

Thames Tideway Tunnel
Thames Water Utilities Limited



Application for Development Consent

Application Reference Number: WWO10001

Planning Statement

Doc Ref: **7.01**

Appendix H

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

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Creating a cleaner, healthier River Thames

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Thames Tideway Tunnel

Planning Statement

Appendix H: Falconbrook Pumping Station

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Appendix H: Falconbrook Pumping Station

H.1 Introduction

- H.1.1 In an average year, the Falconbrook Pumping Station combined sewer overflow (CSO) spills approximately 42 times and discharges 709,000m³ of untreated sewage into the River Thames close to residential towers on the riverside¹. On the basis that litter tonnages are proportional to discharge volumes, approximately 180 tonnes of sewage derived litter is also discharged from this CSO in an average year (*Environmental Statement*, Vol 11, Section 14). The Environment Agency identified the Falconbrook Pumping Station CSO as a CSO that needs to be controlled.
- H.1.2 The Falconbrook Pumping Station site, which is located in the London Borough of Wandsworth (the 'LBW'), was selected to intercept the CSO and transfer flows into the main tunnel. The location of the site is identified on the Location plan in Annex H to this appendix.
- H.1.3 It is predicted that with the project in operation that in an average year, the Falconbrook Pumping Station CSO would spill approximately four times a year and discharge 45,000m³ of untreated sewage. Similarly, the tonnage of sewage derived litter from the CSOs can be expected to reduce from approximately 199 tonnes to approximately 12 tonnes, in the typical year. This represents a reduction of approximately 94 per cent compared to the operational base case.
- H.1.4 This assessment is structured as follows:
- a. Section H.2 provides a brief description of the Falconbrook Pumping Station site.
 - b. Section H.3 sets out the planning context for works in this location.
 - c. Section H.4 describes the site-specific development for which consent is sought and the way in which the proposals evolved through consultation.
 - d. Section H.5 provides an analysis of the principal site-specific planning considerations and how the proposals comply with relevant planning policy.
 - e. Section H.6 provides an overall conclusion of the site-specific assessment for the proposed works at this site.

H.2 Site description

- H.2.1 The site is approximately 0.45 hectares. It comprises part of the operational Thames Water Falconbrook Pumping Station compound, a venturi building, an advertising hoarding, a disused toilet block to the southwest of the pumping station, and an area to the south adjacent to the

¹ The current operation of the Falconbrook Pumping Station CSO was characterised using the catchment model of the sewer system (see *Environmental Statement*, Vol 11, Section 14 and Vol 3, Section 11 for further details of catchment modelling).

York Gardens Library and Community Centre. The site extends partly into York Road (A3205) and its pavement incorporating a bus stop. There is a small satellite site along the York Road to the north, should a temporary relocation of the bus stop be required in that area.

Figure H.1 Aerial photograph of Falconbrook Pumping Station



- H.2.2 The site is largely hardstanding and buildings, the largest being the Thames Water Pumping Station. It also incorporates the existing access road through York Gardens to the east. A public right of way runs through the site between York Road and York Gardens. Footpaths are narrow and enclosed and the public realm uninviting. The As existing site features plan is provided in Annex H to this appendix.
- H.2.3 The site is bounded to the north by York Gardens Adventure Playground. York Gardens Library and Community Centre is situated to the south. York Road forms the western boundary of the site. York Gardens is adjacent to the east of the site and envelopes the community facilities to the north and south. An access road through York Gardens from Lavender Road to the east serves the Thames Water pumping station and the community facilities.
- H.2.4 York Gardens is a medium sized public park extending to approximately 3ha, characterised by areas of amenity grass, scattered mature trees, and planted beds. The LBW *York Gardens Management Plan 2008 – 2013*, notes that York Gardens is, “visually divided by several buildings in the centre.” “Dense, semi natural planting areas, to the York Road and Plough Road sides of the park, screen the busy roads but form a grim area to walk past. “There are hidden areas to the York Road side of the Library and also the pumping station.” “The overall impression of the park is of a large open space with some appeal, but with large areas that could be improved”.

- H.2.5 York Road forms part of the Transport for London Road Network and is a four lane single carriageway, separated by a central reservation with a 30mph speed limit. Cycle Super Highway 8 passes along the York Road.
- H.2.6 To the north, east and south of York Gardens are residential uses. The closest residential development is located approximately 45m to the east of the site beyond York Gardens at Pennethorne House. To the west, beyond the York Road A3203, there is a series of low-rise commercial buildings set amongst large areas of hardstanding and car parking. Beyond this, close to the CSO outlet, the river frontage along the south bank is characterised by dense residential development up to 15 storeys high.

H.3 Planning context

- H.3.1 In developing the proposals and mitigation measures for the development at Falconbrook Pumping Station Thames Water² had regard to the policies set out in the NPS, and to local development plan designations where these are relevant to the application.
- H.3.2 The statutory development plan comprises:
- a. the *London Plan* (2011)
 - b. the LBW's *Core Strategy* (October 2010)
 - c. the LBW's *Development Management Policies Document* (February 2012)
 - d. the LBW's *Site Specific Allocations Document* (February 2012).
- H.3.3 The site is largely an established infrastructure use and there are few planning designations in the immediate area.
- H.3.4 The site is within the York Gardens 'other larger protected open space' designation on the Proposal Map that accompanies the *Core Strategy*. Within the Greater London Authority's public open space categorisation the park would fall within the categorisation 'local parks and open spaces'. York Gardens is also designated as Site of Importance of Nature Conservation of local importance.
- H.3.5 To the west of the site across the York Road A3205 is an allocation for residential development as identified in the *Site Specific Allocations Document* (February 2012). The allocation site (reference number 102) is known as York Road, Battersea (Former Prices Candles factory).
- H.3.6 Further relevant designations include:
- a. The site is within the Wandsworth Archaeological Priority Area.
 - b. The site is within the Wandsworth Air Quality Management Area declared for nitrogen dioxide and particulate matter.

² Thames Water Utilities Ltd (TWUL). The Draft Development Consent Order (DCO) contains an ability for TWUL to transfer powers to an Infrastructure Provider (as defined in article 2(1) of the DCO) and/or, with the consent of the Secretary of State, another body.

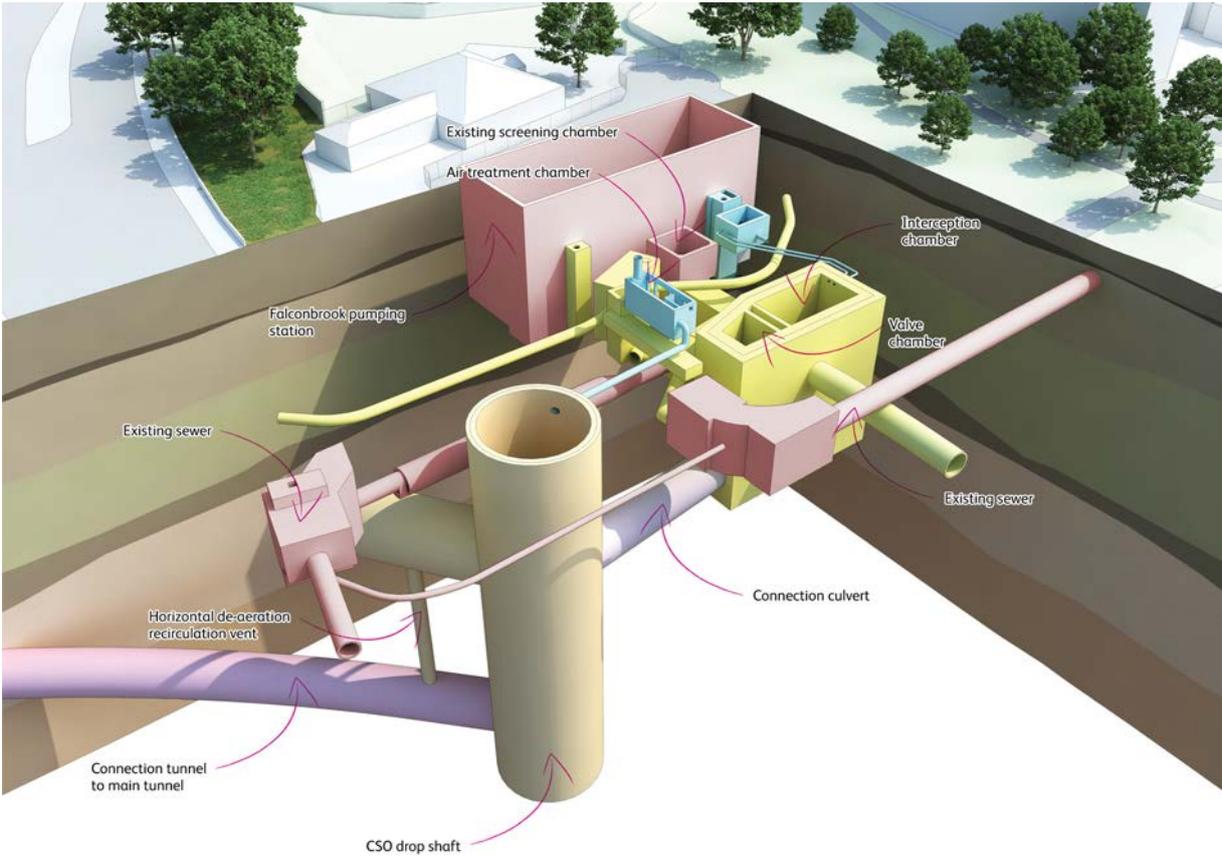
- c. The site is located in Flood Zone 3a (1 in 100 year flood event) but is defended to the 1 in 1,000 year flood level.
- H.3.7 The uses on site including the pumping station compound and venturi building are long established. The toilet block has been closed to the public for several years. The access road to the pumping station and community facilities from Lavender Road to the east has been used by Thames Water for maintenance of the operational facility since the pumping station was constructed in the 1970s.
- H.3.8 To the west of the site across the York Road A3205, two planning applications have been refused permission on the residential allocation in the past two years (LBW planning application references 2011/2950 and 2012/1444). Application 2011/2950 was registered 12/07/2011 and refused 28/03/2012. Application 2012/1444 was registered 30/03/2012 and refused 07/08/2012. Both applications were for mixed-use residential and commercial development.

H.4 Site-specific description of development

Overview

- H.4.1 The proposed development at Falconbrook Pumping Station would intercept the Falconbrook Pumping Station CSO. The works would convey flows from the inlet of the existing pumping station to the main tunnel.
- H.4.2 The work would require the construction of a combined CSO interception and valve chamber, hydraulic structures (including culverts and pipes), ventilation structures and an electrical and control kiosk. Flows would be transferred from the relatively shallow depth of the existing pipework to the deeper level of the main tunnel via a CSO drop shaft and associated connection tunnel. The CSO shaft would be approximately 40m deep.
- H.4.3 All permanent works would be surrounded by an operational maintenance hardstanding area. The area surrounding the CSO drop shaft would be accessible to the general public and form an improved access to York Gardens. The area adjacent to the combined interception and valve chamber would be within the existing external compound of the pumping station.
- H.4.4 The CSO drop shaft would be finished at a level of approximately 800mm higher than the surrounding ground level for hydraulic reasons. The elevated area would be landscaped.
- H.4.5 The ventilation structures and electrical control kiosk would be located within the perimeter of the pumping station facility.

Figure H.2 Functional components diagram



Application for development consent

H.4.6 The geographic extent of the proposals for which development consent is sought is defined by the limits of land to be acquired or used and the drawings listed in Table H.1.

Table H.1 Falconbrook Pumping Station: Drawings that define the proposed development

Drawing title	Status	Location
Proposed schedule of works	For approval	Schedule 1 to the <i>Draft Thames Water Utilities Limited (Thames Tideway Tunnel) Development Consent Order</i> (the 'Draft DCO')
Access plan	For approval	<i>Book of Plans</i> , Section 12
Demolition and site clearance plan	For approval	<i>Book of Plans</i> , Section 12
Site works parameter plan	For approval	<i>Book of Plans</i> , Section 12
Permanent works layout	Illustrative	<i>Book of Plans</i> , Section 12
Proposed landscape plan	Indicative save for layout of above-ground	<i>Book of Plans</i> , Section 12

Drawing title	Status	Location
	structures which is illustrative	
Section AA	Illustrative	<i>Book of Plans</i> , Section 12
As existing and proposed elevation (various)	Illustrative	<i>Book of Plans</i> , Section 12
Kiosk, wall and valve chamber design intent	Indicative	<i>Book of Plans</i> , Section 12
Construction phases (various)	Illustrative	<i>Book of Plans</i> , Section 12
Highway layout during construction (various)	Illustrative	7.10.8 <i>Transport Assessment: Falconbrook Pumping Station Figures</i>
Permanent highway layout (various)	Illustrative	7.10.8 <i>Transport Assessment: Falconbrook Pumping Station Figures</i>

H.4.7 The Nationally Significant Infrastructure Project works (Work Nos. 10a and b) comprise the construction of a CSO drop shaft with an internal diameter of approximately 9m and depth of 40m (which extends approximately 1 metre above the existing ground level) and a connection tunnel to the main tunnel. Associated development (Work no. 10c) comprises the works to intercept and divert flow from the Falconbrook Pumping Station CSO to the drop shaft including construction of an interception chamber, CSO overflow structures, hydraulic structures, chambers with access covers, structures for air management plant and equipment and other structures including culverts, pipes and ducts to modify, connect, control, ventilate and intercept flow, and the relocation of a bus stop (including the provision of a new layby). The full description of the proposed development can be found in Schedule 1 to the *Draft DCO*. Further details temporary construction works and permanent operational structures are contained below.

H.4.8 At this site, approval is sought for the works shown on the Works plan showing the main tunnel (west central) (Work no. 1b), Falconbrook Pumping Station CSO drop shaft (Work No. 10a), Falconbrook connection tunnel (Work no. 10b) and the Site works parameter plan, which shows the relevant zones and limits of land to be acquired or used in which the associated development works would be undertaken (Work No. 10c) Access plans, and Demolition and site clearance plans. The plans for approval are contained in the *Book of Plans* along with other plans showing the construction phasing and permanent works plans relevant to this site. These other plans are marked either for approval, for information, indicative or illustrative depending on the level of detail they are providing. The Operation and maintenance and Good design subsections of this appendix explain further the level of detail with regard to the proposed above-ground structures at this site and the need to obtain further approvals.

Construction

- H.4.9 The construction is programmed to take approximately three years and would involve the following main activities:
- Site Year 1: Site set-up (approximately three months)
 - Site Year 1: Shaft construction (approximately six months)
 - Site Years 1 to 2: Tunnelling (approximately six months)
 - Site Years 2 to 3: Construction of other structures (approximately 12 months)
 - Site Year 3: Completion of works and site restoration (approximately six months).

Figure H.3 Construction duration



- H.4.10 The majority of construction would occur from 8am to 6pm Monday to Friday and 8am to 1pm Saturdays. Construction may occasionally be required outside of these hours during key construction activities.
- H.4.11 A short period of 24-hour working would be required for the connection tunnel and secondary lining. During this period of continuous working, activities would be predominately below ground, with support activities occurring at ground level. HGV movements however, would be limited to daytime hours. Further information about working hours and site-specific restrictions are contained within the *Code of Construction Practice (CoCP)* Part A and Part B which accompany the application.
- H.4.12 Two temporary construction vehicle accesses are proposed off the York Road carriageway to serve the site. This is shown on the Access plan. This would avoid construction vehicles passing through the residential roads located to the east of the site. Construction vehicles would access the site by travelling southbound on York Road and turning left into the site via new access points. Vehicles exiting the site would turn left onto York Road via a second temporary construction access.
- H.4.13 It is anticipated that an average of five heavy goods vehicles (HGVs) would access the site per day for the majority of the construction period. This would rise to approximately 18 HGVs (36 two-way trips) per day over an estimated two month period during the tunnelling phase.

- H.4.14 The Construction phases plan is provided in the Annex H to this appendix. It should be noted that these layouts are for guidance only. The contractor may arrange the site in a different way, depending on the chosen construction method, provided that any environmental effects are appropriately managed and that main construction activities are contained within the appropriate zones. The accesses, however, are fixed.

Site set-up

- H.4.15 Localised removal of landscaping along the York Road would be undertaken around the construction site and proposed vehicle access points.
- H.4.16 The site boundary would be established via the erection of hoarding and welfare and office facilities provided using stacked portable cabin style units. The height of the hoarding would be up to 3.6m in height.
- H.4.17 The alignment of the hoarding along the eastern side of the site would maintain pedestrian and vehicle access to the York Gardens Adventure Playground, the York Gardens Library and Community Centre, the Electricity Substation and the eastern access to the Pumping Station building.
- H.4.18 The illuminated advertising hoarding would be dismantled and removed from site.
- H.4.19 The two temporary vehicle accesses off York Road would then be constructed. This access would only be for the construction phase and would not be the operational access to the permanent infrastructure. The creation of the construction access would require associated traffic management / utility diversions and sections of the existing York Gardens perimeter wall and railings to be removed.
- H.4.20 The disused public convenience building, the screening chamber building and sections of the pumping station compound wall would then be demolished. The extent of demolition works is shown on the Site clearance and demolition plan. The selective pruning of trees would also be undertaken at this stage.

Shaft construction

- H.4.21 The 9m internal diameter CSO drop shaft would then be constructed. This would comprise excavating in approximately 1m increments and then using a sprayed concrete lining to form the shaft walls.
- H.4.22 A proportion of the shaft would be constructed through the substructure of a former pumping station. This would require localised demolition and break-out of the substructure by mechanical plant to enable shaft construction. Excavated material from the shaft would be lifted to ground level using a mobile crane prior to being deposited in a material handling area within the site. Excavated material would then be removed from site by HGVs. The concrete required on the site may either be batched on-site, or delivered ready mixed as required.

Tunnelling

- H.4.23 The connection tunnel between the CSO drop shaft and the main tunnel would then be constructed. This would be approximately 3.2m internal diameter and 260m in length. The tunnel would be constructed either using a tunnel boring machine or by sprayed concrete lining.
- H.4.24 The connection tunnel would be excavated via the tunnel boring machine unit, with precast concrete segments installed to create the tunnel walls. If sprayed concrete lining were selected, then the tunnel would be excavated in approximately 1m increments before a sprayed concrete lining is applied to form the tunnel walls.

Secondary lining of connection tunnel and shaft

- H.4.25 A secondary concrete lining would then be applied to the drop shaft and connection tunnel. This is required to improve their durability, water tightness and structural integrity. The process would involve casting an *in situ* concrete lining using a curved mould, or shutter, to form the internal face of the tunnel and the drop shaft. The secondary lining would be progressed by continuously pouring concrete to the shutter as it is advanced either horizontally along the length of the tunnel or vertically up the wall of the shaft. The concrete for the secondary lining may either be batched on site, or delivered ready mixed to site. It would be pumped from surface level to the connection tunnel or drop shaft.

Construction of other structures

- H.4.26 The combined interception and valve chamber would then be constructed. The depth of this structure may require the walls to be constructed by drilling circular piled excavations which would be subsequently filled with concrete. These are known as secant piles. Drilling of secant piles would be conducted using mechanical plant, with concrete being pumped into the drilled excavations. A section of the combined interception and valve chamber would be finished above existing ground level for hydraulic reasons. This above-ground section would be located within the compound of the existing pumping station.
- H.4.27 The connection culvert between the interception chamber and CSO drop shaft would then be constructed using tunnelling techniques. It is anticipated that sprayed concrete lining may be used with a temporary deck being installed within the drop shaft to provide a working area for tunnelled culvert. The internal layout of the CSO drop shaft, including concrete access platforms and the concrete vortex generator would then be constructed. Other below-ground hydraulic structures would then be constructed from *in situ* concrete. Concrete would be poured into shuttered excavations to provide the structure's shape.
- H.4.28 The above-ground ventilation structure would then be constructed. This would be formed from *in situ* concrete, again using shutters to provide the structure's shape. The electrical and control kiosk would then be located within the building of the existing pumping station.

Completion of works and site restoration

- H.4.29 The perimeter brick wall of the pumping station compound would be reconstructed along its existing alignment. The compound area within the pumping station perimeter would be hard landscaped to provide an operational working area. The vehicular access gates to the pumping station would be reinstated slightly eastwards of their current position.
- H.4.30 The area outside the perimeter of the pumping station would then be landscaped. Areas adjacent to the CSO drop shaft would be landscaped with hard surfacing to provide operational vehicle access, with areas of soft landscaping to enable planting. The temporary construction vehicle access points off York Road would then be removed, the area would be landscaped, and a new pedestrian access to York Gardens created.

Operation

Structures

- H.4.31 The principal structures would comprise:
- a. a CSO drop shaft
 - b. an integrated interception chamber, valve chamber and dry weather flow pumping station
 - c. a connection culvert
 - d. a valve chamber serving the dry weather flow pumping station
 - e. ventilation structures including an above-ground air treatment chamber and above-ground ventilation columns and an electrical and control kiosk located within the existing pumping station building.
- H.4.32 The zone within which the shaft would be located (denoted by the blue line on the Site works parameter plan) is centred over the drop shaft to allow the shaft to be relocated a short distance to provide some flexibility as the design is developed. The zone was derived to position the shaft between the existing below-ground infrastructure located within the site and provide suitable above-ground hardstanding during operational maintenance activities.
- H.4.33 The zone within which all the permanent site structures would be located (denoted by the green line on the Site works parameter plan) is bounded by the York Road to the west and the existing pumping station building/ sub-station to the east. The zone extends slightly into the eastern footway of York Road to allow for the below-ground horizontal de-aeration recirculation vent. The zone extends from the access road serving the library/community centre to the south and the existing venturi structure to the north.
- H.4.34 The zone within which the permanent above-ground structures for the combined electrical and control kiosk and the ventilation columns would be located (denoted by purple lines on the Site works parameter plan) allows for these structures to be located within the external compound of the existing pumping station.

H.4.35 The zone within which required landscaping would be located (denoted by the orange hatched area on the Site works parameter plan) allows for suitable landscaping to surround the permanent hardstanding area. The zone extends to the external boundary of the York Gardens Adventure Playground to the north and the external boundary of the York Gardens Library and Community Centre to the south. The zone extends to the rear of the York Road footway to the west and to the electrical substation building to the east. This would enable the improvements to the surface finishing of adjacent footways.

Access

H.4.36 Access would be from an easterly direction and utilise the existing access road which serves the pumping station, York Gardens Adventure Playground and York Gardens Library and Community Centre from the Lavender Road public highway.

H.4.37 Site visits would be required approximately every three to six months to carry out inspections. It is likely that this would involve a visit by staff in a small van. Staff would open access covers to inspect and carry out minor maintenance of below-ground equipment.

H.4.38 Should a major blockage occur, a mobile crane or jetting lorry would be brought to the site to clear the blockage via the appropriate ground-level access cover.

H.4.39 It is anticipated that approximately once every three years the filter media in the ventilation structure would need to be replaced. This would be carried out via the access covers on the top of the ventilation structure.

H.4.40 It is anticipated that once every ten years, a major internal inspection of the connection tunnel (in conjunction with the main tunnel) and underground structures would be required. It is likely that this would involve an expert team of inspection staff, a small support crew with support vehicles, and two mobile cranes to lower the inspection team and equipment into the drop shaft. This process would take several weeks and temporary fencing would be erected around the working area.

H.4.41 The existing pumping station compound and venturi chamber would still be accessed regularly by Thames Water operational staff.

H.4.42 The area within the limits of permanent access would not require any permanent works to be constructed within it, but would be required to provide Thames Water with the rights to use the land for access to the permanent works for operational and maintenance activities. The area within the limits of permanent access incorporates the short length of access road between the limits of permanent works and the Lavender Road public highway.

Scheme development

H.4.43 The proposed Falconbrook Pumping Station site was identified and then assessed through a robust, qualitative, and iterative site selection process. The proposals were subject to extensive consultation and engagement, since the site was proposed as part of the project after phase one consultation.

- H.4.44 At phase one consultation (September 2010 to January 2011) the Falconbrook Pumping Station site could not be confirmed as technically viable and was not proposed or shortlisted. The adjacent site (across the York Road) known as Bridges Court Car Park was proposed to intercept the CSO. Four other sites were shortlisted including a site within the foreshore of the River Thames and two sites with York Gardens. Feedback from phase one consultation, on-going engagement and further technical work led to Falconbrook Pumping station being proposed to intercept the CSO.
- H.4.45 Further technical assessment subsequently concluded that the pumping station site is feasible. Given the identification of this new site, drop in sessions were held with the local community. Around this period a planning application was submitted in July 2011 for mixed-use development on the site of Bridges Court Car Park (although it was subsequently refused in March 2012).
- H.4.46 The Falconbrook Pumping Station site was proposed as the preferred site to intercept the CSO at phase two consultation (November 2011 to February 2012).
- H.4.47 The following site characteristics were relevant in arriving at the decision to use the Falconbrook Pumping Station site:
- a. The site makes use of land already owned by Thames Water.
 - b. The site would potentially provide an improved public space after the works are complete.
 - c. The site would cause less disruption to the wider local community in comparison to the other shortlisted sites.
- H.4.48 The following site characteristics relating to the other shortlisted sites referred to in para. H.4.44 above were also relevant. The site in York Gardens (adjacent to York Road) would require the loss of a play area and public open space. Use of the site would require the cutting down of mature trees which provide screening to the children's centre. The site in York Gardens (adjacent to Pennethorne House) would require the temporary loss of public open space. Construction would be close to the apartment block. Access would likely be through narrow residential roads. The foreshore site would be adjacent to a large apartment block and require the permanent loss of foreshore. Bridges Court Car Park is judged to have greater potential effects on residential and business amenity. It is also now allocated to accommodate residential development in the *Site Specific Allocations Document* (Former Prices Candles Factory). The *Final Report on Site Selection Process*, which accompanies the application, provides more details.
- H.4.49 At phase two consultation, four community consultee respondents suggested that other shortlisted sites could be more suitable. The Greater London Authority and London Borough of Wandsworth, however, both expressed the view that the Falconbrook Pumping Station site is suitable in principle. The Greater London Authority confirmed that, "*the preferred option appears to be the best option as it has fewer impacts than the phase one proposal and enables redevelopment of the Bridges Court Car*

Park to proceed". The London Borough of Wandsworth confirmed that, "the council would support the use of this site, provided nuisance and disruption are kept to a minimum and that an improved public space is subsequently provided in York Gardens." English Heritage stated that the site is acceptable subject to appropriate mitigation.

- H.4.50 The initial proposals anticipated a shaft adjacent to York Road, the demolition of the disused toilet block and the creation of a public space. The Design Council CABE stated that it "supports the general intentions presented but a clearer concept should be developed that illustrates how this new space will be used by the community and the nature of its relationship to the busy York Road".
- H.4.51 The final designs maintain the same basic arrangement, but were refined to incorporate stakeholder and community views and to provide a space that would be beneficial to the community. The refinements are summarised as follows:
- a. The site boundary was increased to include the existing private access road from Newcomen Road so the site boundary would include access to the public highway for maintenance during operation.
 - b. The limit of deviation of the connection tunnel route was widened to allow flexibility to ensure the proposals do not compromise planned residential development at the site allocation known as Former Prices Candles factory.
- H.4.52 The background to the design and refinements to the design are further detailed in the Good design subsection below.
- H.4.53 The principal issues that arose from pre-application consultation and Section 48 publicity for Falconbrook Pumping Station are given below:
- a. The Greater London Authority and the LBW stated that long term improvements should be provided to York Gardens. This was a fundamental aspect of the design and is addressed in the Good design subsection.
 - b. The LBW stated that the proposed permanent access route through York Gardens is unsuitable. This is addressed in the Good design subsection.
 - c. The LBW stated that the existing access route should be reconstructed to a less intrusive surface. This is addressed in the Good design subsection.
- H.4.54 The *Consultation Report*, which accompanies the application, provides more details of consultation responses received and how they influenced the proposals.

H.5 Site-specific planning considerations

- H.5.1 This section provides an analysis of the key planning considerations associated with our proposed works at the Falconbrook Pumping Station site, considering the issues and factors identified in the NPS and other issues relevant to the site as set out in para. H.4.53 above.

Meeting the need

- H.5.2 The proposed works at Falconbrook Pumping Station would be successful in meeting the need to intercept the Falconbrook Pumping Station CSO. It would make an important contribution to meeting the wider need for the project identified in the NPS.
- H.5.3 In an average year, the Falconbrook Pumping Station CSO discharges 709,000m³ of untreated sewage into the River Thames close to residential towers on the riverside³. The CSO spills approximately 42 times a year and on the basis that litter tonnages are proportional to discharge volumes, releases approximately 180 tonnes of sewage derived litter. The Environment Agency identified the Falconbrook Pumping Station CSO as a CSO that needs to be controlled and Thames Water's solution is full interception.
- H.5.4 The CSO discharges have multiple impacts on water quality in this location, including a localised effect of rapidly dropping dissolved oxygen levels, the release of pollutants and the discharge of sewage derived litter and effluent.
- H.5.5 It is predicted that the CSO discharges will continue to worsen both in terms of volume, frequency and content. By the time the proposed works at Falconbrook Pumping Station would become operational the Falconbrook Pumping Station CSO is predicted to continue spill approximately 42 times a year but discharge approximately 780,000m³ a year of untreated sewage.
- H.5.6 It is predicted that with the project in operation that in an average year, the Falconbrook Pumping Station CSO would spill approximately four times a year and discharge 45,000m³ of untreated sewage.
- H.5.7 The frequency, duration and volume of spill at Falconbrook Pumping Station site would therefore be reduced by approximately 94 per cent as a result of the operation of the project. Similarly, on the basis that litter tonnages are proportional to discharge volumes, the tonnage of sewage derived litter from the CSO can be expected to reduce by approximately 94 per cent, to approximately 12t, in the typical year.
- H.5.8 This reduction would have a beneficial effect on water quality, recreational river users and those living along the river in the local area.
- H.5.9 A broad consensus exists amongst stakeholders that there is a need to tackle the unacceptable discharges from CSO's along the tidal Thames. The London Borough of Wandsworth *Core Strategy* states that: "*the council supports the implementation of the Thames Tideway Sewer Tunnel scheme*". The Greater London Authority stated in the *London Plan* that: "*the development of the Thames Tideway Sewer Tunnels to address London's combined sewer overflows should be supported in principle*".

³ The current operation of the Falconbrook Pumping Station CSO was characterised using the catchment model of the sewer system (see *Environmental Statement* Vol 11, Section 14 and *Environmental Statement* Vol 3, Section 11 for further details of catchment modelling).

Good design

- H.5.10 Good design is about ensuring attractive, usable, durable and adaptable places and contributing to sustainable development (NPS para. 3.5.1). This section explains how this would be achieved at this site. The *Design and Access Statement*, which accompanies the application, provides further details.
- H.5.11 The key components for which approval is sought at this stage are: a raised drop shaft, below-ground chambers including a raised valve chamber, ventilation columns, and a ventilation structure. The key parameters for the works are detailed in the Operation subsection.
- H.5.12 At this site, the public realm surrounding the pumping station between, York Road, York Gardens, the York Gardens Library and Community Centre and the York Gardens Adventure Playground is enclosed, uninviting and poor quality.
- H.5.13 The key design objective of the permanent works was to integrate the functional components of the system into the pumping station and successfully enhance the existing area of public realm around the pumping station.
- H.5.14 The parameters for the design remained broad to enable it to be adaptable to respond to emerging design work for York Gardens by the LBW. The Landscape plan is indicative (save for layout of above-ground structures which are illustrative).
- H.5.15 Pursuant to a Requirement, the full details of operational lighting are reserved to be submitted for information to the LBW. The details of operational landscaping and details of surface and foul water drainage system are reserved to be submitted for approval to the LBW. These details would be in accordance with the plans and documents identified in Table H.1.
- H.5.16 The site-specific design opportunities included:
- a. Upgrade and enhance the existing area between Falconbrook Pumping Station and the York Gardens Library and Community Centre and the York Gardens Adventure Playground.
 - b. Improve links/safety through the site to/from York Gardens and York Road.
 - c. Remove the disused toilet block.
 - d. Rationalise the pedestrian access from York Road.
 - e. Site structures on Thames Water operational land.

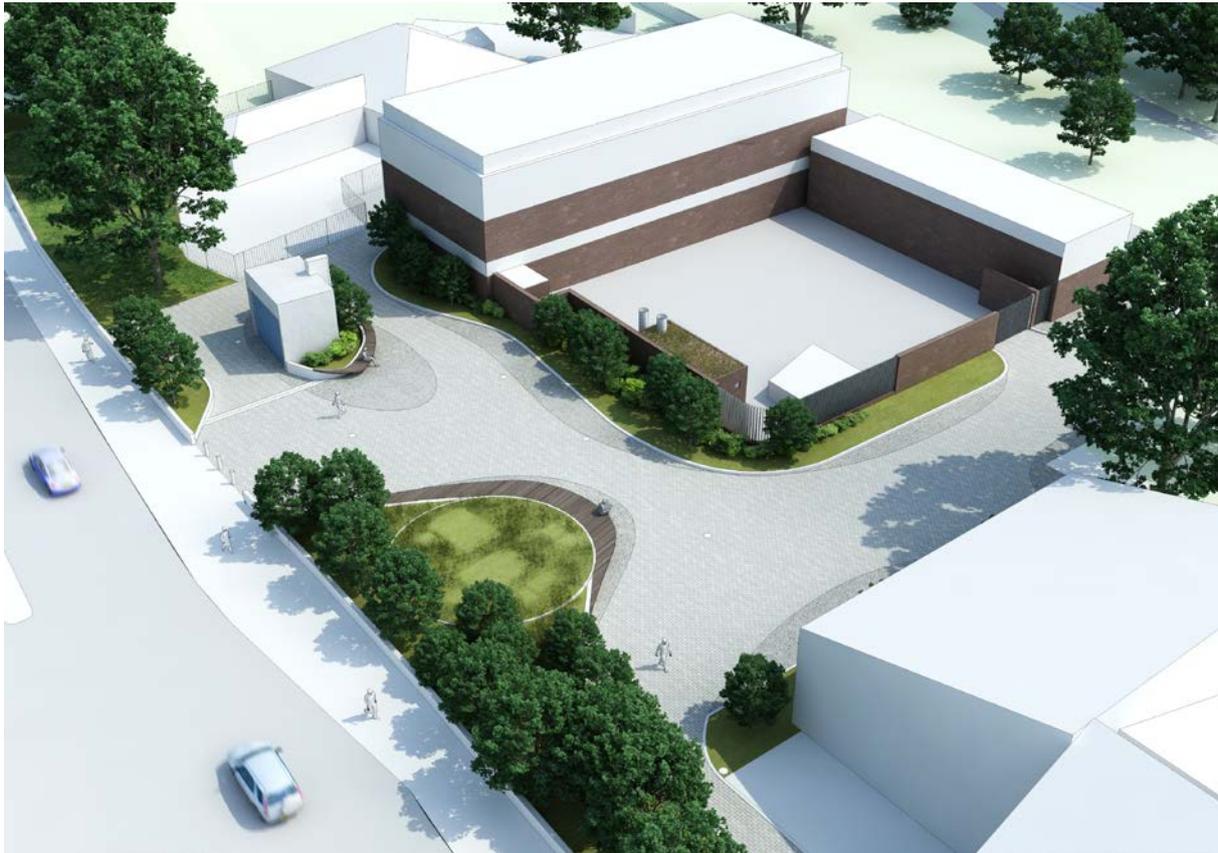
- H.5.17 The site-specific design constraints included:
- a. the proximity of community facilities, including York Gardens, York Gardens Adventure Playground and the York Gardens Library and Community Centre
 - b. the proximity of residential properties.
- H.5.18 The initial proposals anticipated a shaft adjacent to York Road, the demolition of the disused toilet block and the creation of a public space. The Design Council CABE supported these proposals and made recommendations for developing a clearer concept. It stated that: *“It is essential that local community feels ownership over the space so that it does not fall victim to vandalism and disuse. The designs should consider extending the area of this space towards the library to join with the existing York Gardens”*.

Figure H.4 Design Council CABE sketch review proposals



- H.5.19 The final designs maintain the same basic arrangement, but were refined. The extent of the area of landscaping was extended in line with comments from the Design Council CABE. Proposals for advance planting in York Gardens are now proposed in discussion with the LBW. A ventilation column proposed within the public space at phase two consultation would now be located within the walled pumping station compound. Design principles were developed to ensure that the proposals would reflect emerging design aspirations of the LBW, as discussed further below. A visualisation of the proposed above-ground development is provided below.

Figure H.5 Aerial view of the completed site



H.5.20 Based on the analysis of site opportunities and constraints, and the feedback from stakeholder consultations, the principal objectives that influenced the design of the proposals at this site were:

- a. Minimise the impact of permanent structures.
- b. Upgrade and enhance the public realm and York Gardens.
- c. Provide ecological improvements at York Gardens.
- d. Manage impacts of construction.

Minimise the impact of permanent structures

H.5.21 NPS para. 3.5.3 states there may be opportunities to demonstrate good design in terms of siting relating to existing landform. To minimise impact, the Site works parameter plan restricts all permanent above-ground structures (with the exception of the raised drop shaft) to the existing walled compound of the pumping station building. It limits the heights of the structures as follows:

- a. a valve chamber with a maximum height of 2m
- b. a ventilation column(s) between 4 and 8m
- c. a ventilation column(s) with a maximum height of 2m
- d. a ventilation structure(s) with a maximum height of 3m

H.5.22 The details of the external finishes of the ventilation columns and kiosks must be in accordance with the *Design Principles*, which accompanies the application, which require materials to be high quality and long lasting. The design life of the major civil engineering components including buildings is 120 years, ensuring robustness.

H.5.23 While the raised shaft would be outside the compound, landscaping proposals were developed that would integrate the shaft into the public realm, creating a raised planting area through hard and soft landscaping, ensuring that good aesthetic and functional design can go together (NPS para. 3.5.1). This is indicated on the indicative Landscape plan. A bench could be incorporated around the raised area. The full details of operational landscaping would be submitted for approval to the LBW.

Upgrade and enhance the public realm and York Gardens

H.5.24 The LBW aspires to “*transform the currently uninviting and unattractive York Gardens park to one that can be celebrated for its landscape beauty and the way it engages with the local community in terms of provision of facilities*” as confirmed in its response to phase two consultation.

H.5.25 The designs remain adaptable but were developed and refined to ensure that they are attractive and usable, considering connectivity, safety, crime, and quality. Design principle FALPS.07 requires that the landscape design shall respond positively to the local authority's emerging *Landscape Management Strategy* for the York Gardens area.

H.5.26 NPS para. 3.5.3 states that by the use of good architecture and appropriate landscaping development should be as visually attractive as possible. It is anticipated that the site would become an open and attractive ‘gateway’ into York Gardens and a useful ancillary space to the community buildings.

H.5.27 The Access plan confirms that the public right of way would be reinstated following construction. The disused toilet block and advertising screen would be removed to open up the public realm maximising views and passive surveillance.

H.5.28 In order to create a safe environment during hours of darkness, new lighting shall be provided in accordance with the lighting design principles (design principle FALPS.01). Lighting design principle LTNG.01 requires that lighting designs shall seek to reduce the risk of accidents and help to prevent crime and the fear of crime. However, this shall be balanced with the need to produce high quality attractive designs, reduce light pollution and promote terrestrial and aquatic biodiversity. The existing pumping station compound wall would be reinstated in its current position following construction. To further reduce the potential for crime, an open section of wall with railings would be incorporated to provide a line of sight between the pumping station compound and the shaft (design principle FALPS.04).

H.5.29 The Site works parameter plan defines the zone in which required landscaping would be located. It is envisaged that a new paving treatment would extend from the Children’s Centre and Adventure Playground in the north, to the entrance to the York Gardens Library and Community Centre in the south and would unify the space and visually link the two buildings.

- H.5.30 The Design Council CABE had stated regarding the original proposals that designs should be developed regarding, “*how this new space will be used by the community and the nature of its relationship with the busy York Road*”. They stated “*the scale, placement and specimen of trees should be considered carefully so that they... reflect the scale of York Road*”. The indicative *Landscape Plan* shows the layout of hard and soft landscaping. It is envisaged that planting would strike a balance between screening the noise of the busy road, and promoting a sense of openness and accessibility.
- H.5.31 The full details of operational landscaping would be submitted for approval to the LBW and accord with the indicative Landscape plan and the design principles.
- H.5.32 The LBW stated that the permanent access should be provided from the York Road and the new access should also accommodate access and deliveries to the York Gardens Adventure Playground and the York Gardens Library and Community Centre. This would limit the potential, however, to provide an enhanced public realm at the entrance to York Gardens. Vehicle access to York Road in this area would detract from the provision of a quality public realm, appropriately screened from the busy road.
- H.5.33 The use of the existing access to the community facilities and the pumping station to the east would be more appropriate for the limited maintenance access required.

Provide ecological improvements at York Gardens

- H.5.34 In support of sustainability, design principles were developed that would require ecological improvements.
- H.5.35 Design principle FALPS.14 requires that bat boxes for a range of bat species would be provided at suitable locations in York Gardens. The number of bat boxes, locations and method of attachment to trees shall be agreed with the local authority. Design principle FALPS.09 requires that planting would comprise native deciduous trees and other robust, low-maintenance shrubs that provide seasonal variety. It also requires that the scheme would facilitate the LBW’s aspiration to improve the biodiversity value of York Gardens. Design principle FALPS.15 requires that ground treatments shall incorporate areas of shaded, exposed earth to promote natural colonisation by terrestrial invertebrates. A brown roof is also proposed on the ventilation structure as required by the generic Design Principles.
- H.5.36 These measures would provide opportunities to enhance existing habitats and to create new habitats of value to the park.

Manage impacts of construction

- H.5.37 Site-specific measures are set out in the *CoCP* Part B to minimise the impacts of construction.
- H.5.38 To provide greater screening of the site, advance planting would be undertaken within York Gardens prior to construction. To minimise visual impacts, the construction site would be enclosed with planted hoardings

on public facing sections and welfare facilities would be chosen to tie in with the planted hoardings. The site layout and hoardings would be designed to provide noise attenuation. Further detail is provided in the Landscape and visual and the Noise and vibration subsections below.

- H.5.39 A pedestrian route from York Road to York Gardens would be maintained during construction. Access to York Gardens Library and Community Centre and York Gardens Adventure Playground would be maintained. The disabled parking facility would be maintained at an accessible location. A vehicle marshal would be provided to ensure the safety of pedestrians crossing the construction access.
- H.5.40 To minimise flood risk, hardstanding would incorporate permeable surfacing wherever possible.
- H.5.41 In agreement with Transport for London (TfL), construction access would be constructed directly from York Road (as defined on the Access plan) to avoid construction traffic routing through the residential roads to the east. To minimise delays on York Road, the security barrier would be positioned to allow a tipper vehicle to be wholly off the road while awaiting entry.
- H.5.42 A bus stop may require temporary relocation during construction, subject to discussions with TfL. A suitable relocation would be provided as necessary, located approximately 15m south of the existing location, as agreed with TfL.

Conclusions

- H.5.43 The design of the proposals at Falconbrook Pumping Station was carefully developed through a collaborative process of design review and extensive consultation.
- H.5.44 The site layout would meet the functional requirement to intercept the CSO, and the proposed landscaping would enhance the aesthetics, layout, safety and biodiversity of the site and surroundings which the LBW currently describes as “*very poor and disjointed*”. The design parameters and principles developed are flexible to allow the final design to adapt to emerging design work by the LBW. The design life of the major civil engineering components including buildings is 120 years.
- H.5.45 The proposals would transform what is currently an unattractive entrance to York Gardens into a safe, quality public realm, appropriately screened from the York Road. They would also help to integrate important community facilities including York Gardens Library and Community Centre, York Gardens Adventure Playground, York Gardens, with local housing and the wider area.
- H.5.46 The functional and aesthetic elements were combined in a way that would create a sustainable, attractive, useable, durable and adaptable space (in line with NPS paras. 3.5.1 to 3.5.3).

Water resources and flood risk

- H.5.47 The site is predominantly buildings and hardstanding, approximately 200m east of the River Thames.
- H.5.48 Construction would take place in the upper aquifer. There are no licensed groundwater abstractions within the upper aquifer within 1km of the site and no environmental designations relevant to groundwater in the vicinity. Based on the geology at the site dewatering is unlikely to be required.
- H.5.49 Appropriate drainage, sediment and pollution control measures are included in the *CoCP* Part A. These are in accordance with the relevant Pollution Prevention Guidelines issued by the Environment Agency and other Construction Industry Research and Information Association documents. These would ensure that the proposals would not lead to any adverse impacts on surface or ground water quality resources during construction or operation.
- H.5.50 The site is located in Flood Zone 3a (1 in 100 year flood event) but is defended to the 1 in 1,000 year flood level. The *CoCP* Part A requires that during construction, all hardstanding (as far as reasonably practicable) would incorporate permeable surfacing. During tunnelling under the river wall, the *CoCP* Part A requires the monitoring and maintenance of the flood defence to the statutory flood defence level.
- H.5.51 The Flood Risk Assessment was undertaken in accordance with Section 4.4 of the NPS and is included within the *Environmental Statement*. This shows that the proposed development would be appropriate for the area as flood risk to the development would remain unchanged. Flood risk would be managed through appropriate design measures and the development would not lead to an increase in flood risk on the surrounding areas. Therefore, no significant flood risk effects are likely.
- H.5.52 In accordance with the *CoCP* (Section 8) all site drainage during construction would be drained and discharged to mains foul or combined sewers and where this is not practicable, the site would be drained such that accumulating surface water would be directed to holding or settling tanks, separators and other measures prior to discharge to the combined or surface water drains. Foul drainage from the site welfare facilities would be connected to the mains foul or combined sewer. This design measure would help manage the risk from this source during construction but would not reduce the level of risk associated with this flood source.
- H.5.53 The permanent design would comply with the drainage principles including site drainage principle SDRN.04, which requires compliance with the Mayor's *Essential Standard*. This requires use of Sustainable Drainage Systems measures, to achieve a 50 per cent attenuation of the undeveloped site's surface water run-off at peak times, wherever practical. Permanent site drainage would comply with the National Standards for Sustainable Drainage Systems under the Floods and Water Management Act 2010, in accordance with design principle SDRN.01. Pursuant to a Requirement the specific drainage details would be submitted and approved in writing by the LBW.

- H.5.54 The site would remain at residual risk of tidal flooding in the event of a breach in the local flood defence wall along the edge of the River Thames or overtopping of the defence wall as a result of a failure of the Thames Barrier. The consequence, however, of a breach or failure of flood defences or a failure of the pumping station, would not compromise the long term operational function of the main tunnel.
- H.5.55 Flood risk from all sources has been managed as far as possible through design and the measures incorporated in the *CoCP*, so the criteria in the NPS (para. 4.10) would be satisfied. No significant flood effects are likely from the proposed development.
- H.5.56 Once operational, the proposed works would have a significant beneficial impact on water quality in the tidal Thames in the vicinity of the site, reducing the risk of exposure to pathogens, reducing sewage derived litter and making an important contribution towards compliance with the Urban Waste Water Treatment Directive and the Water Framework Directive.

Air quality, emissions, dust and odour

- H.5.57 The entire borough of Wandsworth is designated as an Air Quality Management Area for both NO₂ and PM₁₀, as are significant parts of London.
- H.5.58 The closest sensitive receptors to the site would include the adjacent York Gardens Library and Community Centre, York Gardens Adventure Playground, York Gardens, and nearby housing including Pennethorne house approximately 45m to the east.
- H.5.59 Appropriate dust and emission control measures are included in the *CoCP* Part A in accordance with the Greater London Authority and London Councils' *Best Practice Guidance* (2006). Measures relate to vehicle and plant emissions, measures to reduce dust formation and re-suspension, measures to control dust present and measures to reduce particulate emissions.
- H.5.60 The *Environmental Statement* (Vol 11, Section 9) reports that the *CoCP* would manage dust impacts that would otherwise occur within 20m of the site and which would otherwise cause a significant impact. It also reports that no significant impacts would arise as a result of emissions.
- H.5.61 The consideration of operational air quality, odour and dust impacts is reported in the project-wide section of the *Planning Statement*.
- H.5.62 The project-wide air management plan is designed to ensure that the air in the tunnels is kept fresh, that a low pressure is maintained within the tunnels to prevent unwanted releases and that when air is released it is treated. This would be achieved by a combination of forced or active ventilation and treatment and passive air treatment. In addition, at all sites there are to be ventilation structures which would allow air to enter and leave the tunnel system.
- H.5.63 When the tunnels are empty, clean air would be drawn into the tunnels at specific sites by the extraction of air at other specific sites so as to keep the air in the tunnels fresh. This means that odours would not build up while the tunnels are empty. As the tunnels fill, air displaced from the

tunnels would initially be extracted and treated at the active ventilation sites before being released and later, depending of the level of filling, would pass through the passive carbon filters. These filters clean the air and remove any odours before it is released.

- H.5.64 At passive ventilation sites a passive carbon filter would be installed within a below ground chamber. During a typical year this treats all the air displaced from the particular shaft which would occur only when the shaft is drowned by the rising wastewater in the tunnel. During infrequent, extreme storm events (approximately once in 15 years), the air that is pushed out of the shaft could exceed the capacity of the passive filter and would be released untreated through a pressure relief structure to prevent damage to the passive filter. For 100 per cent of the time during a typical year, all air released would be treated, which means that all regulatory requirements would be met and there would be no nuisance odours or loss of amenity due to odours.
- H.5.65 Appropriate measures are proposed to ensure that the proposals would not lead to any significant deterioration, substantial changes or breaches in, air quality, emissions, dust, during construction or operation, in line with the NPS (paras. 4.11.4 to 4.11.5).
- H.5.66 All practicable measures have been taken to ensure that there would not be a significant loss of amenity from odour in line with the NPS (paras. 4.3.11 to 4.3.15) during construction or operation.

Biodiversity and geological conservation

- H.5.67 York Gardens is a Site of Local Importance for Nature Conservation. It is a small park with amenity grassland, scattered trees and planted shrubs, providing habitat for common birds and invertebrates. The buildings and hardstanding have no intrinsic habitat value. Vegetation along the eastern boundary of the site is part of a habitat corridor that provides connectivity of habitat along the boundary to York Gardens. There are no implications for geological conservation arising from the works at this site.
- H.5.68 Several measures are proposed to minimise impacts on biodiversity and design principles were developed that would require that ecological improvements are provided. Advance planting would be undertaken within York Gardens prior to construction. The LBW is the landowner of York Gardens and a scheme for the planting is being developed in agreement with the council. Design principle FALPS.08 requires tree planting prior to site clearance and construction at the perimeter of the pumping station compound. Design principle FALPS.14 requires that bat boxes for a range of bat species would be provided at suitable locations in York Gardens. The number of bat boxes, locations and method of attachment to trees shall be agreed with the LBW. The *Environmental Statement* (Vol 11, Section 6) reports that this would provide a significant benefit on bat populations.
- H.5.69 Design principle FALPS.09 requires that planting would comprise native deciduous trees (in line with comments from the LBW) and other robust, low-maintenance shrubs that provide seasonal variety. It also requires that the scheme would facilitate the LBW's aspiration to improve the

biodiversity value of York Gardens. Design principle FALPS.15 requires that ground treatments shall incorporate areas of shaded, exposed earth to promote natural colonisation by terrestrial invertebrates. A brown roof is also proposed on the ventilation structure (as required by generic design principle FNCC.09).

- H.5.70 The *Environmental Statement* (Vol 11, Sections 5 and 6) reports that no adverse impacts would arise during construction or operation on biodiversity interests. Significant benefits are expected on common bird populations and bat populations resulting from the opportunities taken to enhance biodiversity.
- H.5.71 The Falconbrook Pumping Station CSO discharges into the designated River Thames and Tidal Tributaries Site of Metropolitan Importance some 180m to the west of the site. Several important freshwater fish species are present but invertebrate diversity is limited. Once operational, significant beneficial impacts are anticipated in this area including: a reduction in the occurrence of dissolved oxygen related fish mortalities; an increase in the distribution of pollution sensitive fish species; and an improvement in the quality of foraging habitat.
- H.5.72 Appropriate measures would be applied to minimise impacts on biodiversity and geological interests in line with the NPS (para. 4.5.6). The proposed landscaping and other measures would enhance the biodiversity of the site in accordance with the NPS (paras. 4.5.14 and 4.5.17).

Landscape and visual impacts

- H.5.73 The site itself has limited townscape value due to the industrial nature of the pumping station compound, venturi building and disused toilet building.
- H.5.74 To provide screening of the site from the surrounding area advance planting would be undertaken within York Gardens prior to construction. The LBW is the landowner of York Gardens and a scheme for the planting is being developed in agreement with the council. The planting would be implemented by Thames Water or by the LBW by way of agreement. Design principle FALPS.08 requires tree planting prior to site clearance and construction at the perimeter of the pumping station compound.
- H.5.75 In order to minimise visual impacts, the construction site would be enclosed with planted hoardings on public facing sections. Welfare facilities would be dark green in colour to tie in with the planted hoardings. 3.6m high hoarding would be erected adjacent to the York Gardens Library and Community Centre.
- H.5.76 Although reduced by the use of climbing plants on hoardings and advance planting, there would be some remaining, but temporary impacts on the nearby Pennethorne House (45m to the east). This would be due to visibility of welfare facilities, tall construction plant and cranes within the park setting and visibility of construction activity from upper storeys. Some views from parts of York Gardens would experience the same impacts. It should be noted that there are several mature deciduous trees which provide dense screening between the site and the residential block for part of the year. Although it is adjacent to York Gardens, the site is largely contained in the industrial setting of the existing pumping station.

- H.5.77 Following construction the advance planting would result in considerable benefits to residential properties bordering York Gardens, and views from within the park, through screening of the pumping station compound and the creation of a new area of public realm. The impacts would be significantly beneficial during the summer.
- H.5.78 The proposals were designed carefully to minimise harm to the landscape, including all reasonable mitigation (in line with NPS para. 4.7.13). Temporary adverse landscape and visual impacts during construction are unavoidable and would be minimised as far as possible. The proposed landscape scheme would enhance the landscape and the park in the longer term.

Land use including open space, green infrastructure and green belt

- H.5.79 York Gardens is designated as an 'Other Larger Protected Open Space' on the *Core Strategy* Proposal Map. The designation also applies to the built development adjacent to the park that makes up the site, including the pumping station and its access. The Land use plan is provided in Annex H to this appendix.
- H.5.80 The site is almost entirely hardstanding or buildings, associated with the pumping station and its access. The toilet block to be demolished is closed to the public. Whilst the area around the venturi structure is publicly accessible it is an area of hardstanding, and forms the compound of the structure and includes an advertising hoarding. The *Open Space Assessment* that accompanies the application reports that the construction site would extend 0.01 ha onto an area of open space at York Gardens to the east of the York Gardens Library and Community Centre. The site boundary was drawn to minimise land take as much as possible. The site boundary extends fractionally onto the open space in this area to allow for curb realignment to ensure that the contractor would be able to maintain vehicle access for drop off and for disabled visitors to the York Gardens Library and Community Centre, outside of the site hoardings. This minor land take would be permanent but would not result in a significant direct impact on the use of York Gardens as a public amenity.
- H.5.81 The permanent above ground structures would be located within the existing pumping station compound with the exception of the raised drop shaft which would be incorporated into the landscaped area and would not preclude any proposed or existing land-use. There are some potential effects on the park such as disruption to recreational activity particularly in the adventure play park due to the effects of construction traffic, noise and air pollution. These effects would be minimised through screening of the construction site and advance planting.
- H.5.82 Access to the park and adjacent community facilities would be maintained. The *CoCP* Part B requires that pedestrian access from York Road to York Gardens would be maintained during construction. This would be via a small diversion to the existing route. Access to the York Gardens Library and Community Centre and York Gardens Adventure Playground would

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

H.5.83 Following construction the proposals would replace poorly used and unsafe existing areas of poor hardstanding and create a landscaped area of public realm of enhanced value to the park and the wider area.

H.5.84 To the west of the site across the York Road A3205, the *Site Specific Allocations Document* allocates a site for residential development. The allocation site (reference number 102) is known as York Road, Battersea (Former Prices Candles factory). The limit of deviation of the connection tunnel route was widened to allow flexibility to ensure the proposals do not compromise the planned residential development in this location. The site selection process also considered the accommodation of this proposed use in the decision to select the Falconbrook Pumping Station site.

H.5.85 The temporary construction site would extend fractionally onto part of a large open space but would not have a significant impact on York Gardens as a public amenity. Access to the park and adjacent community facilities would be maintained. The proposals would not preclude any existing or proposed land-use in line with the NPS (para. 4.8.5).

Noise and vibration

H.5.86 The noise levels at the site are heavily influenced by traffic noise from York Road and local roads in the vicinity. A period of 24-hour working would be required for the connection tunnel and secondary lining. During this period of continuous working, activities would be predominately below ground, with support activities occurring at ground level. HGV movements however, would be limited to daytime hours.

H.5.87 The closest sensitive receptors to the site include the adjacent York Gardens Library and Community Centre, York Gardens Adventure Playground, York Gardens, and nearby housing including Pennethorne house approximately 45m to the east.

H.5.88 The *CoCP Part A* incorporates noise suppression methods which were embedded in the design and approach to construction at all sites for all activities. Project-wide embedded design measures include operating in accordance with best practice, selecting the quietest cost-effective plant available, optimising plant layout to minimise noise emissions and installation of site hoarding.

H.5.89 To further minimise noise impacts, the *CoCP Part B* requires that the site layout and hoardings would take into account the York Gardens Adventure Playground with regards to noise attenuation and screening. 3.6m high hoarding would be provided adjacent to the York Road Community Centre. During connection tunnel works outside of standard working hours, the use of surface cranes would be minimised. This would involve the stockpiling of materials and equipment at the bottom of the shaft for use during the evening and night, and for removal during standard working hours. In addition the work would utilise measures to reduce noise including the use of electric gantry cranes, gas/electric fork lift and measures to reduce noise from skip movements and unloading.

- H.5.90 Standard working hours would be used apart from the short period of continuous working hours required for the Falconbrook connection tunnel and secondary lining.
- H.5.91 The *Environmental Statement* (Vol 11, Section 9) reports that there would be no significant impacts from noise or vibration as a result of construction or operation.
- H.5.92 Appropriate measures are incorporated to mitigate and minimise adverse effects and ensure that the proposals would not lead to any significant adverse impacts on health and quality of life as a result of noise, during construction or operation, in line with the NPS (para. 4.9.9).

Historic environment

- H.5.93 The site does not contain any nationally designated heritage assets and has no historic value in terms of above-ground structures. English Heritage stated at phase two consultation that the site is acceptable subject to appropriate mitigation.
- H.5.94 The site is located within an Archaeological Priority Area, in recognition of the archaeological potential of the Thames floodplain, as is the entire area along the River Thames within Wandsworth.
- H.5.95 The *Environmental Statement* (Vol 11, Section 7) identifies the potential for buried heritage assets, including low potential for fragmentary prehistoric features of medium asset significance and moderate potential to contain evidence of later medieval settlement activity, of medium asset significance.
- H.5.96 Pursuant to a Requirement a *Site-specific Written Scheme of Investigation* would be submitted to and approved by the LBW prior to any ground works within the area of archaeological potential. There are also provisions for dealing with unexpected finds. These measures would ensure that any impacts on heritage assets can be managed and mitigated.
- H.5.97 The NPS recognises in para. 1.4.4 that Nationally Significant Infrastructure Projects are likely to take place in mature urban environments, with adverse construction effects on archaeology likely to arise.
- H.5.98 The potential for adverse impacts has been minimised as far as possible and the proposals were developed to avoid unnecessary damage and to ensure that any unavoidable losses would be recorded and unexpected finds assessed accordingly, in line with NPS para. 4.10.18.

Light

- H.5.99 The surrounding area is lit in the early evening by street lighting and by light spill from surrounding buildings. There are no residential properties immediately surrounding this site.
- H.5.100 Falconbrook Pumping Station is a short tunnel construction site and for practicality and safety reasons tunnel construction needs to take place over extended periods of time, including working on a 24-hour, seven days a week basis. The need for extended working hours does mean that

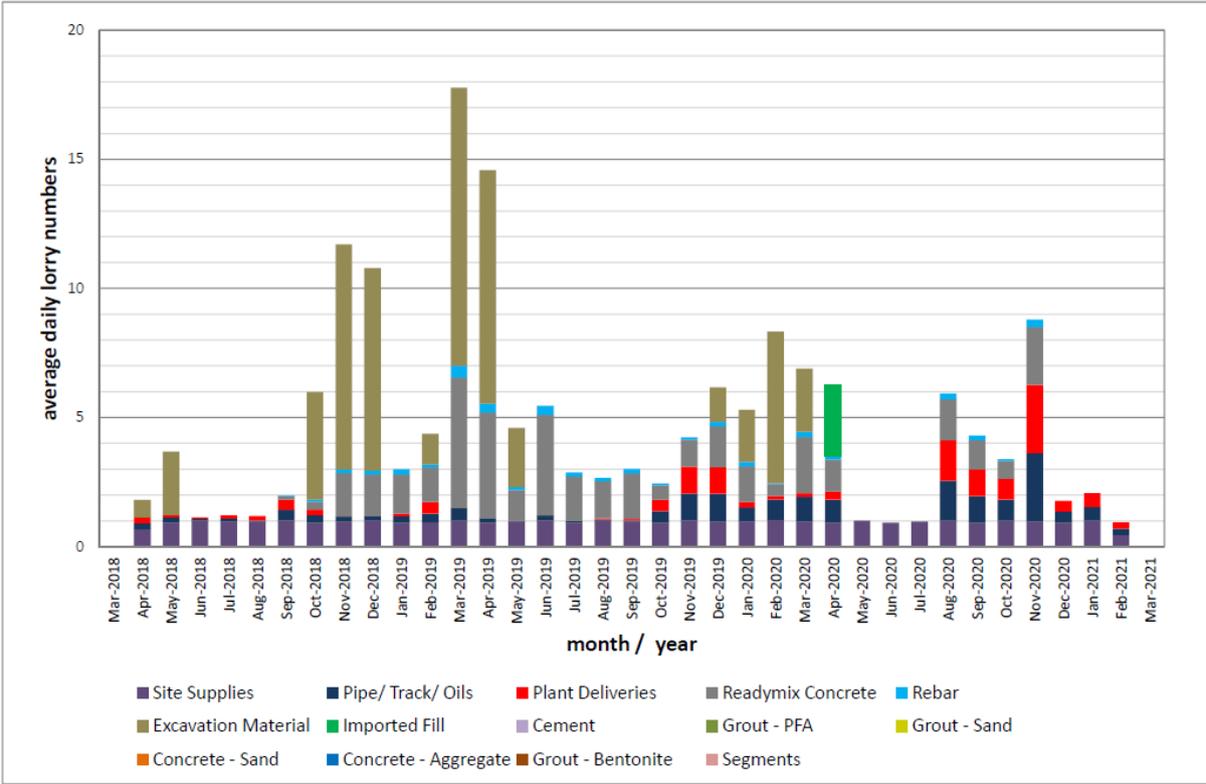
artificial lighting would be required for extended periods during the tunnel construction and secondary lining phases.

- H.5.101 The *CoCP* Part A requires that the lighting would be positioned and directed so as not to unnecessarily intrude on adjacent buildings and land uses, and to prevent unnecessary interference with local residents or passing transport users.
- H.5.102 The operational scheme would have no substantial lighting requirements apart from low level lighting associated with the area of public realm. In order to create a safe environment during hours of darkness, new lighting would be provided as part of the enhanced public realm (design principle FALPS.01). Pursuant to a Requirement the operational lighting would be in accordance with the *Design Principles*. This requires that light pollution would be minimised by means of capped, directional and cowed lighting units, during construction and operation.
- H.5.103 The *Daylight Sunlight Assessment*, which accompanies the application, reports that there would be no material impact on sunlight or daylight from construction or the permanent works.
- H.5.104 All reasonable measures are proposed to minimise effects, in accordance with NPS para. 4.12.7. This would ensure that the proposals would not lead to any significant impacts on amenity due to artificial light or any material loss of light to properties, during construction or operation.

Traffic and transport

- H.5.105 The site is adjacent to the York Road, which is part of the Transport for London Road Network.
- H.5.106 The Public Transport Accessibility Level of the site was rated as 6b, which is 'excellent'. The *CoCP* Part A would require a site-specific workplace travel plan to be produced by the construction site contractor to encourage the use of public transport by those working on site. No worker parking would be allowed. Pursuant to a Requirement the site-specific workplace travel plan would be approved by the local highway authority.
- H.5.107 An average peak of 36 HGV movements (18 two-way trips) for a period of two months is expected in Year 1 of construction, which involves the tunnelling works. At other times in the construction period, vehicle flows would be lower than this peak figure.

Figure H.6 Estimated construction lorry profile



- H.5.108 During construction vehicle movements would typically take place during the day shift of ten hours on weekdays (8am to 6pm) and five hours on Saturdays (8am to 1pm) with up to one hour before and after these hours for mobilisation and demobilisation of staff. Construction activity would occur 24 hours a day for a short period for the connection tunnel and secondary lining but during this period, construction vehicle movements would only occur during the ten and five hour periods stated above. In exceptional circumstances HGV and abnormal load movements could occur up to 10pm for large concrete pours and later at night on agreement with the LBW.
- H.5.109 During construction the site would be accessed by two temporary accesses directly on to York Road as shown on the Access plan. The CoCP Part A requires appropriate control systems to be implemented to prevent congestion around the worksite and its access routes. No queuing outside of the site would be allowed unless otherwise agreed by the relevant authorities. To avoid turning across the carriageway, the CoCP Part B requires that access would be left in from York Road and left out to York Road and that the security barrier would be positioned to allow a tipper vehicle to be wholly off the road while awaiting barrier operation.
- H.5.110 These measures would ensure that there would be no material delay on York Road as a result of additional construction vehicle movements.
- H.5.111 The construction works would require a small diversion to the Public Right of Way through the site. A small area available for car parking adjacent to the York Gardens Library and Community Centre would be suspended during construction. To maintain accessibility the CoCP Part B requires

that a pedestrian route from York Road to York Gardens would be maintained during construction. The footpath diversion is to be adequately signed. Access to the existing pedestrian drop-off area immediately east of the York Gardens Library and Community Centre would be maintained. The disabled parking facility would be maintained at an accessible location. A vehicle marshal or similar would be provided where required to ensure the safety of pedestrians crossing the construction access.

- H.5.112 A bus stop may require temporary relocation during construction subject to discussions with TFL. The *CoCP* Part B requires a suitable relocation as necessary. Any delay to pedestrians and cyclists would be minor and occasional. A vehicle marshal would be provided to ensure the safety of pedestrians crossing the construction access.
- H.5.113 During the operational phase there would be very occasional vehicle trips to and from the site for maintenance activities. Permanent access would be taken from the east via Thames Water's existing access to the pumping station (as shown on the Access plan). Temporary car parking suspensions may be required during large maintenance vehicle visits on residential streets to the east, around the existing site access, but these occurrences would be infrequent.
- H.5.114 The *Environmental Statement* (Vol 11, Section 12) reports that no significant impacts would arise during construction or operation. In line with the NPS (para. 4.13.7) appropriate requirements are proposed to minimise impacts on traffic and transport.

Waste management

- H.5.115 The Waste Strategy was developed to provide a framework for the management of materials and waste that would be produced throughout the construction and operational phases of the project. This ensures that the requirements set out in para. 4.14.6 of the NPS would be satisfied.
- H.5.116 At this site design principle FALPS.11 and requires that cobbles from the existing paving in the area around the pumping station would be reused in the final proposals. This would be in line with the principle of reuse of waste in the first instance and further help to minimise the impact of waste.

Socio-economic

- H.5.117 The construction site is expected to require a maximum workforce of approximately 40 workers at any one time. These jobs and training opportunities would provide a stimulus to the local economy. The influx of workers would not significantly alter the demand for services in the surrounding area.
- H.5.118 The proposals would not significantly affect York Gardens, although there would be a small permanent loss of land. During the construction and operational phases York Gardens would continue to function as a small local park that is used for informal recreational activities. There would be some temporary effects on the park during construction, such as disruption to recreational activity particularly in the York Gardens Adventure Playground, due to the effects of construction traffic, noise and

air pollution. These effects have been minimised as much as possible by measures within the *CoCP* as detailed above.

- H.5.119 The construction works would require a small diversion to the Public Right of Way through the site. The *CoCP* Part B requires that a pedestrian route from York Road to York Gardens would be maintained during construction. This is unavoidable and delays to pedestrians would be minimal. The *CoCP* Part B requires that access is maintained to the adjacent community facilities. The disabled parking facility would be maintained at an accessible location.
- H.5.120 The *Equalities Impacts Assessment*, which accompanies the application, identified potential impacts through the possible relocation of the bus stop, the impact of construction on the park land and disruption to the access to the children's centre and adventure playground. The equality groups which could be affected include deprived communities, children and pregnancy and maternity groups. However, through mitigation, potential differential impacts on equality groups would be minimised.
- H.5.121 The *CoCP* Part A requires controls to ensure the safety of pedestrians crossing the haul route and requires that diversions are fully accessible and in line with Disability Discrimination Act requirements as far as practical. The movement of bus stops would be clearly advertised in advance of the construction activities to inform users of changes to their journey. The *CoCP* Part B requires that a vehicle marshal would be provided to ensure the safety of pedestrians crossing the construction access. The planted hoardings would minimise the visual impact of construction sites and maintain a welcoming environment for park users. The *Equalities Impacts Assessment* also reports that the proposed public realm improvements would have a differential benefit for deprived communities.
- H.5.122 Acceptable measures are proposed to minimise socio-economic impacts in line with the NPS para. (4.15.13). Following construction there would be benefits through the provision of an inviting and safe public realm, connecting key community facilities and York Gardens to the wider area. In addition, there would be substantial benefits in this location to those living adjacent to the River Thames and recreational users of the river and its foreshore, due to the significant reduction in discharges from the Falconbrook Pumping Station CSO.

H.6 Overall conclusions

- H.6.1 There is a need to intercept the Falconbrook Pumping Station CSO. In an average year, the Falconbrook Pumping Station CSO discharges 709,000m³ of untreated sewage into the River Thames close to residential properties on the riverside. The Environment Agency identified the Falconbrook Pumping Station CSO as a CSO that needs to be controlled.
- H.6.2 Falconbrook Pumping Station was selected after extensive consideration and engagement as the appropriate site on which to meet the need. The site is suitable as confirmed by the Greater London Authority and the

- London Borough of Wandsworth, and the application proposals would meet the identified need.
- H.6.3 Through sensitive design and mitigation, all reasonable measures are proposed to minimise potential impacts. Following mitigation, the only remaining significant impact, would be relating to potential archaeological finds and on views from the nearby residential block and some views within the adjacent York Gardens.
- H.6.4 The potential for adverse impacts on archaeological finds is unavoidable because the works involve extensive underground excavations. The potential has been minimised as far as possible and the proposals ensure that any unavoidable losses would be recorded and unexpected finds are assessed accordingly.
- H.6.5 In order to minimise visual impacts, advance planting would be undertaken around the perimeter of the site within York Gardens, to provide screening. During construction, the site would be enclosed with planted hoarding on public facing sections. Welfare facilities would be dark green in colour to tie in with the planted hoardings. 3.6m high hoarding would be erected adjacent to the York Gardens Library and Community Centre. Temporary adverse landscape and visual impacts during construction are unavoidable and would be minimised as far as possible.
- H.6.6 Given the mature urban environment in which the CSO must be intercepted it is inevitable there would be some disturbance during the construction period.
- H.6.7 Following construction the advance planting would result in significant benefits to residential properties bordering York Gardens, and views from within the park, through screening of the pumping station and an the enhancement of a poor quality area of public realm.
- H.6.8 The proposals would transform what is currently a poor and disjointed entrance to York Gardens, including disused areas, into a safe and attractive, quality public realm, integrating important community facilities with local housing and the wider area, including York Gardens Library and Community Centre and York Gardens Adventure Playground.
- H.6.9 Once operational, significant beneficial impacts (subject to the project-wide improvements) are anticipated where Falconbrook Pumping Station CSO discharges into the River Thames some 200m to the west of the site, adjacent to residential properties on the riverside.
- H.6.10 Significant benefits on water quality would occur through a reduction in the risk of exposure to pathogens, a reduction in sewage derived litter and an important contribution towards compliance with the Urban Waste Water Treatment Directive and the Water Framework Directive.
- H.6.11 Significant benefits on aquatic ecology would occur through a reduction in the occurrence of dissolved oxygen related fish mortalities; an increase in the distribution of pollution sensitive fish species; and an improvement in the quality of foraging habitat.
- H.6.12 The proposed works at the Falconbrook Pumping Station site, and the mitigation measures developed and advanced as part of the application,

directly accord with the approach required by the NPS. Adverse effects have been minimised as far as possible and opportunities have been taken to enhance the local environment and to leave a positive legacy.

- H.6.13 Sections 8 and 9 of the *Planning Statement* consider the implications of the local effects of the works at Falconbrook Pumping Station and the other sites, and describe the overall balance between impacts and benefits associated with the project as a whole, against the guidance in the NPS. It concludes that the works at Falconbrook Pumping Station, and the project as a whole, are compliant with the NPS and that development consent should be granted.

London Borough of Wandsworth

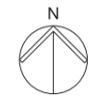
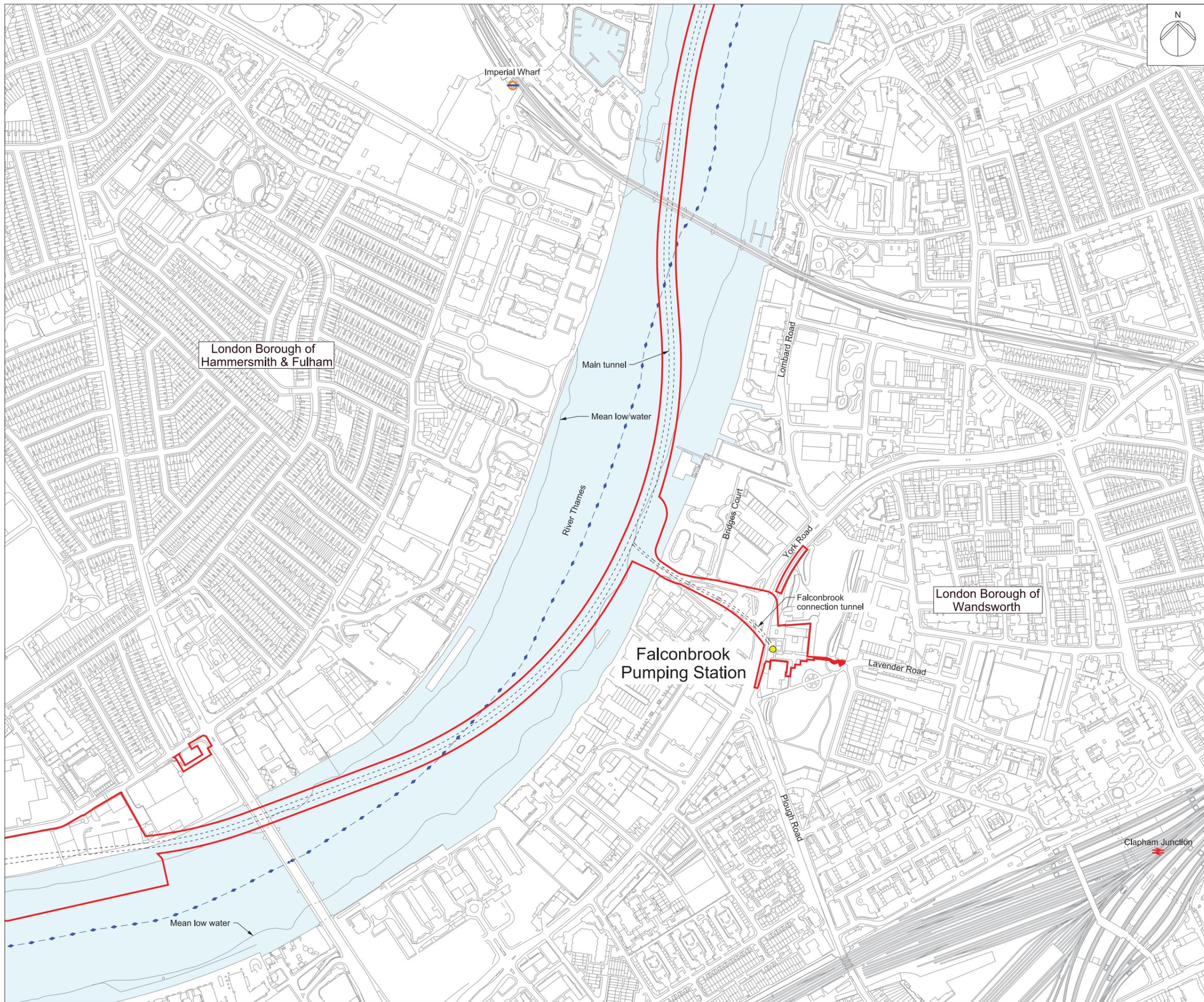
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Annex H: Drawings for Falconbrook Pumping Station

List of drawings

- Falconbrook Pumping Station: Location plan
- Falconbrook Pumping Station: As existing site features plan
- Falconbrook Pumping Station: Construction phases plan
- Falconbrook Pumping Station: Land use plan

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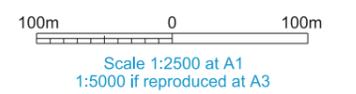


Coordinates are to be Ordnance Survey Datum OSGB36. All levels are in metres and relate to the Tunnel Datum which is 100 metres below Ordnance Datum Newlyn.

- Key:
- Local authority boundary
 - Order limits
 - Tunnel
 - Shaft

Notes:

- The alignment of the tunnels are illustrative within limits of deviation.



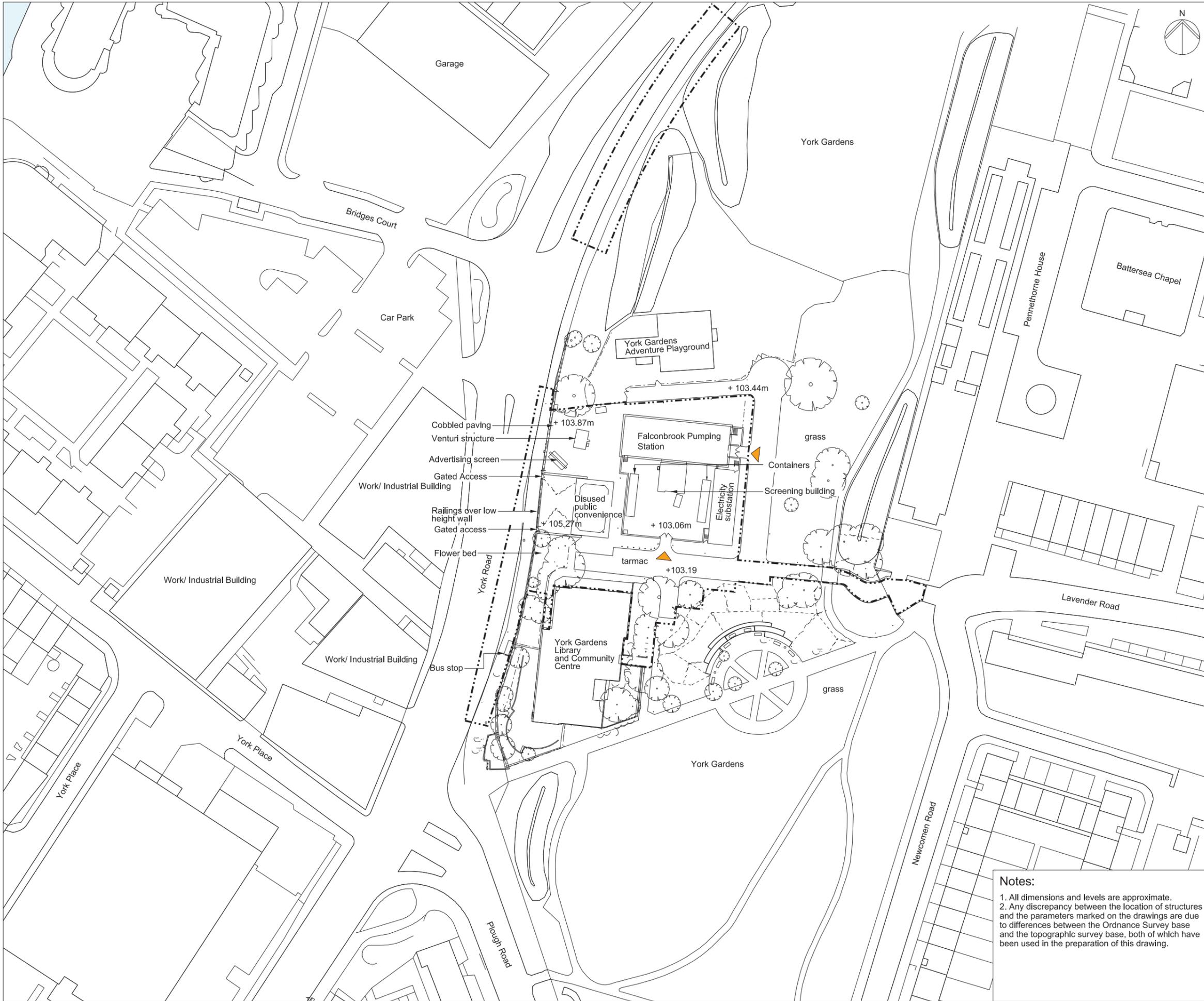
FOR INFORMATION

Location
Falconbrook Pumping Station
 London Borough of Wandsworth

Document Information
Application for Development Consent
 Location plan

Book of plans - section 12
 DCO-PP-10X-FALPS-120001
 January 2013





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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:**
- Limits of land to be acquired or used (LLAU)
 - + 105.40m Existing levels (shown in metres above tunnel datum)
 - Existing trees within surveyed area (trunk sizes vary)
 - Thames Water access



FOR INFORMATION

Location
Falconbrook Pumping Station
 London Borough of Wandsworth

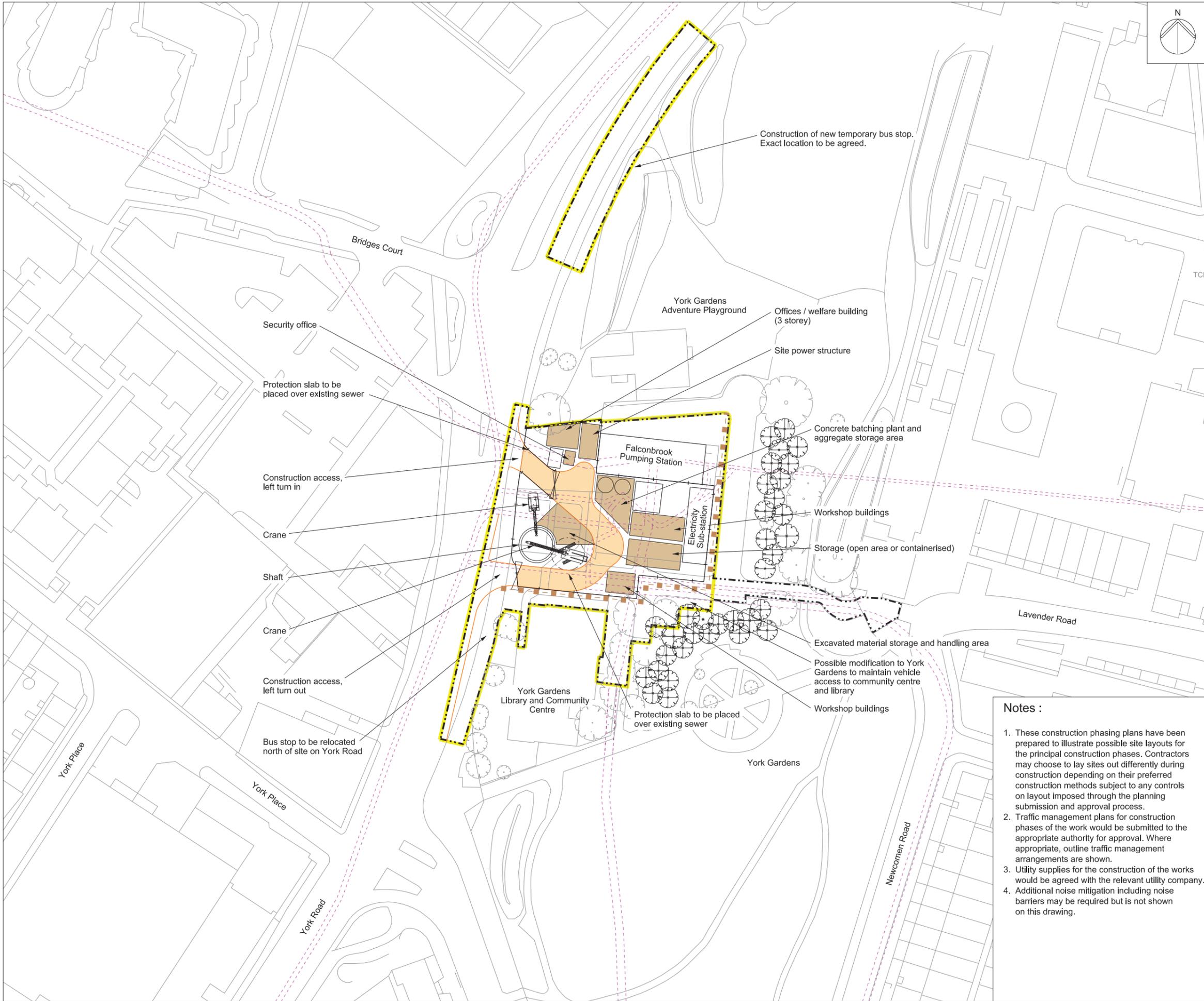
Document Information
Application for Development Consent

As existing
 Site features plan
 Book of plans - section 12
 DCO-PP-10X-FALPS-120002
 January 2013



Notes:

1. All dimensions and levels are approximate.
2. Any discrepancy between the location of structures and the parameters marked on the drawings are due to differences between the Ordnance Survey base and the topographic survey base, both of which have been used in the preparation of this drawing.

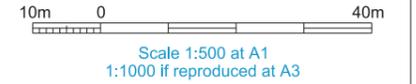


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Coordinates are to be Ordnance Survey Datum OSGB36. All levels are in metres and relate to the Tunnel Datum which is 100 metres below Ordnance Datum Newlyn.

- Key:**
- Limits of land to be acquired or used (LLAU)
 - Hoarding
 - Maximum extent of working area
 - Route of temporary diversion of right of way
 - Site access
 - Access / haul route
 - Existing sewers
 - Advanced planting to be agreed with local authority



Notes :

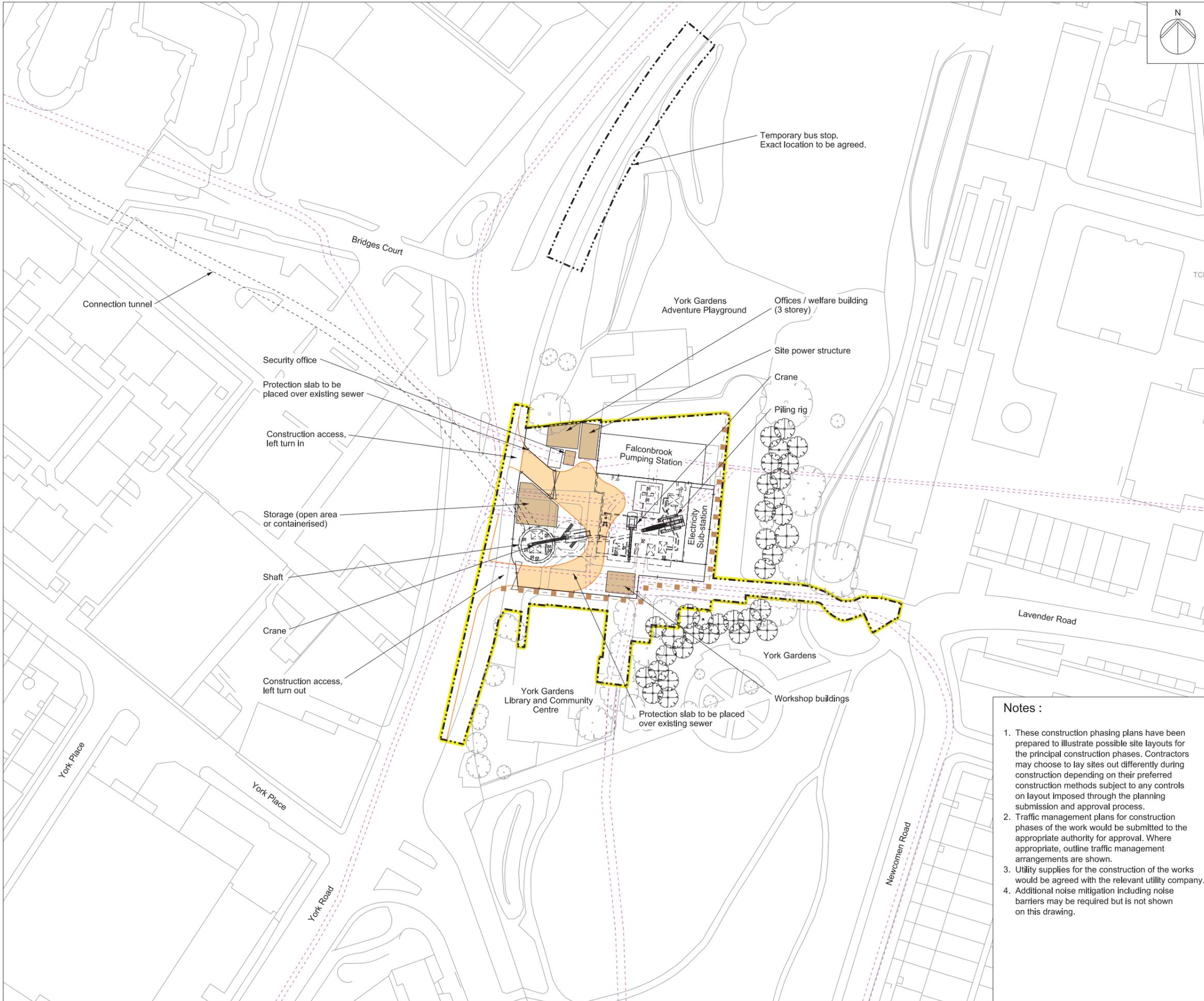
1. These construction phasing plans have been prepared to illustrate possible site layouts for the principal construction phases. Contractors may choose to lay sites out differently during construction depending on their preferred construction methods subject to any controls on layout imposed through the planning submission and approval process.
2. Traffic management plans for construction phases of the work would be submitted to the appropriate authority for approval. Where appropriate, outline traffic management arrangements are shown.
3. Utility supplies for the construction of the works would be agreed with the relevant utility company.
4. Additional noise mitigation including noise barriers may be required but is not shown on this drawing.

ILLUSTRATIVE

Location
Falconbrook Pumping Station
London Borough of Wandsworth

Document Information
Application for Development Consent
Construction phases - phase 1
Site setup, shaft construction & tunnelling
Book of plans - section 12
DCO-PP-10X-FALPS-120014
January 2013





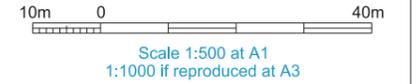
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Coordinates are to be Ordnance Survey Datum OSGB36. All levels are in metres and relate to the Tunnel Datum which is 100 metres below Ordnance Datum Newlyn.

Key:

	Limits of land to be acquired or used (LLAU)
	Hoarding
	Maximum extent of working area
	Route of temporary diversion of right of way
	Site access
	Access / haul route
	Existing sewers
	Advanced planting to be agreed with local authority



Notes :

1. These construction phasing plans have been prepared to illustrate possible site layouts for the principal construction phases. Contractors may choose to lay sites out differently during construction depending on their preferred construction methods subject to any controls on layout imposed through the planning submission and approval process.
2. Traffic management plans for construction phases of the work would be submitted to the appropriate authority for approval. Where appropriate, outline traffic management arrangements are shown.
3. Utility supplies for the construction of the works would be agreed with the relevant utility company.
4. Additional noise mitigation including noise barriers may be required but is not shown on this drawing.

ILLUSTRATIVE

Location
Falconbrook Pumping Station
London Borough of Wandsworth

Document Information
Application for Development Consent
Construction phases - phase 2
Construction of other structures
Book of plans - section 12
DCO-PP-10X-FALPS-120015
January 2013





- Key**
- Limits of Land to be Acquired or Used
 - Local Authority Boundary
- Land Use**
- Class A1-A5 (Shops, Financial & Professional Services, Restaurants, Drinking Establishments and Hot Food Takeaways)
 - Class B1 (Business (Offices except A2), Research and Development, Light Industry)
 - Class B2-B8 (General Industrial / Storage or Distribution)
 - Class C1 (Hotels)
 - Class C3-C4 (Dwelling Houses)
 - Class D1-D2 (Non Residential Institutions (Community Facilities) and Assembly and Leisure)
 - Mixed Use
 - Other
 - Open Space



Scale 1 : 2,500 at A3

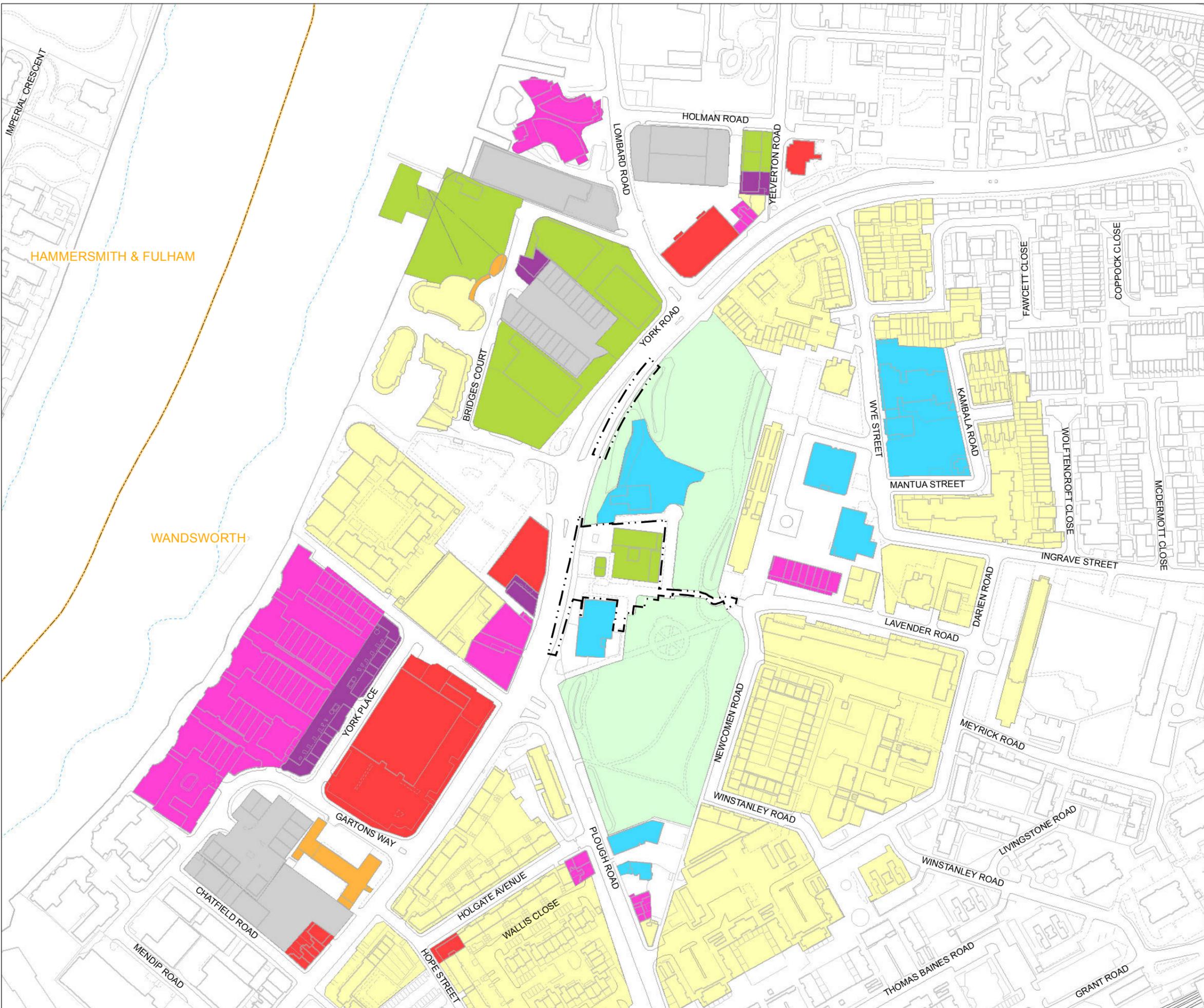
FOR INFORMATION

Location
Falconbrook Pumping Station
 London Borough of Wandsworth

Document Information
Planning Statement

Land use

1PL03-MG-00824
 January 2013



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Thames Water Utilities Limited

Clearwater Court, Vastern Road, Reading RG1 8DB

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