

DOC NO.
FLO-N001-2360000-CON-PLN-00004
Rev. 5

Traffic Management Plan

Northern Line Extension
Main Works Contract



CLIENT: LONDON UNDERGROUND LIMITED

CONTRACT REF: TLL 7917

NORTHERN LINE EXTENSION

MAIN WORKS CONTRACT

TRAFFIC MANAGEMENT PLAN



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Revision History			
Rev No	Date	Summary of Changes	Section Number
1.	21.11.14	First contract issue	-----
2.	24.11.14	Incorporating FLO comments	All
3.	1.12.14	Incorporating LU comments	All
4.	13.01.15	Incorporating TM Drawings	Appendix D
5.	23.01.15	Final incorporating TfL & London Borough Comments	2.3, Appendix D & Appendix H

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	Document Number	Document Description
ASSOCIATED PROJECT PLANS & DOCUMENTS		
1	FLO-N001-2360000-PMG-PLN-00001	Project Execution Plan
2	FLO-N001-2360000-HSE-PLN-00001	Construction Health & Safety Plan
3	FLO-N001-2360000-HSE-PLN-00002	Emergency Preparedness Plan
4	FLO-N001-2360000-HSE-PLN-00005	Environmental Management Plan
5	FLO-N001-2360000-PMG-PLN-00017	Stakeholder Engagement Plan
6	FLO-N001-2360000-PMG-PLN-00019	Consents Management Plan
7	FLO-N001-2360000-HSE-PLN-00007	Site Waste Management Plan
8	FLO-N001-2360000-CON-PLN-00002	Temporary Services Plan
9	FLO-N001-2360000-CON-PLN-00005	Utilities Plan
10	FLO-N001-2360000-CON-PLN-00001	Mobilization and Logistics Management Plan
11	FLO-N001-2360000-QLT-PLN-00001	Quality Management Plan
12	FLO-N001-2360000-CMG-PLN-00001	Risk Management Plan
13	FLO-N001-2360000-CMG-PLN-00003	Project Security Plan

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1.0 Introduction

1.1 Project Description

The Northern Line Extension (NLE) will be a new underground line, an extension to the existing Charing Cross branch of the Northern Line between Kennington and a Terminus Station to the south of Battersea Power Station. The extension will consist of new twin bore tunnels and covering a distance of approximately 3300 metres together with new stations at Battersea and Nine Elms.



To this end the NLE Project will include design and build, development and delivery of the project including but not limited to:

- New running tunnels inclusive of over-run tunnels, permanent ventilation shafts
- New underground stations at Nine Elms and Battersea Park
- Design and design assurance for civil engineering, tunnelling, drainage, fit-out and systems.
- Civil engineering construction, tunnelling, drainage and p-way.
- Utility diversions and enabling works
- Project Management
- Construction site establishments; secondary sites; methodology and construction techniques

Integration of the various subsystems with the operational Northern Line; and optimum incentive for delivery during the design and construction period

1.2 Surface Worksites

The plans in **Appendix A** identify the key surface worksites summarising the principal locations into 4 distinct areas with an annexe office and logistic site at Montford Place:

- **Battersea Station worksite** is within the south western section of Battersea Power Station development (BPSG), within London Borough of Wandsworth (LBW). The worksite is immediately adjacent to the north side footpath of Battersea Park Road. The site is bounded to the west by a Network Rail, to the north and by Battersea Power Station Development Group. Transport for London being the stakeholder authority for Battersea Park Road. The site

location is currently occupied by BPSDG who maintain access and egress via two gates identified as Gates 3 & 3A. The gates are located opposite and to the west of Savona Street. These gates will be closed for construction work and FLO will design a new entrance to be located further east opposite Thessaly Road. It is proposed to make interim use of BPSDG Gate 3A and a Temporary Traffic Management Plan is included in this document which is to be submitted to TfL for approval, recognising the requirements of contractual Works Information regarding Vauxhall Gyrotory system

- **Nine Elms Station worksite incl. Covent Garden Market Authority (CGMA)** is on land at the junction of two highways west of A3036 Wandsworth Road and north of Pascal Street, within London Borough of Lambeth (LBL). The worksite includes the north footway of Pascal Street. The worksite is bounded to the north by a Ballymore development and to the west by Covent Garden Market which is within London Borough of Wandsworth (LBW). Release of the whole site will occur in stages as existing occupants vacate premises. Demolition works are required to, remove, a chimney and boiler house, Covent Garden Market Growers Association (CGMA) offices and Banhams Security building. Associated with this will be removal of buried services and plant associated with the structures
- **Kennington Green worksite** is located at Kennington Green within the London Borough of Lambeth (LBL). The triangular site is bounded on all three sides by Kennington Road, the eastern boundary highway being a TfL main route. The worksite will occupy the green, footpaths and parking bays. There is a local satellite worksite to the west of Kennington Green adjacent to the Beefeater Gin Distillery and this is accessed via a narrow road from an access way to the west of Kennington Green. It is necessary to carry out some demolition to release the full worksite.
- **Kennington Park worksite** is located in the north east corner of Kennington Park, south of Kennington Park Place and its junction on the east with St Agnes Place, within the London Borough of Lambeth (LBL). The borough boundary of London Borough of Southwark (LBS) and LBL lies in the centre of Kennington Park Place. By agreement LBS manage the highway of Kennington Park Place. Immediately to the west of Kennington Park is Kennington Park Road which is a TfL highway. The east end of site requires demolition work of an existing detached property to be vacated.
- **Montford Place** is a land area located west of Kennington Green and north of the Beefeater Distillery. The plot is bounded by property to north south and east. To the west the plot boundary is the highway Montford Place. The area does not incorporate NLE permanent works. It is proposed to take early occupation of the area and develop it for 'satellite' temporary offices logistics and sensitive storage. The area is in addition very close to Kennington Green site. A plan of Montford Place is contained in **Appendix A** this will be updated when temporary design development has been completed.

1.3 Purpose of the Plan

The purpose of the plan is to describe the measures that are required to be designed, approved and implemented, These measures/(schemes) will direct and control the movement

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of vehicles, transport, plant equipment and pedestrians at the interface of the NLE sites with the highway. It will also detail the roles and responsibilities of team members with respect to road and pedestrian management on the project.

The objectives of the traffic management plan are:-

- Minimize the impact on the public road network approaching and adjacent to the project by road based construction traffic. This will be achieved by identifying clear controls on routes, vehicle types, vehicle frequency, vehicle quality and hours of site operation.
- To encourage the prohibition of private and visitor parking in areas local to the project that will impact on local community.
- To establish main principals for vehicle and pedestrian movement within the site boundary maintaining positive segregation between personnel and plant and vehicles.

The plan exists in parallel with the Mobilisation & Logistics Plan which details the aspects of vehicle safety management and delivery. The plan is administered within the FLO logistics team and the FLO Logistics Manager is responsible for the execution of the plan. The plan as a document is a 'dynamic' which will be revised and added to during the project period.

1.4 Operational Times and Environment.

Traffic movement will be limited to 'core' periods in the designated project hours contained within the Code of Construction Practice (COCP) Part B which are:

Monday – Friday	0800hrs-1800hrs
Saturday	0800hrs-1300hrs
Sunday & Public Holidays	No movement

Exceptions to the traffic transport hours will be for movement of abnormal loads, emergency services response and works required by project and stakeholder constraints.

With the exception of emergency works other traffic movement will require to be pre notified and approved by:-

- Consultations with Stakeholders
- Liaison and advising local community
- Compliance with Section 61 requirements

The tunnelling operations take place from the Battersea worksite. The tunnel works take place on a 24 hour basis and during these works the site will require limited traffic movements outside the core hours, to supply the tunnel operations.

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1.5 Key dates for worksite areas

The following table identifies the key dates extracted from the programme for mobilization and identifying the duration of works within the key work areas

SITE -LOCATION	START	COMPLETE
Battersea Station	05-01-2015	13-12-2019
Nine Elms	19-01-2015	13-12-2019
Kennington Green	12-01-2015	13-12-2019
Kennington Park	17-03-2015	13-12-2019
Montford Place	08-12-2014	13-12-2019

2.0 Traffic Management Sections

It is FLO's objective to ensure all traffic management is undertaken in accordance with Health, Safety and Environmental legislative and contractual commitments. The following legislation will be adhered to:

- Highways Act 1989
- Road Traffic Act 1988
- Traffic Management Act 2004
- New Roads and Street Works Act 1991
- Transport Work Act Order TWAO

In addition to the above other documents used in support of the Traffic Management Plan are identified in **Appendix B Reference Documents**

2.1 External Boundary

All of the NLE surface worksites will be enclosed and secured at the boundary by a 2.4m high hoarding. Access and egress to the sites will be by means of vehicle gates and pedestrian gates. The site boundaries in all cases separate the project works from the public domain by either:

- Directly bordering pedestrian footpaths of the highway
- Directly bordering cycle ways, bus lanes and carriageways of the highway

The TWAO defines for each site where particular sections of the highway are to be stopped up. Where not defined, the boundary will be to the back of the highway, situated on property to be temporarily or permanently used for construction of the NLE.

2.2 Highway Schemes

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The project construction phase commences with acquisition of designated highway as specifically detailed in the TWAO, enclosing the worksite with hoardings, and constructing the vehicle entrances. The areas of highway occupation will be for the majority of the construction period. In locations where hoardings and entrances directly affect the existing road layout and be in existence for long term periods i.e. **for longer than six months**, traffic schemes will be required which will vary the road layout in the vicinity of the sites. These schemes will be fully designed and submitted for stakeholder assessment and subsequent approval before implementation. Each scheme will be prepared recognising:

- Traffic Flow
- Pedestrian Movement
- Cycle Frequency
- Advance Signing and Lighting
- Removal of existing street furniture
- Alteration to road markings
- Work Related Road Risk

2.3 Site Specific Traffic Management Plans, Entrances & Exits

The four main worksites Battersea, Nine Elms, Kennington Park and Kennington Green all need the capacity to handle a range of construction vehicles. Entrances will be designed using ‘swept path vehicle analysis’ using Auto track or similar software, this will consider the following vehicles.

- 10m Rigid Vehicles and ‘Muck Away’ Lorries
- Articulated Flatbed ‘Tractor and Trailer units
- Emergency Vehicles
- Abnormal Loads

Entrance crossover design will also incorporate highway loadings, pedestrian crossing design and utility protection. Design detail for crossovers will be prepared and submitted for approval to each of the relevant authority and utility stakeholders, in line with the legislative documents referenced in this plan.

- Battersea ----- TfL
- Nine Elms----- London Borough of Lambeth
- Kennington Green----- TfL & London Borough of Lambeth
- Kennington Park----- TfL & London Borough of Southwark

2.3.1 Kennington Green

The Kennington Green worksite is located on Kennington Road and surrounded by residential property, 'The Green', Montford Place and the Chivas Beefeater Distillery.

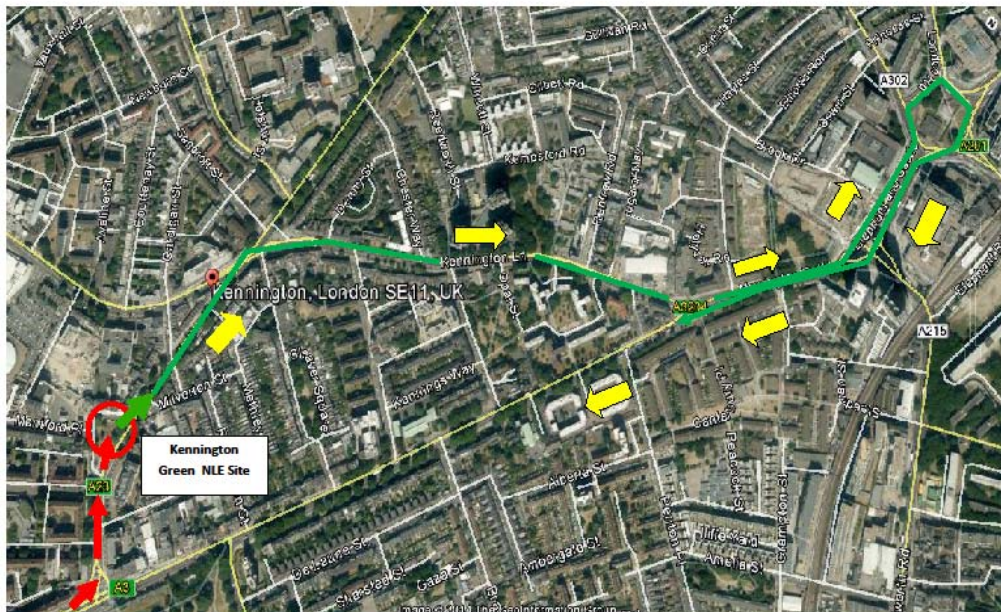
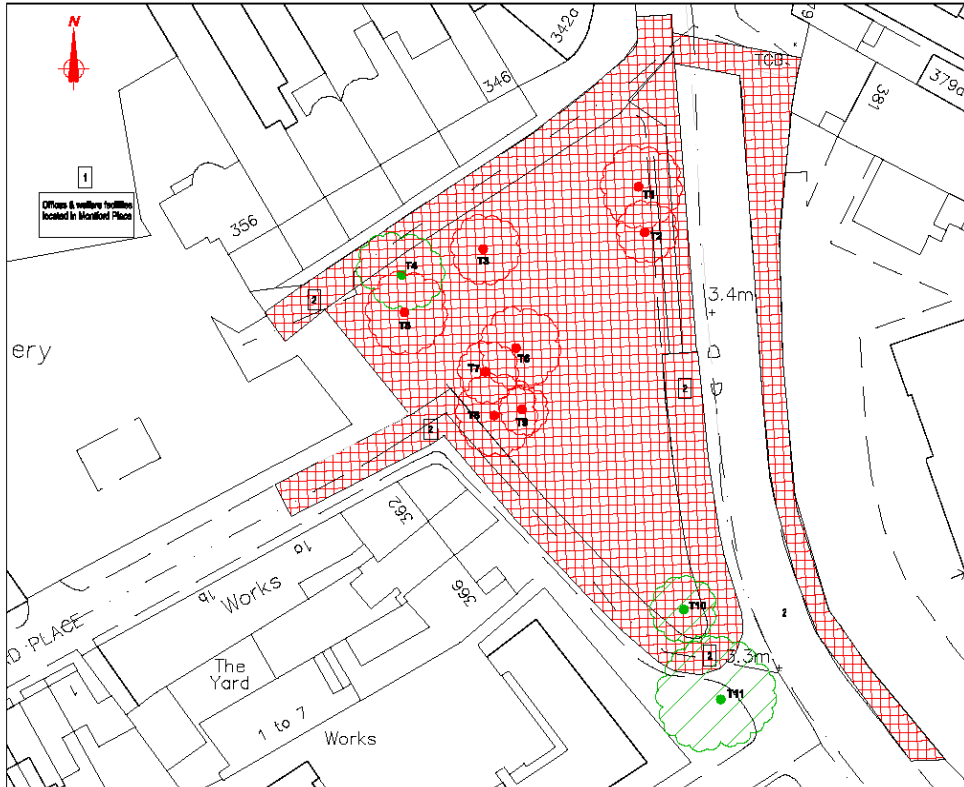
The Green will be closed to make way for the worksite. In a second phase of construction a section of side road surrounding the Green will be shut for a period, in order to construct the new NLE head house. The worksite will require the suspension of parking and occupation (stopping up) of the footpaths surrounding the Green. The northbound bus lane will also be occupied to facilitate construction of the main shaft and provide access for construction vehicles.

Vehicle access will be from the south-east along Kennington Road. Vehicles will pass through the site and exit to the north to re-join Kennington Road. Upon exiting the site, vehicles will need to use a route that allows them to head south to their final destination. The route is identified in the map inserted below.

All highway space that is to be suspended, stopped up or closed is as defined in the Transport Works Act Order TWAO. The TWAO schedules applicable are included in **Appendix C** Plans associated with hoarding arrangements and the initial proposal traffic management plans that will exist for the project duration are illustrated in **Appendix D**.

In addition to Appendix D 'plans' illustrating the traffic arrangements around the established site, temporary traffic management plans will be required to execute preliminary service diversions prior to installation activities that will establish the site hoarded boundary, vehicle entrance and exit. Typical examples of such plans are included in Section 4.0 of this document. The highway space to be occupied on a temporary basis is illustrated on the plans in this section by red hatching. The temporary traffic management plans required to execute utility diversions will become available upon engagement of the Statutory Undertakers Contractors. All utility diversions will require to be completed prior to establishing the final worksite Hoarding

Area of service diversion works (Statutory Undertakers) Red Hatch



KENNINGTON GREEN VEHICLE ACCESS EGRESS

Note: - Vehicle routing via Vauxhall Gyrotary road system is not permitted.

2.3.2 Kennington Park

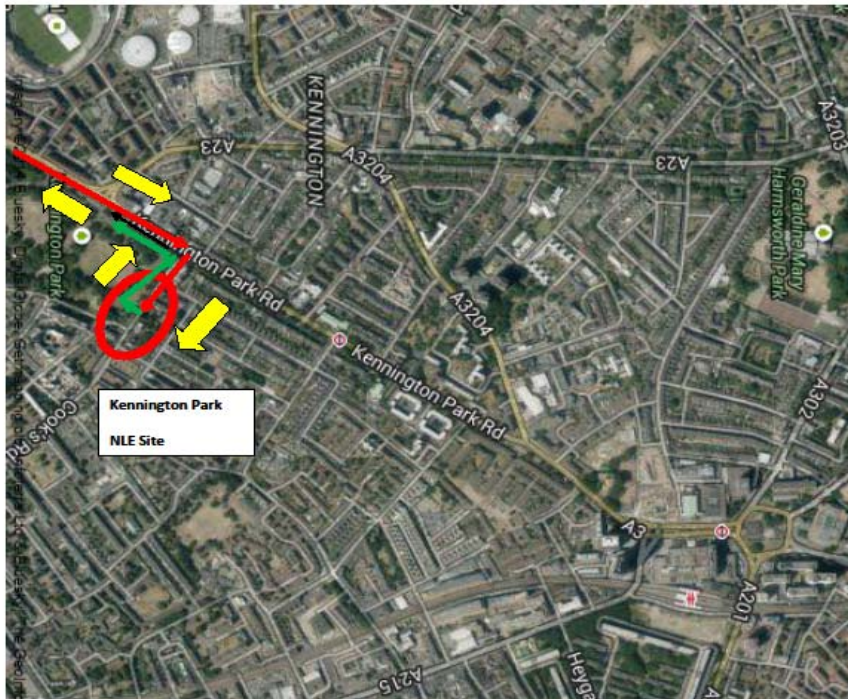
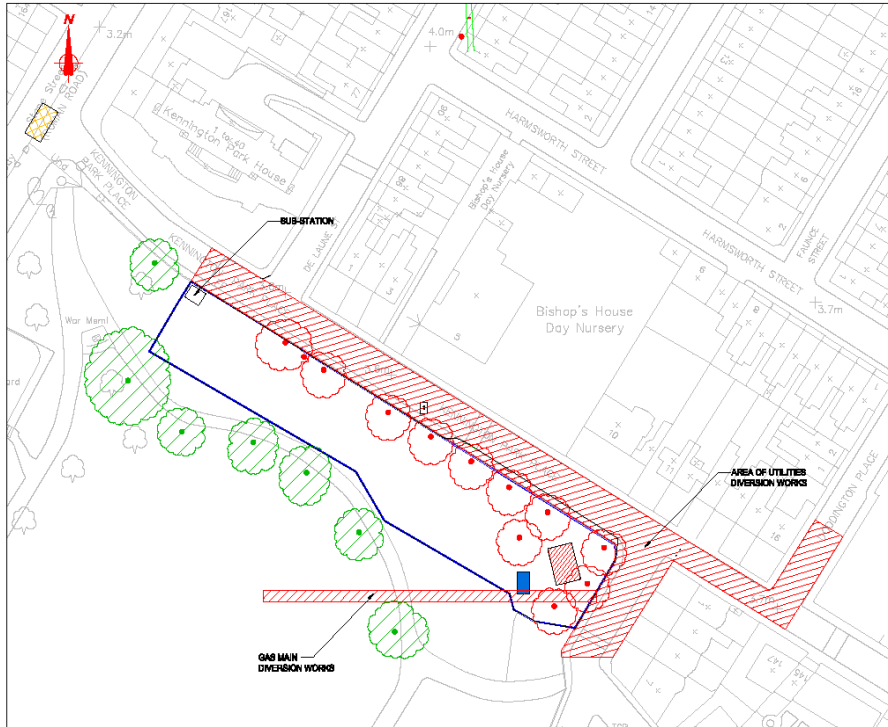
The Kennington Park worksite is located in the north-east corner of Kennington Park. The area as indicated in **Appendix A** will be closed for public use to make way for the worksite. The worksite will require the suspension of parking on the south side of Kennington Park Place and occupation (stopping up) of a length of footpath adjacent the Park.

The Kennington Park worksite will be accessed from the strategic and primary road network along Kennington Park Road and via Kennington Park Place. This will ensure that construction vehicles only cross the Cycle Superhighway at the signalised junction of Kennington Park Place and Kennington Road. Construction vehicles will turn into the worksite from Kennington Park Place. The highway space that is to be suspended, stopped up or closed is as defined in the Transport Works Act Order TWAO. The TWAO schedules applicable are included in **Appendix C**

Plans associated with hoarding arrangements and the initial proposal traffic management plans that will exist for the project duration are illustrated in **Appendix D**.

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Area of service diversion works (Statutory Undertakers) Red Hatched



Note: - Vehicle routing via Vauxhall Gytratory road system is not permitted

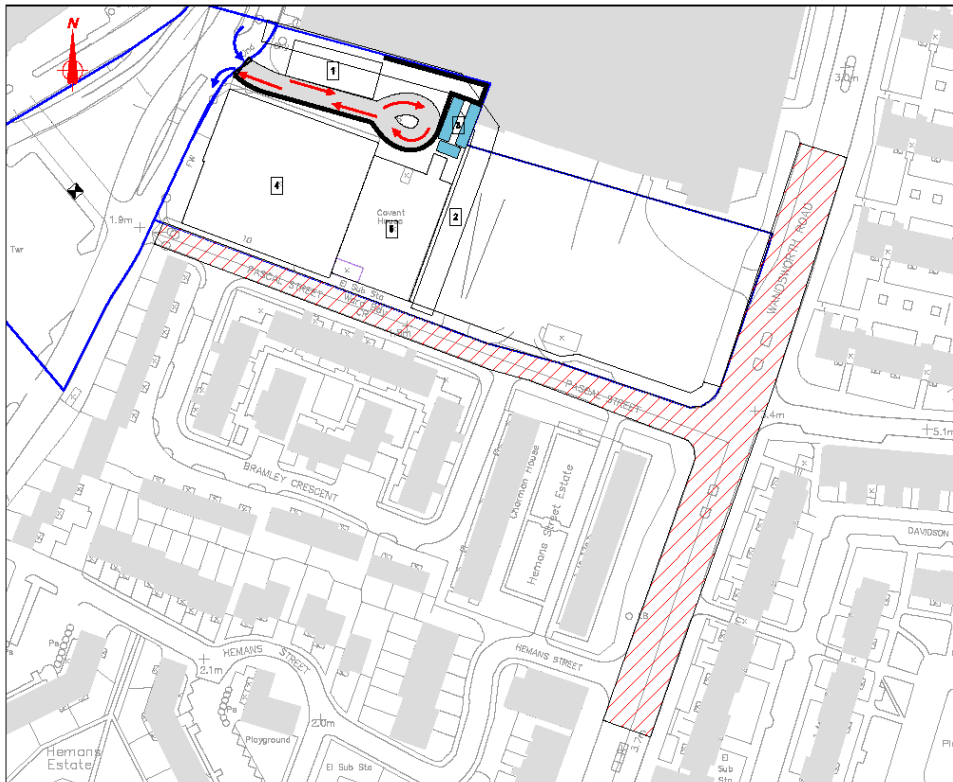
2.3.3 Nine Elms

The Nine Elms station worksite is located on the corner of Wandsworth Road and Pascal Street.

Throughout the construction work, sections of footway on Wandsworth Road and Pascal Street next to the worksite have to be closed(stopped up) to facilitate the construction activities. We also have to implement the suspension of parking on Pascal Street. The highway space that is to be suspended, stopped up or closed is as defined in the Transport Works Act Order TWAO. The TWAO schedules applicable are included in **Appendix C** Plans associated with hoarding arrangements and the initial proposal traffic management plans that will exist for the project duration are illustrated in **Appendix D**.

In addition to Appendix D 'plans' illustrating the traffic arrangements around the established site, temporary traffic management plans will be required to execute preliminary service diversions prior to installation activities that will establish the site hoarded boundary, vehicle entrance and exit .Typical examples of such plans are included in Section 4.0 of this document. The highway space to be occupied on a temporary basis is illustrated on the plans in this section by red hatching. The temporary traffic management plans required to execute utility diversions will become available upon engagement of the Statutory Undertakers Contractors. All utility diversions will require to be completed prior to establishing the final worksite Hoarding

Area of service diversion works (Statutory Undertakers) Red Hatched



The Nine Elms worksite is accessed from the south on Wandsworth Road via a site entrance north of the Pascal Street junction.

Vehicles leaving the site will enter Pascal Street and turn right at the signalised junction onto Wandsworth Road. Refer to the map in **Section 2.3.4**

2.3.4 Battersea

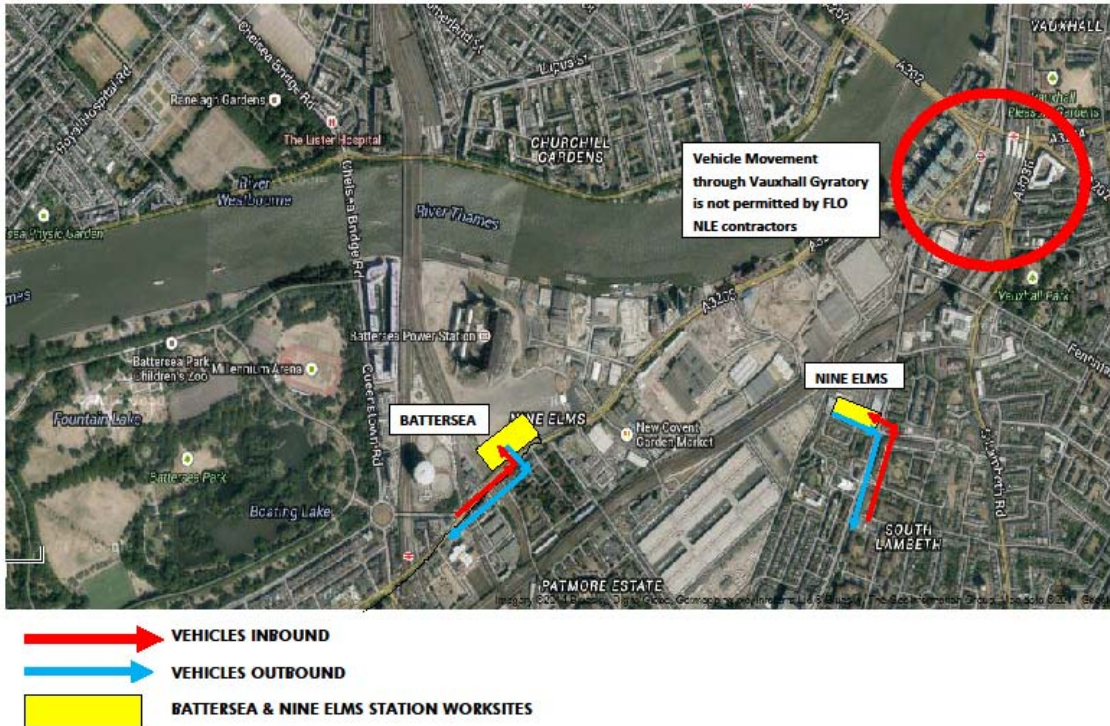
The Battersea station worksite is located in the south east segment of the Battersea Power Station site.

The Battersea Station site will be accessed from the south on Battersea Park Road via a new temporary signalised junction at Battersea Park Road and Thessaly Road that incorporates the existing pedestrian signalised crossing. Vehicles leaving site will be required to turn right at the signalised junction onto Battersea Park Road.

There are no footpath closures stopping up or parking space suspensions associated with this site. Bus Lanes are however required to be suspended as part of the design of the new entrance and signalized junction.

The highway space that is to be suspended is as defined in the Transport Works Act Order TWAO.

The TWAO schedules applicable are included in **Appendix C**



Note: - The nearby Vauxhall Gyratory road system is not permitted to be used

2.4 Interface & Internal Site Traffic and Pedestrian Management

Traffic Management, vehicle movement and pedestrian control at the site interface and within the boundary of the work site will be addressed in the Construction Phase Health & Safety Plan. Principally HSG 144 Safe use of Vehicles on Construction Sites is adhered to with special consideration to:-

- Site Speed Limits
- Physical Segregation of pedestrian, from plant and vehicles
- Dedicated crossing points on general use site roads (zebra)
- Road width to cater for two way traffic.
- Emergency Services RVP's

2.4.1 Speed Limit

A speed limit of 5mph will be imposed on all of the surface worksites of 5mph. The speed limit will be mandatory for all construction plant, delivery vehicles and transport moving on the site.

2.4.2 Zebra Crossings

Where there is a requirement for personnel to cross site roads clearly marked zebra crossings will be used. Each crossing point will be set up with either a gated or overlapping barrier system

2.4.3 Pedestrian Footways

Public pedestrian movement is managed as described in Section 8.1. Within the worksite movement will be via three classified routes. '*Green*' a non PPE route for common access to office areas and other areas as designated '*green*'. '*Blue*' a designated PPE route for general access by those personnel fully inducted. '*Red*' a designated PPE route for specific access into work areas for personnel authorised.

2.4.4 Green Travel Parking

Where possible, space will be made available for the parking of motorcycles and cycles. The parking will be made available adjacent the safe '*Green*' access route to Office and Welfare areas. The plans illustrating the access to these areas are to be developed in a future revision of this plan

2.4.5 Lighting

Lighting in connection with traffic management will consist of:

- Hoarding lighting (white) in locations where public movement is directly adjacent hoardings
- Hoarding lighting (red) in locations where vehicle movement is directly adjacent hoardings. This lighting may be either on the hoarding or set on safety zone bulk timbers placed against the hoarding
- Site entrances and exits will be floodlit to enhance visibility in areas where there are pedestrians and worker movement. Lighting will be designed so as not to impact on adjacent property or create hazard to vehicle drivers
- Site Roads and designated walkways will be illuminated with particular attention to site zebra crossing areas.

2.4.6 Signage

Signs relating to traffic management will be used in accordance with

- Safety at Street Works and Road Works (Red Book) Code of Practice
- Chapter 8 Traffic Signs Manual Part 1
- Chapter 8 Traffic Signs Manual Part 2

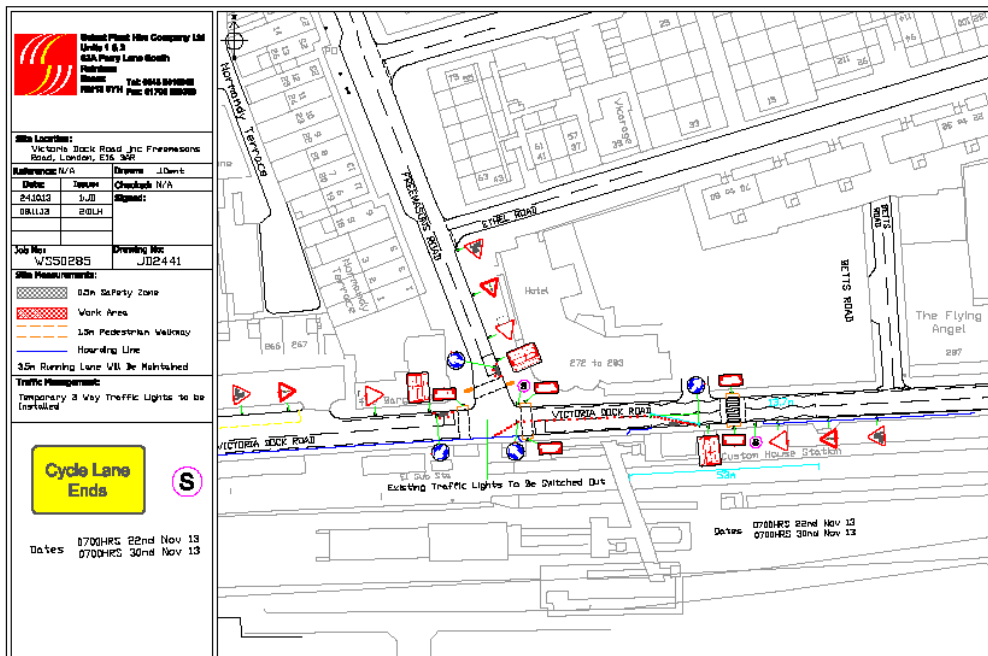
3.0 Key Stakeholders

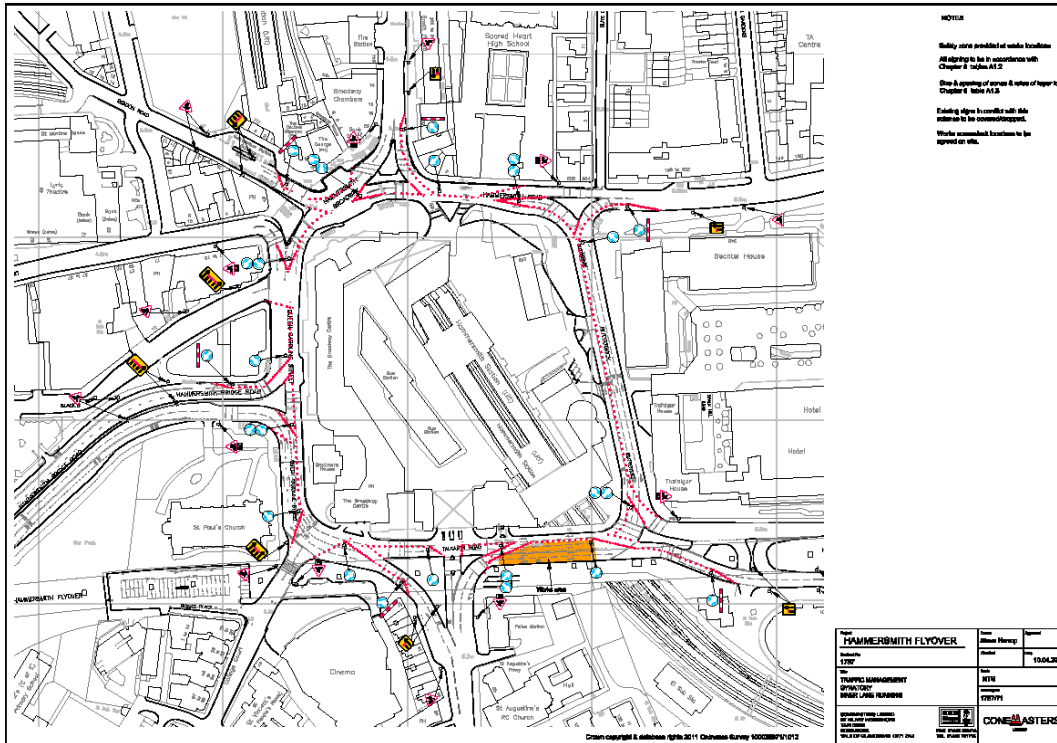
- London Underground *LU*
- Transport for London *TfL*
- London Boroughs of Wandsworth, Lambeth & Southwark *LBW, LBL, LBS*
- Highways Agency *HA*
- Utility Statutory Bodies *Electricity, Water, Gas, Telecom, Communication*

4.0 Noticing

On handover of the worksites it will be necessary to immediately occupy the areas of land and highway as FLO take on the responsibilities of the **Principal Contractor** at this time. FLO will establish **temporary** boundaries in advance of the permanent site hoardings, prior to implementation of final approved Road Schemes.

Temporary Traffic Management Plans will be drafted and submitted to the relevant Stakeholders of TfL, LBW, LBL and LBS. The plans will be transmitted via the London Permit Scheme in accordance with the relevant section of the NSWA. Each plan will contain a summary of the work required to be undertaken and the duration. Examples of these plans from other projects are included below:





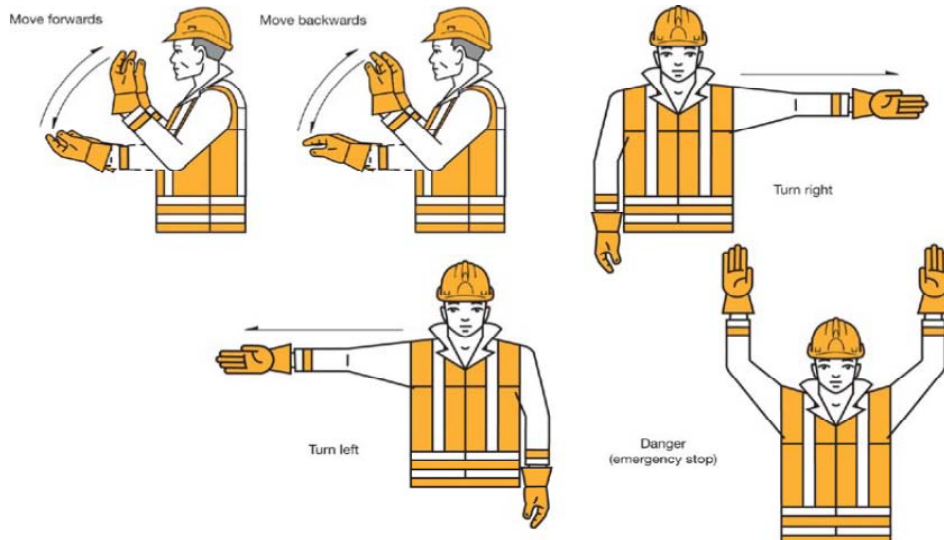
5.0 Gates Organisation

- All site entry and exits will be manned by gatemen and security.
- The numbers will vary dependent on the gate location, its orientation and adjacent road, pedestrian and traffic movement.
- Traffic flows will be significantly higher at Battersea and Nine Elms compared with the other worksites and will be resourced accordingly.
- All gateman will hold specific competencies. To fulfil this role the minimum basic achievement of competency will be
 1. Construction Skills Certification Scheme (CSCS)
 2. Plant and Vehicle Marshalling (CPCS)
 3. Basic Traffic Management (LANTRA.)

A New Roads and Streetworks Operative Category (NRSWA) competency will be an accepted competency in lieu of LANTRA.

Gatemen will **NOT** be permitted to direct traffic on the highway. All movement on the highway at Site entry and exits will be executed by means of 'traffic management'.

When directing vehicle movement within the site, a common standard of signals will be used. This common standard will be included in the regular driver induction and briefed at site entrance dwell areas to infrequent drivers.



6.0 Site Entrance / Exit Plan

Site entrances and exits are to be installed to segregate vehicles from pedestrians; each will have individual plans that will illustrate in more detail the following

- Width of clear opening
- Crossing design and protection of services
- Gate proposal and direction of opening
- Location of gate kiosks
- Barrier arrangements during operational times
- Hoarding arrangement adjacent gates for visibility
- Entry and exit signage
- Dwell areas inside

7.0 Street Furniture Removal

The worksites at Kennington Green, Kennington Park and Nine Elms will occupy sections of the highway which are mainly pedestrian footpath and some associated parking areas. Within these areas there are items of above ground street furniture that will require removal or

relocation. Initial surveys of the street furniture affected have been carried out and FLO, in coordination with LU, will liaise with the asset owners and stakeholders for removal or relocation. There is no Street Furniture associated with the Bus Lane at Kennington Green.

The removal, or changes to the street furniture will be described in the Traffic Schemes.

These will include the signalized crossings at Battersea; Nine Elms and Kennington Green

These schemes are to be included at the first revision of this plan. Early identification of street furniture affected is included in **Appendix E**

Utilities in connection with the street furniture are dealt with in the Utilities Plan referenced at the commencement of this plan

8.0 Protection of Public

8.1 Pedestrians

Movement of pedestrians external to the worksites has a direct impact at Battersea, Nine Elms and Montford Place. At these locations the public will be walking across site entrances at Battersea and Montford Place, in addition the exit at Nine Elms. Vehicle movement efficiency and pedestrian safety will be controlled by short period 'stop up' of the footway by employment of telescopic barriers. The Nine Elms vehicle/pedestrian interface is controlled by means of an existing signalised crossing.

8.2 Cyclists

The site entrances of Battersea, Nine Elms and Kennington Green are all passed by a high density of commuting cyclists at 'morning rush hour'. Each entrance is located on the inbound (towards the centre of London side of the road). The orientation of the entrances also presents a significant risk with respect to Large Goods Vehicles (LGV's) over 3.5T and cyclist movement. We are required to enter the worksites by executing a left turn manoeuvre. In developing the detailed traffic schemes we will carry out a thorough risk assessment to determine the measures necessary to control the vehicle cycle interface to minimise the risks to these vulnerable road users.

8.3 Vehicles

Interface of construction vehicle movement and public vehicles will be self managed at **Battersea** by means of left turn indication with resourced intervention assistance to control pedestrians and cyclists on entry and signalised exit, with intervention to control pedestrians,

Nine Elms by means of left turn indication with resourced intervention assistance to control cyclists on entry. Exit onto Wandsworth Road is controlled entirely by means of a signalised junction,

Kennington Green by means of left turn indication and resourced intervention assistance to monitor cyclists on entry. Exit into Kennington Road (A23) will require resourced intervention for cyclist and vehicles owing to traffic and cyclist density.

Kennington Park & Montford Place The locations do not present high density of vehicle or pedestrian movement and resourced intervention will be able to manage entry and exit.

9.0 Emergency & RVP

Emergency vehicles and rendezvous points are dealt with in the Emergency Preparedness Plan and the Construction Phase Health and Safety Plan.

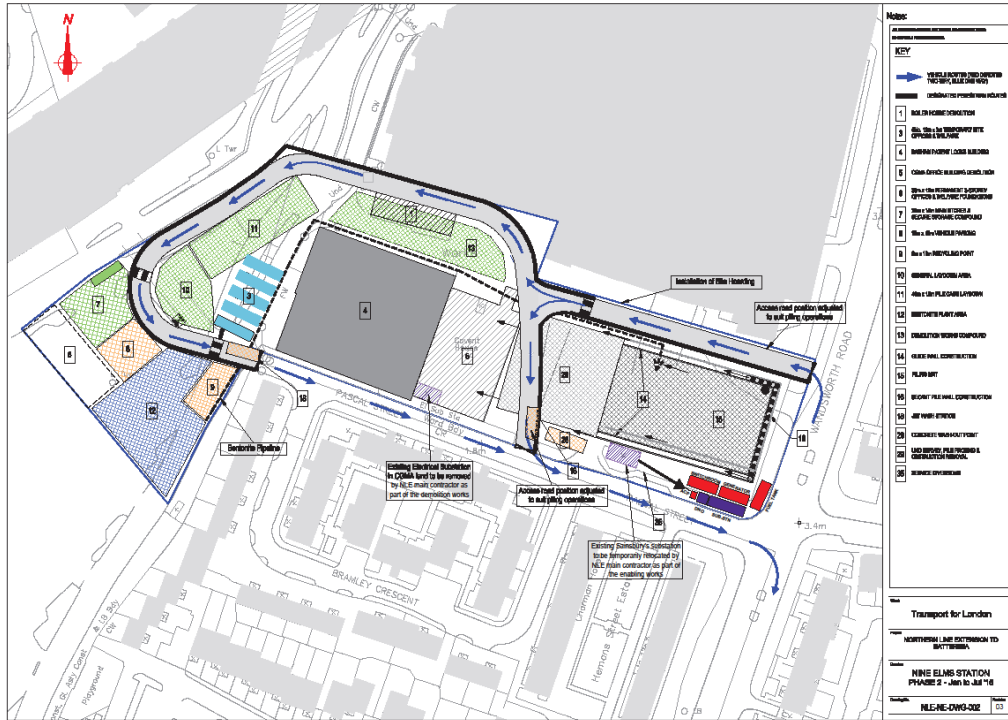
10.0 Inclement Weather & Winter Measures

At the point of interface between the worksite and the public FLO take the following measures:

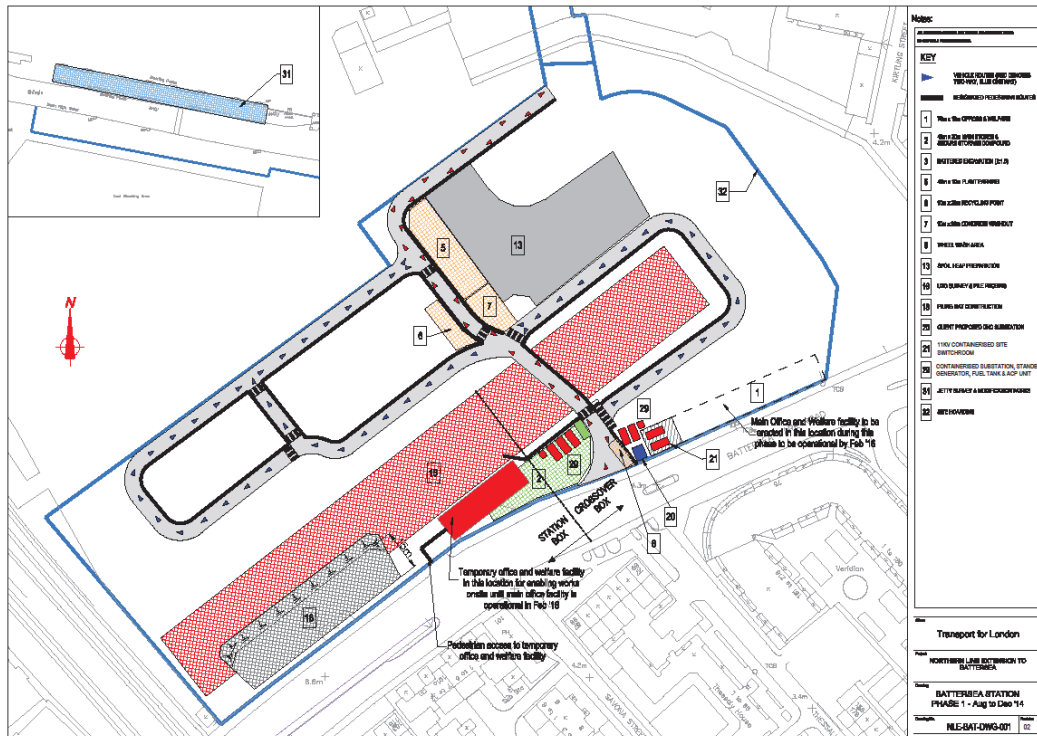
- Site entrances where pedestrians and cyclist cross remain clear of debris
- Site entrances where pedestrians and cyclist cross remain slip and trip free
- Transfer of construction debris through site exits onto the highway is prevented
- In periods of cold weather the span of any vehicle entrance or exit will be treated to prevent icing
- The immediate area on the external of personnel entrance will be clear of mud and debris

Within the boundary of each worksite all walkways, staircases and external office areas will be treated with a de-icing agent in cold weather, All main site circulatory roads will also be treated. Any de-icing agents used will be environmentally suitable and compatible with concrete products.

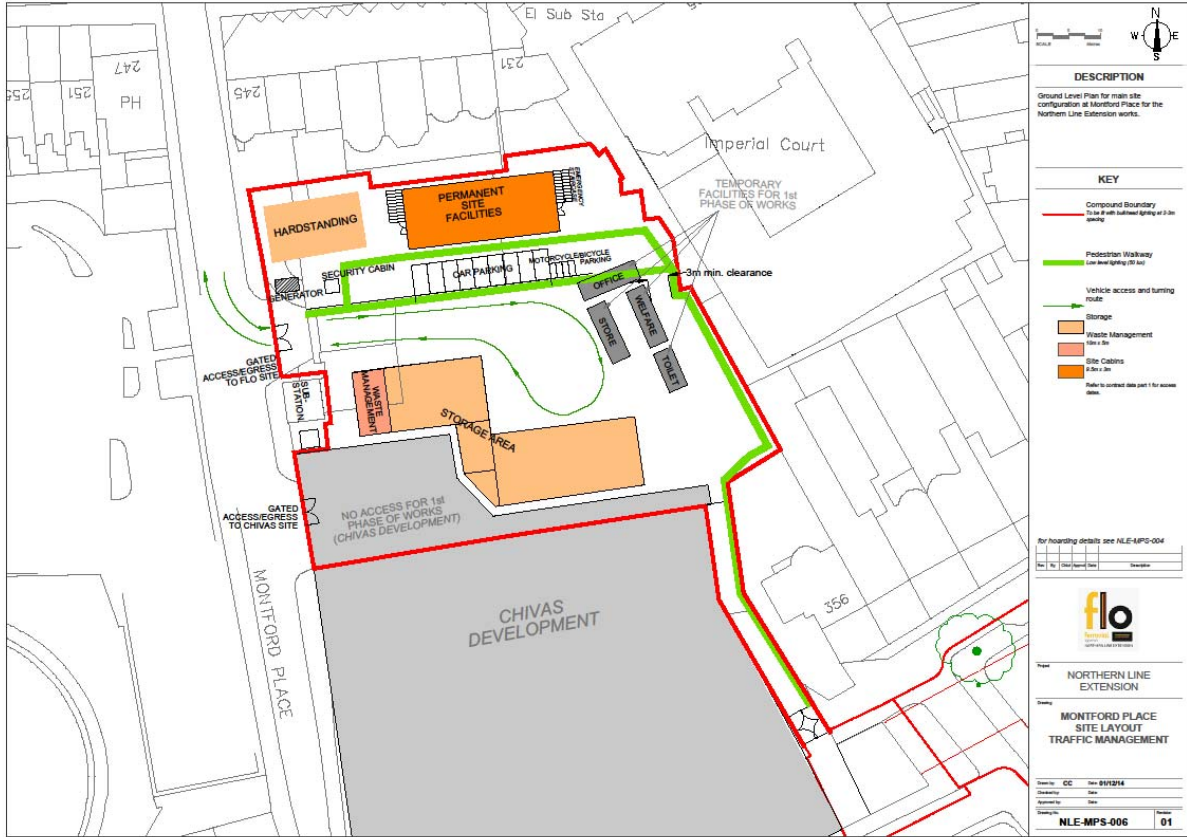
Nine Elms



Battersea



Montford Place



Appendix B Reference Documents

- Safety at Street Works and Road Works (Red Book) Code of Practice
- CLOCS Standard for Construction Logistics Managing Work Related Road Risk
- Metropolitan Police Service Criteria for Abnormal Loads
- New Streetworks Management Permit Schemes
- Use of Portable Vehicular Signals (Pink Book)
- Provision of Road restraint systems on Local Authority Roads
- Chapter 8 Traffic Signs Manual Part 1
- Chapter 8 Traffic Signs Manual Part 2
- NRSWA Specification for reinstatement of openings in the highway
- Transport for London Construction Guidance Document (For Contractors)
- HSG 144 Safe use of Vehicles on Construction Sites
- London Permit Scheme LOPs
- Electronic Transfer of Notices EToN (Paper Submissions)
- Traffic Management Act 1991 and subsequent inclusions
- London Cycle Design Standards

Appendix C TWAO Schedules

PART 2

BUS LANES

<i>(1)</i> <i>Road</i>	<i>(2)</i> <i>Side</i>	<i>(3)</i> <i>Description</i>	<i>(4)</i> <i>Notes</i>
London Borough of Lambeth			
Kennington Road (A23)	Western	Suspension of 80 metres of northbound bus lane adjacent to Kennington Green worksite	Bus lane needs to be suspended to make space for the Kennington Green permanent shaft worksite
London Borough of Wandsworth			
Battersea Park Road	Northern	Conversion of approximately 60 metres of the eastbound bus lane to a general traffic lane between 75 and 101 Battersea Park Road	Modification made in order to accommodate new temporary signalised junction at the access point to the Battersea station worksite opposite 77-89 Battersea Park Road
	Southern	Conversion of approximately 90 metres of the westbound bus lane to a general traffic lane between 75 and 101a Battersea Park Road	Modification made in order to accommodate new temporary signalised junction at the access point to the Battersea station worksite opposite 77-89 Battersea Park Road

DOC NO. FLO-N001-2360000-CON-PLN-00004 Rev. 5	Traffic Management Plan Northern Line Extension Main Works Contract
------------------------------------------------------------	--------------------------------------------------------------------------------------

(1) <i>Area</i>	(2) <i>Street to be temporarily stopped up</i>	(3) <i>Extent of temporary stopping up</i>
	Pascal Street	Approximately 120 metres of footway and 1 parking bay on the northern side of Pascal Street adjacent to the Nine Elms work site

SCHEDULE 9

Article 41

TEMPORARY TRAFFIC REGULATION

PART 1

PARKING PLACES

(1) <i>Road</i>	(2) <i>Side</i>	(3) <i>Description</i>	(4) <i>Notes</i>
London Borough of Southwark			
Kennington Park Place	Southern	Suspension of 13 parking places from a point 15 metres west of the junction with De Laune Street to a location 80 metres east of this point	Parking places to be suspended to provide access for construction vehicles to and from the Kennington Park permanent shaft worksite
London Borough of Lambeth			
Montford Place	Northern	Creation of 2 Car Club parking places opposite No. 362 Kennington Road	Parking places to be created to replace two Car Club parking places suspended due to the Kennington Green permanent shaft worksite
Pascal Street	Northern	Suspension of 12 parking places and 5 motorcycle parking places	Parking places to be suspended to ensure two way traffic on Pascal Street

DOC NO. FLO-N001-2360000-CON-PLN-00004 Rev. 5	Traffic Management Plan Northern Line Extension Main Works Contract
------------------------------------------------------------	--------------------------------------------------------------------------------------

PART 3
PEDESTRIAN CROSSINGS

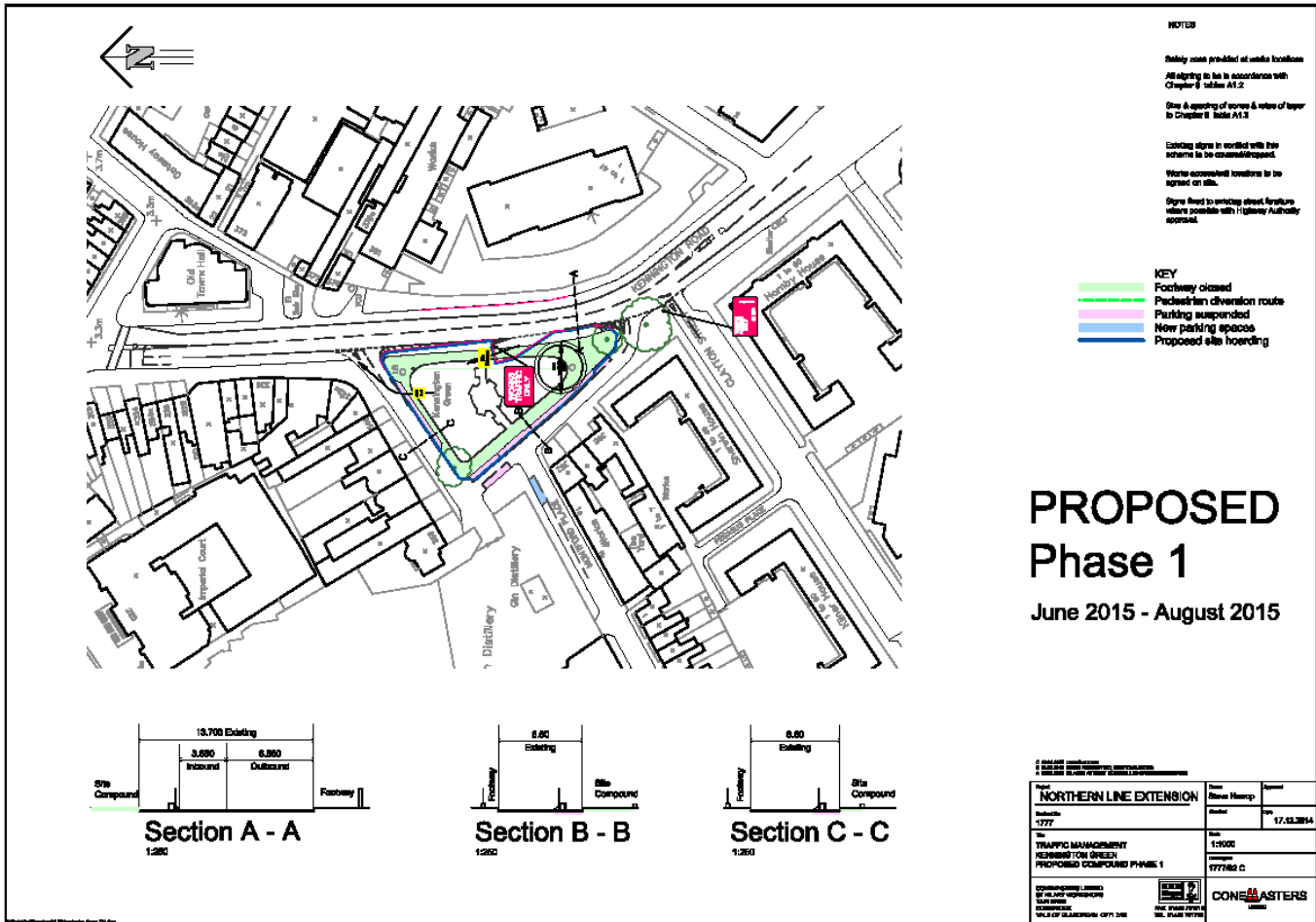
<i>(1)</i> <i>Road</i>	<i>(2)</i> <i>Side</i>	<i>(3)</i> <i>Description</i>	<i>(4)</i> <i>Notes</i>
London Borough of Lambeth			
Kennington Road (A23)	Western and eastern	Suspension of pedestrian crossing perpendicular to Kennington Green	Suspension necessitated by the existence of the Kennington Green worksite hoardings at the western edge of the crossing
London Borough of Wandsworth			
Battersea Park Road	Northern and southern	Installation of signalised crossing opposite 77-89 Battersea Park Road to serve Battersea worksite (incorporating existing dual pelican crossing at Thessaly Street)	Installation is required to ensure the safe movement of construction vehicles to and from the Battersea station worksite

ADDITIONAL PLANNING CONDITION

Prior to commencement of the workplace on Kennington Park Avenue, a scheme for the introduction of a yellow box junction marking on the southbound side of the carriageway of Kennington Park Road, at its junction with Kennington Park Place, shall be submitted to the LPA and approved in writing. Thereafter, the approved scheme shall be implemented prior to construction being started on this workplace and retained until such time as the workplace has ceased to be used and the ventilation shaft and head-house has been completed.

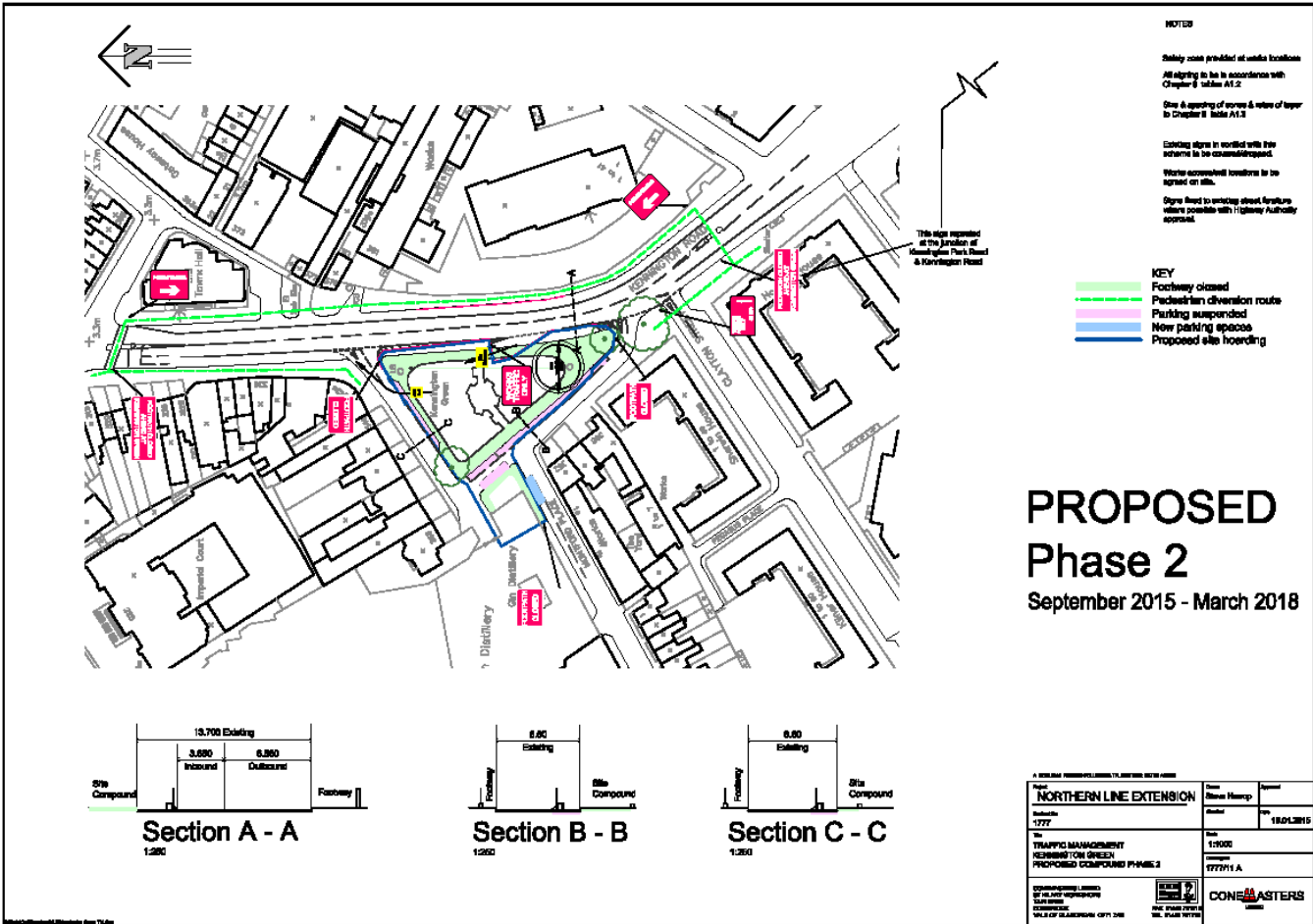
Appendix D

2. Completed Site Hoarding First Phase July 2015

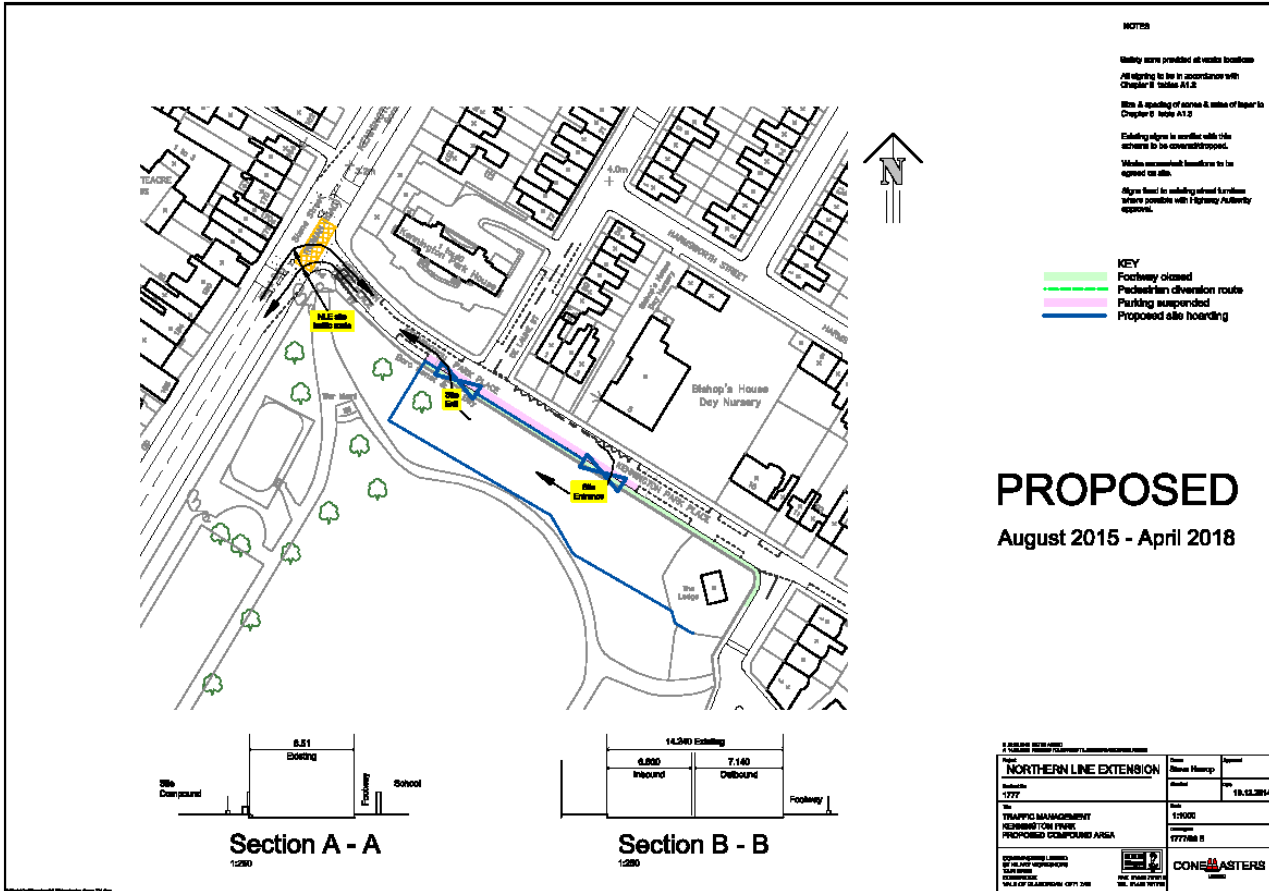


- Footpaths around the Green closed (Stopped Up)
- Pedestrian diversion route indicated
- Parking spaces and bays around the Green suspended and occupied
- Club Car parking re located
- Signalized pedestrian crossing removed
- Kennington Road give way markings adjusted
- Kennington Road (A23) bus lane removed.
- RE design of road layout Kennington Road (A23) prior to hoarding on TfL road.

3. Modified Site Hoarding Second Phase Sept 2015 –March 2018



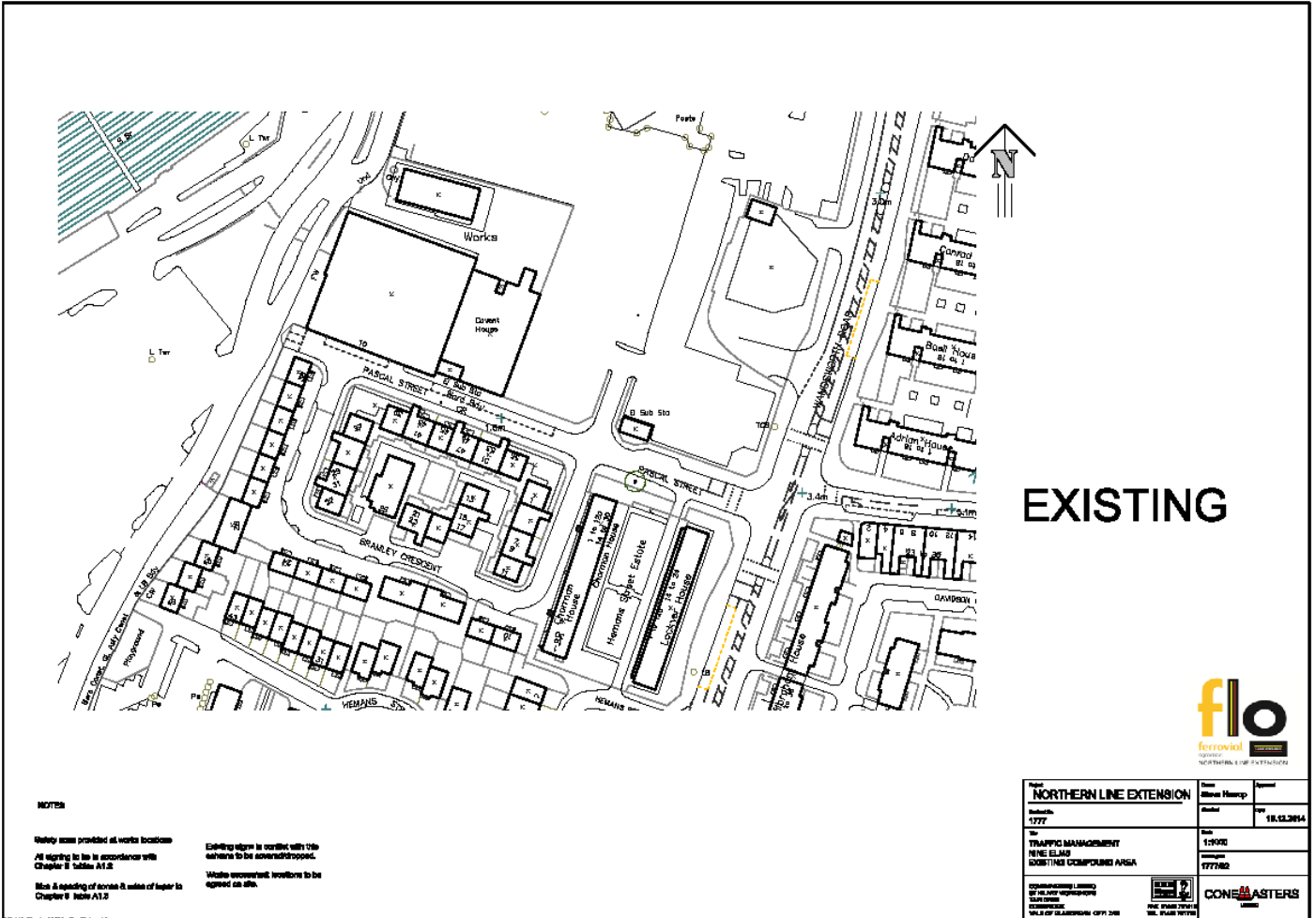
Kennington Park



- Footpath closed (stopped up) Kennington Park Place
- Parking spaces suspended Kennington Park Place
- Introduction of 'yellow' boxed junction
- Centre line adjusted at Kennington Park Place junction with Kennington Park Road

Nine Elms

1. OS Plan Existing



EXISTING



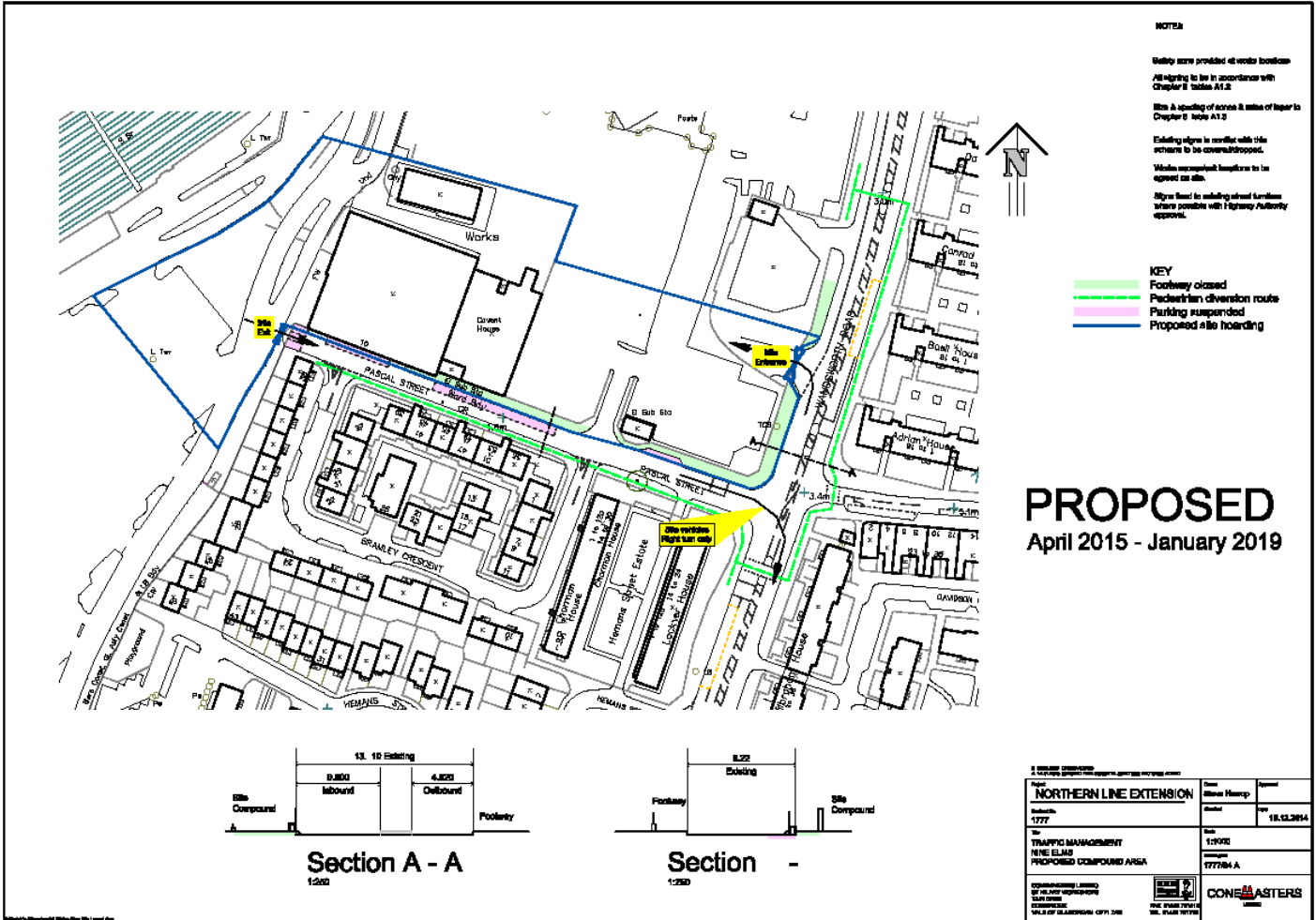
NOTES

Relief area provided at works location
All signing to be in accordance with Chapter 9 Tables A1.2
Note A spacing of cones & signs of taper in Chapter 9 Table A1.2

Existing signs in conflict with the scheme to be covered/stopped.
Works wearway, wearway to be agreed on site.

Project NORTHERN LINE EXTENSION		Date Issue No: 18-02-2014
Reference 1777		Revision 18-02-2014
Title TRAFFIC MANAGEMENT NINE ELMS EXISTING COMPOUND AREA		Scale 1:1000
Drawing No. 1777/02		Author 1777/02
<small>CONSTRUCTION LIMITED OF ALL NEW INFRASTRUCTURE SOLUTIONS CORPORATION TRAFFIC MANAGEMENT COPY 2/02</small>		

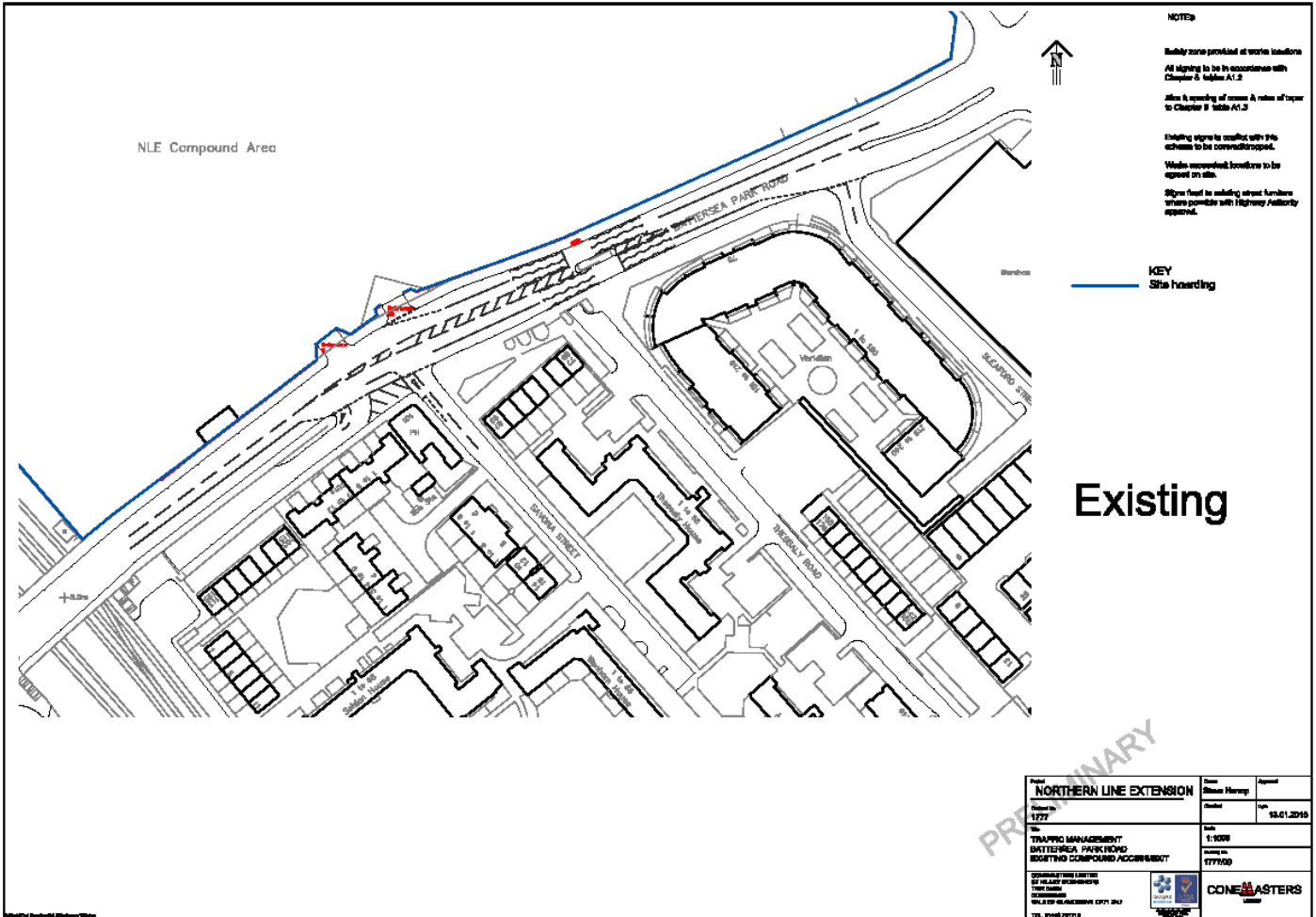
2. Completed Site Hoarding March 2015- January 2019



- Parking Spaces suspended Pascal Street
- Footpath closed (stopped up)occupied
- Pedestrian Signalized Crossing Pascal Street removed
- Pedestrian Signalized Crossing Wandsworth Road removed
- Traffic Signals re phased
- Site Entrance existing (Sainsbury entrance)
- Site exit Pascal Street
- Vehicle Exit (Right turn only)

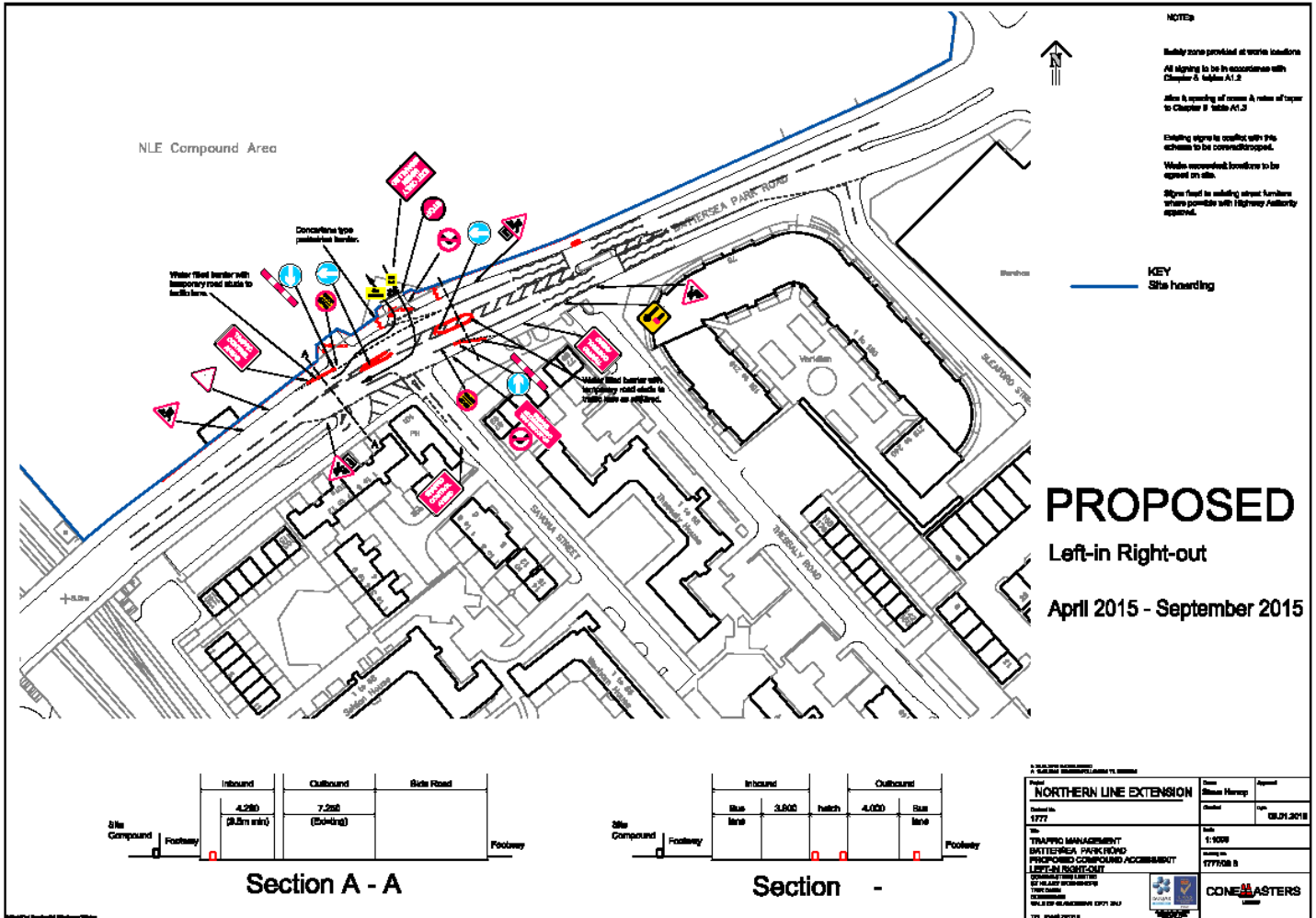
Battersea

1. OS Plan Existing



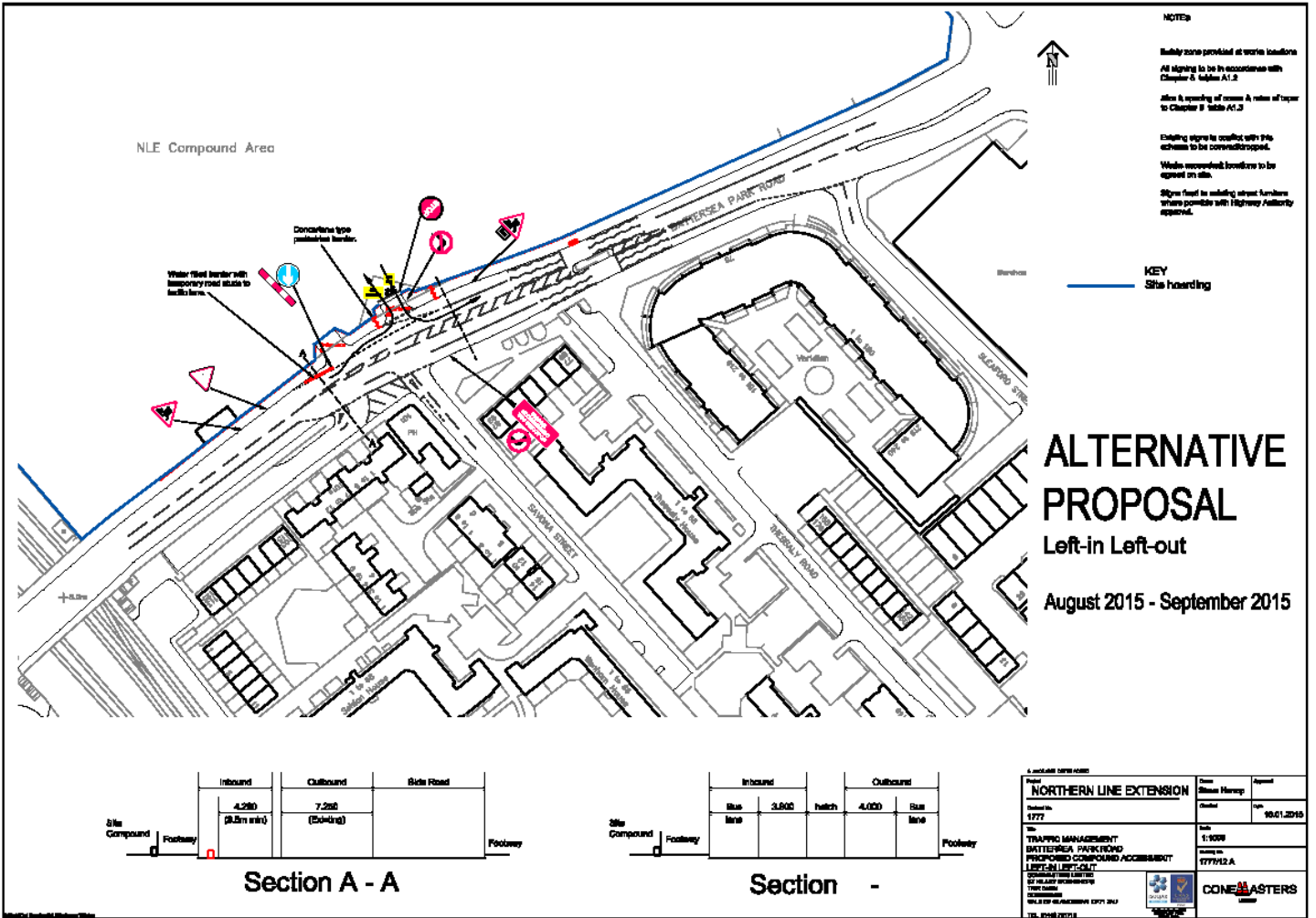
TOPOGRAPHICAL SURVEY TO BE COMPLETED

2. Existing Hoarding Temporary TM Plan at BPSDG Gate 3A Option 1 Right turn exit
March 2015-October 2015



OPTION 1, REQUIREMENT OF TWAO TfL & LU WORKS INFORMATION

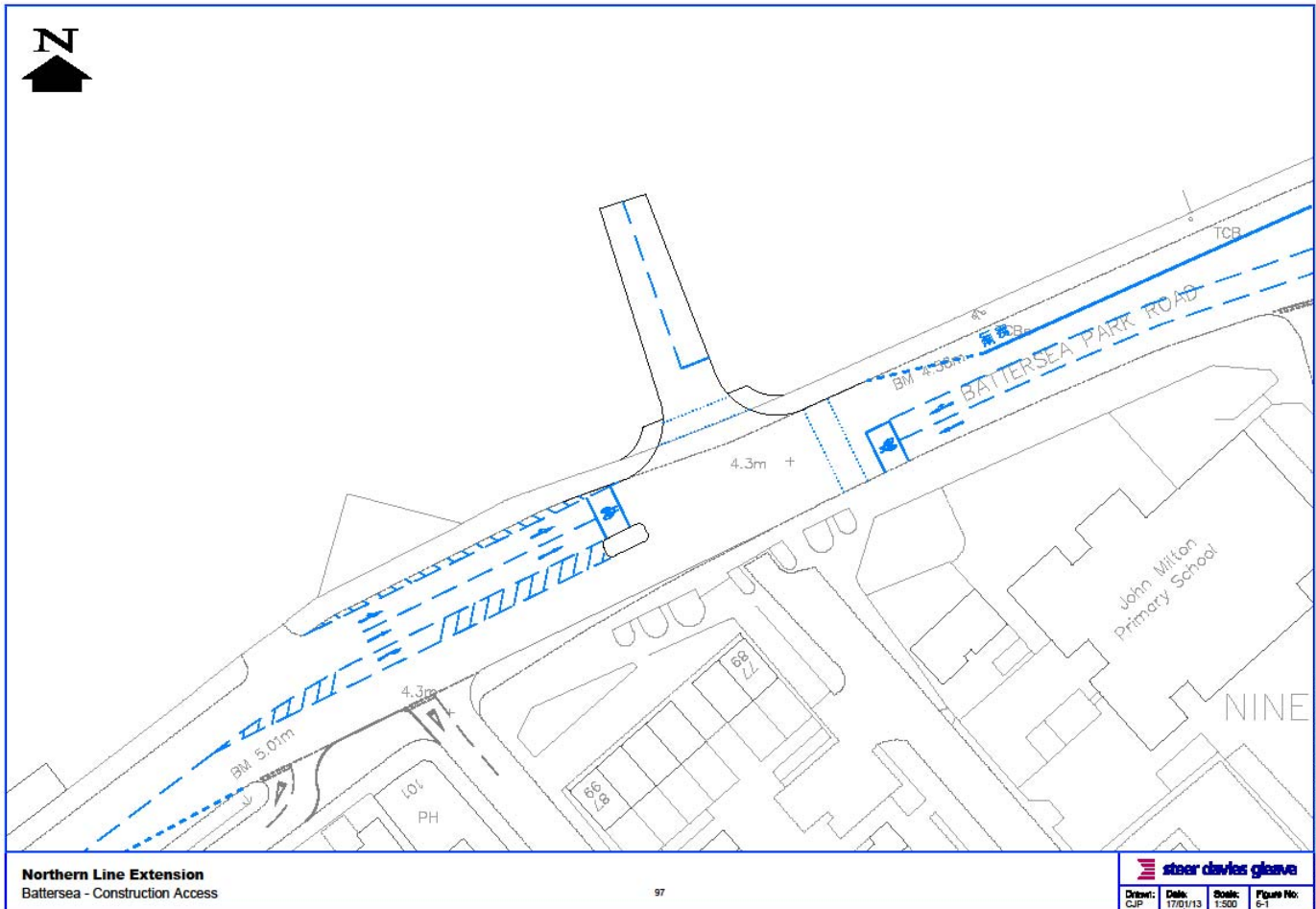
3. Existing Hoarding Temporary TM Plan at BPSDG Gate 3A Option 2 Left turn exit via Vauxhall Gyrotory



OPTION 2 ALTERNATIVE PROPOSALS

Subject to TfL and L Boroughs assessment and LU directive

4. Proposed NLE Permanent Construction Entrance Oct 2015

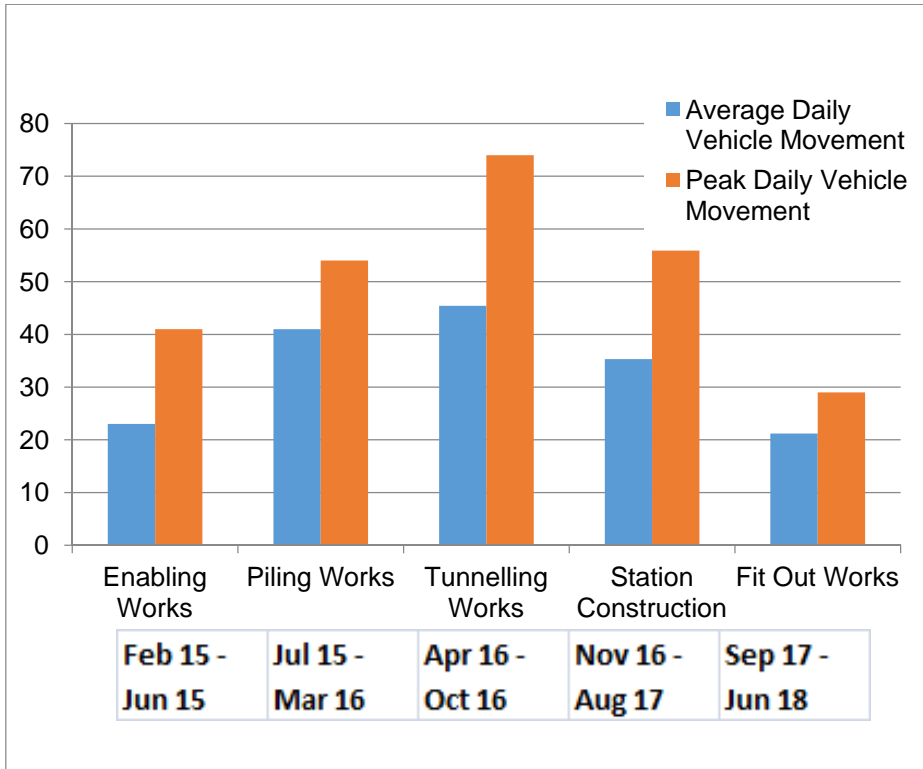


- Existing BPSDG entrances 3 & 3A close
- Bus Lanes in area removed (TWAO)
- Existing pedestrian signalized crossing to incorporate site exit signals

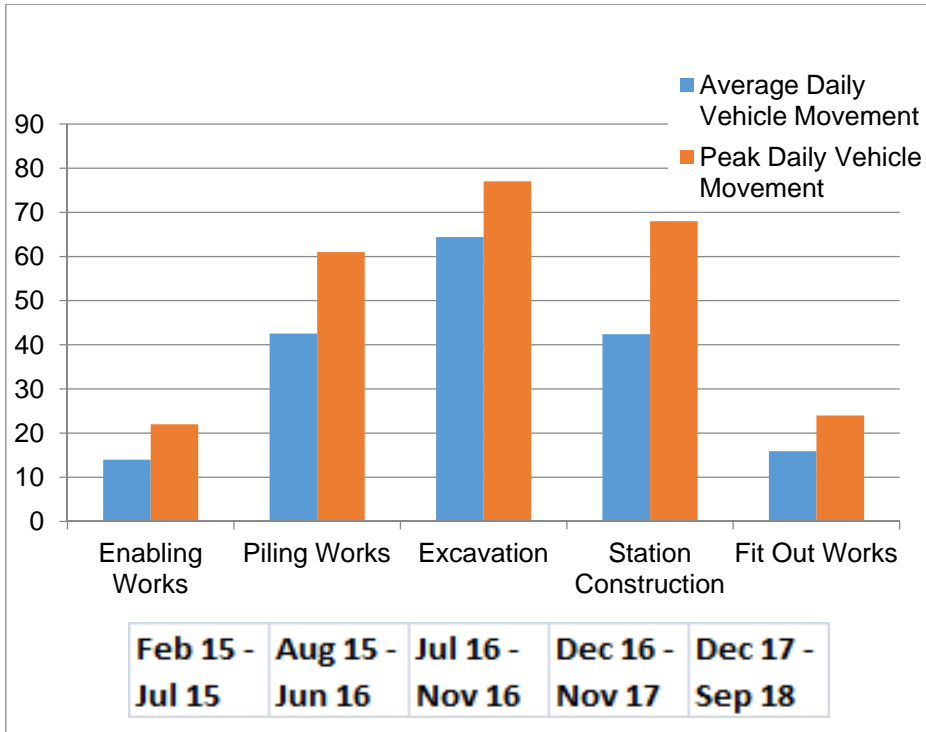
NOTE

- Road scheme survey, modeling and design is to be completed and assessed prior to implementation. Entrance required by Sept 2015
- Primary design for left turn entry and right turn exit
- Alternative option for all direction access and egress subject to TfI and L Boroughs assessment and LU directive.

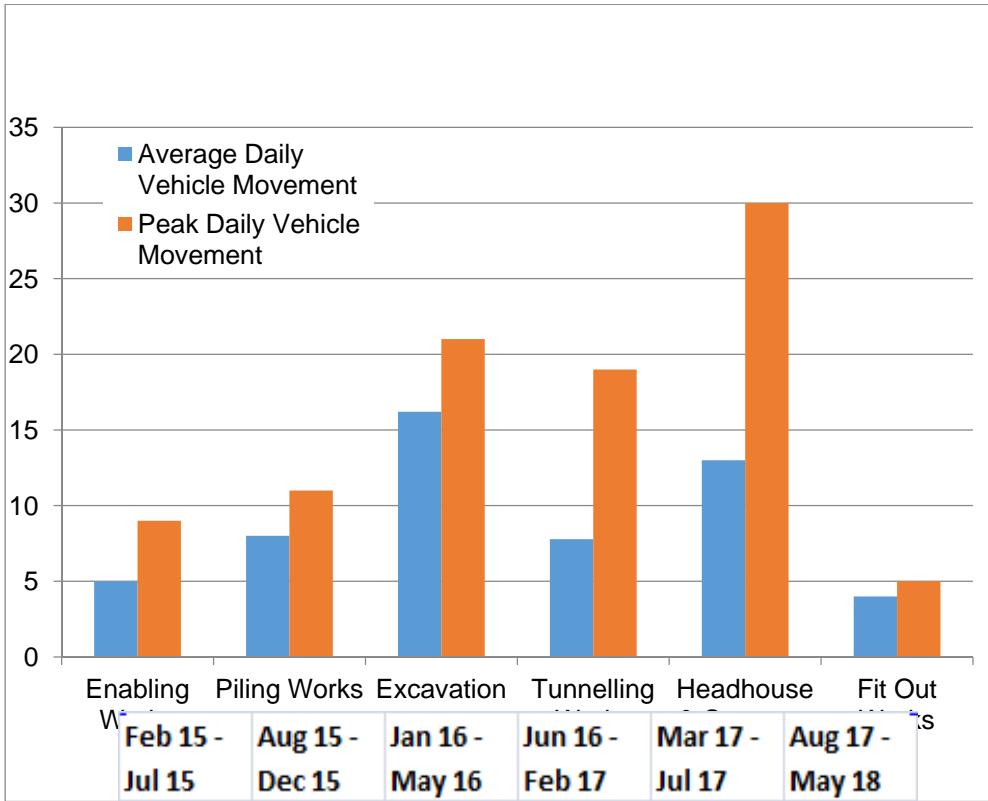
**Appendix E Estimated Peak and Average Daily Vehicle Movement
Battersea**



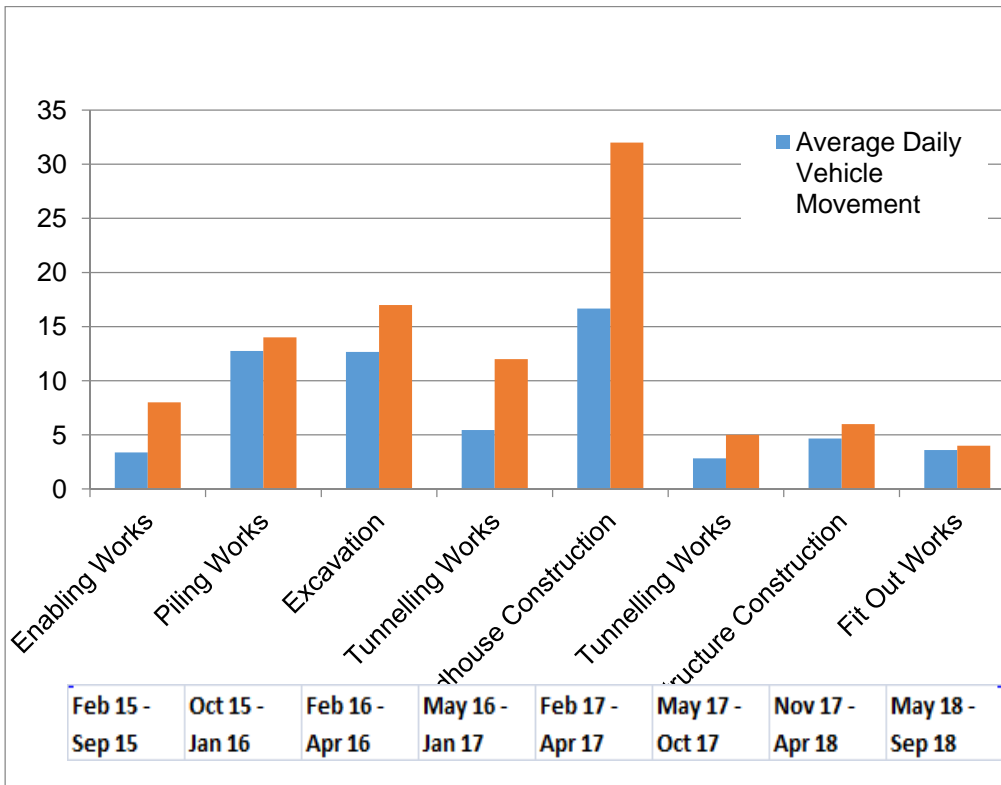
Nine Elms



Kennington Green



Kennington Park

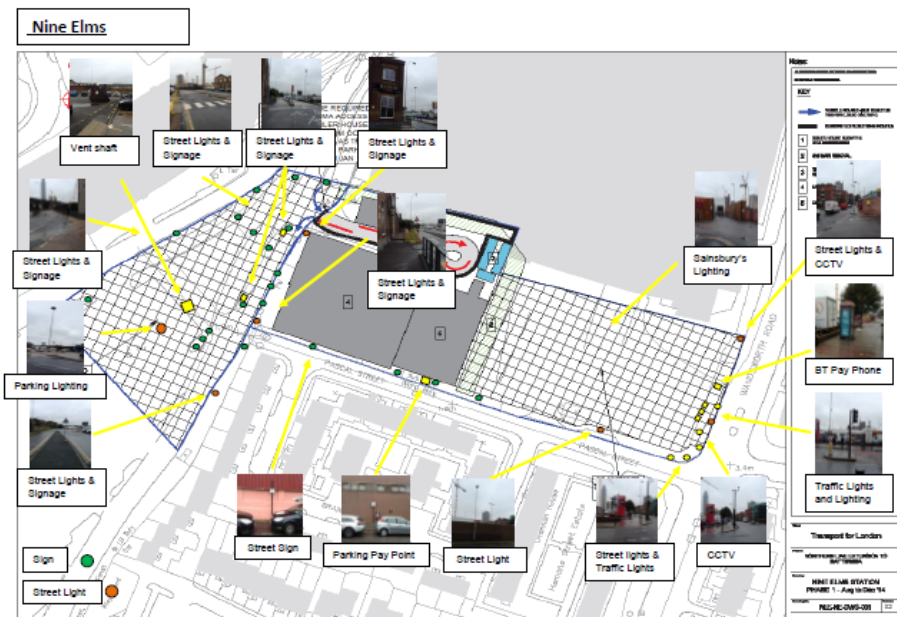
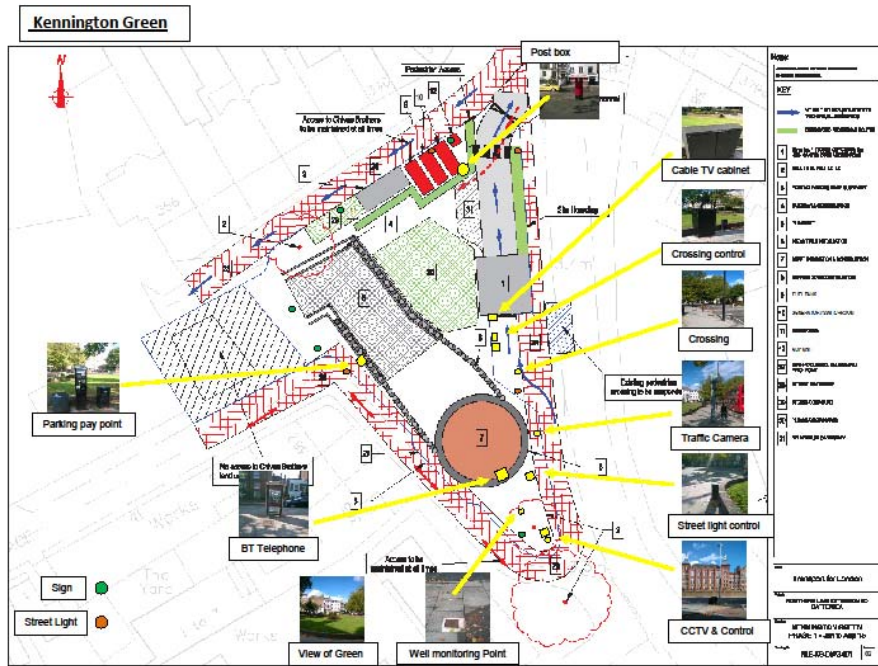


Vehicle Origins and Destinations

Material Type	Origin	Destination	Quantity	Units	Transport mode	Movements/w eek*
Excavation - Clean		Ingrebourne Valley	177,391 m ³		road	474
Excavation - Hazardous		Redhill	28,474 m ³		road	320
Concrete	Battersea		175,092 m ³		road	350
Rebar Piling	Barking		6,800 tonnes		road	18
Rebar Structural	Cardiff		8,033 tonnes		road	31
Formwork	St Neots		57,117 m ²		road	5
Accommodation	Wincham				road	40
Segments	Derby		3,288 nos.		road	300
Temporary Steel	Bolton		801 tonnes		road	10
Rails	Ruislip		704 tonnes		road	10
Heavy Plant	Doncaster				road	50
Small Plant	Erith				road	50
Waste		Enfield			road	30
Demolition / Steel		London			road	20
Timber / Plywood	Maldstone				road	20
Precast	Worksop		23,517 nos.		road	38
MEP	Oldbury				road	31

* Peak Movements / Week

Appendix F Street Furniture



Street Furniture study for Battersea & Kennington Park to be added when surveyed

Appendix G Vehicle ID

UNDERGROUND

fio **NLE**

ferrovial
agroman

LANG O'ROURKE

NORTHERN LINE EXTENSION

SAFETY NOTICE
Please note that when fitting any vehicle sign or sticker it must not interfere with the driver's view of the road at any time.
For general guidance the Contractor should consult the VOSA Heavy Goods Vehicle Inspection Manual 2012, Section 23 - Glass and View of the Road.

INSTRUCTIONS
Please print this sign onto
160gsm copier card.
Fold this section back along
the dotted line and place on the
dashboard with this section at the
bottom.

SAFETY NOTICE
Please note that when fitting any vehicle sign or sticker it must not interfere with
the driver's view of the road at any time.
For general guidance the Contractor should consult the VOSA Heavy Goods
Vehicle Inspection Manual 2012, Section 23 - Glass and View of the Road.

- *Delivery Vehicle ID is required to be displayed by vehicles when carrying out deliveries and collections for NLE*
- *Displayed ID is required for audit purposes on roads in caveat NOT to be used when arriving or leaving NLE worksites*
- *The ID is required to be displayed within M 25.*

Appendix H

Metropolitan Police Abnormal Load, Road Restrictions.



Working together for a safer London

CENTRAL OPERATIONS

Abnormal Loads Unit
Palestra
2nd Floor
197 Blackfriars
London
SE1 8NJ

Telephone: 020 3054 2146
Email: Abloads@met.police.uk
www.met.police.uk

Change to Abnormal Load Restrictions suspended

IMPORTANT
Date: 27/08/2014

You may be aware of proposed changes to the times abnormal loads are authorized to move within London were due to come into operation as of 1st September 2014.

Until further notice the proposed change to abnormal load restrictions have been suspended to allow further consultation with local authorities and the haulage industry.

The Metropolitan Police will continue to enforce the current Abnormal Load restrictions

Be aware that NO MOVEMENT of abnormal loads are permitted within the Metropolitan Police area between the following times;

Monday to Friday - 07:00 - 10:00 and 16:30 - 19:00 (Rush Hour)

Saturday - 10:00 - 19:00

Additionally if any part of the route falls within **3 miles of Charing Cross Station** or Any abnormal load movements which exceeds:

Length: 26mtrs (85'0")

Width: 3.82mtrs (12'6")

Weight: 100 Tons

are also NOT permitted to travel between the following times:

Monday to Friday - 07:00 - 19:00

Saturday - 10:00 - 19:00

No restrictions are currently in place on movements taking place on a Sunday or bank holidays.

M25 Movements

We **advise** hauliers to avoid travelling during peak hours

Monday to Saturday 06:00- 10:00 and 15:00 - 19:00 (Rush Hour)



EXISTING

NOTES

Safety zone provided at works locations

All signing to be in accordance with Chapter 8 tables A1.2

Size & spacing of cones & rates of taper to Chapter 8 table A1.3

Existing signs in conflict with this scheme to be covered/dropped.

Works access/exit locations to be agreed on site.



Project NORTHERN LINE EXTENSION	Drawn Steve Harrop	Approved
Contract No 1777	Checked	Date 17.12.2014
Title TRAFFIC MANAGEMENT KENNINGTON GREEN EXISTING COMPOUND AREA	Scale 1:500	Drawing No 1777/02
CONEMASTERS LIMITED ST HILARY WORKSHOPS TAIR ONEN COWBRIDGE VALE OF GLAMORGAN CF71 7AU	 FAX 01446 781813 TEL 01446 781715	

NOTES

Safety zone provided at works locations

All signing to be in accordance with Chapter 8 tables A1.2

Size & spacing of cones & rates of taper to Chapter 8 table A1.3

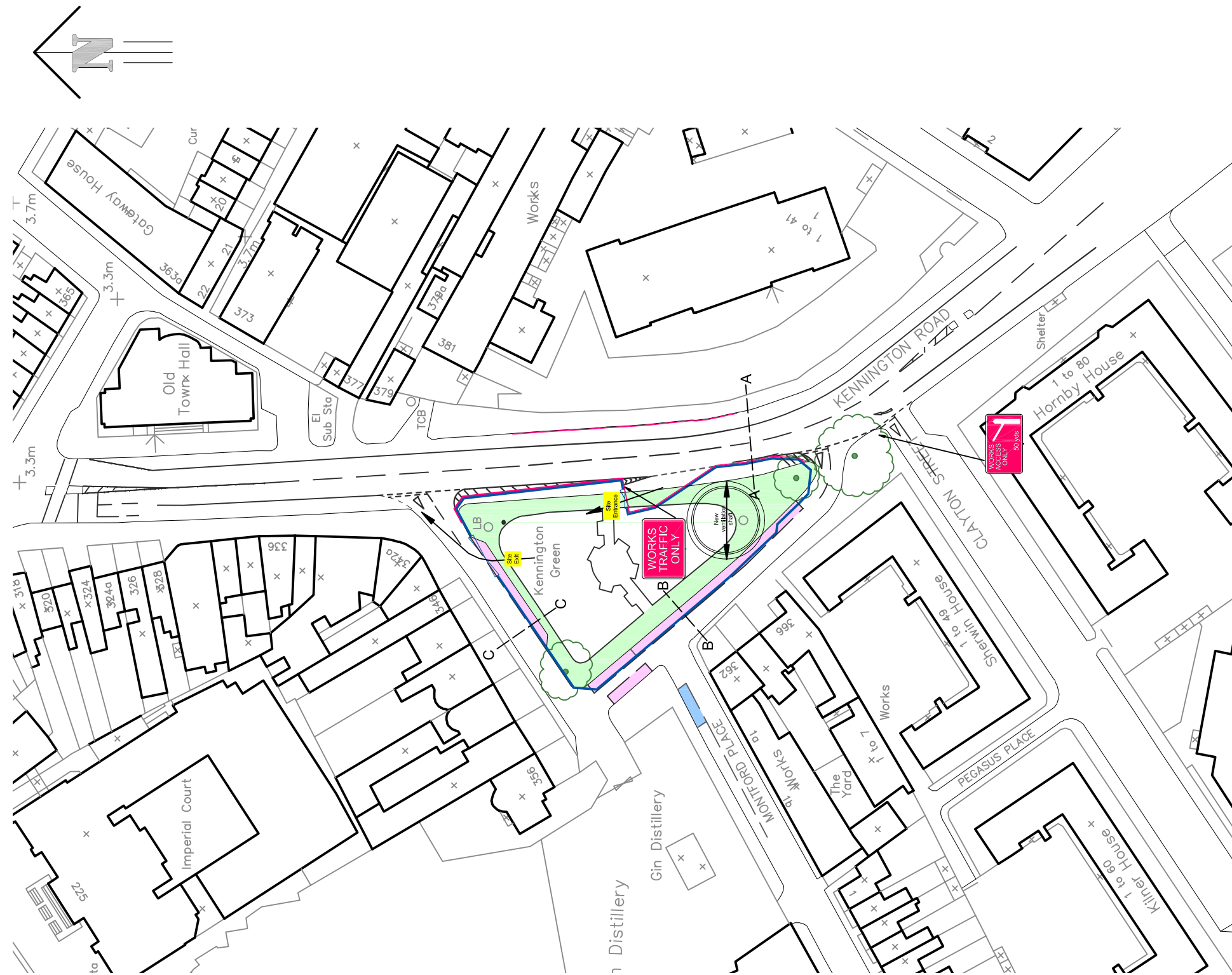
Existing signs in conflict with this scheme to be covered/dropped.

Works access/exit locations to be agreed on site.

Signs fixed to existing street furniture where possible with Highway Authority approval.

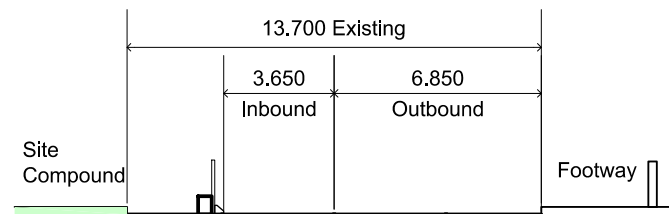
KEY

- Footway closed
- Pedestrian diversion route
- Parking suspended
- New parking spaces
- Proposed site hoarding



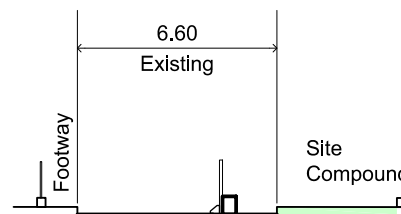
PROPOSED Phase 1

June 2015 - August 2015



Section A - A

1:250



Section B - B


1:250



Section C - C

1:250

C 22.01.2015 DATES ADDED
B 15.01.2015 SHEET REORIENTED; SECTIONS ADDED
A 05.01.2015 ISLANDS AT LIGHT CONTROLLED CROSSING REMOVED

Project NORTHERN LINE EXTENSION	Drawn Steve Harrop	Approved
Contract No 1777	Checked	Date 17.12.2014
Title TRAFFIC MANAGEMENT KENNINGTON GREEN PROPOSED COMPOUND PHASE 1	Scale 1:1000	Drawing No 1777/02 C
CONEMASTERS LIMITED ST HILARY WORKSHOPS TAIR ONEN COWBRIDGE VALE OF GLAMORGAN CF71 7AU		 CONEMASTERS LIMITED FAX 01446 781813 TEL 01446 781715

NOTES

Safety zone provided at works locations

All signing to be in accordance with Chapter 8 tables A1.2

Size & spacing of cones & rates of taper to Chapter 8 table A1.3

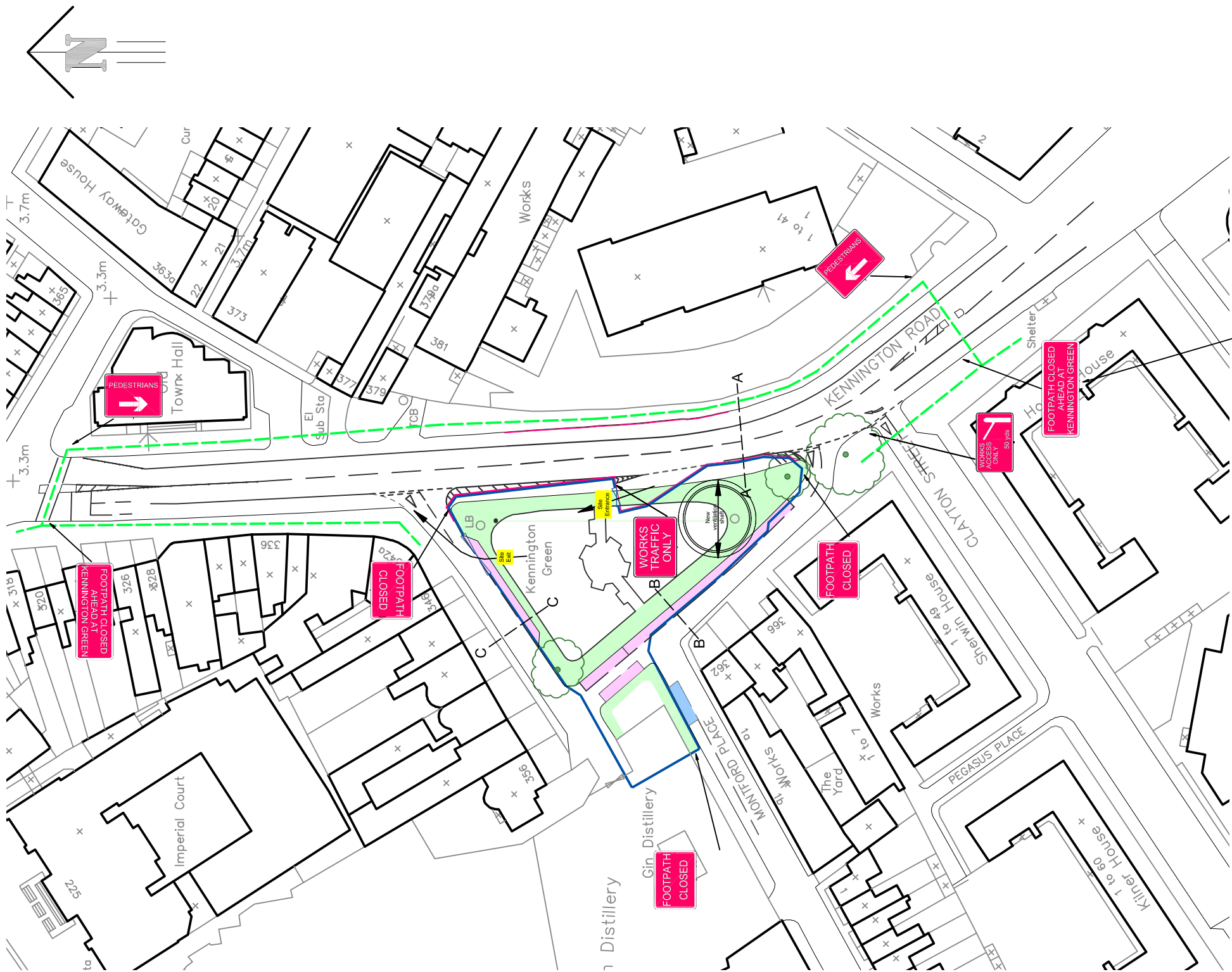
Existing signs in conflict with this scheme to be covered/dropped.

Works access/exit locations to be agreed on site.

Signs fixed to existing street furniture where possible with Highway Authority approval.

- KEY**
- Footway closed
 - Pedestrian diversion route
 - Parking suspended
 - New parking spaces
 - Proposed site hoarding

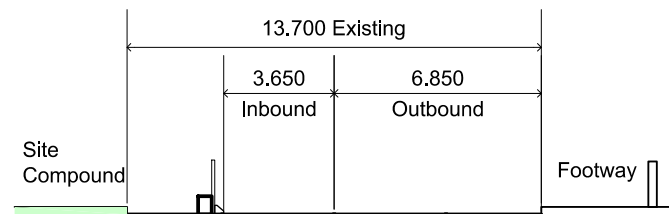
This sign repeated at the junction of Kennington Park Road & Kennington Road



PROPOSED

Phase 2

September 2015 - March 2018



Section A - A
1:250



Section B - B
1:250



Section C - C
1:250

A 22.01.2015 REVISED FOLLOWING TFL MEETING, DATES ADDED		
Project NORTHERN LINE EXTENSION	Drawn Steve Harrop	Approved
Contract No 1777	Checked	Date 16.01.2015
Title TRAFFIC MANAGEMENT KENNINGTON GREEN PROPOSED COMPOUND PHASE 2	Scale 1:1000	Drawing No 1777/11 A
CONEMASTERS LIMITED ST HILARY WORKSHOPS TAIR ONEN COWBRIDGE VALE OF GLAMORGAN CF71 7AU		 CONEMASTERS LIMITED FAX 01446 781813 TEL 01446 781715



EXISTING

NOTES

Safety zone provided at works locations

All signing to be in accordance with Chapter 8 tables A1.2

Size & spacing of cones & rates of taper to be in accordance with Chapter 8 table A1.3

Existing signs in conflict with this scheme to be covered/dropped.

Works access/exit locations to be agreed on site.



Project NORTHERN LINE EXTENSION	Drawn Steve Harrop	Approved
Contract No 1777	Checked	Date 19.12.2014
Title TRAFFIC MANAGEMENT KENNINGTON PARK COMPOUND AREA	Scale 1:1000	Drawing No 1777/05
CONEMASTERS LIMITED ST HILARY WORKSHOPS TAIR ONEN COWBRIDGE VALE OF GLAMORGAN CF71 7AU	 FAX 01446 781813 TEL 01446 781715	

NOTES

Safety zone provided at works locations

All signing to be in accordance with Chapter 8 tables A1.2

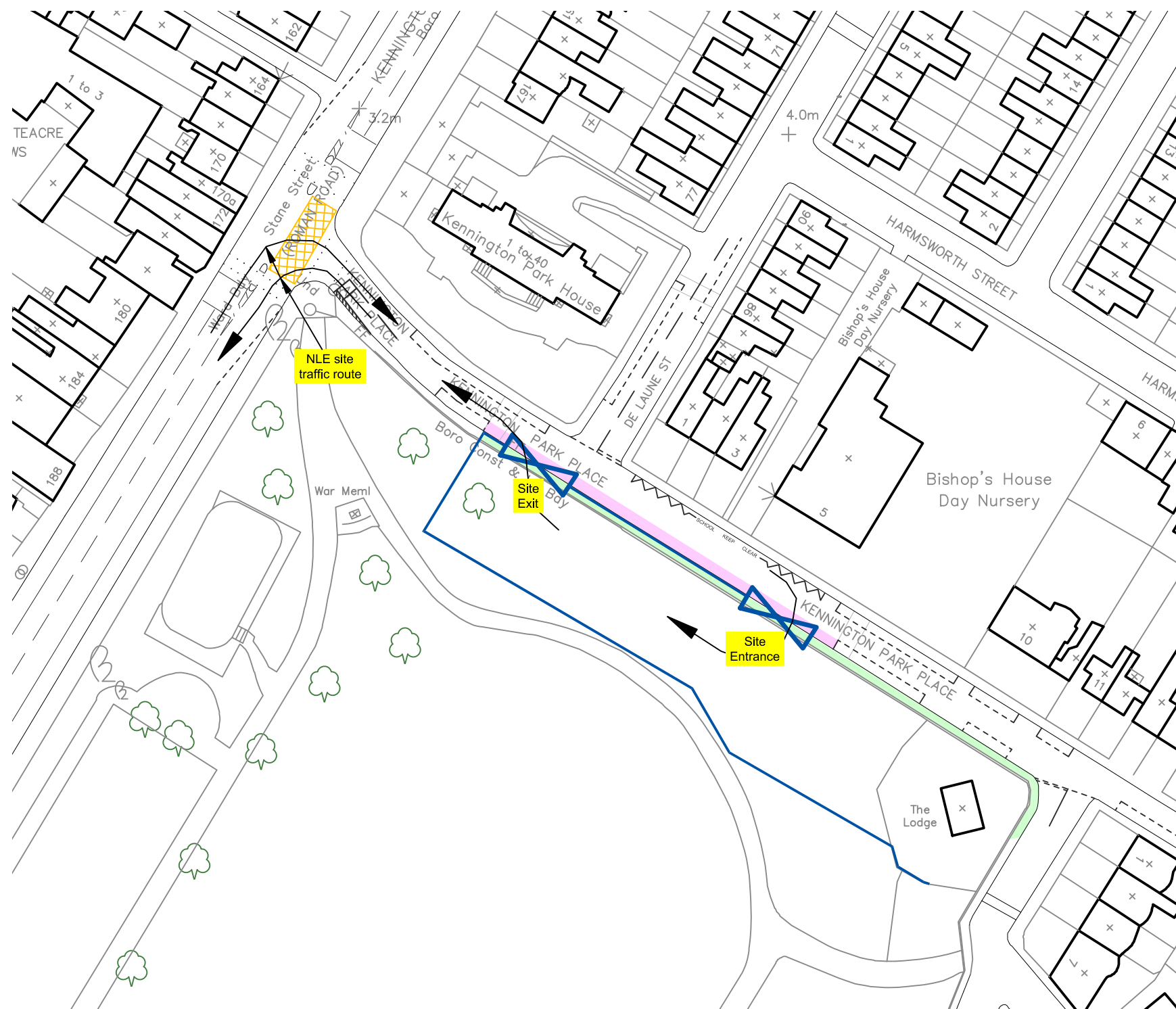
Size & spacing of cones & rates of taper to Chapter 8 table A1.3

Existing signs in conflict with this scheme to be covered/dropped.

Works access/exit locations to be agreed on site.

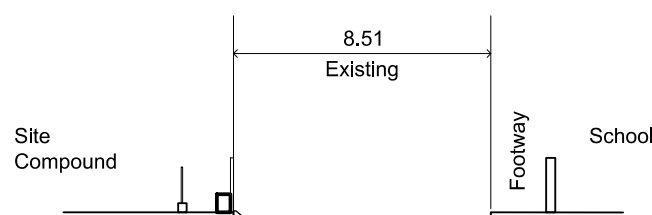
Signs fixed to existing street furniture where possible with Highway Authority approval.

- KEY**
- Footway closed
 - Pedestrian diversion route
 - Parking suspended
 - Proposed site hoarding



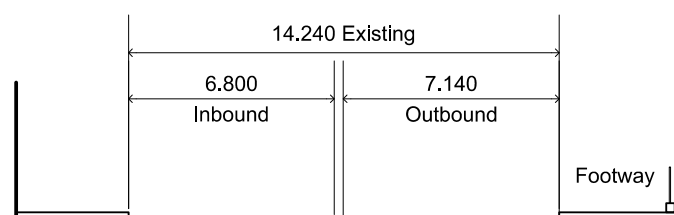
PROPOSED

August 2015 - April 2018



Section A - A


1:250

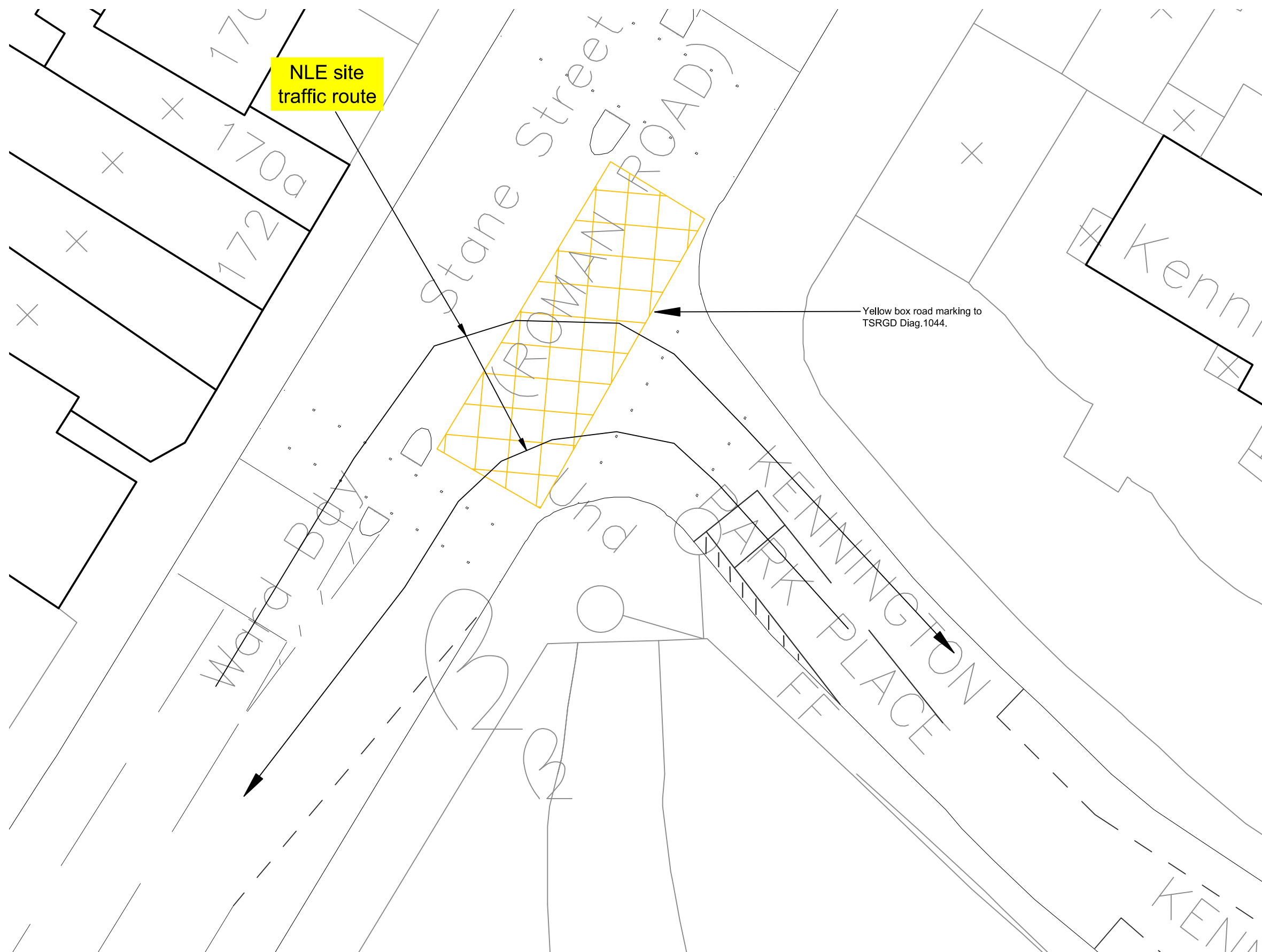


Section B - B

1:250

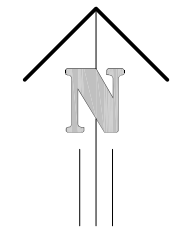
B 22.01.2015 DATES ADDED
A 14.01.2015 REVISED FOLLOWING TIL MEETING; SECTIONS ADDED

Project NORTHERN LINE EXTENSION	Drawn Steve Harrop	Approved
Contract No 1777	Checked	Date 19.12.2014
Title TRAFFIC MANAGEMENT KENNINGTON PARK PROPOSED COMPOUND AREA	Scale 1:1000	Drawing No 1777/06 B
CONEMASTERS LIMITED ST HILARY WORKSHOPS TAIR ONEN COWBRIDGE VALE OF GLAMORGAN CF71 7AU		 CONEMASTERS LIMITED FAX 01446 781813 TEL 01446 781715

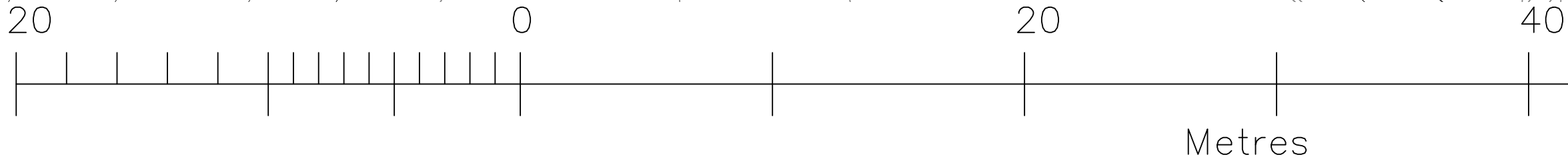


NLE site traffic route

Yellow box road marking to TSRGD Diag.1044.

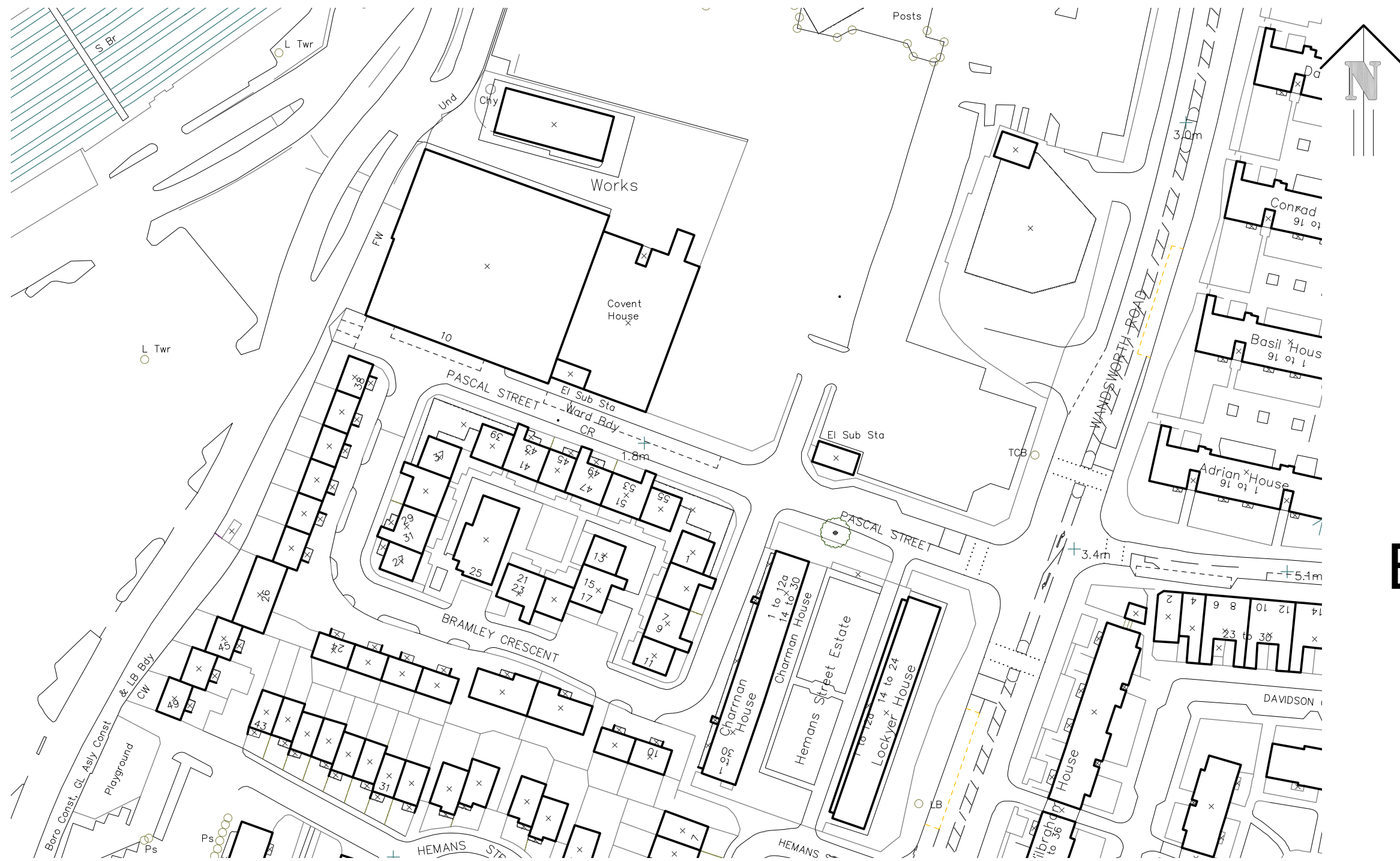


February 2015 - April 2018



B 22.01.2015 DATES ADDED
A 19.01.2015 PROPOSED NEW ROAD MARKINGS SHOWN ON KENNINGTON PARK PLACE

Project NORTHERN LINE EXTENSION		Drawn Steve Harrop	Approved
Contract No 1777		Checked	Date 15.01.2015
Title TRAFFIC MANAGEMENT TWAO KENNINGTON PARK ROAD BOX JUNCTION		Scale 1:200	Drawing No 1777/10 B
CONEMASTERS LIMITED ST HILARY WORKSHOPS TAIR ONEN COWBRIDGE VALE OF GLAMORGAN CF71 7AU			



EXISTING

NOTES

Safety zone provided at works locations

All signing to be in accordance with Chapter 8 tables A1.2

Size & spacing of cones & rates of taper to be in accordance with Chapter 8 table A1.3

Existing signs in conflict with this scheme to be covered/dropped.

Works access/exit locations to be agreed on site.



Project NORTHERN LINE EXTENSION	Drawn Steve Harrop	Approved
Contract No 1777	Checked	Date 18.12.2014
Title TRAFFIC MANAGEMENT NINE ELMS EXISTING COMPOUND AREA	Scale 1:1000	Drawing No 1777/02
CONEMASTERS LIMITED ST HILARY WORKSHOPS TAIR ONEN COWBRIDGE VALE OF GLAMORGAN CF71 7AU		 CONEMASTERS LIMITED FAX 01446 781813 TEL 01446 781715

NOTES

Safety zone provided at works locations

All signing to be in accordance with Chapter 8 tables A1.2

Size & spacing of cones & rates of taper to Chapter 8 table A1.3

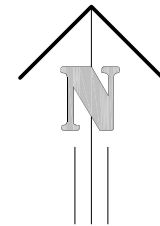
Existing signs in conflict with this scheme to be covered/dropped.

Works access/exit locations to be agreed on site.

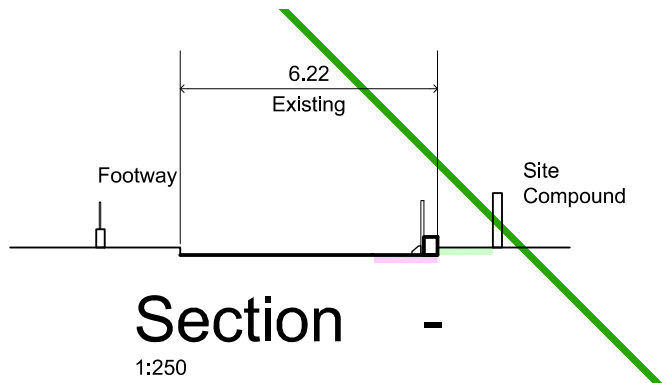
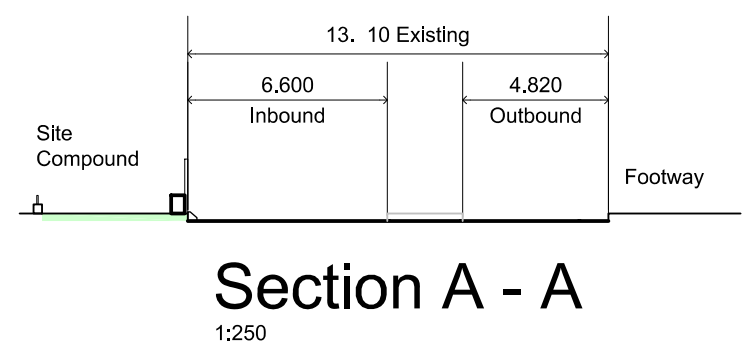
Signs fixed to existing street furniture where possible with Highway Authority approval.



KEY

- Footway closed
- Pedestrian diversion route
- Parking suspended
- Proposed site hoarding



PROPOSED
April 2015 - January 2019



B 22.01.2015 DATES ADDED A 14.01.2015 REVISED FOLLOWING TIL MEETING; SECTIONS ADDED		
Project NORTHERN LINE EXTENSION	Drawn Steve Harrop	Approved
Contract No 1777	Checked	Date 18.12.2014
Title TRAFFIC MANAGEMENT NINE ELMS PROPOSED COMPOUND AREA	Scale 1:1000	Drawing No 1777/04 A
CONEMASTERS LIMITED ST HILARY WORKSHOPS TAIR ONEN COWBRIDGE VALE OF GLAMORGAN CF71 7AU		  FAX 01446 781813 TEL 01446 781715

NOTES

Safety zone provided at works locations

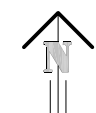
All signing to be in accordance with Chapter 8 tables A1.2

Size & spacing of cones & rates of taper to Chapter 8 table A1.3

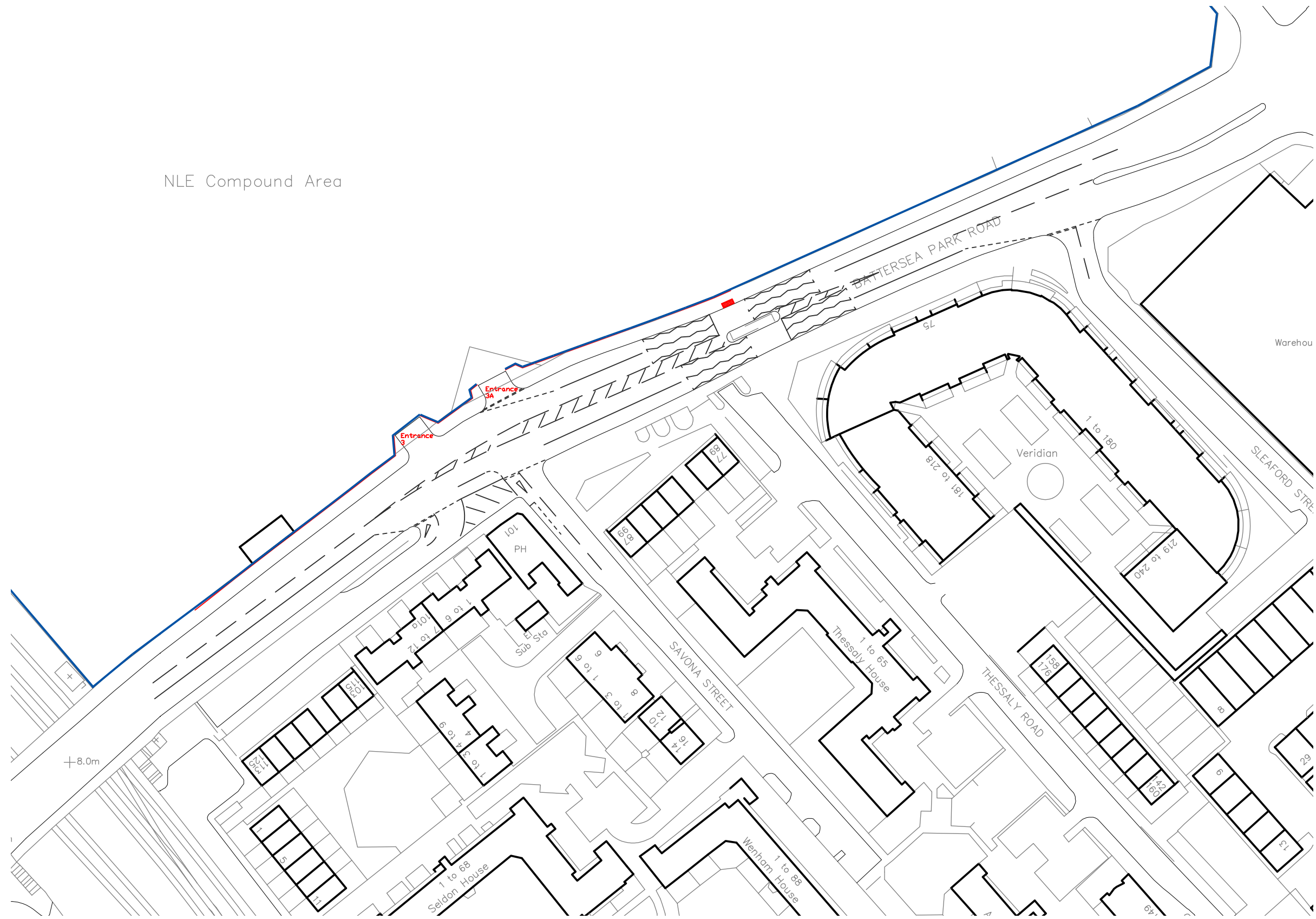
Existing signs in conflict with this scheme to be covered/dropped.

Works access/exit locations to be agreed on site.

Signs fixed to existing street furniture where possible with Highway Authority approval.




NLE Compound Area



KEY
——— Site hoarding

Existing

PRELIMINARY

Project NORTHERN LINE EXTENSION	Drawn Steve Harrop	Approved
Contract No 1777	Checked	Date 13.01.2015
Title TRAFFIC MANAGEMENT BATTERSEA PARK ROAD EXISTING COMPOUND ACCESS/EXIT	Scale 1:1000	Drawing No 1777/09
CONEMASTERS LIMITED ST HILARY WORKSHOPS TAIR-ONEN COWBRIDGE VALE OF GLAMORGAN CF71 7AU TEL 01446 781715		 CONEMASTERS LIMITED

NOTES

Safety zone provided at works locations

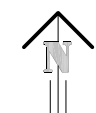
All signing to be in accordance with Chapter 8 tables A1.2

Size & spacing of cones & rates of taper to Chapter 8 table A1.3

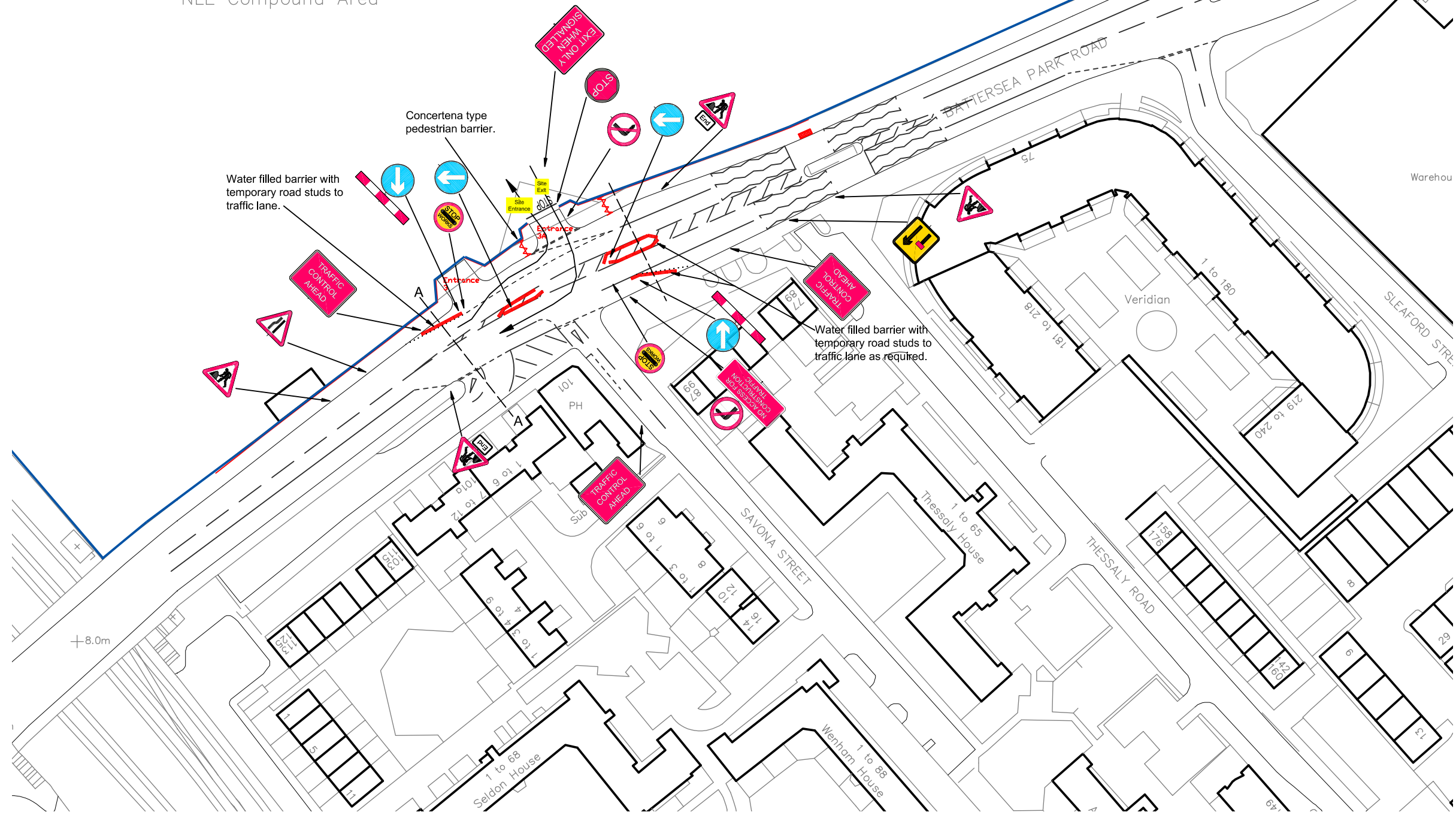
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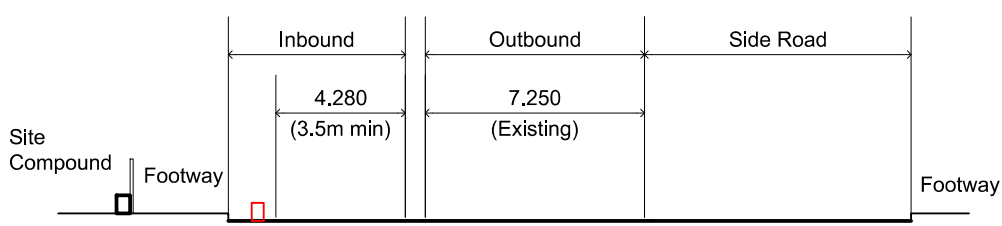


NLE Compound Area

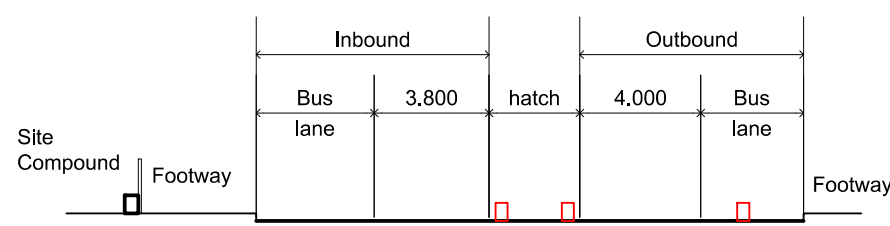


KEY
 Site hoarding

PROPOSED
 Left-in Right-out
 April 2015 - September 2015



Section A - A



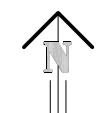
Section -

B 22.01.2015 DATES ADDED
 A 13.01.2015 REVISED FOLLOWING TIL MEETING

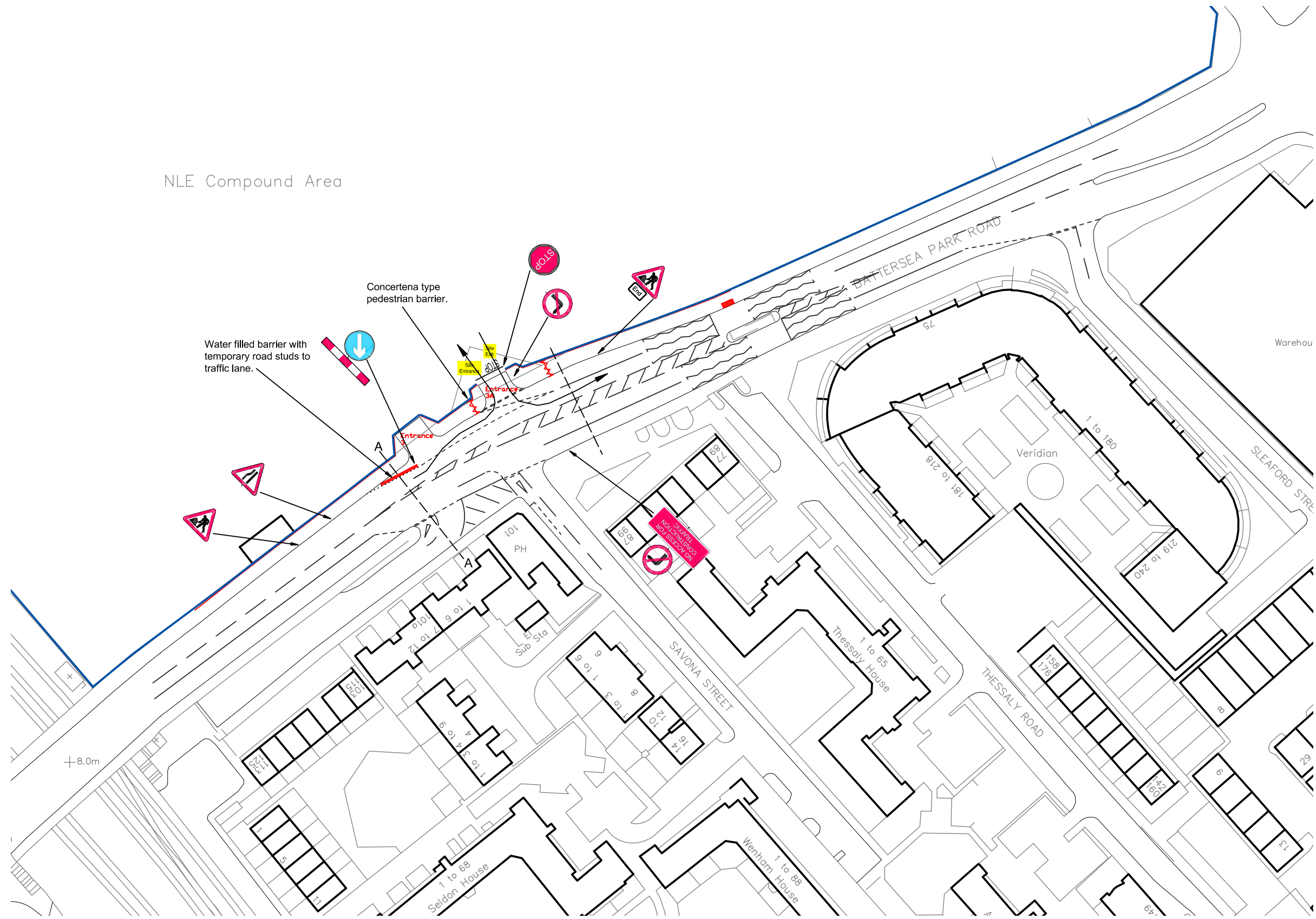
Project NORTHERN LINE EXTENSION	Drawn Steve Harrop	Approved
Contract No 1777	Checked	Date 09.01.2015
Title TRAFFIC MANAGEMENT BATTERSEA PARK ROAD PROPOSED COMPOUND ACCESS/EXIT LEFT-IN RIGHT-OUT	Scale 1:1000	Drawing No 1777/08 B
CONEMASTERS LIMITED ST HILARY WORKSHOPS TAIR-ONEN COWBRIDGE VALE OF GLAMORGAN CF71 7AU		
TEL 01446 781715		

NOTES

- Safety zone provided at works locations
- All signing to be in accordance with Chapter 8 tables A1.2
- Size & spacing of cones & rates of taper to Chapter 8 table A1.3
- Existing signs in conflict with this scheme to be covered/dropped.
- Works access/exit locations to be agreed on site.
- Signs fixed to existing street furniture where possible with Highway Authority approval.



NLE Compound Area

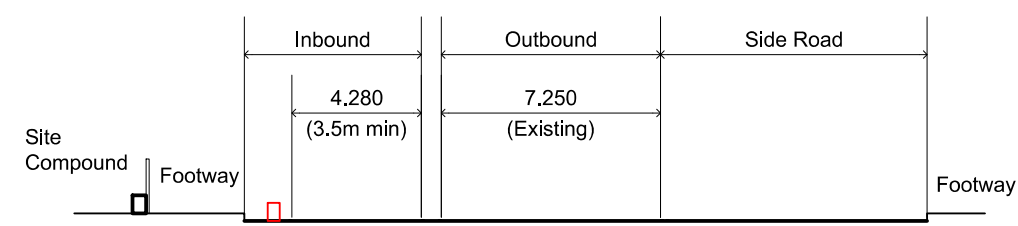


KEY
— Site hoarding

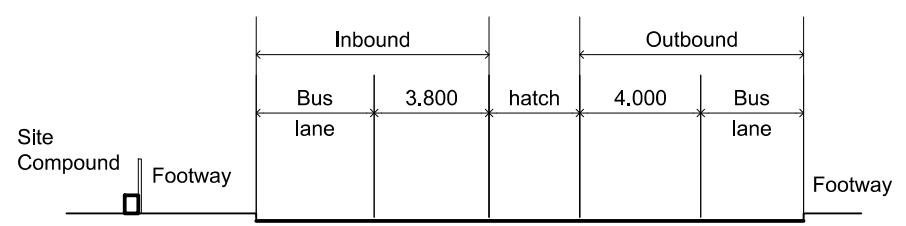
ALTERNATIVE PROPOSAL

Left-in Left-out

August 2015 - September 2015

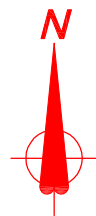


Section A - A



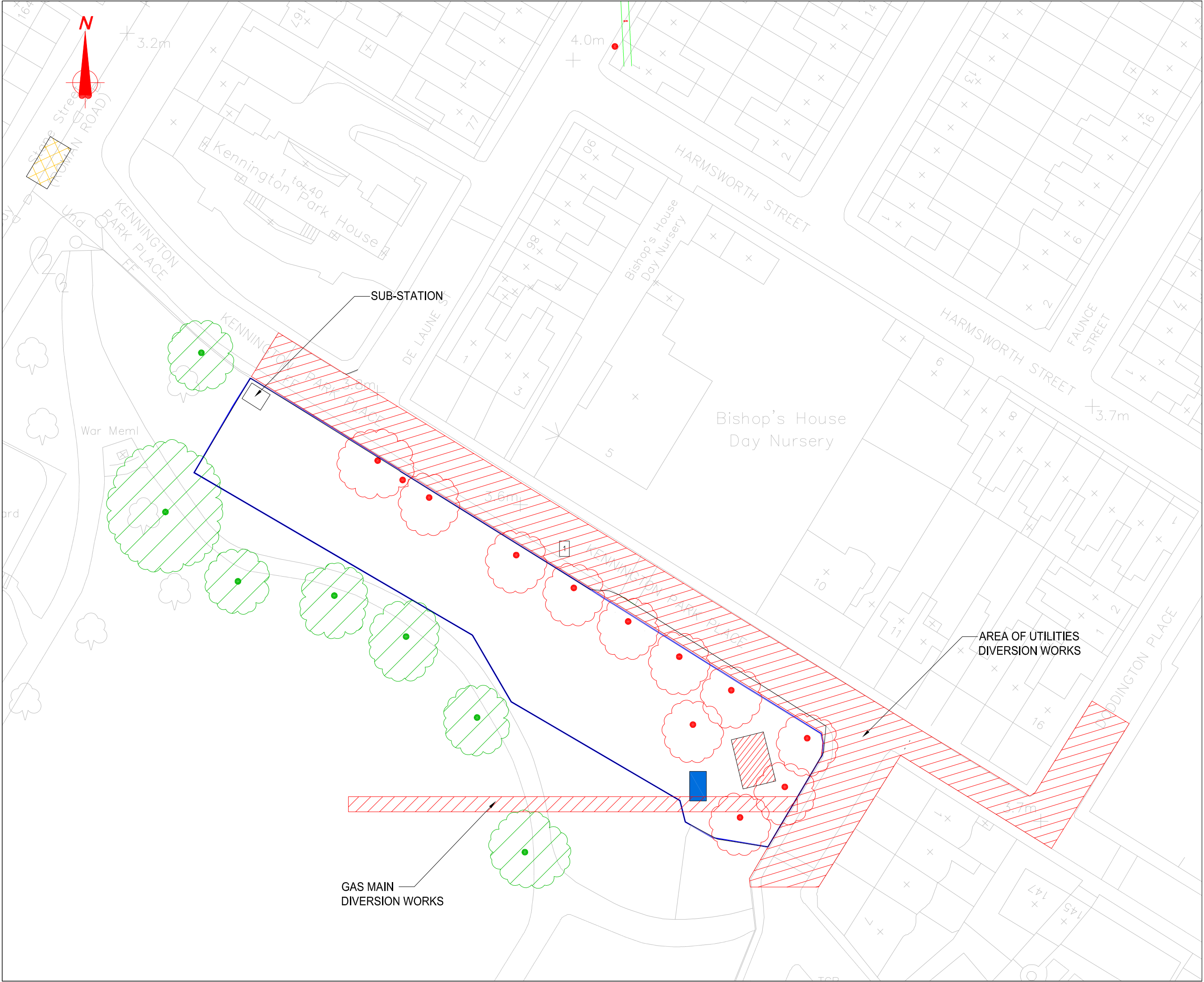
Section -

A 22.01.2015 DATES ADDED		
Project NORTHERN LINE EXTENSION	Drawn Steve Harrop	Approved
Contract No 1777	Checked	Date 16.01.2015
Title TRAFFIC MANAGEMENT BATTERSEA PARK ROAD PROPOSED COMPOUND ACCESS/EXIT LEFT-IN LEFT-OUT	Scale 1:1000	Drawing No 1777/12 A
CONEMASTERS LIMITED ST HILARY WORKSHOPS TAIR-ONEN COWBRIDGE VALE OF GLAMORGAN CF71 7AU TEL 01446 781715		 CONEMASTERS LIMITED



1
Offices & welfare facilities
located in Montford Place





SUB-STATION

AREA OF UTILITIES
DIVERSION WORKS

GAS MAIN
DIVERSION WORKS

War Meml

Bishop's House
Day Nursery

Kennington Park House
1 to 40

KENNINGTON
PARK PLACE

HARMSWORTH STREET

HARMSWORTH STREET

DODDINGTON PLACE

DE LAUNE ST

FAUNCE
STREET

3.2m

4.0m

3.8m

3.6m

3.7m

3.7m

164

167

77

14

13

16

96

98

5

6

8

10

11

16

1

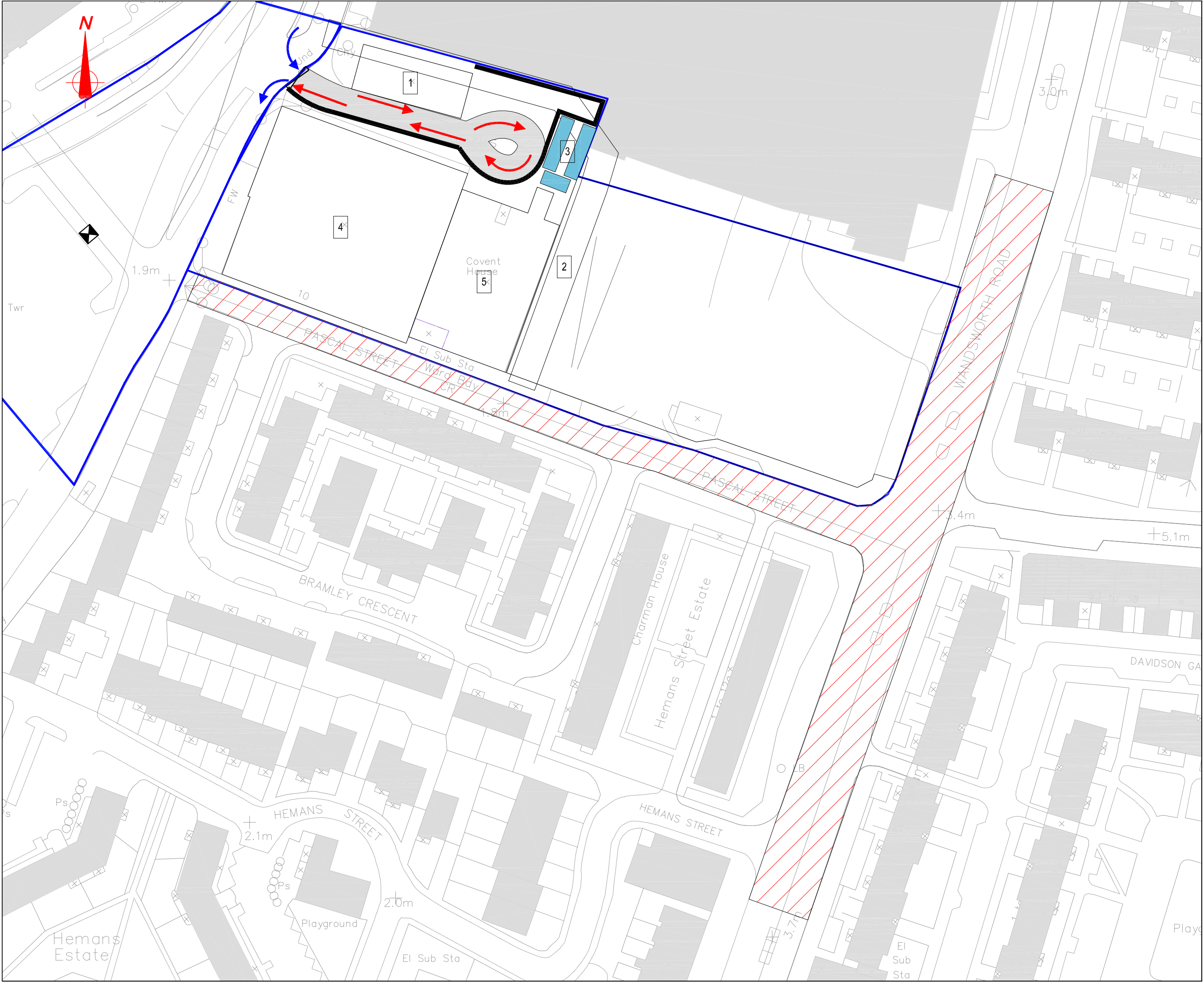
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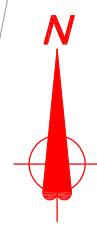
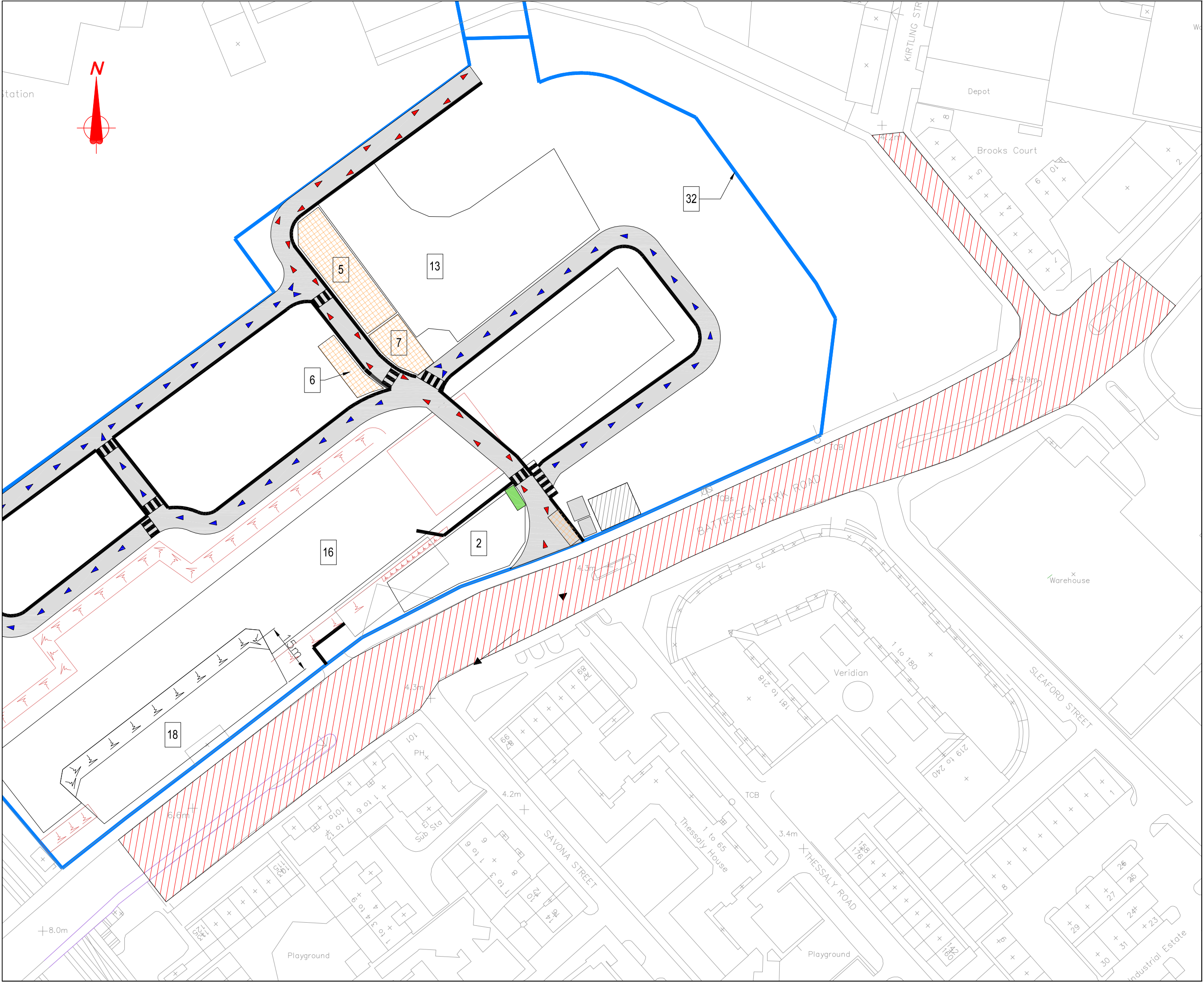
145

147

ard

TCB





station

Depot

Brooks Court

Warehouse

Veridian

Thessaly House

Industrial Estate

Playground

Playground

18

16

2

13

5

7

6

32

+8.0m

6.6m

4.3m

4.2m

3.4m

4.3m

+3.9m

+4.4m

SAVONA STREET

THESSALY ROAD

SLEAFORD STREET

BATTERSEA PARK ROAD

KIRTLING STR