

**C254 Archaeology West
 Non-listed Built Heritage Recording at Old Oak Common, Acton
 Event Code XSU10
 Interim Report**

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Summary

During 2010 and 2011, Oxford Archaeology, in partnership with Ramboll (OA Ramboll, contract C254) undertook a programme of non-listed built heritage recording at Old Oak Common Train Maintenance Depot in Acton, London, on behalf of Crossrail Ltd. The work took place in advance of major redevelopment of the site which required demolition of most of its buildings.

The locomotive depot was initially constructed by the Great Western Railway in 1904-6 under the stewardship of the company's Locomotive Superintendent George Jackson Churchward. In the later 1940s, due to post-war austerity and fears of possible coal shortages, a heavy oil fuel depot was constructed to allow coal fired locomotives to run on oil. Towards the end of the decade the depot was converted into an experimental fuelling plant for gas turbine electric locomotives but only two of these were ever operated by British Railways.

In the later 1950s and 1960s the depot was converted to service diesel trains and a number of old facilities from the steam era were demolished including the great covered engine shed. The site remained in use until 2009.

The historic building recording at Old Oak Common recorded c.34 buildings or features, and was undertaken to the guidelines defined by English Heritage in 'Understanding Historic Buildings'.

The eleven most historically significant buildings, which were recorded to English Heritage Level 3, included the surviving primary structures from the early Edwardian depot, principally the Stores, The Factory complex, the Sand Furnace and the substation. Level 3 recording also covered a small number of significant secondary structures related to the experimental oil fuelling /gas turbine fuelling depot from the late 1940s. The recording of each of these structures comprised the production of detailed drawings, photographs and analytical descriptions, as well as an internal and external laser scan.

Five structures of a lower significance were recorded to English Heritage Level 2. These included the Pullman Shed and the Carriage Lifting Shop, both of which were constructed in the late 1930s. The recording of these included the production of drawings, photographs and descriptions, as well as a laser scan of the exterior of the buildings.

Eighteen buildings or structures of low significance, such as modern additions, water towers and Portacabins were recorded to English Heritage Level 1. The recording of these was based largely on photography and written descriptions.

The works reported here also included assessment of items which might be considered for salvage because of their historic interest, and subsequent guidance on how these might be salvaged for reuse.

The recording was greatly assisted by an existing Detailed Desk-based Assessment of the site and by a number of historic archive drawings and photographs.

1. INTRODUCTION

1.1 Background and scope of work

- 1.1.1 In advance of demolition works by Crossrail Ltd, Oxford Archaeology, in partnership with Ramboll (OA Ramboll, contract C254), undertook a programme of non-listed built heritage recording at Old Oak Common Train Maintenance Depot (OOC TMD), a major rail facility located within the London Borough of Hammersmith and Fulham at TQ 21870 82390. The main site recording was undertaken between November 2010 and March 2011, with further work following in May and October 2011.
- 1.1.2 The built heritage recording followed the methods set out in an *Archaeology Method Statement* for the site (document number C254-OXF-W-GMS-CRG03-00004 Rev 4.0) and a requirement for works set out in *Old Oak Common Worksites Site Specific Archaeological Written Scheme of Investigation* (SSWSI) (document number CR-EG-00C-EN-SP-00001 Rev 3.0). In addition, it followed the recommendations outlined in a detailed desk-based assessment (DDBA, C150-CSY-T1-RGN-CR076_PT001-00011 Rev 4.0) which detailed the survival and importance of the built heritage at the site, and provided recommendations on the level of recording that should be undertaken prior to demolition. It also identified structures that no longer survived, and provided a history of the development of the site. All known structures, past and present, are shown on Figure 1.
- 1.1.3 This report is an interim statement, intended to disseminate the outline results of the investigation. The detail of its contents is commensurate with the limited timeframe of production. A full report of the work will follow in due course.

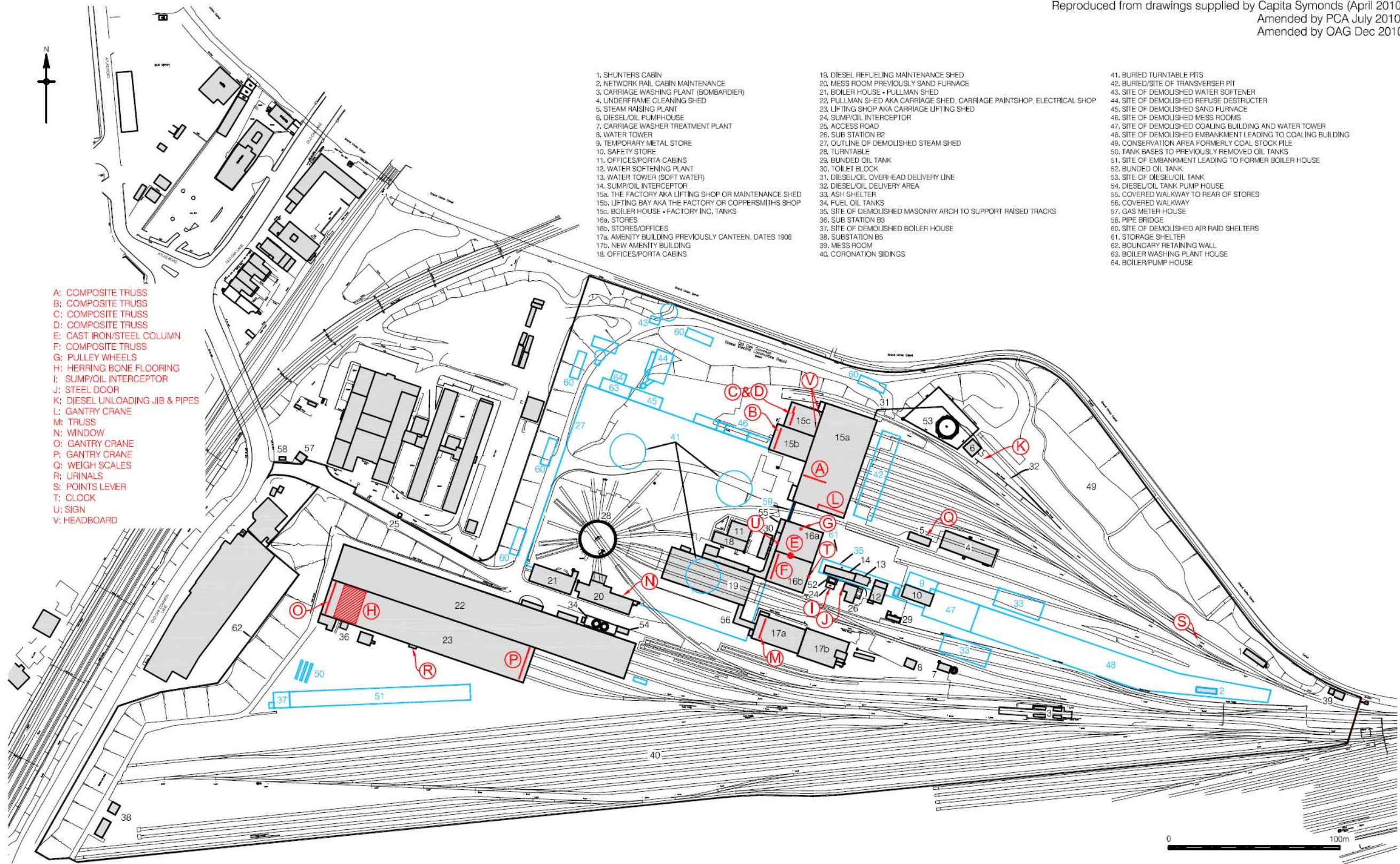


Figure 1: Site Boundary Showing Existing and Previous Structures (Numbers 1 to 64), and location of heritage items for salvage (letters A to V).

1.2 Site Description

- 1.2.1 In 2009, OOC TMD was an extensive site comprising stabling sidings, engine sheds, workshops and other railway facilities. The surrounding area remains dominated by industrial estates and road, rail and canal transport systems. Small pockets of residential development are located to the west along Shaftesbury Gardens and Wells House Road, and to the south of Wormwood Scrubs Park.
- 1.2.2 The Crossrail-controlled site is bounded by Old Oak Common Lane to the west, the Grand Union Canal to the north, and the First Great Western TOC Depot and marshalling sidings to the south. The land is triangular in shape, narrowing towards the east and throat of the depot. The central Ordnance Survey National Grid Reference for the site is TQ 21870 82390. The site level has been significantly reduced through terracing works associated with the railway.

1.3 Aims and objectives

- 1.3.1 The overall aim of the project was to produce an archive record of buildings and structures at the Old Oak Common TMD.
- 1.3.2 Particular objectives of the project were to:
- Record the overall form of the complex prior to demolition;
 - Record evidence of the development and former use of the buildings;
 - Enhance understanding of the history and evolution of the site;
 - Record evidence relating to the primary use of the buildings;
 - Record evidence related to the conversion of the complex to diesel; and
 - Assist with a programme of artefact salvage.

1.4 Methodology

- 1.4.1 The historic building recording followed the recommendations set out in the DDBA (C150-CSY-T1-RGN-CR076_PT001-00011 Rev 4.0). This document assessed the significance of each structure on the site and, based on this assessment, provided a recommendation for the appropriate level to which it should be recorded. The levels of recording followed English Heritage guidelines (as defined in *Understanding Historic Buildings: a Guide to Good Recording Practice*) and ranged from Level 3, for the most significant structures, to recommendations that no recording was necessary (for the least significant structures).

- 1.4.2 Typically the Level 3 recording included producing:

- drawn floor plans;
- drawn elevations and/or sections;
- further drawings such as structural details;
- photographs of external and internal features; and
- an analytical description.

- 1.4.3 The Level 2 recording generally included producing:

- ground floor plans
- photographs of external and internal features; and
- an analytical description.

1.4.4 The Level 1 recording generally included producing;

- photographs of external and internal features; and
- an analytical description.

1.4.5 Prior to the works described here there was no modern metric survey of the site available, other than a topographical layout drawing produced by Capita Symonds (dwg CS-038089-GEO-STA-SK-0004-P5), which could have formed a baseline for the recording. Therefore, at the start of the works, the complex was laser-scanned by APR Services on behalf of OA/Ramboll to provide such a baseline (see Figs 2 and 3 for examples).

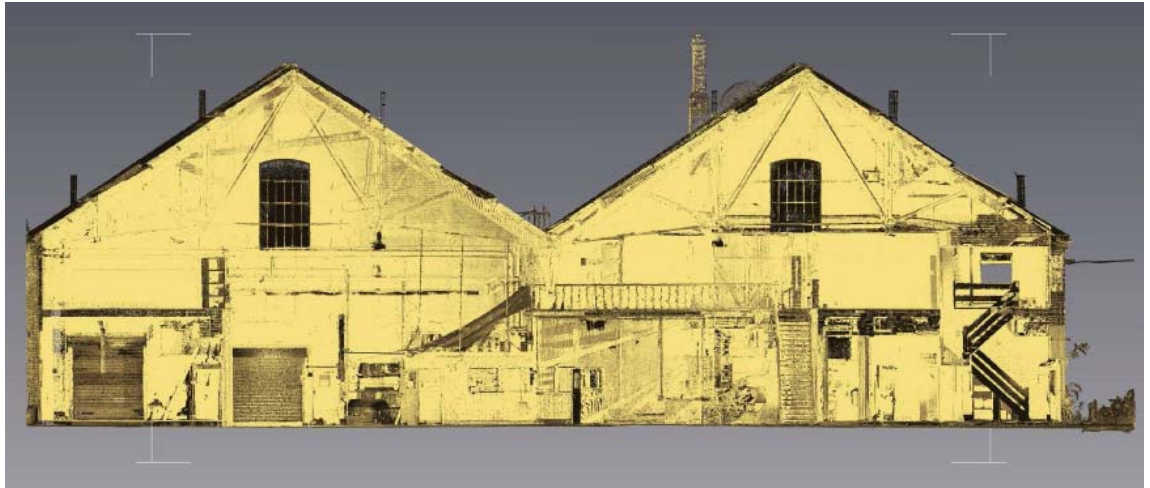


Figure 2: Isometric slice through Building 16

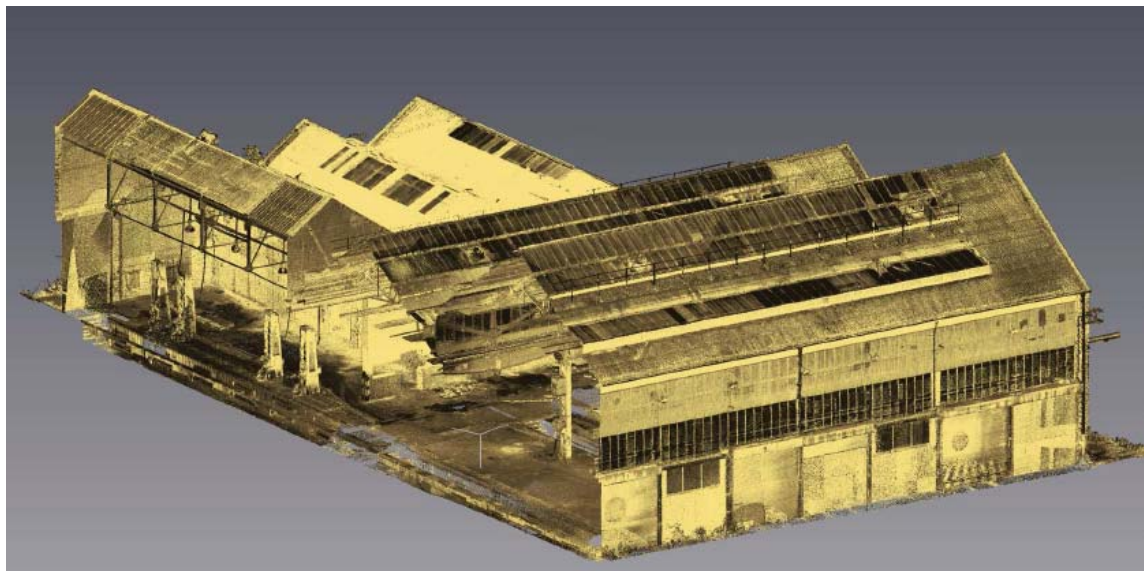


Figure 3: Isometric survey of Building 15

1.5 Historical background

- 1.5.1 The historical background to the Old Oak Common site has been covered in detail in the DDBA. The section below provides a short summary of information from that document.
- 1.5.2 The OOC TMD site remained woodland until the beginning of the post-medieval period, after which it was used for common grazing until the end of the 1890s when it was acquired by the Great Western Railway (GWR). Local residents had pasture rights for their animals and received compensation in 1805 when the Paddington canal was developed and in 1837 by the GWR.
- 1.5.3 The Grand Union Canal was threaded through the area in c.1801, and Brunel's Great Western Railway was constructed in the area in around 1840. By 1894 the West London Sidings had been established to the south with the remainder of the site staying vacant until 1906.
- 1.5.4 The site was partially excavated in c.1900 in association with the construction of the Acton to Northolt line. Subsequently, the site was remodelled in 1904 in advance of the construction of GWR's Old Oak Common locomotive and carriage depots. The DDBA concluded that the potential for the presence of archaeological evidence pre-dating c.1900 within the present site boundaries is negligible to low. However, there is a very high potential for post-1900 (*ie* modern) archaeological material to survive. Archaeological evidence of the demolished elements of the 1904-6 locomotive depot has been assessed in document C150-CSY-T1-RGN-CR076_PT001-00011 Rev 4.0 to be of regional significance, while evidence of other demolished 20th-century structures has been assessed to be of local significance.
- 1.5.5 Built under the auspices of the GWR's Locomotive Superintendent George Jackson Churchward, the Old Oak Common locomotive depot was one of the most up-to-date locomotive repair facilities in the country when it opened in 1906. A combination of tried-and-tested construction techniques and modern materials was used to create a depot capable of accommodating and servicing the company's latest and largest locomotives. Churchward took advantage of readily available electrical power and procured a range of the latest electrically-operated machinery for the new depot.
- 1.5.6 As the first of a number of new locomotive depots built by the Great Western during the Churchward era, the layout of Old Oak Common served as the template for those that followed, the majority of which were closed and demolished in the late 1960s. In contrast, Old Oak Common was retained and converted into a motive power depot (MPD) for diesel locomotives in the mid-1960s. Despite the demolition of much of the Engine Shed, a substantial amount of Churchward's depot survived and continued to flourish into the diesel era. Old Oak Common represents the last remaining 'factory' repair facility on the former Great Western Railway network, and for this reason the standing elements of Churchward's depot of 1904 to 1906 has been assessed in the DDBA to be of regional significance.
- 1.5.7 During construction of the depot the site was comprehensively graded, being levelled to c. 26m ATD. It is expected (and has been partly demonstrated) that this terracing into the natural slope has truncated or removed any pre- 20th-century deposits.
- 1.5.8 Structures assessed in the DDBA to have been of regional importance included the 'factory' complex (Buildings 15a to 15c), the Stores (Buildings 16a and 16b), the amenity building (previously the yard offices and subsequently a canteen: Structure 17a), electricity sub-station B2 (Building 26) and the messroom (previously the sand furnace: Building 20).
- 1.5.9 In the later 1930s a government backed scheme to relieve mass unemployment saw the expansion of Old Oak Common. This expansion included the construction of a new carriage

lifting shop and carriage paint shop (Buildings 22 and 23) which were formally opened in April 1940. While the former carriage paint shop/Pullman shed (Building 22) featured a shelter/dormitory dating to the Second World War, the former carriage lifting shop (Building 23) featured a workshop area containing well-preserved original elements such as a floor paved with teak blocks made from the centres of old carriage wheels.

- 1.5.10 In 1946 the GWR built a heavy oil fuel depot (Buildings 6 and 53) in order to refuel coal-fired locomotives converted to run on oil. The depot was converted at the end of the decade by the recently nationalised British Railways into a fuelling plant for gas-turbine locomotives, only two of which ever operated on the national railway network. The former heavy oil fuelling depot (Buildings 6 and 53) was assessed in the DDBA to be of regional to national significance.
- 1.5.11 Elements including the pre-war sump/oil interceptor (Building 24) and the surviving surface air raid shelter (Building 1) were assessed in the DDBA to be of local importance. The Engine Shed, which originally housed four 65' turntables, was demolished in the mid 1960s when the depot was converted from a steam-locomotive depot to a diesel-powered rolling stock depot. One turntable (a 70' replacement) survived until 2010, when it was lifted and transported for display at Swanage Railway, Dorset.

2. SUMMARY OF THE RESULTS

2.1 Surviving elements from the primary complex (Level 3 Buildings)

2.1.1 The buildings previously assessed as being of regional significance were recorded to an English Heritage Level 3 standard. These were principally all structures which survived from the original complex (or which were added in the very early years) and comprised:

- the 'Factory' complex - (Buildings 15a, 15b, 15c);
- the Stores (Buildings 16a, 16b);
- the amenity building (Building 17a);
- the electricity substation (Building 26);
- the messroom, formerly the Sand Furnace (Building 20);
- Mess Room (Building 39)

2.1.2 In addition, two structures which were secondary additions but which had been previously assessed as being of comparable significance were also recorded to a Level 3 standard. These were:

- The heavy oil fuelling depot (Buildings 6 and 53);



Plate 1: Heavy oil fuelling depot (Buildings 6 and 53)

- 2.1.3 The two largest surviving buildings from Churchward's Depot were the Stores and the Factory complex, both of which had been constructed along the eastern side of the former engine shed and extended around the north-eastern corner. The engine shed was demolished in the 1960s but it was clear which elevations of Buildings 15 and 16 had formerly been internal. Here, the architectural detailing was much plainer than on the external elevations. Indeed the common detailing, such as stepped plinths, sloped sills formed from large blue bricks, bullnose brick corners and segmental arched openings, was one of the attractive architectural interests of the site.
- 2.1.4 The Factory and the Stores each had composite roofs, similar to each other, formed from cast-iron and timber members. The trusses included large unusual cast connectors which linked the iron tie rods with timber struts, and these trusses were among the most significant aspects of the complex.
- 2.1.5 The Factory divided into three distinct areas: Building 15a which was the main maintenance shed, Building 15b which was the lifting bay, and Building 15c which was the boiler house. The Stores comprised a large, open-plan central area with small offices to the north, south and east.



Plate 2: West elevation of the Stores building

- 2.1.6 Buildings 17a and 20 were smaller structures but important surviving elements of the primary complex. Building 20 was originally a sand furnace and, as with Buildings 15 and 16, had been constructed against the wall of the now demolished engine shed. Building 17a was probably originally constructed as offices.



Plate 3: Interior of Building 17a



Plate 4: Roof connector in the Stores



Plate 5: Interior of the Factory

2.2 Secondary additions (Level 2 structures)

2.2.1 Buildings or structures assessed as being of regional or local significance and recorded to a Level 2 standard comprised the:

- Pullman Shed (Building 22)
- carriage lifting shop (Building 23)
- sump/oil interceptor (Building 24)

- air raid shelter (Building 1)
- substation B5 (Building 36)

2.2.2 By far the largest structures within this group were two very long sheds (The Pullman Shed and the carriage lifting shop) which were under construction at the outbreak of the Second World War. The Pullman Shed (Building 22, formerly the carriage paint shop) is known to have suffered bomb damage during the war and evidence of the subsequent rebuild at the eastern end of the building was recorded during the work reported here.



Plate 6: Interior of Building 23

2.2.3 Among significant features within Building 23 were two overhead gantry cranes and a large section of wooden flooring at the west end formed from the centres of old carriage wheels. This area would have provided a working surface for two lathes used to refurbish wheels (made circular).



Plate 7: Interior of Building 22

2.3 Modern elements and minor structures (Level 1 recording)

2.3.1 Eighteen buildings or structures assessed to be of local or negligible significance were recorded to a Level 1 standard. These were the:

- carriage washer treatment plant (Building 7)
- water tower (Building 8)
- metal store (Building 9)
- Portacabins/office (Building 11)
- water softening plant (Building 12)
- water tower (soft water) (Building 13)
- bunded oil tank (Building 52)
- new amenity building (Building 17b)
- Portacabins (Building 18)
- diesel refuelling maintenance shed (Building 19)
- toilet block (Building 30)
- underframe cleaning plant (Building 4)
- steam raising plant (Building 5)
- carriage washing plant (Building 3)
- fuel oil tanks (Building 34)
- substation B3 (Building 36)
- substation B5 (Building 38)
- diesel/oil tank pump house (Building 54)

2.3.2 These buildings were generally modern structures constructed during the later 20th century and of little intrinsic significance. Each, however, contributed to a group significance.



Plate 8: Diesel Refuelling Shed (Building 19)



Plate 9: Buildings 12 and 13

2.4 Salvage items

- 2.4.1 Throughout the pre-demolition and demolition phases OA/Ramboll provided guidance on the salvage of items of historic interest at the complex, most of which had previously been identified in the DDBA as being worthy of retention and/or reuse, either at Old Oak Common or elsewhere. OA Ramboll's salvage recommendations were set out in document C254-OXF-W-RGN-CR076-50001. These items were recorded as part of the works reported here.



Plate 10: Salvage Item P (Gantry Crane) after salvage



Plate 11: Salvage Item G (Pulley Wheels) after salvage

2.5 Further reporting and other outstanding project requirements

2.5.1 The current document forms an interim report. Further reporting, archiving and other works to complete the project are required, comprising:

- Preparation of a final Historic Building Recording report
- Lodging copies of the final report with the Local Studies Library and the NMR
- Preparation of a summary sheet for the Greater London Sites and Monuments Record;
- Preparation of a 500 word summary report for publication within *London Archaeologist* or other appropriate publication
- Completion and issue of OASIS form
- Submission of the project archive to the Museum of London (LAARC)

3. CONCLUSION

3.1.1 Old Oak Common Train Maintenance Depot is a site of considerable interest in the fields of 20th-century industrial archaeology and the history of London's transport network, and there are many points of interest and historical significance attached to the site. When it was built in 1906 it was one of the most up-to-date locomotive repair facilities in the country, and is notable for combining tried-and-tested construction techniques and modern materials and techniques. As the first of a number of new locomotive depots built by the Great Western during the Churchward era, the layout of Old Oak Common served as the template for those that followed, the majority of which were closed and demolished in the late 1960s. The conversion and reuse of the site in the mid and later 20th century, when many other comparable complexes were being lost, adds to the interest of Old Oak Common, although the adaptation to allow the servicing of diesel locomotives in the 1960s sadly saw the demolition of the vast original engine shed. Old Oak Common represented the last remaining 'factory' repair facility on the former Great Western Railway network, and it was for this reason that the standing elements of the depot were assessed in the DDBA to be of regional significance.

3.1.2 Although none of the buildings on the site were Listed, the works reported on briefly in this report have produced a valuable permanent record of this important site prior to its demolition. Of particular interest were the structures which survived from the original complex, such as the Factory, the Stores and the Sand Furnace. The project has enhanced our understanding of the complex and complements the detailed historical research on the site previously undertaken for the DDBA, as well as the important collection of historical plans of the site. It is also fortunate that a good understanding of the form of the former engine shed, which would have formed the centrepiece of the depot prior to its demolition in the 1960s, can be pieced together from a number of historical sources. It is clear from these that the structure of the shed followed closely that used in the Stores building and the Factory.

APPENDIX 1 BIBLIOGRAPHY AND REFERENCES

- OA Ramboll 2010 *Non-listed Built Heritage Recording at Old Oak Common, Acton: Archaeology Method Statement*, C254-OXF-W-GMS-CRG03-00004 Rev 4.0
- PCA 2010 *Old Oak Common Worksites Archaeological Detailed Desk-Based Assessment: Non-Listed Built Heritage*, C150-CSY-T1-RGN-CR076_PT001-00011 Rev 4.0
- Arup 2010 *Old Oak Common Worksites Site Specific Archaeological Written Scheme of Investigation*, CR-EG-00C-EN-SP-00001 Rev 3.0

APPENDIX 2 SUMMARY OF SITE DETAILS

Client name: Crossrail Ltd

Site name: Old Oak Common Train Maintenance Depot: Non-listed built heritage recording

Site code: XSU10

Grid reference: TQ 2187 8239

Type of evaluation: Historic Building Recording

Date and duration of project: The main site recording was undertaken intermittently on many days between 12 November 2010 and 3 March 2011. Further isolated recording was also undertaken on 19 May 2011 and 25 October 2011.

Area of site: Old Oak Common Train Maintenance Depot, Acton, London Borough of Hammersmith and Fulham, NW10.

Summary of results: The site comprised c.34 individual buildings or structures, all of which were of 20th-century date and related directly to the railway depot. The most significant were those which survived from the original depot constructed in c.1904-6 and included the Stores, the Factory and the sand furnace.

Location of archive: The archive is currently held at OA, Janus House, Osney Mead, Oxford, OX2 0ES, and will be deposited with the Museum of London in due course.