BRT Scheme, Phase 1 Fareham to Gosport:

Level 1 Survey of Former Railway Bridge, Palmerston Drive

March 2010

Hampshire County Council Scheme: EC:C.J005398.02

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Mott Gifford
in partnership with
Hampshire County Council

BRT Scheme, Phase 1 Fareham to Gosport:

Level 1 Survey of Former Railway Bridge, Palmerston Drive

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1 INTRODUCTION

1.1 Project Background

1.1.1 Mott Gifford were commissioned by Hampshire County Council (the client) to assess the impact to archaeological remains (real or potential) on the route of the proposed South East Hampshire Bus Rapid Transit (BRT) Phase 1 Fareham to Gosport project in Hampshire (Figure 1).

1.1.2 The aims of the BRT Scheme are to develop an extensive network of high quality bus services connecting Gosport and Fareham eastwards to Portsmouth, Waterlooville, Havant and Queen Alexandra Hospital; as well as westwards to Whiteley, Segensworth and beyond.

1.1.3 Phase 1 of the scheme connects Fareham to Gosport and follows the line of the now disused Fareham to Gosport branch line, which was constructed as part of the London and South Coast Railway Lines during the 1830s.

1.1.4 There is a range of railway infrastructure features along the line of proposed development. This includes a former railway bridge at Palmerston Drive, which lies in Section 1A of works and, together with its flanking walls, the demolition of which is proposed to allow construction of a new at-grade junction with Palmerston Drive in order that buses can access the route (Mott Gifford 2009).

1.1.5 An Environmental Impact Assessment for the scheme was produced (Mott Gifford 2009), together with an Archaeological Mitigation Strategy document (Mott Gifford 2009a). This included consultation with Hannah Fluck, Senior Archaeologist at HCC, and set out the requirements for archaeological mitigation. One of the requirements was for the recording of the former railway bridge at Palmerston Drive prior to its demolition, and this report sets out the results of the English Heritage Level 1 historic building recording undertaken.

2 METHODOLOGY AND LIMITATIONS OF STUDY

2.1.1 The methodology for the recording of the former railway bridge on Palmerston Drive complied with the guidelines for Level 1 Historic Building Recording as detailed in *Understanding Historic Buildings – a guide to good recording practice*, English Heritage 2006.

2.1.2 The building recording was undertaken by Helen Moore on the 15th December 2009, prior to the commencement of the proposed development works. The report on the results of the site investigation was written by Andy Buckley, and the overall project was managed by Helen Moore.

2.1.3 The recording comprised a visual inspection of the bridge and its associated features. Access was possible to both sides of the bridge. The survey produced a digital photographic record, which was appropriate to the conditions and the subject.

2.1.4 The analysis of the former railway bridge includes background research, using the following sources:

- Maps and images;
- Information from internet sources and online databases;
- Published and unpublished sources.

2.1.5 This report is based on information available from readily available sources and field observation. As an English Heritage Level 1 standard report, it does not purport to represent a complete and entire record of all information relating to the structure or its development.

2.1.6 Should certain aspects of the buildings, or their development, not be mentioned in this report, it does not necessarily follow that they are of no historic interest. Gifford accepts no responsibility for any inaccuracies in information supplied by third parties.

2.1.7 The site archive will be deposited with HCC.

3 HISTORIC BACKGROUND

3.1 Introduction

3.1.1 This section contains a description of the structure's location, followed by an outline of the historic context behind the original construction of the Palmerston Road Bridge and its later alterations. This is concluded with the photographic record and outline description of the physical fabric of the bridge, as it exists immediately prior to demolition.

3.2 Location

3.2.1 The former Palmerston Drive railway bridge (NGR 457484,105080) is located on the line of the now defunct Fareham to Gosport railway. It lies on the outskirts of the town of Fareham (Fig. 1), immediately to the east of Fort Fareham (a Palmerston fort built on the recommendations of the 1860 Royal Commission on the Defence of the United Kingdom).

Figure 1: Site Location

3.2.2 The Palmerston Drive bridge carried the railway, in a roughly north-to south-direction, over the line of Palmerston Drive, which lies parallel to and a short distance to the north-west of Newgate Lane (B3385), with both roads joining the busy A32 road at a roundabout, a short distance to the north of the site (Fig. 2).

3.2.3 The A32 runs roughly parallel to the line of the Fareham to Gosport railway for most of its distance, and it is congestion on this road that the Phase 1 BRT scheme is designed to ease .

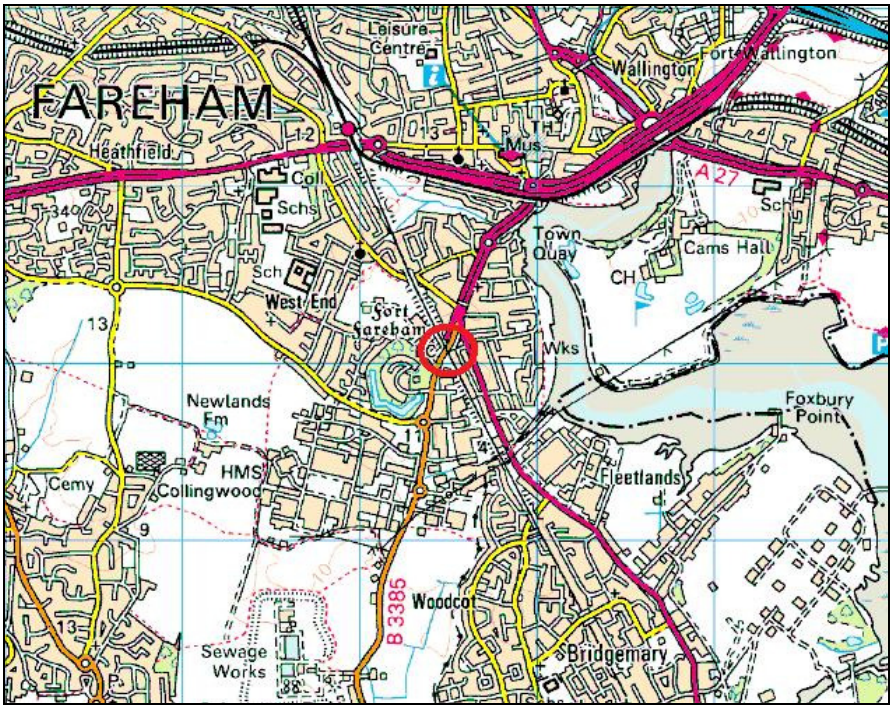

Figure 2: Detailed site location

3.3 Historic Development of the Site

3.3.1 The bridge stands in an area that has been utilised by humans since the prehistoric period (Gifford 2009), and the earliest evidence within the vicinity dates relates to a group of Mesolithic cores, blades and waste flakes (HER 20082), which were found in Gillies Allotments *c*. 400m to the north–east of the northern end of the proposed BRT route. Settlements have been long established in the wider area, with evidence of Roman activity clearly visible in the remains at Porchester Castle, while both Fareham and Gosport were thriving settlements during the medieval period.

3.3.2 Railway development in this area was led by the region's proximity to London and need for links between London and the south coast, particularly with the expansion of the port of Southampton and the presence of large numbers of military personal in Portsmouth (http://www3.hants.gov.uk/museum/railways-of-hampshire.htm).

3.3.3 The company that dominated this area was the London and South Western Railway. This originally formed as the London and Southampton Railway (L&SR) and was responsible for construction of a route linking London and Southampton, which began in the September following the scheme's authorisation by Act of Parliament on 25 July 1834 (http://en.wikipedia.org/wiki/London_and_South_Western_Railway).

3.3.4 Opening in stages between 1838 and 1840 the new line proved hugely successful but did not connect to Hampshire's most politically and commercially important city of Portsmouth, which had been the site of extensive naval and port facilities, as well as urban development, for many centuries.

3.3.5 Plans had been in place, however, since 1836 to provide a Portsmouth link branch from Bishopstoke (now Eastleigh) to Portsmouth. The local population defeated the original bill, due to their preference for a direct link to London and strong opposition to a company both named and linked so heavily with their fierce rivals, the city of Southampton (http://www.gosport.info/History/Gosport_Railway_History/gosport_railway_history.html).

3.3.6 The L&SR already had in place alternative plans for a line from Bishopstoke to Gosport, on the western side of Portsmouth Harbour, where a ferry service completed the journey to Portsmouth. The bill was passed on 4th June 1839 but, as a concession to Portsmouth, the L&SR changed its name to the London and South Western Railway (L&SWR).

3.3.7 It is on the Fareham to Gosport Line, which opened on the 29th November 1841 and formed the southern stretch of the line between Bishopstoke (Eastleigh) and Gosport, that the bridge at Palmerston Drive stands. The line immediately ran into trouble, closing 4 days later due to a land slip in a tunnel north of Fareham, eventually opening to business once again on the 7th February 1842.

3.3.8 The line proved a remarkable success and for over half a century operated a service that linked the south-coast with central London, delivering people and freight at speed to a number of stations along its route and becoming part of the out of city suburban development that rail transport enabled.

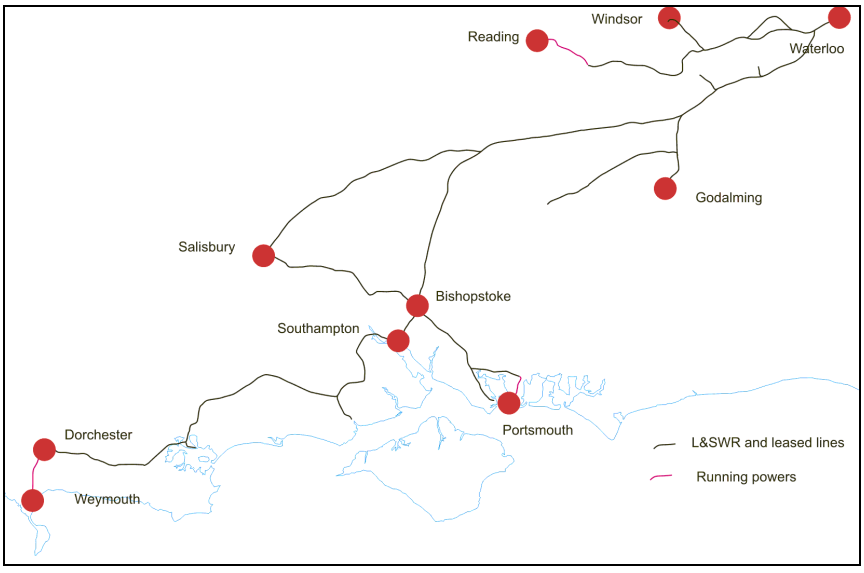

Figure 3: Plot of L&SWR Lines c.1858

3.3.9 With the increasing use of cars, trams and buses from the start of the 20th century onwards, , railway use declined across the UK and, while this reduction was stemmed for a period during WWI, where there was a need to move food, troops and machinery associated with the war effort, the end was in sight.

3.3.10 In 1923 L&SWR merged with a number of other rail companies to become the Southern Railway network (SR) but rail traffic continued to decrease rapidly, even on previously popular routes such as the Fareham to Gosport railway, and in 1934 the original dual track was singled (http://www.gosport.info/History/Gosport_Railway_History/Gosport_Railway_History_Page_3/gosport_railway_history_page_3.html).

3.3.11 There was another brief respite with the coming of WWII but the importance of the railway had diminished in post-war Britain. The railways were nationalised in 1948, as part of British Railways (BR) (www.geog.port.ac.uk/webmap/hantscat/html/railways.htm) but, long before the Beeching cuts to railway services, the Fareham to Gosport line was threatened with closure. The end came on the 6th June 1953, with the removal of passenger traffic from the line, which was followed in Jan 1969 with the final running of freight traffic and the complete closure of the line (http://www.mygosport.org/info_pages_htm/gosport_railway.htm).

3.4 Physical Description of Palmerston Drive Bridge

3.4.1 The railway between Fareham and Gosport was constructed by the London & Southwestern Railway (L&SWR) company as the result of an 1839 Act of Parliament and was initially opened on the 29th November 1841. The Palmerston Drive bridge and its flanking retaining walls were constructed as part of this original scheme.

Plate 1: Photo of Bridge from south side facing north

Plate 2: Photo of Bridge from north side facing south

3.4.2 Physically, the lower half of the structure is of red brick, laid in English bond with two protruding string courses (Plate 8) and is adjoined to the raking retaining wall of the railway embankment. The upper half and deck of the bridge have been replaced with pre-cast concrete panelling, probably of 1950s or 1960s date. Plates 1 and 2 show general overviews of the bridge layout, formed of two buttresses on each side (north and south), with an internal bridge pier and overlying concrete panelling.

3.4.3 The two buttresses on the south side of the bridge (Plates 3 & 4) are red brick and would have originally terminated in stone-capped plinths at each end, although the plinth on the south-western buttresses has been removed and rebuilt since the original construction (as can be seen with the striking difference in colour of brickwork on plate 4).

Plate 3: Brick buttress on southeast side of bridge

Plate 4: Brick buttress on southwest side of bridge

3.4.4 The buttresses on either side of the northern side of the bridge (Plate 5 & 6) are very similar to those on the southern side, although the northeastern buttress is shorter and steeper in dimension, while the northwestern buttress has a noticeable curve along it (Plate 7), presumably to take account of local topography.

Plate 5: Brick buttress on northwest side of bridge

Plate 6: Brick buttress on northeast side of bridge

Plate 7: Showing curve in brickwork along northwestern buttress

3.4.5 Plate 8 shows the brickwork at the base of the buttress abutting the internal bridge pier of the bridge. As can be seen from this photo, the bridge pier is overlain by concrete work, with original brickwork having being removed, the concrete inserted and the gaps bricked up. The use of more modern bricks is visible in both the colour and form of the bricks (which are more orangey than the brown bricks below them), as well as the more visible mortaring between the brick courses surrounding the concrete panelling.

Plate 8: Detail of bridge pier / buttress brickwork

3.4.6 Plates 9 & 10 show in more detail the central brick bridge piers overlaid with what appear to be prefabricated concrete 'u'-profiled panels which have been dropped into the gaps left by the removal of earlier bridge features. Plate 9 (top) shows a change in brickwork surrounding the concrete panelling, where gaps left following insertion were bricked up.

Plate 9: Photo showing original bridge piers with overlying modern concrete supports on east (top) and west (bottom) side of bridge

Plate 10: Detail of concrete supports facing north-east

3.4.7 Plates 11 shows the northeastern side of the bridge, and illustrates the different phases of construction on view. The original construction phase can be seen along the base of the bridge, as a line of continuous brickwork running along the bridge piers and into the bridge buttresses.

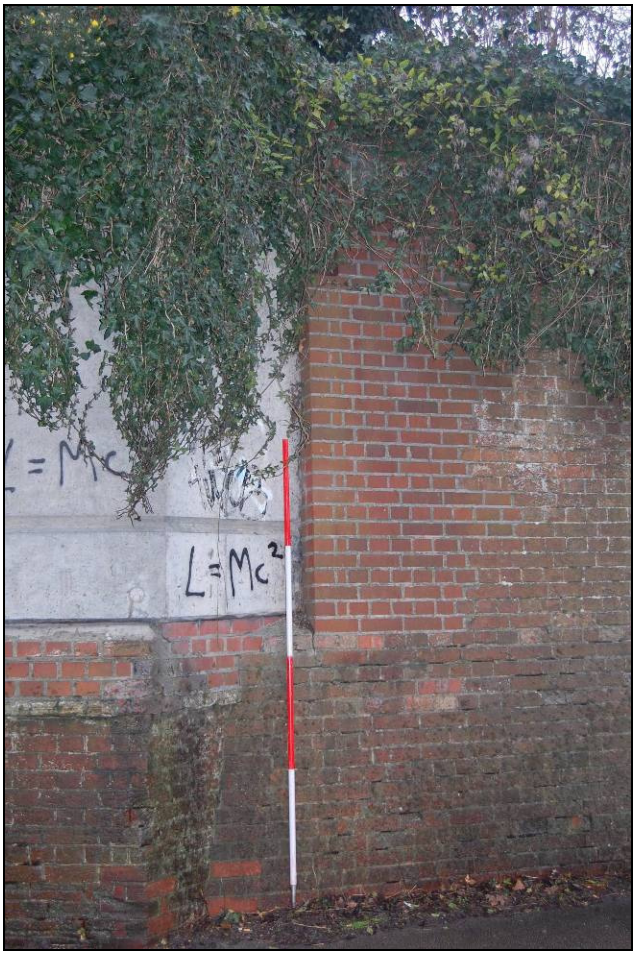

Plate 11: Showing different phases of construction on northeast side of bridge

3.4.8 Above this, the central bridge section has been removed (possibly in the 1950s or 60s) and pre-cast 'u'-profiled concrete panels inserted. This has left a gap between the original brickwork and the concrete panelling, which has been filled and tied together with the laying of new brick courses.

3.4.9 Plate 12 provides an overview of how the various phases of construction (original bridge construction, subsequent removal of upper levels of internal bridge and replacement with concrete panelling and filling of gaps with modern brickwork) and the various bridge elements (buttress, bridge pier and concrete bridge) tie together.

Plate 12: Buttress, bridge pier and concrete supports on eastern side of bridge (facing southeast)

3.4.10 Plate 13 show the stone capping on a plinth at the terminus of the northeastern buttress. This structural element would originally have been constructed at the end of each buttress, although it has subsequently been removed and replaced during the 20th century on the southwestern bridge buttress (see Plate 4).

Plate 13: Brick plinth with stone capping at end of northeast bridge buttress

3.4.11 Plate 14 shows the shaped brickwork that caps the bridge buttresses. It creates a curvilinear shape to the angular lines of the vertical bridge elements.

Plate 14: Shaped brick capping on top of buttresses showing southeastern buttress (top) and close up detail on northwestern bridge buttress (bottom)

3.4.12 The final two plates recording the layout of the bridge prior to its demolition show views from the top of the structure. Plate 15 is a view overlooking the side of the bridge and gives

an impression of how the top of the concrete panelling lies within the gap created by the removal of the original bridge pier.

Plate 15: View overlooking top of bridge facing southeast

3.4.13 Plate 16 shows the lack of architectural features on the top of the structure, demonstrating the perfunctory, routine and day-to-day nature of this bridging, unlike the earlier, more impressive Victorian red-brick construction.

Plate 16: On top of bridge facing west

4 CONCLUSIONS

4.1.1 This report comprises a Level 1 Historic Building Recording survey of the Palmerston Drive bridge and its flanking retaining walls, which were constructed during the early 1840s as part of the original construction of the railway between Fareham and Gosport by the London & Southwestern Railway (L&SWR).

4.1.2 Physically, the lower half of the structure is of red brick, laid in English bond and adjoined to the raking retaining walls of the railway embankment. The upper half of the piers and deck of the bridge have been replaced with pre-cast concrete panels, probably during the 1950s or 1960s.

4.1.3 The bridge displays two main phases of construction (original bridge construction and subsequent removal of upper levels of internal bridge and replacement with concrete panelling and modern brickwork) and three main bridge elements (bridge pier, adjoining buttress retaining walls and modern concrete bridge).

Appendix A REFERENCES

English Heritage 2006, Understanding Historic Buildings – a guide to good recording practice. London, English Heritage

Mott Gifford, (2009) Environmental Statement: Cultural Heritage

Mott Gifford (2009a) Bus Rapid Transit Scheme, Phases 1A and 1B Fareham to Gosport: Archaeological Mitigation Strategy

http://www3.hants.gov.uk/museum/railways-of-hampshire.htm [Accessed: 22/03/2010]

http://en.wikipedia.org/wiki/London_and_South_Western_Railway [Accessed: 25/03/2010]

http://www.gosport.info/History/Gosport_Railway_History/gosport_railway_history.html [Accessed: 25/03/2010]

www.geog.port.ac.uk/webmap/hantscat/html/railways.htm [Accessed: 22/03/2010]

http://www.mygosport.org/info_pages_htm/gosport_railway.htm [Accessed: 23/03/2010]

Appendix B OASIS RECORD

4.2 OASIS ID: abherita1-75068

Project details	
Project name	Former Railway Bridge: Palmerston Drive
Short description of the project	A Level 1 Historic Building Recording survey of the former railway bridge over Palmerston Drive, Hampshire, as part of archaeological works along the route of the South East Hampshire Bus Rapid Transit (BRT) Phase 1 Fareham to Gosport project.
Project dates	Start: 15-12-2009 End: 30-03-2010
Previous/future work	Not known / Not known
Any associated project reference codes	10012 - Contracting Unit No.
Type of project	Building Recording
Site status	None
Current Land use	Transport and Utilities 2 - Other transport infrastructure
Monument type	RAILWAY BRIDGE Post Medieval
Significant Finds	NONE None
Methods & techniques	'Photographic Survey'
Prompt	Direction from Local Planning Authority - PPG15
Project location	
Country	England
Site location	HAMPSHIRE FAREHAM FAREHAM Former Railway Bridge: Palmerston Drive
Postcode	PO14 1
Study area	0 Square metres
Site coordinates	457484 105080 457484 00 00 N 105080 00 00 E Point
Lat/Long Datum	Position derived from charts
Project creators	
Name of Organisation	Mott Gifford
Project brief originator	Mott Gifford
Project design originator	Mott Gifford
Project director/manager	Mott Gifford
Project supervisor	Mott Gifford
Type of sponsor/funding body	County Council
Name of sponsor/funding body	Hampshire County Council

Project archives

Physical Archive Exists?	No
Digital Archive recipient	Hampshire County Council HER
Digital Contents	'none'
Digital Media available	'Text'
Paper Archive Exists?	No
Paper Contents	'none'
Paper Media available	'Photograph','Report'

Project bibliography

Publication type	Grey literature (unpublished document/manuscript)
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