INSTALLATION OF A PRESSURE-REDUCING VALVE ON HIGHFIELD ROAD, DARTFORD, DA1 2EW

AN ARCHAEOLOGICAL WATCHING BRIEF

November 2016



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AN ARCHAEOLOGICAL WATCHING BRIEF

Site code: HFR16

Site NGR (centre): TQ 53859 74089

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November 2016

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Abstract

Compass Archaeology conducted an archaeological watching brief during the installation of a pressure-reducing valve on the west side of Highfield Road, Dartford, outside of the Magistrates Court.

The watching brief was deemed necessary due to the site's location within the Archaeological Priority Area of the 'Early Town' and the Dartford Town Centre Conservation Area.

A single pit to access the water main was dug to a depth of up to 1.5m. Natural geology was not reached, only 19th century made ground including a previous road surface was exposed at a depth of c530mm below the existing ground surface.

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1 INTRODUCTION

1.1 This document forms a summary of the results of an archaeological watching brief undertaken on the 25th of October 2016 monitoring excavations associated with the installation of a pressure-reducing valve onto an existing water main, on the west side of Highfield Road, Dartford, (TQ53859 74089) (figs.1, and 2).

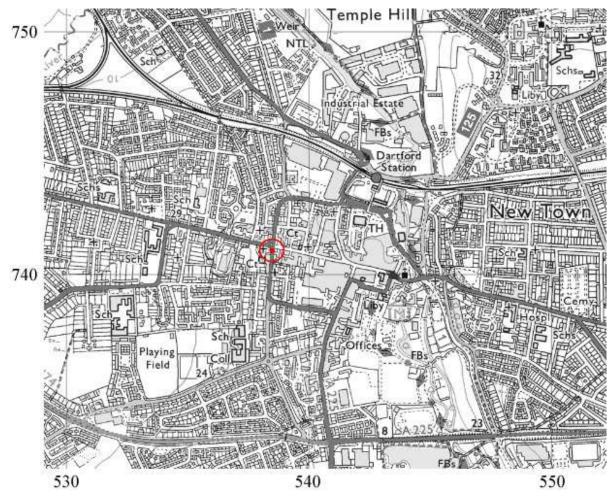


Fig.1: OS location map

1.2 The watching brief was commissioned by Claire Hallybone, on behalf of Thames Water Utilities. The County Archaeological Officer considered that it would be appropriate for the works to be monitored by an archaeological contractor in order to observe, identify, excavate and record archaeological remains; especially as the excavations are located within both an Archaeological Priority Area surrounding the 'Early Town' and the Dartford Town Centre Conservation Area.

2 SITE LOCATION, GEOLOGY AND TOPOGRAPHY

- 2.1 The works were located on the west side of Highfield Road, Dartford, close to the intersection between Highfield Road aligned north-south, and West Hill to the west and Spital Street to the east. The excavations were undertaken within the main carriageway of the road, adjacent to Dartford Magistrates' Court.
- 2.2 According to the British Geology Survey, Sheet 271: Dartford, (see fig.2 below), the site lies on the western edge of the alluvial corridor associated with the River Darent, forming a north-south valley. The site is located on the border between the riverine Taplow Gravels on the edge of the floodplain to the east and the Upper Chalk to the west. Further up the slope to the west lie Boyn Hill Gravels. Pockets of Thanet Sand break up the chalk and gravels, and thin spines of made ground denote the lines of railway sidings, whilst larger areas denote quarrying activities.

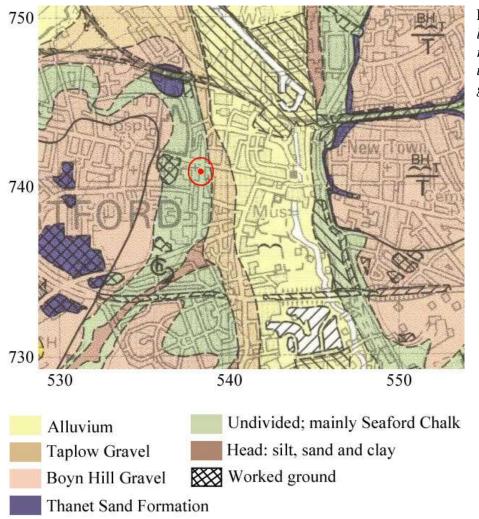


Fig.2: The site location in relation to the underlying geology

2.3 The site lies at approximately 7.00mAOD. The site is situated at the base of a relatively sharp slope rising both to the south where it rises by 10m just over 200m, and the west, where it rises 20m over a space of 400m. The ground drops more gradually to the north and east by 1m over the space of 500m.

3 ARCHAEOLOGICAL AND HISTORICAL BACKGROUND

3.1 A basic search of the Kent HER database was made for a radius of 250m around the site via http://webapps.kent.gov.uk/KCC.ExploringKentsPast.Web.Sites.Public/ and the following section is largely based upon this evidence. It returned a large number of results ranging from the prehistoric to 20th century periods. Some of the more pertinent sites are discussed below, prefixed 'TQ57SW', in a wider discussion of Dartford's past.

3.2 Prehistoric

- **3.2.1** Some small-scale, isolated instances of prehistoric finds have been found within close proximity to the site including; a Late Bronze Age pit containing pottery found during excavations at Holy Trinity School, (TQ 57SW 250); Iron Age pottery from Temple Hill in 1947, (TQ57SW 56); during groundworks at the hospital in 1938, (TQ57SW 85); and Belgic ware (TQ57SW 107).
- **3.2.2** The Dartford region has produced large numbers of Palaeolithic tools within the riverine gravels on which it rests, and an Iron Age Settlement has been conjectured on Temple Hill, *c*1.4km to the northeast of the watching brief area.

3.3 Roman

- **3.3.1** The Roman Road of Watling Street is aligned east-west directly to the north of the watching brief area along what is now Spital Street and West Street. Sections of the road and earlier alignments / trackways have been identified to the east of the site on several occasions; TQ57SW 172, 247. These have revealed compacted gravel surfaces with a slight camber into roadside ditches, with TQ57SW 247, (c90m to the east-northeast) containing the body of a new born child.
- **3.3.2** Further evidence of burial within the nearby vicinity include on the Sainsbury's site c150m to the southeast where truncated Roman topsoils revealed at least two cremation burials and a possible third, (TQ57SW 222); a 1st century inhumation was found at 19 Highfield Road, (TQ57SW 10); and on the site of the Mason's Arms where the bones of a foetus were also found, (TQ57SW 194). The concentration of burials close to the road follows with the Roman ruling that burials were not to take place within the confines of towns or settlements, and is therefore fairly typical. The closeness of these finds also indicates that similar remains may survive within the area of proposed groundworks.
- **3.3.3** As well as burials a large number of Roman pottery scatters, ditches and rubbish pits have been identified across the immediate area indicating the presence of a nearby Roman settlement; TQ57SW 127, 138, 193, 194, 222, 281, 425, and 1020. This is widely believed to be nearer the River crossing some 600m east of the watching brief site and as such the observed remains represent peripheral / extra-mural activities.

3.4 Saxon

- **3.4.1** During evaluation works at Holy Trinity School in 1995, 4 inhumation burials were encountered, subsequent additional evaluation works in 1997 failed to find further burials and so a wide area was opened up and subjected to full excavation. This exposed a total of 25 burials in the northwest corner of the site, (TQ57SW 207). Fifteen were shown to contain grave goods yet all were buried E-W in a Christian fashion suggesting a date no earlier than the 7th or 8th century, and a lack of intercutting inferred that they were probably marked whilst the site was in use. This site lies less than 200m away to the west and the full extent of the cemetery is not known. It is possible that it may continue in the direction of the watching brief site.
- **3.4.2** The main Saxon settlement, like the Roman, was probably based closer to the River crossing, but no concrete evidence of this settlement has yet been identified. Several large cemetery sites dating from the 5th to 7th centuries have however been excavated at Temple Hill and on a prominent ridge to the south side of East Hill.
- **3.4.3** By the late Saxon period Dartford had become the centre of a royal estate based upon its position on the River crossing providing excellent communication links by land and water.

3.5 Medieval

- **3.5.1** By the time of the Domesday Survey in 1086 Dartford had a church, mills, and a population of 650-800, partly due to William the Conqueror making it a royal manor in the wake of 1066. The manor was held by Norman tenants until the early-13th century and subsequently reverted to the Crown until the reformation.
- **3.5.2** The parish church of Holy Trinity is one of only three in Kent to have been dedicated as such, the other two were former minsters and so Dartford was probably the same.
- 3.5.3 At this stage the watching brief site still lay on the periphery of the main settlement. As such it was deemed a fitting location for the leper hospital of SS Mary Magdalen and Laudus in 1256, (TQ57SW 48). This building was given license to collect alms in 1485 and was known in 1509 as the 'Spytell House', hence the name of the adjoining road; Spital Street. A possible ditch enclosing the site of the Leper houses and dated to the 13th century was identified on the adjacent site of Holy Trinity School in 1997, (TQ57SW 207).
- **3.5.4** By 1321 a new Manor House was established *c*340m away to the southeast at Horseman's Place. The name derives from Thomas Horsman the lord of the manor at the time, (TQ57SW 10).
- 3.5.5 The other major institution of the time was the Domincan Priory founded in 1349 by Edward III. The priory was the only example of a Dominican Nunnery ever founded in the country, and the occupants known as the 'Sisters of the Order of St Augustine' were the only such community. The priory was situated *c*340m north of the watching brief site, and parts of the northern precinct wall and fragments of the southern aisle of the Conventual church and west range of cloister buildings, (TQ57SW 90). The nunnery

- was closed and largely demolished during the Dissolution to make way for a new Royal Manor House built by Henry VIII.
- **3.5.6** Numerous sites nearby have produced medieval pottery scatters interpreted as the remnants of manuring on agricultural land outside of the main town, and also from within rubbish pits; TQ57SW 172, 193, 194, 424, and 1020. Some evidence of buildings in the form of beam slots and stone cellars have also been identified for example at TQ57SW 207.

3.6 Post-medieval

- **3.6.1** Cartographic evidence suggests that the site remained open ground until at least the middle of the 1850s; under cultivation and free from development, (see fig.3). It was not until the OS map of 1857, (not shown), and then the 1st edition OS map, (published 1869), that Highfield Road can clearly be seen, and then only the northern part linking up with Spital Street and descending as far as modern day Spring Vale North and Summerhill Road. It is also called Springfield Road at this point, (see fig.4).
- 3.6.2 The site has been within the carriageway of Springfield Road / Highfield Road from this point onwards, (see figs.5 and 6). The road itself seems to have been slightly widened either side in the last 30 years as part of a wider road scheme at the crossroads to the north. The creation of the road and the surrounding estates will probably have truncated the upper levels of the historic soil horizons, as well as some discreet features such as post holes or shallow drainage gullies, but it can be assumed that any deeper stratified archaeology would have survived relatively intact across most of the watching brief area. The exception to this will be along the direct line of the mains water pipe to which the pressure valve is to be installed. Nevertheless the size of the proposed excavations means that adjacent stratified archaeological deposits could well be encountered during the watching brief.



Fig.3: Extract from OSD drawing 129: Dartford, dated 1799

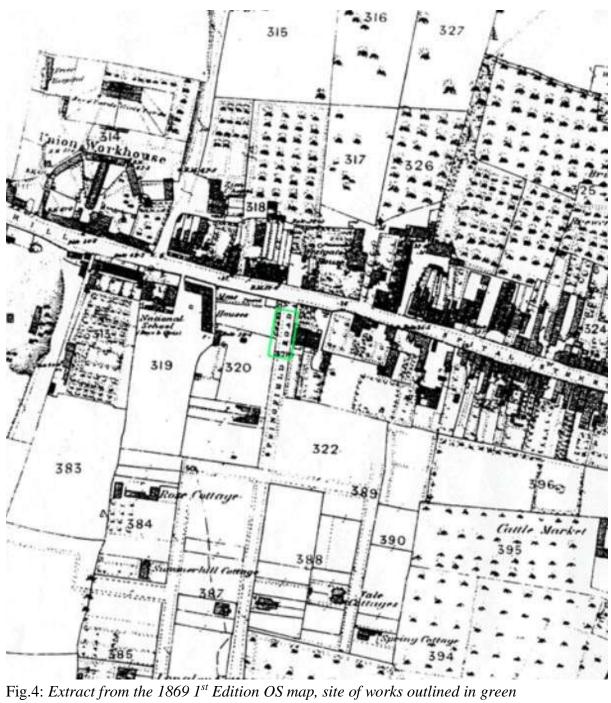




Fig.5: Extract from the 1907-09 OS map

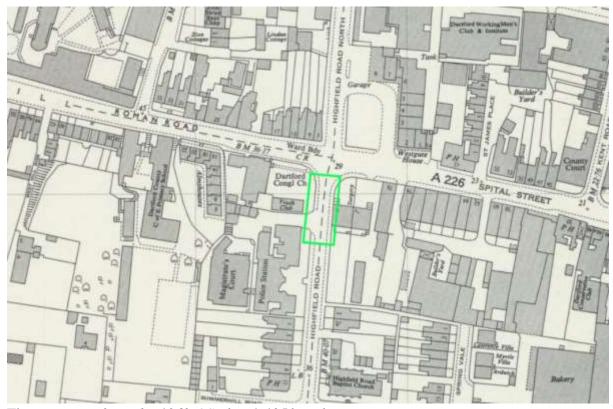


Fig.6: Extract from the 1962 OS plan 1:1250 scale

4 ARCHAEOLOGICAL RESEARCH QUESTIONS

- **4.1** The watching brief presented the opportunity to answer the following specific and more generalised research objectives.
 - Is there any evidence of Prehistoric activity having taken place nearby? What is its form and nature?
 - Is there any evidence relating to Roman Watling Street? Is there any evidence of roadside activities or structures?
 - Is there any evidence of the Saxon or medieval settlement of Dartford? What is its nature, function and form?
 - Is there any evidence relating to the post-medieval development of the site such as scalping of earlier land surfaces prior to construction of the road or adjacent buildings?
 - What is the nature and level of archaeological survival across this area?
 - What is the nature of and at what level is the natural geology encountered?

5 METHODOLOGY

5.1 Standards

5.1.1 The field and post-excavation work was carried out in accordance with Historic England guidelines (Historic England, 2015). Works conformed to the standards of the Chartered Institute for Archaeologists (CIfA, 2015). Overall management of the project was undertaken by a full Member of the Institute.

The watching brief will follow the requirements of the National Planning Policy Framework (NPPF) adopted in March 2012.

5.1.2 Fieldwork was carried out in accordance with the Construction (Health, Safety & Welfare) Regulations. All members of the fieldwork team held valid CSCS Cards (Construction Skills Certificate Scheme), and appropriate personal protective equipment as required. Members of the fieldwork team also followed the contractors' health and safety guidelines and held Thames Water Safety Passports.

5.2 Fieldwork

- **5.2.1** The watching brief was conducted during excavations for all groundworks associated with the installation of the new pressure-reducing valve to the existing mains on the west side of Highfield Road, (see fig.7). Excavation was undertaken using a machine fitted with a flat bladed grading bucket, and hand dug around services.
- **5.2.2** Adequate time was allowed for investigation and recording, although every effort was made not to disrupt the development programme.
- **5.2.3** Archaeological deposits and features were investigated and recorded in stratigraphic sequence, and finds dating evidence recovered where possible.

- **5.2.4** Archaeological contexts were recorded as appropriate on *pro-forma* trench record sheets by written and measured description. The investigations were recorded on a general site plan and related to the Ordnance Survey grid on the 1:1250 map, (see fig.7).
 - The fieldwork record was supplemented as appropriate by digital photography.
- **5.2.5** The Client and Kent County Council's Archaeological Officer were kept advised of the progress of the fieldwork.

5.3 Post excavation

5.3.1 Assessment of finds has been undertaken by appropriately qualified staff (see Appendices II & III below). Finds were treated in accordance with the appropriate CIfA guidelines, (CIfA 2014a). Due to the nature and age of the finds these were discarded after an appropriate record was made.

5.4 Report and Archive

- **5.4.1** The following report of the watching brief has been deemed commensurate with the results; but as a minimum stands as a sufficiently detailed report on the archaeological monitoring to serve both future research and inform future planning decisions taken on the site.
- 5.4.2 The report contains a description of the fieldwork plus details of any archaeological remains or finds, and an interpretation of the associated deposits. Illustrations have been included as appropriate, including as a minimum a site plan located to the OS grid. A short summary of the project has been appended using both the Kent County Historic Environment Record Report Form, and OASIS Data Collection Form.
- **5.4.3** Copies of the report will be supplied to the client, Kent County Council's Archaeological Officer, and to the Local Studies Archive.
- **5.4.4** Once the project is completed an ordered indexed and internally consistent archive will be compiled in line with CIfA standards and guidance, (CIfA, 2014b), and will be deposited in a local archive under site code HFR16. The integrity of the site archive should be maintained, and the landowner(s) will be urged to donate any archaeological finds to the appropriate local museum.

6 RESULTS

6.1 The watching brief was conducted over a single site visit on the 25th October 2016, timed to ensure a maximum area of trenching was open. Observations made during the ground works are detailed below. Reference should be made to figs.7 for wider location of observations and direction of view for accompanying photographs. Deposits are shown in round brackets thus (1), and cuts in square brackets thus, [2].



Fig.7: Site plan showing location of trench, (blue), and direction of view for figs.8-9

6.2 The trench was a reverse L-shape, aligned north-south, and measured a maximum of 3.4m long, by up to 3.2m wide. The majority of the trench was dug no deeper than 0.58m in depth, but the southeastern corner was dug to a greater depth of c1.50m deep, (see fig.8).



Fig.8: Trench facing southeast

- 6.3 The natural geology was not reached, but the lowest deposit encountered was (8); a mid-greyish-brown sandy-silt, containing occasional fine, sub-angular, gravels, present from 840mm below ground level. This deposit was a total of 660mm deep and continued below the base of excavations. It is assumed that this was probably a made ground deposit associated with the construction of the existing water main.
- 6.4 Deposit (8) was overlain by (7); a mid-brown sandy deposit containing more frequent small to medium gravels 140mm thick. This was also interpreted as made ground. This in turn was overlain by (6); a mid-brown clay silt 100mm thick.
- 6.5 Deposits (6) to (8) had been partially truncated by a modern cut-feature, [5], which formed a shallow bowl in profile 240mm deep and approximately 1.35m wide, (N-S). This feature contained a dump of crushed red and yellow stock brick, along with some larger stones and occasional charcoal flecking, (4). This may have been an opportunistic dumping episode in a wider landscape previously stripped of topsoil prior to the laying out of Highfield Road in the early-19th century.
- 6.6 Cut feature [5] and deposit (6) were sealed below a thin layer of compacted dark-grey / black gravels 70mm thick, (3). This was interpreted as a previous road surface, perhaps associated with the original laying out of Highfield Road, then known as Springfield Road, (see 3.6.1 above and fig.4).
- 6.7 Former road surface (3) was buried below a thick layer of compacted mid-orange gravels, (2); a bedding layer for the existing tarmacadam road surface, (1). The bedding material was 230mm thick, with 300mm of overlying tarmac.



Fig.9: Section through southeast corner of trench, facing east, (1m scale)

7 CONCLUSIONS

- 7.1 We can now look back at the original research questions set down in the WSI and compare them with the results of the watching brief.
- **7.2** Is there any evidence of Prehistoric activity having taken place nearby? What is its form and nature?
 - No prehistoric finds or deposits were encountered in the trench.
- **7.3** Is there any evidence relating to Roman Watling Street? Is there any evidence of roadside activities or structures?
 - No evidence for Roman activity on or near the immediate site were found during the trench works.
- **7.4** Is there any evidence of the Saxon or medieval settlement of Dartford? What is its nature, function and form?
 - No evidence of Saxon or medieval material was observed during the watching brief.
- 7.5 Is there any evidence relating to the post-medieval development of the site such as scalping of earlier land surfaces prior to construction of the road or adjacent buildings?
 - Context (3) is believed to represent the original road surface associated with the laying out of Highfield / Springfield Road in the early -19th century. It would appear that the site and surrounding area had been scalped of all previous land surfaces prior to construction, and the exposed ground subject to truncation and opportunistic dumping, such as feature [5].
- **7.6** What is the nature and level of archaeological survival across this area?
 - The latest significant archaeological horizon was exposed at 530mm below existing ground level and was dated to the 19th century. Earlier deposits were not identified, but may have survived at a greater depth than was exposed.
- 7.7 What is the nature of and at what level is the natural geology encountered?
 - Natural geology was not encountered during the watching brief, the lowest deposits exposed were made-ground or backfill around the extant water main.

8 SOURCES

8.1 Published sources

Chartered Institute for Archaeologists, 2015. Standard and guidance for an archaeological watching brief

Compass Archaeology, (2016), Specification for an Archaeological Watching Brief for Linear Utility Scheme at West Hill, Dartford, DA1 2EW

Dartford Borough Council, (2015) Dartford Development Policies Plan. Publication (Pre-Submission) Document

Heritage Conservation Group, (Kent County Council), 2004. Kent Historic Towns Survey: Dartford. Archaeological Assessment Document

Heritage Conservation Group, (Kent County Council), 2016. Specification for an Archaeological Watching Brief for Linear Utility Scheme

Historic England, 2016. Greater London Archaeology Advisory Service: Guidelines for Archaeological Projects in Greater London

8.2 Cartographic sources, (chronological)

Andrew, Drury, and Herbert, Map of Kent, (1769)

Ordnance Survey, Original Surveyors Drawings. Sheet 129: Dartford, (1799)

Hubbard, W. Plan (A). Being part of the estates belonging to the Parish of Dartford. Kent, (1829) in John Landale 'A collection and abstract of all the material deeds, wills, leases, and legal documents, relating to the several donations and benefactions to the Church and Poor of the parish of Dartford.... and of the Spittal Alms-Houses etc' (1829)

Ordnance Survey, First Edition. Kent sheet IX.6, (surveyed 1864, published 1869)

Ordnance Survey, Second Edition. Kent Sheet IX.NW, (published 1898)

Ordnance Survey, Kent Sheet IX.6 (surveyed 1907, published 1909)

Ordnance Survey, Essex Sheet nXCIV (published 1921)

Ordnance Survey, Kent Sheet IX.NW, (surveyed 1938, published 1950)

Ordnance Survey, TQ Plans 5274 and 5374, 1:1250 scale, (surveyed 1960, published 1962)

British Geological Survey, Solid and Drift Geology Sheet 271: Dartford, 1:50,000 scale, (1998)

APPENDIX I Kent County Historic Environment Record Report Form

Site Name: Highfield Road, Dartford, DA1 2EW: An Archaeological Watching Brief

Site Address: Highfield Road, Dartford, DA1 2EW

Summary: An archaeological watching brief conducted during the installation of a pressure-reducing valve on an existing water main on the west side of Highfield Road, Dartford, outside of the Magistrates Court. A single pit to access the water main was excavated to a depth of up to 1.5m. Natural geology was not reached, only 19th century made ground including a previous road surface was exposed at a depth of c530mm below the existing ground surface.

Period(s): Post—medieval, (19th century +)

NGR: TQ 53859 74089

Type of archaeological work Archaeological watching brief

Date of Recording: 25th October 2016

Unit undertaking recording: Compass Archaeology Ltd

Geology: N/A

Title and author of accompanying report: Installation of a pressure-reducing valve on Highfield Road, Dartford, DA1 2EW: An Archaeological Watching Brief – James Aaronson

Summary of fieldwork results (begin with earliest period first, add NGRs where appropriate)

An archaeological watching brief conducted during the installation of a pressure-reducing valve on an existing water main on the west side of Highfield Road, Dartford, outside of the Magistrates Court. A single pit to access the water main was excavated to a depth of up to 1.5m. Natural geology was not reached, only 19th century made ground including a previous road surface was exposed at a depth of c530mm below the existing ground surface.

Location of archive/finds: Compass Archaeology Ltd

Contact at Unit: Geoff Potter Date: 23rd November 2016

APPENDIX II OASIS data collection form

OASIS ID: compassa1-269594

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Installation of a pressure-reducing valve on Highfield Road, Dartford, Kent: An Project name

Archaeological Watching Breif

Short description of the project

Compass Archaeology conducted an archaeological watching brief during the installation of a pressure-reducing valve on the west side of Highfield Road, Dartford, outside of the Magistrates Court. The watching brief was deemed necessary due to the site's location within the Archaeological Priority Area of the 'Early Town' and the Dartford Town Centre Conservation Area. A single pit to access the water main was dug to a depth of up to 1.5m. Natural geology was not reached, only 19th century made ground including a previous road

surface was exposed at a depth of c530mm below the existing ground surface.

Project dates Start: 25-10-2016 End: 25-10-2016

Previous/future

work

No / No

Any associated project reference

codes

HFR16 - Sitecode

Type of project Recording project

Site status Local Authority Designated Archaeological Area

Site status Conservation Area

Current Land use Other 11 - Thoroughfare

Monument type ROAD SURFACE Post Medieval

Significant Finds POTTERY Post Medieval

Investigation type "Watching Brief"

Prompt Water Act 1989 and subsequent code of practice

Project location

Country England

Site location KENT DARTFORD DARTFORD Highfield Road

Postcode DA1 2EW

Study area 6.6 Square metres

Site coordinates TQ 53859 74089 51.444344275897 0.214223362366 51 26 39 N 000 12 51 E Point **Project creators**

Name of

Organisation

Compass Archaeology

Project brief

originator

Local Authority Archaeologist and/or Planning Authority/advisory body

Project design originator

County Planning Archaeologist

Project

director/manager

Compass Archaeology

Project supervisor F

sor Florence Smith Nicholls

Type of

sponsor/funding

body

Water utility/company

Name of sponsor/funding

body

Thames Water

Project archives

Physical Archive

Exists?

No

Digital Archive

recipient

Dartford Borough Museum

Digital Media available "Images raster / digital photography", "Text"

Paper Archive

recipient

Dartford Borough Museum

Paper Media available

"Notebook - Excavation', 'Research', 'General Notes", "Photograph", "Unpublished Text"

Project bibliography 1

Publication type Grey literature (unpublished document/manuscript)

Title INSTALLATION OF A PRESSURE-REDUCING VALVE ON HIGHFIELD ROAD,

DARTFORD, DA1 2EW AN ARCHAEOLOGICAL WATCHING BRIEF

Author(s)/Editor(s) Aaronson, J

Date 2016

Issuer or publisher Compass Archaeology

Place of issue or publication

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Description Brief summary report of the watching brief including site location, geology and

topography, archaeological and historic background, methodology used, results and interpretation of observations. Accompanied by illustrative photographs and plans / maps. Kent County HER Report Form and OASIS data collection form appended.