

# TFL\_PSF\_9131 SITE INVESTIGATIONS: SMALL SITES INITIATIVE QUEENSBURY CAR PARK, HARROW, HA8 6AT

## Summary Report

JANUARY 2020





# Queensbury Car Park, Harrow, HA8 6AT

## Summary Report

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## VERSION CONTROL

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## 1 Introduction

Arcadis Consulting (UK) Limited (Arcadis) has been commissioned by Transport for London (TfL) to undertake a number of technical surveys for a site referred to as Queensbury Car Park ('the Site').

TfL is aiming to divest a number of small sites to enable prospective regeneration. The objective of the Small Sites Initiative is to provide robust and pragmatic advice that sensibly de-risks each of the sites such that unreasonable "abnormal" development costs are not incurred by developers.

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 located in the London Borough of Harrow, in a mostly residential urban area. The Site covers 0.05 hectares, centred at National Grid reference (NGR) TQ 538414 190957.

The site occupies the eastern portion of a larger car park and is accessed from Turner Road to the north. Large transformers are located on the southern boundary and are likely associated with the railway line located immediately to the south on a small embankment.

The surveys carried out for Queensbury Car Park comprise the following;

- Topographical Survey (Ref 1);
- Geotechnical and Geo-Environmental Desk Study Report (Ref 2);
- Flood Risk Assessment (Ref 3); and
- Detailed Unexploded Ordnance Report (Ref 4);

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

## 2 Topographical Survey

The survey recorded levels of 47.64m AOD at the entrance of the car park and 46.34m AOD at the boundary with the railway line to the south. The positions of parking sensors and bays are indicated. Cameras with associated inspection chambers are indicated along with parking meters.

### 3 Geotechnical and Geo-Environmental Desk Study

The geo-environmental and geotechnical desk study comprises a review of existing historical and current information on the Site. No intrusive site investigations have taken place.

The site was undeveloped until it became associated with the railway circa 1932-1935. No associated rail structures were noted on the site and it was shown as developed into a car park from the 1977 map edition. Transformers are present adjacent to the southern boundary associated with the railway line.

Primary sources of on-site contamination are considered to be associated with Made Ground that may be present from the current use of the site as a car park. Fuel leaks/ spills may have occurred on the site as a result of its use as a car park, however this is expected to be limited due to the full cover of hardstanding across the site. Electricity substations to the north and northeast are considered to be a potential source of contamination as located upgradient and due to the proximity to the site.

Potential risks to human health and the built environment have been identified. No sensitive controlled water receptors were identified. It is recommended that an intrusive site investigation is carried out prior to redevelopment to quantify these risks. This should include the contamination testing of soils and leachates, groundwater monitoring and gas monitoring in accordance with best practices and current guidance.

Potential founding solutions will be dependent on the encountered thickness of Made Ground and the geotechnical properties of the natural deposits. Made Ground is generally considered unsuitable for foundations due to its variable composition and its potential for high total and differential settlement. Services may be present beneath the site which may require removal/ relocating prior to redevelopment.

If made ground cover is thin, and London Clay deposits are competent, conventional shallow foundations may be appropriate for the site. If made ground is thicker, deeper trench fill may be possible although the maximum practical extent of this type of foundation is in the region of 2-2.5m. In areas of deeper Made Ground, or if deeper soft / loose bands are recorded in the natural ground, either piling or ground treatment e.g. vibro-stone columns could provide a suitable foundation solution. The advice of a specialist ground improvement contractor should be sought to verify the suitability of the ground for treatment.

Risks associated with London Clay include high plasticity clay which are subject to volume change (shrinkage/swelling), and sulphate attack on buried concrete and cementitious materials. These soil characteristics should be determined during the investigation / design.

The close proximity to the railway line to the south may have restrictions on the minimum distance that excavations (including exploratory holes, trial pits and foundations) and development can be undertaken. Liaison with London Underground should be undertaken. The presence of transformers adjacent to the south boundary may also influence the form of development;

The Site is located in an area where there is a 'low' risk of encountering unexploded ordnance. Further assessment of the potential for encountering UXO is recommended.

## 4 Flood Risk Review

Flood risk to the Site from all potential sources has been considered in the Flood Risk Review.

The site is located in Flood Zone 1 on the Environment Agency (EA) Flood Map for Planning (Rivers and the Sea) and therefore has a 'very low' risk of flooding from rivers and the sea, equivalent to an annual chance less than 1 in 1,000 (0.1%). However, the site is shown to be at 'high' risk of surface water flooding according to the EA Risk of Flooding from Surface Water map. Areas at high risk of surface water flood risk such as this are defined in the West London Strategic Flood Risk Assessment (SFRA) as being located within Flood Zone 3a (surface water) and treated as such with regards to planning policy.

No other local sources of flooding are considered to pose an onerous risk to the site in the context of its potential redevelopment.

According to the SFRA, a Flood Risk Assessment (FRA) would be necessary to support future redevelopment of the site due to its location in Flood Zone 3a (surface water). The Planning Practice Guidance indicates that the site would be suitable for most types of development, including residential uses subject to a detailed assessment and passing the appropriate planning tests (requirement dependant on proposed use).

On the basis of this review, flood risk from surface water is considered to be a potential constraint to development at the site. Further investigation and consultation with London Borough of Brent is recommended to support any planning application at the site.

Alongside an FRA, a Drainage Strategy should also be prepared to support future redevelopment of the site to ensure that proposals meet national and local requirements and off-site flood risk is not increased as a result of redevelopment proposals.



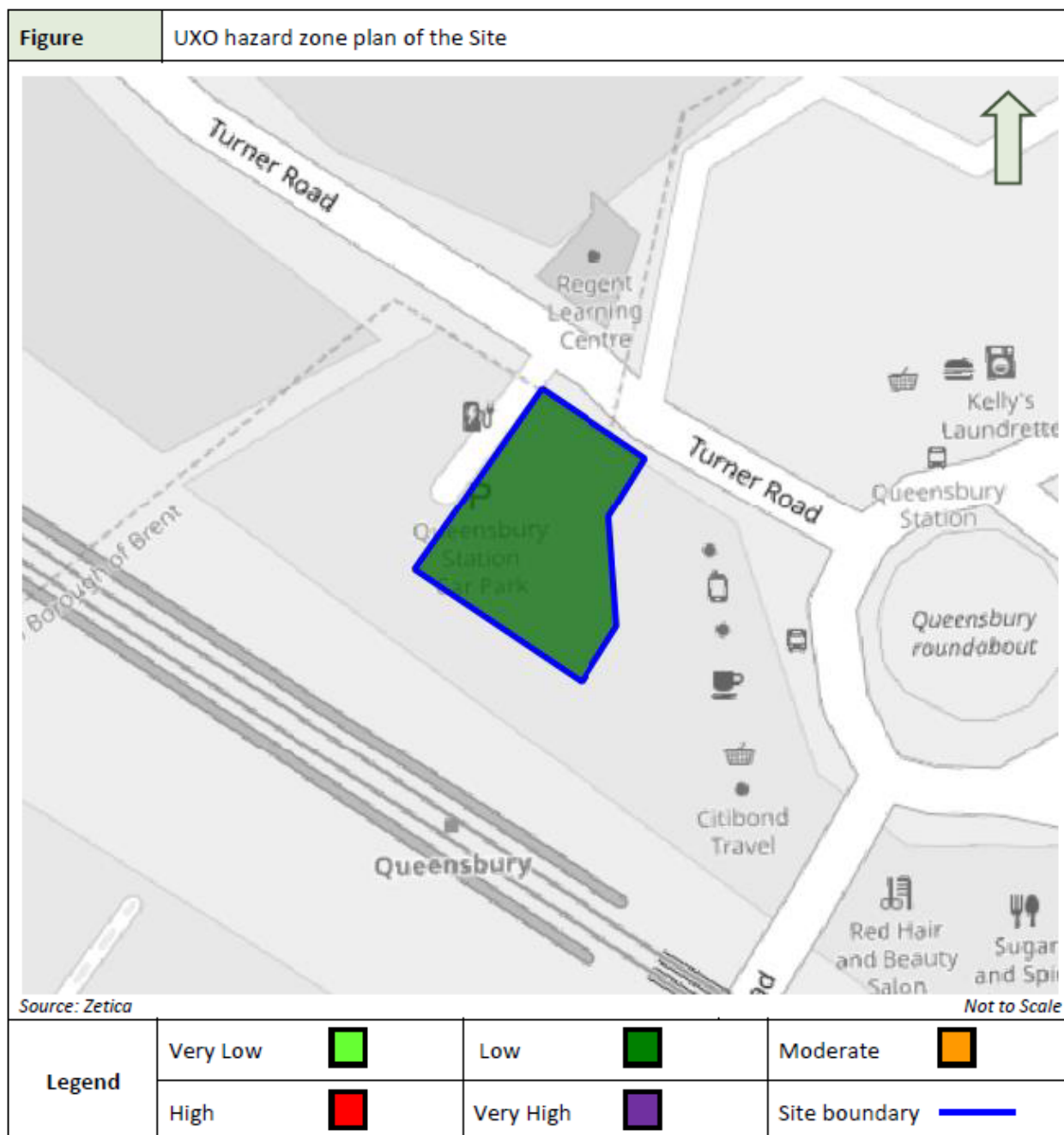
## 5 Detailed Unexploded Ordnance Report (Zetica)

**Key findings:** No sources of Unexploded Ordnance (UXO) hazard have been identified.

**Key actions:** Proceed with works.

No records have been found indicating that the Site was bombed and no other significant sources of UXO hazard have been identified on the Site.

Given this, it is considered that the Site has a low UXO hazard level, as shown in the figure below and reproduced as Figure 5 in the Zetica report.



The main findings of the report are summarised below.

- No records of bombing or military activity on the Site during World War One (WWI) have been found.
- During World War Two (WWII) the main strategic targets in the vicinity of the Site included Queensbury Station, Royal Air Force (RAF) Hendon, and the De Havilland aircraft manufacturing works.
- No records have been found indicating that the Site was bombed during WWII. Records indicate that the nearest High Explosive (HE) bomb fell approximately 0.2km southwest of the Site.
- No records of military activity on the Site post-WWII have been found.

The Zetica report should be reviewed to fully understand the risk associated with developing the site and the mitigation measures that should be put in place.

## 6 References

- 1) 40Seven (2020), Queensbury Car Park, Topographical Survey (Drawing Number 1178\_P\_Queensbury Car Park)
- 2) Arcadis Consulting (UK) Limited (2020) Queensbury Car Park, Geotechnical and Geo Environmental Desk Study (Report Number 10038043-ARC-01-XX-RP-YY-0001-01-Geo Report\_Queensbury)
- 3) Arcadis Consulting (UK) Limited (2020) Queensbury Car Park, Flood Risk Assessment (Report Number 10038043-ARC-01-XX-RP-YY-0002-01-Flood Risk Review\_Queensbury)
- 4) Zetica Ltd (2020) UXO desk Study & Risk Assessment, Queensbury Car Park (P9364-20-R6)

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