


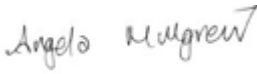
TFL_PSF_9131 SITE INVESTIGATIONS: SMALL SITES INITIATIVE LAND AT CHRISTCHURCH ROAD & BRIXTON HILL, LAMBETH, SW2 4AP

Site Ref: 901

Summary Report

JULY 2017

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Report No	205-UA009686-UP32R-02	
Date	JULY 2017	

VERSION CONTROL

Version	Date	Author	Changes
01	July 2017	Various	1 st issue
02	July 2017		Final Issue

This report dated 25 July 2017 has been prepared for Transport for London (TfL) (the "Client") in accordance with the terms and conditions of appointment dated 02 May 2017 (the "Appointment") between the Client and Arcadis Consulting (UK) Limited ("Arcadis") for the purposes specified in the Appointment. For avoidance of doubt, no other person(s) may use or rely upon this report or its contents, and Arcadis accepts no responsibility for any such use or reliance thereon by any other third party.

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1 Introduction

Arcadis Consulting (UK) Limited (Arcadis) has been commissioned by Transport for London (TfL) 'the Client' to undertake a number of technical surveys for a site at Land at Christchurch Road and Brixton Hill, Lambeth, London ('the Site').

TfL is aiming to divest a number of small sites to enable prospective regeneration. The objective of the survey work is to provide robust and pragmatic advice associated with arboriculture, ecology, archaeology and geotechnical and geo-environmental conditions. This report provides a summary of the technical surveys commissioned for the Site and reference should be made to the individual reports for further detailed information.

The site is currently undeveloped and vacant and is located in the borough of Lambeth. The site is centred at grid reference 530503,173418. It is approximately 0.32 ha in area and is currently a fenced area comprised of vegetation.

The immediate surrounding residential area is predominantly housing and open spaces. The A23 Streatham Hill road borders the site to the west. Christchurch Road runs along the northern border of the site.

The surveys carried out on the Site comprise the following;

- Topographical Survey (Ref 1);
- Ecological Assessment (Ref.2);
- Preliminary Tree Survey (Ref 3);
- Archaeological Desktop Review (Ref 4); and
- Preliminary Geotechnical and Geo-Environmental Report (Ref 5).

A summary of the findings of these surveys are detailed in the following sections.

2 Topographical Survey

The topographical survey indicates that the Site slopes gently down to the west with an approximate 2m change in height between the eastern (53.05m AOD north-east corner) and western (51.27m AOD north-west corner) sides of the site.

4 Ecology Assessment

The ecological assessment comprised a desk-based study using publicly available information and an ecological constraints survey to identify potential constraints present on Site.

Ecology does not present a significant constraint to the development of the Site.

The Site is not located within or near any statutory or non-statutory designated sites. The Site supported a limited range of habitats and was comprised of dense scrub, tall ruderals, managed and unmanaged amenity grassland with tall ruderals and scattered trees. Although the habitats on Site are generally of poor quality due to the lack of positive management and fly tipping, these habitats are valuable in terms of general green Infrastructure, likely performing important ecosystem services (such as water quality and volume attenuation, air quality attenuation etc.).

Within the Site, there was limited potential for protected or notable species. Nesting birds are likely to be utilising the trees and scrub on the Site, including potentially species listed on the London biodiversity Action Plan (BAP) such as house sparrow. Removal of all scrub vegetation on the Site will need to be conducted outside of the bird nesting season (March – August inclusive) or under an ecological watching brief.

Habitats present on Site, such as unmanaged amenity grassland and dense scrub are suitable for reptiles. All native reptiles in England are protected from intentional killing and injury, therefore site supervision with regards to this species during site clearance is recommended. Site clearance at ground level should be avoided during hibernation season between mid-October and April as disturbance during hibernation carries a high probability of mortality.

Not all of the trees on Site were fully inspected for roosting bat potential (access was limited due to the dense scrub present). None of the trees on Site which were inspected had any evidence of potential roost features (PRF's) for bats. Further tree inspections are recommended when access permits and when there is a greater level of information with regards to the potential impact on trees from future development.

No mammal burrows were observed on Site, however areas of dense vegetation were not fully inspected and fox earths may be present within those areas. Foxes are protected against inhumane injury or killing, therefore site supervision is recommended during any site clearance so that recommendations to humanely remove fox earths can be provided if required.

There is potential for grey squirrels to be breeding within the trees on Site. This species is non-native and of negligible ecological value, however squirrels are protected from inhumane injury or killing. If squirrel dreys are found on Site, these should be removed in a humane manner.

There is potential for the London Biodiversity Action Plan (BAP) species Stag beetle to be present within the Site. Site supervision with regards to this species during Site clearance is recommended and retention of an area a dead wood habitat on Site if stag beetle are confirmed to be present.

There will be some ecological benefit from the removal of non-native and invasive species listed on the LISI (London Invasive Species Initiative) list with regards to future development. Trees should be re-provisioned on the Site within any development. These should be of a suitable species and preferably native species of local origin. In addition, consideration to biodiversity roofs, rain gardens and other green infrastructure should be included in any development. There is the opportunity for enhancements for general biodiversity and green infrastructure and for London BAP species. Bird boxes for sparrows would be a valuable enhancement, along with appropriately located bat roosting boxes and dead wood loggeries if possible.

5 Arboricultural Survey

An arboricultural survey was conducted in accordance with British Standard 5837: 2012 Trees in Relation to Design, Demolition and Construction – Recommendations.

Some trees that were recorded within the study area (the Site and its immediate surroundings) are protected by two Tree Preservation Orders (TPO) that protect on-Site and off-Site trees. These Orders are the London Borough of Lambeth No.160 (Land fronting Streatham Hill and Christchurch Road) TPO 1980 and London Borough of Lambeth No.159 (Land between 6 Christchurch Road and Garden Lane) TPO 1980. Within the Site a total of five trees are protected by TPO No.160, one off-Site is protected by TPO No.160 and six off-Site trees are protected by TPO No.159.

While not likely to prevent development, tree protection for trees to be retained and tree re-provisioning for any trees lost due to development are a material consideration for planning determination. The TPOs may present constraints to the design and construction of this Site in terms of a reduction in potentially developable land if they are to be retained. For any works to trees covered by a TPO it is a requirement to contact the Local Planning Authority (LPA) and follow the appropriate procedures before undertaking any works that might affect the protected trees. The procedures require an application to the LPA to remove or undertake works on the TPO trees, a decision which can often take at least 2 months. This application to remove can also be incorporated into a planning application submission and subsequent decision. Consultation with the LPA is recommended at the earliest opportunity to determine the development parameters of the Site.

If trees cannot be replaced on-Site due to development, off-Site options for tree re-provisioning to ensure no net loss should be considered. Individual Local Planning Authority (LPAs) may ask for re-provisioning in excess of 1 to 1 for trees of Category A or B grade or ask for additional re-provisioning for trees with protected by a TPO.

The Site and the off-Site trees are not within a Conservation Area and there are no Planning Application Conditions protecting the trees.

A total of 23 arboricultural items were recorded within the study area. Three individual trees and one group were graded as Category A (trees of high quality), three individual trees and one group were graded as Category B (trees of moderate quality), four individual trees and two groups were graded as Category C (trees of low quality) and seven individual trees and two groups were graded as Category U (trees of poor quality unsuitable for retention).

On-site a London plane (*Platanus x hispanica*), and two common limes (*Tilia x europaea*) are all Category A trees and the London Plane and one of common limes are protected within the TPO No.160.

Two on-Site false acacias (*Robinia pseudoacacia*) (protected by TPO no.160) have been categorised as Category U trees given their dangerous structural form and they are located within failure distance of the public highway. One of these is protected by a TPO and a five days notice of an imminently hazardous and or dangerous tree has to be submitted to the LPA before any tree works take place.

The off-Site common limes are Category A and Category B trees and are protected within the TPO No.159. These trees have the potential to be an access constraint within any future development of the Site should the Green Lane need to be widened. Full consideration should be given to preventing impacts to these trees should Garden Lane be used as an access route for construction. The crowns are over growing Garden Lane and the roots are likely to be running underneath the lane. Any works to crown lift (i.e. to remove the basal branches of the tree) the trees and works that would prune the roots will require consent from the LPA. The off-Site horse chestnut within the TPO No.159 may also be within the zone of influence of any future development. The other trees covered within the TPO No 159 are not likely to be within the zone of influence of future development.

Should any future development proposal require the removal of trees or incursions into the Root Protection Areas (RPAs) of any trees, an Arboricultural Impact Assessment (AIA) would be required in support of any planning application.

Although a Preliminary Arboricultural Method Statement is presented within the Arboricultural Survey Report (Ref 3), a bespoke AMS may be required post planning and when the construction details are known by the LPA to protect the retained trees within and adjoining the Site.

All new tree planting should be in accordance with British Standard 8545: Trees: From Nursery to Independence in the Landscape – Recommendations, 2014; and all tree works must be carried out by a qualified contractor in accordance with BS3998:2010: Tree Work – Recommendations.

6 Archaeological Desktop Review

An archaeology desktop review has been carried out. This involved a rapid information-gathering and review of the Site and a 500m study area using information from publicly held sources. A brief assessment of potential heritage/archaeological constraints and opportunities at the Site has been made.

There are no scheduled monuments within the Site or study area. The Site is not within a Conservation Area or a Registered Park or Garden. There are 27 Listed Buildings within the study area, of all grades, but none within the Site boundary. The Site lies within an Archaeology Priority Area (APA), being located next to or on a Roman road.

Although the Site has potential for buried archaeological remains to exist, these heritage assets are not considered likely to prevent development on the Site.

However for any future planning application, the potential for below ground remains need to be fully evaluated. The Greater London Archaeological Advisory Service (GLAAS) who advise the local planning authority are likely to recommend a full archaeological desk-based assessment and an evaluation to be undertaken prior to planning permission being determined. This would include a specific archaeology Site walkover, a visit to the record office to gather historic maps and relevant documentary evidence, a map regression exercise as well as preparation of distribution maps showing designated and un-designated heritage assets. The evaluation would likely consist of a programme of trial trenching and subsequent reporting. If heritage assets of significance are encountered during the evaluation stage, there may be a requirement for further recording in the form of an excavation or watching brief. This may be delivered through a post-determination condition.

7 Geotechnical and Geo-Environmental Desk Study and Preliminary Site Investigation

The geo-environmental and geotechnical desk study comprised a review of existing historical and current information on the Site. The historical review indicated that terraced properties were recorded in the west before being removed and replaced with bungalows which occupied the entire Site until circa 1980 when they were demolished. Potential off-Site sources of contamination including a petrol filling station, garages, trams and depots have been recorded.

A preliminary site investigation has been undertaken comprising four window sampling boreholes to investigate ground conditions and to provide an indication of the levels of contaminants in the Site.

Potential risks to human health, controlled waters and the built environment have been identified from on-Site and off-Site sources. Gross contamination was not encountered during the preliminary ground investigation, however, concentrations of contaminants (lead, PAH and asbestos) within the Made Ground were recorded in excess of applicable guideline values for a sensitive residential development. However if apartments or retail with first floor flats are proposed, hardstanding is likely to cover the majority of the Site. This would reduce the risk to future end-users as potential pathways to the contaminants would be broken. Where soft landscaping is proposed (e.g. for gardens), a clean cover system is likely to be required to remove the risk.

Further development-specific ground investigation will be required to confirm the requirements for future development. These include (but not limited to):

- Confirm concrete design for sulphate resistance for foundations and services;
- Determine the extent and depth of buried obstructions within the Site;
- Further gas monitoring and assessment of the potential risk of ground gases to receptors, and to determine whether gas protection measures would be required for future development; and
- Consideration of shrinkage and swelling, trees, potential for relict shear slip surfaces and buried services may need to be considered during the design.

Based on the findings to date and assuming that the Site will be developed for residential use with gardens, it is anticipated that some remediation (off-site disposal, clean cover, gas membrane, basic asbestos monitoring and pipe upgrade but excluding foundation) may be required. Indicative costs are provided in the report (Ref. 5) which are based on the information known to date.

The west and central areas of the Site are considered to have a 'moderate' potential of encountering unexploded ordnance (UXO). For future excavations or piling which may be proposed within the east of the Site (Moderate UXO hazard level), a non-intrusive UXO detection survey, or monitoring by an Explosive Ordnance Clearance (EOC) Engineer where a survey is impractical, is recommended to mitigate the potential UXO risks. Further details are in the UXO report which is included as an Appendix in the Preliminary Geotechnical and Geo Environmental Report (Ref 5).

8 References

1. 40Seven (May 2017) Topographical Survey Land at Christchurch Road and Brixton Hill, Lambeth (Site Ref 901)
2. Arcadis Consulting (UK) Limited (July 2017) Land at Christchurch and Brixton Hill, Lambeth, SW2 4AP Ecological Survey (Report 202-UA009686-UE21R-02)
3. Arcadis Consulting (UK) Limited (July 2017) Land at Christchurch and Brixton Hill, Lambeth, SW2 4AP Preliminary BS5837 :2012 Tree Survey (Report 203-UA009686-UE21R-02)
4. Arcadis Consulting (UK) Limited (June 2017) Land at Christchurch and Brixton Hill, Lambeth, SW2 4AP Archaeological Desktop Review (Report Number 204 -UA009686-UE21R-04)
5. Arcadis Consulting (UK) Limited (July 2017) Land at Christchurch and Brixton Hill, Lambeth, SW2 4AP Preliminary Geotechnical and Geo Environmental Report (Report Number 201-UA009686-UP32R-01)

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