



ORPINGTON FIRE STATION
Avalon Road
London N1

London Borough of Bromley

Report on an archaeological evaluation

April 2014



ORPINGTON FIRE STATION
Avalon Road
Bromley
BR6 9AX

Site Code AVA13
NGR 547008 165811
OASIS reference

Planning reference DC/12/03194/FULL
DC/12/03144/FULL1
Condition Numbers 4 & 17

Report on archaeological evaluation

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Summary

This report presents the results of an archaeological evaluation carried out by MOLA at Orpington Fire Station, Bromley BR6 9 AX. The report was commissioned from MOLA by Kier Construction.

In accordance with the Written Scheme of Investigation (February 2013a), 6 evaluation trenches were excavated on the site; four between the 10th and 11th September 2013 and two on 15th April 2014.

A standing building record was made of the fire station buildings prior to demolition (MOLA 2013b). No archaeological remains were found on the site. Natural chalk was truncated below the footprint of the demolished fire station and the external grassed and garden areas that surrounded the building.

The report concludes that as no archaeological remains were found on the site there will be no impact by the proposed redevelopment on the site.

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1 Introduction

1.1 Site background

- 1.1.1 An archaeological evaluation was carried out by MOLA at Orpington Fire Station ('the site') between 10th September 2013 and 15th April 2014 (Fig 1). This document is the Report on that work.
- 1.1.2 A written *Historic Environment Assessment* was previously prepared, which covered the whole area of the site (MOLA 2012). This document should be referred to for information on the natural geology, archaeological and historical background of the site, and the initial interpretation of its archaeological potential.

1.2 Planning background

- 1.2.1 The legislative and Planning framework in which the evaluation took place was fully set out in the Historic environment assessment (MOLA 2012 section 10). A *Written Scheme of Investigation* forms the project design for the evaluation (MOLA 2013a). To summarise here:
- 1.2.2 The evaluation was carried out to fulfil a condition attached to the Planning Consent given by Local Authority (Consent references DC/12/03194/FULL1 and 12/03144/FULL1); Condition numbers 1 and 17).

1.3 Scope of the evaluation

- 1.3.1 Evaluation is defined by English Heritage as intended to provide information about the archaeological resource in order to contribute to the:
- 1.3.1.1 - *formulation of an appropriate response or mitigation strategy to planning applications or other proposals which may adversely affect such archaeological remains, or enhance them; and/or*
- 1.3.1.2 - *formulation of a proposal for further archaeological investigations within a programme of research*
- 1.3.2 An archaeological evaluation is a limited fieldwork exercise designed to test the conclusions of preliminary desk based work. It is not the same as full excavation.
- 1.3.3 The evaluation was carried out within the terms of the relevant Standard for evaluation specified by the Institute for Archaeologists (IFA, 2008).
- 1.3.4 All work has been undertaken within the research priorities established in the Museum of London's *A research framework for London Archaeology*, 2002. All work was undertaken within research aims and objectives established in the *Written Scheme of Investigation* for the

evaluation (Section 2.2). For this evaluation the following broad research questions were outlined:

- What is the nature and level of natural topography?
- What are the earliest deposits identified?
- Is there any evidence of prehistoric activity on the site and if present how does it relate to that recorded in the vicinity of the site?
- Is there any evidence of Roman activity on the site and if present how does it relate to that recorded in the vicinity of the site?
- Is there any evidence of medieval or post-medieval activity on the site?
- Is there any evidence of structures that pre-date the existing fire station and if so what is their date and significance?
- What is the nature and significance of the surviving archaeological remains?
- What are the latest deposits identified?

2 Topographical and historical background

A detailed description of the geology, archaeology and history of the site was provided in the earlier *Historic environment assessment* (MOLA 2012). A brief resume is provided here:

The site lies on the south-eastern side of the Upper Cray river valley, with the River Cray located c 890m to the west of the site. The underlying geology of the site comprises chalk that is likely to lie fairly close to the present ground surface. Previous boreholes and window samples undertaken on the site by the Harrison Group revealed up to 0.55m deposits of made ground overlying chalk and head deposits at the north-west and south-east of the site. At times the existing concrete surface on the site either directly overlay chalk or head deposits.

Numerous prehistoric finds have been found within the site vicinity, including two Mesolithic flint working sites, a late Neolithic/early Bronze Age settlement, and a possible Bronze Age settlement. The site is located close to the predictable resources of the Cray River, and on chalk which appears to have been mined in prehistoric times, and would have been ideal for occupation during this period (Meekums 2001). The site location close to the River Cray which would have attracted prehistoric activity and the area would have been suitable for occupation during this and later periods. Two late Neolithic/early Bronze Age settlement sites have been recorded in the vicinity, the nearest of which is located c 450m to the north-east of the site where an archaeological evaluation and excavation at Quilter Gardens, Tintagel Road revealed evidence of a previously unknown prehistoric settlement. Pits contained pottery, struck flints, large numbers of fire cracked flints and fragments of quern stone and were dated to the Late Neolithic or Early Bronze Age. Nearby were two large shafts contained small amounts of material derived from the adjacent settlement area and were interpreted as either ritual or mining evidence.

Several Roman finds have been recorded within the site vicinity, and a small Roman settlement or farmstead was excavated c 470m to the north-east of the site at Ramsden School playing fields during the building of Ramsden Boys School. The site revealed possible corn-drying kilns, post holes, storage pits and ditches, and finds of pottery, bronze brooches, glass, bones and an antler. A possible Iron Age stockaded enclosure may have become a double-ditched enclosure in the Roman period, possibly a staging camp on the road to London, the road abutting the east side of the enclosure. Although this is unlikely to have extended as far south as the site, associated remains, such as field systems, may have been present in the vicinity and the site has a moderate potential for Roman remains.

Little evidence dating to the early and later medieval period has been recorded within the site vicinity. In all likelihood the site lay outside the main settlements of Orpington and Goddington in open fields or woodland. Cartographic sources show that prior to the construction of Orpington Fire

Station in the 1960s the site lay within open fields and historic maps from the late 18th century onwards show no development within the site prior to this date. The main station building was constructed in 1958 and is of two storeys with a brown brick drill tower to the rear. There are further brick garage buildings within the station yard and brick buildings for storage and serving as the station gym. The whole complex is considered to be of low to medium significance as a heritage asset for its evidential value for its good survival from its original design.

The *Historic environment assessment* undertaken for the site (MOLA 2012) concluded that the site has a moderate potential for prehistoric and Roman remains, a low potential for medieval and post-medieval remains as the site was located in open fields outside the main settlements of Orpington and Goddington.

3 Evaluation methodology

3.1 Field methodology

- 3.1.1 Six evaluation trenches c 6m by 2m by 0.90m deep were excavated in two phases with trenches 2, 3 4 and 5, located within the open area to the rear (north) of the fire station, excavated in September 2014. Trenches 1 and 6 were excavated post-demolition of the fire station in on 15th April 2014. Some of the trenches were relocated due to the presence of obstructions or live utilities.
- 3.1.2 The slab was broken out and cleared by contractors under MOLA supervision. Trenches were excavated by machine by the contractors, and monitored by a MOLA supervisor.
- 3.1.3 Archaeological excavation was carried out in accordance with the *Written Scheme of Investigation* (MOLA 2013a)
- 3.1.4 Trench locations were surveyed on site by MOLA surveyors and subsequently tied to the OS grid by MOLA Geomatics.

3.2 Recording methodology

- 3.2.1 A written record of the deposits encountered was carried out in accordance with the *Written Scheme of Investigation* (MOLA 2013a).

3.3 Site archive

Number of trench record sheets	6
Number of overall location plans	1
Number of Context (SU) sheets	0
Number of photographs	19
Number of Plan sheets	0
Number of Sections	0
Total	26

4 Results of the evaluation

For trench locations see (Fig 2)

4.1 Trench 1

Location	South-west area of site
Dimensions	6m by 2m by 1m depth
Modern ground level/topsoil	76.09-76.39m OD
Base of modern fill	75.16-74.39m OD
Depth of archaeological stratigraphy above natural (if any)	No archaeological deposits
Level of base of lowest features or deposits observed	N/A
Top of surviving natural observed at	75.44m OD chalk
Level of base of trench	75.16m OD (S) – 75.39m OD (N)

4.1.1 Trench 1 was excavated on 15th April 2013 and located in the southwest corner of the site (Fig 3). Natural chalk, overlain by redeposited clay with flints and gravel containing modern slate and brick fragments was recorded at a height of 75.44m OD. The remains of topsoil was recorded at the southern end of the trench sealing the redeposited material. No archaeological remains were recorded.

4.2 Trench 2

Location	West side of the site
Dimensions	6m by 2m by 0.73m depth (1.35m depth south end)
Modern ground level	75.11m OD
Base of modern granular fill	74.98.m OD
Depth of archaeological stratigraphy above natural	No archaeological deposits
Level of base of lowest features or deposits observed	N/A
Top of surviving natural observed at	74.98m OD Head; 74.39m OD Chalk
Level of base of trench	74.32m OD; sondage at south end of trench 73.83m OD

4.2.1 Trench 2 was excavated on 10th September 2013 and located on the west side of the site (Fig 4). A sondage at the south of the trench was excavated to verify the depth of the natural chalk. Natural chalk, overlain by Head (decayed chalk) was found immediately below the modern “make-up”, at a height of 74.39m OD. No archaeological remains were recorded.

4.3 Trench 3

Location	North-east side of the site
Dimensions	6m by 2m by 0.68m depth (0.92m depth west end)
Modern ground level	74.90m OD
Base of modern granular fill	74.70.m OD
Depth of archaeological stratigraphy above natural	No archaeological deposits
Level of base of lowest features or deposits observed	N/A
Top of surviving natural observed at	74.70m OD Head; 74.24m OD Chalk
Level of base of trench	74.31m OD; sondage at west end of trench 73.88m OD

4.3.1 Trench 3 was excavated on 10th September 2013 and located on the north-east side of the site (Fig 5). Natural chalk, overlain by Head (decayed chalk) was found immediately below the modern “make-up”, at a height of 74.24m OD. No archaeological remains were recorded.

4.4 Trench 4

Location	East side of the site
Dimensions	6m by 2m by 0.74m depth
Modern ground level – grass and topsoil	75.18m OD
Base of modern landscape fill	74.94.m OD
Depth of archaeological stratigraphy above natural (if any)	No archaeological deposits
Level of base of lowest features or deposits observed	N/A
Top of surviving natural observed at	74.84m OD Head; 74.68m OD Chalk
Level of base of trench	74.44m OD

4.4.1 Trench 4 was excavated on 10th September 2013 and located on the west side of the site, on a grass verge (Fig 6). The trench was relocated a few metres further south from its proposed position due to an obstruction. Natural chalk, overlain by Head (decayed chalk) was found immediately below the modern “make-up”, at a height of 74.68m OD. No archaeological remains were recorded.

4.5 Trench 5

Location	East side of the site
Dimensions	6m by 2m by 0.90m depth
Modern ground level	74.90m OD
Base of modern granular fill	N/A
Depth of archaeological stratigraphy above natural (if any)	No archaeological deposits
Level of base of lowest features or deposits observed	N/A
Top of surviving natural observed at	74.90m OD Head; 74.40m OD Chalk
Level of base of trench	74.40m OD

4.5.1 Trench 5 was excavated on 10th September 2013 and located on the east side of the site (Fig 7). The trench was relocated a few metres further north of its proposed location as its southern end would have projected beyond the footprint of the available construction area. Natural chalk, overlain by Head (decayed chalk) was found immediately below the modern fill, at a height of 74.40 OD. No archaeological remains were recorded.

4.6 Trench 6

Location	South-east side of the site
Dimensions	6m by 2m by 0.70m depth
Modern ground level	75.62m OD (N) – 75.72m OD (S)
Base of modern landscape fill	75.08m OD
Depth of archaeological stratigraphy above natural	No archaeological deposits
Level of base of lowest features or deposits observed	N/A
Top of surviving natural observed at	75.00m OD Chalk

Level of base of trench	74.96m OD
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4.6.1 Trench 6 was excavated on 15th April 2014 and located on the west side of the site, on a grass verge (Fig 8). The location of the trench was moved further to the north and west, due to the siting of port cabins. Natural chalk, overlain by redeposited mixed Head (decayed chalk) and chalk was found at a height of 75.08m OD. No archaeological remains were recorded.

4.7 The finds

4.7.1 No finds were recovered from the evaluation trenches

4.8 The site as a whole

4.8.1 The evidence from the evaluation trenches indicates extensive levelling of the area prior to the construction of the fire station. The evaluation trenches (4 and 6) that lay beyond the footprint of the building indicate that these areas were subject to modern landscaping, in order to create the accompanying grassed and garden areas on the south and east side of the fire station. Assessing the results from all the trenches, it appears that there is no archaeological survival on the site (Fig 9).

5 Archaeological potential

5.1 Answering original research aims

- *What is the nature and level of natural topography?*

5.1.1 The underlying geology consists of natural chalk overlain by Head. The heights of the underlying natural chalk reflected the gradual slope down to the south. At its highest, in Trench 1, the natural chalk was recorded at 75.44m OD and its lowest, in Trench 3, at 74.24m OD.

- *What are the earliest deposits identified?*

5.1.2 The earliest deposits identified are geological and consist of natural chalk overlain by Head.

- *Is there any evidence of prehistoric activity on the site and if present how does it relate to that recorded in the vicinity of the site?*

5.1.3 No evidence for prehistoric activity was found on the site.

- *Is there any evidence of Roman activity on the site and if present how does it relate to that recorded in the vicinity of the site?*

5.1.4 No evidence for Roman activity was found on the site.

- *Is there any evidence of medieval or post-medieval activity on the site?*

5.1.5 No evidence for medieval or post-medieval activity was found on the site.

- *Is there any evidence of structures that pre-date the existing fire station and if so what is their date and significance?*

5.1.6 No evidence for structures was found on the site

- *What is the nature and significance of the surviving archaeological remains?*

5.1.7 No archaeological remains were found on the site.

- *What are the latest deposits identified?*

5.1.8 In evaluation trench 4, a clinker horizon overlain by redeposited chalk and topsoil, on the east side of the site demonstrate 20th century landscaping in association with the construction of the fire station.

5.2 General discussion of potential

5.2.1 The evaluation has shown that the potential for survival of ancient ground surfaces (horizontal archaeological stratification above natural ground) on the site is negative.

5.3 Proposed development impact and conclusions

- 5.3.1 Taking into account the results in all the trenches it appears that no archaeological deposits survive on the site.
- 5.3.2 The proposed redevelopment at the site involves the construction of a two-storey fire station with associated wash-down, drill tower, yard, car parking, landscaping and alterations to the current access
- 5.3.3 In the light of the results of the evaluation MOLA considers that the no further archaeological investigations are necessary in advance of any further ground reduction.
- 5.3.4 The decision on the appropriate archaeological mitigation to the deposits revealed rests with the Local Planning Authority.

6 NMR OASIS archaeological report form

OASIS ID: molas1-177136

Project details

Project name	Orpington Fire Station
Short description of the project	Six evaluation trenches were excavated on the site; four between the 10th and 11th September 2013 and two on 15th April 2014. No archaeological remains were found on the site. Natural chalk was truncated below the footprint of the demolished fire station and the external grassed and garden areas that surrounded the building. The report concludes that as no archaeological remains were found on the site there will be no impact by the proposed redevelopment on the site.
Project dates	Start: 10-09-2013 End: 16-04-2014
Previous/future work	No / No
Any associated project reference codes	AVA12 - Site code
Type of project	Field evaluation
Site status	Local Authority Designated Archaeological Area
Current Land use	Other 15 - Other
Methods & techniques	"Targeted Trenches"
Development type	Public building (e.g. school, church, hospital, medical centre, law courts etc.)
Prompt	Planning condition
Position in the planning process	After full determination (eg. As a condition)

Project location

Country	England
Site location	GREATER LONDON BROMLEY ORPINGTON Orpington Fire Station, Avalon Road, Bromley
Postcode	BR6 9AX
Study area	2301.00 Square metres
Site coordinates	TQ 47 65 51.3644928133 0.111820537377 51 21 52 N 000 06 42 E Polygon
Height OD / Depth	Min: 74.24m Max: 75.44m

Project creators

Name of Organisation	MOLA
Project brief originator	MOLA project manager
Project design originator	MOLA
Project director/manager	Michael Smith
Project supervisor	Portia Askew
Type of sponsor/funding body	Kier Construction
Name of sponsor/funding body	Kier Construction

Project archives

Physical Archive Exists?	No
Digital Archive recipient	LAARC
Digital Archive ID	AVA12
Digital Contents	"none"
Digital Media available	"GIS","Survey","Text"
Paper Archive recipient	LAARC
Paper Archive ID	AVA12
Paper Contents	"none"
Paper Media available	"Diary","Photograph","Report","Survey ","Unpublished Text"

Project bibliography 1

Publication type	Grey literature (unpublished document/manuscript)
Title	Orpington Fire Station - An archaeological Evaluation Report
Author(s)/Editor(s)	Askew, P
Date	2014

Issuer or publisher	MOLA
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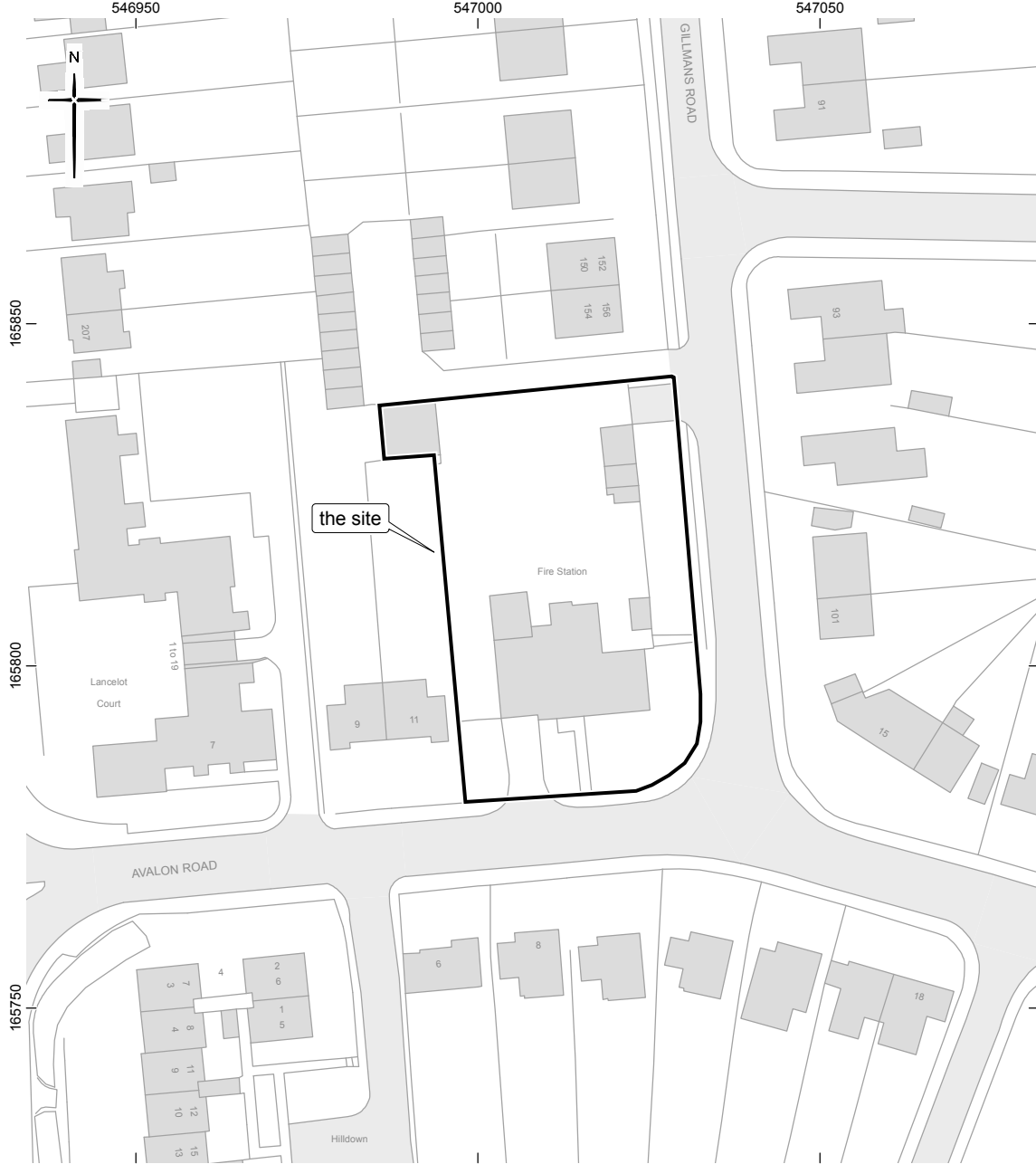
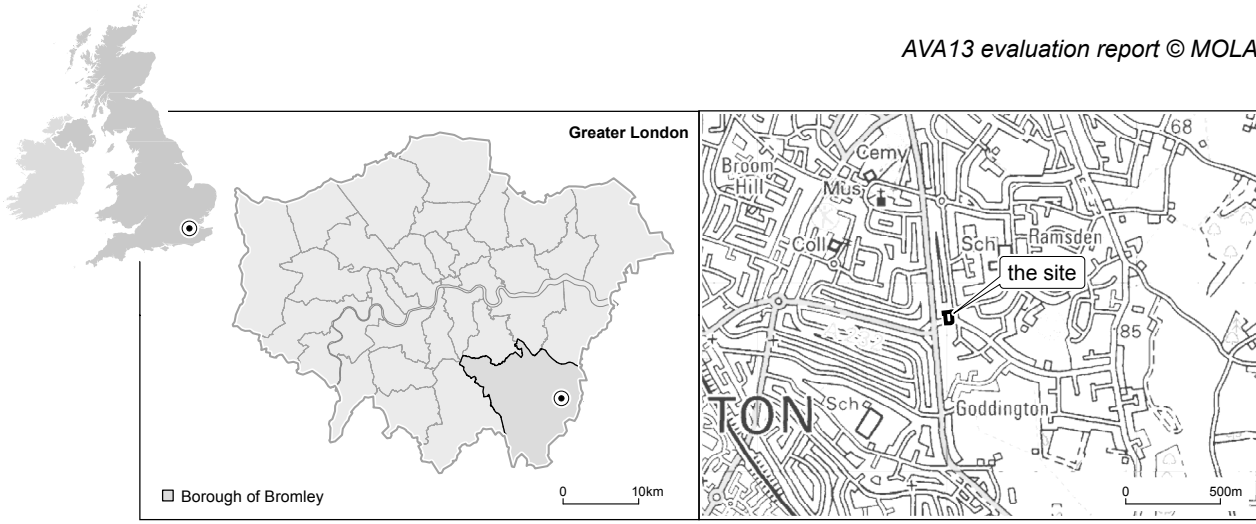
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Scale 1:1,000 @ A4

0 50m

Fig 1 Site location



Fig 2 Archaeological evaluation areas



Fig 3 Photo of Trench 1



Fig 4 Photo of Trench 2 (looking north) showing a member of the MOLA Geomatics team using GPS to locate the trench



Fig 5 Photo of Trench 3 (looking west) showing a member of the MOLA Geomatics team using GPS to locate the trench



Fig 6 Photo of Trench 4 (looking east) showing MOLA archaeologists recording the trench



Fig 7 Photo of Trench 5 (looking south-west) showing a member of the MOLA Geomatics team using GPS to locate the trench



Fig 8 Photo of trench 6

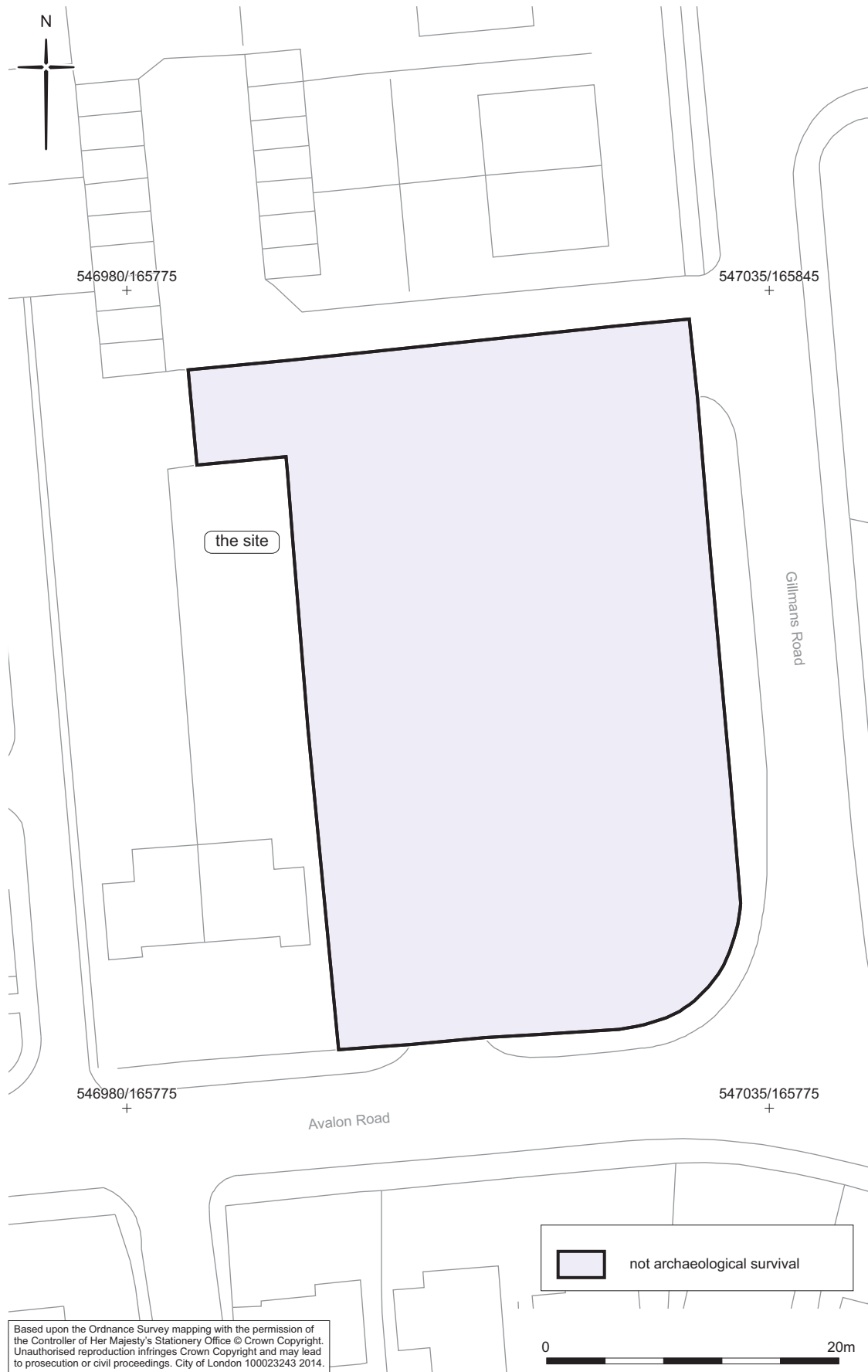


Fig 9 Archaeological survival plan