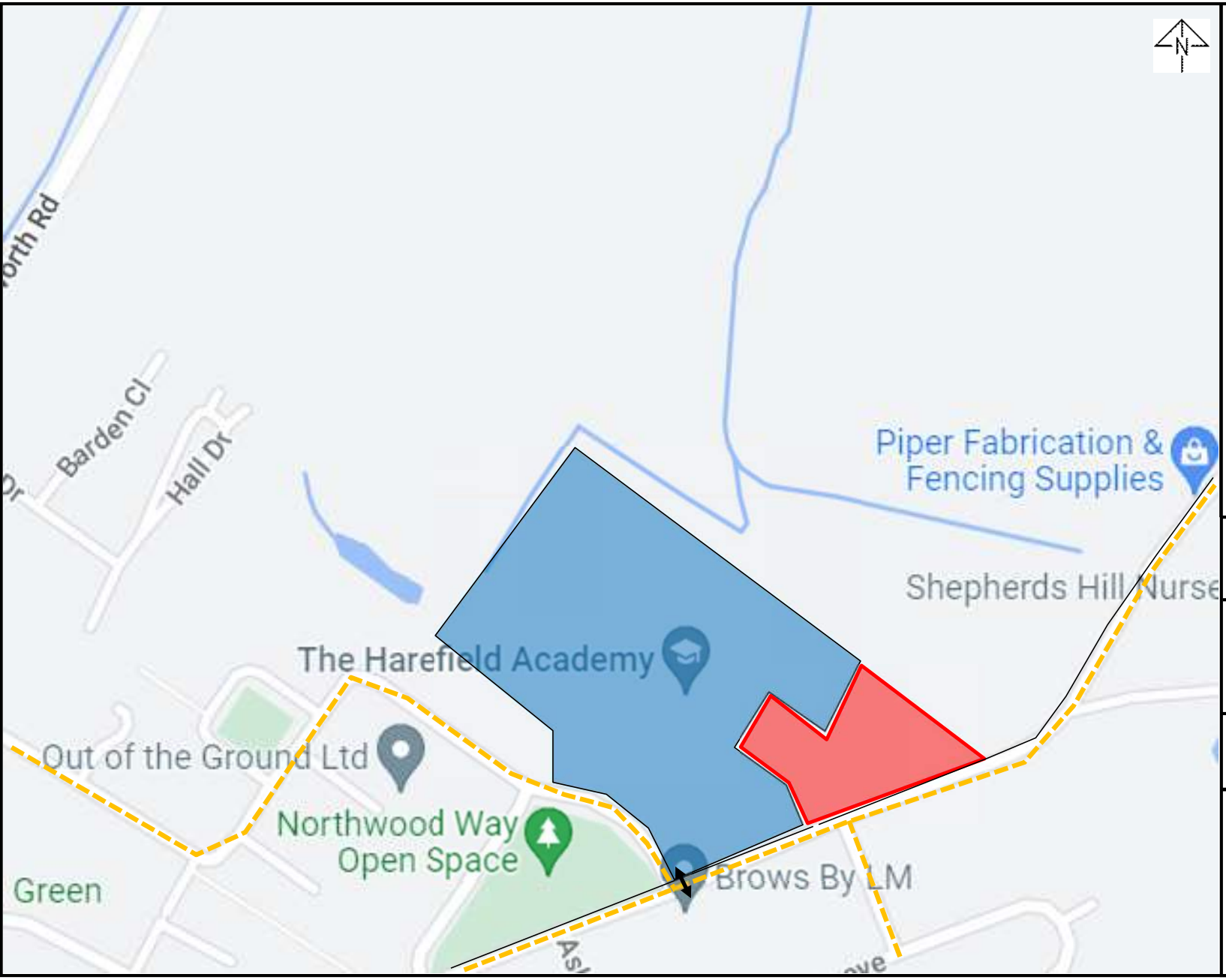


**Legend**

- Site Boundary
- Community considerations
- Pedestrian crossings
- Footpath

**Meadow High School**

**Site Boundary Plan**

SCALES:

NTS

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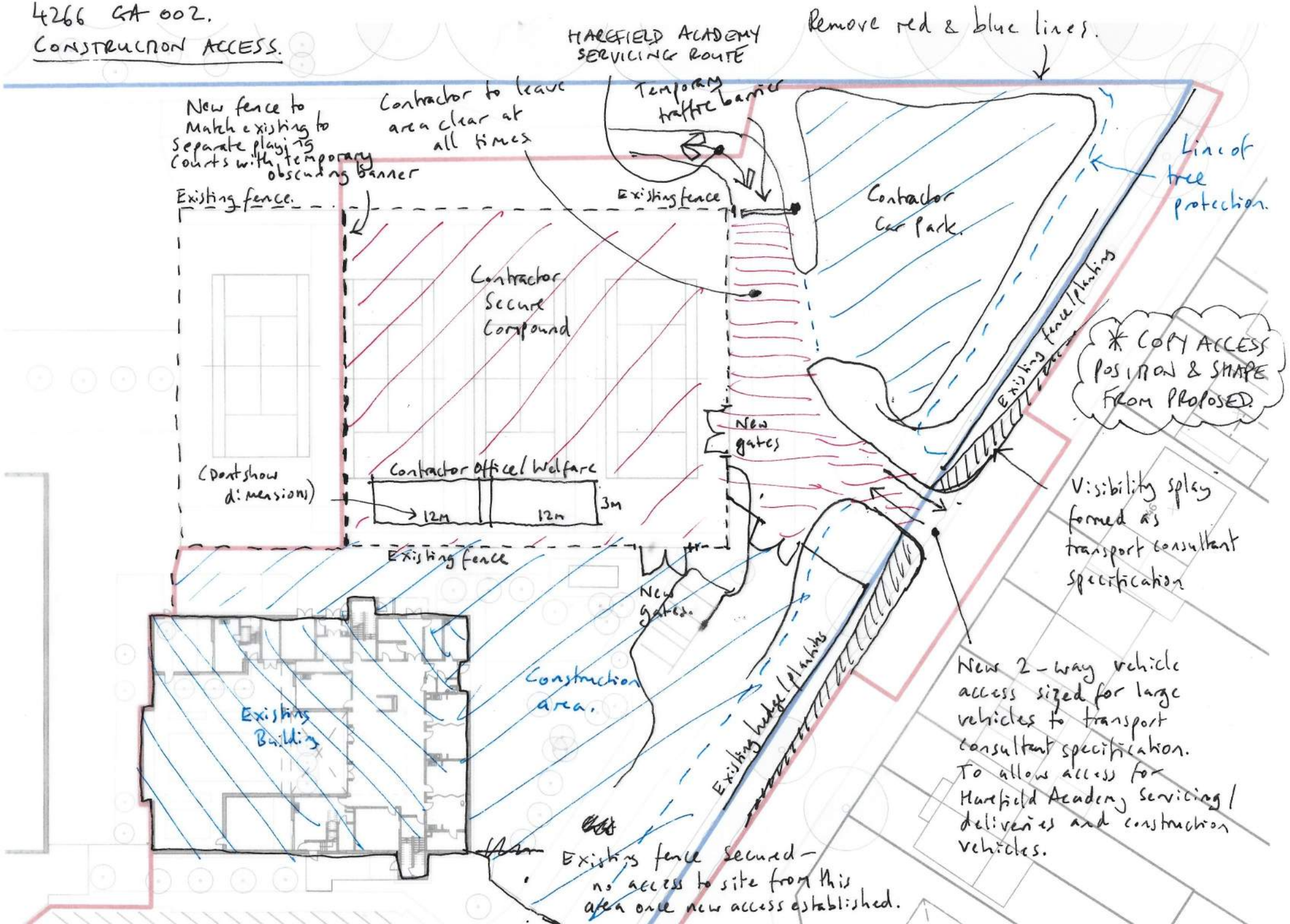
# Appendix B – Site set up plan

4266 GA 002.

CONSTRUCTION ACCESS.



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# Appendix C – Indicative construction site access and visibility drawing

3249/007/005

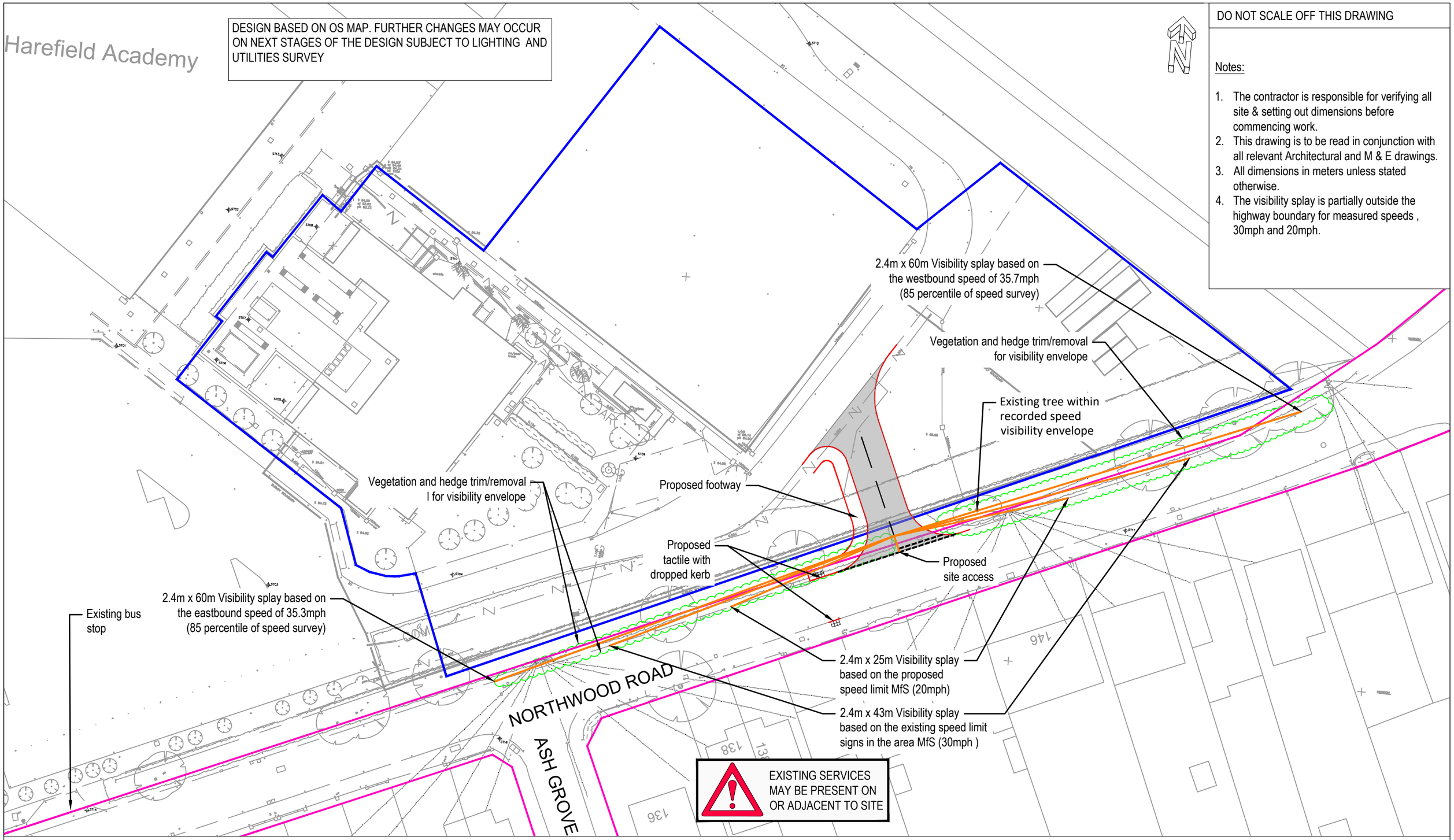
Harefield Academy

DESIGN BASED ON OS MAP. FURTHER CHANGES MAY OCCUR ON NEXT STAGES OF THE DESIGN SUBJECT TO LIGHTING AND UTILITIES SURVEY

DO NOT SCALE OFF THIS DRAWING

Notes:

1. The contractor is responsible for verifying all site & setting out dimensions before commencing work.
2. This drawing is to be read in conjunction with all relevant Architectural and M & E drawings.
3. All dimensions in meters unless stated otherwise.
4. The visibility splay is partially outside the highway boundary for measured speeds , 30mph and 20mph.




Scale 1:500 @ A1 - 1:1000 @ A3

10m 0 10m 20m 30m 40m 50m

Key :

- Property Boundary
- Highway Boundary
- Proposed access pavement
- Proposed kerbing
- Visibility splays (see plan for speeds)
- Vegetation and hedge trim/removal

Client: London Borough of Hillingdon

Project: Meadow High School and Harefield Academy

Status: PRELIMINARY

| Drawn | Checked | Approved | Scale |
|---|---|---|---|
| By CP | By A-MI | By A-MI | 1:500 @ A1 |
| Date 03/05/22 | Date 03/05/22 | Date 03/05/22 | |

| Client No. | Project No. | Discipline | Drawing No. | Rev |
|---|---|---|---|---|
| 3249 | 007 | T | 007 | - |

Drawing Title: PROPOSED ACCESS VISIBILITY SPLAY SHEET 01 OF 01

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| Rev | Date | By | Comment | Chkd | Appr |
|---|---|---|---|---|---|
| - | - | - | - | - | - |

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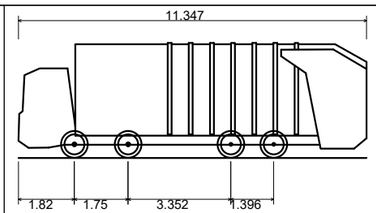
# Appendix D – Swept path analysis – Refuse Vehicle

INBOUND




| Large Refuse Vehicle (4 axle) | |
|---|---|
| Overall Length | 11.347m |
| Overall Width | 2.500m |
| Overall Body Height | 3.751m |
| Min Body Ground Clearance | 0.304m |
| Track Width | 2.500m |
| Lock to lock time | 6.00s |
| Wall to Wall Turning Radius | 11.330m |

OUTBOUND

DO NOT SCALE OFF THIS DRAWING

Notes:

1. The contractor is responsible for verifying all site & setting out dimensions before commencing work.
2. This drawing is to be read in conjunction with all relevant Architectural and M & E drawings.
3. All dimensions in meters unless stated otherwise.

NORTHWOOD ROAD

ASH GR

Scale 1:500 @ A1 - 1:1000 @ A3

10m 0 10m 20m 30m 40m 50m

Key :

- Property Boundary
- Highway Boundary
- Wheel track (forward manouvre) Shows outer limits of wheel entirely within the carriageway. Not encroaching on any kerbs.
- Body track- Shows outer limit of the body generally within carriageway. May overhang on verge when turning necessary.

Client
London Borough of Hillingdon

Project
Meadow High School and Harefield Academy

Status
PRELIMINARY

| Drawn | Checked | Approved | Scale |
|---|---|---|---|
| By CP | By A-MI | By A-MI | 1:500 @ A1 |
| Date 03/05/22 | Date 03/05/22 | Date 03/05/22 | |

Drawing Title
SWEPT PATH ANALISYS
REFUSE VEHICLE
SHEET 01 OF 01

| Client No. | Project No. | Discipline | Drawing No. | Rev |
|---|---|---|---|---|
| 3249 | 007 | T | 008 | - |

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|---|---|---|---|---|---|
| - | - | - | - | - | - |

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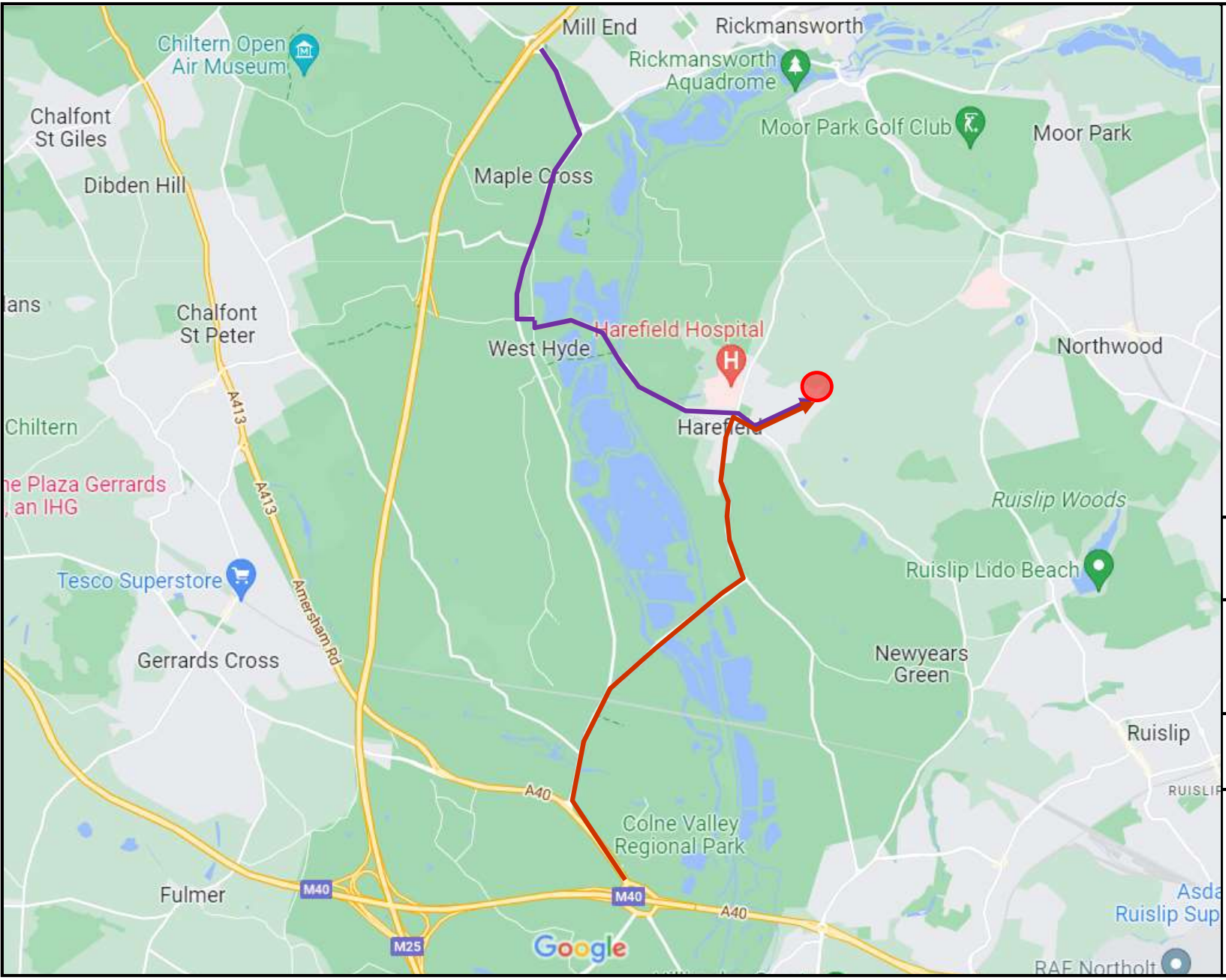
# Appendix E – Advisory construction vehicle routing

3249/007/005




**Legend**

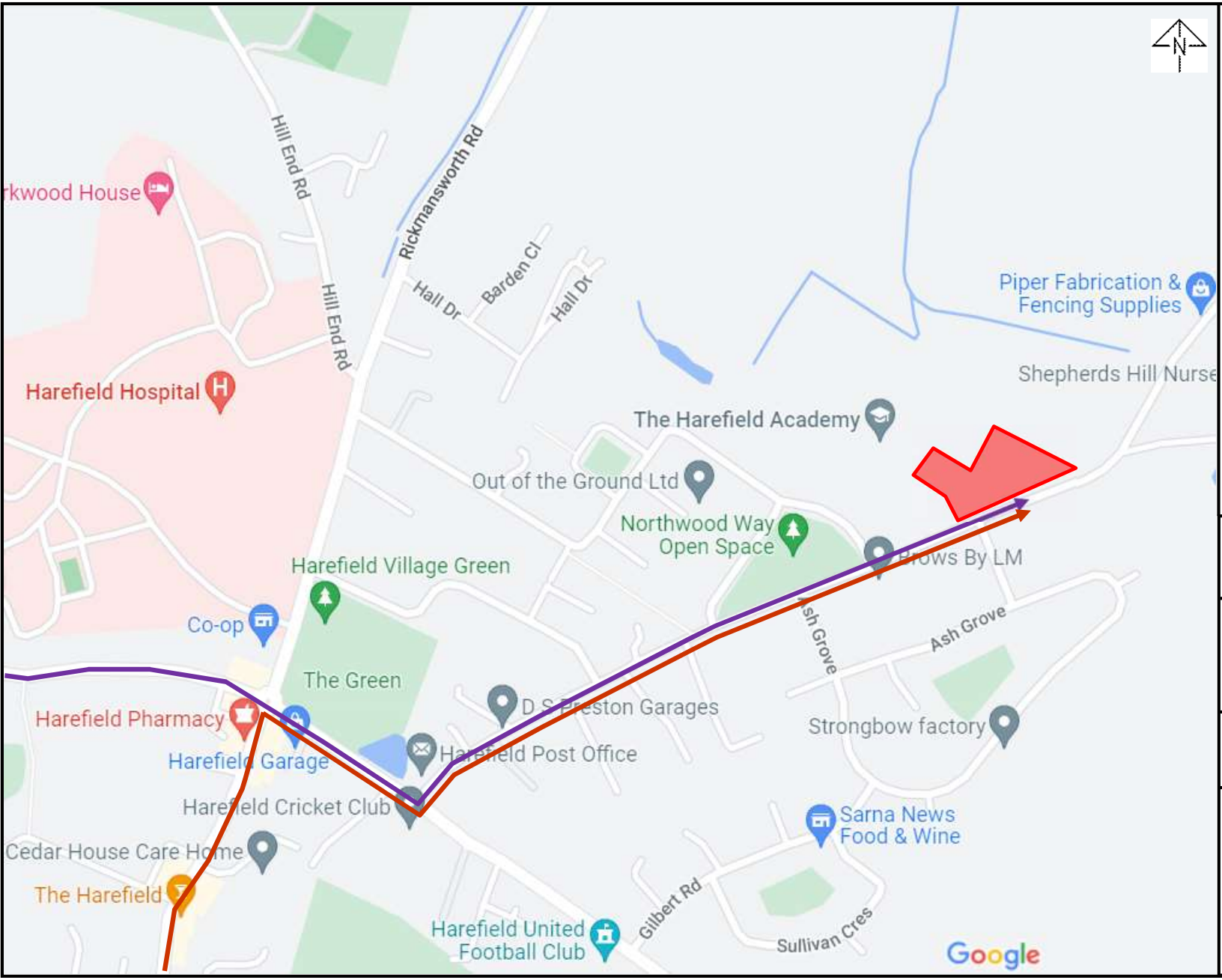
- Site location
- Construction vehicle routes from the north via M25 Junction 17
- Construction vehicle routes from the south via M40 Junction 1

**Meadow High School**

**Regional Plan**

SCALES: NTS

Robert West




**Legend**

- Site location
- Construction vehicle routes from the north via M25 Junction 17
- Construction vehicle routes from the south via M40 Junction 1

**Meadow High School**

**Local Context Plan**

SCALES: NTS

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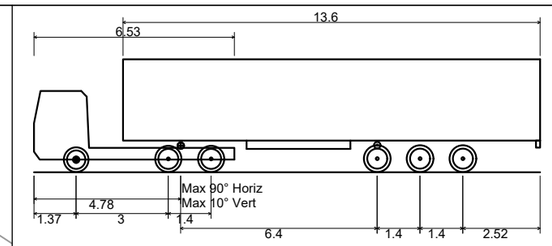
# Appendix F – Swept path analysis – Large Construction Vehicles

INBOUND




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 |

OUTBOUND

DO NOT SCALE OFF THIS DRAWING

Notes:

1. The contractor is responsible for verifying all site & setting out dimensions before commencing work.
2. This drawing is to be read in conjunction with all relevant Architectural and M & E drawings.
3. All dimensions in meters unless stated otherwise.

NORTHWOOD ROAD

ASH GR

Scale 1:500 @ A1 - 1:1000 @ A3

10m 0 10m 20m 30m 40m 50m

Key :

- Property Boundary
- Highway Boundary
- Wheel track (forward manouvre) Shows outer limits of wheel entirely within the carriageway. Not encroaching on any kerbs.
- Body track- Shows outer limit of the body generally within carriageway. May overhang on verge when turning necessary.

Client
London Borough of Hillingdon

Project
Meadow High School and Harefield Academy

Status
PRELIMINARY

| Drawn | Checked | Approved | Scale |
|---|---|---|---|
| By CP | By A-MI | By A-MI | 1:500 @ A1 |
| Date 03/05/22 | Date 03/05/22 | Date 03/05/22 | |

| Client No. | Project No. | Discipline | Drawing No. | Rev |
|---|---|---|---|---|
| 3249 | 007 | T | 009 | - |

Drawing Title
SWEPT PATH ANALISYS
16.5m ARTIC. VEHICLE
SHEET 01 OF 01

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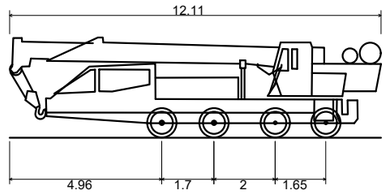
| Rev | Date | By | Comment | Chkd | Appr |
|---|---|---|---|---|---|
| - | - | - | - | - | - |

INBOUND




| 80T Mobile Crane | |
|---|---|
| Overall Length | 12.110m |
| Overall Width | 2.750m |
| Overall Body Height | 3.267m |
| Min Body Ground Clearance | 0.471m |
| Track Width | 2.750m |
| Lock to lock time | 4.00s |
| Kerb to Kerb Turning Radius | 6.720m |

Overhang of the crane will be partially on the verge as indicated

NORTHWOOD ROAD

ASH GR

OUTBOUND

NORTHWOOD ROAD

DO NOT SCALE OFF THIS DRAWING

Notes:

1. The contractor is responsible for verifying all site & setting out dimensions before commencing work.
2. This drawing is to be read in conjunction with all relevant Architectural and M & E drawings.
3. All dimensions in meters unless stated otherwise.

Scale 1:500 @ A1 - 1:1000 @ A3

10m 0 10m 20m 30m 40m 50m

Key :

- Property Boundary
- Highway Boundary
- Wheel track (forward manouvre) Shows outer limits of wheel entirely within the carriageway. Not encroaching on any kerbs.
- Body track- Shows outer limit of the body generally within carriageway. May overhang on verge when turning necessary.

Client: London Borough of Hillingdon

Project: Meadow High School and Harefield Academy

Status: PRELIMINARY

Drawing Title: SWEPT PATH ANALISYS 80T MOBILE CRANE SHEET 01 OF 01

| Drawn | Checked | Approved | Scale |
|---|---|---|---|
| By CP | By A-MI | By A-MI | 1:500 @ A1 |
| Date 03/05/22 | Date 03/05/22 | Date 03/05/22 | |

| Client No. | Project No. | Discipline | Drawing No. | Rev |
|---|---|---|---|---|
| 3249 | 007 | T | 011 | - |

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