High Speed Two (HS2) Ltd

Euston Station, Contract No. C220

110-122 Hampstead Road: Demolition Method Statement

C220-ARP-PL-REP-01A-000001

Final | May 2016

Job number 223770

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Contents

Acronym Key

ACM	Asbestos containing materials
BS	British Standards
CCS	Considerate Constructors Scheme
CCTV	Close Circuit Television
CLOCS	Construction Logistics & Cycle Safety
COPA 1974	Control of Pollution Act 1974
COSHH	Control of Substances Hazardous Health
CPP	Construction Phase Plan
FORS	Fleet Operator Recognition Scheme
GLA	Greater London Authority
HS2	High Speed 2
ISO	International Standards Organisation
LB CAMDEN	London Borough of Camden
NSR	Noise Sensitive Receiver
NTH	National Temperance Hospital
PPE	Personal Protective Equipment
R&D	Refurbishment & Demolition
SPG	Supplementary Planning Guide
TFL	Transport for London
UCL	University College London

1 Introduction

1.1 Purpose of the Report

This report establishes the overall delivery and site control constraints to minimise impacts during the demolition of 110-122 Hampstead Road the former National Temperance Hospital (NTH).

This report describes the proposed demolition methodology and associated assumptions in response to the requirements of the London Borough of Camden. The report describes the demolition methodology, sequence and timescale and is supported by supplementary sketches.

2 Description of the project

2.1 Description of the Project Works

Demolition of 110-122 Hampstead Road:

Phase 1 will comprise the demolition of the Vezey Wing and connecting footbridge of the former hospital, which is scheduled to commence in September 2016. Demolition works for Phase 1 are scheduled to be completed by March 2017.

Phase 2 will comprise the demolition of the Insull Wing, and is scheduled to commence in September 2017. Demolition is expected to be complete by March 2018.

Following the enabling works; which comprise activities such as traffic management, services isolations (including protection), site establishment, asbestos removal; each phase of the demolition will occur in three parts:

- Soft strip and window removal. External scaffolds will be erected and internal soft strip will take place.
- Demolition of the structures to basement level. Deconstruction of the roof sections, internal walls, floors and the façades. The link bridge between the Vezey and Insull Wings will also be removed at an early part of this stage of Phase 1. The demolition of the remainder of the building will take place through a deconstruction process with a crane facilitating removal of the waste for segregation and removal.
- Basement clearance and infill. The basement will be cleared and filled with load-bearing material.

2.2 The Site

The site is situated on the intersection of the A400 Hampstead Road and Cardington Street. To the north east the site is bounded by the Thistle Hotel with St. James' Gardens to the east. To the south boundary there is a pedestrian path running between the former Hospital and the Margarete Centre NHS Building. The west boundary is the A400 Hampstead Road.

The site is currently occupied by the largely disused National Temperance Hospital (NTH). The NTH comprises two wings: the first on the corner of A400 Hampstead Road and Cardington Street was constructed from 1879 and opened in 1881, becoming known as the Vezey Wing. Extensions were added in 1885 and in 1925. The 1925 extension was constructed to the north of the site, adjacent to the print works building on Cardington Street which was later converted into the Thistle Hotel. Further additions were made to the southern section in the 1930s, becoming known as the Insull Memorial Wing. These form two distinct clusters of building blocks on the site. The northern half of the site is occupied by mainly four / five storey buildings, arranged in a number of sub-wings. The central area of the site is more open in nature, with the six storey Insull Wing to the southern side. The two main wings of the former Hospital are linked by a raised first floor Link Bridge, and basement tunnel.

Adjacent to the site across Cardington Street is the University College London building at 132 Hampstead Road which is due for demolition as part of the HS2 project. On the opposite side of the A400 Hampstead Road from HS2 are the Camden residential blocks known as the Tarns, and Rydal Water. To the south-west there is a parade of independent shops as well as the Bengali Workers' Association 'Surma Community Centre'.

St James' Gardens and the Thistle Hotel are bound the site on the Eastern elevation.

Due to the nature of this urban setting the Principal Contractor will carefully consider their approach to the management of the works to minimise impact on the local community with special attention to the adjacent housing.

In addition it will be important to consider other ongoing developments in the larger area as the A400 Hampstead Road is a key infrastructure route.

Images of the key features of the NTH site are shown below.

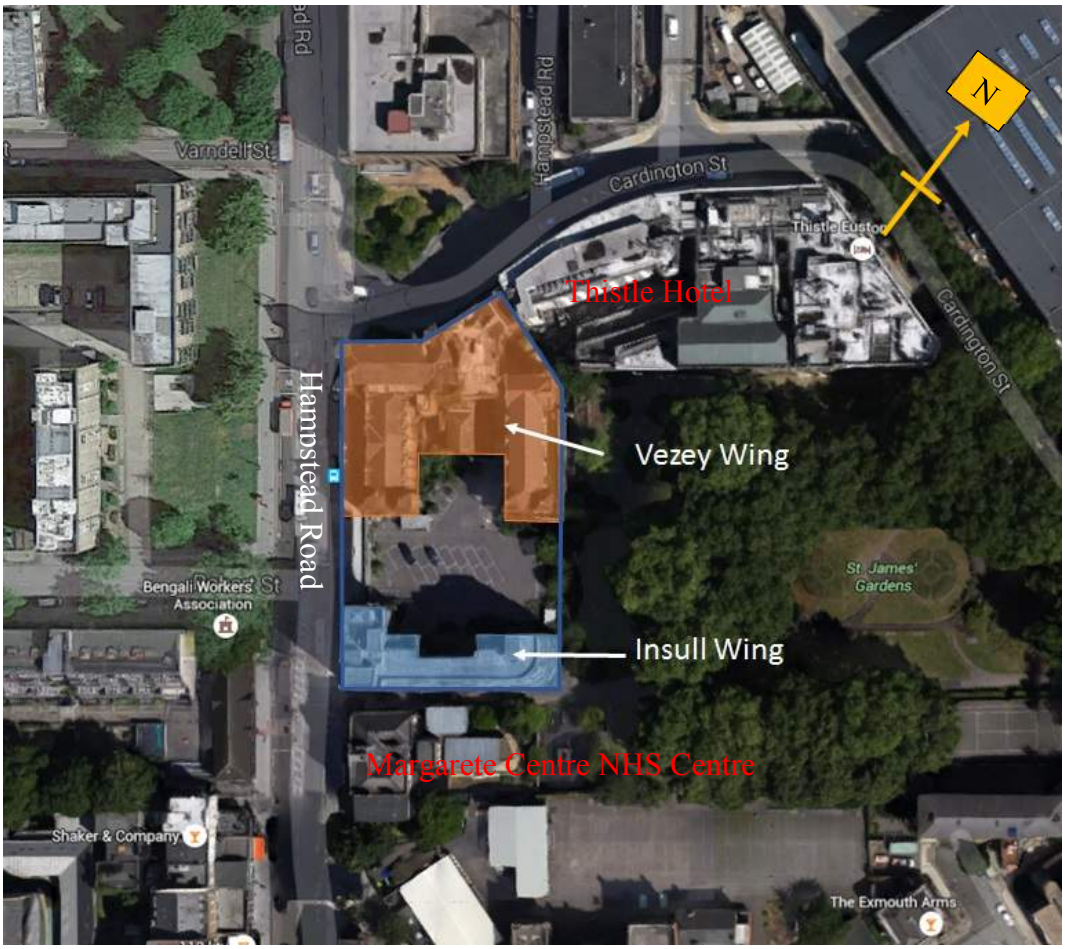


Figure 1 Location of the Site

West Entrance to St James' Gardens

East Elevation of NTH

Insull Wing (Hampstead Road Elevation)

North Elevation of NTH (view from Hampstead Road (A400)

West Elevation of NTH

Bus Stop on Hampstead Road for relocation

UCL Building at the Junction of Cardington Street & Hampstead Road

2.3 Outline Scope of Works

The NTH is to be demolished in two phases; Phase 1 demolition encompasses the original Vezey Wing and Link Bridge, with Phase 2 covering the Insull Wing to the south of the site. The outline scope of works is as follows:

- Soft strip and asbestos removal;
- Hard demolition of the building structure including the basement;
- Infill of the basement to provide a clear level surface.

2.4 Demolition Challenges

The following demolition challenges being mitigated through the measures set out in this plan are identified as:

- Demolition of existing buildings within anurban environment
- Interface with surrounding properties, occupiers and the general public
- Proximity to The Maria Fidelis Convent School
- Party wall agreement with existing hotel
- Proximity of public highways
- Access to the site via A400 Hampstead Road, which is a route within the Transport for London Road Network (TLRN)

3 Deconstruction Programme

The deconstruction programme has been produced illustrating the main timescales and phases. The programme assumes standard industry approaches to deconstruction methodology as well as commonly utilised deconstruction techniques.

Enclosed in this section is a summary level programme for demolition. The overall deconstruction period for Phase 1 and Phase 2 is to be concluded by March 2018.

The following dates are identified:

Phase 1

- Contractor anticipated to be appointed: June 2016
- Demolition works scheduled to be undertaken: September 2016 – March 2017

Phase 2

- Contractor anticipated to be appointed: September 2016
- Demolition works scheduled to be undertaken: September 2017 – March 2018

All works will be done in stages to assist in the removal of spoil and separation of reusable materials.

Please note, the programme provided below includes some activities which do not fall under the works for which prior approval determination is being sought, such as mobilisation works, asbestos removal, some soft strip activities and cabin construction. These activities are shown as lighter colours, and are included for information purposes only.

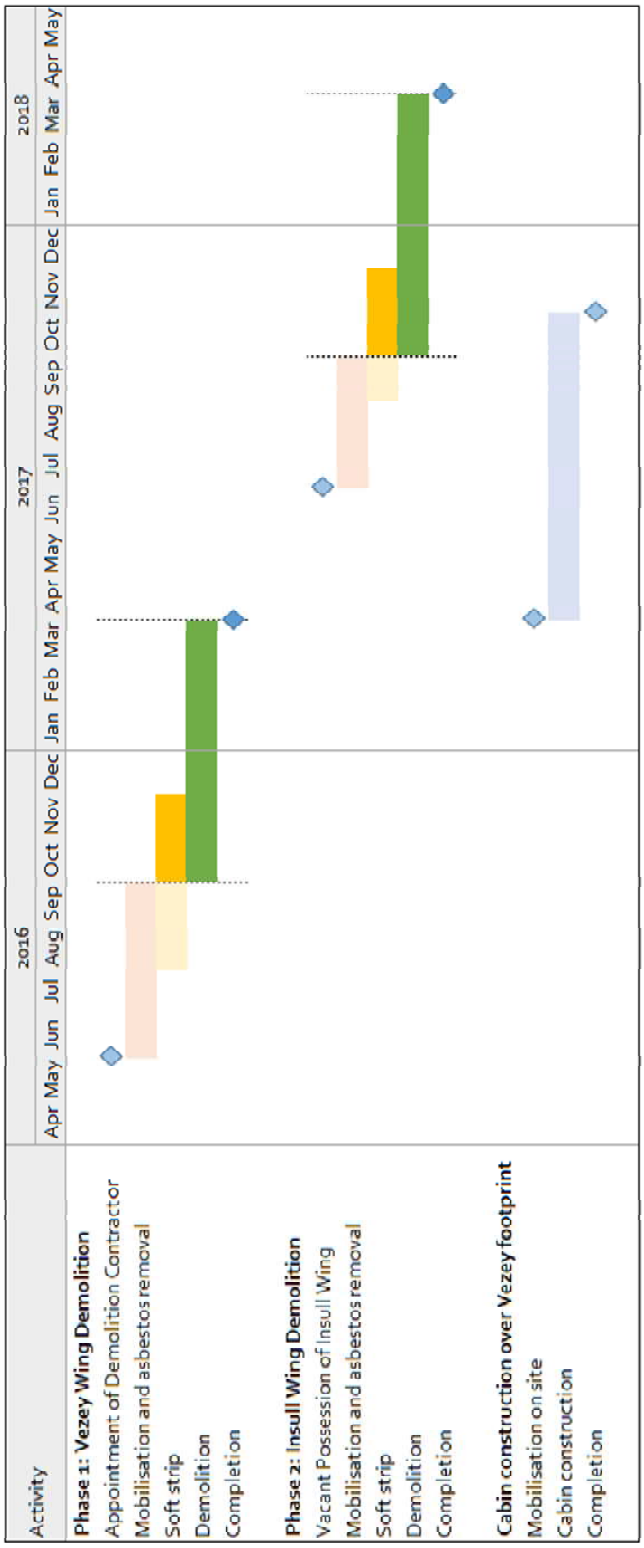


Figure 2 Outline Demolition Programme

4 Deconstruction Methodology

4.1 General

All demolition work must be carefully planned and carried out in a way that prevents danger, and reduces as far as possible the impact on the local area and community and is undertaken in accordance with the relevant British Standard Code of Practice; including but not limited to:

1. BS 6187:2000 - Demolition
2. BS 7375:2010 – Electrical standard for constructions sites
3. BS EN ISO 7518:1999- Construction drawings for demolition and rebuilding DD CEN T/S 13778:2005 – Mobile demolition plant safety requirements
4. Control of Asbestos Regulations 2012.

HSE guidance on demolition can be found at:
http://www.hse.gov.uk/construction/safetytopics/demolition.htm

4.2 Soft Strip & Utility Modifications

Works will commence on site with isolation, disconnection and making safe of any incoming utility connection prior to soft strip activities and the removal of asbestos. At the same time the traffic management will be established and external site hoardings will be realigned and the protection scaffolding erected prior to any physical works taking place.

The contractors for each phase will liaise with the relevant public utility companies to agree any necessary protection works and to establish any requirements for monitoring ground movement adjacent to the site.

Existing utilities will be checked and either capped or made safe to allow demolition to proceed. This will take place ahead of soft strip works. The provision of an on-site power connection will be pursued where reasonably practicable and safe to do so for both Phases of the works. The contractor will contact the relevant utility companies through established channels when required.

Waste material from the demolition activities will be loaded into skips and wagons parked at ground floor level within the existing courtyard area and taken out through designated site exits. Any asbestos will be removed in accordance with the relevant regulations including its movement off site. All vehicles will enter the site compound, manoeuvre within the site and drive out of the exit on the A400 Hampstead Road, thus negating the need to reverse on the A400 Hampstead Road

4.3 Hard Demolition

To facilitate access to site the existing Link Bridge will be demolished first.

Following the completion of the soft strip and asbestos removal activities the hard demolition will commence with the removal of the Link Bridge followed by the deconstruction of the roof and upper sections of the Vezey Wing in the first phase.

Demolition will be undertaken as a deconstruction process with a proportion of the demolition waste material being maintained within the site and processed for re-use as backfill where possible, thus reducing vehicular movements. The use of 'watering down' techniques would be implemented to help suppress dust during dry periods. Management of dust on site will adopt a hierarchy of control: prevention; suppression; containment.

The deconstruction process could be assisted with the use of a mobile or tower crane. The final crane usage solution will be determined by the Principal Contractor.

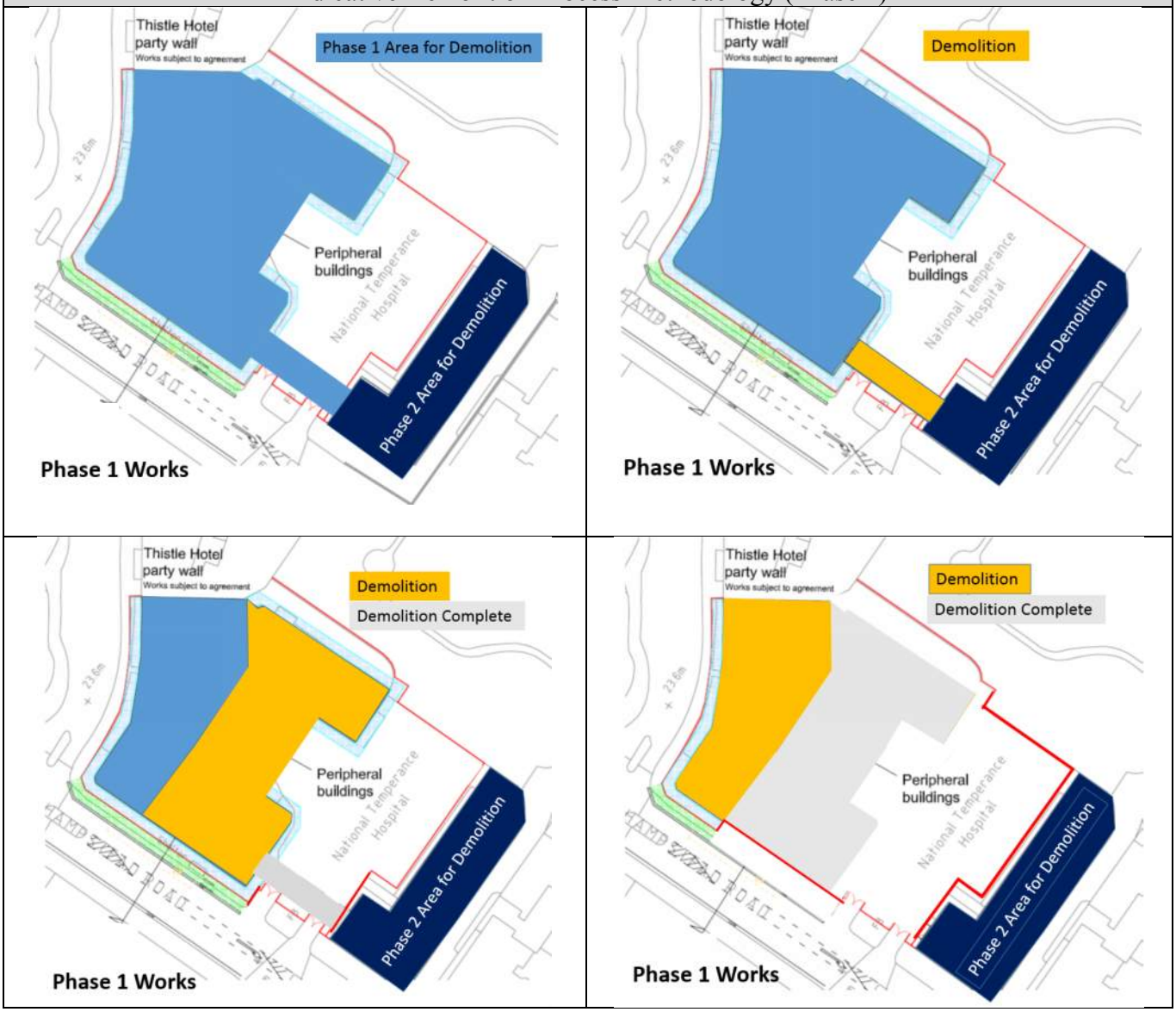
Once the NTH has been demolished down to basement level the basement will be refilled with crushed material to provide a fully secured and hoarded enclosure clear of buildings. Phase II demolition will follow the same methodology as Phase I: hoarding; scaffolding; soft strip; before hard demolition from the roof down in a deconstruction process; then finally backfilling of the basement. Phase I details and methodology are applicable to Phase II also, and are as described within this document.

It should be noted that a mixture of construction methods and types can be found within the buildings which has been developed and extended over a number of years. This includes, but is not limited to load bearing masonry, masonry infill panels, concrete frames and flooring, structural steelwork, and timber construction. A full demolition survey will be undertaken by the demolition contractor when they are appointed to inform the full method statement which they will develop.

4.4 Demolition Sequence

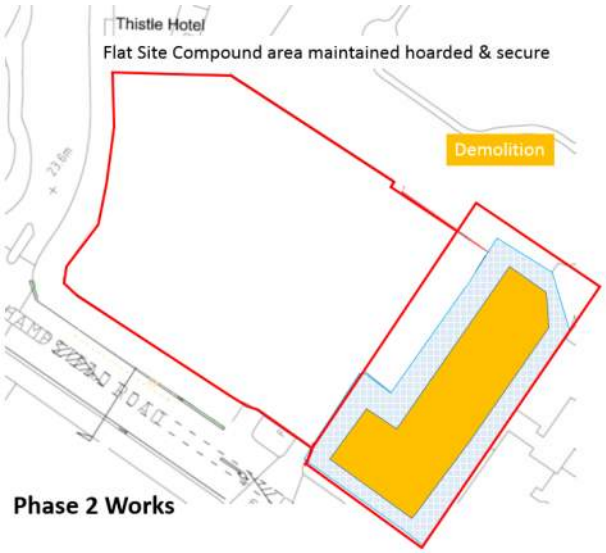
The sketches below illustrate an indicative demolition sequence.

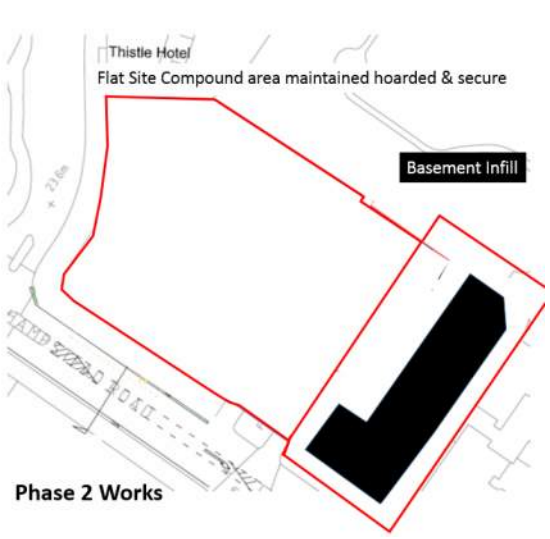
Indicative Demolition Process Methodology (Phase 1)

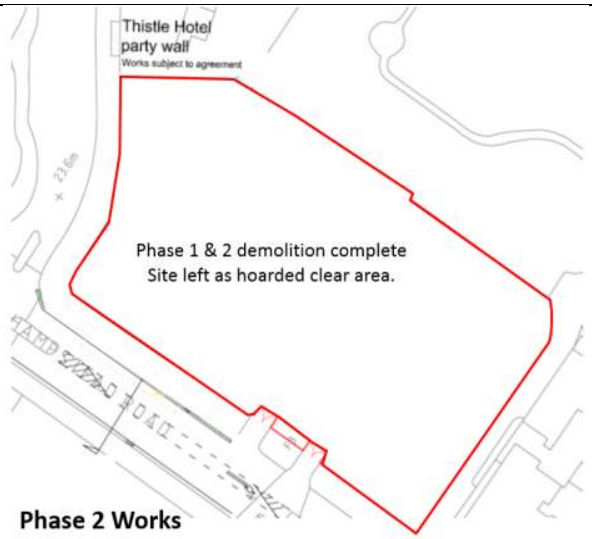



Thistle Hotel party wall
Works subject to agreement
Demolition
Basement Infill
Phase 2 Area for Demolition
Phase 1 Works
Thistle Hotel party wall
Works subject to agreement
Basement Infill
Phase 2 Area for Demolition
Phase 1 Works
Thistle Hotel party wall
Works subject to agreement
Phase 1 Demolition works complete
Site left as hoarded clear area.
Phase 2 Area for Demolition
Phase 1 Works

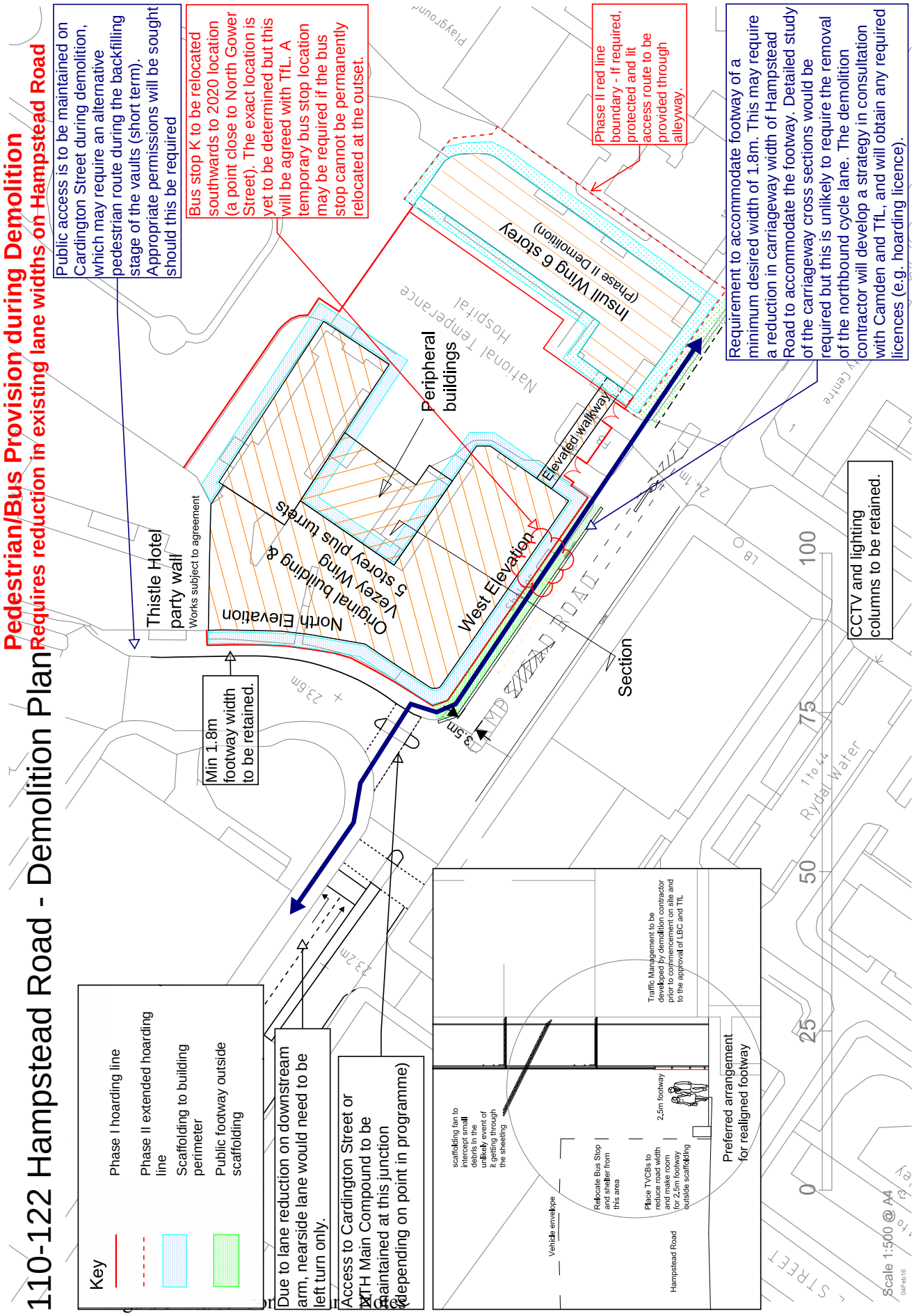
Indicative Demolition Process Methodology (Phase 2)





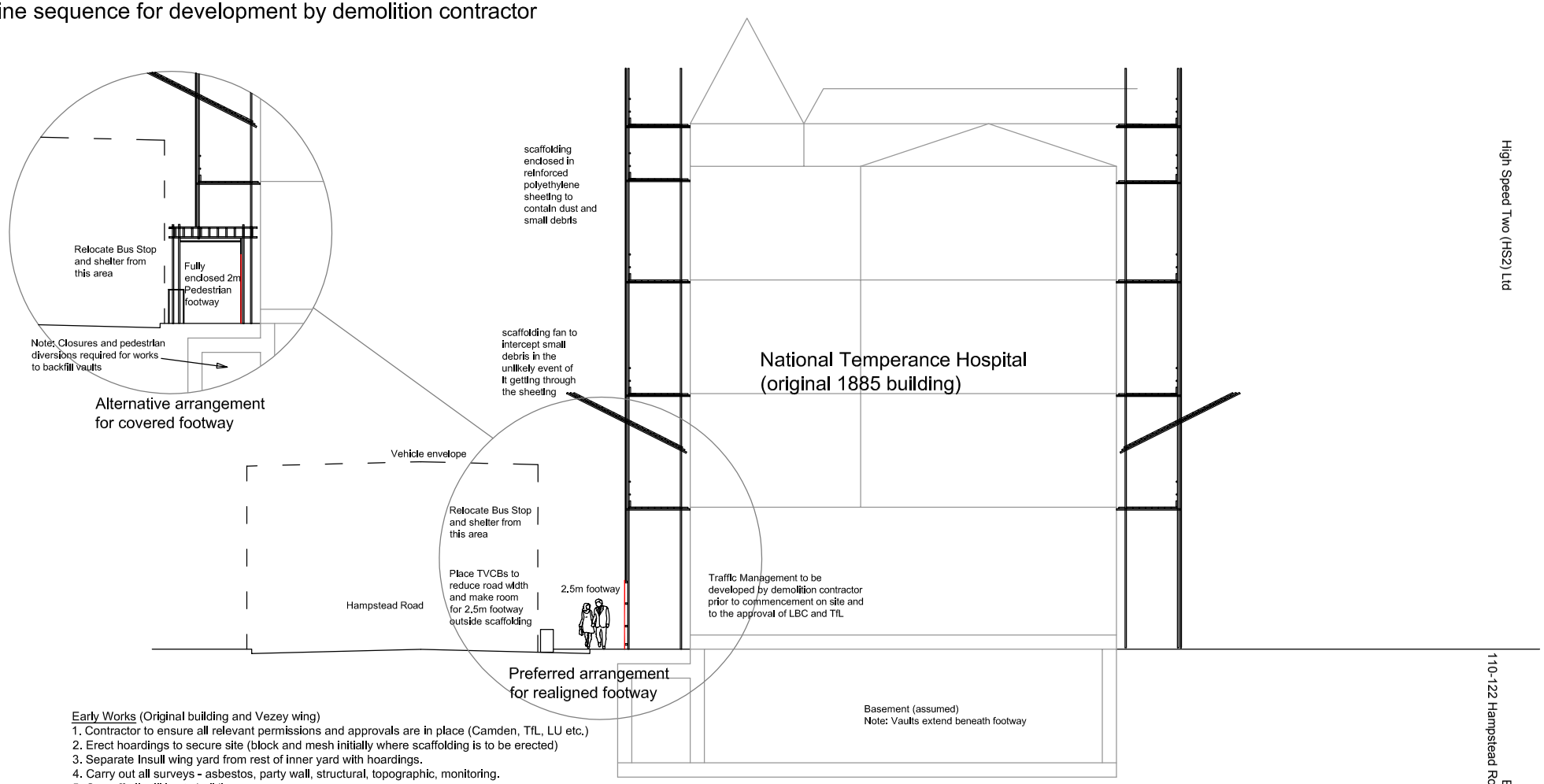


5 Demolition Plan



110 - 122 Hampstead Road - Demolition Section

Outline sequence for development by demolition contractor



Early Works (Original building and Vezey wing)

1. Contractor to ensure all relevant permissions and approvals are in place (Camden, TfL, LU etc.)
2. Erect hoardings to secure site (block and mesh initially where scaffolding is to be erected)
3. Separate Insull wing yard from rest of inner yard with hoardings.
4. Carry out all surveys - asbestos, party wall, structural, topographic, monitoring.
5. Cap off all utilities to building.

Outline Demo sequence (Original building and Vezey wing)

1. - Asbestos removal by specialist. (ensure full segregation while works take place)
2. - Take down elevated walkway over entrance to improve site vehicular access to inner yard. (section adjoining Insull wing demolished by agreement with occupier including closing off remaining opening)
3. - Take down any small peripheral buildings in inner yard.
4. - Install traffic management to reduce road width and create space for 2.5m wide footway outside line of scaffolding.
5. - Erect scaffolding to perimeter of building for access and later screening. Erect 2.4m hoarding to scaffolding on all public facing areas.
6. - Erect crane (tower, mobile or crawler subject to available space) in inner yard for lifting small machinery , skips etc. (Note that loading area for Insull wing will reduce available space in inner yard)
7. - Soft strip removing internal recoverable materials, plasterboard, timber, MEP systems (particularly in basement), glazing, doors and frames etc.
8. - Dismantle roof (probably by hand) recovering roof slates and timberwork.
9. - Dismantle building floor by floor using small plant (if floors will support or temporary works back propping is possible) and hand tools - debris either lowered to ground down lift shafts or crane down in skips.
10. - Carry out treatment to exposed party wall of Thistle Hotel - felt and batten waterproofing or similar.
11. - Scaffolding dismantled progressively as the building is demolished.
12. - Once walls can be reached by cruncher from ground level remove inner scaffolding and carry out rest of demolition from ground level.
13. - The intention would be to crush demolition rubble on site and use to backfill basement.
14. - If lack of storage space or noise limitations do not permit this the rubble would be taken away by road and fresh material imported later when required. A mobile crushing plant could be used but may be restricted to use outside school term time.
15. - Install temporary propping at ground level to support basement walls as required. Demolish ground level slab. Pop holes in the basement base slab to allow it to drain. Backfill basement with crushed material compacted in layers up to ground level removing props when no longer required.
16. - Prepare ground in readiness for HS2 office construction.

6 Construction logistics

6.1 Considerations

As the site is located in an urban area it is important to consider how the site will be serviced and the impact of the construction logistics on the surrounding area. The construction logistics are considered at a macro and micro level.

6.2 Demolition Traffic Routes and Traffic Flows

A400 Hampstead Road will be the primary access route to the site. Traffic arriving from and departing to the west via the A501 Euston Road will do so via the southern section of A400 Hampstead Road with arriving traffic turning right into the site from A400 Hampstead Road and the departing traffic turning left out onto A400 Hampstead Road. Traffic arriving from the east along A501 Euston Road will use Churchway, Grafton Place, A4200 Eversholt Street and A400 Lidlington Place/Harrington Square to arrive from the north along A400 Hampstead Road. This is because vehicles cannot turn right from A501 Euston Road onto A400 Hampstead Road. In addition, as there is no permitted left turn from A400 Hampstead Road onto A501 Euston Road - Traffic departing to the east will travel west on A501 Euston Road and use B506 Great Portland Street, A4201 Albany Street and A4201 Osnaburgh Street to turn and travel east along A501 Euston Road.

In the Euston area, the routes used by vehicles travelling to and from the site are all main road routes and local roads will not be used. Both A400 Hampstead Road and A501 Euston Road are part of the Transport for London Road Network (TLRN) and the additional construction traffic generated will be appropriate for those types of roads. While the site is in proximity to the Maria Fidelis Lower Convent School, the additional traffic will not generate any additional impacts on the school as it will not impact North Gower / Starcross Street where the entrances are located. In addition, crossing points are provided at regular intervals on A400 Hampstead Road.

The Principal Contractor will notify all subcontractors and suppliers of the traffic routes stated in the DMS prior to the commencement of their works on site.

Figure 5 shows the primary construction traffic routes to the NTH site. Figure 6 shows the local construction traffic routes to site.

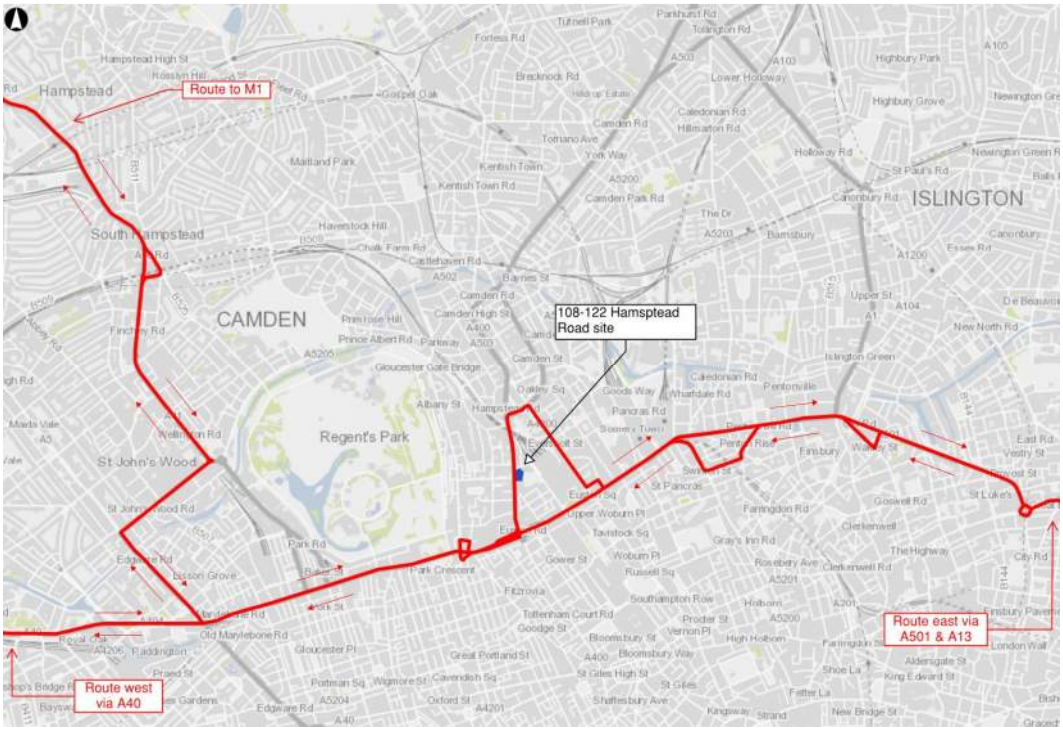


Figure 5 Primary Construction Traffic Routes to Site

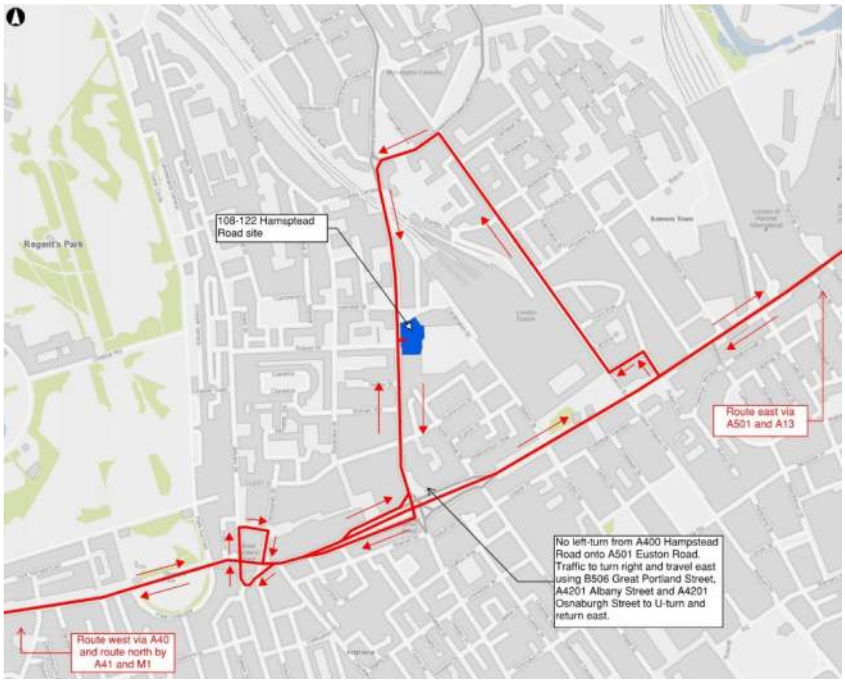


Figure 6 Local Construction Traffic Routes

6.3 General Deliveries and Storage

Vehicles arriving at the site will pull onto the site directly from A400 Hampstead Road . The access gates will be manned and an operative will control pedestrian flow while the vehicle is being directed into the site. A similar process will be adopted for vehicles exiting site. A personnel access gate will be provided to

A400 Hampstead Road. The appointed contractor will have a control point at this gate and will check that only authorised personnel are allowed access to the site.

Due to the size of the site, minimal parking will be allowed on site for short term delivery or maintenance vehicles. All contractors and sub-contractors on site will be advised that no parking is available on the site and that all personnel should use public transport.

Where offloading is to occur on the road side, permissions will be sought on a need-by-need basis and a full Method Statement detailing delivery details, size, timing, durations, special lifting requirements etc. and request their approval to proceed.

6.3.1 Schedule of Deliveries

All deliveries to site will be undertaken through an electronic "booking-in" system, managed by the appointed contractor, and with all deliveries allocated a specific time slot. Typically, failure to adhere to their time slot may result in a sub-contractor's delivery being denied access to the site. There will be no waiting on street for access to the site.

A schedule of predicted size and frequency of vehicles will be finalised by the contractors. Vehicle movements/deliveries will be reduced during weekday highway peak hours 8am-9.30am and 4.30pm-6pm. Given that the additional traffic will not generate any additional impacts on the Maria Fidelis Lower Convent School as it will not impact North Gower / Starcross Streets where the entrances are located, no additional reduction in the hours of vehicles movements/deliveries are considered necessary. In addition, crossing points are being provided at regular intervals on the A400 Hampstead Road and the bus stop is being relocated.

In alignment with standard practice, and to maximise productivity within the core hours of construction, the contractors will utilise a period of up to one hour before and up to one hour after normal working hours for start-up and close down of activities. This will include quiet work such as deliveries, movement to place of work, unloading, maintenance and general preparation works. This will not include operation of plant or machinery likely to cause a disturbance to local residents or businesses. These periods will not be considered an extension of core working hours. A site management representative will be nominated to enforce restrictions on activities during this period to avoid the risk of noise or nuisance to the community.

Vehicular movement for site deliveries outside of the normal working hours will be agreed by LB Camden and / or TfL.

6.3.2 Vehicle Loading and Unloading

As a general principle, all deliveries to site will be off-loaded within the site boundary. However it is likely that certain vehicle loads, either due to their timing on the programme or their physical size (e.g. major mechanical plant) it may be necessary to off load from A400 Hampstead Road. Where offloading is to occur

on the road side, permissions will be sought as required from TfL, in consultation with LB Camden.

Off-site marshalling and storage facilities will be investigated to assist in the management of materials. The waste material will be directly transported to registered waste reclamation centres.

6.4 Site Accommodation

Site accommodation will be housed within the site boundary. During Phase 1 its proposed location will be at the southern end of the site.

During Phase 2 it is proposed that similar accommodation facilities will be provided on the site of the the former Vezey Wing.

The site accommodation will house the following facilities:

- Main Contractor management offices and meeting room;
- Welfare facilities including canteen, drying and changing rooms and toilet and shower facilities;
- Security office;
- Sub-Contractor facilities.

6.5 Hoarding

General hoarding arrangements are set out below This will be further developed by the contractors and the relevant licences will be sought from LB Camden and / or TfL prior to commencing the works.

The hoarding will be constructed in accordance with HS2's temporary standard hoarding and will surround the site. It will be constructed in solid state to 2.4m in height, and will be painted in HS2 standard colours on the public-facing sides, and will be maintained to a good standard. For the benefit of the community, artwork and graphics (not advertising) may be used on hoardings where practicable.

Where the hoarding is set into the road, temporary vertical concrete barriers will be installed at the base of the hoarding for added protection.

Signage will be displayed on the hoarding for health and safety purposes, Considerate Contractors and general site signage. Highways related signage will be agreed with LB Camden or TfL in advance of installation. As the A400 Hampstead Road is a major strategic route, significant advance planning of the works and associated traffic management will be carried out by the Principal Contractor for approval by TfL and LB Camden prior to the works. Details will be provided when the relevant permissions are sought.

It is preferred to move the pedestrians to a protected zone outside of the scaffolding which will separate them from the work activities including scaffold construction, demolition, and backfilling of the vaults (see plans in Section 5). This can be undertaken due to the bus-stop relocation and traffic arrangements as described in sections 6.7 and 6.18.

If a temporary pedestrian tunnel is required in order to maintain pedestrian access along Cardington Street, the A400 Hampstead Road or the footpath between A400 Hampstead Road and St James' Gardens, then the scaffolding will be extended and protected using baulk timbers and lighting. The pedestrian access will be fully lit throughout, and on the highway side there will be baulk timbers that will be lit along their length. The area will be regularly maintained to ensure it is kept clean and maintained to acceptable standards. Details will be provided when relevant licences are sought from LB Camden or TfL.

Backfilling of the existing vaults may require a temporary reduction in the pavement width on Cardington Street and A400 Hampstead Road to facilitate these works over a short time period. Pedestrian diversions would be agreed and instigated for these.

6.6 Site Access

Access to the site will be via the existing site access from A400 Hampstead Road (see Figure 7). Following demolition of the existing Link Bridge, construction access gates will be installed. The gates will be designed so as not to encroach on to the footpaths or highway or into the site.

Vehicles arriving at the site will be able to pull onto the site directly from the main carriageway. The gates will be manned; operatives will ensure suitable pedestrian and vehicular segregation using extendable gates or similar on either side of the pedestrian walkway. This will ensure that pedestrians do not cross vehicular paths, as well as ensuring they do not gain access to the site. The same arrangement should be provided at the exit gate from the site.

A personnel access gate will be provided to Hampstead Road. The appointed contractor will have a control point at this gate and will check that only authorised personnel are allowed access to the site.

Figure 7 Existing Site Access

6.7 Vehicle Access

The length of road fronting the site will require a working zone along the face of the existing building. It is planned to locate the hoarding line approximately along the middle of the exiting footway as shown in the plans. To maintain an operational footpath it is planned to relocate the existing bus stop south along the road. The southbound carriageway will then operate with a central right turn as existing into Robert Street, a single southbound free flow traffic lane which can be as existing. Northbound lanes are expected to remain as existing. Pedestrian crossings will remain open.

The main vehicle site access / egress will be via existing access on Hampstead Road. Post demolition of the Link Bridge gate structure, the Principal Contractor will install site gates to control access. The early bridge demolition is required to allow access, as can be seen by the swept paths (Figure 8 & 9).

Existing services and street furniture (e.g. traffic camera pole) are to be protected. If any pavements or kerbs are damaged due to construction traffic they will be repaired or re-instated, with pedestrian and highways areas remaining safe throughout.

Swept paths are shown for 16.5m articulated vehicles (Figure 8) and for 10.0m rigid HGV (Figure 9).

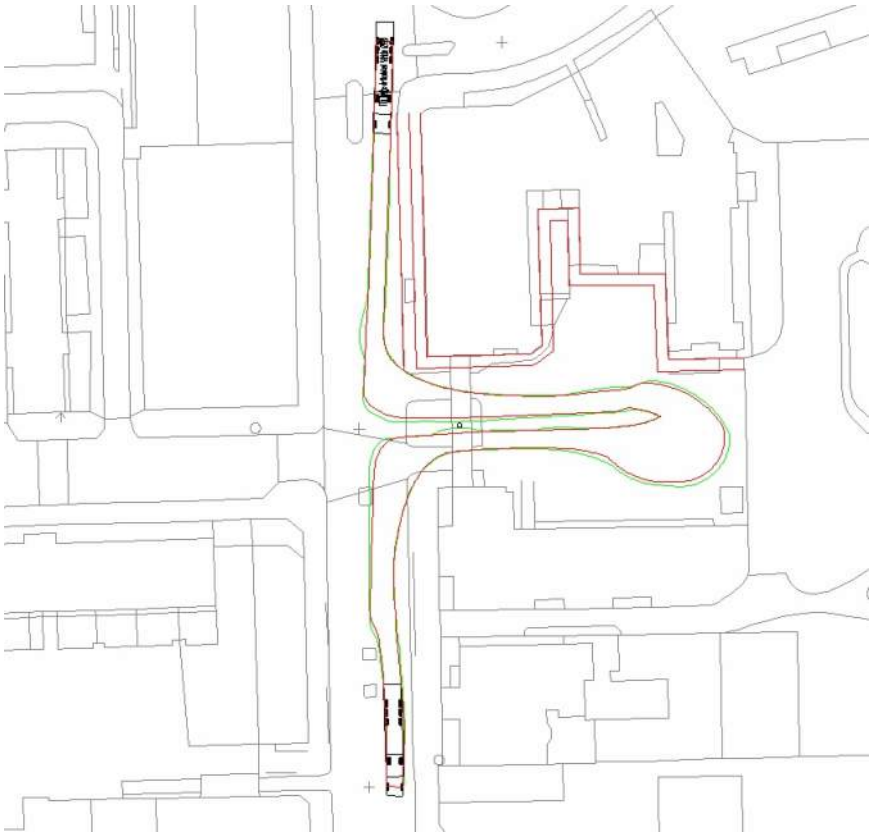


Figure 8 Swept Path 16.5m Artic

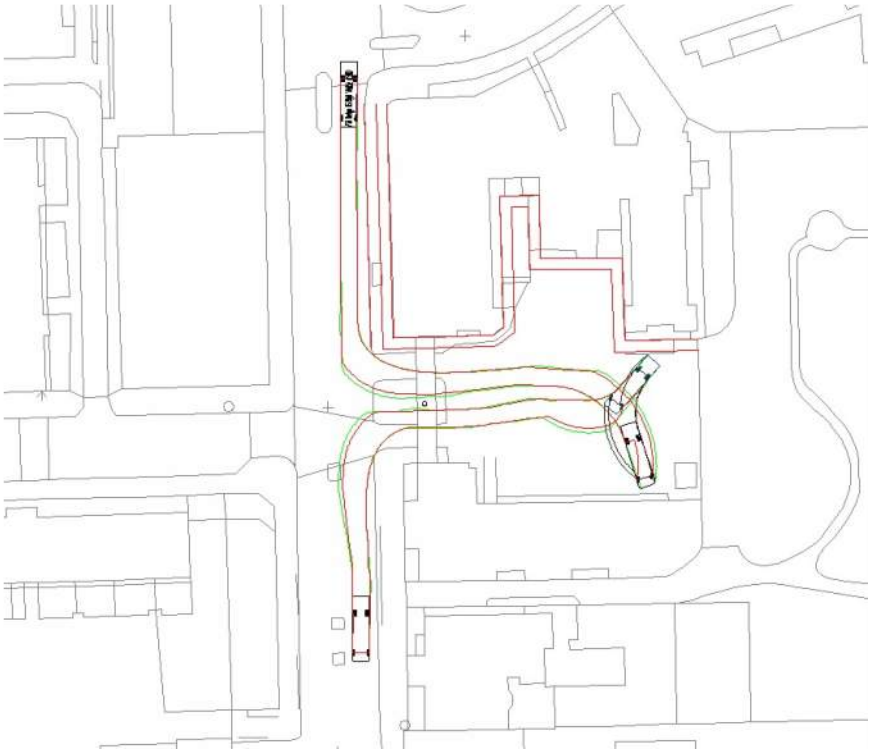


Figure 9 Swept Path 10.0m Rigid HGV

6.8 Operative Access

A separate personnel access gate will be provided to Hampstead Road to control pedestrian access to site.

The number of construction workers on-site at any one time will depend on the different phases of the work. It is estimated that during the peak period of demolition activity there will be approximately 20 to 30 operatives on site. There will be no on-site parking provided for construction worker vehicles.

Site operatives and visitors will be encouraged to use public transport. The site is located near Euston Station, underground station and on public bus routes.

6.9 Site Induction

All persons employed on, or visiting site will be subject to a health and safety induction so that they are aware of the hazards present on the site and the restrictions imposed under the Principal Contractor's health and safety management procedures.

All visitors will be accompanied around the site by a representative of the employer (generally the Principal Contractor) unless previously agreed otherwise. All health and safety inductions will be recorded on a site specific register that will be available for Local Authority review by appointment.

6.10 General Site Working Hours

The General site working hours will be

- 8.00am to 6pm on Monday to Friday
- 8.00am to 1.00pm on Saturdays
- No working on Sundays or Public Holidays

In alignment with standard practice, and to maximise productivity within the core hours of construction, the contractors will utilise a period of up to one hour before and up to one hour after normal working hours for start-up and close down of activities. This will include quiet work such as deliveries, movement to place of work, unloading, maintenance and general preparation works. This will not include operation of plant or machinery likely to cause a disturbance to local residents or businesses. These periods will not be considered an extension of core working hours. A site management representative will be nominated to enforce restrictions on activities during this period to avoid the risk of noise or nuisance to the community.

Repairs or maintenance of construction equipment that is required to be carried out outside core working hours will normally be carried out on Saturday afternoons or Sundays between 9:00am and 5:00pm.

Except in the case of an emergency, any work required to be undertaken outside core hours (not including repairs or maintenance) will be agreed with LB Camden prior to undertaking the works under Section 61 of the Control of Pollution Act 1974.

6.11 Prohibited areas

By nature of the site conditions, access to all buildings and adjacent areas will be prohibited by the Principal Contractor until a method statement and risk assessment has been agreed for the works for each area to commence.

If third party access is required to any prohibited area for any reason including prior to works it must be undertaken with the consent of the Principal Contractor.

6.12 Scaffolding (Overhanging the Public Highway)

External scaffolding will be erected to enclose the faces of the building that front onto the roads to facilitate demolition. The full height scaffolding will be enclosed in reinforced polythene and will provide a degree of environmental protection. This will help to minimise dust and debris from being deposited onto the adjacent roads and buildings. Protective scaffolding fans will be erected prior to commencement of demolition.

All scaffolding will be fitted with a proprietary alarm system to prevent unauthorised access onto the scaffold and into the building.

6.13 Road Cleansing

A road-sweeping machine will be periodically employed as required to wet brush clean the roads and hardstanding around the site.

6.14 Wheel Wash Management

The site will have designated hard standing loading areas. These areas will also serve as wheel wash areas for vehicles leaving the confines of the site. The main exit point is a paved area which can be monitored and cleaned as required to prevent site materials tracking on to the road.

All ground or surface water run-off will be strictly controlled in line with environmental legislation and best practice to prevent pollution of drains and watercourses.

6.15 On site Fuel Management

All fuel will be stored in bunded tanks away from any surface water drains or gullies. Emergency spill kits will also be available on site.

6.16 Construction Vehicle Trips

In general all vehicular movements will be conducted in the agreed working and delivery hours. However where vehicular movements for site deliveries are outside of the normal working hours, they will need to be agreed.

For Phase 1 demolition, we anticipate that a daily vehicle level of the following will apply:

- Small vehicles (vans, cars etc.): ~6 No. per day (12 Trips)
- Large axle vehicles: ~20 No. per day (40 Trips)

On average we have estimated 18 deliveries to site per day (36 trips).

The frequency of vehicles is anticipated to be the same or lower for Phase 2 demolition.

Note: In addition, there will be a small number of trips by large articulated vehicles for delivery/removal of large plant and equipment (e.g. specialist crushing equipment).

6.17 Car Parking and Parking Suspension

There are no parking bays on A400 Hampstead Road or Cardington Street in the vicinity of the site. It should not be necessary to suspend car parking bays, as all off-loading should be undertaken from within the site. Where offloading is to occur on the road side, permissions will be sought as required from TfL, in consultation with LB Camden.

6.18 Bus Stop

The existing Transport for London (TfL) bus stop and shelter is planned to be relocated to a new location as indicated in the figure 10.1 below. It is proposed to move the bus stop to the permanent location proposed under the HS2 Bill. However, until timescales for the permanent relocation of the bus stop are confirmed, the exact location cannot be defined. As such, the bus stop may be

moved to a temporary location for an interim period. This will be subject to consultation and agreement with TfL.

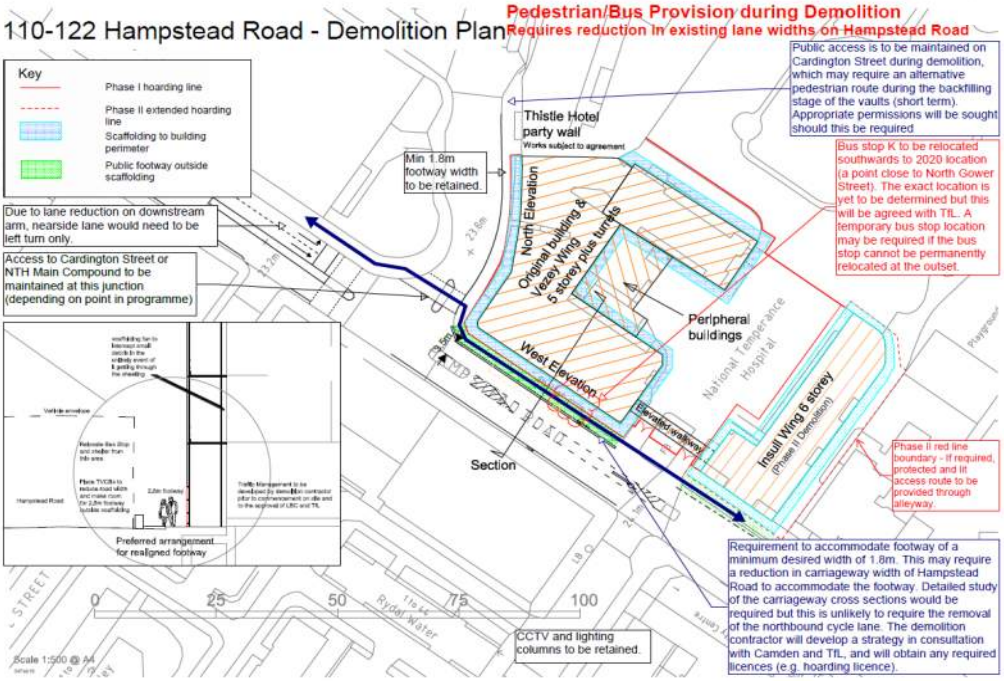


Figure 10 Demolition Plan

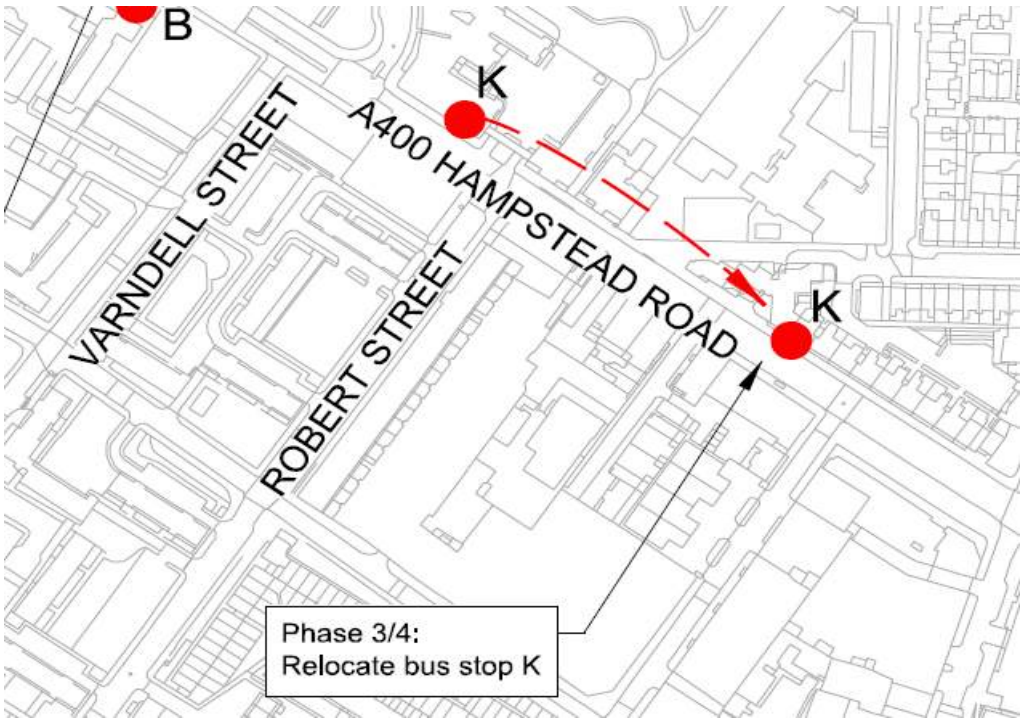


Figure 10.1 Bus Stop Relocation

6.19 Security

During the demolition works the site will be fully secured. Security personnel will regularly patrol the perimeter of the site during out of hours. To assist the security CCTV cameras could be provided at strategically sensitive locations that can be monitored remotely from a central security point.

6.20 Waste Management

Control of the demolition waste material on site is a key factor in the successful outcome of the project. The Principal Contractor shall develop a waste management strategy for the separation and removal of demolition arisings from site.

The strategy will include a centralised skip (waste) area at ground level within the site boundary. The skips will be replaced periodically to ensure space for waste material is available. Segregation of waste material should be undertaken within the site boundary or at a suitable waste disposal facility. Any asbestos will be stored and removed from the site in accordance with the Asbestos Regulations prior to the main works.

There will be a regular flow of vehicles throughout the day to facilitate waste removal and demolition operations – e.g. for the bulk removal of the crushed material by lorry.

6.21 Health & Safety

All personnel will wear mandatory PPE when on site, and that any task-specific PPE will be worn as per the risk assessment. Risk Assessments will identify H&S and welfare control measures.

Safety instructions will be strictly adhered to and all precautions will be taken to ensure the safety of working personnel, visitors and the general public. All relevant COSHH regulations will also be enforced. Manual handling regulations will be implemented.

6.21.1 General

All site safety rules will be displayed and adhered to. All appropriate site safety rules, visitors' rules and supportive health and safety documentation will be displayed in the site accommodation. A stock of all P.P.E. will be available for replacement on demand.

At the start of all demolition contracts, all operatives and site personnel will attend relevant induction courses for the project. Tool Box Talks will also be held during the contract.

6.21.2 Personal Protective Equipment

All site personnel will wear personal protective equipment (PPE) while working on site, which will include:

1. FOOT PROTECTION: must be worn, in this case safety boots incorporating a steel toe cap.
2. HAND PROTECTION: Gloves are to be worn when dealing with metals, masonry, brick work or glass that are suitable for the specific activity.
3. EYE PROTECTION: Goggles are to be worn during all cutting operations using flame or abrasive cutting wheels and breaking out, also Operatives using pneumatic equipment.
4. HEAD PROTECTION: Hard hats to be worn at all times whilst within the site boundaries unless otherwise specified in the method statement. In the welfare building or when operating any plant with Falling Objects Protective Structure head protection will not be required.
5. VISUAL PROTECTION: Hi-visibility vests will be worn at all times whilst within the site boundaries and acting as banks men on the public highway.

6.22 Fire Precautions

All fire precautions will be taken, and fire checks made at the end of each working day, before personnel leave the site. Hose points will be set up within easy reach of the works and fire extinguishers will be supplied. The hose points will also be utilised to provide water for the control of dust emission from the works.

See Section 7.1 below for information relating to fire alarm strategy.

6.22.1 Hot Work Permits

All hot works will be registered within a hot works register and permitted only when the risk assessment and method statements have been accepted by a suitably qualified site supervisor and are deemed appropriate for the works.

Hot works are to be managed to a minimum by the site team and other methods of working where practicable are to be used to avoid the use of naked flame.

6.22.2 Burning of Materials on Site

There will be a prohibition of burning anything on site.

6.22.3 Storage of Flammable Materials

The contractor is required to minimise the holding of combustible materials on site, by a just in time delivery of fuel and plant oils. The contractor is also to ensure that skips of combustible materials are removed in a timely manner and not left on site in a full state.

All flammable materials brought on to site are to be stored in locked and suitably marked containers when not in use and logged with the site coordinator.

All gas bottles are to be maintained in centralised locations, chained and in locked cages when not in use.

A dedicated fire point with suitable fire fighting equipment is to be maintained within a suitable distance of all storage points, and hot work locations.

6.22.4 Fire Alarm

Please refer to section 7.1 below for the co-ordination of fire alarm, and evacuation procedures.

7 Community

7.1 Protection of Tenants

The existing tenants within the Insull Wing will remain on site during Phase 1 demolition. The Insull Wing has direct access to the street and no access provision will be provided to the tenant for either parking or for travel within the bounded site.

All deliveries and waste removal will be managed by the use of banks men to segregate & control all vehicle movements on and off site where there is a potential impact on pedestrian routes and free movement.

The risk of injury or ill health to any person not employed by the client is to be identified in the risk assessment procedure and the control measures to eliminate so far as reasonably practical the risk of such injury or ill health, implemented as part of the risk management.

A means of raising the fire alarm on both the site works and the Insull Wing will be co-ordinated through the tenant and the Principal Contractor to ensure that in the case of fire within the site as a whole, the alarm is reported to all parties for evacuation purposes. Contractor evacuation procedures will be co-ordinated with the tenant. The Principal Contractor will also make arrangements to co-ordinate fire procedures with the Thistle Hotel due to its location and agree a secure line of communication with designated persons being put in place to ensure both the safety of the site team and that of the hotel guests and staff.

Where works directly interfere with the Insull Wing (e.g. demolition of the link bridge) the work will be coordinated with the tenant to ensure that the works can be scheduled to avoid tenant occupation of the areas affected.

7.1.1 Third Party Fire Escape Routes

A review of the Insull Wing fire escape routes will be undertaken with the tenant and Principal Contractor to ensure clear paths are maintained to the perimeter of the site.

All third party fire escapes will be agreed, and protected to maintain fire access and egress throughout the works.

7.2 Good Neighbour Policy

To align with the Considerate Constructors Scheme (CCS) the Principal Contractor will be required to implement and maintain a Good Neighbour Policy that aligns with HS2 policy.

The Principal Contractor will be required to nominate a senior member of his team as a point of contact for all communications from the local community and adjacent construction projects. A name and contact number will be clearly displayed on the project sign board.

The nominated liaison manager will regularly meet with the Maria Fidelis Convent School, the Thistle Hotel, Insull Wing tenants and communicate with the adjacent construction projects and neighbours to ensure agreed procedures are functioning correctly and to discuss future site activities that may cause impact.

Opportunities for community meetings will be offered to the local residents if and when the need arises. Please also refer to further details within the CMP.

7.3 Party Wall Agreements & Award

HS2 will undertake party wall surveys and negotiations in conjunction with the appointed agent of Thistle Hotel with a view to achieving a party wall award and agreement.

7.4 Rights of Way and Licences

There are no public rights of way or bridle paths across the site. There are no licences other than to the existing tenant within the Insull Wing for formal or informal use of the site for any purpose.

7.5 Construction Logistics and Cyclist Safety

To undertake the Camden requirement to meet the Construction Logistics and Cyclist Safety (CLOCS) recommendations the Principal Contractor shall ensure that:

- Prominent signage is fitted to all vehicles over 3.5 tonnes gross vehicle weight that visually warns other road users not to get too close to the vehicle.
- Warning signage is visible to a Vulnerable Road User (VRU) before they enter the area of risk on approach to the vehicle.
- Warning signage is to be placed on the rear of all vehicles (where appropriate) at eye / cyclist level for clear visible communication.
- Signage shall be pictorial to visually warn other road users not to get too close to the vehicle.
- Where text is included on signage, it must be legible by a cyclist at a reasonable distance from the vehicle.

- Signage is not offensive and will not give instructional advice e.g. 'Stay back' or 'No Entry' to the vulnerable road user.
- Additional warning signage should be applied to side-guards on both sides of the vehicle. In accordance with section 2.3 of the "CLOCS Guide – Vehicle Safety equipment".
- The fitment of side-guards to all rigid mixer, tipper and waste type vehicles over 3.5 tonnes gross vehicle weight that are currently exempt from fitment without exception.
- All vehicles over 3.5 tonnes gross vehicle weight have front, side and rear blind-spots completely eliminated or minimised as far as is practicable through a combination of fully operational indirect vision aids and driver audible alerts'.
- All vehicles over 3.5 tonnes gross vehicle weight are equipped with enhanced audible means to warn other road users of a vehicle's left manoeuvre'.
- Drivers are trained and certified in the importance of all fitted vehicular equipment and its purpose.
- Drivers are trained and certified in the use of each piece of fitted safety equipment prior to them taking out a vehicle.
- Drivers are trained and certified in the process of reporting any faults with fitted safety equipment.
- Drivers are trained and certified in the procedure for undertaking a daily walk round of their vehicle, and completion of a formalised check sheet for evidence of a daily review of all safety equipment along with normal vehicle review requirements.

7.6 Fleet Operator Recognition Scheme

The Principal contractor will be required to enrol and comply with all of the requirements of the Fleet Operator Recognition Scheme (FORS) scheme. FORS is a voluntary accreditation scheme encompassing all aspects of safety, fuel efficiency, vehicle emissions and improved operations. FORS in general helps fleet operators to measure and monitor performance and alter their operations in order to demonstrate best practice and improve road safety.

This requires that the Principal Contractor and all of their sub-contractors meet the Bronze and Silver levels as well as the Gold standard (additive requirements) and meet the following criteria. (The list below is indicative of the overall scheme and not exhaustive to ensure that the reader can see the value to the general public).

The Principal Contractor will:

- Conduct audits of their fleet against FORS approved audit.
- Be fully prepared to meet all FORS required quality requirements including physical works to vehicles, driver (fleet team) training and preparation and demonstration of real fleet improvements related to both safety and the environment.

- Communicate considerately and effectively with all parties to demonstrate compliance with the FORS scheme both physically and through demonstrable evidence.
- To attend competence and FORS awareness training.
- Maintain a fully functioning complaints system that is fully auditable.
- Undertake senior management reviews on all fleet operation policies annually.
- Brief and train all Fleet team members in company FORS related policies to ensure a shared goal within their logistics teams.
- Ensure that only qualified, or sufficiently trained staff are used to manage and work within their logistics team, including drivers and supervisors.
- Inspect all vehicles as required, by suitably qualified persons, and undertake both routine and planned maintenance in a timely manner to ensure that all vehicles are road worthy and safe for usage on a daily basis.
- Record, monitor and manage fuel and tyre usage.
- Ensure that all vehicles over 3.5 tonnes are fitted with the correct safety equipment to protect pedestrians, and vulnerable road users.
- Install vehicle warning systems to all vehicles over 3.5 tonnes (including audible means to warn other road users of reversing and left hand turns).
- Install blind spot minimisation equipment to all vehicles over 3.5 tonnes including in vehicle “indirect vision” aids such as reversing cameras and audible alerts.
- Maintain policies to ensure no driver can drive beyond reasonable hours and that the drivers are fit and healthy to undertake their shift on each day of work.

7.7 Considerate Constructors Scheme

The Principal Contractor will be required to enrol and comply with all of the requirements of the Considerate Constructors Scheme (CCS), and to meet the Excellent scoring criteria. The key goals of the scheme are to promote best practice in construction delivery. CCS has a number of themes, these are:

7.7.1 Care about Appearance

- Ensuring that the external appearance of sites enhances the image of the industry.
- Being organised, clean and tidy.
- Enhancing the appearance of facilities, stored materials, vehicles and plant.
- Raising the image of the workforce.

7.7.2 Respect the Community

- Informing, respecting and showing courtesy to those affected by the work.
- Minimising the impact of deliveries, parking and work on the public highway.
- Contributing to and supporting the local community and economy.
- Working to create a positive and enduring impression, and promoting the Code.

7.7.3 Protect the Environment

- Identifying, managing and promoting environmental issues.
- Seeking sustainable solutions, and minimising waste, the carbon footprint and resources.
- Minimising the impact of vibration, and air, light and noise pollution.
- Protecting the ecology, the landscape, wildlife, vegetation and water courses.

7.7.4 Secure Everyone's Safety

- Having systems that care for the safety of the public, visitors and the workforce.
- Minimising security risks to neighbours.
- Having initiatives for continuous safety improvement.
- Embedding attitudes and behaviours that enhance safety performance.

7.7.5 Value their Workforce

- Providing a workplace where everyone is respected, treated fairly, encouraged and supported.
- Identifying personal development needs and promoting training.
- Caring for the health and wellbeing of the workforce.
- Providing and maintaining high standards of welfare.

8 Plant & Equipment

8.1 Cranes

Cranes will be utilised to assist with the demolition operations. The cranage solution could consist of fixed tower crane or mobile crane, the Principal Contractor will determine their final requirements and will submit their applications for all relevant licences.

8.2 External Scaffolding

An external scaffolding will be erected to enclose the faces of the building that front onto the roads to facilitate window removal and soft strip. The erection of a full height scaffolding to all elevations will be enclosed in reinforced polythene to

provide a degree of environmental control to the building and to minimise dust and debris from being deposited onto the adjacent roads and buildings. Protective scaffolding fans will be erected prior to commencement of demolition.

In advance of the scaffolding erection a tree protection strategy will be agreed for works to St James' Gardens. The Principal Contractor will be responsible for obtaining necessary licences for the external scaffolding, protective fans and any required pedestrian protection.

If a temporary pedestrian tunnel is required in order to maintain pedestrian access along Cardington Street, A400 Hampstead Road or the footpath between A400 Hampstead Road and St James' Gardens, then the scaffolding will be extended and protected using baulk timbers and lighting. The pedestrian access will be fully lit throughout, and on the highway side there will be baulk timbers that will be lit along their length. The area will be regularly maintained to ensure it is kept clean and maintained to acceptable standards.

All scaffolding will be fitted with a proprietary alarm system to prevent unauthorised access onto the scaffold and into the building.

8.3 Vehicle type, use and distribution

Consideration has been given to the type of plant that is likely to be used during the demolition and construction works. The anticipated vehicle type and use, as well as the anticipated plant and equipment associated with the construction process are set out in the table below.

Table 1: SUMMARY OF VEHICLE TYPE, USE AND DISTRIBUTION		
Vehicle Type	**Use**	**Distribution**
Rigid Heavy Goods Vehicle	Demolition material removal	Strategic road network to motorway
Small Articulated Vehicle	Plant	Strategic road network to motorway
Specialised Articulated HGV	Crane erection & dismantle	Strategic road network to motorway
Specialised Equipment Low loader	Occasional Delivery of Plant	Strategic road network to motorway
Vans	Plant service, materials, other Suppliers.	Distributed to local and strategic network
Cars	Occasional deliveries, Couriers etc.	Distributed to local and strategic road network

Table 2: SUMMARY PLANT TYPE PLANT	Demolition
Excavators / with hydraulic cutting shears	✓
Excavators	✓
Compressors	✓
Muck away lorries	✓
Tower crane	✓
General waste skips	✓
Power tools	✓
Delivery vehicles	✓
Scaffold access platforms	✓
Mobile towers	✓

8.4 Potential Impacts During Construction

A review has been undertaken of the potential source of adverse impacts, which can be associated with carrying out demolition and construction works. The results of this are presented in the table below;

Table 3: POTENTIAL IMPACTS AND HEADLINE MITIGATION MEASURES DURING DEMOLITION AND CONSTRUCTION

Issue	Potential Impacts	Mitigation
Noise	Road noise levels from vehicles. Noise levels from plant during works, (e.g. from the use of air compressors excavators).	Defined working hours, baffles to certain plant, local acoustic screening. Vehicle routing. Beepers, radios etc. to be silenced and replaced by suitably qualified banks men. Engines turned off and all measures outlined in the considerate constructors scheme.
Vibration	Vibration levels from plant during demolition and building deconstruction.	Phased deliveries to minimise numbers of vehicles attending site, Vehicle routing. Engines to be switched off when vehicles are idle or on site Defined working hours. Selection of appropriate plant and work procedures.
Dust / Air Quality	Windblown dust from ground surfaces, stockpiles, vehicles, work faces and cutting and grinding of materials. Exhaust emissions from lorries and plant delivering and removing materials including dust and particulates.	Cover all open backed vehicles, 'water down' demolition activities; switch off vehicle engines when parked. Continuous monitoring of particulates at defined monitoring stations, including agreement and implementation of trigger and action levels
Waste	Waste generation and its disposal.	Instigate Site Waste Management Plan and re-cycling programme.
Water	Sediment loadings to storm water system. Contaminated storm-water runoff.	Do not allow direct discharge of water into sewerage collection system.
Traffic	Traffic congestion caused by site traffic. Local traffic diversions may be required for tower crane	Phased deliveries to minimise numbers of vehicles attending site. Minimise abnormal loads.

	erection and dismantle and mobile crane lifts. Vehicle movements mainly consisting of Heavy Goods Vehicles (HGVs). Nominal levels of transfer of mud and material from vehicles onto the public highway. Disruption from abnormal loads. Exhaust emissions.	Vehicle routing. Wheel wash and cleaning of hard standings To be arranged with highway authorities
Storage of fuels and construction materials	Accidental spills, discharges to drains/storm-water systems. Contamination to ground.	All fuel tanks etc. to be bunded, no discharge allowed into the sewerage collection system.
Pedestrian access	Restrictions on pedestrian access to walkways, footpaths and roads.	Erect protective gantries / pedestrian tunnels over footways.
Hazardous and contaminated materials	Exposure of the workforce to deleterious / hazardous materials and contaminated land, mobilisation of any source contaminants and creation of pathway from source to groundwater receptor.	No excavations works planned. COSHH assessments and careful implementation of associated working method statements to ensure that no hazardous materials find a path to groundwater source. Advance removal of asbestos by specialist licenced contractor.
Ecology	Water / mud run off into the drains.	Do not allow direct discharge of water into sewerage collection system, utilise interceptors where necessary.
Energy usage	Indirect impacts associated with energy consumption such as CO2 emissions, depletion of natural resources, air pollution etc.	Site environmental plan to be implement.
Views	Views impacted and/ or impeded from construction equipment, material storage etc.	Hoardings to screen ground level views into site.

9 Environmental

9.1 Asbestos

As the site buildings/structures substantially predate the discontinuation of the use of asbestos materials in the UK, the presence of asbestos / ACM's cannot be disregarded for the planned strip-out and demolition works. Previous surveys of

both the Vezey and Insull Wing have identified the presence of asbestos and asbestos containing material.

A Demolition Asbestos Survey was undertaken for the Vezey Wing in 2015, with site visits undertaken between 5 October and 4 November 2015. Significant quantities of asbestos-containing materials were noted at this site.

A Demolition Asbestos Survey was undertaken for the Insull Wing in 2015, with site visits undertaken between 16 March and 27 March 2015. Some asbestos containing materials were found on this site. CTU are aware of the areas affected and have taken appropriate measures in their current use of the building.

A licensed removal contractor is required to undertake the removal of any asbestos or asbestos-containing materials, which will involve a notice to the relevant licensing authority prior to commencement of the work. Any asbestos will be stored and removed from the site in accordance with the Asbestos Regulations.

Prior to any strip-out or structural demolition works being undertaken for this project, it is a pre-requisite that a full HSG 264 compliant Refurbishment and Demolition Asbestos Survey for the site buildings/structures will be carried out by a competent Surveyor, as appointed by HS2. This Survey Report will be made available to both the design teams and the Principal Contractor for the planned demolition works.

The presence of asbestos / asbestos containing materials (ACMs) has already been identified by survey. Advance removal of asbestos / ACMs which have potential to pose harm to demolition personnel and others, will be necessary.

The Principal Contractor's required scope of work and contractual details require that this must be undertaken as an enabling stage of the demolition project works in each Phase.

In all cases compliance with the Control of Asbestos at Work Regulations 2012 is mandatory, including the need for works to be carried out by Licenced Asbestos Contractors.

All asbestos / ACMs will be disposed of as hazardous waste with appropriate waste records and evidence of due diligence recorded and retained.

The Principal Contractor will develop further strategies for dealing with further asbestos / ACM materials found, that have not been identified during the R&D survey. All details of these strategies will be logged within the Demolition Phase Plan and agreed with the relevant authorities prior to commencement of works.

9.2 Lead Based Paint

It is reasonable to assume that lead based paint will have been used during the construction and maintenance of the buildings for demolition, and this will be removed in accordance with the removal of hazardous substances.

9.3 General Hazardous Substances

All hazardous substances will be disposed of as hazardous waste with appropriate waste records and evidence of due diligence recorded and retained.

9.4 Contaminated Material

Due to the nature and history of the site, it is assumed that some contamination may be found within the materials on the site. To mitigate this no excavation work is planned.

Where the materials are to be removed from site and remediated at a third party area, the contractor shall abide with good practice in identification of the contaminated materials, carriage away from site and management of the waste removal process up to receipt of a valid waste certificate from a suitable and registered waste remediation company.

9.5 Dust

A dust risk assessment was undertaken in line with the GLA SPG and the results are included in HS2 Phase One Supplementary Environmental Statement 2 and Additional Provision 3 (September 2015) Environmental Statement - Volume 5: Technical appendices. An extract of the assessment is included below which takes account of the dust emission potential from on-site activities and the sensitivity of the surrounding area. The dust risk level identified was high in the area surrounding the NTH. It should be noted that the risk identified is prior to the implementation of mitigation measures. Implementation of appropriate mitigation measures, listed below, will be employed and will reduce the overall risk rating to 'low'.

Activity	Dust soiling	Human health
Demolition	High risk	High risk

Figure 11 Dust Assessment

To avoid dust nuisance, the Principal Contractor will be required to:

- Strip the insides of buildings before demolition.
- Ensure buildings or structures to be demolished are sprayed with water or screened as necessary, prior to and during demolition.
- Shield or enclose rubble chutes or use water to suppress dust emissions from such equipment.
- Ensure skips are covered and secured.
- Not burn any material on site.
- Plan the site layout to locate machinery and dust-causing activities away from sensitive receptors, where reasonably practicable.
- Use appropriate methods, such as the erection of hoardings or other barriers along the site boundary, where appropriate, to mitigate the spread of dust to any sensitive buildings or other environmental receptors.
- Enclose, shield or install filters on equipment likely to generate excessive quantities of dust beyond the site boundaries.
- Provide dust suppression in all areas of the site that are likely to generate dust.

- Cover materials, deliveries or loads entering and leaving the construction site.
- Take into account the predominant wind direction relative to sensitive receptors.
- Enclose or securely sheet material stockpiles and keep watered or stabilised as appropriate.
- Plan the works so that handling operations for materials are kept to the minimum that is reasonably practicable.

To minimise the deposit of significant amounts of dirt or dust on the public highway, the Principal Contractor will undertake all reasonably practicable measures to avoid/limit and mitigate the deposition of material on the highway. These measures will have regard to the nature of the site and include;

- Hard standing at the access and egress points will be cleaned at appropriate intervals.
- Vehicle wash down points to clean vehicle wheels at each exit point onto the highway (See Section 6.14 Wheel Wash).
- The correct loading of vehicles and sheeting of loads where necessary to avoid spillage during their journeys.
- Appropriate wheel cleaning measures will be employed to prevent the transfer and accumulation of material on the public highway.
- The use of mechanical road sweepers combined with water sprays for the suppression of dust to clean hard standings, roads and footpaths in the vicinity of the site.

See also the requirements set out in the Construction Management Plan, which confirms that all of 'highly recommended' measures in the GLA SPG on the 'Control of Dust and Emissions from Demolition and Construction' will be applied, where these are relevant to the demolition activities taking place.

9.6 Rodents and Vermin

The existing building will be assessed for the presence of rodents and vermin prior to demolition. Should any rodent or vermin issues be present, an external contractor will be appointed to eradicate these.

9.7 Noisy Operations

There are a number of Noise Sensitive Receptors (NSRs) close to the site, including the Maria Fidelis Convent School, UCL Bartlett School of Architecture, Thistle hotel, the Margarete Centre a community centre and residential blocks on the opposite side of Hampstead Road.

A preliminary noise assessment has been prepared, taking account of the likely plant and equipment to be used. This assesses the overall pattern of likely noise levels at NSRs. The following noisy operations have been identified as contributing to the overall assessed noise levels in each phase:

- demolition of buildings using 360 excavators fitted with multiprocessing tools.
- use of 360 excavators fitted with hydraulic breaker to peck concrete.
- use of C10 mobile crusher to crush concrete.

9.8 Noise Mitigation Measures

It will be the responsibility of the Principal Contractor to prepare a detailed noise assessments, for each phase, based on the contractor's intended methods of working and programme and to submit prior consent applications under S61 of the Control of Pollution Act, 1974, for Industry accepted best practical means of preventing, reducing and minimising noise generation will be adopted in agreement with LB Camden. Best Practicable Means will need to be applied to reduce noise at source and by the use of appropriate screening and other mitigation measures. Further detail is set out in the Construction Management Plan.

Appropriate procedures and adoption of Code of Practice for Noise & Vibration control on Construction and Open spaces (BS 5228:2009) will be implemented in order to mitigate noise, vibration and air pollution (e.g. through dust and fume generation) impacts. The contractors will ensure that appropriate staff have been trained under BS5228: 2009 to undertake noise monitoring, reporting and remediation actions.

9.8.1 Appropriate measures to be applied include:

- No works will be undertaken outside the specified working hours; except in cases of emergency, where safety is an issue, or where conditions of dispensation apply.
- The contractor will comply with the requirements of the COPA 1974, with particular reference to Part III of the Environmental Protection Act 1990, The Control of Noise at Work Regulations 2005 and the Health and Safety at Work Act 1974.
- All plant and equipment to be used for the works will be properly maintained, silenced where appropriate to prevent excessive noise and switched off when not in use and where practical.
- Hydraulic machinery and plant will be used in preference to percussive techniques where practical.
- The contractor will erect and maintain throughout the construction period temporary hoarding around all working areas to assist in the screening of noise and dust generation from low-level sources.
- Noise and dust levels will need to be controlled by the constant monitoring of air quality & noise levels including positioning of monitoring equipment & agreement and implementation of trigger and action levels.

- Plant will be certified to meet relevant current legislation and Noise and Vibration Control on Construction and Open Sites (BS 5228). All subcontractors will be made familiar with current noise legislation and the guidance in BS 5228 (Parts 1 and 2), and this CTMP which will form a prerequisite of their appointment.
- Basement slab to be drilled rather than broken out for drainage purposes.
- Loading and unloading of vehicles, dismantling of equipment such as scaffolding or moving equipment or materials around the site will be conducted in such a manner as to minimise noise generation.
- Noise complaints, or exceeding of agreed levels will be reported and immediately investigated.
- Vehicles transporting materials capable of generating dust to and from site will be suitably sheeted on each journey to prevent the release of materials and particulate matter.

The contractors will liaise with the Maria Fidelis Convent School to schedule work to avoid particularly sensitive times, and no works will be undertaken during school examinations. Under the Trigger Action Plan for Maria Fidelis School, rooms in the St Patrick's Wing used for Special Education Needs purposes will be fitted with noise insulation before noisy works begin in Phase 1. It is anticipated that the windows on the north façade of the Margarete Centre will be offered noise insulation for Phase 2 works. The Margarete Centre is shielded by the Insull Wing during Phase 1 works.

Noise levels will be logged continuously at the school, and at one location, against noise predictions agreed in the S61 consents and in line with the Camden Minimum Requirements. If trigger levels are exceeded, the monitoring system will automatically notify the contractor, who, under the terms of the contract will be required to consider further noise control measures to ensure Best Practicable Means are being used to avoid disturbance. The noise levels will also be shared with LB Camden as required.

9.9 Vibration

A preliminary assessment of vibration levels suggests that there is the potential for short periods of disturbance during Phase 1 to the occupants of the Insull Wing and the Thistle Hotel. The Insull Wing is to be demolished in Phase 2 and the Thistle Hotel is likely to have been vacated by this time, awaiting demolition as part of the wider HS2 works. The impacts during Phase 1 will need to be managed, by the Principal Contractor, in accordance with BS5228 and in consultation with the affected parties.