

Thames Tideway Tunnel
Thames Water Utilities Limited



Application for Development Consent

Application Reference Number: WWO10001

Heritage Statement

Doc Ref: **5.3**

Appendix A

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

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Thames Tideway Tunnel

Heritage Statement

Appendix A: Hammersmith Pumping Station

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Appendix A: Hammersmith Pumping Station

A.1 Site location and context

- A.1.1 The proposed development site is located in the London Borough of Hammersmith and Fulham. It comprises part of the Thames Water operational Hammersmith Pumping Station; an area of a vacant former industrial site formerly known as Hammersmith Embankment and now as 'Fulham Reach'; and two small highway worksites: one in Chancellor's Road (for construction of a rising main) and the other in Chancellor's Road/Distillery Road (for a kerb realignment). The Fulham Reach site primarily comprises hardstanding with a few small patches of vegetation.
- A.1.2 The historic land use of the site included a number of potentially contaminative activities including a distillery, a chemical manufacturing and storage plant, and its present use as a storm water pumping station.
- A.1.3 The site falls within the Hammersmith Air Quality Management Area, which is declared for nitrogen dioxide. It also lies within the 'high probability' flood zone, although it is protected by flood defences.
- A.1.4 The site also falls within the Fulham Reach Conservation Area and the southwestern part of the site falls within the Winslow Road Archaeological Priority Zone. However, there are no listed buildings on the site or in the surrounding area.
- A.1.5 The site is identified in the Strategic Site and Housing Estate Regeneration Area – HTC 3 in the London Borough of Hammersmith and Fulham's *Core Strategy* and *Proposals Map*. Policy HTC 3 seeks comprehensive residential redevelopment of the 'Hammersmith Embankment former office site', which includes the proposed site.
- A.1.6 Supporting text of Policy HTC 3 states that: "*part of this site may be required to accommodate within the scheme layout and programme, permanent and construction works required for the construction of the Thames Tunnel¹*".
- A.1.7 A hybrid planning application (Reference 2011/00407/COMB) for a mixed-use development known as the 'Fulham Reach' development has been approved on the 'Hammersmith Embankment former office site' and is currently under construction. This development would provide a total of 744 residential units and 3,823m² of commercial floorspace. The applicant and owner of the Fulham Reach site is St George Central London Limited.
- A.1.8 Thames Water has been working closely with St George in order to reserve the area of the site required temporarily and permanently for the project works. As a result of negotiations, Thames Water and St George have entered into a legal agreement to agree the use, by way of licence, of the area of the site required for the construction of the project, and the

¹ The project changed its name from the Thames Tunnel project to the Thames Tideway Tunnel project in July 2012.

freehold interest to parts of the site including the CSO drop shaft and the connection tunnel, subject to certain build-over rights by St George.

- A.1.9 The site is bounded by Chancellor's Road to the northwest, by Distillery Road to the northeast, and by the Fulham Reach site to the southeast and southwest.
- A.1.10 The surrounding area is predominantly residential in character. There are two storey dwellings along Chancellor's Road to the north, along with modern office developments.
- A.1.11 To the east lies Frank Banfield Park, which includes a children's play area. Beyond lie residential properties and the Charing Cross Hospital.
- A.1.12 The area to the south comprises residential properties and further modern office developments.
- A.1.13 The River Thames, which forms the River Thames and Tidal Tributaries Site of Importance for Nature Conservation, lies immediately to the west of the Fulham Reach site. There are no other sites designated for nature conservation in the vicinity.

Historical context

- A.1.14 The site is located on the Thames gravel terrace; in places the gravel is capped with Brickearth. During the prehistoric period (700,000 BC to AD 43), the gravel terrace may have been favoured for agriculture and settlement.
- A.1.15 During the Roman period (AD 43 to 410), the site lay within a rural landscape of open fields and scattered farmsteads. A minor road may have followed the line of King Street and Hammersmith Road, 300m to the north of the site, towards a small settlement to the southeast in the Fulham area.
- A.1.16 During the early medieval period (AD 410 to 1066), the site lay within an early Saxon settlement. Excavations immediately to the southwest of the site revealed three sunken-featured buildings. The settlement appears to have been fairly extensive; an archaeological excavation 175m to the south of the site discovered a further six sunken-featured buildings, two post-built structures, various pits, a gully, a ditch and evidence of metal working.
- A.1.17 By the later medieval period (AD 1066 to 1485), the settlement appears to have shifted 250m to the north of the site. The site and the surrounding area formed open fields, possibly under arable cultivation.
- A.1.18 From the early 17th century, a Jacobean mansion later known as Brandenburg House stood to the southwest of the site and various nearby structures related to brick-making and glass-working. It was demolished in 1823 and subsequently replaced by a distillery complex, which was largely demolished from the 1960s onwards. Archaeological excavations approximately 20m to the southwest of the site boundary uncovered 17th century brick structures probably associated with this house. The remains of at least two glass-working furnaces were recorded to the southwest of the site.

- A.1.19 By the mid-18th century, Brandenburg House lay within an orchard and fields. Much of the surrounding area now formed extensive market gardens. The house was demolished in 1823, and by 1862 it had been replaced by two large distillery buildings to the west of the site.
- A.1.20 By the 1960s, most of the earlier industrial buildings and terraced houses had been demolished and the current pumping station was constructed on the western part of the site.

A.2 Relevant heritage policy and guidance

- A.2.1 As the application for development consent relates to a Nationally Significant Infrastructure Project, the NPS is the primary basis for decision making on all planning issues raised by the application. When it comes to assessing the acceptability of the application proposals, it is the NPS that sets the relevant criteria to be applied. However, the project has been developed in the knowledge of local planning policies and, particularly, local land use planning designations.
- A.2.2 The London Borough of Hammersmith and Fulham's *Local Development Framework* comprises the *Core Strategy* Development Plan Document (adopted 19 October 2011) and the saved policies of the *Unitary Development Plan (UDP)* (2007). The Examination in Public of the Borough council's submission version *Development Management Plan Document* (submitted July 2012) commenced October 2012. Once adopted this document will replace policies in the UDP.
- A.2.3 *Core Strategy* Policy BE1 (Built Environment) states that: "*all development within the borough, including in the regeneration areas should create a high quality urban environment that respects and enhances its townscape context and heritage assets [...] in particular*
- (a) be of the highest standard of design that respects local context and character and, in particular, reflects and extends where appropriate the urban grain of the historic street based pattern and scale of development, especially in residential areas of consistent townscape character.*
- (b) protect and enhance the character, appearance and setting of the borough's conservation areas and its historic environment, including listed buildings, historic parks and gardens, buildings and artefacts of local importance and interest, archaeological priority areas and the Fulham Palace Moated Site scheduled ancient monument".*
- A.2.4 Saved *UDP* Policy EN2 (Development in Conservation Areas) states that: "*new developments in conservation areas must, where possible, respect the historic context, volume, scale, form, materials and quality*".
- A.2.5 Saved *UDP* Policy EN3 (Listed Buildings) states that: "*permission will not normally be granted for any development which would not preserve the setting of any listed building*".
- A.2.6 Saved *UDP* Policy EN6 (Buildings and Artefacts of Local Importance and Interest) states that: "*Development will not be permitted if it would result in the demolition, loss or harmful alteration to buildings, structures and artefacts that are of local townscape, architectural or historic interest,*

including all buildings identified on the council's Register of Buildings of Merit contained within Supplementary Planning Guidance unless

(1a) The building or structure is no longer capable of beneficial use, and its fabric is beyond repair;

(1b) The proposed replacement would bring substantial benefits to the community and which would decisively outweigh the loss; and

(1c) The proposed development cannot practicably be adapted to retain any historic interest that the building or structure possesses; and

(2) In the case of artefacts, they cannot practicably be retained in situ or, failing that, retained for re-use elsewhere within the site”.

A.2.7 Saved UDP Policy EN7 (Nationally and Locally Important Archaeological Remains) states that: *“(1) There will be a presumption against proposals which would involve significant alteration of, or cause damage to, Archaeological Remains of National Importance, whether scheduled or not. There will also be a presumption against proposals which have a significant and harmful impact on the setting of visible Archaeological Remains of National Importance whether scheduled or not.*

(2) Development affecting sites of Archaeological Remains of Local Interest and their settings will only be permitted if the need for the development outweighs the local value of the remains.

(3) Applicants will be required to arrange for archaeological field evaluation of any such remains within the archaeological priority areas (Glossary) defined on the proposals map before applications are determined or if found during development works in such areas or elsewhere. Proposals should include provision for the remains and their settings to be protected, enhanced or preserved. Where it is accepted that physical preservation in situ is not merited, planning permission may be subject to conditions and/or formal agreement requiring the developer to secure investigation and recording of the remains, and publication of the results”.

A.2.8 *Development Management Development Plan Document (DPD) (submission version July 2012) Policy DM G7 (Heritage and Conservation) states that: “The council will aim to protect, restore or enhance the quality, character, appearance and setting of the borough’s conservation areas and its historic environment, including listed buildings, historic parks and gardens, buildings and artefacts of local importance and interest, archaeological priority areas and the scheduled ancient monument. When determining applications for development affecting heritage assets, the council will apply the following principles:*

“a) The presumption will be in favour of the conservation and restoration of heritage assets, and proposals should secure the long term future of heritage assets. The more significant the designated heritage asset, the greater the presumption should be in favour of its conservation.

b) Proposals which involve substantial harm to, or loss of, any designated heritage asset will be refused unless it can be demonstrated that they

meet the criteria specified in paragraph 133 of the National Planning Policy Framework.

c) Development affecting designated heritage assets, including alterations and extensions to buildings will only be permitted if the historic significance of the heritage asset is preserved or enhanced or if there is clear and convincing justification. Where measures to mitigate the effects of climate change are proposed, the benefits in meeting climate change objectives should be balanced against any harm to the significance of the heritage asset and its setting [for further guidance see the relevant SPD].

d) Development should preserve the setting of, make a positive contribution to, or better reveal the significance of the asset. the presence of valued heritage assets should inform high quality design within its setting.

e) Particular regard will be given to matters of scale, height, massing, alignment, materials and use [...]

g) Applications should include a description of the significance of the asset concerned and an assessment of the impact of the proposed development upon it or its setting. The extent of the requirement should be proportionate to the nature and level of the asset's significance.

h) Where a heritage asset cannot be retained, the developer should ensure that a suitably qualified person carries out an analysis [including photographic surveys] of its design before it is lost, in order to record and advance the understanding of heritage in the borough. The extent of the requirement should be proportionate to the nature and level of the asset's significance.

i) applications for development affecting heritage assets should achieve accessible and inclusive design wherever possible and practicable".

A.3 Description of heritage assets and significance summary

A.3.1 The proposed site contains no listed buildings; however, it falls within a conservation area, is near another conversation area and there is one heritage asset (as defined in the NPS, para. 4.10.2) nearby. These heritage assets are illustrated on the Historic environment features map and the Conservation areas map. The numbering on the Historic environment features map refers to the gazetteer in which the heritage assets are described in the *Environmental Statement*, which accompanies the application (Vol 5, Appendix E.1). The gazetteer is provided at the end of this appendix.

A.3.2 The heritage assets include:

- a. Fulham Reach Conservation Area
- b. Castelnau Conservation Area
- c. the Grade II* listed Hammersmith Bridge.

Fulham Reach Conservation Area

- A.3.3 The Fulham Reach Conservation Area extends from the Riverside Studios near Hammersmith Bridge south to Craven Cottage, encompassing the buildings and open spaces along the riverfront (refer to the Conservation areas map).
- A.3.4 The *Fulham Reach Conservation Area Character Profile* states that it was designated in order to ensure that any development proposals recognised “*the sensitive nature of the riverside, in particular the long sweeping views northwards towards Hammersmith Bridge and views to and from Barnes and Putney bank*”.
- A.3.5 The River Thames forms the main element of the conservation area’s character, and the houses in Chancellor’s Road make a positive contribution. Numbers 48 to 64 Chancellor’s Road are locally listed in recognition of their pleasing and relatively unchanged mid-Victorian character (refer to Historic environment features map). Other locally listed buildings include St Marks Church and the Chancellors public house (both on Crisp Road) and the Thames Water operational Hammersmith Pumping Station at the river end of Chancellor’s Road.
- A.3.6 Figure A.1 shows the locally listed houses at numbers 48 to 64 Chancellor’s Road, within Fulham Reach Conservation Area.

Figure A.1 View of numbers 48 to 64 Chancellor’s Road (standard lens)



- A.3.7 Hammersmith Pumping Station is described as an appropriate scale for the area, despite its austere appearance, and the trees along the road in front of it are noted as a positive feature. To the north of the pumping station, the area is characterised by 19th and 20th century housing and some of the older buildings are of good design. To the west along the river lie a modern office block and residential buildings of no great visual interest. To the south is the large Fulham Reach development site. The

walled Frank Banfield Park to the east lies outside the conservation area and has no heritage value.

Castelnau Conservation Area

- A.3.8 The Castelnau Conservation Area lies on the south bank of the River Thames and is centred on the spacious tree-lined road of Castelnau with its grand mid-19th century villas (refer to the Conservation areas map). Later extensions of the conservation area included the tree-lined riverside path and the residential streets behind it.

Hammersmith Bridge

- A.3.9 The Grade II* listed Hammersmith Bridge is a wrought iron suspension bridge that was built in 1884/87 by Sir Joseph Bazalgette (refer to the Historic environment features map). It has a striking, ornate design with gilded cupolas over its two towers and it forms a distinctive landmark in views from both banks of the River Thames. The river frontage of Fulham Reach forms a key part of its setting.

Other heritage assets

- A.3.10 There are several other locally listed assets in close proximity to the site, as follows:
- a. Hammersmith drawdock
 - b. a portion of the river wall from the site of Brandenburg House to Chancellor's Road
 - c. College Court on Queen Caroline Street
 - d. the Peabody Buildings on Fulham Palace Road/Queen Caroline Street
 - e. 87/9 Fulham Palace Road
 - f. 108 Fulham Palace Road
 - g. 112/4 Fulham Palace Road
 - h. Distillers public house at 64/66 Fulham Palace Road.

Archaeology

- A.3.11 The western part of the site lies within the Winslow Road Archaeological Priority Zone, which relates to a Saxon settlement and the site of Brandenburg House.
- A.3.12 The assessment of archaeological potential in the *Environmental Statement* concluded that there is low potential for remains from the prehistoric, Roman and later medieval periods, which would likely be of low significance. In view of the evidence of Saxon settlement, there is high potential for early medieval remains of high significance. There is also high potential for highly significant remains from the 17th century brick and glass making industry associated with Brandenburg House. Furthermore, there is high potential for remains of the 19th century terraced housing that formerly occupied the site.
- A.3.13 In view of the depth of the modern made ground it is unlikely that any of these remains in most of the site would be removed by the proposed

works. The excavation of the CSO drop shaft and connection tunnel would remove material from greater depths, but only in a localised zone on the edge of the Archaeological Priority Zone. Furthermore, much of this area was recently examined as part of the archaeological investigations and mitigation works associated with the Fulham Reach development. This indicates that the present proposals would not have an elevated cumulative effect.

Significance summary

- A.3.14 An assessment of the significance of the heritage assets and the potential effects of the proposed works at this site is set out in the *Environmental Statement* (Vol 5). The assessment includes a full statement of significance for built heritage and buried archaeological assets at the site, which is summarised below in Table A.1.

Table A.1 Significance of heritage assets at Hammersmith Pumping Station

Heritage asset	Heritage significance	Reason for significance
Fulham Reach Conservation Area	High	Significance derives from its historical, communal and aesthetic values, and its preservation of the river setting.
Castelnau Conservation Area	High	Significance derives from its historical and communal values, and its preservation of 19th century housing stock.
Hammersmith Bridge	High	Significance derives from its historical, evidential and aesthetic values and from its association with Bazalgette.

A.4 Description of proposals and required heritage consents

- A.4.1 A summary of the proposed temporary and permanent works at Hammersmith Pumping Station is set out below.

Temporary construction works

- A.4.2 The construction works would involve erecting hoardings and offices and the use of plant such as cranes and piling rigs on-site. A new access to the worksite would be required, which might necessitate the demolition of a section of the wall of the pumping station compound.
- A.4.3 A CSO drop shaft would be excavated in the southern part of the site. The associated below-ground infrastructure would include a connection tunnel, a CSO interception chamber, and various hydraulic structures, culverts, pipes and ducts.

Permanent works

- A.4.4 On completion of the works, the site would form part of the 'boulevard' open space within the Fulham Reach development. The ventilation column and electrical and control kiosk, less than 6m in height, would be located

within the present Pumping Station compound rather than near the CSO drop shaft, and would be incorporated within an existing building. The screen house east of the main building would be retained unless it is required to be demolished to facilitate access to the works.

- A.4.5 The visible structures within the Thames Water compound would include a ventilation structure (approximately 4.5m), six ventilation columns (8.5m to 9m high), a penstock control panel mounted on the external wall of the pumping station, and ventilation column(s) or structure(s) serving the inlet of the pumping station, which might be incorporated into any potential replacement screen house structure.
- A.4.6 The evolution of the design of the permanent works and the alternatives considered are set out in the *Design and Access Statement*, which accompanies the application. The design proposals are set out in the drawings within the *Book of Plans* and were developed in line with the *Design Principles* and the *Code of Construction Practice*, which accompanies the application, to minimise the impact of the proposed works and structures on their surroundings, in line with relevant national, regional and local policies.
- A.4.7 The aspects of the proposed works that would affect the nearby heritage assets are set out below. The proposals that would normally require Listed Building Consent or Conservation Area Consent are also identified.
- A.4.8 Refer to the Historic environment features map, the Conservation areas map and the drawings listed in Table A.2 below. This table sets out the associated drawings of the proposed works submitted as part of the application, which are provided in A3 format at the end of this appendix. It also provides the status and location of the drawings within the application.

Table A.2 Drawings relating to heritage assets at Hammersmith Pumping Station

Drawing title	Drawing status
Location plan	For information
As existing site features plan	For information
Demolition and site clearance plan	For approval
Site works parameter plan	For approval
Permanent works layout	Illustrative
Proposed site features plan	Illustrative, save for the scale of the ventilation structure, which is indicative
Section A-A	Illustrative
As existing and proposed north elevation	Illustrative
As existing and proposed south elevation	Illustrative
Ventilation structure design intent	Illustrative, save for the scale of the ventilation structure, which is

Drawing title	Drawing status
	indicative
Construction phase 1: Site set-up, shaft construction and tunnelling	Illustrative
Construction phase 2: Construction of other structures	Illustrative

The drawings are located in Section 6 of the *Book of Plans*

Fulham Reach Conservation Area

- A.4.9 The construction works would take place almost entirely within the Fulham Reach Conservation Area. The permanent works be accommodated within the Hammersmith Pumping Station compound and within the pumping station building. The existing screen house to the east of the building may need to be demolished to facilitate access (refer to the following drawings: Demolition and site clearance plan, Permanent works layout, Proposed landscape plan and Ventilation structure design intent).
- A.4.10 Some trees within the conservation area to the southwest of Distillery Road would be permanently removed.
- A.4.11 No heritage consent would normally be required, unless it is determined that the screen house needs to be demolished, in which case Conservation Area Consent would be required. Works to trees in conservation areas would normally require notification.

Castelnau Conservation Area

- A.4.12 The construction works would largely be screened from the Castelnau Conservation Area by intervening development and vegetation, although the cranes might be visible.
- A.4.13 No heritage consent would normally be required.

Hammersmith Bridge

- A.4.14 The construction works would largely be screened from Hammersmith Bridge by intervening development and vegetation, although the cranes would be visible. The permanent works would not be visible from the bridge.
- A.4.15 No heritage consent would normally be required.

A.5 Heritage design considerations

- A.5.1 As most of the project works would be below ground, the key design objective for the permanent works was to integrate the functional components of the system into the context of the historic environment. The site-specific design objective at Hammersmith Pumping Station was to take account of the existing below-ground infrastructure and the setting of the Fulham Reach Conservation Area, Castelnau Conservation Area and Hammersmith Bridge.
- A.5.2 In response to the public consultation process, minor design alterations were made to utilise the existing buildings on the site to minimise the effect on the appearance of the site. In order to minimise the impact of the

proposals on the Fulham Reach Conservation Area, the above-ground structures were reduced in size and positioned within the pumping station compound.

- A.5.3 The design principles for the final design of this site include the generic (project-wide) heritage design principles and the site-specific principles set out in Section 4.2 of the *Design Principles*. The site-specific principles that relate to the significance of the heritage assets at this site include the following:

Reference	Site-specific design principles
HAMPS.01	The electrical and control equipment shall be located within the existing pumping station building. The local penstock isolation kiosk shall be located on the external wall of the pumping station.
HAMPS.02	All above-ground structures shall be located within the Thames Water operational site.
HAMPS.03	The extended and rebuilt compound wall facing Chancellor's and Distillery Roads shall match the construction of the existing precast concrete wall. Walls and fencing to the south and west shall be sympathetic to the new residential development.
HAMPS.04	Any structures outside the Thames Water compound shall be designed to be incorporated into the public realm of the residential development that will be completed by others.

A.6 Mitigation measures

- A.6.1 Due to the presence of heritage assets nearby, the National Policy Statement for Waste Water (the 'NPS') requires the proposed development to be based on an understanding of the significance of heritage assets (para. 4.10.11), minimise any impacts on their significance (paras. 4.10.12 to 4.10.14), minimise impacts on their setting (para. 4.10.17), mitigate any negative impacts (para. 4.10.18 to 21), and ensure that the proposals are of a high design quality (Section 3.5). These requirements are reflected in similar policies in the *London Plan (2011)*, the *Core Strategy*, the saved *UDP*, the *Fulham Reach Conservation Area Character Profile*, and the *Development Management DPD*.
- A.6.2 Hammersmith Pumping Station has minimal heritage value; however, it plays a role within the Fulham Reach Conservation Area. Any negative effects arising from the removal of sections of the pumping station compound wall and steps would be mitigated by a basic visual recording carried out to English Heritage Level 1. Any new work and making good would match the existing building. The visual impact of these works on the conservation area would be further mitigated by the sensitive design of the permanent above-ground structures. The access cover over the CSO drop shaft would be incorporated into the landscaping of the Fulham Reach development.
- A.6.3 The potential effects on any archaeology would be mitigated by a combination of approaches to be agreed in advance with statutory

consultees, as set out in the *Overarching Archaeological Written Scheme of Investigation*, which accompanies the application.

- A.6.4 There would be a watching brief during site preparation and construction to mitigate impacts on potential remains of low significance, such as 19th century foundations. There would also be targeted excavation of more significant remains in advance of construction, which would be appropriately recorded.
- A.6.5 However, previous excavations and thorough mitigation works including recording carried out as part of the Fulham Reach scheme covered most of the deep level excavation area. Any new archaeological excavations required are unlikely to be extensive. Any remains would be appropriately recorded and any information gathered disseminated via the usual channels. This would improve public understanding and appreciation of the significance of those aspects of London's past, and mitigate any losses. These measures would satisfy the requirement of the NPS (para. 4.10.18) to record any unavoidable losses, which reflects *London Plan* Policy 7.8.
- A.6.6 For the duration of the proposed works all heritage assets would be safeguarded by the provisions of a site-specific heritage management plan. This plan would be prepared by the contractor prior to commencing construction in accordance with Section 12 of the *Code of Construction Practice* Part A, which also states:
- a. Archaeological works shall be undertaken in accordance with a *Site-specific Archaeological Written Scheme of Investigation*, which could include the protection of archaeological resources.

A.7 Assessment of effects

- A.7.1 The *Environmental Statement* assesses the significant effects of the proposals on the historic environment. The discussion below sets out the significant and less significant effects having regard to the criteria in the NPS. The summary assessment is based on the significance of the heritage assets identified in Section A.3 the impacts identified in Section A.4, and the mitigation measures described in Section A.6.

Fulham Reach Conservation Area

- A.7.2 The construction works would temporarily alter the character and appearance of the Fulham Reach Conservation Area, and the setting of the locally listed buildings on Chancellor's Road. Most of the proposed site is already hoarded off. The temporary works would also not be large scale and would only alter a small part of the conservation area as a whole; therefore the effect would be minor negative. The effects of the Fulham Reach development would be more significant; however, the low level of change from the project proposals would not elevate the cumulative effects.
- A.7.3 The impact of the permanent above-ground structures would be minimal. The pumping station compound would retain its existing appearance, and

the new ventilation structure and electrical and control kiosk would only be visible from the immediate vicinity.

- A.7.4 The proposals would cause no harm to the significance of the conservation area as a whole and have a negligible positive effect on the part immediately around the site. The proposals would also have a negligible positive effect on the settings of the locally listed buildings on Chancellor's Road.

Castelnau Conservation Area

- A.7.5 The construction works would have a minor temporary negative effect on the setting of the Castelnau Conservation Area.
- A.7.6 However, the completed Fulham Reach development would eventually screen the site from its setting. Therefore the proposals would have no permanent effect on its significance or setting.

Hammersmith Bridge

- A.7.7 The construction works would not fall within the setting of Hammersmith Bridge due to intervening buildings and trees. The permanent works would have no effect on its significance or setting.

Assessment in relation to policy

- A.7.8 An assessment of the proposals in relation to relevant heritage policy is set out below.
- A.7.9 The impact of the works would be minimised by siting most of the required infrastructure below ground and within the pumping station compound. The high quality design of the visible elements would fit with the character of the compound, which satisfies para 4.10.12 of the NPS. It also reflects *London Plan Policy 7.8*; *Core Strategy Policy BE1*; saved *UDP Policies EN2, EN6, EN7, EN31 and EN31X*; and *Development Management DPD Policies F2 and G7*.
- A.7.10 Although there would be some harmful effects during the construction phase, none would amount to substantial harm. The permanent works would have a negligible positive effect on the character and appearance of Fulham Reach Conservation Area and no effect on the settings of Castelnau Conservation Area or Hammersmith Bridge, which satisfies paras. 4.10.12, 4.10.15 and 4.10.17 of the NPS.
- A.7.11 There is potential for early medieval and 17th century archaeological remains of high significance within the site; however, in view of the mitigation measures, the high quality design, and the excavations and mitigation carried out for the Fulham Reach development the overall impact of the works would be negligible. This would meet the requirements of para. 4.10.13 of the NPS, which reflects *London Plan Policy 7.8*.
- A.7.12 The programme of investigation and recording would enable the significance of any archaeology to be fully understood and the dissemination of the information gathered would increase public appreciation of the heritage of the site. These mitigation measures are proportionate to the likely significance of the archaeology and therefore the impact would be acceptable, in line with paras. 4.10.18 to 4.10.20 of

the NPS. This also reflects *London Plan* Policy 7.8, and saved *UDP* Policies EN6 and EN7.

A.8 Conclusion

- A.8.1 The main heritage impact of the construction works would be on the Fulham Reach Conservation Area and the potential archaeology. The impact of the temporary hoardings and plant would be low in relation to the conservation area as a whole. The negative effects would be minimised by the low-key, sensitive design of the above-ground works, and by the various archaeological mitigation measures including the programme of investigation and recording. The character and appearance of the conservation area would be preserved and the permanent works would have a slightly positive effect.
- A.8.2 There would be no effects on Castelnau Conservation Area or the Grade II* listed Hammersmith Bridge.
- A.8.3 In summary, the sensitivity of the design to the historic environment would minimise any negative impacts on the settings of nearby heritage assets, in line with the requirements of the NPS, the *London Plan*, the *Core Strategy*, the *UDP*, and the *Development Management DPD*. The proposals would cause no substantial harm to any of the heritage assets.

Gazetteer of known heritage assets

Details of known heritage assets within the assessment area are provided in Table A.3 below as illustrated on the Historic environment features map.

All known heritage assets within the assessment area are referred to by a historic environment assessment (HEA) number. Assets within the site are referred to and labelled in the Historic environment features map with the prefix 1, eg, HEA 1a, 1b, 1c. References to assets outside the site but within the assessment area are referred to numerically from 2 onwards, eg, HEA 2, 3, 4, and 5). The gazetteer also appears within the *Environmental Statement, Vol 5 Appendix E1*.

Table A.3 Historic environment: Gazetteer of known heritage assets within the site and assessment area

HEA Ref.	Description	Site code/ GLHER ref/ List Entry Number
1A	Hammersmith Pumping Station: A modern (1960s) complex of concrete buildings including a control station (incorporating a bronze plaque from the original pumping station) and The Screen House.	---
1B	Hammersmith Embankment, Winslow Road, Distillery Road, W6. An archaeological evaluation by Museum of London Archaeology Service (MoLAS, now MOLA) in 2001. Evidence for a medieval or earlier water channel (Parr's Ditch, which was covered in the 19th century) was found in the eastern part of the site, overlaid by brick foundations of 18th-century date. An undated gully, lined with posts, was uncovered in another area. Elsewhere substantial deposits of made ground indicated that the site had been severely truncated in the 19th century.	WIO01
1C	Hammersmith Embankment, Winslow Road / Chancellor's Road, W6. An archaeological excavation by MoLAS in 2005. Three areas of excavations were undertaken. Evidence of Early Saxon activity was recorded in the form of pits and ditches. Extensive remains associated with 17th-century glass bead manufacture were recorded. The remains of a brick clamp presumably associated with documented brick making by Nicholas Crisp(e) in the 17th century was also recorded. An archaeological watching brief was undertaken by MoLAS in 2007. Most of the remains recorded were basements and structures associated with Victorian and later industrial buildings such as a distillery and sugar factory. The line of Parr's Ditch was also investigated and traced across the northern part of the site. Some evidence of 17th-century glass manufacture was found in a few areas.	WIZ05
2	Hammersmith Embankment, Winslow Road, W6. An archaeological evaluation and excavation by MoLAS in 1999. The excavation consisted of an area measuring approximately 46m by	HWR99

HEA Ref.	Description	Site code/ GLHER ref/ List Entry Number
	43m. About 1.2m of modern overburden overlay evidence of a number of phases of activity. They included three or four pits containing prehistoric pottery and worked flint including a leaf-shaped arrowhead. An Early Saxon 'sunken featured building' was identified in the northeast of the site and contained an assemblage of pottery including imported wheel-thrown ware: eight lead weights, six Roman copper alloy coins, glass beads and worked bone were also found. To the south of this building substantial posthole alignments were identified containing Early Saxon pottery possibly defining a timber hall. A number of Early Saxon rubbish pits were also revealed, and five undated hearths or ovens found across the site may also relate to this period of activity. Post-medieval remains included a brick-built structure interpreted as part of a kiln for the production of glass beads in the 17th century, and an 18th-century brick-built cellar infilled with glass working waste and kiln fragments. Linear features may relate to the 18th-century formal gardens on the site.	
3	The Distillery site, Winslow Road, Manbre Road, W6. An archaeological watching brief by MoLAS in 1997. Natural brickearth, in which was found a prehistoric flint flake, was cut by several pits and a narrow gully or slot. Some of these were of late medieval and early post-medieval date. A number of other pits probably dated to the 19th century, and six postholes were undated.	WLR97 MLO715250542 79 MLO715260542 80 MLO715270542 81 MLO71528 054282 MLO71529 054283
4	Distillery Site, Winslow Road, W6. An archaeological excavation by the former Department of Greater London Archaeology, Museum of London (DGLA) in 1990. Excavations exposed a few shards of Roman pottery and three rectangular 'sunken-featured buildings' of Early Saxon date, aligned east-west and with postholes set at the mid-points of the two short sides. Other associated postholes were also located.	HAM90
5	Thames channel: The approximate location of a Roman coin recovered from the banks of the Thames and recorded by the Portable Antiquities Scheme (PAS).	PAS-29F1B6
6	Winslow Road (Hammersmith Embankment Thames Foreshore). A foreshore survey carried out in 2007 by the Thames Archaeological Survey. The survey included recording the riverside wall and a topographic survey of the foreshore. During the survey of the site several previously unrecorded features were observed, including the remains of post medieval structures. Artefact scatters were recorded and sampled.	FHM03 MLO99357
7	The site of the cemetery of a Benedictine Nunnery which was in	Holmes ID 22

HEA Ref.	Description	Site code/ GLHER ref/ List Entry Number
	use before 1829. Included in the 1896 survey of London burial grounds by Mrs Basil Holmes (Holmes, B., 1896) ¹ .	054209
8	Nurses' home on the north side of Lochaline Street. Grade II listed.	1286859
9	The site of a post-medieval house, documented as divided into two tenements (rented properties), now demolished. Recorded on the GLHER.	MLO7629 050743
10	The site of a medieval bridge which crossed the Parr's Ditch. Recorded on the GLHER.	MLO109530505 79
11	Medieval Hammersmith was referred to as Hammersmythstrete in the Court Rolls, and was centred on what is now Queen Caroline Street (formerly Queen Street). The first mention of Hammersmith occurs at the end of the 13th century, the name derived from 'hammer' and 'smithy'. Recorded on the GLHER.	MLO687470530 03
12	7–51 Queen Caroline Street, W6. An archaeological excavation by the Inner London Archaeological Unit (ILAU) in 1976 to investigate the medieval settlement of Hammersmith. Evidence only of large-scale 18th-century dumping was found.	QCS76
13	Former Hammersmith Pumping station. Small brick building dating to c. 1922, now in use as Thames Water offices. One floor above ground with sunken working floor at basement level.	---
14	Bazalgette's Low Level Sewer, dated 1856–1888	---
15	<p>Hammersmith Bridge: Grade II* listed Hammersmith Bridge was begun for the Metropolitan Board of Works in 1884 and was opened by the Prince of Wales on 18 June 1887. It cost £71,500 and was designed by the Board's chief engineer, Sir Joseph Bazalgette (1819-91). In 1973-6 the bridge was strengthened and repaired in extensive works; in June 2000, Hammersmith Bridge was the target of a terrorist bomb attack and, after repairs, was reopened subject to a weight limit.</p> <p>The bridge rests on pier foundations constructed for an earlier bridge on the site. The original Hammersmith Bridge, built in 1824-27 to designs by William Tierney Clark (1783-1852), was the first iron suspension bridge to span the Thames. Despite having been declared 'highly satisfactory' by Thomas Telford, as early as the 1850s there were structural concerns about Clark's design. Crowds of spectators rushing from side to side to watch the annual University Boat Race caused the deck to sway alarmingly, and by the 1870s, there was further anxiety as Boat Race crowds of up to 12,000 people congregated on the bridge. Despite the dramatic effect of such unusual live loading, the bridge survived until the early 1880s, when the Metropolitan Board of Works chose to replace the bridge to a design by Bazalgette. In 1884, a temporary bridge was erected across the river and used until</p>	1079819

HEA Ref.	Description	Site code/ GLHER ref/ List Entry Number
	Bazalgette's structure was completed in 1887.	
16	River wall from Brandenburg House to Chancellors Road Locally listed	
17	The Chancellors PH, locally listed building: Two storey, white stuccoed upper floor. Black timber and glazed green brick shop front to lower floor.	
18	St Marks Church, locally listed building: Brick built, single storey church building, with gothic detailing.	
19	48 to 64 Chancellors Road, locally listed building: Row of nineteenth century two storey and basement terraced housing. The houses are built of brick, with stone door cases and window architraves.	
20	Peabody Buildings, locally listed building: Five storey flats, brick built, in the 'Queen Anne' style.	
21	87 and 89 Fulham Palace Road, locally listed building: Semi-detached two storey and basement villas. Brick with stone dressings. Bow windows to the ground floor.	

Table A.4 List of drawings in order

Drawing title
Historic environment features map
Conservation areas map
Location plan
As existing site features plan
Demolition and site clearance plan
Site works parameter plan
Permanent works layout
Proposed site features plan
Section A-A
As existing and proposed north elevation
As existing and proposed south elevation
Ventilation structure design intent
Construction phase 1: Site set-up, shaft construction and tunnelling
Construction phase 2: Construction of other structures

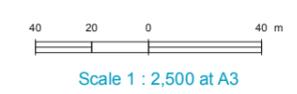
ⁱ Holmes, Basil, (Mrs). *The London Burial Grounds: Notes on their history from the earliest to the present day*. New York: MacMillan & Co (1896).

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- Key
- Limits of Land to be Acquired or Used
 - Local Authority Boundary
 - Heritage Feature/Findspot
 - Heritage Feature
 - Statutorily Listed Building
 - Locally Listed Building
 - Past Investigation
 - Past Investigation Area
 - Bazalgette sewer

The reference number for historic environment features correspond to the descriptions in the 'Gazetteer of known heritage assets' in Environmental Statement Vol. 5 Appendix E. 1

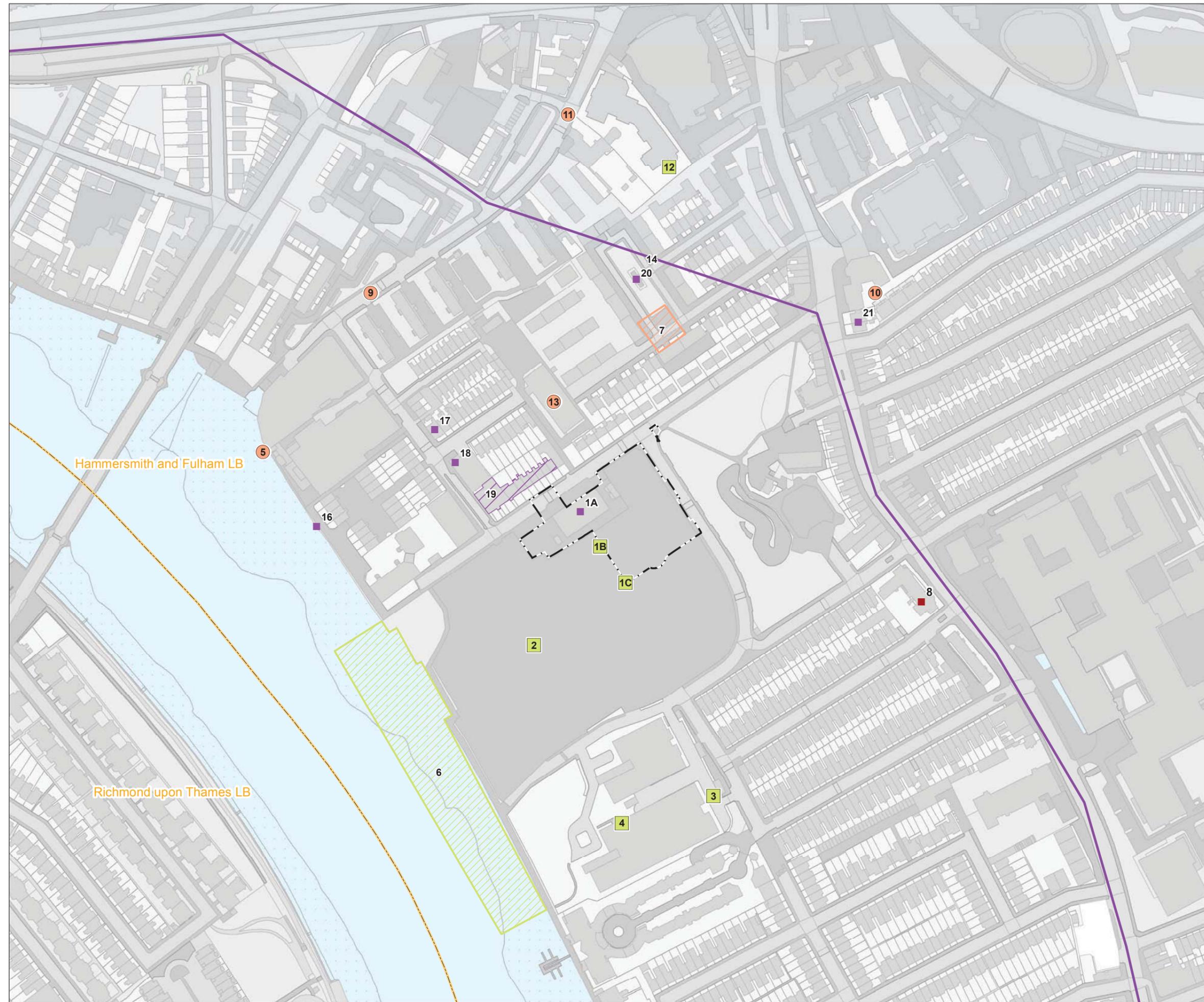


FOR INFORMATION

Location
Hammersmith Pumping Station
London Borough of Hammersmith & Fulham

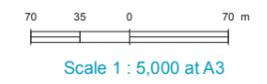
Document Information
Heritage Statement
Historic environment features map

1PL03-HE-65223
January 2013





- Key
-  Limits of Land to be Acquired or Used
 -  Local Authority Boundary
 -  Conservation Area



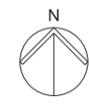
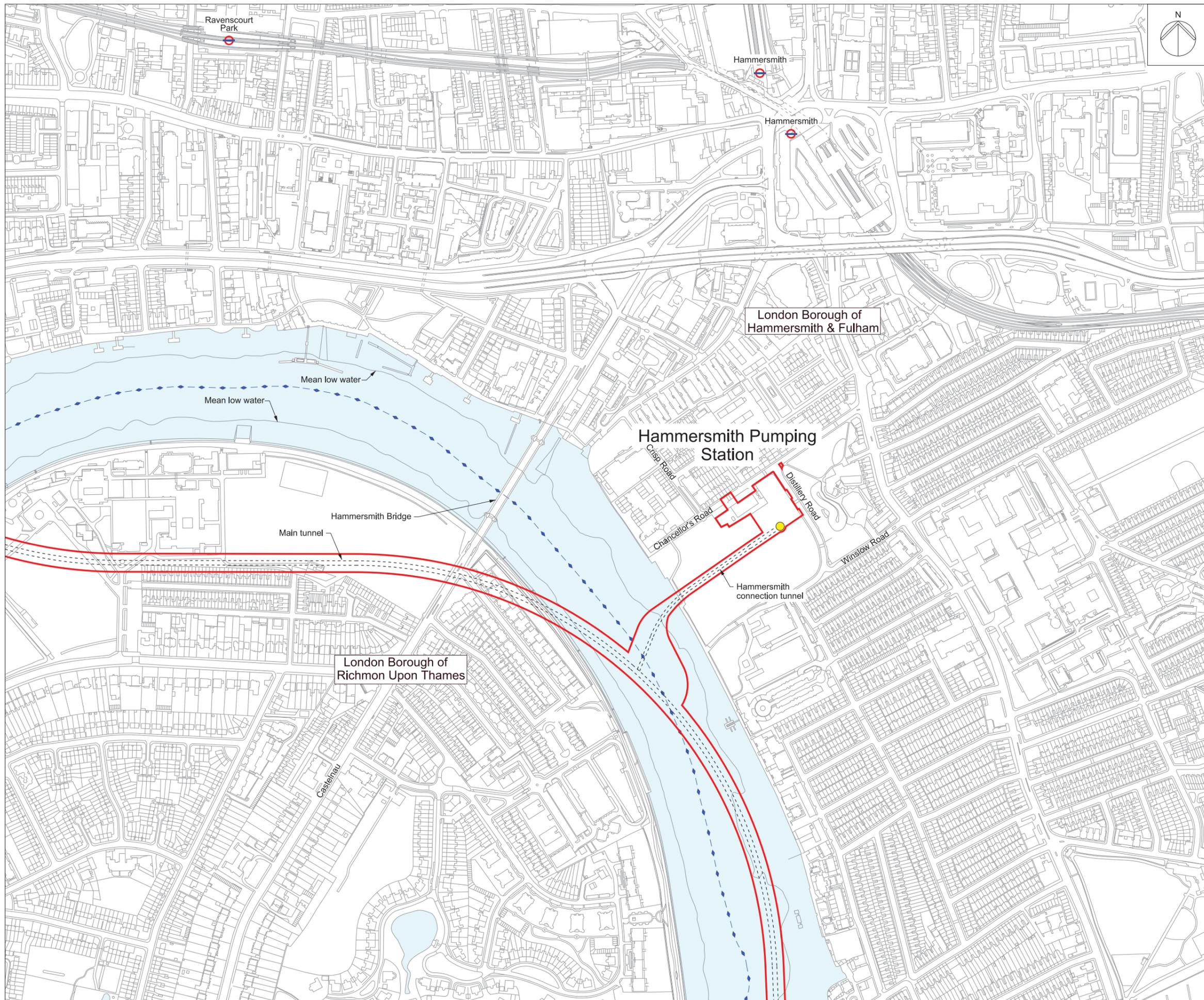
FOR INFORMATION

Location
Hammersmith Pumping Station
London Borough of Hammersmith & Fulham

Document Information
Heritage Statement
Conservation areas map

PL03-HE-65244
January 2013





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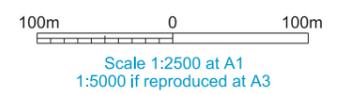


Coordinates are to be Ordnance Survey Datum OSGB36. All levels are in metres and relate to the Tunnel Datum which is 100 metres below Ordnance Datum Newlyn.

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

Notes:

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



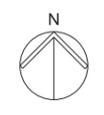
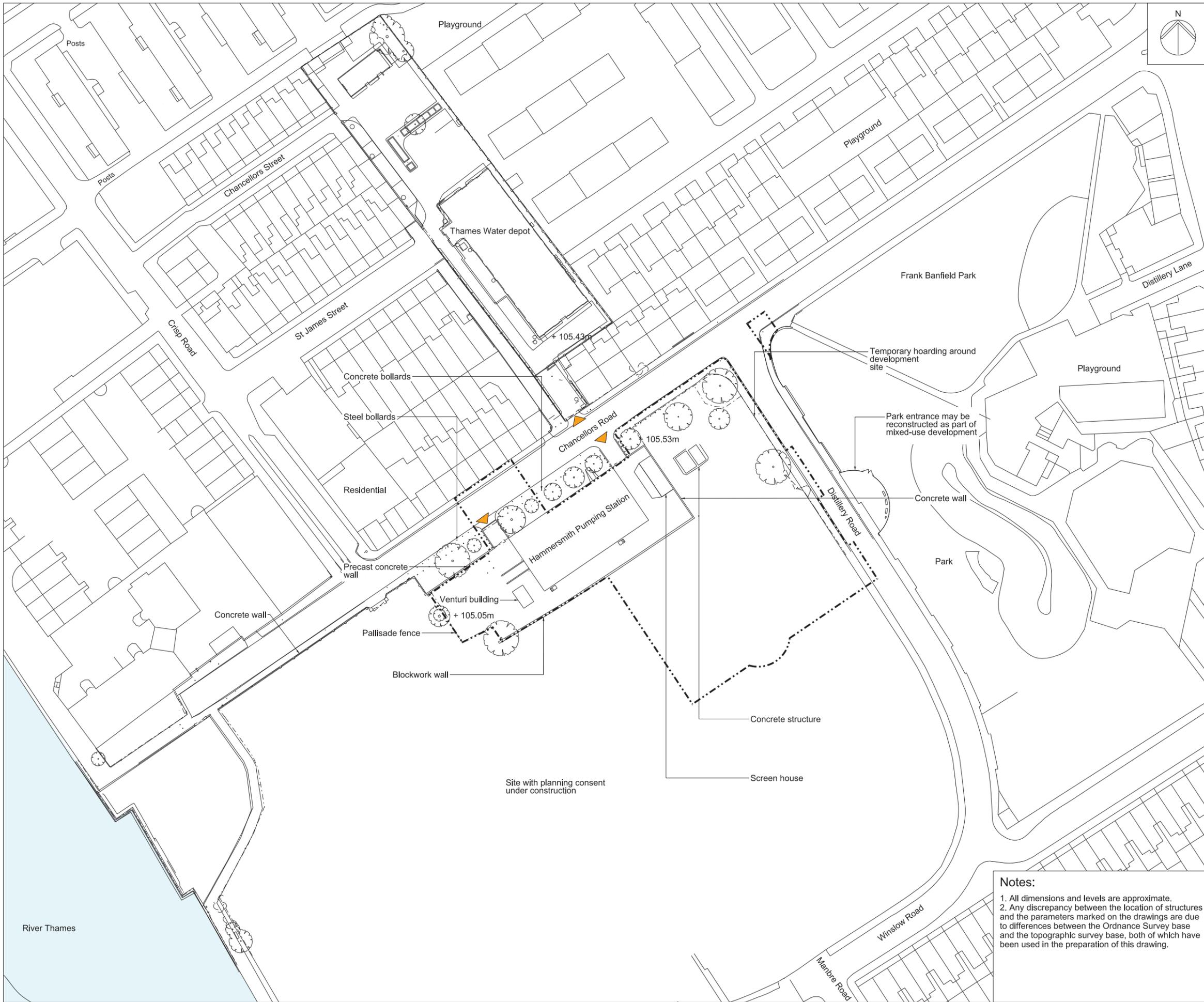
FOR INFORMATION

Location
Hammersmith Pumping Station
 London Borough of Hammersmith & Fulham

Document Information
Application for Development Consent
 Location plan

Book of plans - section 6
 DCO-PP-03X-HAMPS-060001
 January 2013





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- 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
Hammersmith Pumping Station
 London Borough of Hammersmith & Fulham

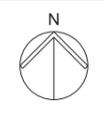
Document Information
Application for Development Consent

As existing
 Site features plan
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 DCO-PP-03X-HAMPS-060002
 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.



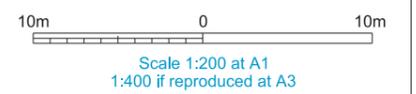
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Coordinates are to be Ordnance Survey Datum OSGB36. All levels are in metres and relate to the Tunnel Datum which is 100 metres below Ordnance Datum Newlyn.

- Key:
- Limits of land to be acquired or used (LLAU)
 - Trees to be removed
 - Above ground structures to be removed
 - Structure to be removed and relocated or reinstated

- Notes:
1. Minor items to be removed (e.g. barriers, bollards etc.) are not shown.
 2. General activities of site clearance such as removal of hardstanding and foundations, stripping of topsoil and clearance of minor vegetation not shown.



FOR APPROVAL

Location
Hammersmith Pumping Station
 London Borough of Hammersmith & Fulham

Document Information
Application for Development Consent
 Demolition and site clearance

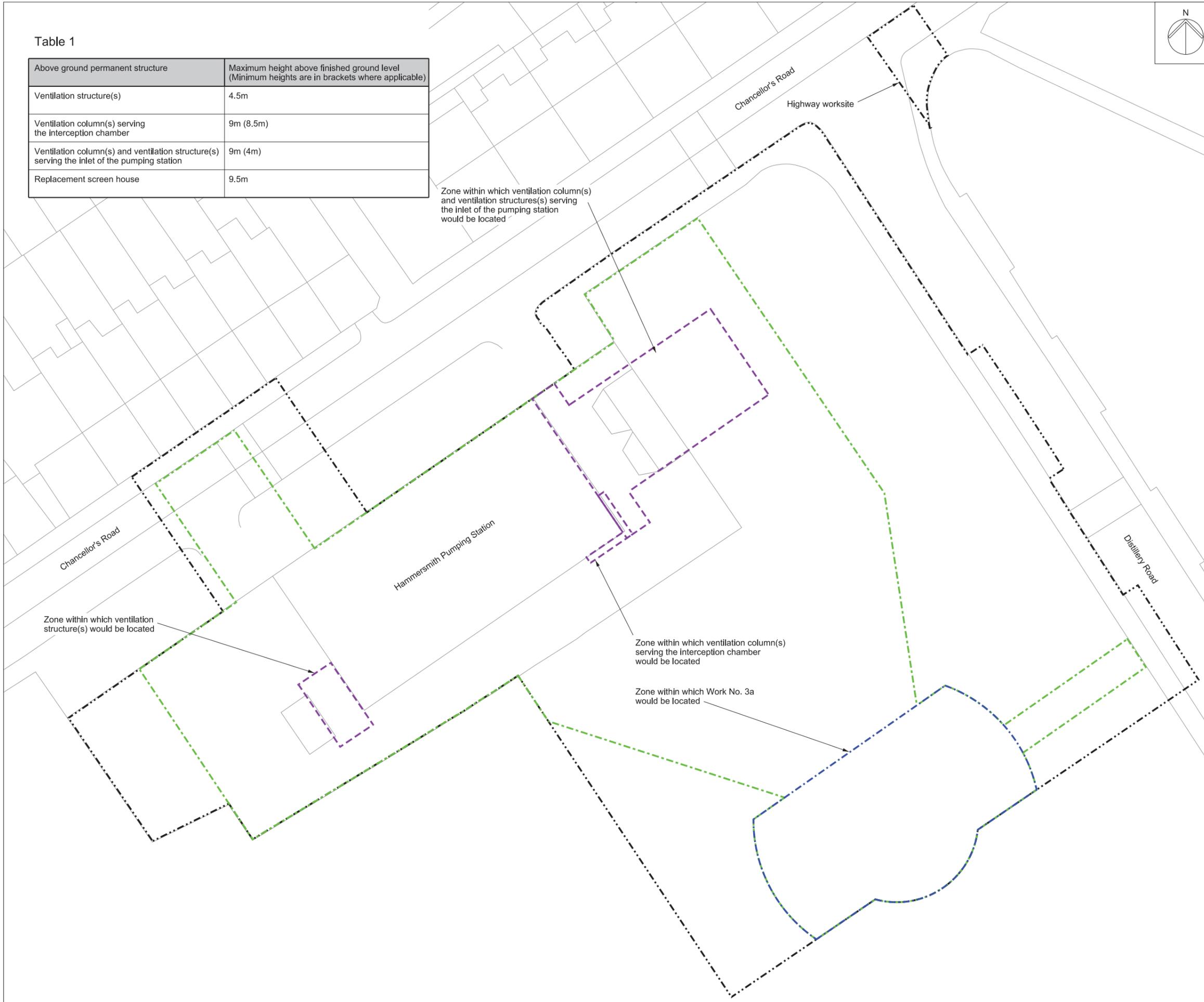
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 January 2013



Table 1

Above ground permanent structure	Maximum height above finished ground level (Minimum heights are in brackets where applicable)
Ventilation structure(s)	4.5m
Ventilation column(s) serving the interception chamber	9m (8.5m)
Ventilation column(s) and ventilation structure(s) serving the inlet of the pumping station	9m (4m)
Replacement screen house	9.5m

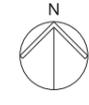
Zone within which ventilation column(s) and ventilation structures(s) serving the inlet of the pumping station would be located



Zone within which ventilation structure(s) would be located

Zone within which ventilation column(s) serving the interception chamber would be located

Zone within which Work No. 3a would be located



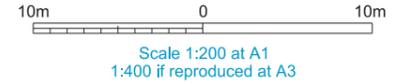
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Coordinates are to be Ordnance Survey Datum OSGB36. All levels are in metres and relate to the Tunnel Datum which is 100 metres below Ordnance Datum Newlyn.

- Key:**
- Limits of land to be acquired or used (LLAU)
 - Zone within which all permanent site structures would be located
 - Zone within which the shaft would be located
 - Zone within which permanent above ground structures would be located (those listed in Table 1)

- Notes:**
1. All dimensions and levels are approximate.
 2. The Site Works Parameter Key Plan identifies each zone independently.
 3. The zone within which the shaft would be located would include all permanent works including shaft walls (including appropriate allowances for construction tolerances) and if applicable under-reaming. Shaft construction temporary works may be located within or outside this zone provided they are located within the Limits of land to be acquired or used.



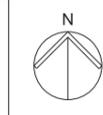
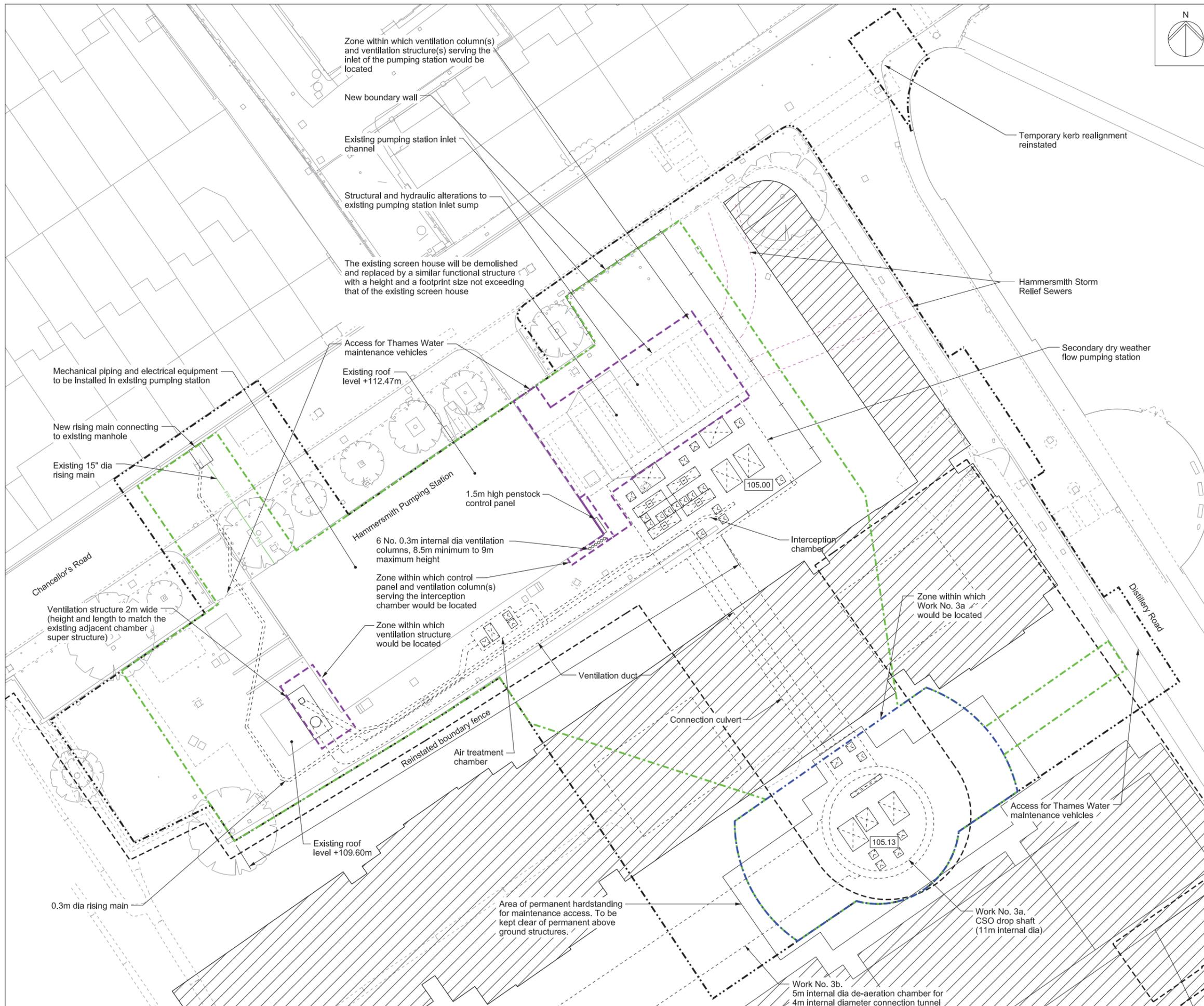
FOR APPROVAL

Location
Hammersmith Pumping Station
London Borough of Hammersmith & Fulham

Document Information
Application for Development Consent
Site works parameter plan

Book of plans - section 6
DCO-PP-03X-HAMPS-060005
January 2013





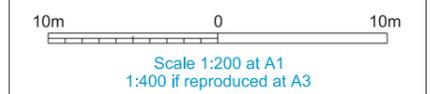
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- Key:**
- Limits of land to be acquired or used (LLAU)
 - Existing sewers
 - ☐ Proposed access cover
 - 104.50 Proposed level (shown in metres above tunnel datum)
 - Zone within which all permanent site structures would be located
 - Zone within which the shaft would be located
 - Zone within which permanent above ground structures would be located
 - ▨ Proposed St. George development (Refer to drawing MP-001 rev B, dated 25.07.2011)

- 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 topographical survey base, both of which have been used in the preparation of this drawing.
 3. This drawing shows permanent site structures only. Landscaping hard works and soft works are shown on the Proposed landscape plan and/or Proposed site features plan.



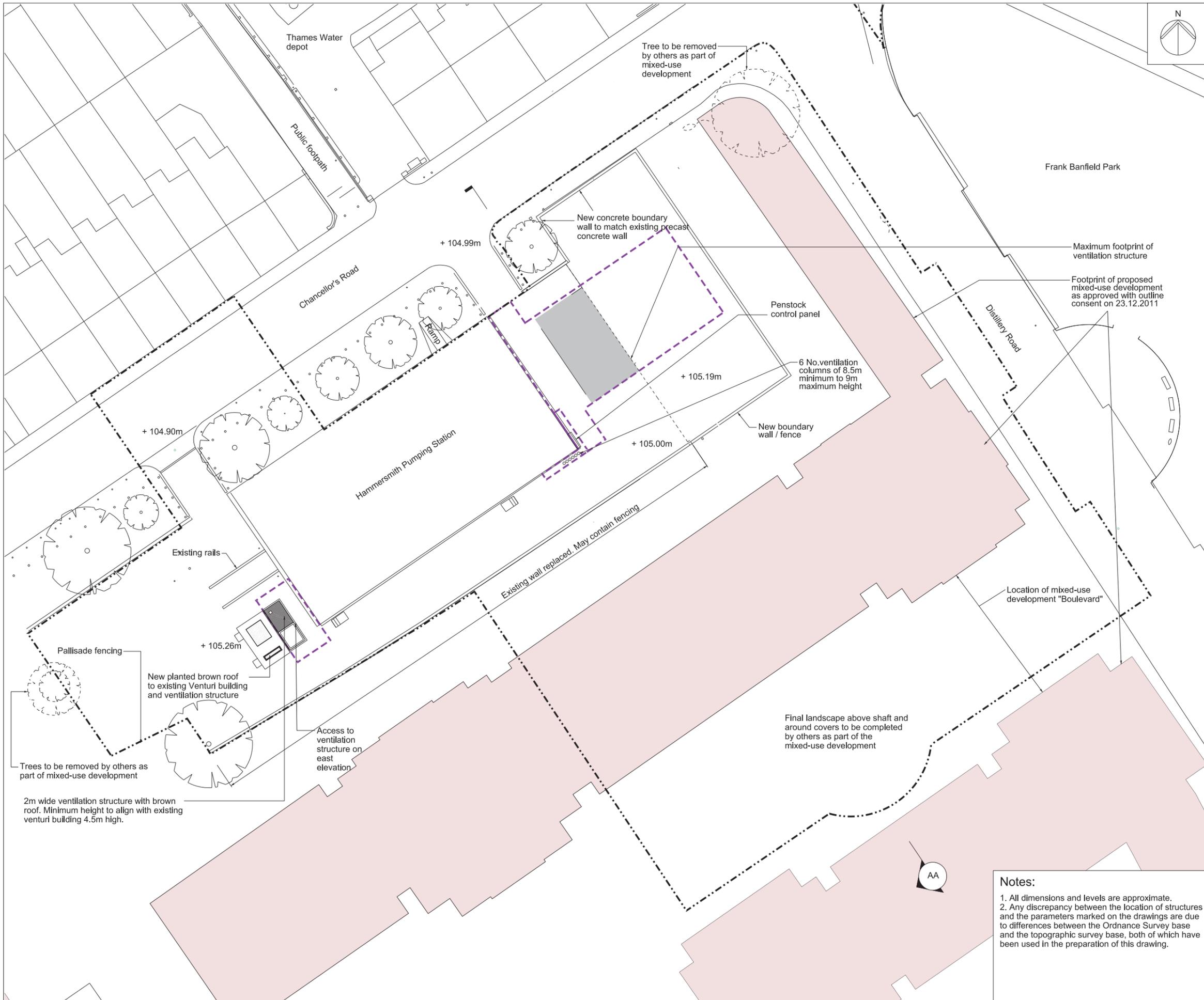
ILLUSTRATIVE

Location
Hammersmith Pumping Station
 London Borough of Hammersmith & Fulham

Document Information
Application for Development Consent
 Permanent works layout

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- Key:**
- Limits of land to be acquired or used (LLAU)
 - - - Zone within which permanent above ground structures would be located
 - + 105.40m Existing levels (shown in metres above tunnel datum)
 - Consented development footprint (by others)
 - Existing trees within surveyed area (trunk sizes vary)

10m 0 10m
Scale 1:200 at A1
1:400 if reproduced at A3

ILLUSTRATIVE
Save for the scale of the ventilation structure(s) which is indicative

Location
Hammersmith Pumping Station
London Borough of Hammersmith & Fulham

Document Information
Application for Development Consent

Proposed
Site features plan
Book of plans - section 6
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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.

2m wide ventilation structure with brown roof. Minimum height to align with existing venturi building 4.5m high.

Trees to be removed by others as part of mixed-use development

Tree to be removed by others as part of mixed-use development

Final landscape above shaft and around covers to be completed by others as part of the mixed-use development

Existing wall replaced. May contain fencing

New planted brown roof to existing Venturi building and ventilation structure

Access to ventilation structure on east elevation

6 No. ventilation columns of 8.5m minimum to 9m maximum height

New boundary wall / fence

Penstock control panel

Maximum footprint of ventilation structure

Footprint of proposed mixed-use development as approved with outline consent on 23.12.2011

Location of mixed-use development "Boulevard"

Hammersmith Pumping Station

Chancellor's Road

Frank Banfield Park

Thames Water depot

Public footpath

AA

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Keyplan:



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Notes:

1. All dimensions and levels are approximate.
2. The purpose of this section is to show the scale of the below ground infrastructure to be provided.

Dashed line shows mixed-use development notionally

Shaft cover incorporated into mixed-use landscaping scheme

Existing Hammersmith Pumping Station Building

6 no. ventilation columns minimum 8.5m maximum 9m high

Palisade boundary fence beyond

New concrete boundary wall / fencing

Chancellor's Road

CSO drop shaft

Interception Chamber

Existing pumping station inlet

Existing pumping station inlet

Connection tunnel to main tunnel

10m 0 10m

Scale 1:200 at A1
1:400 if reproduced at A3

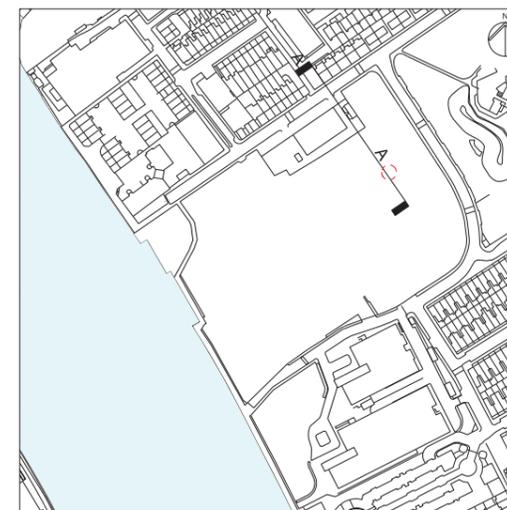
ILLUSTRATIVE

Location
Hammersmith Pumping Station
London Borough of Hammersmith & Fulham

Document Information
Application for Development Consent
Section AA

Book of plans - section 6
DCO-PP-03X-HAMPS-060009
January 2013

Thames Tideway Tunnel
Creating a cleaner, healthier River Thames



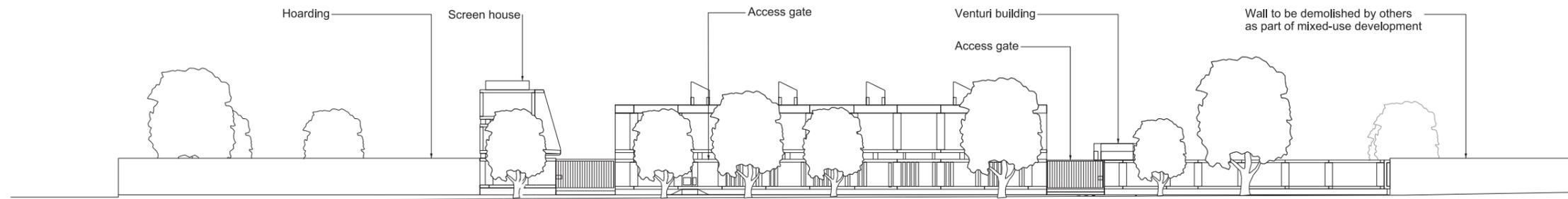
Section AA

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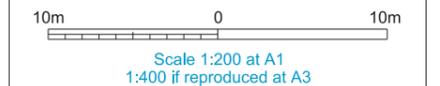
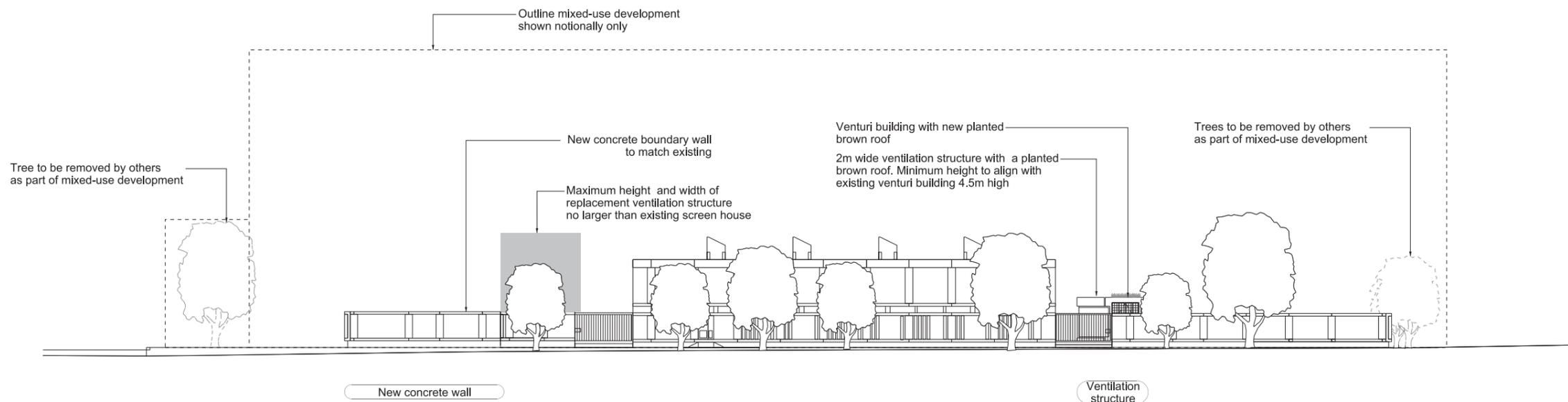


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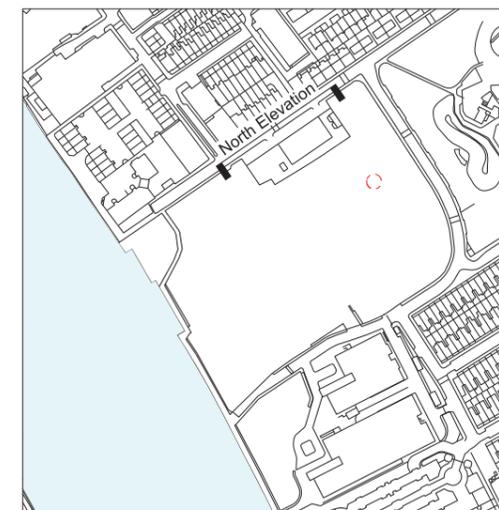
Notes:
1. All dimensions and levels are approximate.



As Existing North elevation



Proposed North elevation



ILLUSTRATIVE

Location
Hammersmith Pumping Station
London Borough of Hammersmith & Fulham

Document Information
Application for Development Consent
As existing and proposed
North elevation
Book of plans - section 6
DCO-PP-03X-HAMPS-060010
January 2013



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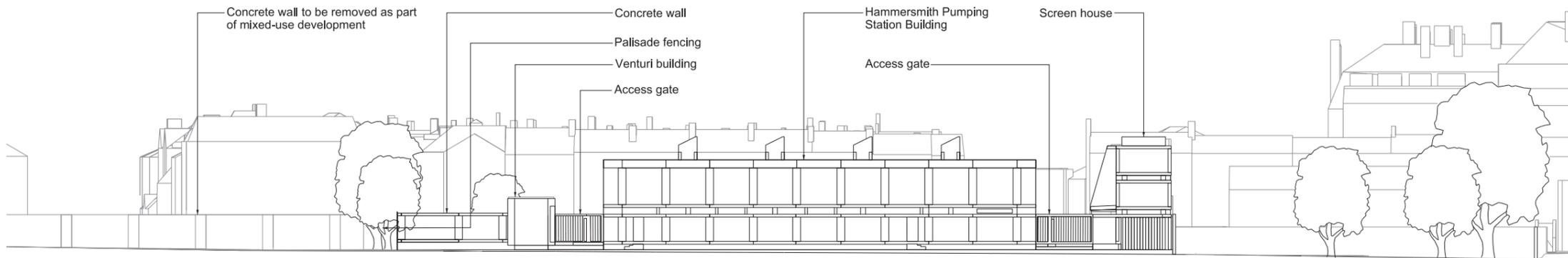
Keyplan:



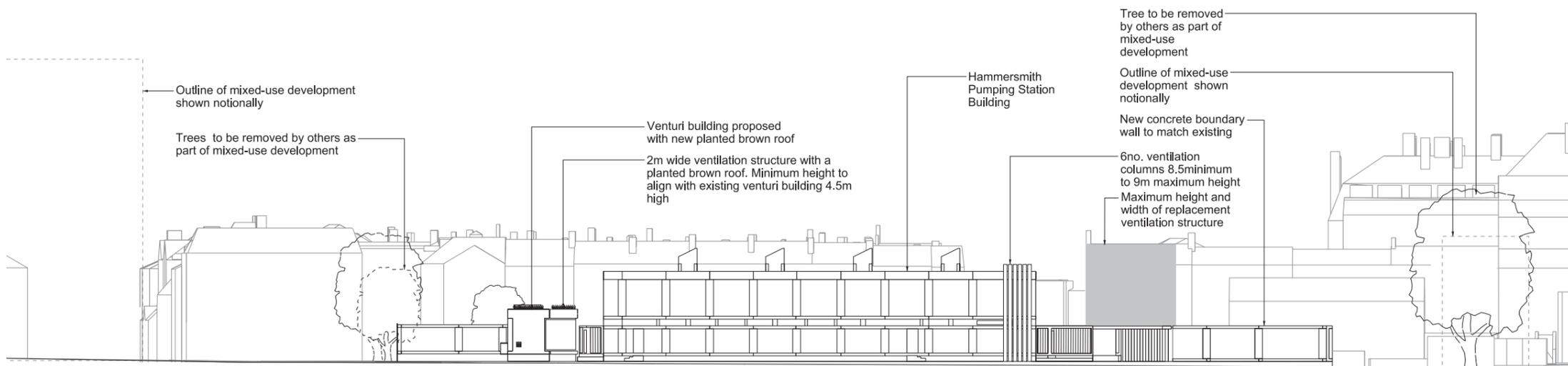
Coordinates are to be Ordnance Survey Datum OSGB36. All levels are in metres and relate to the Tunnel Datum which is 100 metres below Ordnance Datum Newlyn.

Notes:

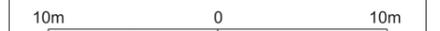
1. All dimensions and levels are approximate.



As Existing South elevation



Proposed South elevation



Scale 1:200 at A1
1:400 if reproduced at A3

ILLUSTRATIVE

Location
Hammersmith Pumping Station
London Borough of Hammersmith & Fulham

Document Information
Application for Development Consent

As existing and proposed
South elevation
Book of plans - section 6
DCO-PP-03X-HAMPS-060011
January 2013

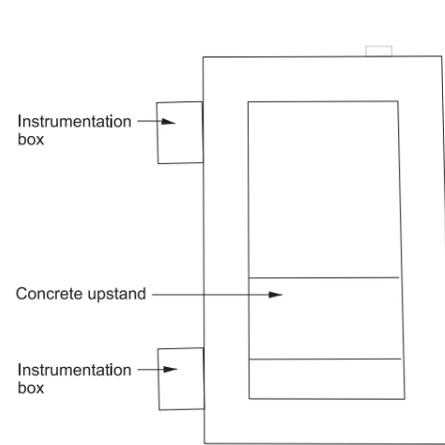




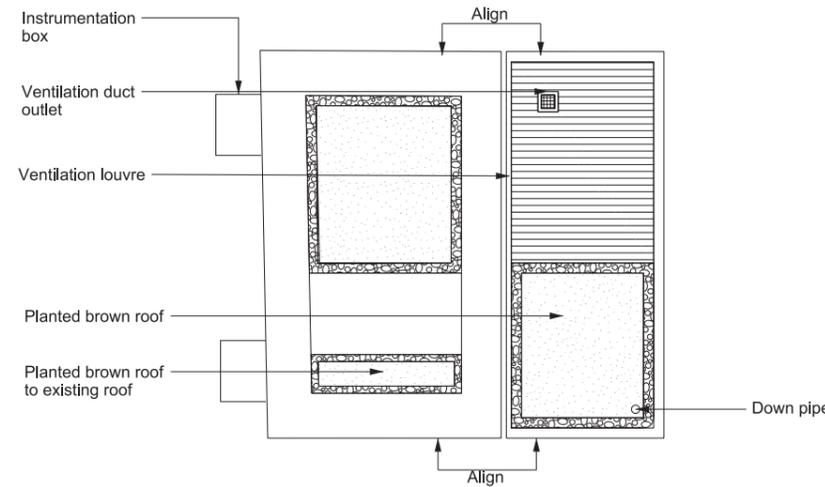
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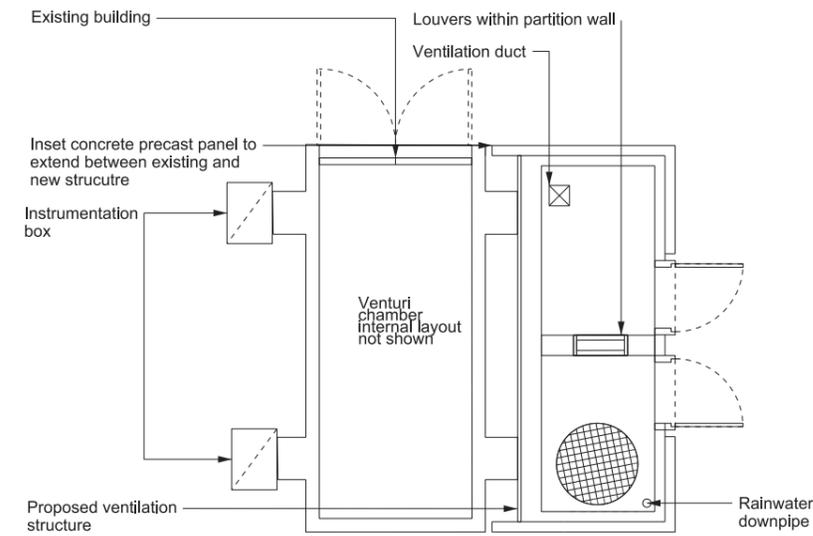
Coordinates are to be Ordnance Survey Datum OSGB36. All levels are in metres and relate to the Tunnel Datum which is 100 metres below Ordnance Datum Newlyn.



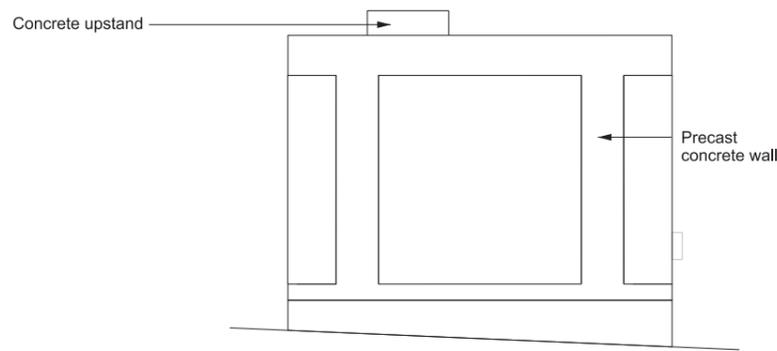
Existing roof plan



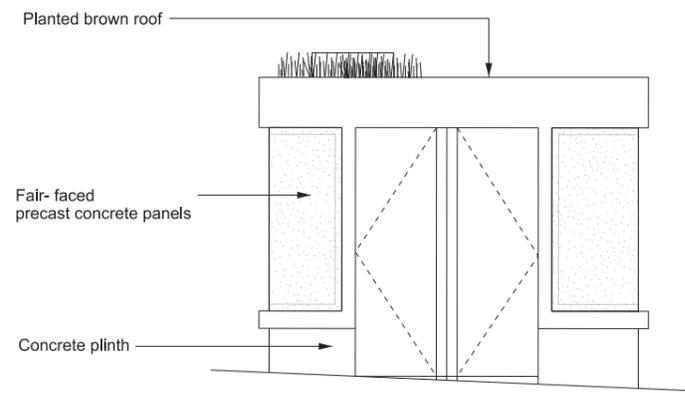
Proposed roof plan



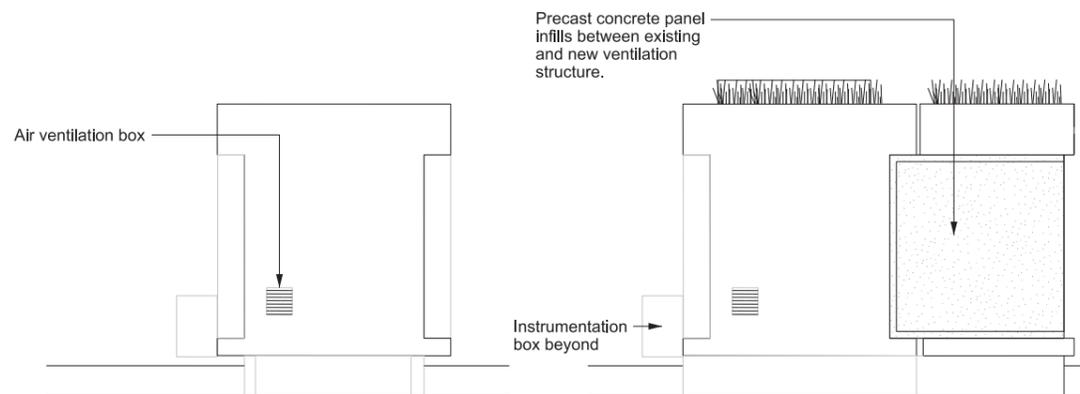
Proposed plan at ground level



Existing east elevation plan

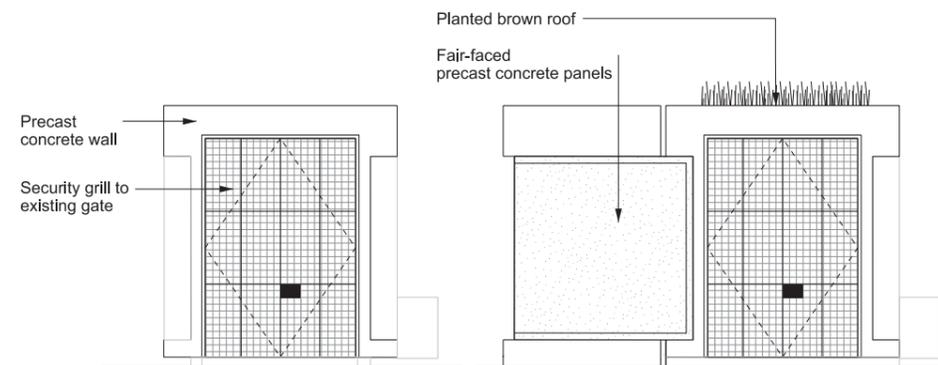


Proposed east elevation



Existing south elevation

Proposed south elevation



Existing north elevation

Proposed north elevation



Scale 1:50 at A1
1:100 if reproduced at A3

ILLUSTRATIVE

Save for the scale of the ventilation structure(s) which is indicative

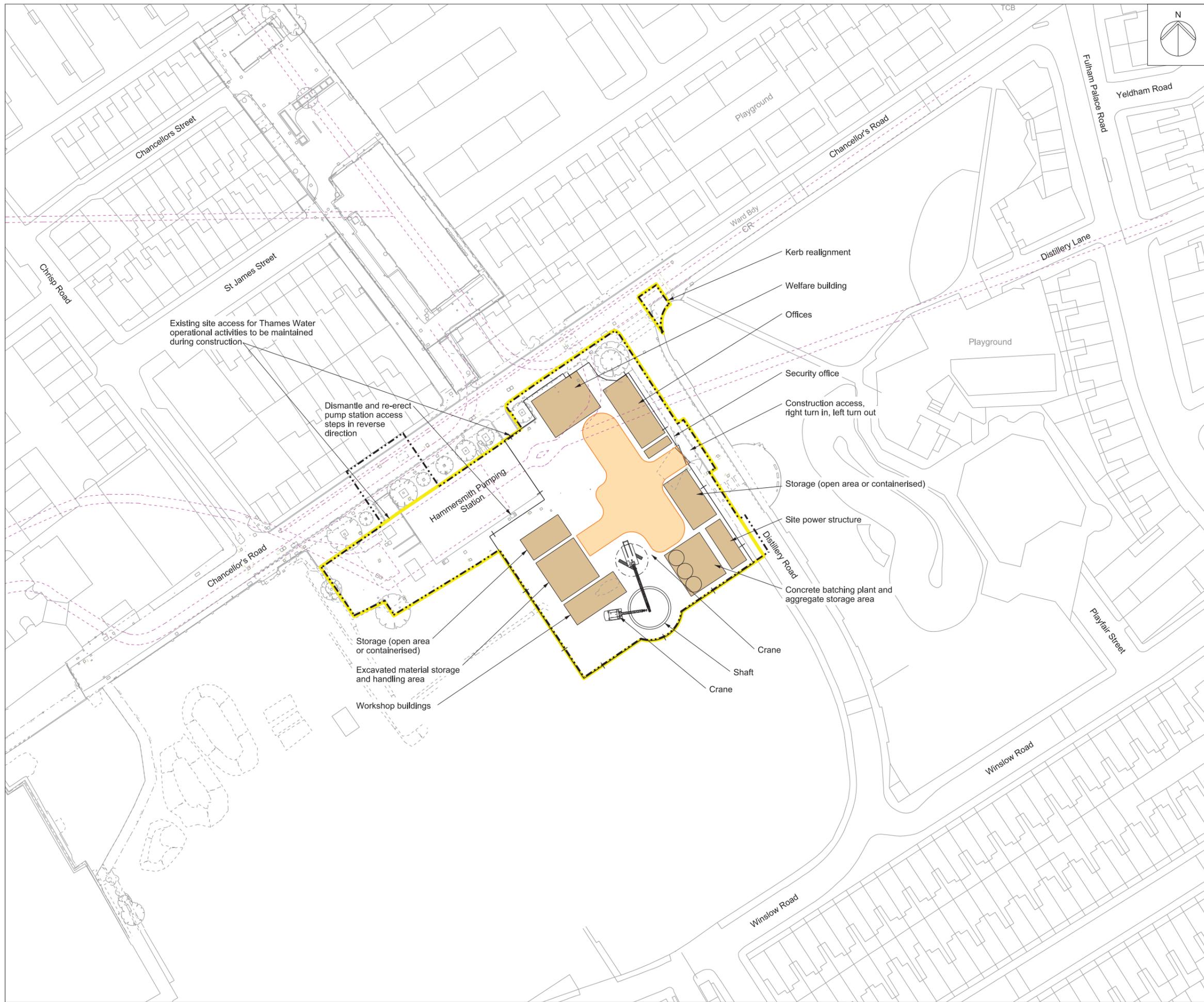
Location
Hammersmith Pumping Station
London Borough of Hammersmith & Fulham

Document Information
Application for Development Consent
Ventilation structure design intent

Book of plans - section 6
DCO-PP-03X-HAMPS-060012
January 2013

Thames Tideway Tunnel
Creating a cleaner, healthier River Thames





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- Key:**
- Limits of land to be acquired or used (LLAU)
 - Hoarding
 - Maximum extent of working area
 - Site access
 - Access / haul route
 - Existing sewers

- Notes :**
1. These construction phasing plans have been prepared to illustrate possible site layouts for the principle 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.

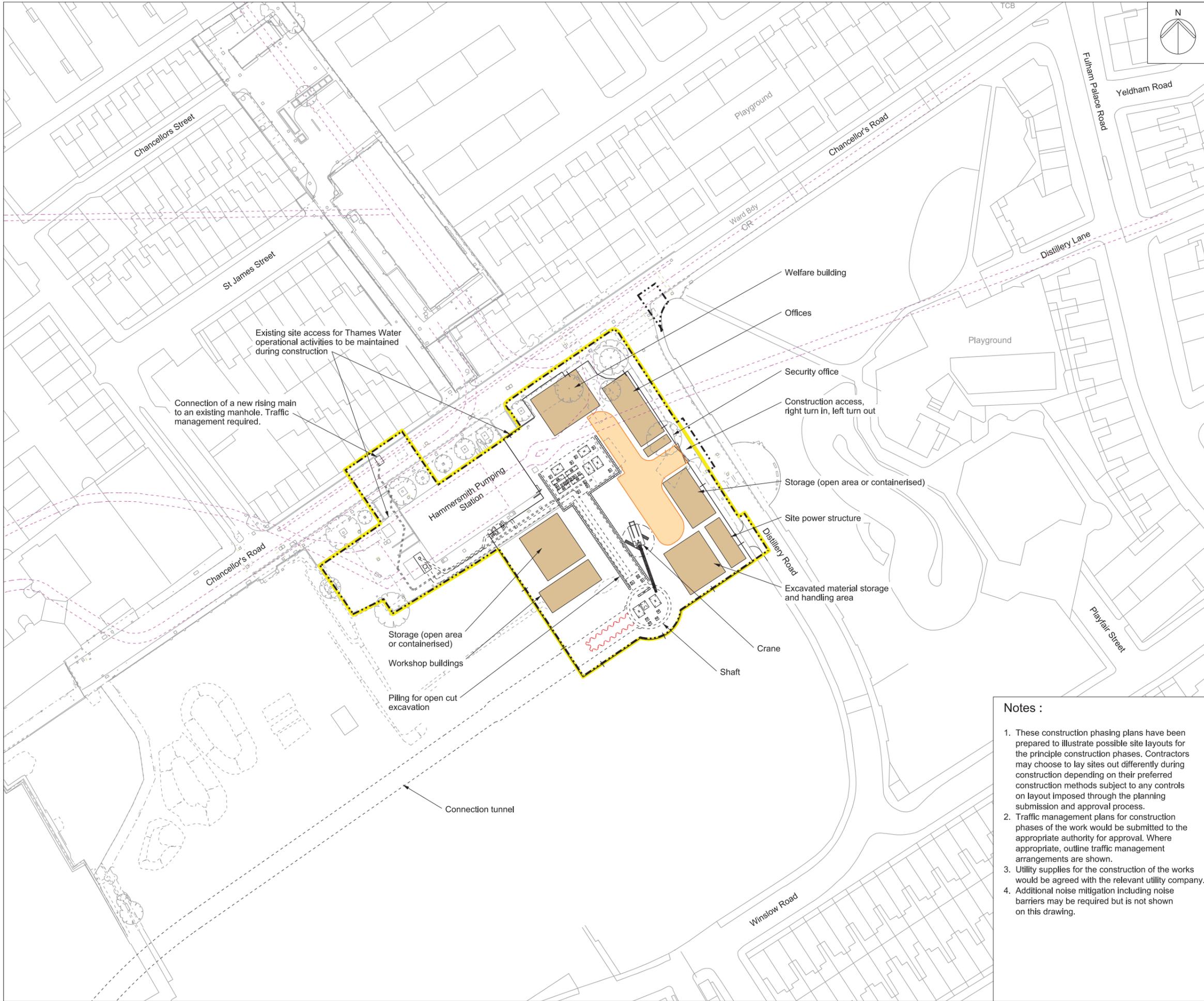


ILLUSTRATIVE

Location
Hammersmith Pumping Station
London Borough of Hammersmith & Fulham

Document Information
Application for Development Consent
Construction phases - phase 1
Site setup, shaft construction & tunnelling
Book of plans - section 6
DCO-PP-03X-HAMPS-060013
January 2013





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Key:

	Limits of land to be acquired or used (LLAU)
	Hoarding
	Maximum extent of working area
	Site access
	Access / haul route
	Existing sewers
	Sheet piles to be installed
	Secant piles installed



Notes :

1. These construction phasing plans have been prepared to illustrate possible site layouts for the principle 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.

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Location
Hammersmith Pumping Station
 London Borough of Hammersmith & Fulham

Document Information
Application for Development Consent
 Construction phases - phase 2
 Construction of other structures
 Book of plans - section 6
 DCO-PP-03X-HAMPS-060014
 January 2013



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