Thames Tideway Tunnel
Thames Water Utilities Limited

Application for Development Consent

Application Reference Number: WWO10001

Transport Assessment

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Falconbrook Pumping Station

Main Report

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Thames Tideway Tunnel

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Thames Tideway Tunnel

Transport Assessment

Section 11: Falconbrook Pumping Station

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11.1 Introduction

11.1.1 This site specific *Transport Assessment (TA)* presents the findings of the assessment of the transport issues of the Thames Tideway Tunnel project at the Falconbrook Pumping Station site located within the London Borough (LB) of Wandsworth.

11.1.2 The assessment takes into consideration the changes as a result of all other Thames Tideway Tunnel project sites to ensure that results indicate the significance of each individual site in combination with construction works being undertaken at other sites.

11.1.3 The purpose of this *TA* is to identify the site context, development proposals and any transport implications arising from these proposals to ensure that appropriate mitigation measures are identified, where necessary.

11.1.4 The *TA* draws on a number of project-wide or common documents which include the *Transport Strategy* and the *Code of Construction Practice (CoCP)*[i]. Further detail on these documents which form the background to the *TA* can be found in Section 1 of the *TA*.

11.1.5 The *TA* structure is as follows:

a. Section 11.2 includes a description of the proposed development, detailing construction phasing, vehicle and person trip generation and construction traffic routing and details of the operational phase.

b. Section 11.3 outlines the assessment methodology used for the *TA* for the construction and operational phases.

c. Section 11.4 details the baseline conditions transport network surrounding the site, including survey data analysis and accident analysis.

d. Section 11.5 provides the assessment of the construction phase of the project, including a comparison between the construction base case and the construction development case. This section also outlines sensitivity testing for the highway network.

e. Section 11.6 provides the assessment of the operational phase of the project.

f. Section 11.7 summarises the *TA* findings.

[i] The *Code of Construction Practice* (*CoCP*) is provided in Vol 1 Appendix A. It contains general requirements (*Part A*), and site specific requirements for this site (*Part B*).

11.2 Proposed development

11.2.1 The proposed development site is located on York Road (A3205) which encompasses the Falconbrook Pumping Station and disused toilet block to the south west. The site is bounded to the north by York Gardens Adventure Playground with playground facilities further to the north. York Gardens sits to the east and south of the site, with the York Gardens Library and Community Centre to the south. To the west of the site is York Road (A3205). The closest residential development lies approximately 45m to the east of the site.

11.2.2 The development at Falconbrook Pumping Station would link the existing Falconbrook Pumping Station combined sewer overflow (CSO) through a CSO drop shaft to a connection tunnel which would be driven from the shaft to the main tunnel. Figure 11.2.1 in the Falconbrook Pumping Station *Transport Assessment* figures indicates the Falconbrook Pumping Station site location.

Construction

11.2.3 The construction site would be located to the east of York Road (A3205) within the boundaries of the existing Thames Water Falconbrook Pumping Station in the LB of Wandsworth. Vehicle access to and from the site would take place from the southbound carriageway of York Road (A3205).

11.2.4 Construction at the Falconbrook Pumping Station site would provide a connection to Falconbrook Pumping Station CSO, with construction anticipated to last three years. There would be two phases of construction phase 1 - covering site set-up, shaft construction and tunnelling and phase 2 - construction of other structures. The access plan and highway layout during construction plan in the Falconbrook Pumping Station *Transport Assessment* figures present the highway layout during construction. This layout is the same for phases 1 and 2 of construction.

11.2.5 Stage 1 *Road Safety Audits* have been carried out on the illustrative highway layouts proposed for this site. The *Road Safety Audit* reports for this site are contained in Section 11 Appendix E.

11.2.6 During construction it is anticipated that pedestrian, cycle, bus and highway networks may be affected as a result of the additional construction traffic associated with Falconbrook Pumping Station and other construction sites with construction routes along York Road (A3205).

11.2.7 There would be two new gated site accesses located on the eastern side of York Road (A3205) to accommodate vehicles accessing and egressing the construction site. This would result in additional crossing points for pedestrians.

11.2.8 The pedestrian access to York Gardens from York Road (A3205) would be relocated to the south of its existing location and pedestrians would be diverted along the eastern boundary of the site before gaining access to the gardens. Signage would be provided for this diversion.

11.2.9 For a period of the construction period it will be necessary to drill a 1m diameter pipe through the footway between the proposed site accesses

into the connection tunnel. This would require the closure of the footway while this work is carried out. During this time pedestrians will be diverted onto the northern footway of York Road. Diversion to the north of the site would be at the signalised junction with Lombard Road and diversion to the south would be at the signalised junction with Plough Road.

11.2.10 It would be necessary to relocate an existing bus stop which is close to the site exit. The existing bus shelter would remain at its current location but the bus cage on the carriageway would be moved approximately 10m closer to the Plough Road junction.

11.2.11 To accommodate the new site exit onto York Road (A3205), 14 parking spaces including one disabled bay would need to be removed from the area in the vicinity of the York Gardens Library and Community Centre and the York Gardens Adventure playground.

11.2.12 The disabled bay would be relocated in the nearest convenient location but the remaining 13 spaces would not be capable of replacement in the immediate vicinity.

11.2.13 Parking for essential maintenance vehicles would be provided on site. There would be no on-site parking for workers.

11.2.14 Construction details for the site relevant to the construction *TA* are summarised in Table 11.2.1.

Table 11.2.1 Construction details

Description	Assumption
Assumed peak period of construction lorry movements	Site Year 1 of construction
Assumed average peak daily construction lorry vehicle movements (in peak month of Site Year 1 of construction)	36 movements per day (18 vehicle trips)
Types of lorry requiring access (comprising rigid-bodied, flatbed and articulated vehicles)	Office delivery lorries Temporary construction material lorries including Pipe/track/oils/greases lorries Plant and equipment lorries Readymix mixer lorries Steel reinforcement lorries Excavation lorries Imported fill lorries

Note: a movement is a construction vehicle moving either to or from the site. A Site Year is a 12 month period, one in a series of Site Years; Site Year 1 commences at the start of construction.

11.2.15 During construction it is anticipated that all materials would be transported to and from the site by road.

Construction routes

11.2.16 Figure 11.2.2 in the Falconbrook Pumping Station *Transport Assessment* figures shows the construction routes for Falconbrook Pumping Station.

11.2.17 The Falconbrook Pumping Station site is located on the Transport for London Road Network (TLRN) on York Road (A3205) approximately 100m north of the junction with Plough Road. The site is on the east side of the highway and would be accessed from the southbound lane on York Road (A3205).

11.2.18 The main junctions along the construction traffic routes in the vicinity of the site are:

11.2.19 York Road (A3205)/ Battersea Park Road (A3205)/Falcon Road

11.2.20 York Road (A3205)/Lombard Road

11.2.21 York Road (A3205)/Plough Road

11.2.22 York Road (A3205)/ Trinity Road (A214)/Wandsworth Bridge Road (A214) Swandon Way (A217)

11.2.23 During all phases at Falconbrook Pumping Station construction vehicles would use the TLRN. Vehicles would arrive and leave in the southbound direction.

11.2.24 Two new vehicle access points would be constructed off the York Road (A3205) carriageway. These would enable the site to be accessed directly and avoid the requirements for construction vehicles to utilise the residential roads located to the east of the site.

11.2.25 The site would operate on a 'left-turn in / left-turn out' only basis. Vehicles accessing the site would travel westbound on York Road (A3205) prior to turning left into the site, whilst vehicles exiting would turn left onto York Road (A3205). Construction traffic would not be permitted to turn right into or out of the site accesses.

11.2.26 Construction vehicles would not be permitted to cross the York Road (A3205) central reservation / vehicle refuge area when entering or leaving the site.

11.2.27 The primary route for vehicles accessing the site would be to utilise Trinity Road (A214), St John's Hill (A3036) and Latchmere Road (A3220). Vehicles would then travel west on Battersea Park Road (A3205) and York Road (A3205).

11.2.28 The primary route for vehicles exiting the site would be westbound along York Road (A3205) and southbound on Trinity Road (A214).

11.2.29 The construction routes have been discussed with both Transport for London (TfL) and the Local Highway Authority; LB of Wandsworth.

11.2.30 The exact routeing depends on the material origins and destinations which are detailed in the *Project-wide TA* (contained in Section 3).

Proposed construction flows

Construction vehicles

11.2.31 The proposed working hours are set out in the *CoCP* and vehicle movements would take place during the standard day shift of ten hours on weekdays (08:00 to 18:00) and limited working on Saturdays (between 08:00 and 13:00). It is only in exceptional circumstances that HGV and abnormal load movements could occur up to 22:00 on weekdays for large concrete pours and later at night on agreement with the LB of Wandsworth.

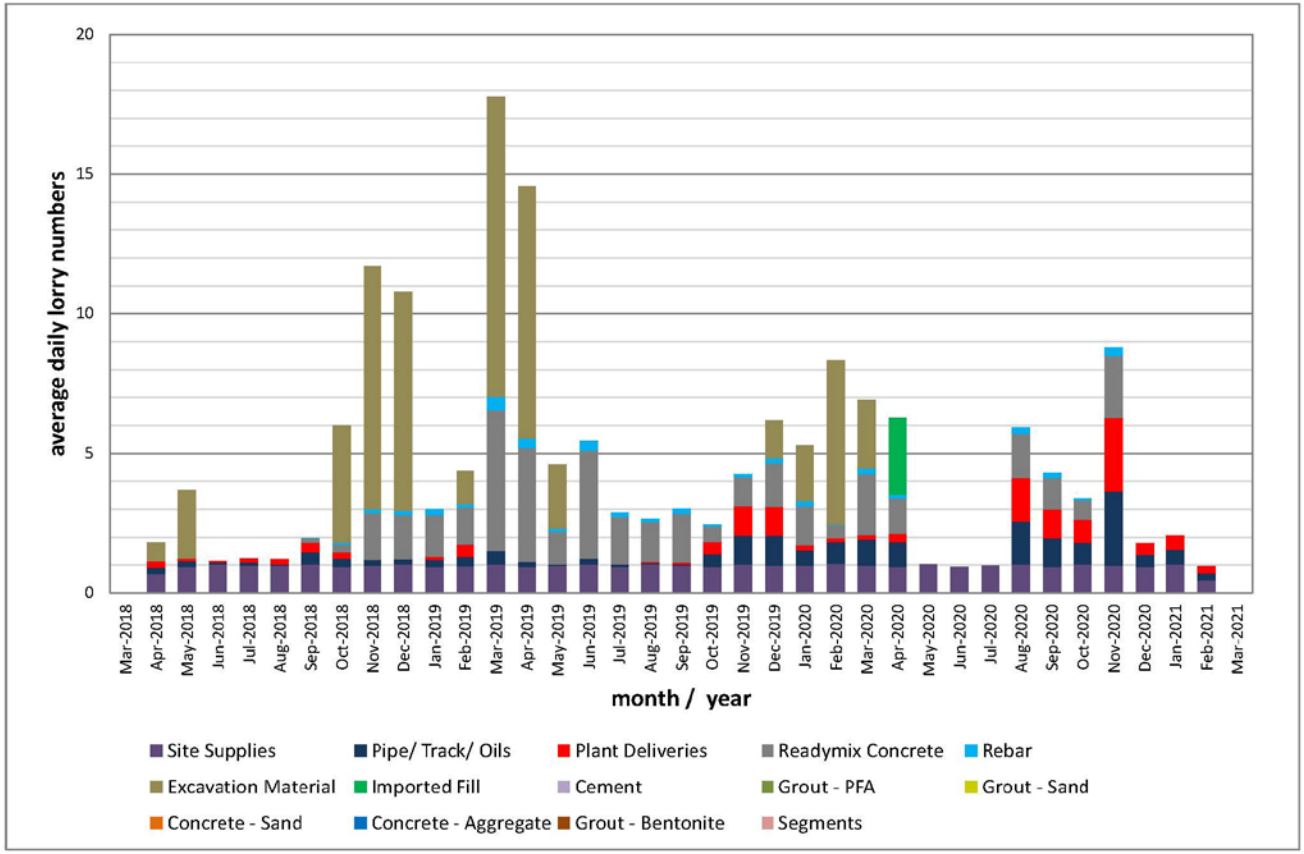
11.2.32 A site-specific peak construction assessment year has been identified. The histogram in Plate 11.2.1 shows that the peak site-specific activity at the Falconbrook Pumping Station site would occur in Site Year 1 of construction.

11.2.33 Construction details for the site relevant to the construction transport assessment are summarised in Table 11.2.1.

11.2.34 This *TA* assesses this site-specific peak construction year. As detailed in Table 11.2.1, there would be 36 assumed average peak daily construction lorry vehicle movements. The number of vehicular movements will vary throughout the construction period, and Plate 11.2.1 indicates the construction vehicle profile during construction.

11.2.35 The assessment is based on 10% of the daily number of lorry journeys occurring in the peak hours, which has been agreed with TfL as a reasonable approach. It is recognised that it may be desirable to reduce the number of construction lorry movements in peak hours and the mechanisms for addressing this would form part of the *Traffic Management Plans (TMPs)* which are required as part of the *CoCP*.

Plate 11.2.1 Estimated construction lorry profile



Note: Figure shows approximate volumes and number of vehicles based upon assumed timings for the works. It is not a programme and remains subject to change.

11.2.36 As indicated in Plate 11.2.1, the number of vehicular movements varies throughout the construction period with one month of 36 movements a day, one month with 30 HGV movements a day, seven months with between 12 to 22 HGV movements a day, eight months with between eight to 12 HGV movements a day and 18 months with less than eight movements a day during the three year build programme.

11.2.37 As the *Project-wide TA* explains, the TfL Highway Assignment Models (HAMs) used for the strategic highway modelling represent peak hours of 08:00 to 09:00 and 17:00 to 18:00 and these have been taken as being the network-wide AM and PM peak hours in the project-wide and site-specific assessments.

11.2.38 The 07:00 to 09:00 and 17:00 to 19:00 periods identified from the local traffic surveys are busier on the network in the weekday than those encountered at the weekends (this is discussed in Section 11.4). Whilst the AM and PM peak hours differ slightly from these network-wide peak hours, the assessment at this site has been based on a combination of the highest hourly number of movements for construction and worker vehicles in the periods between 07:00 to 09:00 and 17:00 to 19:00. These have been applied to the network-wide peak hours to take account of the highest number of movements that could be generated by the site in these periods.

11.2.39 Hourly construction vehicle trips during the inter-peak period are not expected to exceed the hourly trips assumed for the 08:00 to 09:00 and 17:00 to 18:00 periods used in this assessment and in practice, the peaks for each of these groups would not occur concurrently and therefore the assessment is considered to be reasonable. The peak travel periods used for the modelling in this assessment are therefore the weekday periods between 08:00 and 09:00 and 17:00 and 18:00

11.2.40 Other construction vehicle movements associated with site operations and contractor activities would be cars and light goods vehicles (LGVs). The construction worker vehicle movements expected to be generated by the Falconbrook Pumping Station site is shown in this section in Table 11.2.2.

Construction workers

11.2.41 The construction site is expected to require a maximum workforce of 40 workers on site at any one time. The number and type of workers is shown in Table 11.2.2.

Table 11.2.2 Maximum estimated construction worker numbers

Contractor		Client
Staff[a]	**Labour[b]**	**Staff[c]**
08:00-18:00	**08:00-18:00**	**08:00-18:00**
15	20	5

[a] *Staff Contractor – engineering and support staff to direct and project manage the engineering work on site.*
[b] *Labour – those working on site doing engineering, construction and manual work.*
[c] *Staff Client – engineering and support staff managing the project and supervising the Contractor*

11.2.42 The anticipated mode split of worker trips for the Falconbrook Pumping Station site has been generated based on 2001 Census[ii] data for journeys to workplaces within the vicinity of Falconbrook Pumping Station. The Census data indicates that the predominant mode of travel for journeys to work in this area is by public transport (44%) by bus, National Rail and London Underground) followed by car (40%).

11.2.43 At this site there would be no parking provided within the site boundary for workers and measures would be incorporated into site-specific *Travel Plan* requirements in order to minimise the number of workers travelling to and from the site by car. This accords with the overall aims and objectives of the *Project Framework Travel Plan*.

11.2.44 However, given that not all parking in the surrounding streets is subject to restrictions at all times and that spare capacity has been observed within the available on-street parking provision, this *TA* considers the effects that could arise if some workers were to travel by car and park in surrounding streets. This is to ensure a robust assessment of the likely effects.

11.2.45 The mode split outlined in Table 11.2.3 has been used to assess the impacts of worker journeys on the highway and public transport networks.

Table 11.2.3 Transport Mode Split

Mode	Percentage of trips to site	Equivalent number of worker trips (based on 40 worker trips)	
		AM peak hour	PM peak hour
Bus	10%	4	4
National Rail	25%	10	10
Underground	9%	4	4
Car driver	40%	16	16
Car passenger	2%	<1	<1
Cycle	3%	1	1
Walk	9%	4	4
River	0%	0	0
Other (taxi/motorcycle)	2%	<1	<1
Total	**100%**	**40**	**40**

[ii] Based on 2001 Census. This type of data had not been released from the 2011 Census at the time of the assessment.

11.2.46 Information regarding the travel arrangements of these workers would be included in the *Construction Management Plan* and *Workplace Travel Plan* documents for the Falconbrook Pumping Station site.

11.2.47 It is difficult to predict with certainty the directions to and from which workers at the site would travel. Staff could potentially be based in the local area or in the wider Greater London area and are unlikely to have the same trip origin-destination distributions as construction lorries.

Vehicle movements summary

11.2.48 The total anticipated number of construction-related vehicle movements in the peak month of activity at this site is set out in Table 11.2.4.

Table 11.2.4 Construction works movements

Vehicle type	Vehicle movements per time period				
	Total Daily	**0700 to 0800**	**0800 to 0900**	**1700 to 1800**	**1800 to 1900**
Construction lorry vehicle movements 10%[a]	36	0	4	4	0
Other construction vehicle movements[b]	26	0	3	3	0
Worker vehicle movements[c]	16	16	0	0	16
Total	**78**	**16**	**7**	**7**	**16**

[a] *The assessment is based on 10% of the daily construction lorry movements associated with materials taking place in each of the peak hours*
[b] *Other construction vehicle movements includes cars and light goods vehicles associated with site operations and contractor activity.*
[c] *Worker vehicle numbers based on 40% of workers travelling by car, derived by taking the highest number of workers during the peak month and calculating the % of trips using the 2001 Census Journey to Work data.*

11.2.49 To ensure a robust assessment, the assessment has been based on a combination of the peak hour of movements for construction and worker vehicle movements between 07:00 to 09:00 and 17:00 to19:00. These have been combined and applied to the peak hour to take into account the highest number of movements generated by the site. In reality, not all peaks for these movements would occur concurrently and the peak for worker trips would be outside of the highway network peak hour, therefore the assessment is considered to be robust.

11.2.50 Assuming that all construction material is transported by road an average peak flow of 78 vehicle movements a day is expected during the months of greatest activity during Site Year 1 of construction at this site. At other times in the construction period, vehicle flows would be lower than this average peak figure.

11.2.51

11.2.52 Table 11.2.4in Section 2 shows the vehicle movement assumptions for the local peak traffic periods based on the peak months of construction activity at this site.

11.2.53 The *Project-wide Transport Assessment* explains the method used to assign construction traffic to the HAMs, from which the likely changes in turning movements at local junctions have been identified and added to the construction base case flows.

11.2.54 The assignment of construction lorry trips has been undertaken using OmniTrans software, which enables a fixed assignment to be created for these trips in order to ensure that they are assigned only to the proposed construction routes. The OmniTrans outputs also identify lorry traffic which would be associated with the Falconbrook Pumping Station site, or with other Thames Tideway Tunnel project sites, that would use routes in the vicinity of the Falconbrook Pumping Station site. Figure 11.5.1 in the Falconbrook Pumping Station *Transport Assessment figures* shows the OmniTrans plot for the local road network around the Falconbrook Pumping Station site.

11.2.55 It is anticipated that along York Road (A3205) there would be an additional four two-way HGV movements per hour as a result of the construction at Falconbrook Pumping Station, plus three two-way HGV movements during the peak hour associated with other Thames Tideway Tunnel sites passing along York Road (A3205) during Site Year 1 of construction at the Falconbrook Pumping Station site. The effect of this on accidents and safety is deemed negligible. However, given that the site is directly accessed from the TLRN, with regards to accidents and safety the site is deemed to potentially be increased to having a moderately significant effect.

11.2.56 The local PICADY model has been used to apply the construction traffic demands and local geometrical changes to the construction base case to determine the changes in the highway network operation due to the project. This relates specifically to the introduction of the two new site accesses on York Road (A3205) during the construction period.

11.2.57 There is no construction base case model as the site accesses would be created for the Thames Tideway Tunnel construction works at the Falconbrook Pumping Station site.

11.2.58 Table 11.5.1summarises the PICADY results for the construction development case.

11.2.59 Table 11.2.4 shows that in the AM and PM peak periods, the Falconbrook Pumping Station site would generate approximately 23 vehicle movements in each peak period. This has been assessed against the peak hour operation of the highway network and represents a robust figure for assessment as it combines the anticipated movements between 07:00 and 09:00 in the morning and 17:00 to 19:00 in the evening.

11.2.60 It is anticipated that along York Road (A3205) there would be an additional four two-way HGV movements per hour as a result of the construction at Falconbrook Pumping Station, plus three two-way HGV movements during the peak hour associated with other Thames Tideway Tunnel sites

passing along York Road (A3205) during Site Year 1 of construction at the Falconbrook Pumping Station site.

11.2.61 Measures incorporated into the CoCP Part A (Section 5) to reduce transport effects include:

a. Site-specific Traffic Management Plans (TMP): to set out how vehicular access to the site would be managed so as to minimise impact on the local area and communicate this with the local borough and other stakeholders. This includes any works on the highway, diversion or temporary closure of the highway or public right of way

b. HGV management and control: to ensure construction vehicles use appropriate routes to the sites and the vehicle fleet and/or drivers meet current safety and environmental standards.

11.2.62 In addition to the general transport measures within the CoCP Part A the following transport measures have been incorporated into the CoCP Part B (Section 5) relating to the Falconbrook Pumping Station site:

a. new access/egress points are required off York Road (A3205)

b. vehicles would be permitted to access the site using left turn in from York Road (A3205) and left turn out movements only.

c. the security barrier would be positioned to allow a standard rigid tipper vehicle to be wholly off the road whilst awaiting barrier operation

d. only emergency access would be permitted through Lavender Road/housing area unless agreed otherwise

e. the existing access arrangements for Thames Water operational vehicles would be maintained as per the existing regime through Lavender Road

f. access to York Gardens Library and Community Centre and York Gardens Adventure Playground to be maintained.

g. existing bus stop on York Road (A3205) to be relocated to a suitable alternative position as necessary. The alternative position would be located approximately 15m south of existing location as agreed with TfL

h. pedestrian access from York Road to York Gardens would be maintained during construction

i. disabled parking facility (one bay) for Community Centre to be maintained during the construction period at an accessible location

j. a vehicle marshal or similar would be provided where required to ensure the safety of pedestrians crossing the construction access

k. a small area available for car parking adjacent to the York Gardens Library and Community Centre would be suspended during construction

l. the existing pedestrian access to the York Gardens Library and Community Centre would be maintained.

m. access to the existing pedestrian drop off area immediately east of the York Gardens Library and Community Centre would be maintained

n. the footpath diversion is to be adequately signed

11.2.63 The effective implementation of the *CoCP Part A* and *Part B* measures is assumed within the assessment.

11.2.64 Based on current travel planning guidance including TfL's 'Travel planning for new development in London[1], this development falls within the threshold for producing a Strategic Framework Travel Plan. A *Project Framework Travel Plan* has been prepared based on the TfL ATTrBuTE guidance[iii]; this is submitted to accompany the application for development consent (the 'application'). The *Project Framework Travel Plan* addresses project-wide travel planning measures, including the need for a project-wide *Travel Plan* Manager, initial travel surveys during construction and a monitoring framework. It also contains requirements and guidelines for the *site-specific travel plans* to be prepared by the site contractors. The site-specific travel-planning measures of relevance to the *Project Framework Travel Plan* are as follows:

a. information on existing transport networks and travel initiatives for the Falconbrook Pumping Station site

a. a mode split established for the Falconbrook Pumping Station site construction workers to establish and monitor travel patterns

b. site-specific targets and interim targets based on the mode share which would link to objectives based on local, regional and national policy

c. a nominated person with assigned responsibility for managing the monitoring and action plans specifically for the site.

Other measures during construction

11.2.65 Embedded design measures which are not outlined in the *CoCP* but are of relevance to the transport assessment at the Falconbrook Pumping Station site include the following:

a. the pedestrian route from York Road (A3205) to York Gardens would be maintained throughout construction.

Operation

11.2.66 During operation, a new landscaped pedestrian and cycle access route would be created allowing access from York Road through to York Gardens. During the construction phase the existing pedestrian and cycle route would be diverted 15m south. The operational phase access route would be 25m north of this construction access route, thus being 10m north of the current access route.

[iii] Assessment Tool for Travel plan Building Testing and Evaluation, (ATTrBuTE) is a web based travel planning tool, which ensures that Travel Plans are in accordance with TfL's published guidance on travel planning for new development in London, http://www.attrbute.org.uk/.

11.2.67 During operation, maintenance vehicles would enter the site via the existing vehicular entrance to the Pumping Station which is located on York Gardens. Access to the site will be achieved by travelling along Grant Road. After continuing along Winstanley Road and Newcomen Road access to the site can be found on the left hand side at York Gardens. Access from leaving the site will be achieved by going straight on from York Gardens and travelling along Lavender Road. At the junction vehicles will turn left along Damien Road and then turn right and proceed along Ingrave Street. This route is currently used by maintenance vehicles accessing the existing Pumping station and ancillary buildings.

11.2.68 Once the Thames Tideway Tunnel is operational it is not expected there would be any significant effects on the transport infrastructure and operation within the local area because maintenance trips to the site would be infrequent and short term. On this basis the only elements considered are:

a. effects on pedestrian and cyclist routes

b. effects on car parking

c. effects on highway layout and operation.

11.2.69 These elements are considered qualitatively because the minimal effect on the highway network means that a quantitative assessment is not required. The scope of this analysis has been discussed with the LB of Wandsworth and TfL.

11.2.70 Access would be required for a light commercial vehicle on a three to six monthly maintenance schedule. Additionally there would be more substantive maintenance visits at approximately ten year intervals which would require access to enable two mobile cranes and associated support vehicles to be brought to the site, from York Gardens via Falcon Road (A3207). To provide access for the cranes and flat bed vehicles temporary suspension of on-street parking in the vicinity of the site may be required.

11.3 Assessment methodology

Engagement

11.3.1 An extensive scoping and technical engagement process has been undertaken. All consultee comments relevant to this site are presented in Volume 11 of the *Environmental Statement*.

11.3.2 Whilst the effects associated with transport for the operational phase have been scoped out of the *Environmental Statement*, the *TA* examines the operational phase in order to satisfy the relevant stakeholders that technical issues have been addressed (for example, those associated with access for maintenance activities).

Consultees

11.3.3 Throughout the scoping and technical engagement process, the key stakeholders with regards to transport, primarily TfL and the relevant Borough for each site, have been consulted. For Falconbrook Pumping Station, the LB of Wandsworth has been consulted and the comments

which have arisen relating directly to Falconbrook Pumping Station have been recorded and responded to accordingly. The key issues arising from the stakeholder engagement are:

a. a lay-by at the relocated bus stop should be avoided if possible to minimise third party land requirements.

b. surveys should be carried out to assess the parking conditions during event/function days at the Library/Community Centre.

c. a requirement to set back the gate at the site entrance to allow a vehicle to wait off the highway if the gate is closed

d. Ensuring that the layout of the site exit encourages exiting vehicles to turn left out of the site.

e. Avoiding the use of Lavender Road for construction vehicles.

11.3.4 The key technical issues raised have been addressed as far as is practicable at this stage within this *TA*, *Project-wide TA* and the *Environmental Statement*., in consultation with both TfL and the LB of Wandsworth.

Construction

11.3.5 The assessment methodology for the construction phase follows that described in the *Project-wide Transport Assessment*; with the exception of the York Road (A3205) / Plough Road / York Place junction where no traffic modelling has been undertaken. This is due to lorries being able to wait until traffic flow on York Road (A3205) is not congested before exiting the site.

11.3.6 The effect of all other Thames Tideway Tunnel sites on the area surrounding Falconbrook Pumping Station has been taken into account within the assessment of the peak year of construction at this site.

Construction assessment area

11.3.7 The assessment area for the Falconbrook Pumping Station site includes the site accesses directly from York Road (A3205) which is part of the TLRN. The assessment also includes the junction of York Road (A3205) / Plough Road / York Place and the junction of York Road (A3205) / Bridges Court.

11.3.8 These roads and junctions have been assessed for highway, cycle and pedestrian impacts. Effects on local bus services within 640m of the site and rail services within 960m of the site have also been assessed. The Public Transport Accessibility Level (PTAL) of the site, calculated using TfL's approved PTAL methodology assumes a walking speed of 4.8km/h and considers rail stations within a 12 minute walk (960m) of the site and bus stops within an eight minute walk (640m).

11.3.9 The extent of the assessment area for the local highway network modelling has been informed by considering the volume of construction traffic at this site and the degree of impact that would be experienced at the nearest junction of the construction vehicle route with the SRN or TLRN. Where the assessment shows that the forecast impacts at this

junction would not be significant, junctions further afield on the strategic network have not been assessed. Where impacts are forecast to be significant, a wider area of the local network has been considered in the assessment.

Construction assessment year

11.3.10 To assess the busiest case scenario for the Falconbrook Pumping Station locality, the peak construction traffic year has been identified. This ensures that the assessment for Falconbrook Pumping Station takes into consideration the heaviest flow of construction vehicles at this site on local roads for the local modelling assessment.

11.3.11 The site-specific peak construction traffic year at Falconbrook Pumping Station is Site Year 1 of construction.

11.3.12 The assessment of the aggregated Thames Tideway Tunnel construction traffic flows on the wider highway network is included within the *Project-wide TA*.

Highway network modelling

11.3.13 The assessment for each site takes account of construction vehicle movements associated with the Falconbrook Pumping Station site, together with construction traffic from other Thames Tideway Tunnel project sites that would use the highway network in the vicinity of this site in Site Year 1 of construction.

11.3.14 As indicated in the Development Schedule, there are four developments identified within 1 km of the Falconbrook Pumping Station site. Three of these developments would be complete and operational by Site Year 1 of construction and have therefore been included in the construction base case. They comprise:

a. Mixed use development at Battersea Reach

b. Redevelopment of the Cemex site on Townmead Road

c. Mixed use development at Imperial Wharf

11.3.15 In addition, the Chelsea Creek development at a site adjacent to Fulham Gasworks 900m from the site would be partially complete by Site Year 1 of construction at Falconbrook Pumping Station but later phases would still be under construction. This suggests that the *TA* should consider cumulative effects in relation to that development under construction at the same time as construction works at Falconbrook Pumping Station.

11.3.16 As indicated in the *Project-wide TA*, the TfL HAMs have been used as part of the assessment. The strategic highway modelling has used three of the HAMs, which cover west, central and east London. These three models cover the locations of all of the Thames Tideway Tunnel project sites and this approach has been agreed with TfL.

11.3.17 The HAMs have been developed by TfL using GLA employment and population forecasts, which are based on the employment and housing projections set out in the *London Plan* . As a result the assessment inherently takes into account a level of future growth and development across London.

11.3.18 For future year assessments for the Falconbrook Pumping Station site, the TfL Central London HAM (CLoHAM) has been used to test the strategic highway network impacts associated with this site. Construction traffic associated with other Thames Tideway Tunnel project sites using routes in this area has been included in the CLoHAM scenarios

11.3.19 The model provides factors for the increase in vehicle-kilometres in the borough between the construction base year and 2021. The relevant growth factor for the site was applied to the traffic surveys collected in 2011 to produce 2012 flows for existing traffic.

11.3.20 Office and operational trips associated with the site were assigned to the TfL CLoHAM model using the EIA scenario and the project peak month. The assigned flows were added to the 2021 existing flows and the construction flows provide the turning movements for local modelling.

11.3.21 Construction lorry, operational and worker vehicle movements (where relevant) associated with the Falconbrook Pumping Station site for the site-specific peak month were added to the 2021 base case flows to provide the development case flows for local modelling.

11.3.22 This approach provides a robust assessment case for local modelling as the baseline traffic has been forecast to 2021, which is later than the site-specific peak year of construction, and no allowance has been made for existing traffic that might divert to other routes as a consequence of the use of local roads by the project related traffic.

Sensitivity Testing

11.3.23 All materials to the Falconbrook Pumping Station site would be transported by road.

Operation

11.3.24 The assessment methodology for the operational phase follows that described in the *Project-wide TA*. There are no site specific variations for undertaking the operational assessment of this site.

11.3.25 Given the local impact of the transport activity associated with the Thames Tideway Tunnel during the operational phase, only the localised transport issues around the Falconbrook Pumping Station site are assessed. Other Thames Tideway Tunnel sites would not affect the area around the Falconbrook Pumping Station in the operational phase and therefore they are not considered in the assessment.

11.3.26 With regard to other developments in the vicinity of the site, as detailed in paras. 11.3.14 to 11.3.15, all four developments identified within 1km of the Falconbrook Pumping Station site would be complete and operational by Year 1 of operation. As a result, they have been included within the operational base case. There are no operational cumulative effects requiring assessment.

Operational assessment area

11.3.27 The assessment area for the operational assessment differs from that for the construction assessment. It comprises of Ingrave Street, Darien Road,

Lavender Road, Newcomen Road, Winstanley Road and Grant Road, as well as the effects on the Ingrave Street / Falcon Road (A3207) junction.

Operational assessment year

11.3.28 The operational assessment year has been taken as Year 1 of operation. As the number of vehicle movements associated with the operational phase is very low, there is no requirement to assess any other year beyond that date.

11.4 Baseline

11.4.1 This section sets out the baseline conditions on the local transport network in the vicinity of the Falconbrook Pumping Station site in 2012, with the exception of the traffic survey data which was collected in 2011.

Policy review

11.4.2 The site is located within the LB of Wandsworth; the relevant regional, local and national policy documents have been reviewed and included within the Appendix A. .

Existing land use

11.4.3 The site is situated on the western side of York Gardens, in the location of the existing Falconbrook Pumping Station.

11.4.4 The surrounding area is primarily residential in nature with the nearest residents located on Lavender Road approximately 45m to the east of the Pumping Station. The site is bounded to the north by York Gardens Adventure Playground with playground facilities further to the north. York Gardens lies to the east and south of the site, with the York Gardens Library and Community Centre to the south. To the west of the site is York Road (A3205). Figure 11.2.1 in the Falconbrook Pumping Station *Transport Assessment* figures shows the site location.

Existing access

11.4.5 Vehicular access to the site is through York Gardens on an existing access road to the east. Access to the TLRN (York Road (A3205)) is via Lavender Road, Darien Road, Ingrave Street and Falcon Road. There is no road access to the site directly off York Road (A3205).

Pedestrian network and facilities

11.4.6 The existing pedestrian network and facilities in the vicinity of the site are described below and shown on Figure 11.4.1 in the Falconbrook Pumping Station *Transport Assessment* figures. The key pedestrian network routes related to the Falconbrook Pumping Station site is York Road (A3205).

York Road (A3205)

11.4.7 York Road (A3205) provides a continuous pedestrian link between the Wandsworth gyratory system to the southwest and Battersea Park Road (A3205) to the northeast. There are footways in place on both sides of York Road (A3205) with an approximate width of between 2.5m and 4.0m.

11.4.8 A signalised pedestrian crossing is in place at the junction of York Road (A3205) / Plough Road / York Place which is approximately 95m walking distance to the south of the site. There are dropped kerbs and tactile paving in place at this crossing point.

11.4.9 A second signalised pedestrian crossing is located approximately 180m walking distance to the north of the site at the junction of York Road (A3205) and Lombard Road (B305). Tactile paving and dropped kerbs are also provided here.

11.4.10 There are no pedestrian crossings at a close proximity to the York Road (A3205) / Bridges Court junction.

11.4.11 There is a pedestrian access route to York Gardens located to the south of Falconbrook Pumping Station. This access provides a route between York Road (A3205), and Lavender Road and through the park to the residential area in the east.

Plate 11.4.1 York Road (A3205)

Cycle network and facilities

11.4.12 The existing cycle network and facilities in the vicinity of the site are described below and shown on Figure 11.4.1 in the Falconbrook Pumping Station *Transport Assessment* figures.

11.4.13 National Cycle Routes 4 and 20 run within close proximity of the site. There is a good network of cycle provision available to connect the site to these National Cycle Routes. Route 4 is about 1.5 km to the north of the site and runs from Greenwich in central London to Fishguard in west Wales. Route 20 starts about 1.2 km south west of the site and runs from Wandsworth to Brighton.

11.4.14 There are many on-road cycle routes designated within the surrounding area, including along York Road (A3205). This route connects to a wider network of on-road and off-road routes leading to destinations such as Battersea, Clapham Junction, Wandsworth Town and Hammersmith.

11.4.15 Advance cycle stop lines are provided for cyclists at the junctions of York Road (A3205) / Plough Road / York Place and at York Road (A3205) / Bridges Court.

11.4.16 There are also advance cycle stop lines provided for cyclists on each arm of the York Road (A3205) / Lombard Road junction.

Barclays Cycle Superhighways

11.4.17 The closest Barclays Cycle Superhighway (CS) route to the site is CS8 which runs between Ram Street in Wandsworth and Millbank in Westminster. CS8 runs along the York Road (A3025), Battersea Park, Queenstown Road (A3216), Chelsea Bridge and Grosvenor Road (A3212) to Millbank with an approximate 30 minute cycle journey time from Wandsworth to Millbank.

11.4.18 CS8 runs on carriageway along York Road (A3205) immediately to the west of the site (across the proposed site access). The Cycle Superhighway connects with on-road cycle routes along Yelverton Road, Wye Street and Falcon Road (A3207).

Plate 11.4.2 Cycle lane along York Road (A3205)

Barclays Cycle Hire Scheme

11.4.19 There are currently no Barclays Cycle Hire docking stations within the vicinity of the site.

Cycle parking

11.4.20 There are three cycle stands located on the junction of York Road (A3205) / Plough Road.

Public transport

Public Transport Accessibility Level

11.4.21 The PTAL of the site has been calculated using TfL's approved PTAL methodology and the analysis is included in Appendix B. This assumes a walking speed of 4.8km/h and considers rail stations within a 12 minute walk (960m) of the site and bus stops within an eight minute walk (640m).

11.4.22 Using this methodology the site has a PTAL rating of 6b, rated as 'excellent' (with 1 being the lowest accessibility and 6b being the highest accessibility). The following sections detail the public transport services in the vicinity of the site. Figure 11.4.2 in the Falconbrook Pumping Station *Transport Assessment* figures indicates the public transport services in the vicinity of the site.

Bus services

11.4.23 A total of eight daytime and five night-time bus routes operate within 640m walking distance of the site. Table 11.4.1 provides a summary of the bus services and their frequencies during the weekday peaks.

11.4.24 These bus routes operate from the following bus stops:

a. York Gardens bus stop on York Road (A3205) – northbound and southbound, 50m walking distance south of the site

b. Wallis Close bus stop on Plough Road – northbound and southbound 160m walking distance south of the site

c. Hope Street bus stop on York Road (A3205) – northbound and southbound, 180m walking distance south of the site

d. Clapham Junction, Ingrave Street bus stop on Falcon Road (A3207) – northbound and southbound, 620m walking distance west of the site

11.4.25 These routes would also serve other stops further from the site as shown on Figure 11.4.2 in the Falconbrook Pumping Station *Transport Assessment* figures. On average there are a total of 127 and 120 daytime bus services per hour in the AM and PM peaks respectively (two-way direction) within a 640m walking distance of the site.

11.4.26 There are approximately 14 night-time bus services per hour Monday to Friday between 00:00 and 06:00 and on Saturdays between 00:00 and 06:00 within 640m walking distance of the site.

Table 11.4.1 Existing day time local bus services and frequency (number of buses per hour)*

Bus number	Weekday		Nearest bus stop to the site	Approximate distance from the site (m)	Origin – destination
	AM peak (08:00-09:00)	PM peak (17:00-18:00)			
44	12	11	York Gardens	50	Victoria Station – Tooting
C3	18	16	Hope Street	180	Clapham Junction – West Cromwell Road
295	15	15	Hope Street	180	Ladbroke Road Sainsburys – Clapham Junction
170	20	16	York Gardens	50	Victoria Station – Danebury Avenue
49	14	14	Ingrave Street	600	White City – Clapham Junction
319	16	16	Ingrave Street	600	Sloane Square – Streatham Hill, Telford Avenue
344	18	18	Ingrave Street	600	Liverpool Street – Clapham Junction
345	14	14	Ingrave Street	600	South Kensington – Peckham Bus Station

**Transport for London (TfL) (2011) Timetables. Available at: www.tfl.,gov.uk (Accessed: September 2011)*

London Underground

11.4.27 There is no underground service in the immediate vicinity of the site. The nearest station is at Fulham Broadway on the north side of the River Thames, approximately 2.9km walking distance from the Falconbrook Pumping Station site.

London Overground

11.4.28 London Overground trains serve Clapham Junction station which is located approximately 800m walking distance southeast of the Falconbrook Pumping Station site.

11.4.29 The London Overground runs from Clapham Junction eastwards to Stratford. Trains run approximately every eight to nine minutes in the AM peak hour and every ten minutes in the PM peak hour, giving a typical service of seven trains per hour in the AM peak and six trains per hour in the PM peak.

National Rail

11.4.30 National Rail services also serve Clapham Junction station. Clapham Junction provides access to Southern and South West Trains services. Trains run to Willesden Junction, Waterloo and Victoria Stations to the north, and destinations to the south and west of London including Brighton, Reading, Guildford, Woking, Dorking, Weymouth, Littlehampton and Worthing, Chessington South, Sutton, Windsor and Eton, East Grinstead, East Croydon, Weybridge via Hounslow, Shepperton, Basingstoke and Exeter.

11.4.31 In the AM and PM peak hours, trains depart for Waterloo and Victoria from Clapham Junction every two to three minutes. Trains routing south to a variety of destinations depart at similar frequencies.

11.4.32 Table 11.4.2 provides a summary of the National Rail and London Overground services, and their frequencies during the weekday peak.

Table 11.4.2 Existing National Rail and London Overground services and frequency (number of services per hour)

Station	Weekday		Approximate distance from the site (m)	Origin - destination
	AM peak (08:00-09:00)	PM peak (17:00-18:00)		
Clapham Junction (National Rail)	NA*	NA*	800	London Waterloo & London Victoria to the South, South East and South West
Clapham Junction (London Overground)	7	6	800	Clapham Junction – Stratford

**trains depart every two to three minutes.*

River services

11.4.33 There are no wharf or jetty facilities in the immediate vicinity of the Falconbrook Pumping Station site. The nearest pier is Wandsworth Riverside Quarter Pier which is approximately 2.6km west of the site.

Taxis

11.4.34 There are no dedicated taxi ranks in the vicinity of the site. The nearest taxi rank to the site is located on St John's Hill / Prested Road (approximately 1.1km walking distance southeast of the site, close to Clapham Junction station) with eight taxi spaces.

Highway network and operation

11.4.35 The site is located within the LB of Wandsworth and is currently accessed by vehicles from the east through York Gardens. No direct vehicle access exists to the site off York Road (A3205), as shown in Figure 11.2.1 in the Falconbrook Pumping Station site *Transport Assessment* figures.

11.4.36 York Road (A3205) forms part of the TLRN and is a four lane single carriageway at this point separated by a central reservation. Additionally, there is a separate left-hand turning lane at the junction of York Road (A3205) and Bridges Court. York Road (A3205) routes northeast from Wandsworth gyratory and continues onto Battersea Park Road (A3205).

11.4.37 A 30mph speed limit applies to York Road (A3205).

11.4.38 Cycle lanes as part of CS8 are present on both sides of the road and are identified by road markings and signage.

11.4.39 There are a number of junctions along York Road (A3205) including the priority junction with Bridges Court which is located opposite the site. There is also a signalised junction with Plough Road / York Place, which is located approximately 95m southwest of the site. Bridges Court and Plough Road are not part of the TLRN or Strategic Road Network (SRN).

Parking

11.4.40 Figure 11.4.3 in the Falconbrook Pumping Station *Transport Assessment* figures shows the locations of the existing car parks and car club spaces within the vicinity of the site.

Existing on-street car parking

11.4.41 There are no parking facilities along York Road (A3205).

11.4.42 On-street parking is available on the residential streets to the east of the site. The majority of this parking is not subject to controlled parking zone (CPZ) and is mainly used by residents of the area.

11.4.43 A small area of on-street parking which is bounded by Wye Street to the west, Ingrave Street to the south, Falcon Road (A3207) to the east and York Road (A3205) to the north is subject to a CPZ which operates from 09:00 to 16:30, Monday to Friday with a maximum stay of four hours permitted.

11.4.44 Table 11.4.3 summarises the parking provision on the roads in the vicinity of the site.

Table 11.4.3 Existing on-street car parking

Road name	Type of parking restrictions and number of bays				
	Pay and display	Resident	Blue badge	Unrestricted	Single Yellow
York Gardens	0	0	1	34	0
Grant Road	28	0	0	0	0
Winstanley Road (N)	0	0	0	27	0
Winstanley Road (S)	0	0	0	22	7
Darien Road (N)	0	0	0	15	0
Darien Road (S)	0	6	0	12	0
Newcomen Road	0	0	2	43	0
Lavender Road	0	0	2	45	0
Ingrave Street	0	6	2	54	0
Total	**28**	**12**	**7**	**252**	**7**
Total (Excl. York Gardens)	**28**	**12**	**6**	**218**	**7**

Existing off-street/private car parking

11.4.45 There is unrestricted parking on the un-named access road to both the York Gardens Library and Community Centre and the York Gardens Adventure playground. There is also one marked blue badge parking bay outside the Library and Community Centre, off of the access road and a wider parking area opposite the Adventure Playground. This is also shown in Table 11.4.3.

11.4.46 Off-street parking is also available at a large Asda supermarket located on Lavender Hill, southeast of the site. There is no charge for store customers to use the parking and it is approximately 1km walking distance from the site.

Coach parking

11.4.47 There are no coach parking facilities in the vicinity of the site.

Car clubs

11.4.48 There are a number of car club spaces within 640m of the site. The closest car club parking space to the site is operated by ZipCar and is approximately 150m walking distance northwest of the site on Bridges Court.

11.4.49 The next closest car club location is situated 350m walking distance north of the site on Holman Road, also operated by ZipCar.

Servicing and deliveries

11.4.50 There are no dedicated on-street loading areas in the vicinity of the site.

Baseline survey data

Description of data

11.4.51 Automatic Traffic Count (ATC) data for York Road (A3205) was collected from TfL and was analysed to identify the traffic flows along this road in May and June 2011. The flows are discussed in paras 11.4.73 to 11.4.83.

11.4.52 Five year accident data on the roads within the vicinity of the Falconbrook Pumping Station site was obtained from TfL. This data is discussed in paras 11.4.94 to 11.4.103.

11.4.53 Baseline survey data for the Falconbrook Pumping Station site were collected in May, June, July, September, November and December 2011 to establish the existing transport movements and parking usage in the area. Additional traffic surveys were also undertaken in January 2012. Figure 11.4.4 in the Falconbrook Pumping Station *Transport Assessment* figures shows the survey locations in the vicinity of the site. Appendix A of the *Project-wide TA* includes the baseline report which provides full detail of the surveys undertaken and the data collected.

11.4.54 The scope of the surveys in terms of location and time periods was considered to ensure that the data required for assessment was collected. In some cases ATC data was collected on links to validate the junction count data and provide information for noise and air quality assessments. Pedestrian and cycle count data was collected at locations where flows could be affected by pedestrian and cycle diversions during construction, the generation of additional trips or where conflicts could occur with construction vehicles. Parking survey data was collected where it was possible that parking suspensions would be necessary or where additional parking demand might be generated by the proposed development.

11.4.55 As part of surveys in 2011 and 2012, manual and automated traffic surveys were undertaken to establish specific traffic, pedestrian and cycle movements including turning volumes, queue lengths, saturation flows and traffic signal timings. Parking surveys were undertaken to establish the usage of on-street and private parking.

11.4.56 Traffic surveys were carried out on a weekday and a weekend to represent a weekly profile of traffic at particular locations. Where two weekly profiles have been surveyed, the busiest survey was used.

11.4.57 The surveys undertaken and their locations are summarised in Table 11.4.4.

Table 11.4.4 Survey locations

Survey type and location	Date
Junction survey (including pedestrian and cycle movements)	
York Road (A3205)/ Plough Road junction	7th and 9th July 2011
York Road (A3205)/ Bridges Court junction	17th and 21st May 2011
Automatic Traffic Count (ATC)	
York Road (A3205)	20/05/2011 – 09/06/2011 EB 20/05/2011 – 12/06/2011 WB
Pedestrian and cycle surveys	
York Road (eastern side by community centre)	10th and 14th September 2011
Path off York Road (Northern access to York Gardens)	
Parking surveys	
York Gardens adjacent to the existing Falconbrook Pumping Station site, Community Centre and Library.	26th November and 1st December 2011
On-street parking located along Grant Road, Winstanley Road, Darien Road, Newcomen Road, Lavender Road and Ingrave Street	24th and 26th May 2012

11.4.58 Pedestrian and cyclist flow data from the surveys provided the baseline pedestrian traffic data sets which are set out in Table 11.4.5 and Table 11.4.6.

11.4.59 Vehicular traffic flow data from the junction turning movement surveys provided the baseline vehicular traffic data sets which were input into the future year junction assessment models described in paras 11.5.55 to 11.5.56.

11.4.60 The following ATC and junction turning movement surveys are on the construction traffic routes to and from the Falconbrook Pumping Station site:

a. York Road (A3205) / Plough Road junction

b. York Road (A3205) / Bridges Court junction

c. York Road (A3205) (ATC)

11.4.61 The *Baseline Data Report* presents the method for field survey data collection and data collected through other sources.

Results of the surveys

11.4.62 The surveys inform the analysis of the baseline situation in the area surrounding the Falconbrook Pumping Station site and are summarised in the following paragraphs.

Pedestrians

11.4.63 Table 11.4.5 indicates the flows of the pedestrians along the main routes surrounding the Falconbrook Pumping Station site.

Table 11.4.5 Existing pedestrian flow

Road/route	Direction	Weekday			Weekend
		AM peak (08:00-09:00)	Inter-peak (12:00-13:00)	PM peak (17:00-18:00)	(13:00-14:00)
East side of York Road by community centre	Northbound	18	17	36	7
	Southbound	29	21	37	12
Path off York Road (North access to York Gardens)	Eastbound	12	10	30	4
	Westbound	16	5	20	4
York Road / Plough Road junction					
Pedestrian Crossings					
Plough Road (Southeast Arm)	Southbound	58	n/a	28	27
Plough Road (Southeast Arm)	Northbound	59	n/a	133	34
York Road (South Arm)	Westbound	149	n/a	35	44
York Road (South Arm)	Eastbound	121	n/a	168	48

11.4.64 Pedestrian surveys in the vicinity of York Road during the AM and PM peak hours indicate that:

a. A small number of pedestrians use York Road (A3205) with the maximum number of 36 and 37 pedestrians walking northbound and southbound respectively in the PM peak hour. In the AM peak hour, there were 18 pedestrian walking northbound and 29 pedestrians walking southbound.

b. There is little weekend use along York Road and the path off York Road with hourly usage rates between 4 and 12 people per hour. This suggests that there is little recreational use along these routes as well as little access to shops and services.

11.4.65 The pedestrian crossing surveys show that there is medium to high usage on both of the crossings during weekday peaks, however this drops significantly over the weekend. The maximum weekday usage is crossing West bound over York Road which reaches 168 in the PM peak, however weekend usage on all crossings ranges from 27 – 48 people per hour.

Cyclists

11.4.66 Table 11.4.6 shows the flows of bicycles along the main routes surrounding the site.

Table 11.4.6 Existing cycle traffic

Road/route	Direction	Weekday			Weekend
		AM peak (08:00-09:00)	Inter-peak (12:00-13:00)	PM peak (17:00-18:00)	(13:00-14:00)
Footpath east of York Road (A3205)	Northbound	0	1	2	1
Footpath east of York Road (A3205)	Southbound	2	2	1	0
York Gardens Ped Access	Eastbound	0	0	0	0
York Gardens Ped Access	Westbound	0	0	0	0
York Road / Plough Road junction					
Cyclists on carriageway					
York Road (North Arm)	Northbound	296	n/a	53	47
York Road (North Arm)	Southbound	44	n/a	121	36
Plough Road (South East Arm)	Southeastbound	12	n/a	40	19
Plough Road (South East Arm)	Northwestbound	118	n/a	8	10
York Road (South West Arm)	Southwestbound	42	n/a	92	29
York Road (South West Arm)	Northeastbound	190	n/a	48	47
York Place (North West Arm)	Northwestbound	3	n/a	0	1
York Place (North West Arm)	Southeastbound	1	n/a	8	3
York Road / Bridges Court junction					
Cyclists on carriageway					

Road/route	Direction	Weekday			Weekend
		AM peak (08:00-09:00)	Inter-peak (12:00-13:00)	PM peak (17:00-18:00)	(13:00-14:00)
York Road (North Arm)	Northbound	421	16	63	32
York Road (North Arm)	Southbound	45	17	223	29
York Road (South Arm)	Southbound	46	18	222	28
York Road (South Arm)	Northbound	420	17	64	33
Bridges Court (West Arm)	Westbound	0	1	3	2
Bridges Court (West Arm)	Eastbound	2	1	1	0

11.4.67 The cycle surveys show that there is virtually no cycle usage along the footpath east of York Road or the access route to York Gardens, with maximum AM and PM usage numbers peaking at 2 cyclists and 0 cyclists per hour respectively.

11.4.68 Analysis of the cyclist on carriageway surveys in the vicinity of York Road during the AM and PM peak hours indicate that:

a. There is strong tidal flow northbound along York Road during the AM peak with 296 cyclists and 420 cyclists travelling through the York Road / Plough Road / York Place junction and the York Road / Bridge Courts junction respectively.

b. This tidal flow is mirrored in the PM peak where there are 121 and 222 cyclists passing through the York Road / Plough Road / York Place junction and the York Road / Bridge Courts junction respectively.

11.4.69 Weekend usage in both directions along the York Road ranges from 28 to 47 cyclists per hour.

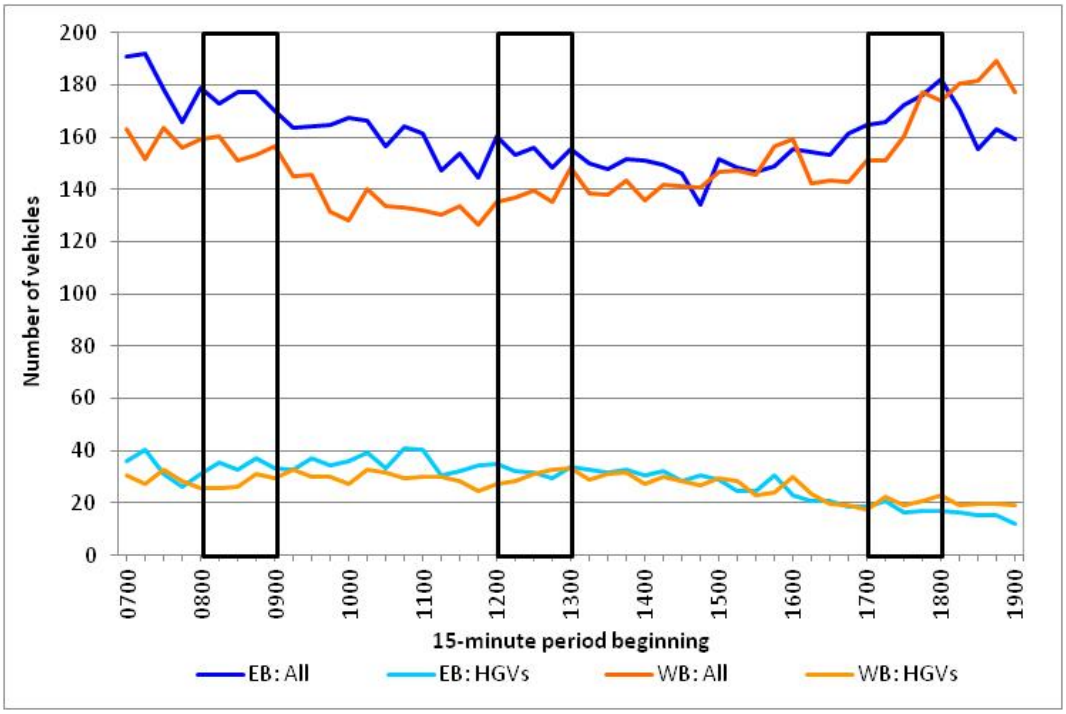
11.4.70 On Plough Road there is a northbound movement of 118 cyclists per hour in the AM peak mirrored by a southbound movement of 121 cyclists per hour.

11.4.71 There is generally little usage from Bridges Court Road and York Place, with a maximum usage of 8 cyclists per hour in the southeast bound direction in the PM peak along York Place.

Traffic flows

11.4.72 ATC data collected as part of the surveys has been analysed to identify the existing traffic flow along York Road (A3205). The weekday vehicle and HGV flows for a 12-hour period (07:00-19:00) are shown in Plate 11.4.3. The Saturday vehicle and HGV flows for a 12 hour period (07:00-19:00) are shown in Plate 11.4.4. Weekday flows are presented as this is when the greatest impacts from the project are likely to be experienced.

Plate 11.4.3 Existing traffic flow along York Road (A3205) (weekday ATC survey)



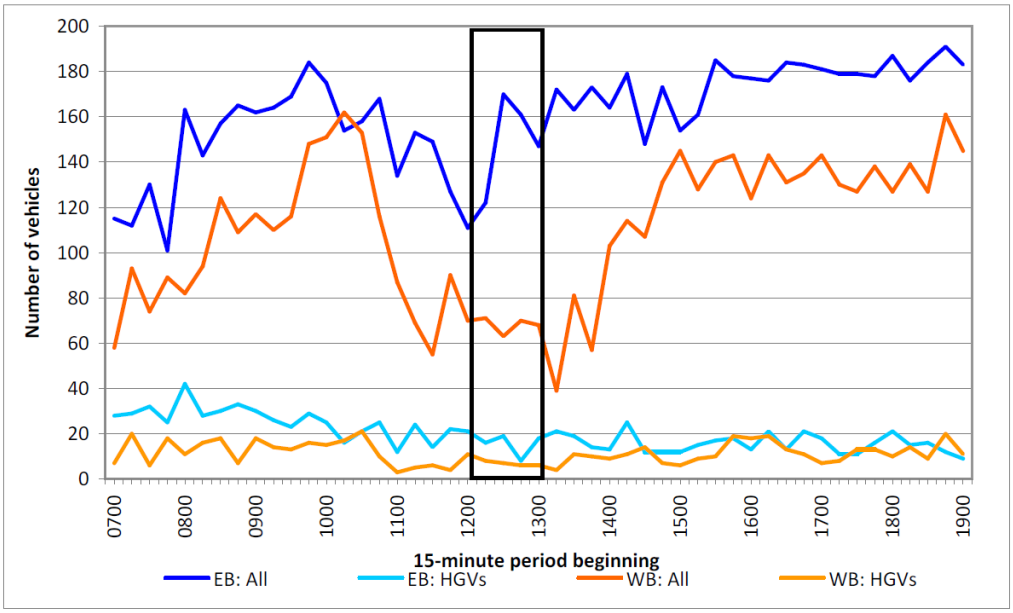
11.4.73

11.4.74 EB – East Bound, WB – West Bound. The black box represents the peak hour traffic flows used for the traffic assessment

11.4.75 The weekday ATC data shows that between 08:00 – 09:00 there are approximately 1,331 two-way vehicle movements. The busiest 15 minute peak period in this period occurred after 08:00 with approximately 179 eastbound vehicles and approximately 159 westbound vehicles.

11.4.76 For the period between 17:00 – 18:00 there are approximately 1,397 two-way vehicle movements. The busiest 15 minute peak period in this period occurred after 18:00 with approximately 182 eastbound vehicles and approximately 174 westbound vehicles.

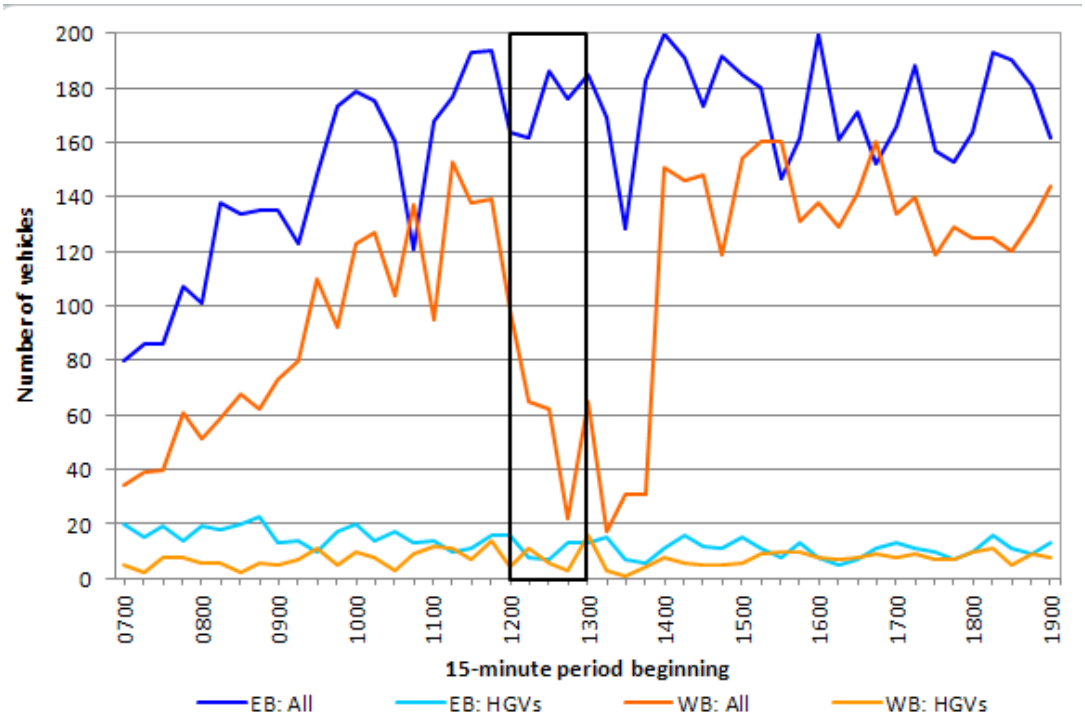
Plate 11.4.4 Existing traffic flow along York Road (A3205) (Saturday ATC survey)



EB – East Bound, WB – West Bound. The black box represents the peak hour traffic flows used for the traffic assessment

11.4.77 Analysis of the data showed that the Saturday peak travel period occurred between 18:30 – 19:30 with 1,339 two-way vehicle movements recorded. This is less than the PM weekday two-way traffic flows and the period falls outside of the normal weekend construction works vehicle movements period of between 08:00 – 13:00.

Plate 11.4.5 Existing traffic flow along York Road (A3205) (Sunday ATC survey)



EB – East Bound, WB – West Bound. The black box represents the peak hour traffic flows used for the traffic assessment

11.4.78 Analysis of the data showed that the Sunday peak travel period occurred between 17:45 – 18:45 with 1,345 two-way vehicle movements recorded. This is less than the PM weekday two-way traffic flows and the period falls outside of the normal weekend construction works vehicle movements period of between 08:00 – 13:00.

11.4.79 The site specific peak period is shown to be between 9:00 and 10:00. Eastbound flows are approximately 170 vehicles every 15 minutes and westbound flows approximately 120 vehicles every 15 minutes, giving a total two way flows of some 1150 vehicles per hour.

11.4.80 Traffic flow diagrams for the weekday AM and PM peak hours which show the traffic flow information collected during the ATC and junction surveys in 2011 are shown in Figures 11.4.5 to 11.4 6 (see Falconbrook Pumping Station *Transport Assessment* figures)

11.4.81 A comparison with TfL data for the junction of York Road (A320) Lombard Road can be made.

11.4.82 Traffic surveys indicate that there is a total traffic flow of 2,749 and 2,488 vehicles in the AM and PM peak hours respectively using the junction of Lombard Road (B305)/ York Road (E) (A3205)/ York Road (W) (A3205) with a predominant traffic flow of 1,877 vehicles from the York Road (A3205) in the AM peak hour and the dominant traffic flow of 1,446 travelling west along the A3205 in the PM peak.

11.4.83 The TfL data for the junction of Lombard Road (B305) / York Road (E) (A3205)/ York Road (W) A3205 indicates a total traffic flow 2,580 vehicles using this junction in the AM peak hour and 2,533 vehicles in the PM peak.

11.4.84 Comparison of the junction survey against the TfL junction survey data used in the PICADY modelling shows that the junction survey data is slightly higher, but of a similar order of magnitude, to that indicated in the PICADY model for this junction obtained from TfL in the AM. However in the PM, it is slightly lower.

Parking

11.4.85 Parking surveys were undertaken to establish the availability of parking stock in the vicinity of the site to understand existing occupancy and capacity.

11.4.86 Two sets of surveys have been carried out. The first set of surveys were carried out to record the occupancy of the parking bays in York Gardens adjacent to the existing Falconbrook Pumping Station site, Community Centre and Library. The survey days were Saturday 26th November and Thursday 1st December 2011. The results of this survey are shown below in Table 11.4.7.

11.4.87 The second set of parking surveys were carried out to assess the parking on the surrounding roads in the vicinity of the site. These surveys looked at on-street parking located along Grant Road, Winstanley Road, Darien Road, Newcomen Road, Lavender Road and Ingrave Street. These

surveys were carried out on the 24th and 26th May 2012. The results of this survey are shown below in Table 11.4.8 and the histogram in Plate 11.4.6. The results cannot be combined due to the different timings of the surveys from each site, however conclusions can still be made by analysing both tables.

Table 11.4.7 York Gardens parking bays

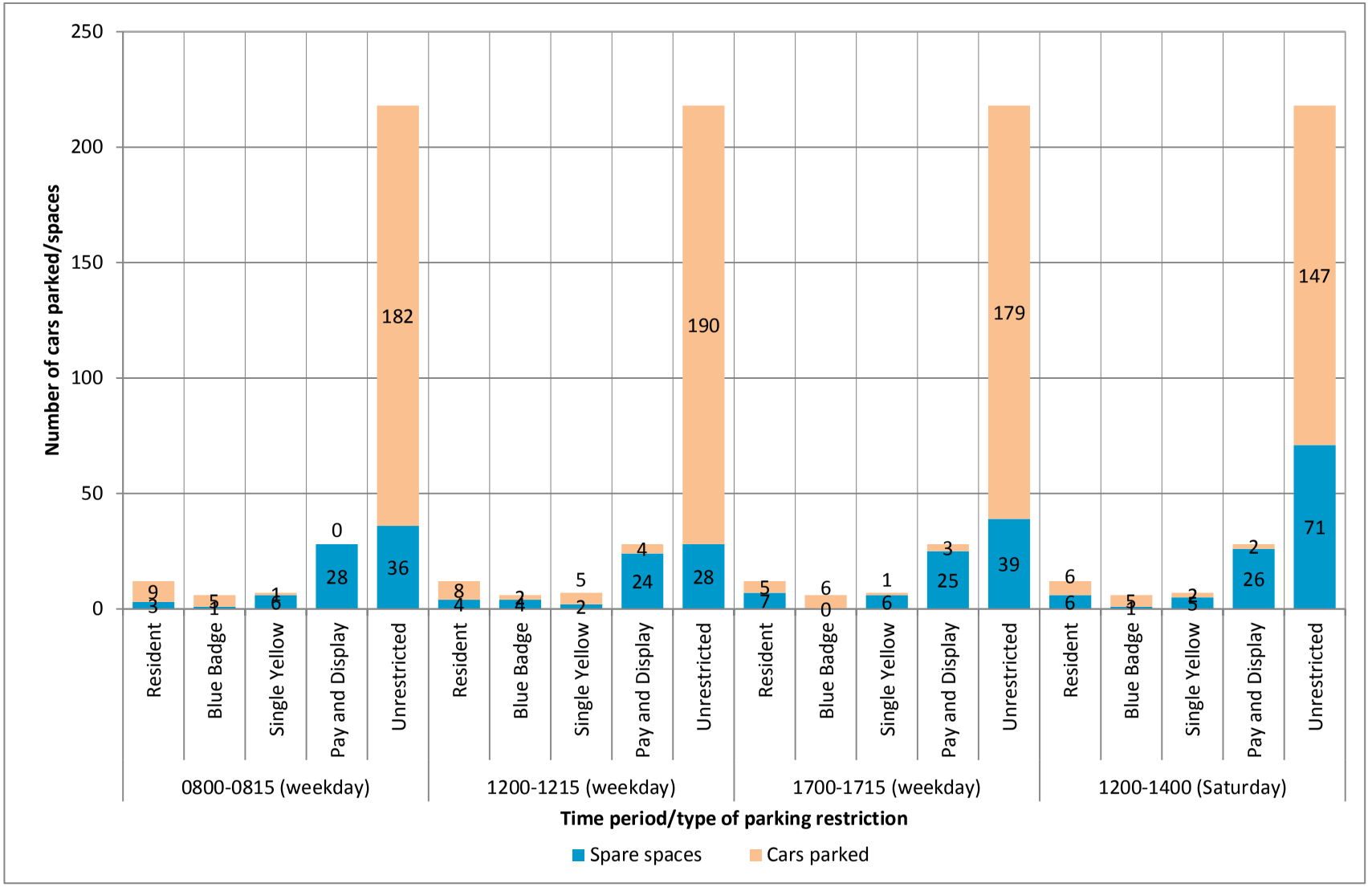
Number of car parking bays	No. of vehicles parked Sat 26th November 2011			No. of vehicles parked Thurs 1st December 2011			No. of vehicles parked Wed 8th February 2012
	07:30	11:30	17:30	23:30	07:30	11:30	12:30
35	0	0	0	0	1	2	25

Table 11.4.8 Parking Bay usage in Falconbrook Pumping Station site vicinity (Excluding York Gardens)

Location	Number and Type of Parking	No. of spaces available - weekday			No of spaces available Saturday 12:00 – 12:15
		08:00 – 08:15	12:00 – 12:15	17:00 – 17:15	
	Pay & Display parking				
Grant Road	28	28	24	25	26
	Resident parking				
Darien Road (S)	6	1	1	3	3
Ingrave Street	6	2	3	4	3
	Blue Badge / Disabled parking				
Newcomen Road	2	0	1	0	0
Lavender Road	2	0	1	0	0
Ingrave Street	2	1	2	0	0
	Unrestricted parking				
Winstanley Road (S)	22	1	0	1	5
Darien Road (S)	12	3	2	2	3

Location	Number and Type of Parking	No. of spaces available - weekday			No of spaces available Saturday 12:00 – 12:15
		08:00 – 08:15	12:00 – 12:15	17:00 – 17:15	
Winstanley Road (N)	27	1	3	9	11
Newcomen Road	43	16	4	10	20
Lavender Road	45	12	13	9	19
Darien Road (N)	15	1	2	2	5
Ingrave Street	54	2	4	6	8
	Single Yellow parking				
Winstanley Road (S)	7	6	2	6	5

Plate 11.4.6 Parking Bay usage in Falconbrook Pumping Station site vicinity (Excluding York Gardens)



11.4.88 Surveys and engagement with the stakeholders confirm that the parking around the Library and Community Centre (Table 11.4.7) is lightly used other than on Wednesday and Friday lunchtimes when the Community Centre holds events. This is shown by the usage reaching 25 cars in the 35 available parking bays from the Wednesday 12:30pm survey compared to other usage figures which range from 0 – 2 cars.

11.4.89 A local survey of the roads on the boundary of the Community Centre confirmed that there is still significant spare capacity during these busier periods. There is a total of 271 spaces in the locally surveyed roads of which 218 are unrestricted.

11.4.90 These 218 unrestricted on-street parking spaces are to the east of the Falconbrook site on Newcomen Road, Lavender Road, Winstanley Road, Darien Road and Ingrave Street.

11.4.91 The parking surveys indicate that usage of these roads is relatively high. The surveys suggests that about 82% to 87% of all available spaces were used throughout the weekday. However, this still equates to at least 28 available spaces in the local vicinity of the site due to the high number of total unrestricted parking spaces in the local vicinity of the site.

11.4.92 The utilisation is slightly lower at approximately 37% on the Saturday interpeak when compared to the weekday AM, PM and interpeak periods.

Local highway modelling

11.4.93 Two new site accesses would be provided on the eastern side of York Road (A3205) of which the northern access would be for left turn entry only and the southern access would be for left turn egress only to York Road (A3205).

11.4.94 The site accesses do not exist in the baseline scenario and therefore there are no baseline model results for these junctions .

Accident analysis

11.4.95 Data has been obtained for a five year period, up until the 31st March 2011. Figure 11.4.7 in the Falconbrook Pumping Station *Transport Assessment* figures indicate the accidents that have occurred within the vicinity of the site. The following roads and junctions have been analysed :

a. York Road
b. York Road / Wye Street junction
c. York Road / Lombard Road junction
d. York Road / Bridges Court junction
e. York Road / York Place / Plough Road junction
f. Plough Road
g. Plough Road / Holgate Avenue junction

11.4.96 A total of one fatal, seven serious and 29 slight accidents occurred in the Falconbrook Pumping Station assessment area over the five years of accident data analysed.

11.4.97 The fatal accident was recorded at the York Road (A3205) / Plough Road / York Place junction. A car turning at high speed mounted a footpath causing a collision with a pedestrian. The accident was attributed to the vehicle driver being impaired by alcohol and drugs, aggressive driving and exceeding speed limit.

11.4.98 The majority of the serious accidents, a total of six accidents, occurred along York Road (A3205) and at the junctions with Lombard Road and York Place / Plough Road / York Place. One serious accident also occurred along Plough Road.

11.4.99 Of the total accidents, three involved LGVs and two involved medium goods vehicles (MGVs) which all led to slight accidents.

11.4.100 Overall, the majority of the serious and slight accidents were the result of vehicle drivers/riders failing to look properly or undertaking a poor turn or manoeuvre. The descriptions within the accidents reports suggest that none of these accidents involved HGVs or happened as a result of road geometry.

11.4.101 Table 11.4.9 summarises the accidents that occurred within the vicinity of the site. Appendix D and Figure 11.4.7 in the Falconbrook Pumping Station *Transport Assessment figures* provide a full analysis of accidents within the local area surrounding Falconbrook Pumping Station.

Table 11.4.9 Summary of accident data

Location	Slight	Serious	Fatal	Total
York Road	10	2	0	12
York Road / Wye Street junction	1	0	0	1
York Road / Lombard Road junction	6	2	0	8
York Road / Bridges Court junction	3	0	0	3
York Road / York Place / Plough Road junction	8	2	1	11
Plough Road	0	1	0	1
Plough Road / Holgate Avenue junction	1	0	0	1
Total	**29**	**7**	**1**	**37**

11.4.102 Figure 11.4.8 in the Falconbrook Pumping Station site *Transport Assessment* figures shows the pedestrian and cyclist accidents by severity.

11.4.103 The records show that there were 14 accidents involving pedestrians and / or cyclists. All but one incident occurred on the roads to be taken by construction vehicles within the assessment area. Inspection of the data showed that 8 of these incidents occurred at junctions with signalised control facilities, with the remaining accidents occurring at locations without signal control.

11.4.104 In the context of the construction HGV movements associated with the Falconbrook Pumping Station site, the accident risk to these modes of travel would be managed by providing pedestrian and cyclist awareness training for commercial drivers associated with the construction works as set out in the *CoCP*. For sections of road affected by roadworks, the risk to all road users would be managed by the contractor(s) in accordance with the provisions made under the Traffic Signs Manual Chapter 8 - Traffic Safety Measures and Signs for Road Works[2].

11.5 Construction assessment

11.5.1 The *TA*, including both qualitative and quantitative analysis has been undertaken following in discussions with TfL and the Local Highway Authorites, drawing on their knowledge of the transport networks and their operational characteristics in the vicinity of each site. The assessment also details the anticipated construction programme, duration and levels of construction activity.

11.5.2 The construction assessment compares a construction base case, which represents transport conditions in the assessment year without the Thames Tideway Tunnel project, with a construction development case, which represents conditions with the Thames Tideway Tunnel under construction. The construction base case does not include any traffic related to the Thames Tideway Tunnel, whether from the Falconbrook Pumping Station site or from other sites

Construction base case

11.5.3 As described in Section 11.3, the construction assessment year for transport effects in relation to this site is Site Year 1 of construction.

Pedestrians and cyclists

11.5.4 There are no known proposals to change the cycle or pedestrian network by Site Year 1 of construction and the network will operate as indicated in the baseline situation.

Public transport

11.5.5 There are no specific improvements to National Rail and London Overground services passing through Clapham Junction that would change the situation in the construction base case, although it is acknowledged that rail service patterns will evolve over time, and that patronage on these services will tend to increase.

11.5.6 Due to traffic growth in the construction base case compared to the baseline situation, bus journey times along York Road, Plough Road and Falcon Road, as well as within the wider area will be affected. However, the site access to the Falconbrook Pumping Station would be installed only for the purpose of the construction works. In the construction base case there would be no vehicular access to the site from the southbound carriageway of York Road (A3205). An assessment of the site accesses in the construction base case was therefore not required for the Falconbrook Pumping Station site.

11.5.7 It is anticipated that patronage on public transport services may change between the baseline situation and Site Year 1 of construction. Future patronage changes on bus and rail networks will be driven by a range of complex factors and there are inherent uncertainties in setting a patronage level for a future year.

11.5.8 Therefore in order to ensure that a busiest case scenario is addressed in the assessment, the capacity for National Rail and London Overground in the base case has been assumed to remain the same as capacity in the baseline situation. This ensures a robust assessment.

Highway network and operation

11.5.9 Baseline traffic flows (from the junction surveys) have been used and forecasting carried out to understand the capacity on the highway network in the vicinity of the Falconbrook Pumping Station site in Site Year 1 of construction without the Thames Tideway Tunnel project. The scope of this analysis has been discussed with the LB of Wandsworth and TfL. Traffic flows for the base case (derived from survey data) providing inputs to the PICADY model are shown in Figure 11.4.5 and 11.4.6 in the Falconbrook Pumping Station *Transport Assessment* figures.

11.5.10 Strategic highway network modelling has been undertaken at a project-wide level using the TfL HAMs, which include forecasts of employment and population growth in line with the *London Plan*. Growth factors have been derived at individual Borough level by comparing the 2008/9 base and 2021 forecast years in the HAMs, as described in the *Project-wide TA.*

11.5.11 For the Falconbrook Pumping Station site, the TfL CLoHAM has been used. The model provides factors for the increase in vehicle-kilometres in the borough between the construction base year and 2021. The relevant growth factor for the site was applied to the traffic surveys collected in 2011 to produce 2012 flows.

11.5.12 It should be noted that these represent growth over the period to 2021, which is beyond Site Year 1 of construction at Falconbrook Pumping Station and therefore ensures that the construction base case for the highway network is robust.

Committed developments

11.5.13 The construction base case takes into account traffic growth and new developments within the local area by Site Year 1 of construction including the developments detailed in paras 11.3.13 and 11.3.15. There are no developments within 250m of the site which would be complete and operational by Site Year 1 of construction at Falconbrook Pumping Station.

Local highway modelling

11.5.14 The growth factors for Wandsworth based on the CLoHAM model have been discussed with TfL and the LB of Wandsworth and applied to the baseline traffic flows. The growth factors are:

a. Weekday AM peak growth factor – 4.7

b. Weekday PM peak growth factor – 5.3

11.5.15 Para 11.3.9 explains the definition of the assessment area for local highway network modelling. At this site, the assessment examines only the nearest junction of the construction vehicle route with the TLRN, in this case, the site access junctions.

11.5.16 The site access to the Falconbrook Pumping Station would be installed only for the purpose of the construction works. In the construction base case there would be no vehicular access to the site from the southbound carriageway of York Road (A3205). An assessment of the site accesses in the construction base case was therefore not required for the Falconbrook Pumping Station site.

Construction development case

11.5.17 This section summarises the findings of the assessment undertaken for the peak year of construction at the Falconbrook Pumping Station site (Site Year 1 of construction).

11.5.18 Information regarding the travel arrangements of the workers associated with the site will be included in the *Project Framework Travel Plan* and *site-specific Travel Plan* documents contained for the site in Section 3.

Pedestrian routes

11.5.19 The construction phase (phase 1 and phase 2) plans in the Falconbrook Pumping Station *Transport Assessment* figures show the layout of the pedestrian footways during construction.

11.5.20 There would be two new site accesses located on the eastern side of York Road (A3205) to accommodate vehicles accessing and egressing the construction site. This would result in additional crossing points for pedestrians and could lead to some minor delay to their journey time. It would also result in a potential increase in pedestrian/vehicle conflicts at these locations. Vehicle marshals could be employed to minimise this risk

11.5.21 Part of the construction works will involve drilling a 1m diameter pipe through the footway between the proposed site accesses into

the connection tunnel. This would require the closure of the footway while this work is carried out. During this time, pedestrians will not be able to route past the site on the eastern footway of York Road. Pedestrians wishing to route past the site from the south will be diverted to the western footway at the junction with Plough Lane. Pedestrians wishing to route past the site from the north will be diverted to the western footway at the junction with Lombard Road. Both of these junctions have signalised pedestrian crossing facilities and therefore offer a safe option for crossing York Road. The construction period of the pipe drilling work is expected to be around four weeks of the total three year site construction period.

11.5.22 To assess the busiest case scenario it has been anticipated that all worker trips would finish their journeys to the site and start their journeys from the site by foot. As a result the 40 worker trips generated by the site have been added to the construction base case pedestrian flows during the AM and PM peak hours.

11.5.23 At present, pedestrian flow is relatively low along York Road (A3205). The additional worker trips are not expected to have a detrimental impact on York Road (A3205) in terms of footway capacity and width.

11.5.24 Pedestrian access to York Gardens from York Road (A3205) would be maintained although it would be relocated approximately 15m south of the existing access. Pedestrians would route eastwards to access the gardens which would result in a slight increase in their journey time. Signage would be provided for this diversion.

11.5.25 With regard to pedestrian amenity; pedestrians would be diverted away from the eastern footway of York Road (A3205) across this road during the pipe construction works, although this would only be for less than four weeks of the total 36 month site construction period. At other times the footways would require some protection around the site access points. When considering the whole construction period, this will have an insignificant effect on pedestrian amenity.

11.5.26 It is anticipated that although pedestrians on the eastern footway of York Road (A3205) would have to cross two site accesses, the number of construction vehicles is sufficiently low that there would be minimal additional delays to pedestrian journey times. The relocation of the existing access to York Gardens 15m south would result in an increase in pedestrian journey times by approximately 10 seconds.

11.5.27 During the pipe construction work that will require closure of the footway on the eastern side of York Road (A3205) between the two site accesses, a pedestrians would experience a total diversion of around 43m (19m diversion across York Road (A3205) at the Plough Lane junction and 24m across York Road (A3205) at the Lombard Road junction) along this route, which would result in an increase in pedestrian journey time of around 30 seconds. This

delay would only be experienced for less than one month of the total 36 month construction period at Falconbrook Pumping Station.

11.5.28 Overall the impact on pedestrian delay has been assessed as negligible.

11.5.29 In relation to accidents and safety; pedestrians would be required to cross two site access points and, for four weeks of the construction period, would have to make two additional roads crossings if their route takes them past the site on the eastern footway of York Road (A3205). However, pedestrian flows would be less than 120 people per hour and construction traffic flows less than four two way HGV movements per hour. This would present a minor increase in the risk of accidents to pedestrians, although appropriate signage and management measures would be put in place to ensure pedestrian safety at each access point.

11.5.30 During all construction work and on any section of road subject to temporary diversions or restrictions imposed by roadworks associated with the Falconbrook Pumping Station site, the risk to all road-users would be managed by the contractor(s) in accordance with the provisions made under the Traffic Signs Manual Chapter 8 - Traffic Safety Measures and Signs for Road Works. This will include compliance with the Equality Act 2010[3] to ensure safe passage for mobility and vision impaired pedestrians.

Cycle routes

11.5.31 Cyclists travelling southbound on York Road (A3205) may use the relocated access (approximately 15m south) to York Gardens which would result in a small delay to their journey time. Signage would be provided for this diversion.

11.5.32 The effect on cycle journey times on the highway network, York Road (A3205) and in the wider area, is identified in the highway operation network assessments paras 11.5.43 to 11.5.56. This confirms that there would not be any change in journey times for cyclists. This would have an negligible effect on cyclists.

11.5.33 With regard to accidents and safety, southbound cyclists on York Road (A3205) would have to pass the two site access points. This could present occasional potential conflicts with HGVs, although the construction vehicle flow would be less than four two way HGV vehicle movements per hour. The Cycle Superhighway would be marked appropriately to indicate site accesses. Overall this is deemed to have a negligible effect on cyclist accidents and safety.

11.5.34 Measures set out in the *CoCP* described in paras 11.2.49 to 11.2.59 include increasing driver awareness of restrictions on the road network and marshalling of traffic at the site access. During all construction work and on any section of road subject to temporary diversions or restrictions imposed by roadworks associated with the Falconbrook Pumping Station site, the risk to all road-users would be managed by the contractor(s) in accordance with the provisions made under the Traffic Signs

Manual Chapter 8 - Traffic Safety Measures and Signs for Road Works. This would include compliance with TfL guidance (Cyclists at Roadworks – Guidance[4]) to ensure safe passage for cyclists.

11.5.35 During the construction period, the operation and layout of the road network will not change. A minimum carriageway width of either 4m (where HGVs can safely overtake cyclists) or 3.25m (where HGVs cannot overtake cyclists) would be retained for traffic in each direction. Where necessary, carriageway widths of less than 3.25m would be agreed with the LB of Wandsworth prior to execution of any works.

Bus routes and patronage

11.5.36 An existing bus stop is situated at the location of the proposed site egress point. In order to facilitate the movement of construction vehicles the existing bus shelter would remain in place but the stopping point would be moved approximately 11m to the south. The routing of bus services in the area would not be affected by the construction works at the Falconbrook Pumping Station site.

11.5.37 Construction vehicles serving the site would not affect bus journey times along York Road (A3205), as detailed in the highway operation and network assessments in paras 11.5.43 to 11.5.56. The effect on bus journey times from additional construction vehicles will have a negligible impact.

11.5.38 It is anticipated that approximately four additional two-way worker trips would be made by bus during the AM and PM peak hours, which would result in less than one worker trip per bus (based on a service of approximately 120 and 127 buses within a 640m walking distance during the AM and PM peak hours respectively). On this basis the additional worker trips made by bus in peak hours could be accommodated on the base case bus services and would typically be well within the normal daily variation in bus patronage on these routes

National Rail and London Overground and London Underground patronage

11.5.39 The mode split in Table 11.2.2. is based on 2001 Census data and was collected before the introduction of the London Overground services which now serve Clapham Junction. As most Overground sites used to serve national rail, the numbers for the overground mode split have therefore been based on rail numbers and were then combined with the rail site in the vicinity of the Falconbrook Pumping Station site.

11.5.40 No rail stations are directly adjacent to the site and therefore none would be directly affected by the construction works at the site. It is anticipated that approximately 14 construction workers and labourers would use London Underground, London Overground or National Rail services to access the site. This would equate to less than one additional passenger per train based on high service frequencies calling at Clapham Junction in the AM and PM peak

hours. This additional patronage could be accommodated on base services and would have a negligible impact.

Parking

11.5.41 To accommodate the construction site 13 parking spaces would need to be removed from the unrestricted private parking adjacent to the York Gardens Library and Community Centre and the York Gardens Adventure playground. The 13 parking spaces would not be replaced. This is on the basis that there is sufficient spare unrestricted parking capacity on-street in the vicinity to accommodate this loss of parking. The highway layout during construction plan in the Falconbrook Pumping Station *Transport Assessment* Figures shows the proposed suspension of car parking bays associated with the construction works at the Falconbrook Pumping Station site.

11.5.42 Parking for essential maintenance vehicles would be provided on site. There would be no on-site parking for workers and measures would be taken through the *Draft Project Framework Travel Plan* and *site-specific Travel Plan* and *CoCP* to discourage workers from travelling by car and promote the use of public transport, walking and cycling.

11.5.43 However, using the Census mode share data, approximately 16 workers could potentially drive to the Falconbrook Pumping Station site per day.

11.5.44 Taking account of the removal of parking bays at the Community Centre, the potential for some workers to drive to the site (notwithstanding the measures that would be taken in the *Workplace Travel Plan* to discourage this) and the available spare capacity in on-street parking bays in the vicinity, the impact on parking would be insignificant.

11.5.45 As there are no loading bays in the vicinity the assessment of the effects on loading are not relevant at this site.

Highway assessment

Highway layout

11.5.46 The highway layout during construction plan in the Falconbrook Pumping Station *Transport Assessment* Figures shows the highway layout during the construction phase. The site is on the eastern side of York Road (A3205) and would be accessed from the southbound lane.

11.5.47 The highway layout during construction vehicle swept path analysis plan in the Falconbrook Pumping Station *Transport Assessment* figures demonstrates that the construction vehicles would be able to safely enter and leave the site.

11.5.48 Two new site accesses would be created on York Road (A3205) to serve the construction site. These would operate on a left turn in and a left turn out basis.

Highway network

11.5.49 Construction lorry movements would be limited to the day shift only (08:00 to 18:00) on weekdays except in exceptional circumstances when HGV and abnormal load movements could occur up to 22:00 on weekdays for large concrete pours and later at night by agreement with the LB of Wandsworth and TfL.

11.5.50 Table 11.2.4in Section 2 shows the vehicle movement assumptions for the local peak traffic periods based on the peak months of construction activity at this site.

11.5.51 The *Project-wide Transport Assessment* explains the method used to assign construction traffic to the HAMs, from which the likely changes in turning movements at local junctions have been identified and added to the construction base case flows.

11.5.52 The assignment of construction lorry trips has been undertaken using OmniTrans[iv] software, which enables a fixed assignment to be created for these trips in order to ensure that they are assigned only to the proposed construction routes. The OmniTrans outputs also identify lorry traffic which would be associated with the Falconbrook Pumping Station site, or with other Thames Tideway Tunnel project sites, that would use routes in the vicinity of the Falconbrook Pumping Station site. Figure 11.5.1 in the Falconbrook Pumping Station *Transport Assessment figures* shows the OmniTrans plot for the local road network around the Falconbrook Pumping Station site.

11.5.53 It is anticipated that along York Road (A3205) there would be an additional four two-way HGV movements per hour as a result of the construction at Falconbrook Pumping Station, plus three two-way HGV movements during the peak hour associated with other Thames Tideway Tunnel sites passing along York Road (A3205) during Site Year 1 of construction at the Falconbrook Pumping Station site. The effect of this on accidents and safety is deemed negligible. However, given that the site is directly accessed from the TLRN, with regards to accidents and safety the site is deemed to potentially be increased to having a moderately significant effect.

11.5.54 The local PICADY model has been used to apply the construction traffic demands and local geometrical changes to the construction base case to determine the changes in the highway network operation due to the project. This relates specifically to the introduction of the two new site accesses on York Road (A3205) during the construction period.

[iv] OmniTrans is a software package used for multi-modal transport network modelling and in this case has been used to produce assignments of construction traffic across the proposed network of routes to be used for the project.

11.5.55 There is no construction base case model as the site accesses would be created for the Thames Tideway Tunnel construction works at the Falconbrook Pumping Station site.

11.5.56 Table 11.5.1summarises the PICADY results for the construction development case.

Table 11.5.1 Construction Development Case PICADY model outputs

Approach	Movement	Weekday							
		AM peak hour (08:00-09:00)				PM peak hour (17:00-18:00)			
		Flow (vehs)	RFC	Max. Queue	Delay (seconds per veh)	Flow (vehs)	RFC	Max. Queue	Delay (seconds per veh)
Site egress	Left out	4	1%	0	10	5	2%	0	12

Notes: 1. RFC represents Ratio of Flow to Capacity. Queue represents number of vehicles in queue. Delay represents the mean delay per vehicle. 2. Site entrance is not included in table as PICADY model only considers movements where vehicles have to 'give way'.

11.5.57 The construction assessment indicates that there would be insignificant delay associated with the new site access points. The new site entrance would not result in delay to traffic on York Road (A3205) in the AM and PM peak respectively. Traffic on York Road (A3205) would have priority and would not be delayed. The site egress would operate well within capacity with no queues expected.

11.5.58 Overall the effect of introducing new site access points and the additional construction vehicle movements would have an insignificant effect.

Construction mitigation

11.5.59 The project has been designed to limit the issues arising on transport networks as far as possible and many measures have been embedded directly in the design of the project, as described below. These are summarised in Table 11.5.2

Table 11.5.2 Falconbrook Pumping Station design measures

Phase	Issues	Design measures
Construction	Creating access point	• Creation of a new site access point and a new site egress point on to York Road (A3205) for construction traffic.
	Safe passage for pedestrians and cyclists	• Provide a safe crossing point for pedestrians on York Road (A3205) wishing to cross the access points. • Providing a safe, visible and accessible diversion for current traffic that would have otherwise used the access route to York Gardens, as described in paragraph 11.4.11. • Providing appropriate signage to divert pedestrians away from the eastern footway on York Road (A3205) between the site accesses during the period when this footway is closed
	Street parking	• Suspension of existing parking space at Community Centre. Provide and advise on alternative

Phase	Issues	Design measures
		parking.
	Movement of construction traffic flows on the local highway network	• Well sign-posted new access and egress points on York Road (A3205). • Movement of the bus stop on York Road (A3205) to allow safe access to and from the site.
Operation	Safe passage for pedestrians and cyclists	• New landscaped pedestrian and cycle routes providing access from York Road (A3205) to York Gardens.
	Street parking	• Provide temporary parking restrictions on local on-street parking to accommodate maintenance visits.

11.6 Operational assessment

11.6.1 This section summarises the findings of the assessment undertaken for Year 1 of operation at the Falconbrook Pumping Station site.

11.6.2 The assessment of the operational phase is limited to the physical issues associated with pedestrian routes and accessing the site from the highway network as outlined in Section 11.2. This has been discussed with the LB of Wandsworth and TfL.

Operational base case

11.6.3 The operational assessment year for transport is Year 1 of operation.

11.6.4 As explained in para. 11.2.68, the elements of the transport network that would be affected during operation are highway layout, pedestrian and cyclist routes and parking. For the purposes of the operational base case, it is anticipated that the highway layout and parking will be as indicated in the construction base case. The pedestrian and cycle routes will be altered due to a relocation of the access 15m north on York Road (A3205). This will have a negligible affect on pedestrians and cyclists.

11.6.5 The operational base case takes into account the developments described in 11.3.14 and 11.3.18. All five of the developments within 1km of the site would be completed by Year 1 of operation. Only one of these is within 250m of the site, as noted in para. 11.5.15 and given the limited effects which are anticipated in the

operational phase and the proposed access routes for maintenance vehicles, that development does not present additional consideration.

Operational development case

11.6.6 The operational development case for the site includes any permanent changes in the vicinity of the Falconbrook Pumping Station site as a result of the Thames Tideway Tunnel project and takes into consideration the occasional maintenance activities required at the site.

11.6.7 As outlined in Section 11.2, during the operational phase, the transport networks would be reinstated to base case conditions at this site with a widened pedestrian route between York Road (A3205) and York Gardens.

11.6.8 The transport demands created by the development in the operational phase would be extremely low and limited to occasional maintenance visits every three to six months, with certain instances where larger mobile cranes and other associated support vehicles may be required for access to the shaft and tunnel every ten years.

11.6.9 The operational assessment has taken into consideration those elements that would be affected, which comprise the short-term impacts on on-street parking and on the highway layout and operation when maintenance visits are made to the site. In addition, any users of recreational and community spaces at York Gardens adjacent to east and south of site could also be affected by the maintenance visits.

11.6.10 In the operational phase the two vehicle accesses to the construction site from York Road (A3205) would be removed and the existing pedestrian and cycle access to York Gardens would be widened and relocated approximately 25m north from the construction phase location between York Road (A3205) and York Gardens.

11.6.11 The new pedestrian and cycle access between York Gardens and York Road (A3205) would improve pedestrian permeability between the residential area to the east of York Gardens and York Road (A3205). The pedestrian environment would therefore be improved.

11.6.12 The footway on the eastern side of York Road (A3205) would be reinstated to the baseline condition. The impact on pedestrian accidents and safety would therefore be negligible. There would be no impact on cycle accidents and safety compared to the operational base case as the construction site accesses would be removed and conditions on York Road (A3205) would therefore be the same as in the operational base case

11.6.13 Although maintenance vehicles would use Lavender Road to access the site during the operational phase, this would be infrequent and short term and where necessary, measures would

be put in place to protect pedestrians and cyclists whilst large maintenance vehicles are manoeuvring.

11.6.14 The overall effect on pedestrians and cyclists in the immediate area including users of the recreational and community facilities is therefore assessed as having a minor improvement in the operational phase.

Parking

11.6.15 When large vehicles are required to service the site, a maximum of 23 parking bays would have to be temporarily suspended to ensure the vehicles have sufficient space to manoeuvre into the site. The suspensions would occur on Winstanley Road, Newcomen Road, Darien Road and Ingrave Street with nine, nine, two and three parking space suspensions respectively. This temporary suspension would be on an infrequent basis, once every ten years, and on occasion where a flatbed vehicle is used for routine six monthly inspections.

11.6.16 The temporary suspension of 23 parking bays would have an adverse effect on parking within the local area.

11.6.17 Taking into consideration the infrequent and temporary nature of the arrival of vehicles at Falconbrook Pumping Station which would require parking suspensions, it is anticipated that there would be a negligible effect on parking.

Highway layout and operation

11.6.18 During the operation phase, access to the site will be achieved by travelling along Grant Road. After continuing along Winstanley Road and Newcomen Road, access to the site can be found on the left hand side at York Gardens. Access from leaving the site will be achieved by going straight on from York Gardens and travelling along Lavender Road. At the junction vehicles will turn left along Damien Road and then turn right and proceed along Ingrave Street. The permanent highway layout plan in the Falconbrook Pumping Station *Transport Assessment* figures show the highway layout during the operational phase.

11.6.19 For routine three or six monthly inspections vehicular access would be required for light commercial vehicles, typically a transit van. On occasion there may be a consequent need for small flatbed vehicles to access the site.

11.6.20 During ten-yearly inspections space to locate two large mobile cranes and other associated support vehicles within the site area would be required. The cranes would facilitate lowering and recovery of tunnel inspection vehicles and to provide duty/standby access for personnel. To assess the effect of these on the highway layout, swept paths have been undertaken for the largest vehicles expected to require access the site; an 11.4m mobile crane, a 10m rigid vehicle and a 10.7m articulated vehicle. The permanent highway layout vehicle swept path analysis plans in the

Falconbrook Pumping Station *Transport Assessment* figures demonstrates that vehicles can safely enter and exit the site.

11.6.21 As identified above, as a result of the large turning circles of the cranes, a maximum of 23 car parking bays would have to be suspended to ensure the vehicles have sufficient space to manoeuvre into the site. This would be approximately every ten years. This would also be the case for the more frequent trips by flatbed vehicles, required on some occasions for the six month inspections.

11.6.22 When larger vehicles are required to service the site, there may also be some temporary, short-term delay to other road users while manoeuvres are made. However it is anticipated that the arrival of large vehicles would normally be scheduled to take place outside of the peak hours to minimise the effect on the local highway network.

11.6.23 During the routine inspections of the operational site, the effect on the road network delay would be negligible.

11.6.24 Taking into consideration the various sensitivities of the receptors affected during the operational phase (pedestrians, cyclists, private vehicle users, emergency vehicles and users of York Gardens Library and Community Centre, York Gardens Adventure playground and York Gardens, and pupils, parents and staff at Thames Christian College School), this would result in a negligible effect on highway layout and operation.

Operational mitigation

11.6.25 Due to there being no significant changes to transport conditions during the operational phase and given the infrequent nature of maintenance visits requiring temporary highway management measures, no mitigation is required.

11.7 Summary of site specific TA

11.7.1 The outcomes of this *TA* demonstrate the key findings indicated in Table 11.7.1

Table 11.7.1 Falconbrook Pumping Station transport assessment results

Phase	Mode of transport	Key Findings
Construction	Pedestrians	Minor and occasional delay to pedestrian journeys due to two additional road crossings at site access and egress points on York Road (A3205) and diversion across York Road for a period during construction.
	Cyclists	No material additional delay to cyclists using York Road (A3205) as a result of additional construction vehicle movements.
	Bus patronage and services	Approximately four additional worker trips would be made by bus which could be accommodated on base case services. No material delay to bus services due to delay on the surrounding highway network as a result of additional construction vehicle movements.
	National Rail and London Overground patronage	Approximately ten additional worker trips would be made by National Rail or London Overground which could be accommodated on base case services.
	Parking	No on-street parking would be affected A net loss of 13 parking bays at the Community Centre and Children's Centre, with sufficient capacity in the surrounding area to absorb displaced demand.
	Highway network and operation	No material delay on York Road (A3205) as a result of additional construction vehicle movements.
Operation	Pedestrians	The eastern footway on York Road (A3205) would be reinstated. The pedestrian route between York Road (A3205) and York Gardens would be reinstated and widened.

Phase	Mode of transport	Key Findings
	Parking	Temporary car parking suspensions in residential streets to the east around the existing site access may be required during large maintenance vehicle visits, but movements would be low and infrequent.
	Highway layout and operation	Negligible change to the operation of the highway network as maintenance visits would be infrequent and short term.

References

[1]Transport for London, *Travel Planning for new development in London*, Transport for London (2011)

[2] Department for Transport (DfT), *Traffic Signs Manual Chapter 8 - Traffic Safety Measures and Signs for Road Works and Temporary Situations. (2009).*

[3] HM Government, *Equality Act 2010 – Guidance. (2010).*

[4] Department for Transport (DfT), *Traffic Advisory Leaflet 15/99 - Cyclists at Road Works, December 1999.*

Thames Tideway Tunnel
Thames Water Utilities Limited

Application for Development Consent

Application Reference Number: WWO10001

Transport Assessment

Doc Ref: **7.10.08**

Falconbrook Pumping Station

Appendices

APFP Regulations 2009: Regulation **5(2)(q)**

Hard copy available in

Box **50** Folder **B**
January 2013

Thames Tideway Tunnel

Creating a cleaner, healthier River Thames

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Thames Tideway Tunnel

Transport Assessment

Section 11 Appendices: Falconbrook Pumping Station

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Appendix A – Policy review

A.1 Introduction

A.1.1 There are a number of documents containing planning policies that are relevant to transport matters for the proposed development at Falconbrook. This includes national, regional and local policies relevant to the site.

A.1.2 This section reviews current documents relevant to the proposed development which is situated within the Borough of Wandsworth.

A.2 National Policy

National Planning Policy Framework (March 2012)

A.2.1 The Department for Communities and Local Government published the National Planning Policy Framework (NPPF) in March 2012. The NPPF replaces a variety of existing planning guidance, most notable the following document, Planning Policy Guidance 13: Transport (November 2010).

A.2.2 The key objective of the NPPF is to create a policy context to support economic growth. The principle of the guidance is to place an emphasis on sustainable development, where environmental conditions should be considered alongside economical and social matters.

A.2.3 It outlines the importance of local development plans and notes that where development accords with an up to date development plan then the proposals should be approved. Moreover, it suggests that local authorities should follow the approach of the presumption in favour of sustainable development.

A.2.4 With particular reference to transport matters the documents states:

"*In preparing local plans, local planning authorities should therefore support a pattern of development which, where reasonable to do so, and facilitates the use of sustainable modes of transport.*"

A.2.5 The guidance goes on to advise at paragraph 32:

"All developments that generate significant amounts of movement should be supported by a Transport Statement or Transport Assessment. Plans and decisions should take account of whether:

the opportunities for sustainable transport modes have been taken up depending on the nature and location of the site, to reduce the need for major transport infrastructure;

safe and suitable access to the site can be achieved for all people; and

improvements can be undertaken within the transport network that cost effectively limit the significant impacts of the development. Development should only be prevented or refused on transport grounds where the residual cumulative impacts of development are severe."

A.2.6 The document also states that:

"Plans should protect and exploit opportunities for the use of sustainable transport modes for the movement of goods or people". Therefore:

"A key tool to facilitate this would be a Travel Pan. *All developments which generate significant amounts of movement should be required to provide a Travel Plan".*

National Policy Statement for Waste Water (March 2012)

A.2.7 The National Policy Statement for Waste Water was published by the Department of Environment, Food and Rural Affairs in March 2012. This National Policy Statement (NPS) sets out Government policy for the provision of major waste water infrastructures. The NPS does not recognise the Thames Tideway Tunnel project within the original thresholds which is contained within the Planning Act. However the document indicates that *"the Government has already stated its intention that the project should be considered at a national level"*.

A.2.8 The Secretary of State announced that development consent for the Thames Tideway Tunnel project should also be dealt with under the regime for nationally significant infrastructure projects under the Planning Act 2008.

A.2.9 The NPS for Waste Water seeks a sustainable long term solution to address the untreated sewage discharged into the river Thames and Thames Tideway Tunnel has been considered as the preferred solution.

A.2.10 With particular reference to transport matters the document states:

"The ES should include a transport assessment, using the NATA/WebTAG methodology stipulated in Department for Transport (DfT), or any successor to such methodology. Applicants should consult the Highways Agency and/or the relevant highway authority, as appropriate, on the assessment and on mitigation measures. The assessment should distinguish between the construction, operation and decommissioning project stages as appropriate".

A.2.11 The document states that the impacts on the surrounding transport infrastructure should be mitigated and where the mitigation measures are not sufficient the requirements to mitigate adverse impacts on transport networks should be considered.

A.2.12 Therefore it is advised to prepare a travel plan which includes demand management measures to mitigate transport impacts, and *"to provide details of proposed measures to improve access by public transport, walking and cycling, to reduce the need for parking associated with the proposal and to mitigate transport impacts".*

A.2.13 The NPS for Waste Water prefers water-borne or rail transport over road transport and where there is likely to be substantial HGV traffic, the following measures should be looked:

"control numbers of HGV movements to and from the site in a specified period during its construction and possibly on the routing of such movements;

make sufficient provision for HGV parking, either on the site or at dedicated facilities elsewhere, to avoid 'overspill' parking on public roads, prolonged queuing on approach roads and uncontrolled on-street HGV parking in normal operating conditions; and

ensure satisfactory arrangements for reasonably foreseeable abnormal disruption, in consultation with network providers and the responsible police force".

A.2.14 The proposed development is located at a relatively moderate accessible transport hub and the proposed location has a Public Transport Accessibility Level (PTAL) rating of 3, rated as 'moderate'. It is assumed that construction workers would not travel by car to and from the site on the basis that there would be no worker parking on site; on-street parking in the area is restricted; and site-specific Travel Plan measures will discourage workers from travelling by car. Information regarding the travel arrangements of the workers associated with the site will be included in the *Project Framework Travel Plan* and site-specific Travel Plan documents.

A.3 Regional policy

The London Plan (July 2011)

A.3.1 The London Plan 2011 is produced by the Greater London Authority (GLA) and sets out the strategic planning guidance for London planning authorities. The Mayor of London is responsible for strategic planning and the production of a Spatial Development Strategy called The London Plan. The London plan sets out the integrated economic, environmental, transport and social framework for the development of London over the next 20-25 years. The Plan takes the year 2031 as its formal end date and its over-arching vision is supported by six detailed objectives for London:

A city that meets the challenges of economic and population growth;

An internationally competitive and successful city;

A city of diverse, strong, secure and accessible neighbourhoods;

A city that delights the senses;

A city that becomes a world leader in improving the environment; and

A city where it is easy, safe and convenient for everyone to access jobs, opportunities and facilities.

A.3.2 The last objective of the plan relates specifically to transport. Policies within the London Plan of relevance to the proposed development are outlined as follows:

A.3.3 **Policy 6.1 – Strategic Approach** advises that the mayor will work with all relevant partners to encourage the closer integration of transport and development by:

Encouraging patterns and nodes of development that reduce the need to travel, especially by car;

Seeking to improve the capacity and accessibility of public transport, walking and cycling, particularly in areas of greater demand;

Supporting development that generates high levels of trips at locations with high public transport accessibility and/or capacity, either currently or via committed, funded improvement;

Seeking to increase the use of the Blue Ribbon Network, especially the Thames, for passenger and freight use;

Facilitating the efficient distribution of freight whilst minimising its impacts on the transport network;

Supporting measures that encourage shifts to mode sustainable modes and appropriate demand management; and

Promoting greater use of low carbon technology so that carbon dioxide and other contributors to global warming are reduced.

A.3.4 **Policy 6.2 – Providing public transport capacity and safeguarding land for transport** which notes that development proposals that do not provide adequate safeguarding for the schemes should be refused.

A.3.5 **Policy 6.3 – Assessing effects of development on transport capacity** outlines that development proposals should ensure that impacts on transport capacity and the transport network, at both a corridor and local level, are fully assessed. Development should not adversely affect safety on the transport network. Where existing transport capacity is insufficient for the travel generated by proposed developments, and no firm plans exist for an increase in capacity, boroughs should ensure that the development proposals are phased until it is known that these requirements can be met. The policy notes that the use of Travel Plans and addressing freight issues can help reduce the impact of development on the transport network.

A.3.6 **Policy 6.7 – Better streets and surface transport** notes that high levels of priority should be provided to bus routes and there should be direct, secure, accessible and pleasant walking routes to stops. The development would include provision of transport to and from public transport nodes where sites are at a distance from public transport services.

A.3.7 **Policy 6.9 – Cycling** presents measures to increase cycling mode share in London to 5 percent by 2026. Measures include completing the Cycle Super Highways and expanding the London cycle hire scheme. To support this, developments should provide cycle parking to at least the minimum standards, provide showers and changing facilities and facilitate the major cycling schemes in London (Super Highways / Cycle Hire).

A.3.8 **Policy 6.10 – Walking** recommends the use of shared space principles with simplified streetscape, de-cluttering and access for all. Developments should therefore ensure high quality pedestrian environments and emphasise the quality of pedestrian and street space. It points to the ‘Legible London’ pedestrian wayfinding system as a successful measure to support walking journeys.

A.3.9 **Policy 6.13 – Parking** outlines the need to seek an appropriate balance between promoting new development and preventing excessive car parking provision that can undermine cycling, walking and public transport use. As such, car parking should reduce as public transport accessibility (measured by PTAL) increases. The policy advises that Transport assessments and travel plans for major developments should give details of proposed measures to improve non-car based access, reduce parking and mitigate adverse transport impacts.

A.3.10 **Policy 6.14 – Freight** notes that freight distribution should be improved and movement of freight by rail and waterway should be promoted. To support this, developments that generate high number of freight movements should be located close to major transport routes. In addition, the Freight Operators Recognition Scheme, construction logistics plans and delivery and servicing plans should be promoted. The policy also advises the increase in the use of the Blue Ribbon Network for freight transport.

The Mayors Transport Strategy (GLA, 2010)

A.3.11 In addition to the London Plan, the Mayor has prepared a number of strategies that are essentially an extension of the London Plan. Published by the GLA in 2010, the Mayor's Transport Strategy (MTS) (Greater London Authority, May 2010) envisages *"London's Transport system excelling among that of global cities, providing access to opportunities for all people and enterprises while achieving the highest environmental standards and leading the world in its move towards tackling the urban transport challenges of the 21st century"*.

A.3.12 The MTS sets out a number of policy commitments or requirements which have implications for TfL and a range of other delivery partners including the GLA and the London boroughs. The policies that are relevant to the proposed development are:

Policy 4 indicating that the Mayor will seek *"to improve people's access to jobs, business' access to employment markets, business to business access, and freight access by seeking to ensure appropriate transport capacity and connectivity is provided on radial corridors into central London";*

Policy 5 seeks *"to ensure efficient and effective access for people and goods within central London";*

Policy 8 supports *"a range of transport improvements within metropolitan town centres for people and freight that help improve connectivity and promote the vitality and viability of town centres, and that provide enhanced travel facilities for pedestrians and cyclists";*

Policy 9 states that the Mayor *"will use the local and strategic development control processes";*

Policy 11 specifies that the Mayor will *"encourage the use of more sustainable, less congesting modes of transport, set appropriate parking standards, and aim to increase public transport, walking and cycling mode share";*

Policy 12 states that the Mayor *"will seek to improve the distribution of freight through the provision of better access to/from Strategic Industrial Locations, delivery and servicing plans, and other efficiency measures across London"; and*

Policy 15 and **Policy 16** indicate that the Mayor will seek to reduce emissions of air pollutants and noise impacts from transport respectively.

A.3.13 The *London Freight Plan, Sustainable Freight Distribution: a Plan for London* (TfL, June 2008) sets out the steps that have to be taken over the next five to ten years to identify and begin to address the challenge of delivering freight sustainably in the capital. Principles set in that document are expected to be relevant to the consideration of the construction logistics strategy for the proposed development.

A.4 Local policy

A.4.1 The London Borough of Wandsworth has a number of policies relevant to transport within the Local Development Framework (LDF) and the Unitary Development Plan (UDP). Both reflect national and regional focused policies and are referred to below where appropriate.

Local Development Framework

A.4.2 The emerging LDF aims to guide and manage development and regeneration in the borough until 2025. The Core Strategy of the LDF – adopted in October 2010 – now forms part of the statutory planning guidance for the borough, together with the saved policies of the borough's Unitary development Plan (UDP).

A.4.3 Transport policies within this document are concerned with ensuring improvements are made to the public transport, river wharves and accessibility, reducing carbon emissions, and encouraging the use of sustainable transport within the borough.

A.4.4 **Policy PL 3 – Transport** – outlines how the borough will improve the transport network by ensuring *'quality cycling conditions will be delivered'* and *'improved conditions for walking'* along the Thames Path and other accessible routes will be delivered.

A.4.5 **Policy PL 9 – River Thames and the riverside** - outlines that '*greater use will be made of the river'* and that the 'five wharves will continue to be safeguarded', while the redevelopment of these wharves will be accepted *'if the wharf is no longer viable or capable of being made viable for cargo handling uses'*. Further*'existing river infrastructure that provides access to the river and the foreshore, such as piers, jetties, drawdocks, slipways, steps and stairs will be protected and new facilities, including piers for river buses, promoted'.*

A.4.6 *'Putney Embankment's special recreational character and function'* will be protected, particularly for river sports. Also this policy commits to stating that *'development will not be permitted which encroaches onto the river foreshore'* and opportunities will be taken in consultation with partner agencies, to *'create habitat and reduce flood risk'*.

A.4.7 Also measures will be made to protect and enhance the river as a valuable resource for wild life, in particular at the mouth of the River Wandle.

A.4.8 **Policy PL 10 – The Wandle Valley** - identifies that *'improved accessibility within the corridor and to the riverside will be pursued including the provision of pedestrian and cycle ways'*.

A.4.9 It further outlines the council will support the recreation development of *'King George's Park and north of Wandsworth town centre to the River Wandle mouth'*.

A.4.10 **Policy PL 12 – Central Wandsworth and the Wandle Delta** outlines a number of proposals within central Wandsworth and the Wandle Delta. Amongst them are:

- The Ram Brewery development is to provide a 'high quality public realm' linking the riverside and the juinction of Wandsworth Plain and Armoury Way,
- The banks of the River Wandle will be improved to provide a resource for wild life and recreation and enhancing the existing open space at Causeway Island,
- Wandsworth Business Village 'will provide pedestrian and cycle links to the south via a new park side promenade at Neville Gill Close' which will access King George's Park.

A.4.11 The council further state that 'the impact of traffic on the town centre should be reduced in partnership with TfL' and they will achieve this 'through developer contributions and funds from TfL and other transport infrastructure providers'.

A.4.12 **Policy IS 1 – Sustainable development** - supports '*measures that mitigate and adapt to climate change and reduce emissions of carbon dioxide, and will promote a sustainable relationship between development and transport so as to minimise the need to travel'*.

Development Management Policies (LB of Wandsworth, Feb 2012)

A.4.13 The DMP was adopted by the LB of Wandsworth in February 2012 and supports the Core Strategy. It sets out the Council's detailed policies for managing development in the borough. The policies in the DMP and the SSA replace all of the remaining policies in the Councils Unitary Development Plan (UDP) which have not previously expired or been superseded by the policies in the Core Strategy.

A.4.14 Transport policies within this document are concerned with ensuring sustainable urban design, riverside walking and cycling and parking within the borough.

A.4.15 **Policy DMS 1 – General development principles - Sustainable urban design and the quality** – identifies that developments must ensure that they do *'not harm the amenity of occupiers/users and nearby properties through unacceptable'* traffic congestion, it *'is adequately served by public*

transport', is *'designed to reduce the need to travel and minimise car use'* and is *'accessible to people with disabilities'*.

A.4.16 **Policy DMO 6 – Riverside development** – distinguishes developments adjoining the River Thames and River Wandle which *'promotes sustainable transport'* and in particular *'provides access to public transport routes including the incorporation of a public riverside walk and cycle-path'*.

A.4.17 **Policy DMT1 – Transport impacts of development** – recognises that developments do *'not have a negative impact on the transport system, including public transport capacity and the highway network'*.

A.4.18 **Policy DMT 2 – Parking and servicing** – ascertains that developments will be permitted once 'off-street car parking is provided subject to the maximum levels' set out by the borough.

A.4.19 **Policy DMT 3 – Riverside walking and cycling routes** - permits developments along the Thames and Wandle once provision has been made *'for a riveside walk at least 6 metres wide (Thames) or 3 metres wide (Wandle)'*, *'new accesses lining the riverside walk to the surrounding area are a least 3 metres wide'* and *'riverside routes incorporate provision for cyclists, ensuring pedestrian safety'*.

Site-Specific Allocations Document (LB of Wandsworth, Feb, 2012)

A.4.20 The SSAD was adopted by LB Wandsworth in February 2012 and supports the Core Strategy.

A.4.21 **Battersea Park Station** – is classified as being *'within the Vauxhall/Nine Elms/ Battersea Opportunity Area'* and is a key strategic site that will *'deliver transport improvements'* and *'significant public transport provision'* will be needed. Amongst this provision will be an extension to the London Underground Northern Line, river passenger pier including provision of a river bus service, a bus service between BPS and Wandsworth Road and enhancement for the strategic Nine Elms Lane/Battersea Park Road *'to overcome the hostile environment for pedestrians and cyclists that currently exists'*. A Thames Path *'linking with existing and proposed Thames paths must be provided'*.

A.4.22 **Riverlight Development** – identifies that improvements would be made to the *'Riverside walk and cycle route'* as well as the junction between Cringle Street and Nine Elms Lane. Also within this SSAD the importance of the safeguarded wharves at Cringle Dock, Kirtling Wharf and Middle Wharf will *'require their retention and continued operation'*. As for BPS there will be *'significant public transport provision*' here as well.

A.4.23 **US Embassy** – outlines the proposed realignment of Ponton Road, as well as potential for a proposed river crossing. As the same for BPS, there will be *'significant public transport provision*' here as well.

A.4.24 **Embassy Gardens –** ascertains that a public realm is expected to run through the site in conjunction with the proposed *'linear park linking*

Vauxhall to BPS'. As the same for BPS, there will be *'significant public transport provision*' here as well.

A.4.25 **Nine Elms Parkside** - recognises that provisions are to be made for *'improved pedestrian and cycle links through the site to provide improved permeability particularly between Nine Elms Lane and Wandsworth Road'*. There is to be a site access onto Nine Elms Lane at the junction of Cringle Street and Nine Elms Lane, making it a four arm junction. As for BPS there will be *'significant public transport provision*' here as well. As in Embassy Gardens there are proposals for a public realm to run through the site linking BPS and Vauxhall.

A.4.26 **New Covent Garden Market** – identifies that the public realm and the existing main access to NCGM 'will need particularly careful treatment' to ensure that the public realm will continue *'across what will continue to be a major junction'* at Kirtling Street/Battersea Park Road.

A.4.27 **Wandsworth Business Village** – outlines that provision will be given for three new connections providing public access through the site. A new pedestrian crossing facility on Buckhold Road will need to be provided, as well improvements to the King George Park entrance and Neville Gill Close promenade.

A.4.28 **Ram Brewey/ Capita Studios** – distinguishes that there should be *'provision for new riverside walks on both banks of the River Wandle'*. Proposals to change the trunk road system with the Wandsworth One-Way System will be required. Also, proposals are to be made to improve the bus services, provide a public realm and the provision of land to public highway, riverside walks and cycle paths surrounding the site.

A.4.29 **Supplementary Planning Guidance**

A.4.30 The SPG supports and is a document with important local views which support local areas within the borough and their relevant transport issues.

A.4.31 Transport policies within these documents are concerned with views of surrounding buildings and landmarks within the borough.

Unitary Development Plan (LB of Wandsworth, Aug 2003)

A.4.32 The UDP was adopted by the London Borough of Wandsworth in August 2003. Due to the merging LDF and the adoption of the Core Strategy, a number of policies have been deleted from the UDP. The relevant UDP policies which have been saved since September 2007 are outline below.

A.4.33 **Policy RDP1: Regeneration and Development Principles** - outline that without *'adequate and satisfactory provision for pedestrian access and for parking'* a development will not be permitted.

A.4.34 **Policy RDP5: Regeneration and Development Principles** – further identifies that the beneficial effects resulting from a lighting scheme on site must not affect 'vehicle users and pedestrians'.

A.4.35 **Policy TBE1: Townscape and Built Environment** - classifies that a development *'provides safe and convenient access for cyclists and pedestrians'*.

A.4.36 **Policy R2: River Thames and Riverside** - ascertains that developments will not be permitted unless *'provision is made for riverside walk at least 6m wide along the entire river frontage'* and *'any new accesses linking the riverside walk to the surrounding area are at least 3m wide'*.

A.4.37 **Policy R7: River Thames and Riverside** – further recognises that proposals for piers and jetties will be permitted provided *'they do not harm the use of the docks and working wharves or other existing uses of the river'.*

A.4.38 **Policy R8: River Thames and Riverside** – identifies that the *'loss of drawdocks, slipways, steps and stairs which give safe access to the river and foreshore'* within development proposals will not be permitted.

A.4.39 **Policy R9: River Thames and Riverside** – distinguishes that for proposals adjoining the River Wandle the council will seek the provision of a riverside walk at least 3m wide and improved access to the riverside.

A.4.40 **Policy R11: River Thames and Riverside** – further identifies that the Council will seek developments within Causeway Island for *'river related uses'*.

A.4.41 **Policy R14: River Thames and Riverside** – further categorizes that the Council will not permit the loss of uses and facilities relying on access to the Thames within the Putney Embankment Area.

A.4.42 **Policy H3: Housing** – identifies that developments harming the *'amenities of predominantly residential areas'* because of traffic generation.

A.4.43 **Policy T2: Transport** – recognises that developments that would *'generate sufficient traffic to harm the environment, or create congestion or hazards on the road network'* would not be permitted by Council.

A.4.44 **Policy T5: Transport** – further pinpoints that *'new developments will only be permitted where they provide safe, secure and direct access for pedestrians, connected to existing pedestrian routes in the surrounding area'*.

A.4.45 **Policy T7: Transport** – distinguishes that for non-residential developments *'adequate servicing arrangements'* must be made for *'commercial vehicles'* in order for the Council to permit planning.

A.4.46 **Policy T8: Transport** – categorizes that developments that propose *'new or expanded wharves and railheads will be permitted where they do not cause harm to the environment and are located so that there is suitable road access'*.

A.4.47 **Policy T12: Transport** – classifies that the loss of off-street parking spaces in areas in or adjacent t the House Conversion Restraint Areas will be resisted.

Appendix B– PTAL analysis

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PTAI Study Report File Summary

PTAI Run Parameters

PTAI Run	20120410162202
Description	20120410162202
Run by user	PTAL web application
Date	04/10/2012

Walk File Parameters

Walk File	PLSQLTest
Day of Week	M-F
Time Period	AM Peak
Walk Speed	4.8 kph
BUS Walk Access Time (mins)	8
BUS Reliability Factor	2.0
LU LRT Walk Access Time (mins)	12
LU LRT Reliability Factor	0.75
NATIONAL_RAIL Walk Access Time (mins)	12
NATIONAL_RAIL Reliability Factor	0.75
Coordinates:	526638, 175870

Mode	Stop	Route	Distance (metres)	Frequency (vph)	Weight	Walk time (mins)	SWT (mins)	TAT (mins)	EDF	AI
BUS	BATTERSEA PRINCES HEAD	319	577.78	8	0.5	7.22	5.75	12.97	2.31	1.16
BUS	BATTERSEA PRINCES HEAD	345	577.78	8	0.5	7.22	5.75	12.97	2.31	1.16
BUS	YORK ROAD LOMBARD ROAD	44	79.64	6	0.5	1	7	8	3.75	1.88
BUS	BATTERSEA PRINCES HEAD	344	577.78	10	0.5	7.22	5	12.22	2.45	1.23
BUS	BATTERSEA PRINCES HEAD	49	577.78	7.5	0.5	7.22	6	13.22	2.27	1.13
BUS	YORK ROAD LOMBARD ROAD	170	79.64	7.5	1	1	6	7	4.29	4.29
BUS	YORK ROAD LOMBARD ROAD	295	187.02	7.5	0.5	2.34	6	8.34	3.6	1.8
BUS	YORK ROAD LOMBARD ROAD	C3	187.02	8	0.5	2.34	5.75	8.09	3.71	1.85

Total AI for this POI is 14.5.

PTAL Rating is 3.

Appendix C – Local modelling outputs

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C.1 Construction development case results, AM peak hour

York Road/New site access junction priority layout

Data Errors and Warnings

No errors or warnings

Analysis Set Details

Name	Roundabout Capacity Model	Description	Include In Report	Use Specific Demand Set(s)	Specific Demand Set(s)	Locked	Network Flow Scaling Factor (%)	Network Capacity Scaling Factor (%)	Reason For Scaling Factors
Proposed Site Access	ARCADY		✓				100.000	100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Results For Central Hour Only	Single Time Segment Only	Locked	Run Automatically	Use Relationship	Relationship
Dev Case, AM	Dev Case	AM		DIRECT	08:00	09:00	60	15				✓		

Junction Network

Junctions

Name	Junction Type	Major Road Direction	Arm Order	Do Geometric Delay	Junction Delay (s)	Junction LOS
untitled	T-Junction	Two-way	A,B,C		9.64	A

Junction Network Options

Driving Side	Lighting	Road Surface
Left	Normal/unknown	(Mini-roundabouts only)

Arms

Arms

Arm	Name	Description	Arm Type
A	York Road (North)		Major
B	Site Road A		Minor
C	York Road (South)		Major

Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Width of kerbed central reserve (m)	Has right turn bay	Width For Right Turn (m)	Visibility For Right Turn (m)	Blocks?	Blocking Queue (PCU)
C	11.60		0.00		2.20	70.00		

Geometries for Arm C are measured opposite Arm B. Geometries for Arm A (if relevant) are measured opposite Arm D.

Minor Arm Geometry

Arm	Minor Arm Type	Lane Width (m)	Lane Width (Left) (m)	Lane Width (Right) (m)	Width at give-way (m)	Width at 5m (m)	Width at 10m (m)	Width at 15m (m)	Width at 20m (m)	Estimate Flare Length	Flare Length (PCU)	Visibility To Left (m)	Visibility To Right (m)
B	One lane	5.00										30	30

Pedestrian Crossings

Arm	Crossing Type
A	None
B	None
C	None

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (Veh/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
1	B-A	657.747	0.083	0.210	0.132	0.300
1	B-C	771.538	0.089	0.226	-	-
1	C-B	614.501	0.180	0.180	-	-

The slopes and intercepts shown above do NOT include any corrections or adjustments.
Streams may be combined, in which case capacity will be adjusted.
Values are shown for the first time segment only; they may differ for subsequent time segments.

Traffic Flows

Demand Set Data Options

Default Vehicle Mix	Vehicle Mix Varies Over Time	Vehicle Mix Varies Over Turn	Vehicle Mix Varies Over Entry	Vehicle Mix Source	PCU Factor for a HV (PCU)	Default Turning Proportions	Estimate from entry/exit counts	Turning Proportions Vary Over Time	Turning Proportions Vary Over Turn	Turning Proportions Vary Over Entry
		✓	✓	HV Percentages	2.00				✓	✓

Entry Flows

General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (Veh/hr)	Flow Scaling Factor (%)
A	DIRECT	✓	N/A	100.000
B	DIRECT	✓	N/A	100.000
C	DIRECT	✓	N/A	100.000

Turning Proportions

Turning Counts or Proportions (Veh/hr) - Junction 1 (for whole period)

		To		
		A	B	C
From	A	0.000	0.000	904.000
	B	0.000	0.000	4.000
	C	1945.000	0.000	0.000

Turning Proportions (Veh) - Junction 1 (for whole period)

		To		
		A	B	C
From	A	0.00	0.00	1.00
	B	0.00	0.00	1.00
	C	1.00	0.00	0.00

Vehicle Mix

Average PCU Per Vehicle - Junction 1 (for whole period)

		To		
		A	B	C
From	A	1.000	1.054	1.087
	B	1.000	1.000	1.456
	C	1.047	1.000	1.000

Heavy Vehicle Percentages - Junction 1 (for whole period)

		To		
		A	B	C
From	A	0.000	5.400	8.730
	B	0.000	0.000	45.610
	C	4.710	0.000	0.000

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)	Total Queueing Delay (Veh-min)	Average Queueing Delay (s)	Rate Of Queueing Delay (Veh-min/min)	Inclusive Total Queueing Delay (Veh-min)	Inclusive Average Queueing Delay (s)
B-AC	0.01	9.64	0.01	A	4.00	4.00	0.63	9.47	0.01	0.63	9.47
C-A	-	-	-	-	1945.00	1945.00	-	-	-	-	-
C-B	0.00	0.00	0.00	A	0.00	0.00	0.00	0.00	0.00	0.00	0.00
A-B	-	-	-	-	0.00	0.00	-	-	-	-	-
A-C	-	-	-	-	904.00	904.00	-	-	-	-	-

C.2 Construction development case results, PM peak hour

York Road/New site access junction priority layout

Data Errors and Warnings

No errors or warnings

Analysis Set Details

Name	Roundabout Capacity Model	Description	Include In Report	Use Specific Demand Set(s)	Specific Demand Set(s)	Locked	Network Flow Scaling Factor (%)	Network Capacity Scaling Factor (%)	Reason For Scaling Factors
Proposed Site Access	ARCADY		✓				100.000	100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Results For Central Hour Only	Single Time Segment Only	Locked	Run Automatically	Use Relationship	Relationship
Dev Case, PM	Dev Case	PM		DIRECT	17:00	18:00	60	15				✓		

Junction Network

Junctions

Name	Junction Type	Major Road Direction	Arm Order	Do Geometric Delay	Junction Delay (s)	Junction LOS
untitled	T-Junction	Two-way	A,B,C		11.91	B

Junction Network Options

Driving Side	Lighting	Road Surface
Left	Normal/unknown	(Mini-roundabouts only)

Arms

Arms

Arm	Name	Description	Arm Type
A	York Road (North)		Major
B	Site Road A		Minor
C	York Road (South)		Major

Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Width of kerbed central reserve (m)	Has right turn bay	Width For Right Turn (m)	Visibility For Right Turn (m)	Blocks?	Blocking Queue (PCU)
C	11.60		0.00		2.20	70.00		

Geometries for Arm C are measured opposite Arm B. Geometries for Arm A (if relevant) are measured opposite Arm D.

Minor Arm Geometry

Arm	Minor Arm Type	Lane Width (m)	Lane Width (Left) (m)	Lane Width (Right) (m)	Width at give-way (m)	Width at 5m (m)	Width at 10m (m)	Width at 15m (m)	Width at 20m (m)	Estimate Flare Length	Flare Length (PCU)	Visibility To Left (m)	Visibility To Right (m)
B	One lane	5.00										30	30

Pedestrian Crossings

Arm	Crossing Type
A	None
B	None
C	None

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (Veh/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
1	B-A	657.747	0.083	0.210	0.132	0.300
1	B-C	771.538	0.089	0.226	-	-
1	C-B	614.501	0.180	0.180	-	-

The slopes and intercepts shown above do NOT include any corrections or adjustments.
Streams may be combined, in which case capacity will be adjusted.
Values are shown for the first time segment only; they may differ for subsequent time segments.

Traffic Flows

Demand Set Data Options

Default Vehicle Mix	Vehicle Mix Varies Over Time	Vehicle Mix Varies Over Turn	Vehicle Mix Varies Over Entry	Vehicle Mix Source	PCU Factor for a HV (PCU)	Default Turning Proportions	Estimate from entry/exit counts	Turning Proportions Vary Over Time	Turning Proportions Vary Over Turn	Turning Proportions Vary Over Entry
		✓	✓	HV Percentages	2.00				✓	✓

Entry Flows

General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (Veh/hr)	Flow Scaling Factor (%)
A	DIRECT	✓	N/A	100.000
B	DIRECT	✓	N/A	100.000
C	DIRECT	✓	N/A	100.000

Turning Proportions

Turning Counts or Proportions (Veh/hr) - Junction 1 (for whole period)

		To		
		A	B	C
From	A	0.000	0.000	1513.000
	B	0.000	0.000	5.000
	C	1090.000	0.000	0.000

Turning Proportions (Veh) - Junction 1 (for whole period)

		To		
		A	B	C
From	A	0.00	0.00	1.00
	B	0.00	0.00	1.00
	C	1.00	0.00	0.00

Vehicle Mix

Average PCU Per Vehicle - Junction 1 (for whole period)

		To		
		A	B	C
From	A	1.000	1.054	1.035
	B	1.000	1.000	1.359
	C	1.052	1.000	1.000

Heavy Vehicle Percentages - Junction 1 (for whole period)

		To		
		A	B	C
From	A	0.000	5.400	3.470
	B	0.000	0.000	35.860
	C	5.210	0.000	0.000

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)	Total Queueing Delay (Veh-min)	Average Queueing Delay (s)	Rate Of Queueing Delay (Veh-min/min)	Inclusive Total Queueing Delay (Veh-min)	Inclusive Average Queueing Delay (s)
B-AC	0.02	11.91	0.02	B	5.00	5.00	0.97	11.66	0.02	0.97	11.66
C-A	-	-	-	-	1090.00	1090.00	-	-	-	-	-
C-B	0.00	0.00	0.00	A	0.00	0.00	0.00	0.00	0.00	0.00	0.00
A-B	-	-	-	-	0.00	0.00	-	-	-	-	-
A-C	-	-	-	-	1513.00	1513.00	-	-	-	-	-

Appendix D – Accident Analysis

D.1 Existing Highway Safety Analysis

D.1.1 Accident data within the vicinity of the site has been obtained from Transport for London (TfL) and analysed to determine if there are any specific road safety issues, trends or patterns evident on the surrounding highway network.

D.1.2 Data has been obtained for a 5 year period, up until the 31st March 2011. Figure 1.1 shows the extent of the study area which has been reviewed. The following roads and junctions have been analysed:

- York Road;
- York Road / Wye Street Junction;
- York Road / Lombard Junction;
- York Road / Bridges Court;
- York Road / York Place / Plough Road Junction; and
- Plough Road.

D.1.3 Table D.1 provides a summary of the accident locations, the total number of accidents and the level of accident severity.

Table D.1 Accident severity 2006 to 2011

Location	Slight	Serious	Fatal	Total
York Road	10	2	0	12
York Road / Wye Street junction	1	0	0	1
York Road / Lombard junction	6	2	0	8
York Road / Bridges Court junction	3	0	0	3
York Road / York Place / Plough Road junction	8	2	1	11
Plough Road	0	1	0	1
Plough Road / Holegate Avenue junction	1	0	0	1
Total	**29**	**7**	**1**	**37**

D.1.4 During the 5 year period, a total of 37 accidents have been recorded within the study area analysed. Of these accidents, 29 were classified as slight, 7 were serious and one accident was fatal. Accident analysis, for each location, is discussed in more detail in the following section.

York Road

D.1.5 York Road routes in a south-westerly direction, running along the western side of the Falconbrook site. York Road forms part of the Transport for

London Road Network (TLRN), which connects with Trinity Road in the south-west providing access to Tooting and Streatham. In the east, York Road converts to Battersea Park Road providing access to Queenstown and Battersea.

D.1.6 In total, 35 accidents have occurred along York Road and at the associated junctions including the junctions with Wye Street, Lombard Road, Bridges Court and York Place and Plough Road. Of the total accidents, 28 were categorised as slight in severity, 6 were serious and one accident was fatal.

D.1.7 The slight accidents were predominately the result of vehicle drivers / riders failing to look properly, losing control of the vehicle and carrying out a carrying out a poor turn or manoeuvre. Some accidents, involving pedestrians, were also the result of pedestrians failing to use pedestrian crossings properly.

D.1.8 The majority of the serious accidents occurred along York and at the junctions with Lombard Road and York Place and Plough Road. Most of these accidents involved motorcyclists, although one accident involved a pedestrian was hit by a vehicle thought to driving recklessly / in a hurry. The cause of these accidents was commonly attributed to vehicle drivers undertaking a poor manoeuvre, failing to look properly and exceeding the speed limit. One of these accidents involved a LGV.

D.1.9 The fatal accident occurred at the junction of York Road and Plough Road. A car was turning at high speed, lost control of the vehicle and mounted a footpath causing a collision with a pedestrian. The accident was attributed to the vehicle driver being impaired by alcohol and drugs, aggressive driving and exceeding speed limit.

D.1.10 Of the total accidents at this location, 3 involved a LGV of which 2 led to a slight accident and one led to a serious accident (described above).

Plough Road

D.1.11 Plough Road routes in a south-easterly direction from York Road. During the 5 year period, 2 accidents (one slight and one serious) were recorded on York Road and at the junction with Holegate Avenue.

D.1.12 A serious accident occurred approximately 25 metres south of the junction with York Road, which involved the collision of a car and a cyclist as a result of the cyclist failing to look properly.

D.2 Summary and conclusion

D.2.1 The highest number of accidents (12 accidents) occurred along York Road.

D.2.2 There was one fatal accident which occurred as a result of a vehicle driver being impaired by alcohol and drugs, aggressive driving and exceeding speed limit. Furthermore, it is understood that the majority of the serious and slight accidents were the result of vehicle drivers / riders failing to look properly or undertaking a poor turn or manoeuvre. Therefore, it is

considered that the accidents were not specifically caused by the road geometry or infrastructure.

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Appendix E– Road Safety Audit

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Your ref -
Our ref 211146-00/cvl

ARUP

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15 February 2013

Dear Sirs

Thames Tideway Tunnel – Falconbrook Pumping Station
Stage 1 Road Safety Audit

I have the pleasure of enclosing our Falconbrook Pumping Station – Stage 1 Road Safety Audit report. In addition to the enclosed report the Audit Team noted the following points outwith the remit of the audit. I would be grateful if you would bring these issues to the attention of the Highway Authority, Designer and/or Maintainer as appropriate.

Additional Comments

- York Road is a cycle super route. Any traffic management proposed on this road should take full account of cycles. Delivery drivers should be made aware of the presence of the cycle routes and the likely increased risk of cycle / goods vehicle conflict.

- The construction phasing drawings refer to the southbound bus stop on York Way as moving north of the proposed site, while the Highway layout drawings show it moving south towards the junction with Plough Road.
- There would appear to be an Autotrack conflict on the site circulation road which may prevent 16.5m HGVs from traversing through the site.

If you have any further queries regarding this letter or the enclosed report, please do not hesitate to contact me

Yours faithfully

Chris van Lottum
Senior Engineer
Road Safety Audit Team Leader

Enc

cc Phil Longman, Peter Brett Associates
Gavin Wicks, Arup

Thames Tideway Tunnel

Thames Tideway Tunnel - Falconbrook Pumping Station

Stage 1 Road Safety Audit

RSA1.2a

Rev A | 15 February 2013

Job number 211146-03

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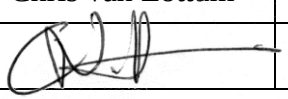
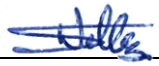
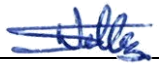
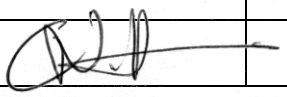
ARUP

Document Verification

ARUP

Job title		Thames Tideway Tunnel - Falconbrook Pumping Station		**Job number**	211146-03
Document title		Stage 1 Road Safety Audit		**File reference**	
Document ref		RSA1.2a			
Revision	**Date**	**Filename**	RP CVL TTT Falconbrook RSA1.2 121011 Issue .docx		
Issue	11 Oct 2012	**Description**	Issue document		
			Prepared by	Checked by	Approved by
		Name	Chris van Lottum	Steve Wells	Steve Wells
		Signature			
Rev A	15 Feb 2013	**Filename**	RP CVL TTT Falconbrook RSA1.2 130215 Rev A .docx		
		Description	Revised information received		
			Prepared by	Checked by	Approved by
		Name	Chris van Lottum	Tom Corke	Steve Wells
		Signature			
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		Name			
		Signature			
		Filename			
		Description			
			Prepared by	Checked by	Approved by
		Name			
		Signature			
				Issue Document Verification with Document	✓

Contents

Figures

Appendices

1 Introduction

Arup was appointed by Thames Tideway Tunnel to conduct a Stage 1 Road Safety Audit on proposals to create a construction access and egress for works associated with the Thames Tideway Tunnel at Falconbrook Pumping Station, York Road in the London Borough of Wandsworth.

The agreed Audit Team consisted of:

- Mr C van Lottum MEng (Hons), MCIHT, MSoRSA
- Mr T Corke BEng (Hons), MSc, CEng, MICE, MCIHT, MSoRSA

The Audit Team visited the site together on Tuesday 3rd September 2012; weather conditions at the time of the site visit were bright and the road surface was dry.

A list of information provided to the Audit Team has been included as Appendix A to this Report.

The following information was **not** made available to the Audit Team and as such any specific influence of these details on road user safety has not been considered by this audit:

- Departures from Standard
- Road profiles
- Cross sections
- Drainage
- Landscape
- Public utilities
- Traffic signals
- Traffic signs
- Street lighting
- Road markings
- Road restraint systems

A Stage 1 Road Safety Audit was undertaken by Arup in October 2011. While a Designer's Response was not prepared, the previous audit is discussed in Section 2 of this report.

This audit has been undertaken in accordance with the Terms of Reference set out in HD19/03 'Road Safety Audit'; and the Audit Team members meet the training and experience requirements set out therein. The Audit Team has examined and reported only on the road safety implications of the scheme as presented and has not examined or verified the compliance of the design to any other criteria. However, to clearly explain a problem or recommendation the Audit Team may occasionally refer to design standards without engaging in technical audit.

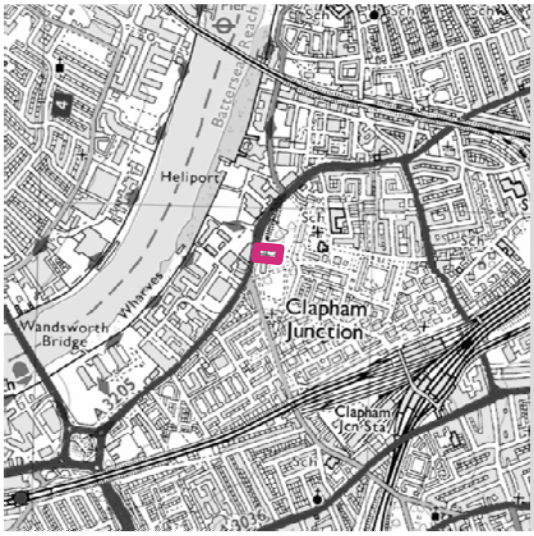
All problems and recommendations identified by this audit are referenced to the design drawings and the locations have been indicated on the attached plan.

Other issues, including safety issues identified during the Audit but excluded from this report by the Terms of Reference, which the Audit Team wishes to draw to the attention of the Audit Project Sponsor are set out in separate correspondence.

Road Safety Audit is based upon a qualitative risk assessment process and there is no measure of the success achieved by any recommendations given herein. Road Safety Audit cannot guarantee the safe operation of the scheme under

consideration in this report as accidents are rare and random events and are largely caused by factors outside the Audit Team's influence, such as driving behaviour and, to a lesser extent, vehicle condition.

1.1 Site Description



Scheme Location

The Falconbrook Pumping Station is located on the A3205 York Road which runs between Wandsworth and Battersea in south west London.

1.2 Scheme Description

The scheme proposes to provide separate construction access and egress to and from A3205 York Road to facilitate works associated with the Thames Tideway Tunnel. Provision of the construction egress requires the relocation of an existing bus stop on York Road at the junction of Plough Road approximately 10m south of its present position.

2 Previous Road Safety Audit

References in this section refer to the October 2011 report.

	Location/Summary:	*Bus Stop - The left turn into the bus stop immediately after a right turn could result in vehicle conflicts.*
S1.1.1	**Recommendation:**	*Move the bus stop further downstream from the junction.*
	Designers Response:	None received.
	Further Comment:	**The bus stop is no longer proposed in this location. However, the construction phasing drawings refer to the southbound bus stop on York Way as moving north of the proposed site, while the highway layout drawings show it moving south towards the junction with Plough Road.** **No longer considered to be a problem.**

	Location/Summary:	*Site Entry - Cycle give-way lines on the through carriageway at a junction could lead to cycle / vehicle conflict.*
S1.1.2	**Recommendation:**	*Remove the cycleway give-way line on the approach to the site access and continue the cycle lane through the junction with an advisory marking and coloured surface to warn drivers of the hazard present.*
	Designers Response:	None received.
	Further Comment:	**Details of traffic management were not provided to the audit team.** **No further comment.**

	Location/Summary:	*Site Entry - Overriding of the kerb will result in damage to the paving surface.*

S1.1.3	**Recommendation:**	*Install a rubbing bollard at the edge of the dropped crossing to prevent over running of the footway.*
	Designers Response:	None received.
	Further Comment:	**This issue has not been addressed** **See Recommendation S1.2.1.**

	Location/Summary:	*Site Entry - The position of the site entry gate could lead to shunt and sideswipe accidents.*
S1.1.4	**Recommendation:**	*Set the entry gate back to accommodate a vehicle off the carriageway prior to entry.*
	Designers Response:	None received.
	Further Comment:	**The gate has been set back from the carriageway.** **No longer considered to be a problem.**

	Location/Summary:	*Site access and egress - Confusion over the site access and egress signing could result in HGV conflicts.*
S1.1.5	**Recommendation:**	*Locate 'Works Access' and 'Works Exit' signs to TSRGD Diagrams 7301 and 7302 at the access and egress points.*
	Designers Response:	None received.
	Further Comment:	**Details of traffic management were not provided to the audit team.** **No further comment.**

	Location/Summary:	*Site Egress - Cycle give-way lines on the through carriageway at a junction could lead to cycle vehicle conflict.*

S1.1.6	**Recommendation:**	*Remove the cycleway give-way line on the approach to the site egress and continue the cycle lane through the junction with an advisory marking and coloured surface to warn drivers of the hazard present.*
	Designers Response:	None received.
	Further Comment:	**Details of traffic management were not provided to the audit team.** **No further comment.**

	Location/Summary:	*Site Egress - Overriding of the kerb will result in damage to the paving surface.*
S1.1.7	**Recommendation:**	*Install a rubbing bollard at the edge of the dropped crossing to prevent over running of the footway.*
	Designers Response:	None received.
	Further Comment:	**This issue has not been addressed** **See Recommendation S1.2.2.**

	Location/Summary:	*Site Egress - Turning conflicts could result from vehicles turning right from the site egress.*
S1.1.8	**Recommendation:**	*Remove the give-way triangular marking and sign and replace with a 'Turn Left' arrow and sign.*
	Designers Response:	None received.
	Further Comment:	**Details of traffic management were not provided to the audit team.** **No further comment.**

	Location/Summary:	*Site Egress - Extended pedestrian routings could cause difficulties for the mobility impaired.*
S1.1.9	**Recommendation:**	*Accommodate a pedestrian access to the community centre adjacent to the site egress.*
	Designers Response:	None received.
	Further Comment:	**The temporary diversion of footway shown on the construction phase drawings is not shown on the construction or permanent highway layout drawings.** **See Recommendation S1.2.3.**

End of list of problems identified and recommendations offered in the Previous Stage 1 Road Safety Audit

3 Stage 1 Road Safety Audit

The Recommendations below are numbered as follows:

STAGE . AUDIT NUMBER . RECOMMENDATION NUMBER

3.1 Construction Layout

	Location:	Site Entry
	Summary:	Overriding of the kerb could result in pedestrian injuries.
	Description:	There is a dropped kerb with tactile paving surface proposed for the radius of the site access. The trailing axle of larger vehicles is likely to ride up the dropped kerb and could injure a passing pedestrian. Alternatively it could result in damage to the paving surface which could also lead to pedestrian injuries.
S1.2.1	**Recommendation:**	Install a rubbing bollard at the edge of the dropped crossing to prevent over running of the footway.

	Location:	Site Egress
	Summary:	Overriding of the kerb could result in pedestrian injuries.
	Description:	There is a dropped kerb with tactile paving surface proposed for the radius of the site egress. The trailing axle of larger vehicles is likely to ride up the dropped kerb and could injure a passing pedestrian. Alternatively it could result in damage to the paving surface which could also lead to pedestrian injuries.

S1.2.2 **Recommendation:** Install a rubbing bollard at the edge of the dropped crossing to prevent over running of the footway.

Location: Site Egress

Summary: Extended pedestrian routings could cause difficulties for the mobility impaired.

Description: The existing pedestrian access from York Road to the Community Centre adjacent to the pumping station has not been accommodated in the works layouts.

IMG_6859.jpg

Pedestrians using this access would have to divert around 100m to the south around the York Gardens Community Centre to gain access. Coupled with the relocation of the southbound bus stop this represents a significant detour for less mobile pedestrians.

S1.2.3 **Recommendation:** Accommodate a pedestrian access to the Community Centre adjacent to the site egress.

3.2 Permanent Layout

	Location:	Winstanley Road, Newcomen Road, Lavender Road, Darien Road and Ingrave Street
	Summary:	Tight swept path could result in vehicle damage
	Description:	The swept path analysis for the permanent layout indicates conflicts between maintenance vehicles approaching and leaving the site, and the parking bays on Winstanley Road, Newcomen Road, Lavender Road, Darien Road and Ingrave Street. Swept path conflicts can lead to vehicle damage and could result in injuries for vehicle occupants or pedestrians if footways are over run to avoid a collision.
S1.2.4	**Recommendation:**	Temporary suspension of parking bays on Winstanley Road, Newcomen Road, Lavender Road, Darien Road and Ingrave Street. may be required during maintenance periods so as to ensure unobstructed access.

End of list of problems identified and recommendations offered in this Stage 1 Road Safety Audit

4 Road Safety Audit Statement

I certify that this audit has been carried out in accordance with HD19/03.

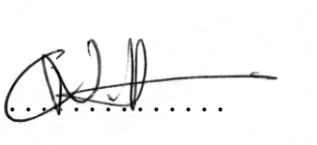
Audit Team Leader

Mr C van Lottum MEng (Hons), MCIHT, MSoRSA

Senior Engineer

Arup

Central Square, Forth Street,
Newcastle upon Tyne, NE1 3PL



15 February 2013

Audit Team Member

Mr T Corke BEng (Hons), MSc, CEng, MICE, MCIHT, MSoRSA

Senior Engineer

Arup

The Arup Campus, Blythe Gate, Blythe Valley Park,
Solihull, B90 8AE

Figures

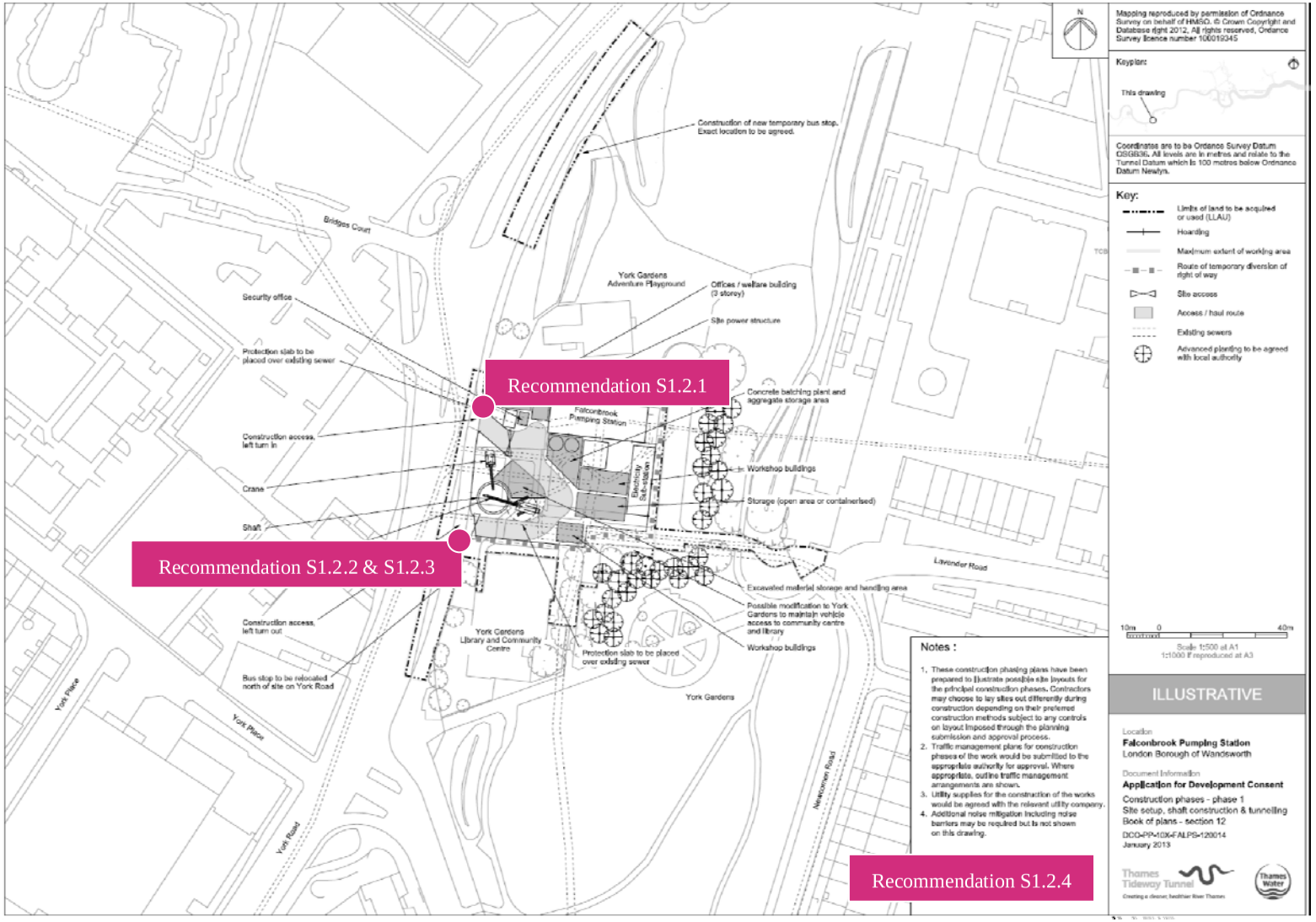


Figure 1 Location of Recommendations

Appendix A

Documents and Drawings

A1 Documents and Drawings

The following documents and drawings were supplied to the Audit Team by the Designer and have been examined in the course of conducting this audit.

A1.1 Documents

Title	Reference	Revision
Information for Falconbrook Stage 1 RSA		21/10/11
Falconbrook – Accident Analysis	001	1.2
Falconbrook Pumping Station Stage 1 Road Safety Audit.	RSA1.1	Issue

A1.2 Drawings

Title	Reference	Revision
Transport - site location plan	1PL03-TT-50710	Jan 2013
Transport - construction traffic routes	1PL03-TT-50702	Jan 2013
Transport - accident locations	1PL03-TT-50766	Jan 2013
Construction phases - phase 1 – Site setup, shaft construction & tunnelling	DCO-PP-10X-FALPS-120014	Jan 2013
Construction phases - phase 2 – Construction of other structures	DCO-PP-10X-FALPS-120015	Jan 2013
Highway layout during construction (Area 1)	DCO-PP-10X-FALPS-120018	Jan 2013
Permanent highway layout – Area 1 Work	DCO-PP-10X-FALPS-120019	Jan 2013
Highway layout during construction (Area 1) – Vehicle swept path analysis	DCO-PP-10X-FALPS-120020	Jan 2013
Permanent highway layout (Area 1) – Vehicle swept path analysis - Sheet (1 of 5)	DCO-PP-10X-FALPS-120021	Jan 2013
Permanent highway layout (Area 1) – Vehicle swept path analysis - Sheet (2 of 5)	DCO-PP-10X-FALPS-120022	Jan 2013
Permanent highway layout (Area 1) – Vehicle swept path analysis - Sheet (3 of 5)	DCO-PP-10X-FALPS-120023	Jan 2013
Permanent highway layout (Area 1) – Vehicle swept path analysis - Sheet (4 of 5)	DCO-PP-10X-FALPS-120024	Jan 2013
Permanent highway layout (Area 1) – Vehicle swept path analysis - Sheet (5 of 5)	DCO-PP-10X-FALPS-120025	Jan 2013

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TECHNICAL NOTE

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Job Name	**Thames Tideway Tunnel – Falconbrook Pumping Station**	
Job No.	22104	
Note No.	001	
Date	15th February 2013	
Subject	Stage 1 Road Safety Audit – Designer's Response	
Prepared by	L Harney	**Reviewed:** B Kemp

1 Introduction

1.1 Arup was appointed by Thames Water to conduct a Stage 1 Road Safety Audit on proposals to create a construction access and egress for works associated with the Thames Tideway Tunnel at Falconbrook Pumping Station in the London Borough of Wandsworth.

1.2 This technical note provides the Designer's Response to the Stage 1 Audit for this site.

2 Stage 1 Road Safety Audit – outstanding issues from preliminary Stage 1 Road Safety Audit

2.1 Location: Site Entry

Summary: Overriding of the kerb could result in pedestrian injuries.

Description: There is a dropped kerb with tactile paving surface proposed for the radius of the site access.

The trailing axle of larger vehicles is likely to ride up the dropped kerb and could injure a passing pedestrian. Alternatively it could result in damage to the paving surface which could also lead to pedestrian injuries.

S1.1.3/S1.1.7 Recommendation: Install a rubbing bollard at the edge of the dropped crossing to prevent over running of the footway.

Recommendation Accepted – The provision of bollards which vehicle are likely to run against may result in greater footway damage than overrunning of the footway, modification to the site access will be detailed at Stage 2 (Detailed Design) to address this issue.

3 Supplementary Stage 1 Road Safety Audit

3.1 Location: Scheme

Summary: Vulnerable user routes could lead to conflicts between construction traffic and cycles.

Description: Construction traffic must turn left across the cycleway to enter the site.

Cycles are particularly vulnerable where large vehicles are turning leading to increased turning conflicts particularly on the inside of left turns.

S1.2.1 Recommendation: Provide additional cycle warning signs with the site access sign and the give-way sign at the site egress.

Recommendation Accepted – Existing condition of the carriageway will be reviewed at Stage 2 (Detailed Design). A condition survey will be undertaken before commencement of any onsite works to verify the existing condition of the adjacent highway.

3.2 Location: Site Entry

Summary: Overriding of the kerb could result in pedestrian injuries.

Description: There is a dropped kerb with tactile paving surface proposed for the radius of the site access.

The trailing axle of larger vehicles is likely to ride up the dropped kerb and could injure a passing pedestrian. Alternatively it could result in damage to the paving surface which could also lead to pedestrian injuries.

S1.2.2 Recommendation: Install a rubbing bollard at the edge of the dropped crossing to prevent over running of the footway.

Recommendation Accepted – The provision of bollards which vehicle are likely to run against may result in greater footway damage than overrunning of the footway, modification to the site access will be detailed at Stage 2 (Detailed Design) to address this issue.

3.3 Location: Site access and egress

Summary: Confusion over the site access and egress signing could result in HGV conflicts with other road users.

Description: The works exit sign is shown close to the works access (albeit past it). There is no works access sign proposed. As such the temporary signing doesn't clearly identify the access and egress locations.

A driver confused over the signing for the site egress, located close to the site access, could miss their entry and as a result make unnecessary turning movements elsewhere on the network resulting in greater exposure to HGV risks for other road users.

S1.2.3 Recommendation: Locate 'Works Access' and 'Works Exit' signs to TSRGD Diagrams 7301 and 7302 at the access and egress points.

Recommendation Accepted –Signage to be reviewed at Stage 2 (Detailed Design).

3.4 Location: Site egress

Summary: Overriding of the kerb could result in pedestrian injuries.

Description: There is a dropped kerb with tactile paving surface proposed for the radius of the site egress.

The trailing axle of larger vehicles is likely to ride up the dropped kerb and could injure a passing pedestrian. Alternatively it could result in damage to the paving surface which could also lead to pedestrian injuries.

S1.2.4 Recommendation: Install a rubbing bollard at the edge of the dropped crossing to prevent over running of the footway.

Recommendation Accepted – The provision of bollards which vehicle are likely to run against may result in greater footway damage than overrunning of the footway, modification to the site access will be detailed at Stage 2 (Detailed Design) to address this issue.

3.5 Location: Site egress

Summary: Turning conflicts could result from vehicles turning right from the site egress.

Description: There is ample road width for the drivers of larger vehicles to make a right turn manoeuvre from the site egress on to York Road.

However, slow moving right turning vehicles could pose a collision risk for other traffic on York Road; especially during off peak periods.

S1.2.5 Recommendation: Provide a 'Turn Left' arrow and sign to TSRGD Diagrams 1036.1 and 609 at the site egress

Recommendation Accepted – Road marking and signage will be detailed at Stage 2 (Detailed Design).

3.6 Location: Site egress

Summary: Extended pedestrian routings could cause difficulties for the mobility impaired.

Description: The existing pedestrian access from York Road to the Community Centre adjacent to the pumping station has not been accommodated in the temporary works layout.

Pedestrians using this access would have to divert around 100m to the south around the York Gardens Community Centre to gain access. Coupled with the relocation of the southbound bus stop this represents a significant detour for less mobile pedestrians.

S1.2.6 Recommendation: Accommodate a pedestrian access to the Community Centre adjacent to the site egress.

Recommendation Accepted – The existing pedestrian access will be relocated to the south of the site egress. This will be detailed at Stage 2 (Detailed Design).

4 Response to Comments provided in addition to the Stage 1 Road Safety Audit

4.1 Additional Comment

York Road is a cycle super route. Any traffic management proposed on this road should take full account of cycles. Delvery drivers should be made aware of the presence of the cycle routes and the likely increased risk of cycl/goods vehicle conflict.

Comment Response – Delivery drivers will be made aware of the presence of cyclists on York Road as part of the site induction. This will be included in the Code of Construction Practice at Stage 2 (Detailed Design).

4.2 Additional Comment

The construction phasing drawing refer to the southbound bus stop on York Way as moving north of the proposed site, while the Highway layout drawings show it moving south towards the junction with Plough Road

Comment Response – The temporary relocation of the bus stop is to be confirmed with TfL the exact location will be detailed at Stage 2 (Detailed Design).

4.3 Additional Comment

There would appear to be an AutoTrack conflict on the site circulation road which may prevent larger vehicles from traversing through the site.

Comment Response – Adequate manoeuvring space will be provided on site to allow HGV to circulate. The exact area will be detailed at Stage 2 (Detailed Design).

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Thames Tideway Tunnel
Thames Water Utilities Limited

Application for Development Consent

Application Reference Number: WWO10001

Transport Assessment

Doc Ref: **7.10.08**

Falconbrook Pumping Station

Figures

APFP Regulations 2009: Regulation **5(2)(q)**

Hard copy available in

Box **50** Folder **B**
January 2013

Thames Tideway Tunnel

Creating a cleaner, healthier River Thames

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Thames Tideway Tunnel

Transport Assessment

Section 11: Falconbrook Pumping Station figures

List of contents

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Plans

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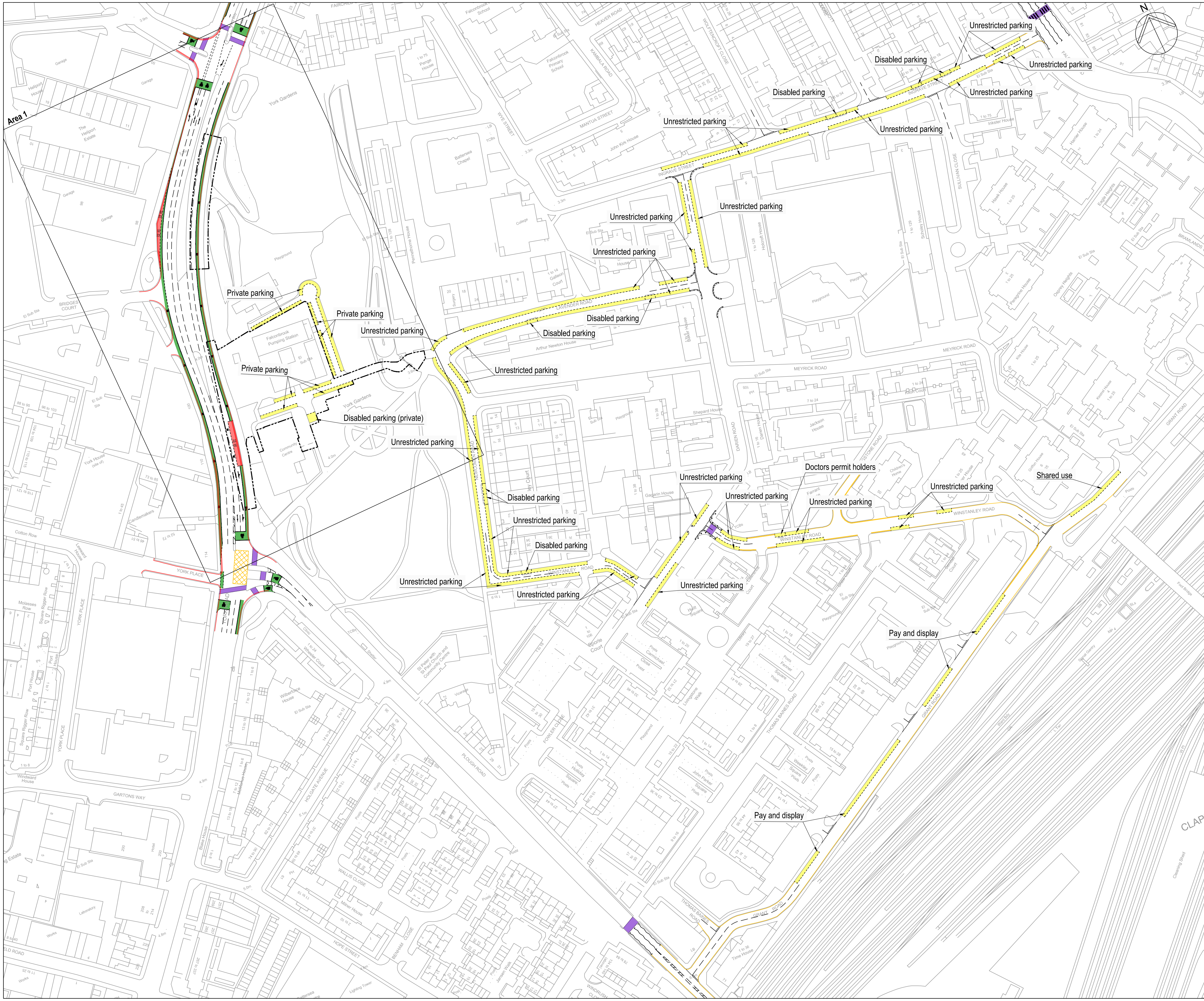
Falconbrook Pumping Station

THAMES TIDEWAY TUNNEL - SCHEDULE OF ASSOCIATED HIGHWAY WORKS

Drawing Number	Works Reference	Location	Item of Work	Date of Implementation
DCO-PP-10X-FALPS-120018	PWH8X_C01	York Road - between Plough Road and Lombard Road	Provision of new gated site egress which includes dropped kerbs and tactile paving. "Left out only" traffic movements permitted. Relocation of existing pedestrian access to York Gardens from current location to a point south of the construction site egress.	TBC
	PWH8X_C02	York Road - between Plough Road and Lombard Road	Provision of a new gated site access which includes dropped kerbs and tactile paving. "Left in only" traffic movements permitted.	TBC
	PWH8X_C03	York Road - between Plough Road and Lombard Road	Removal of existing bus stop cage road marking in the southbound carriageway of York Road adjacent to the site egress. The cycle superhighway would be extended through existing bus stop once suspended.	TBC
	PWH8X_C04	York Road - between Plough Road and Lombard Road	Provision of relocated bus stop cage road marking to the south of its existing location. Bus shelter and flag will remain in their existing positions. Cycle super highway road markings would be adjusted in line with relocated bus stop cage marking.	TBC
	PWH8X_C05	York Gardens	Suspension of 13 potential parking bays and relocation of 1 disabled parking bay.	TBC
	PWH8X_C06	York Road - between Plough Road and Lombard Road	Relocated bus stop position if items PWH8X_C03 and PWH8X_C04 deemed not suitable by Transport for London.	TBC
DCO-PP-10X-FALPS-120019	PWH8X_P01	York Road - between Plough Road and Lombard Road	Removal of construction site egress and reinstatement of footway. Reinstatement of pedestrian access to York Gardens in revised location - item PWH8X_P05.	TBC
	PWH8X_P02	York Road - between Plough Road and Lombard Road	Removal of construction site access and reinstatement of footway.	TBC
	PWH8X_P03	York Road - between Plough Road and Lombard Road	Reinstatement of bus stop cage marking in the southbound carriageway of York Road.	TBC
	PWH8X_P04	York Gardens	Reinstatement of suspended car parking within York Gardens.	TBC
	PWH8X_P05	York Road - between Plough Road and Lombard Road	Provision of amended pedestrian access location from York Road into York Gardens.	TBC



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Keyplan:

This drawing

Coordinates are to be Ordnance Survey Datum OSGB36. All levels are in metres and relate to the Tunnel Datum which is 100 metres below Ordnance Datum Newlyn.

Key

Existing

- Parking restrictions
- Red route parking restrictions
- On street parking
- Bus stop / stand
- Pedestrian crossing
- Cycle lane / advance stop line
- Bollards

Revised

- Limit of land to be acquired or used (LLAU)

On street parking

Pay & display - Pay & display only max stay 10 hr Mon - Sat 8:30am - 6:30pm

Shared use - C1 permit holders or pay & display max stay 2hrs Mon - Sat 8:30am - 6:30pm

Unrestricted parking - Unrestricted parking (unmarked & without signage)

Private parking - Private parking for community centre

Disabled parking (private) - Private disabled parking

Doctors permit holders - Permit D 8:00am - 8:00pm

Stage

Existing and construction base case

Standards

- Design Manual for Roads and Bridges, Dft, 1992
- Traffic Signs Regulations & General Directions, Tso, 2002
- Traffic Signs Manual, Dft, 2006
- Manual for Streets, Dft, 2007
- Manual for Streets 2, CIHT, 2010
- Designing for Deliveries, Fta, 1998
- Cycle Infrastructure Design Ltn 2/08, Dft, 2008
- Design of Pedestrian Crossings Ltn 2/95, Dft, 1995
- Guidance on the use of Tactile Paving Surfaces, Dft, 1998
- Accessible Bus Stop Design Guidance, TfL, 2006

10m 0 100m

Scale 1:1000 at A1
1:2000 if reproduced at A3

FOR INFORMATION

Location

Falconbrook Pumping Station

London Borough of Wandsworth

Document Information

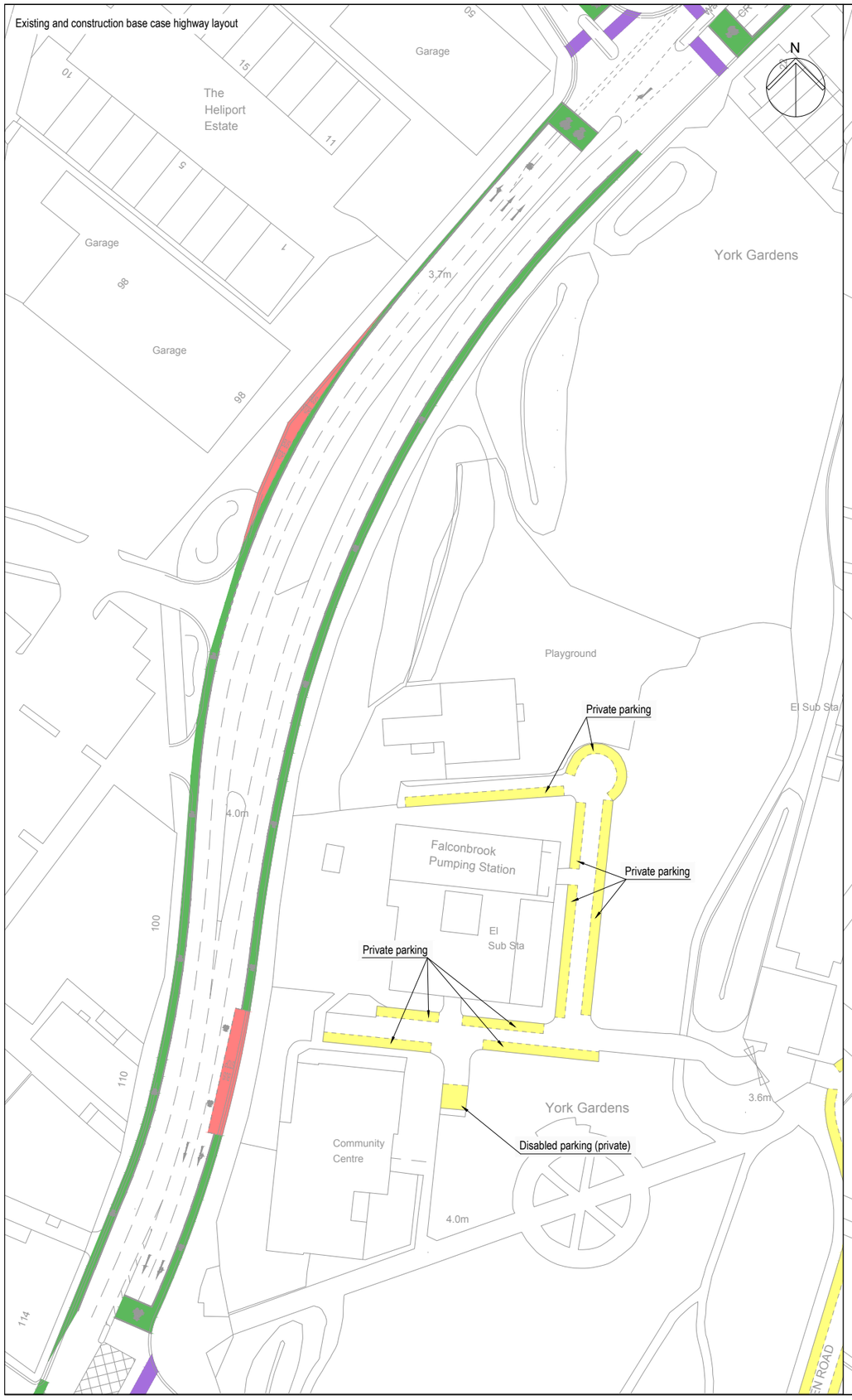
Application for Development Consent

Existing highway layout

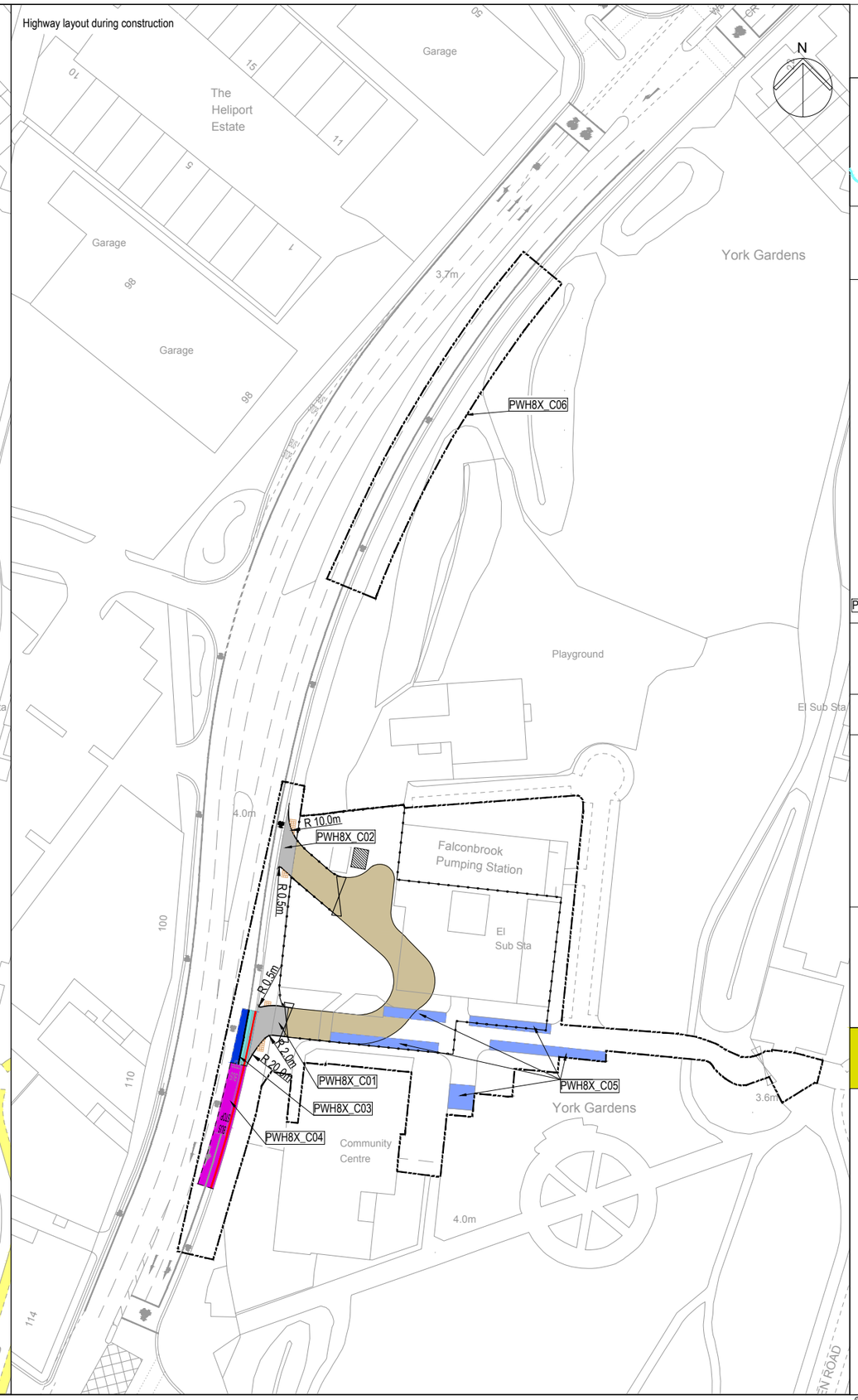
DCO-PP-10X-FALPS-120017
January 2013

Thames Tideway Tunnel
Creating a cleaner, healthier River Thames

Existing and construction base case highway layout



Highway layout during construction



Keyplan:

Coordinates are to be Ordnance Survey Datum OSGB36. All levels are in metres and relate to the Tunnel Datum which is 100 metres below Ordnance Datum Newlyn.

Key

Existing
- Parking restrictions
- Bus stop / stand
- Pedestrian crossing
- Cycle lane / advance stop line
- On street parking
- Gate

Revised
- Red route parking restrictions
- Removal of footway
- Suspended bus stop
- Suspended parking
- Relocated bus stop
- Relocated cycle path
- Illustrative on-site manoeuvring zone
- Tactile paving
- Site hut
- Site hoarding
- Access gate
- Limit of land to be acquired or used (LLAU)
- PWH8X_C00 See schedule of works

On street parking

Private parking - Private parking

Disabled parking (private) - Private disabled parking for library and community centre

Stage

Phase 1 and 2

Standards
- Design Manual for Roads and Bridges, Dft, 1992
- Traffic Signs Regulations & General Directions, Tso, 2002
- Traffic Signs Manual, Dft, 2006
- Manual for Streets, Dft, 2007
- Manual for Streets 2, CIHT, 2010
- Designing for Deliveries, Fta, 1998
- Cycle Infrastructure Design Ltn 2/08, Dft, 2008
- Design of Pedestrian Crossings Ltn 2/95, Dft, 1995
- Guidance on the use of Tactile Paving Surfaces, Dft, 1998
- Accessible Bus Stop Design Guidance, TfL, 2006

10m 0 40m

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ILLUSTRATIVE

Location

Falconbrook Pumping Station
London Borough of Wandsworth

Document Information

Application for Development Consent

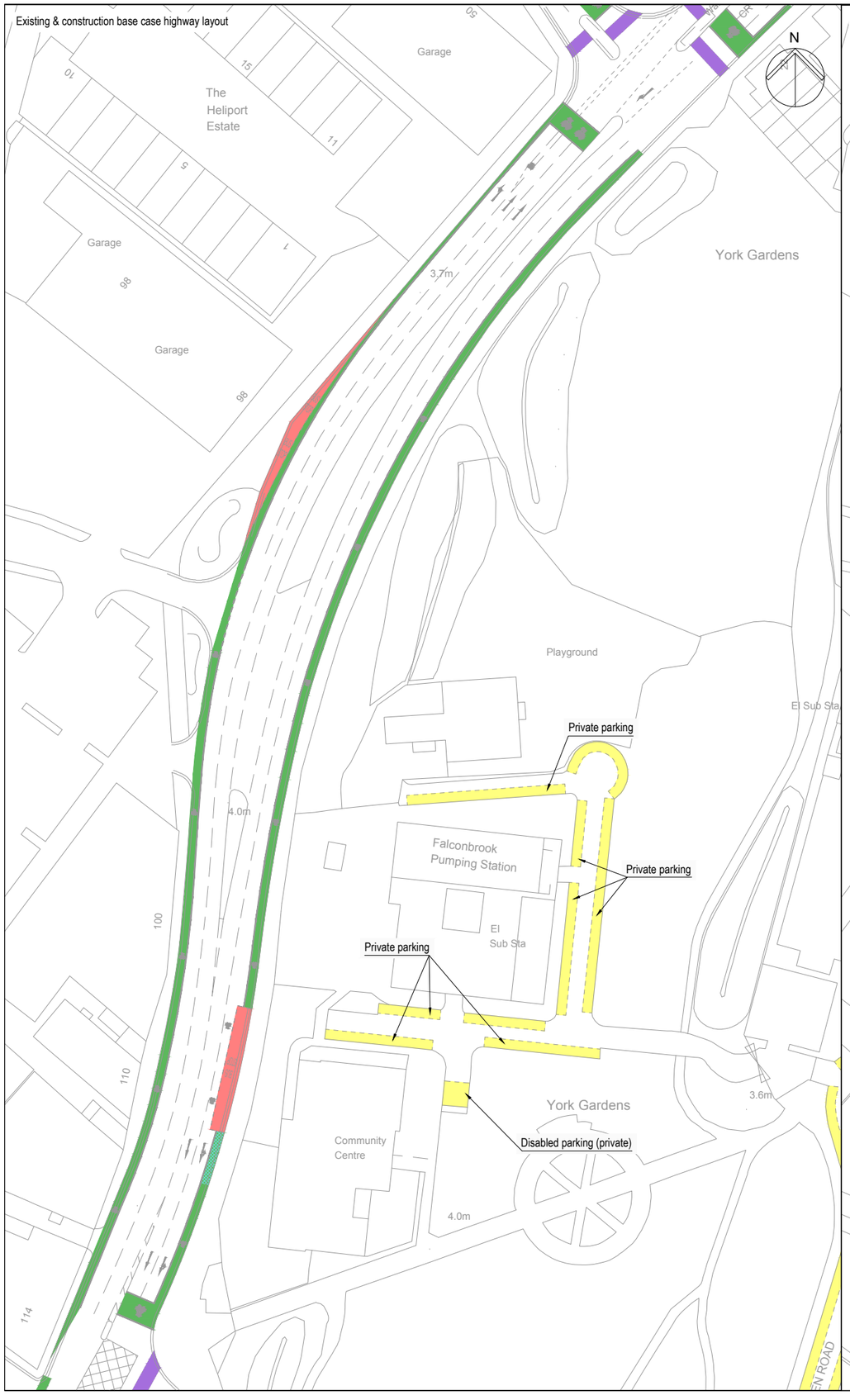
Highway layout during construction (Area 1)

DCO-PP-10X-FALPS-120018
January 2013

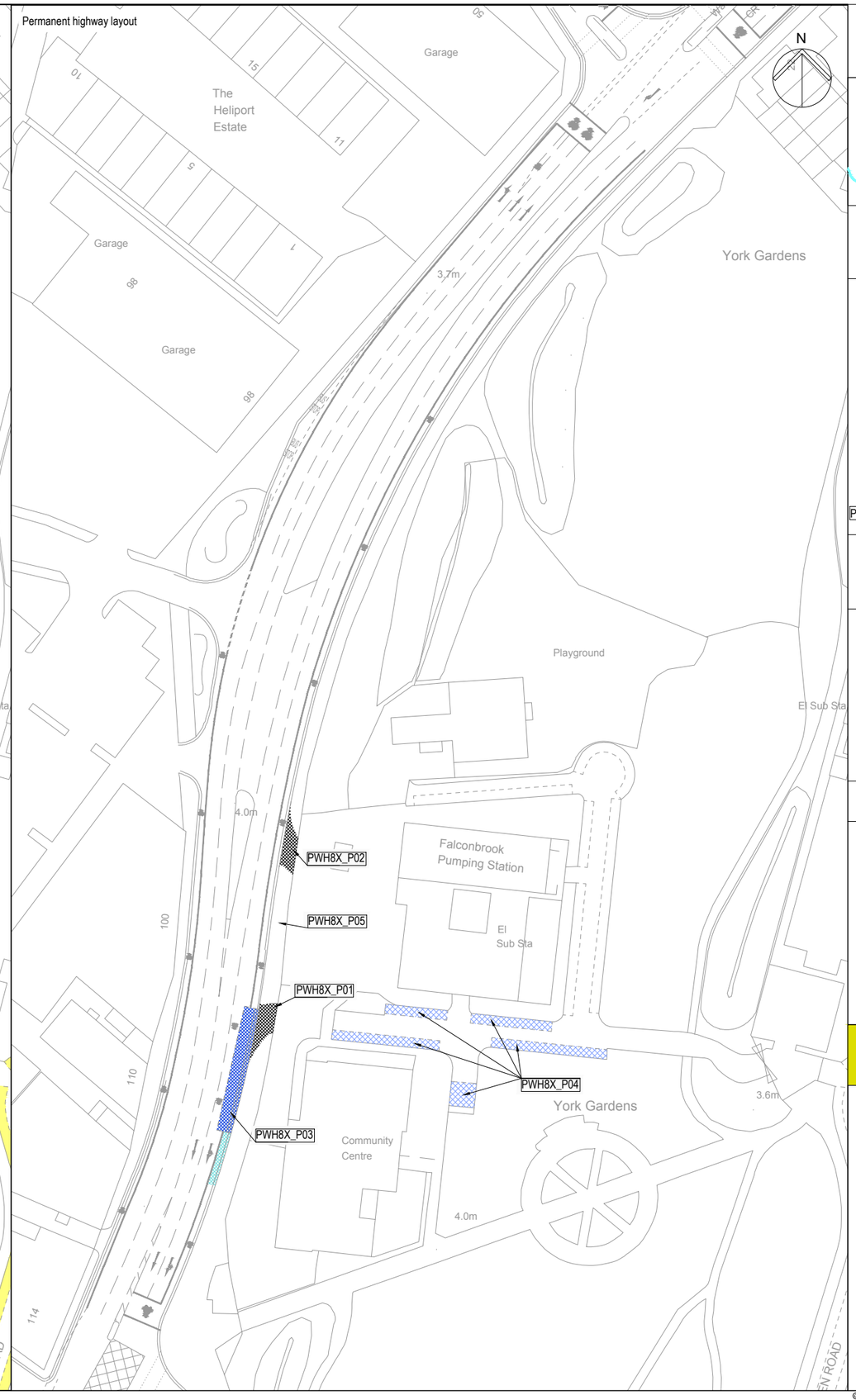
Thames Tideway Tunnel
Creating a cleaner, healthier River Thames

Thames Water

Existing & construction base case highway layout



Permanent highway layout



Keyplan:

Coordinates are to be Ordnance Survey Datum OSGB36. All levels are in metres and relate to the Tunnel Datum which is 100 metres below Ordnance Datum Newlyn.

Key

Existing

- Parking restrictions
- Bus stop / stand
- Pedestrian crossing
- Cycle lane / advance stop line
- On street parking

Revised

- Reinstated footway
- Reinstated parking
- Reinstated bus stop
- Reinstated cycle lane
- Illustrative on-site manoeuvring zone
- New tactile paving
- PWH1X_C00 See schedule of works

On street parking

Private parking - Private parking
Disabled parking (private) - Private disabled parking for library and community centre

Standards

- Design Manual for Roads and Bridges, Dft, 1992
- Traffic Signs Regulations & General Directions, Tso, 2002
- Traffic Signs Manual, Dft, 2006
- Manual for Streets, Dft, 2007
- Manual for Streets 2, CIHT, 2010
- Designing for Deliveries, Fta, 1998
- Cycle Infrastructure Design Ltn 2/08, Dft, 2008
- Design of Pedestrian Crossings Ltn 2/95, Dft, 1995
- Guidance on the use of Tactile Paving Surfaces, Dft, 1998
- Accessible Bus Stop Design Guidance, TfL, 2006

Stage
Permanent phase

10m 0 40m

Scale 1:500 at A1
1:1000 if reproduced at A3

ILLUSTRATIVE

Location
Falconbrook Pumping Station
London Borough of Wandsworth

Document Information
Application for Development Consent
Permanent highway layout
Area 1 Work

DCO-PP-10X-FALPS-120019
January 2013

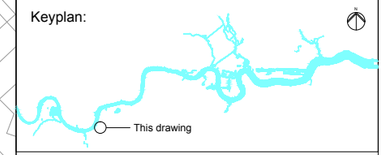
Thames Tideway Tunnel
Creating a cleaner, healthier River Thames

Thames Water

16.5m Articulated vehicle
Speed = 5km/h

12.0m Rigid vehicle
Speed = 5km/h

Keyplan:



Coordinates are to be Ordnance Survey Datum OSGB36. All levels are in metres and relate to the Tunnel Datum which is 100 metres below Ordnance Datum Newlyn.

Key

Existing
- Parking restrictions
- On street parking
- Bus stop / stand
- Pedestrian crossing
- Cycle lane / advance stop line
- Gate

Revised
- Suspended parking
- Relocated bus stop
- Relocated cycle path
- Removal of footway
- Suspended bus stop
- Illustrative on-site manoeuvring zone
- Site hut
- Site hoarding
- Access gate
- Limit of land to be acquired or used (LLAU)

Vehicle swept path analysis
- Vehicle body outlines
- Vehicle chassis outline
- Vehicle swept path

Stage
Phase 1 and 2

Standards
- Design Manual for Roads and Bridges, Dft, 1992
- Traffic Signs Regulations & General Directions, Tso, 2002
- Traffic Signs Manual, Dft, 2006
- Manual for Streets, Dft, 2007
- Manual for Streets 2, CIHT, 2010
- Designing for Deliveries, Fta, 1998
- Cycle Infrastructure Design Ltn 2/08, Dft, 2008
- Design of Pedestrian Crossings Ltn 2/95, Dft, 1995
- Guidance on the use of Tactile Paving Surfaces, Dft, 1998
- Accessible Bus Stop Design Guidance, Tfl., 2006

10m 0 40m

Scale 1:500 at A1
1:1000 if reproduced at A3

ILLUSTRATIVE

Location
Falconbrook Pumping Station
London Borough of Wandsworth

Document Information
Application for Development Consent

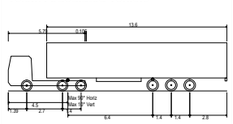
Highway layout during construction
(Area 1)
Vehicle swept path analysis

DCO-PP-10X-FALPS-120020
January 2013

Thames Tideway Tunnel
Creating a cleaner, healthier River Thames

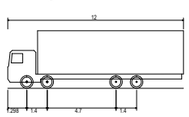
Thames Water

16.5m Articulated vehicle



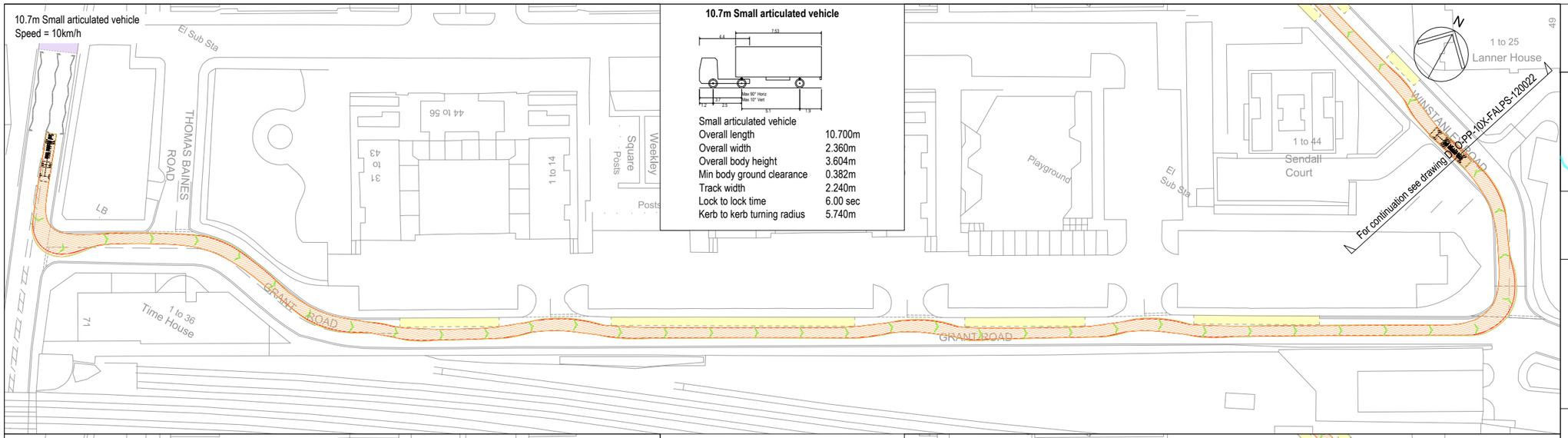
Max legal articulated vehicle (16.5m)	
Overall length	16.500m
Overall width	2.500m
Overall body height	3.632m
Min Body ground clearance	0.396m
Max track width	2.500m
Lock to lock time	6.00 sec
Kerb to kerb turning radius	6.870m

12.0m Rigid vehicle



Rigid truck	
Overall length	2.000m
Overall width	2.500m
Overall body height	3.928m
Min body ground clearance	0.412m
Track width	2.471m
Lock to lock time	6.00 sec
Kerb to kerb turning radius	11.900m

10.7m Small articulated vehicle
Speed = 10km/h

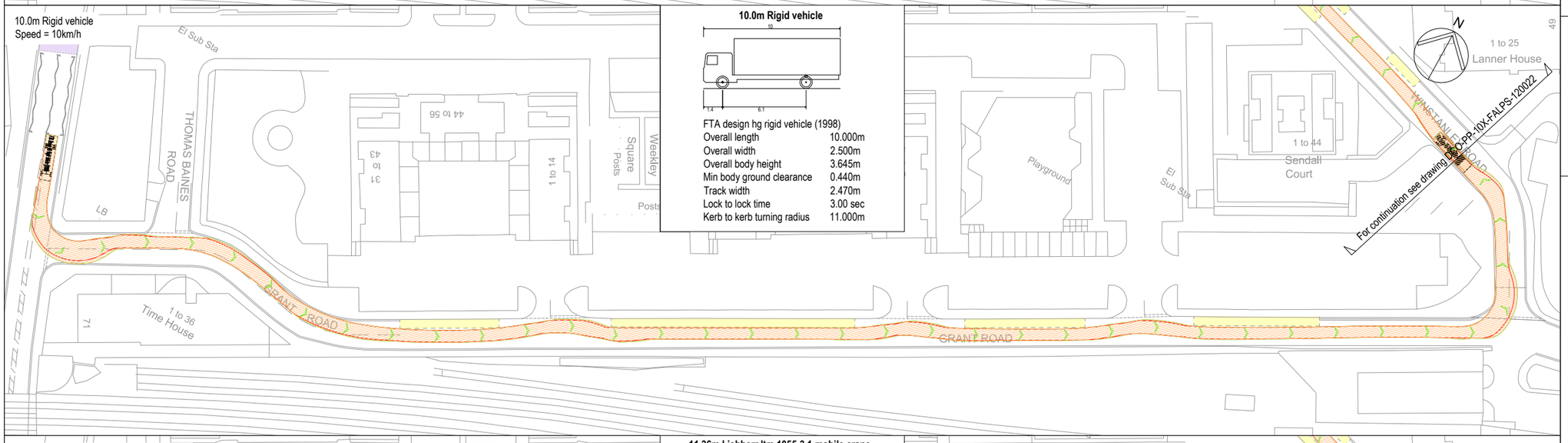


10.7m Small articulated vehicle

Small articulated vehicle

Overall length	10.700m
Overall width	2.360m
Overall body height	3.604m
Min body ground clearance	0.382m
Track width	2.240m
Lock to lock time	6.00 sec
Kerb to kerb turning radius	5.740m

10.0m Rigid vehicle
Speed = 10km/h

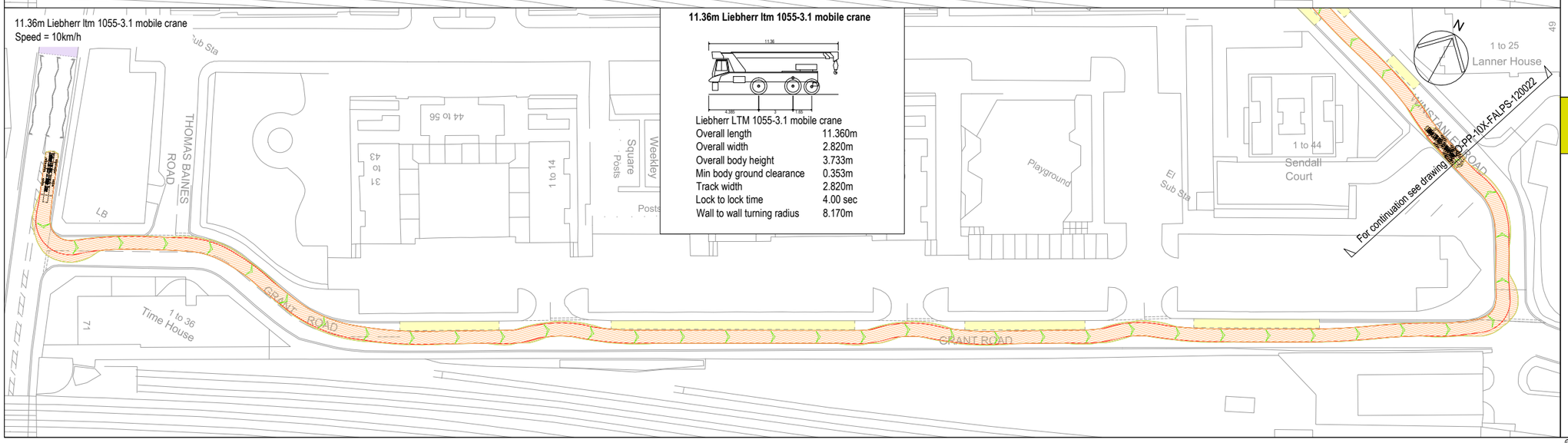


10.0m Rigid vehicle

FTA design hg rigid vehicle (1998)

Overall length	10.000m
Overall width	2.500m
Overall body height	3.645m
Min body ground clearance	0.440m
Track width	2.470m
Lock to lock time	3.00 sec
Kerb to kerb turning radius	11.000m

11.36m Liebherr ltm 1055-3.1 mobile crane
Speed = 10km/h

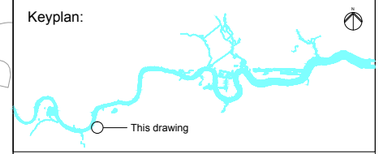


11.36m Liebherr ltm 1055-3.1 mobile crane

Liebherr LTM 1055-3.1 mobile crane

Overall length	11.360m
Overall width	2.820m
Overall body height	3.733m
Min body ground clearance	0.353m
Track width	2.820m
Lock to lock time	4.00 sec
Wall to wall turning radius	8.170m

Keyplan:



Coordinates are to be Ordnance Survey Datum OSGB36. All levels are in metres and relate to the Tunnel Datum which is 100 metres below Ordnance Datum Newlyn.

Key
Existing
- Parking restrictions
- On street parking
- Pedestrian crossing

Vehicle swept path analysis
- Vehicle body outlines
- Vehicle chassis outline
- Vehicle swept path

Stage
Permanent phase

Standards
- Design Manual for Roads and Bridges, Dft, 1992
- Traffic Signs Regulations & General Directions, Tso, 2002
- Traffic Signs Manual, Dft, 2006
- Manual for Streets, Dft, 2007
- Manual for Streets 2, CIHT, 2010
- Designing for Deliveries, Fta, 1998
- Cycle Infrastructure Design Ltn 2/08, Dft, 2008
- Design of Pedestrian Crossings Ltn 2/95, Dft, 1995
- Guidance on the use of Tactile Paving Surfaces, Dft, 1998
- Accessible Bus Stop Design Guidance, TfL, 2006

10m 0 40m

Scale 1:500 at A1
1:1000 if reproduced at A3

ILLUSTRATIVE

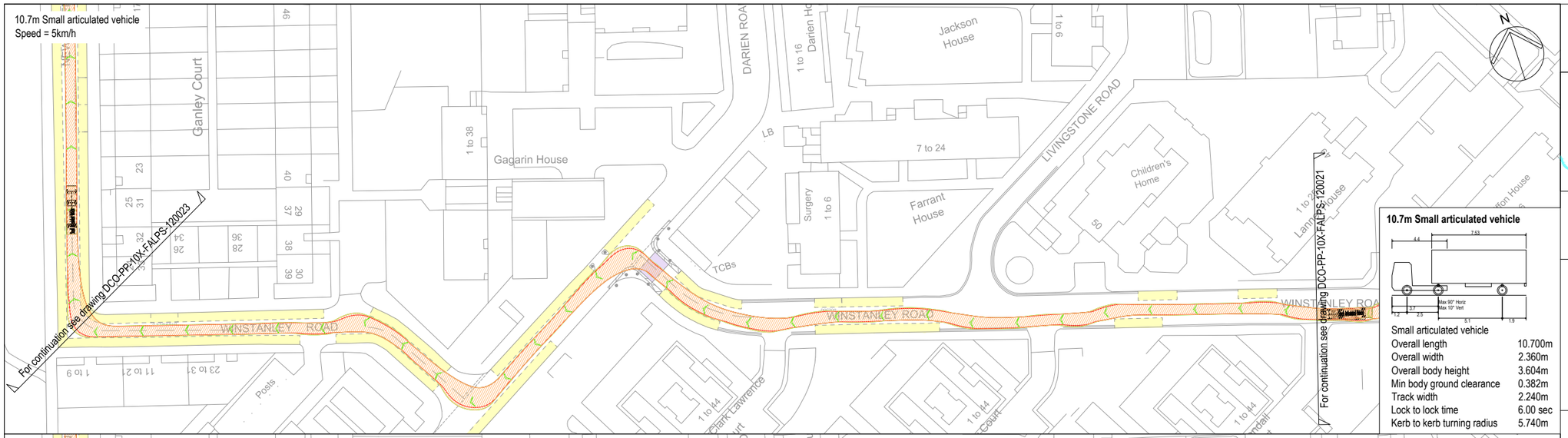
Location
Falconbrook Pumping Station
London Borough of Wandsworth

Document Information
Application for Development Consent
Permanent highway layout (Area 1)
Vehicle swept path analysis
Sheet 1 of 5

DCO-PP-10X-FALPS-120021
January 2013

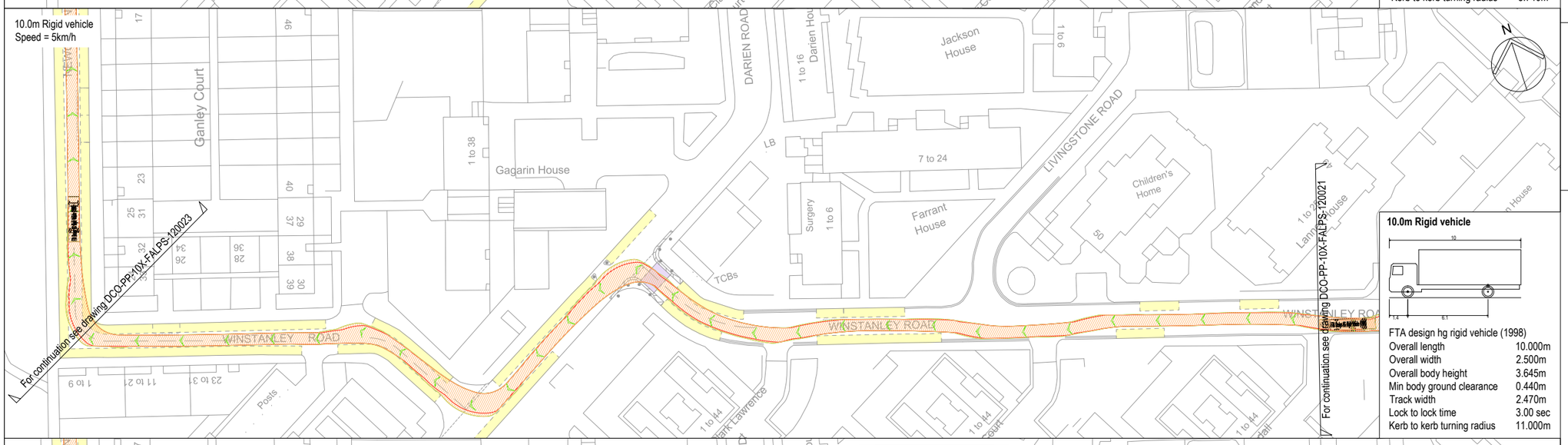
Thames Tideway Tunnel
Creating a cleaner, healthier River Thames

Thames Water



10.7m Small articulated vehicle

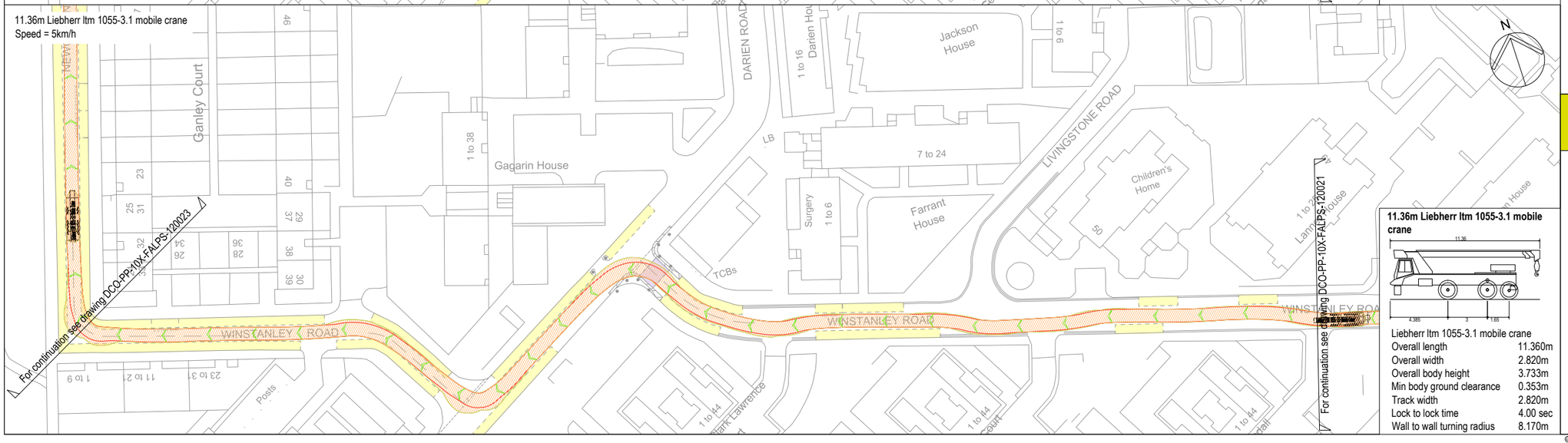
Small articulated vehicle	
Overall length	10.700m
Overall width	2.360m
Overall body height	3.604m
Min body ground clearance	0.382m
Track width	2.240m
Lock to lock time	6.00 sec
Kerb to kerb turning radius	5.740m



10.0m Rigid vehicle

FTA design hg rigid vehicle (1998)

Overall length	10.000m
Overall width	2.500m
Overall body height	3.645m
Min body ground clearance	0.440m
Track width	2.470m
Lock to lock time	3.00 sec
Kerb to kerb turning radius	11.000m



11.36m Liebherr ltm 1055-3.1 mobile crane

Liebherr ltm 1055-3.1 mobile crane

Overall length	11.360m
Overall width	2.820m
Overall body height	3.733m
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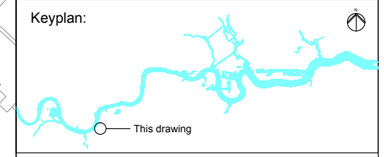
Track width	2.820m
Lock to lock time	4.00 sec
Wall to wall turning radius	8.170m

Keyplan:



Coordinates are to be Ordnance Survey Datum OSGB36. All levels are in metres and relate to the Tunnel Datum which is 100 metres below Ordnance Datum Newlyn.

Key

Existing
- Parking restrictions
- On street parking
- Pedestrian crossing

Vehicle swept path analysis
- Vehicle body outlines
- Vehicle chassis outline
- Vehicle swept path

Stage
Permanent phase

Standards
- Design Manual for Roads and Bridges, Dft, 1992
- Traffic Signs Regulations & General Directions, Tso, 2002
- Traffic Signs Manual, Dft, 2006
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- Design of Pedestrian Crossings Ltn 2/95, Dft, 1995
- Guidance on the use of Tactile Paving Surfaces, Dft, 1998
- Accessible Bus Stop Design Guidance, TfL, 2006

10m 0 40m

Scale 1:500 at A1
1:1000 if reproduced at A3

ILLUSTRATIVE

Location

Falconbrook Pumping Station
London Borough of Wandsworth

Document Information

Application for Development Consent

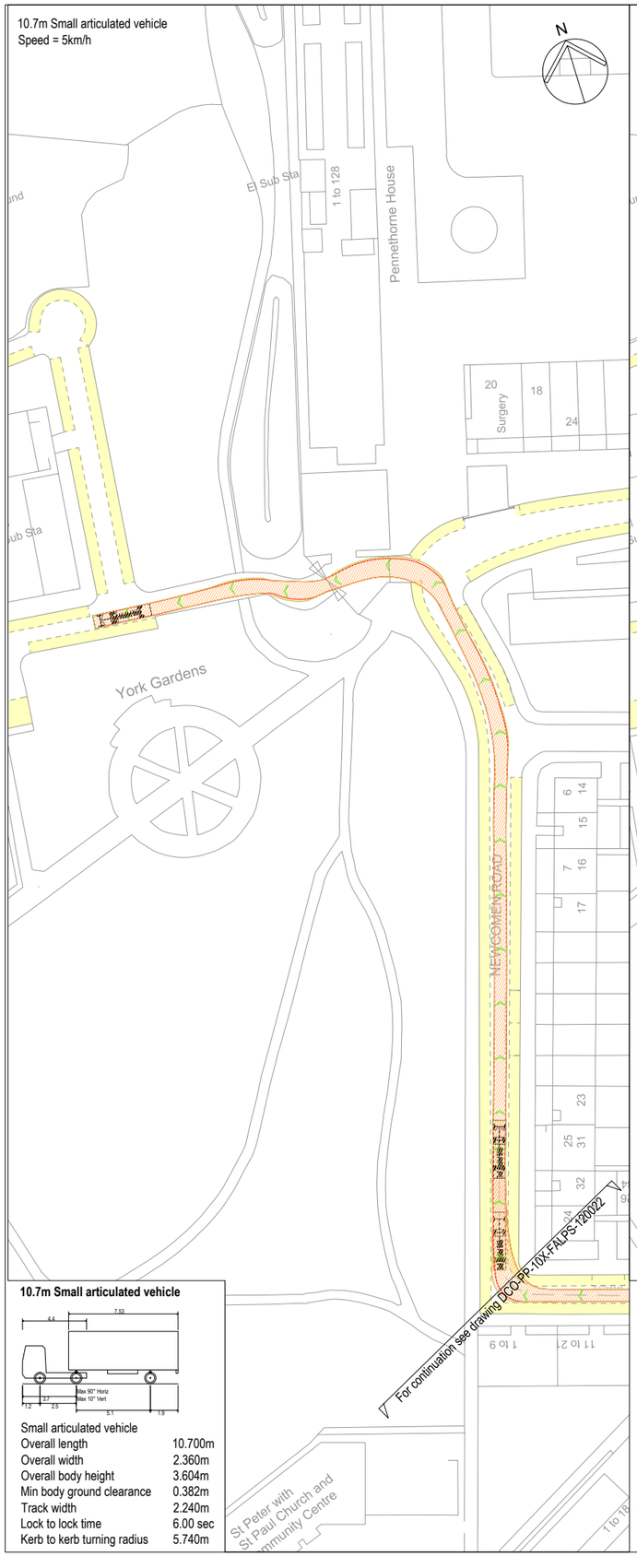
Permanent highway layout (Area 1)
Vehicle swept path analysis
Sheet 2 of 5

DCO-PP-10X-FALPS-120022
January 2013

Thames Tideway Tunnel
Creating a cleaner, healthier River Thames

Thames Water

10.7m Small articulated vehicle
Speed = 5km/h

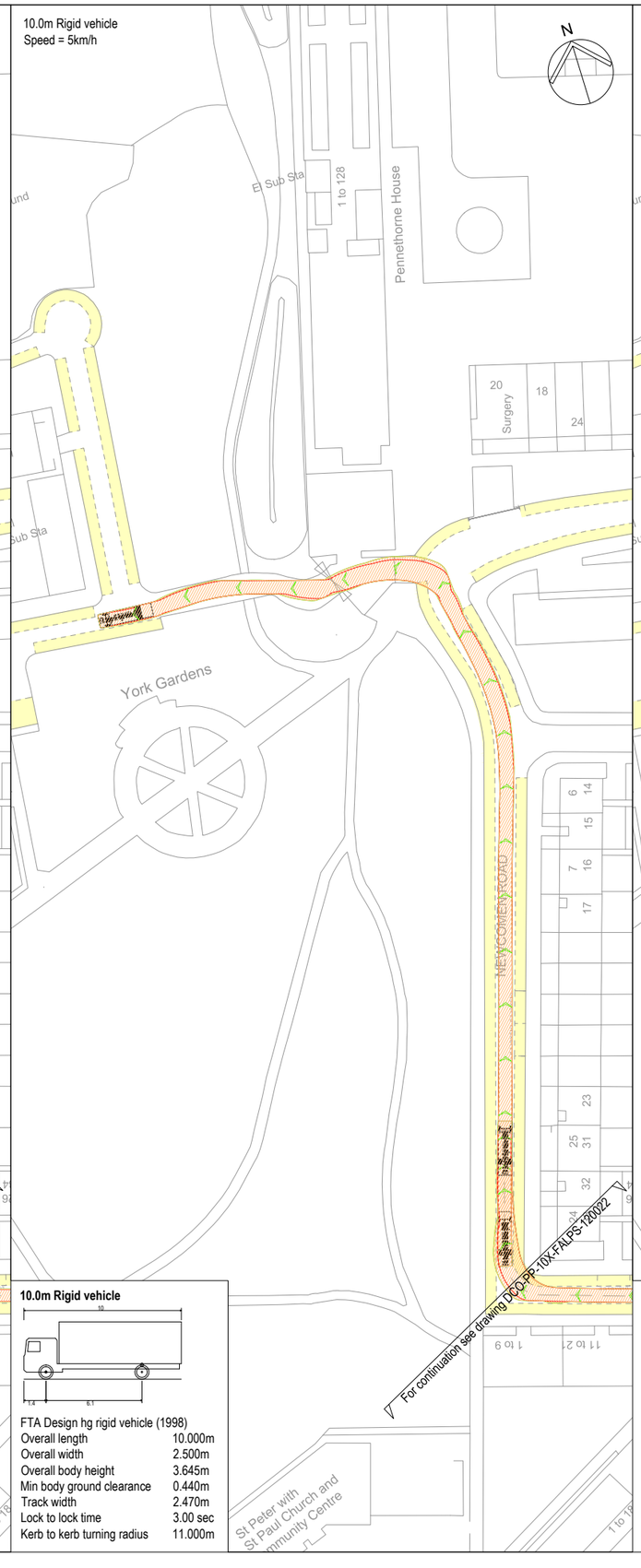


10.7m Small articulated vehicle

Small articulated vehicle

Overall length	10.700m
Overall width	2.360m
Overall body height	3.604m
Min body ground clearance	0.382m
Track width	2.240m
Lock to lock time	6.00 sec
Kerb to kerb turning radius	5.740m

10.0m Rigid vehicle
Speed = 5km/h



10.0m Rigid vehicle

FTA Design hg rigid vehicle (1998)

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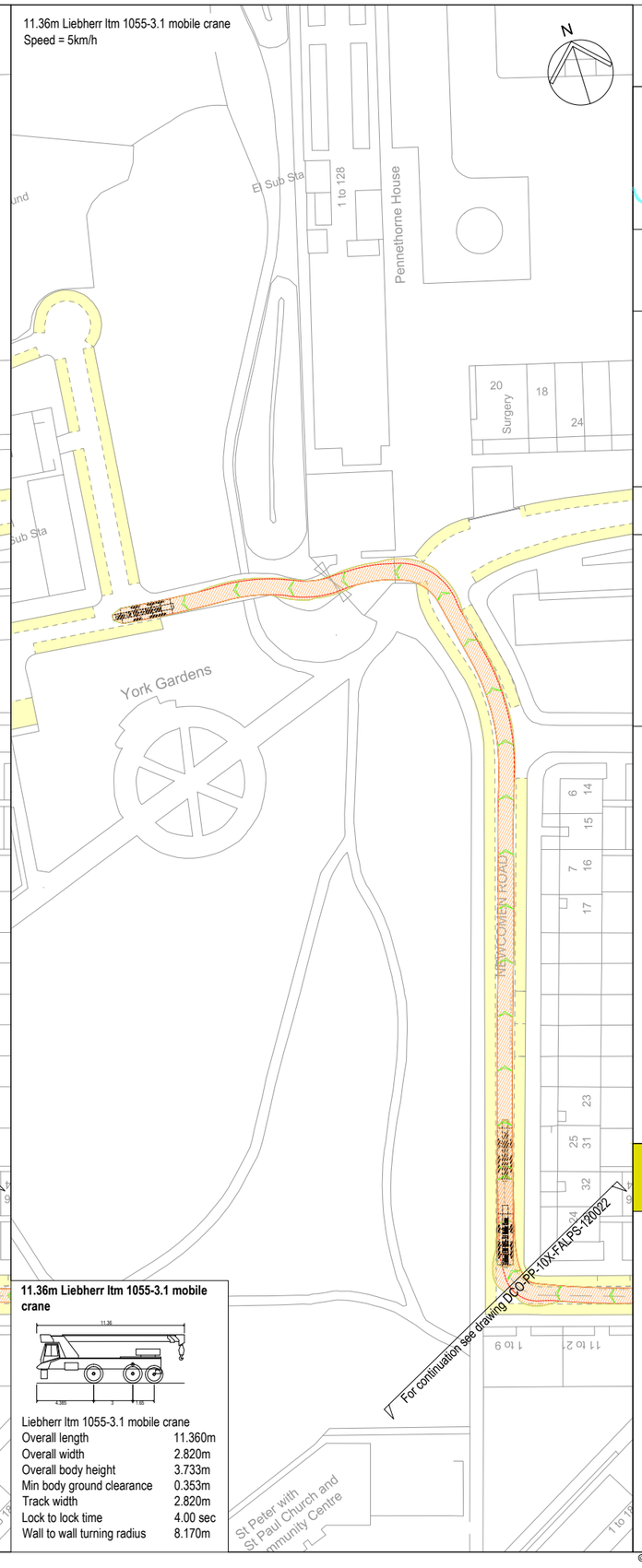
Overall width	2.500m
Overall body height	3.645m
Min body ground clearance	0.440m
Track width	2.470m
Lock to lock time	3.00 sec
Kerb to kerb turning radius	11.000m

11.36m Liebherr ltm 1055-3.1 mobile crane
Speed = 5km/h



11.36m Liebherr ltm 1055-3.1 mobile crane

Liebherr ltm 1055-3.1 mobile crane

Overall length	11.360m
Overall width	2.820m
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Track width	2.820m
Lock to lock time	4.00 sec
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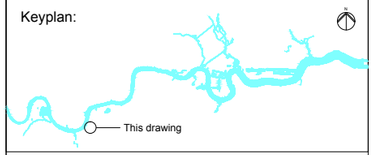
Keyplan:



Coordinates are to be Ordnance Survey Datum OSGB36. All levels are in metres and relate to the Tunnel Datum which is 100 metres below Ordnance Datum Newlyn.

Key

Existing
- Parking restrictions
- On street parking
- Gate

Vehicle swept path analysis
- Vehicle body outlines
- Vehicle chassis outline
- Vehicle swept path

Stage
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- Design Manual for Roads and Bridges, Dft, 1992
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- Guidance on the use of Tactile Paving Surfaces, Dft, 1998
- Accessible Bus Stop Design Guidance, TfL, 2006

10m 0 40m

Scale 1:500 at A1
1:1000 if reproduced at A3

ILLUSTRATIVE

Location
Falconbrook Pumping Station
London Borough of Wandsworth

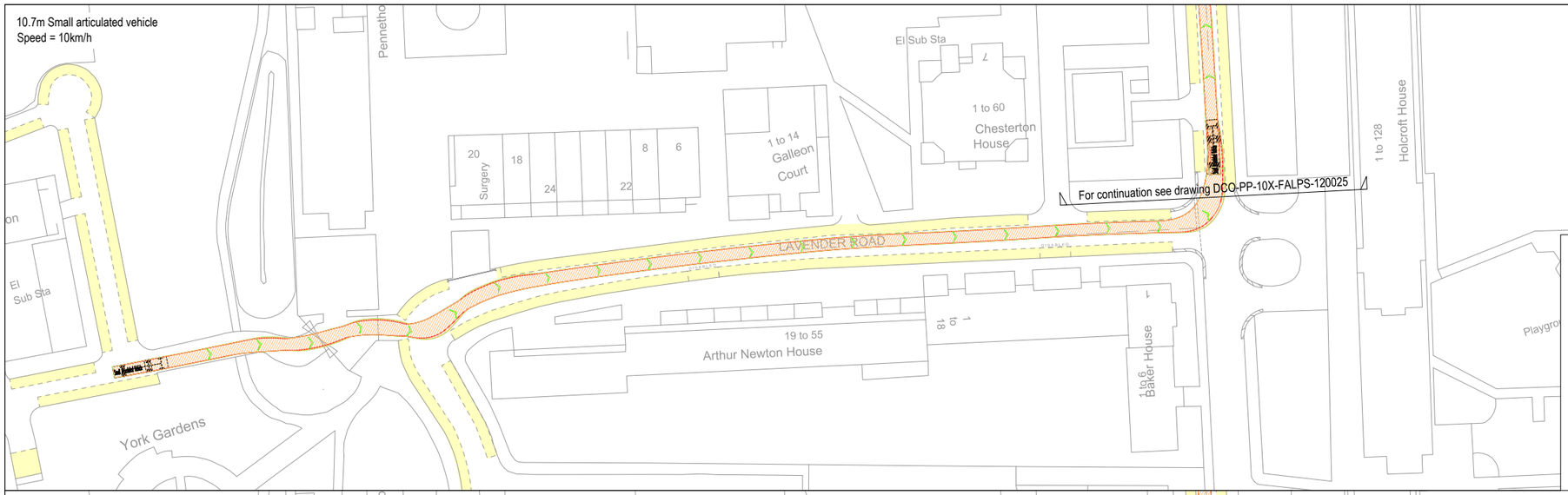
Document Information
Application for Development Consent
Permanent highway layout (Area 1)
Vehicle swept path analysis
Sheet 3 of 5

DCO-PP-10X-FALPS-120023
January 2013

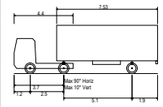
Thames Tideway Tunnel
Creating a cleaner, healthier River Thames

Thames Water

10.7m Small articulated vehicle
Speed = 10km/h

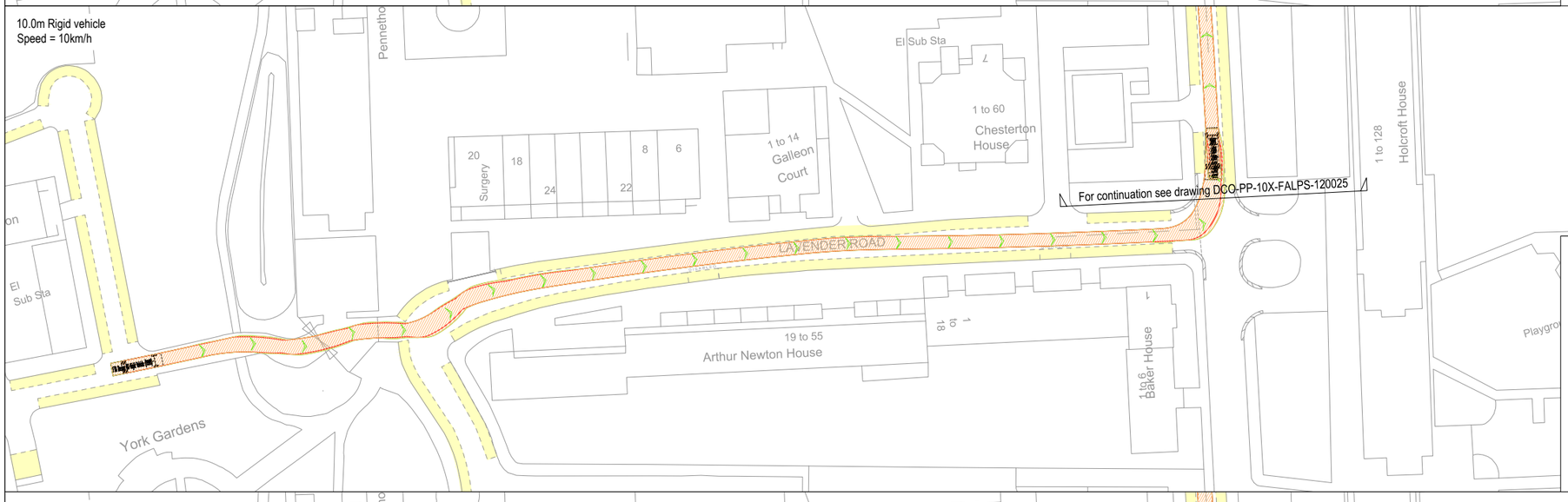


10.7m Small articulated vehicle

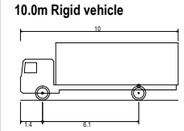


Small articulated vehicle	
Overall length	10.700m
Overall width	2.360m
Overall body height	3.604m
Min body ground clearance	0.382m
Track width	2.240m
Lock to lock time	6.00 sec
Kerb to kerb turning radius	5.740m

10.0m Rigid vehicle
Speed = 10km/h

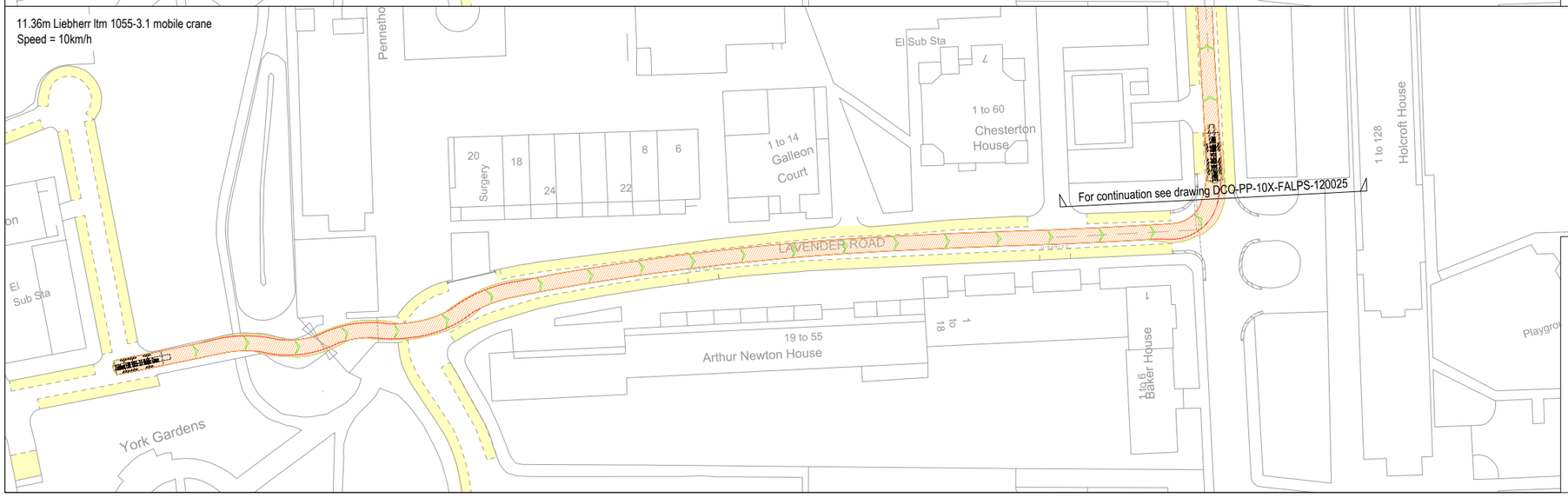


10.0m Rigid vehicle

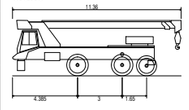


FTA design hg rigid vehicle (1998)	
Overall length	10.000m
Overall width	2.500m
Overall body height	3.645m
Min body ground clearance	0.440m
Track width	2.470m
Lock to lock time	3.00 sec
Kerb to kerb turning radius	11.000m

11.36m Liebherr ltm 1055-3.1 mobile crane
Speed = 10km/h

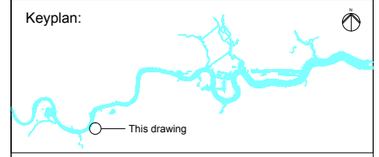


11.36m Liebherr ltm 1055-3.1 mobile crane



Liebherr ltm 1055-3.1 mobile crane	
Overall length	11.360m
Overall width	2.820m
Overall body height	3.733m
Min body ground clearance	0.353m
Track width	2.820m
Lock to lock time	4.00 sec
Wall to wall turning radius	8.170m

Keyplan:



Coordinates are to be Ordnance Survey Datum OSGB36. All levels are in metres and relate to the Tunnel Datum which is 100 metres below Ordnance Datum Newlyn.

Key

Existing
- Parking restrictions
- On street parking
- Gate

Vehicle swept path analysis
- Vehicle body outlines
- Vehicle chassis outline
- Vehicle swept path

Stage
Permanent phase

Standards
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- Manual for Streets 2, CIHT, 2010
- Designing for Deliveries, Fta, 1998
- Cycle Infrastructure Design Ltn 2/08, Dft, 2008
- Design of Pedestrian Crossings Ltn 2/95, Dft, 1995
- Guidance on the use of Tactile Paving Surfaces, Dft, 1998
- Accessible Bus Stop Design Guidance, TfL, 2006

10m 0 40m

Scale 1:500 at A1
1:1000 if reproduced at A3

ILLUSTRATIVE

Location
Falconbrook Pumping Station
London Borough of Wandsworth

Document Information
Application for Development Consent

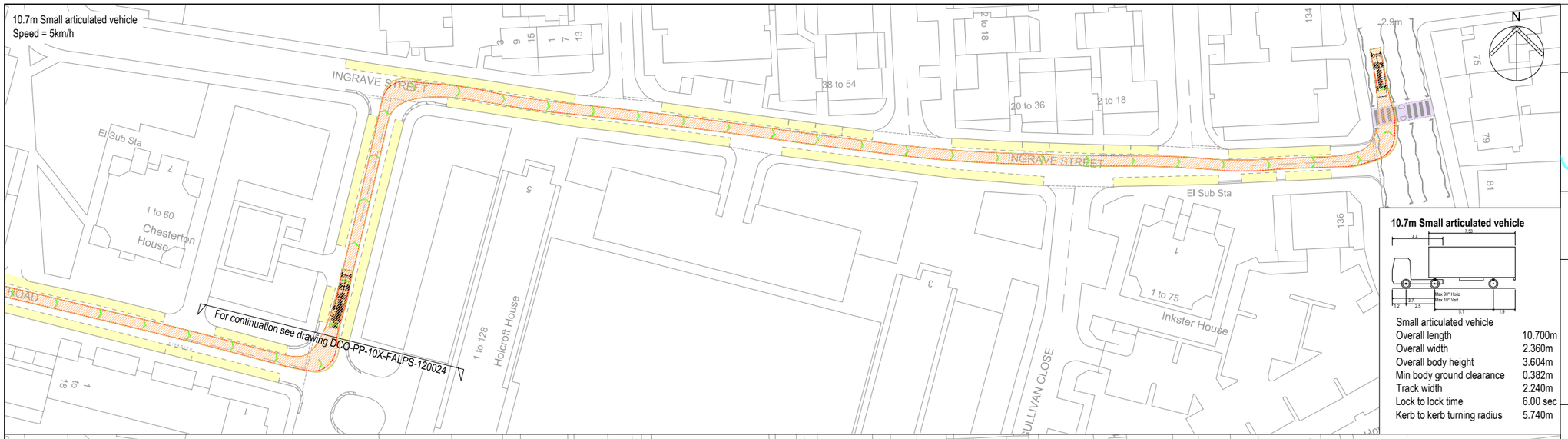
Permanent highway layout (Area 1)
Vehicle swept path analysis
Sheet 4 of 5

DCO-PP-10X-FALPS-120024
January 2013

Thames Tideway Tunnel
Creating a cleaner, healthier River Thames

Thames Water

10.7m Small articulated vehicle
Speed = 5km/h



10.7m Small articulated vehicle

Small articulated vehicle	
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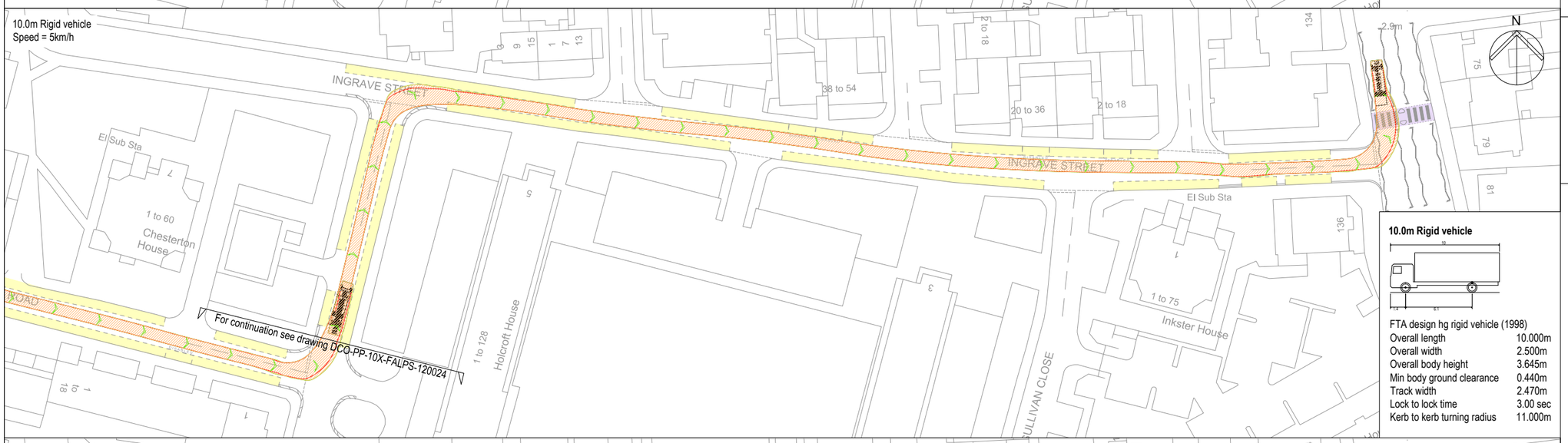
Overall width	2.360m
Overall body height	3.604m
Min body ground clearance	0.382m
Track width	2.240m
Lock to lock time	6.00 sec
Kerb to kerb turning radius	5.740m

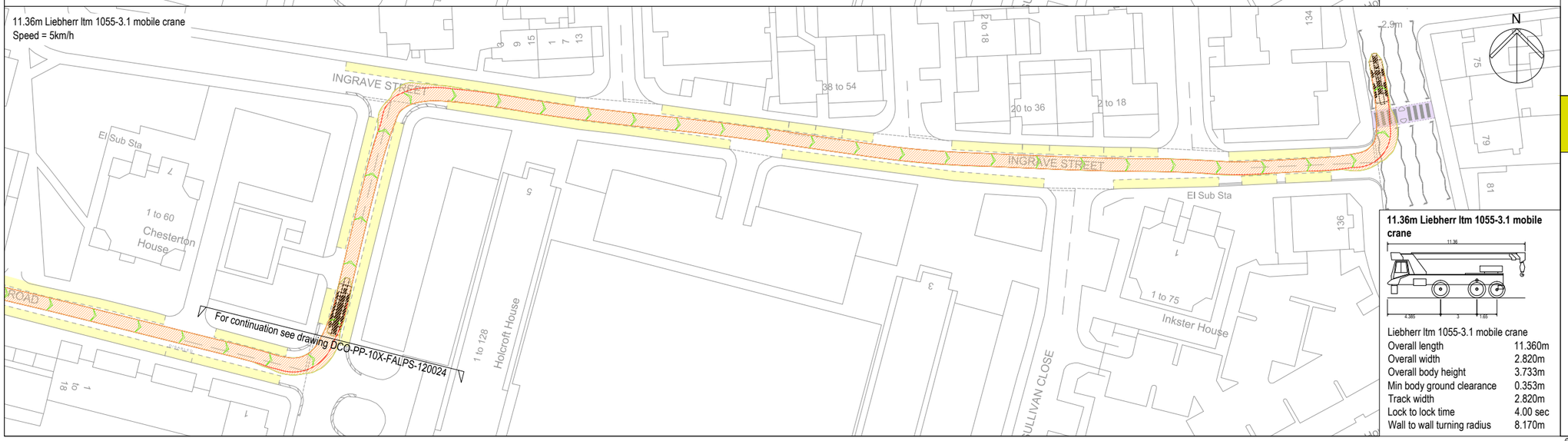
10.0m Rigid vehicle
Speed = 5km/h



10.0m Rigid vehicle

FTA design hg rigid vehicle (1998)	
Overall length	10.000m
Overall width	2.500m
Overall body height	3.645m
Min body ground clearance	0.440m
Track width	2.470m
Lock to lock time	3.00 sec
Kerb to kerb turning radius	11.000m

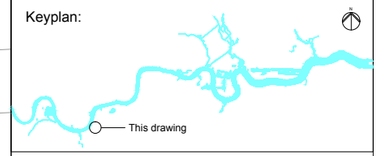
11.36m Liebherr ltm 1055-3.1 mobile crane
Speed = 5km/h



11.36m Liebherr ltm 1055-3.1 mobile crane

Liebherr ltm 1055-3.1 mobile crane	
Overall length	11.360m
Overall width	2.820m
Overall body height	3.733m
Min body ground clearance	0.353m
Track width	2.820m
Lock to lock time	4.00 sec
Wall to wall turning radius	8.170m

Keyplan:



Coordinates are to be Ordnance Survey Datum OSGB36. All levels are in metres and relate to the Tunnel Datum which is 100 metres below Ordnance Datum Newlyn.

Key

Existing
- Parking restrictions
- On street parking
- Pedestrian crossing

Vehicle swept path analysis
- Vehicle body outlines
- Vehicle chassis outline
- Vehicle swept path

Stage
Permanent phase

Standards
- Design Manual for Roads and Bridges, Dft, 1992
- Traffic Signs Regulations & General Directions, Tso, 2002
- Traffic Signs Manual, Dft, 2006
- Manual for Streets, Dft, 2007
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- Designing for Deliveries, Fta, 1998
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- Design of Pedestrian Crossings Ltn 2/95, Dft, 1995
- Guidance on the use of Tactile Paving Surfaces, Dft, 1998
- Accessible Bus Stop Design Guidance, TfL, 2006

10m 0 40m

Scale 1:500 at A1
1:1000 if reproduced at A3

ILLUSTRATIVE

Location
Falconbrook Pumping Station
London Borough of Wandsworth

Document Information
Application for Development Consent

Permanent highway layout (Area 1)
Vehicle swept path analysis
Sheet 5 of 5

DCO-PP-10X-FALPS-120025
January 2013

Thames Tideway Tunnel
Creating a cleaner, healthier River Thames

Thames Water

Transport assessment figures

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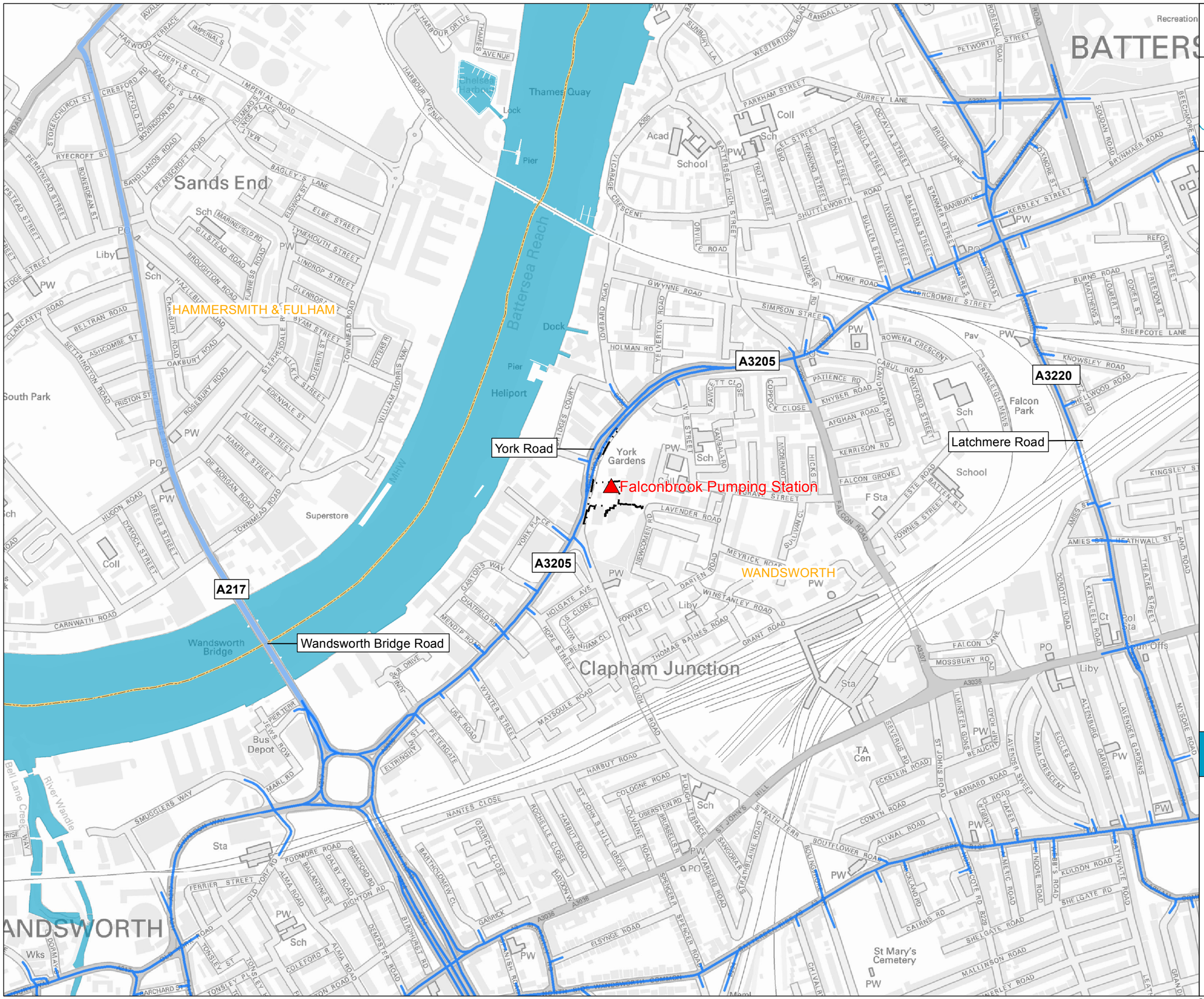


Keyplan:

Key

- Pumping station
- TFL road network
- Strategic road network
- Limits of Land to be Acquired or Used
- Local authority boundary

110 55 0 110 m

Scale 1 : 7,500 at A3

FOR INFORMATION

Location

Falconbrook Pumping Station
London Borough of Wandsworth

Document Information

Transport Asessment

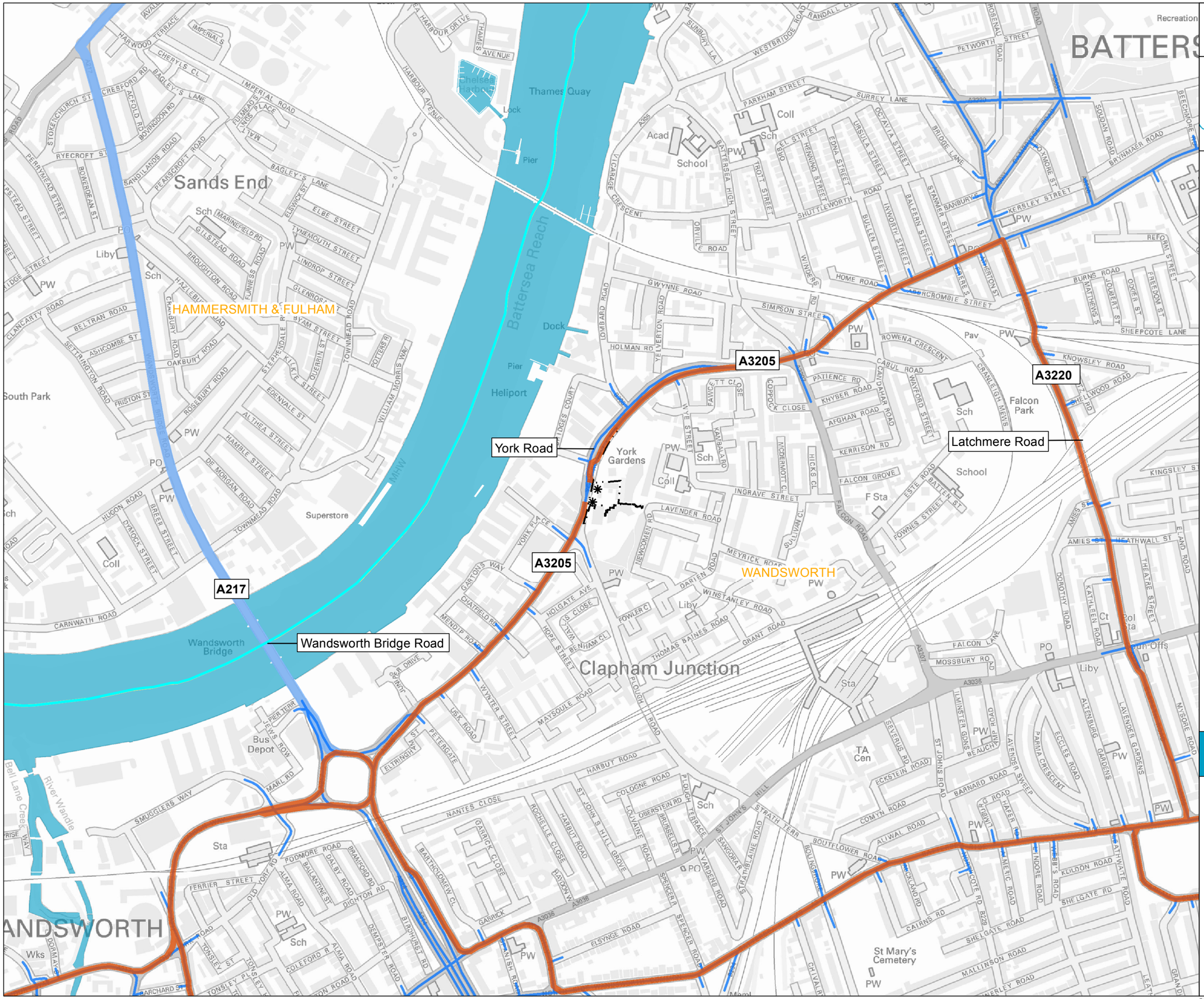
Transport - site location plan

Figure 11.2.1

1PL03-TT-50710
January 2013

Thames Tideway Tunnel
Creating a cleaner, healthier River Thames

Thames Water



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Keyplan:

Key

- Site access
- TFL road network
- Strategic road network
- Primary construction route
- Limits of Land to be Acquired or Used
- Local authority boundary

110 55 0 110 m

Scale 1 : 7,500 at A3

FOR INFORMATION

Location

Falconbrook Pumping Station
London Borough of Wandsworth

Document Information

Transport Assessment

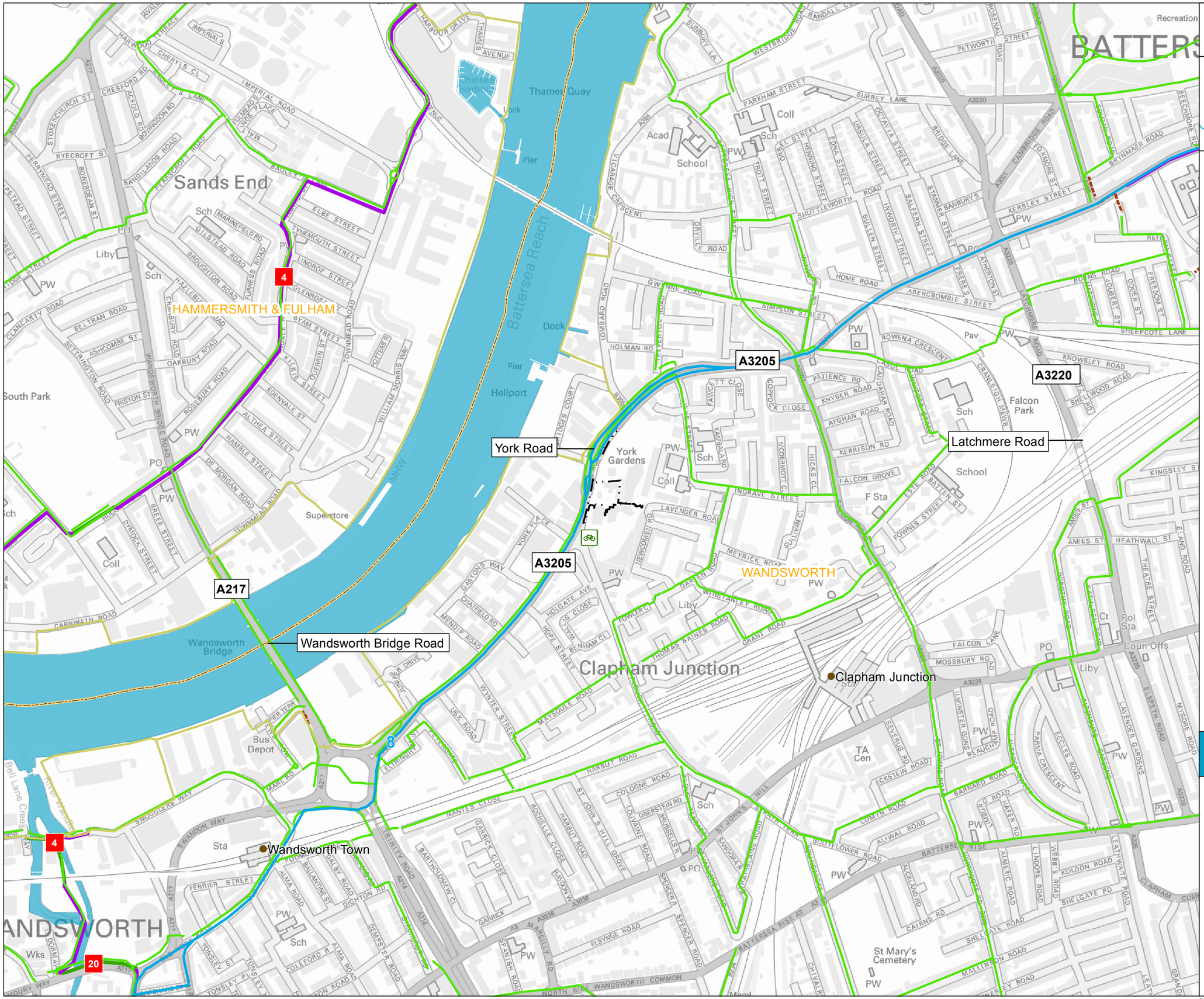
Transport - construction traffic routes

Figure 11.2.2

1PL03-TT-50702
January 2013

Thames Tideway Tunnel
Creating a cleaner, healthier River Thames

Thames Water



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Keyplan:

Key

- Cycle parking
- National rail stations with cycle parking
- London cycle routes
- London strategic walk network
- Cycle superhighway (open)
- Pedestrian routes

National cycle network

Route Type

- Open Traffic Free
- Open on-road
- Limits of Land to be Acquired or Used
- Local authority boundary

110 55 0 110 m

Scale 1 : 7,500 at A3

FOR INFORMATION

Location

Falconbrook Pumping Station
London Borough of Wandsworth

Document Information

Transport Assessment

Transport - pedestrian and cycle network

Figure 11.4.1

1PL03-TT-50718
January 2013

Thames Tideway Tunnel
Creating a cleaner, healthier River Thames

Thames Water

Keyplan:

Key

- TFL bus stops
- Pier locations
- National rail stations
- TfL bus routes
- Limits of Land to be Acquired or Used
- Local authority boundary

110 55 0 110 m

Scale 1 : 7,500 at A3

FOR INFORMATION

Location

Falconbrook Pumping Station
London Borough of Wandsworth

Document Information

Transport Assessment

Transport - public transport

Figure 11.4.2

1PL03-TT-50726
January 2013

Thames Tideway Tunnel
Creating a cleaner, healthier River Thames

Thames Water

Keyplan:

Key

- City Car
- Green Wheels
- Hertz on Demand
- Zip Car
- Private car parking
- Controlled Parking Zones and Hours of Operation
- Limits of Land to be Acquired or Used
- Local authority boundary

110 55 0 110 m

Scale 1 : 7,500 at A3

FOR INFORMATION

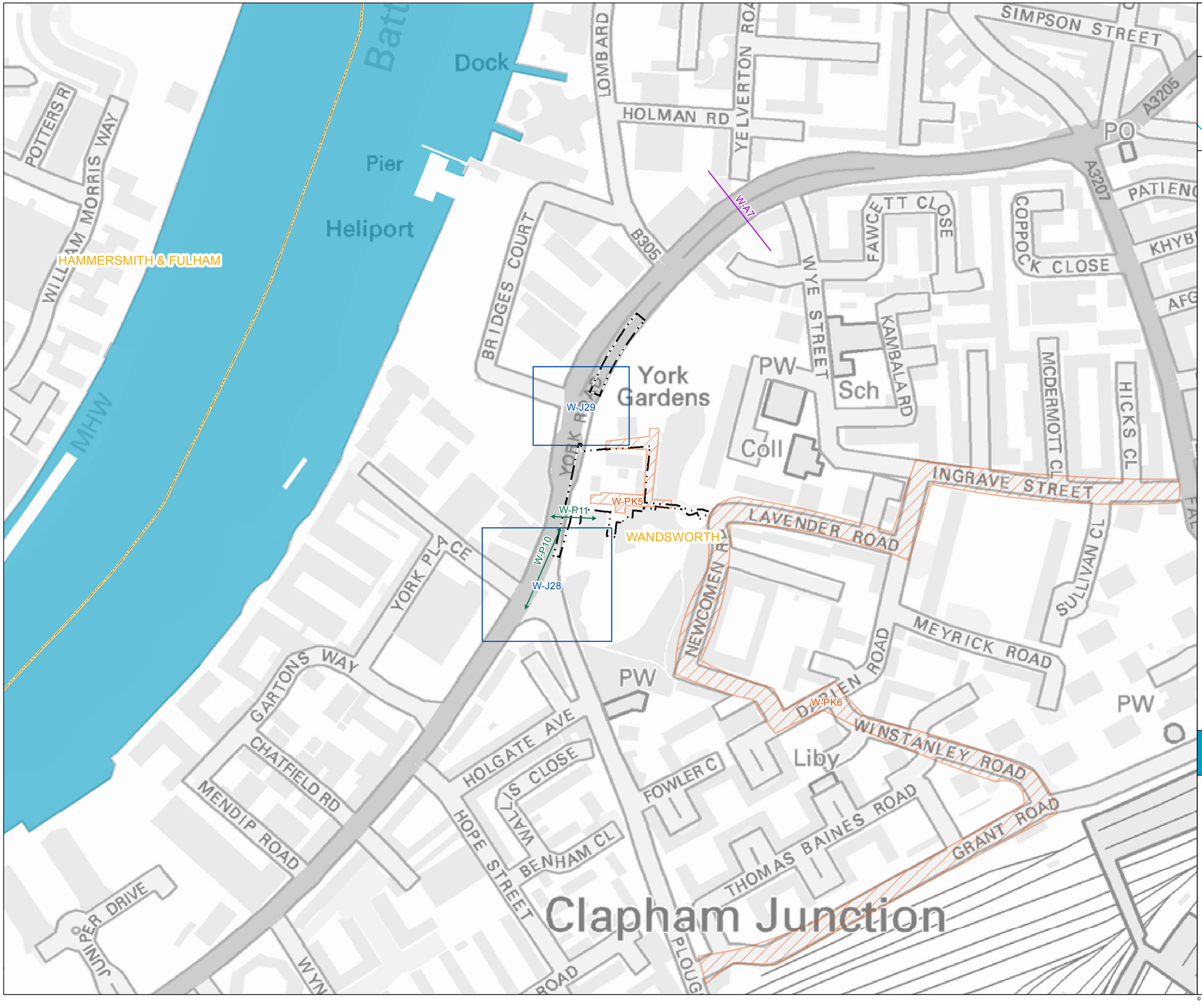
Location
Falconbrook Pumping Station
London Borough of Wandsworth

Document Information
Transport Assessment
Transport - parking

Figure 11.4.3
1PL03-TT-50734
January 2013

Thames Tideway Tunnel
Creating a cleaner, healthier River Thames

Thames Water



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Keyplan:

Key

- Automatic traffic count surveys
- Pedestrian and cycle surveys
- Junction surveys
- Parking surveys
- Limits of Land to be Acquired or Used
- Local authority boundary

40 20 0 40 m

Scale 1 : 3,000 at A3

FOR INFORMATION

Location

Falconbrook Pumping Station
London Borough of Wandsworth

Document Information

Transport Assessment

Transport - survey locations

Figure 11.4.4

1PL03-TT-50742
January 2013

Thames Tideway Tunnel
Creating a cleaner, healthier River Thames

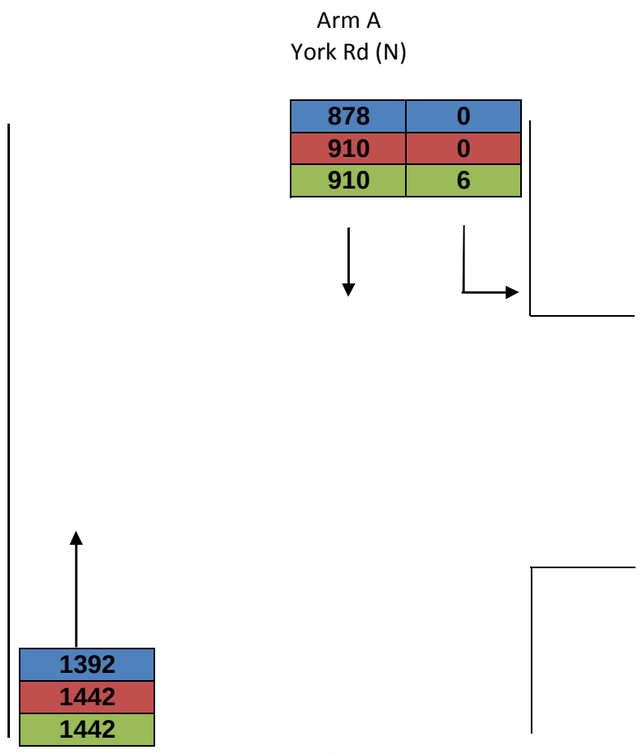
Thames Water

Site: Falconbrook
Borough: Wandsworth
Junction: York Rd/ Site Access
Junction no.: PBA 21

Data: Traffic Flow in PCUs - AM Peak Hour from Traffic Survey

Key

	Baseline
	Construction Base
	Development Case



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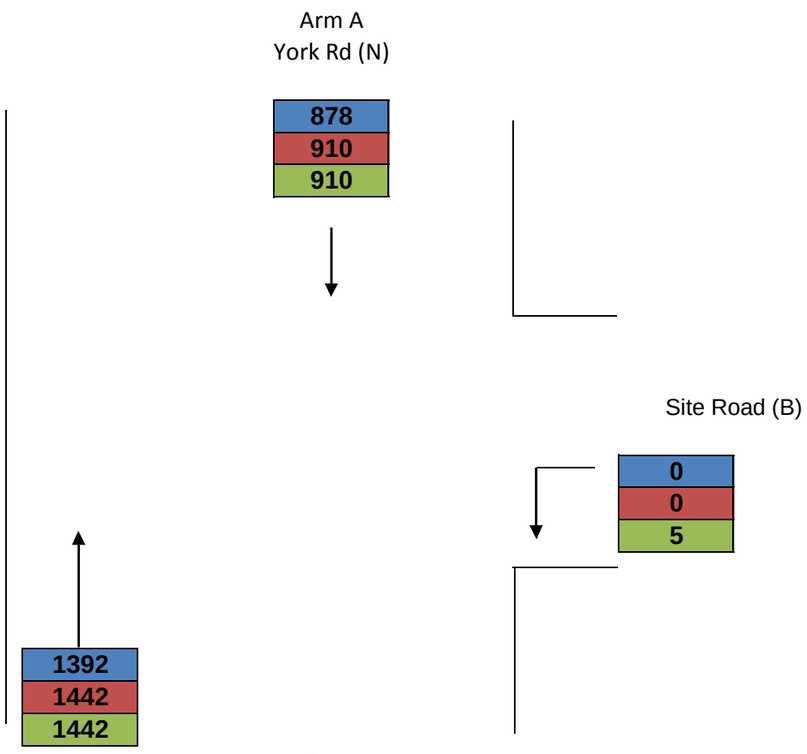


Out

FOR INFORMATION

Location
Falconbrook PS
London Borough of Wandsworth

Document Information
Transport Assessment

Baseline, Construction and Development case traffic flow (AM peak hour)

Figure 11.4.5
1PL03-TT-50921
January 2013

Thames Tideway Tunnel
Creating a cleaner, healthier River Thames

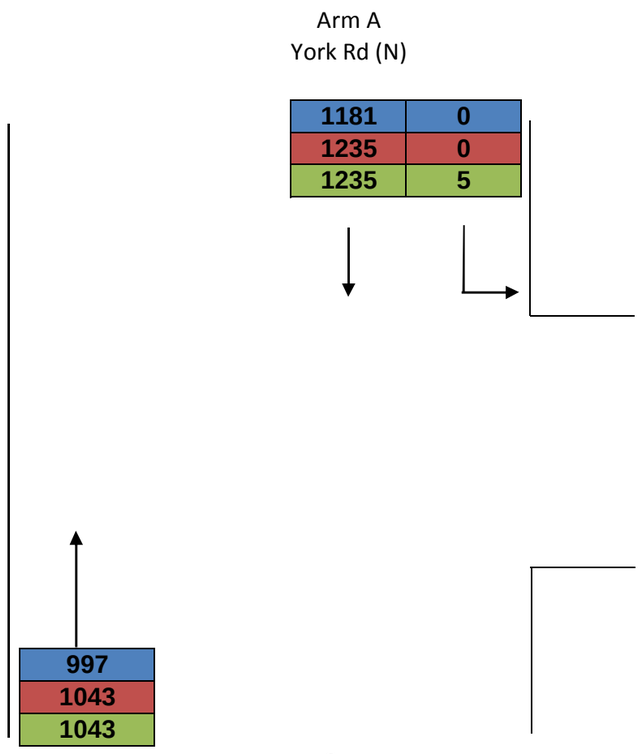
Thames Water

Site: Falconbrook
Borough: Wandsworth
Junction: York Rd/ Site Access
Junction no.: PBA 21

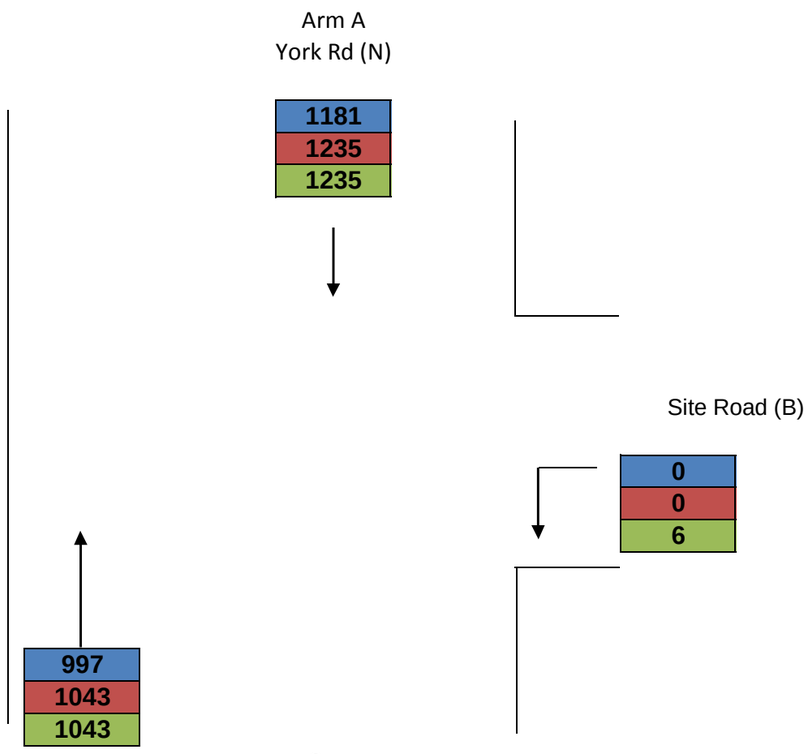
Data: Traffic Flow in PCUs - PM Peak Hour from Traffic Survey

Key

Baseline
Construction Base
Development Case



In



Out

FOR INFORMATION

Location
Falconbrook PS
London Borough of Wandsworth

Document Information
Transport Assessment

Baseline, Construction and Development case traffic flow (PM peak hour)

Figure 11.4.6
1PL03-TT-50945
January 2013

Thames Tideway Tunnel
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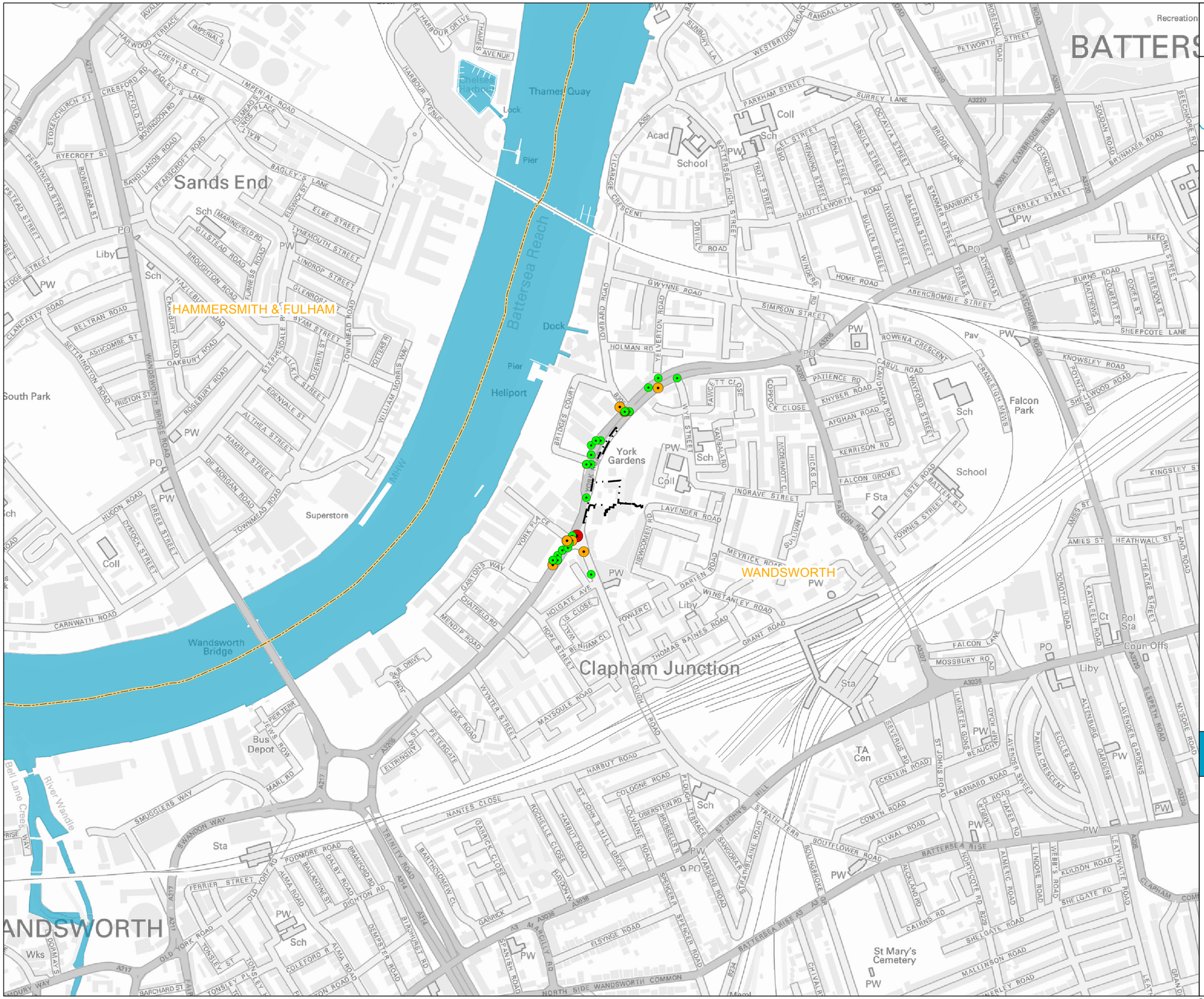
Thames Water



Keyplan:

Key

- Slight
- Serious
- Fatal
- Limits of Land to be Acquired or Used
- Local authority boundary

110 55 0 110 m

Scale 1 : 7,500 at A3

FOR INFORMATION

Location

Falconbrook Pumping Station
London Borough of Wandsworth

Document Information

Transport Assessment

Transport - accident locations

Figure 11.4.7

1PL03-TT-50766
January 2013

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Keyplan:

Key

Accidents

(Severity, Mode of travel)

- Slight, Pedestrian
- Slight, Pedal Cycle
- Serious, Pedestrian
- Serious, Pedal Cycle
- Fatal, Pedestrian
- Limits of Land to be Acquired or Used
- Local authority boundary

110 55 0 110 m

Scale 1 : 7,500 at A3

FOR INFORMATION

Location

Falconbrook Pumping Station
London Borough of Wandsworth

Document Information

Transport Assessment

Transport - pedestrian and cyclist accidents by severity
Figure 11.4.8

1PL03-TT-50849
January 2013

Thames Tideway Tunnel
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Wandsworth Bridge Road

Cemex Fulham

Falconbrook Pumping Station

York Road

Battersea Bridge Road

Battersea Park Road

Battersea Park Road

Latchmere Road

Falcon Road

Hanson Wandsworth

A217

Trinity Road

A3036

A3036

A3

Hourly construction lorries arrivals and departures

- Arrivals
- Departures

Hourly construction lorries movements

- 0 - 1
- 1 - 2
- 2 - 3
- 3 - 4
- 4 - 5
- 5 - 6
- 6 - 7
- 7 - 8
- 8 - 9
- 9 - 10
- 10 - 11
- 11 - 12
- 12 - 13
- 13 - 14
- 14 - 15
- > 15

Note: Construction vehicle flows include all Thames Tideway Tunnel sites on this network during this period.

FOR INFORMATION

Location

Falconbrook Pumping Station
London Borough of Wandsworth

Document Information

Transport Assessment
Hourly Construction Lorry Movements - Site Year 1 of Construction

Figure 11.5.1

1PL03-TT-50893

Thames Tideway Tunnel
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