

Tilehurst Road Overbridge BKE 3709

Heritage Statement

Prepared for Network Rail

August 2017



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Executive Summary

This Heritage Statement has been prepared by Alan Baxter Ltd (ABA) to support an application for listed building consent by Network Rail for works to Tilehurst Road Overbridge (BKE 3709). The application follows pre-application response from Reading Borough Council received on 14 September 2016 (pre-app ref no: 161555).

Works are required to Tilehurst Road Overbridge in order to fulfil the safety requirements for a bridge over a railway line which is powered by overhead electrification. The works to adapt this bridge will make it safe to operate the electrified railway. The proposed works comprise the addition of a steel parapet fence across the bridge. Outside of the regulation defined 'Danger Zone' the parapet will be raised to a minimum of 1.25m. Above the central span, the regulation defined 'Danger Zone', the works comprise a solid extension topped with a perforated plate to bring the parapet height to a minimum of 1.85m. Mesh panels will be installed at the rear to prevent access. The works also include the introduction of anti-climb ledges to the external elevations. Four electrocution warning signs will be attached to the parapet extensions.

Tilehurst Road Overbridge is a tall triple-span semi-elliptical overbridge of c.1845–47. The bridge is little altered, although patches have been re-faced in red engineering brick. Both parapets were subsequently raised and topped with decorative anti-climb spikes. A section of both parapets was recently rebuilt. Its significance lies mainly in it being a structure originally designed by Brunel and dating from what Historic England has called the 'heroic age' of railway construction. It is a handsome and well-preserved example of such a bridge and forms part of group with Bath Road Overbridge (BKE 3729).

The proposals are subject to the statutory tests in the Planning (Listed Buildings and Conservation Areas) Act 1990 s.16, the policy tests in the National Planning Policy Framework (NPPF) and Reading Borough Council's Adopted Core Strategy (2008, with alteration adopted January 2015) and its Sites and Detailed Policies Document (2012, with alteration adopted January 2015).

The proposed works will have an impact on the heritage significance of Tilehurst Road Overbridge by changing its appearance and thereby its historic character. However, the works have been developed in line with advice from the Local Planning Authority and involve minimal loss of historic fabric. The works will therefore not cause substantial harm to the significance of the structure.

The less than substantial harm caused by the works would be outweighed by the public benefits they bring. The public benefits come from the electrification itself, which will provide a more efficient and more environmentally friendly railway, and from the safer operation of that railway.

1.0 Introduction

1.1 Purpose of the report

This Heritage Statement has been prepared by Alan Baxter Ltd (ABA) to support an application for listed building consent by Network Rail (NR) to Reading Borough Council for works to Tilehurst Road Overbridge (BKE 3709).

The document has been prepared in accordance with the requirements of the National Planning Policy Framework (NPPF) to provide an assessment of the significance of the heritage asset affected by the works. It explains why the degree of harm to significance is necessary to realise the public benefits of electrification of the Great Western Main Line (GWML) route and demonstrates the ways in which harm has been minimised through practical design and in line with pre-application advice.

The application is one of a series which form part of the Greater West Programme (GWP), a programme to complete, in phases, the electrification of the GWML Capital to Capital route between London Paddington and Cardiff Central. The Reading to Newbury line is included as a subsidiary line within the electrification project.

ABA has been involved in many aspects of the electrification process, including assessing the history and significance of the GWML and subsidiary lines and assisting in the preparation of listed building consent applications for all listed structures affected by the electrification programme.

1.2 Consultation process

Pre-application advice to Network Rail's revised proposals was received from Reading Borough Council for both Tilehurst Road Overbridge and Bath Road Overbridge (pre-app ref no: 161555) in September 2016.

The summary of the pre-application response of 14 September 2016 stated:

The revised parapet design using a metal fence is now considered acceptable in principle subject to the submission of the detailing and specification of the fence at planning application stage. The proposed fixings to the underside of the bridge require further details of the fixings to be provided at application stage.

Under Section 6 Appraisal the conservation officer noted the heritage led approach of the current proposals: 'the metal fence parapet [...] above the existing bridge railings is an acceptable proposal that the previous 'wholesale' parapet demolition that was considered to destroy the C19 unusual parapet.'

The conservation officer noted that the detailing of the parapet fence 'will be important' and that the specification for the fence, specification for the mesh at the back, the spacing of fixings to the parapet wall and materials and fixing of the anti-climb strip should be included in the listed building consent application.

The conservation officer expects further details of the proposed fixings to the underside of the bridge. Subject to this detailing 'the revised scheme would in principle preserve the external appearance of the heritage assets and the amenity of the neighbourhood in accordance with Core Strategy policies CS7, and CS33 as well as the National Planning Policy Framework.'

1.3 Structure of the report

Section 2: lays out the relevant national and local policy and guidance

Section 3: describes the history and development of the heritage asset

Section 4: assesses the heritage significance of Tilehurst Road Overbridge and its relationship to other listed buildings

Section 5: describes the proposed works and explains how the design has been arrived at

Section 6: assesses the impact of the proposed works on the significance of the heritage asset and the balance between that level of harm and the public benefits.

Supporting information is given in the appendices.

1.4 Methodology

It is the nature of existing buildings that details of their construction and development may be hidden or may not be apparent from a visual inspection. The conclusions and any advice contained in this report – particularly relating to the dating and nature of the fabric – are based on our research, and on observations and interpretations of what was visible at the time of our site visits. Further research, investigations or opening up works may reveal new information which may require such conclusions and advice to be revised.



Figure 1: Location map



Figure 2: Network Rail ownership highlighted in green

2.0 Planning policy

Tilehurst Road Overbridge is a Grade II listed building (list entry 1409246). Any works that are likely to affect its character as a structure of special historic and architectural interest are therefore subject to statutory controls exercised by the local planning authority.

2.1 National legislation and policy

2.1.1 Planning (Listed Building and Conservation Areas) Act 1990

Section 7 states that listed building consent is required for any works of alteration or extension which would affect the character of a listed building as a building of special architectural or historic interest.

Section 16(2) requires the local authority to have 'special regard to the desirability of preserving the building or its setting or any features of special architectural or historic interest which it possesses'.

2.1.2 Town and Country Planning (General Permitted Development) Order 1995

The legislation which originally authorised construction of the railway (Great Western Railway Act 1835) granted the Railway Company and its successors in title the right to carry out work necessary for the running and management of the railway, including construction, alteration or demolition of bridges. Such work is now permitted by virtue of Part 11 of the Town and Country Planning (General Permitted Development) Order 1995 and therefore does not require planning permission. Local authority approval under the Order is nevertheless needed before any alterations are made to a structure. The local authority may consider only the design, materials or siting of the works to ensure development would not 'injure the amenities of the neighbourhood' and could not be 'reasonably carried out' elsewhere.

Network Rail's permitted development rights do not remove the need for listed building consent where the structures concerned are listed.

2.1.3 National Planning Policy Framework

The NPPF was adopted in March 2012. It identifies a set of twelve core planning principles to underpin both plan-making and decision-making, with the overall aim of encouraging sustainable development. The need to secure good quality design, conservation of heritage assets in a manner appropriate to their significance, and supporting the transition to a low carbon future are the three principles most relevant to this application.

Section 7 Requiring good design:

- **Para 56** states that the Government attaches great importance to the design of the built environment. Good design is a key aspect of sustainable development, is indivisible from good planning, and should contribute positively to making better places for people.
- **Para 60** states that planning policies and decisions should not attempt to impose architectural styles or particular tastes and they should not stifle innovation, originality or initiative through unsubstantiated requirements to conform to certain development forms or styles. It is, however, proper to seek to promote or reinforce local distinctiveness.

Section 12, Conserving and enhancing the historic environment:

- **Para 128** requires applicants to provide a description of the significance of the heritage asset affected by the proposed development and its setting that is proportionate to its importance
- **Para 129** requires local planning authorities to take account of that significance when assessing an application
- **Para 131** emphasises the desirability of sustaining and enhancing the significance of heritage assets and of new developments making a positive contribution to local character and distinctiveness.
- **Para 132** states that great weight should be given to the conservation of heritage assets and explains that any harm or loss to a heritage asset should require clear and convincing justification. Substantial harm to or loss of a grade II listed building or registered park and garden should be exceptional. Substantial harm to or loss of designated heritage assets of the highest significance, including grade I and II* listed buildings and World Heritage Sites, should be wholly exceptional.
- **Para 134** sets out that where a development would lead to less than substantial harm, local planning authorities should weigh this harm against the public benefits of the proposal.

The electrification of the GWML will play a part in helping to promote sustainable transport; as such policies from **Section 4, Promoting sustainable transport**, are relevant.

2.2 National planning guidance

Planning Practice Guidance (Department of Communities and Local Government, 2014)

The aim of the Planning Practice Guidance (PPG) is to support implementation of the policies set out in the NPPF. The section *Conserving and enhancing the historic environment* was last updated in April 2014.

The PPG reiterates that the appropriate conservation of heritage assets forms one of the core principles underpinning the planning system. In reference to development proposals, it is the degree of harm to the asset's significance rather than simply the scale of the development that should be assessed. It explains that significance derives not only from a heritage asset's physical presence but also from its setting, which is defined as 'the surroundings in which an asset is experienced [which] may therefore be more extensive than its curtilage. All heritage assets have a setting irrespective of the form in which they survive and whether they are designated or not.'

The PPG highlights that the public benefits that may follow a development could be anything that delivers economic, social or environmental progress as described in the National Planning Policy Framework (Para 7)'. It adds that benefits 'do not always have to be visible or accessible to the public in order to be genuine public benefits.'

Historic Environment Good Practice Advice in Planning Note 2 – Managing Significance in Decision-taking in the Historic Environment (Historic England, 2015)

This advice note supports the implementation of policy in the NPPF. It emphasises that the information required in support of applications for listed building consent should be no more than is necessary to reach an informed decision and proportionate to the significance of the heritage assets affected and the impact on that significance. It explains the importance of understanding the nature, extent and level of significance as part of the application process for listed building consent.

Historic Environment Good Practice Advice in Planning Note 3 – The Setting of Heritage Assets (Historic England, 2015)

This advice note supports the implementation of policy in the NPPF. It is largely derived from the earlier guidance on setting issued by English Heritage in 2011. It contains advice on the extent of setting, its relationship to views and how it contributes to significance. It also sets out a staged approach to decision-taking.

2.3 Local policy and guidance

2.3.1 Reading Borough Council Core Strategy (2008, with alteration adopted January 2015)

The Core Strategy was originally adopted on 29 January 2008. Alteration to policy CS16 (Affordable Housing) was adopted on 27 January 2015.

The Core Strategy sets out Reading Borough Council's adopted planning strategy and how planning and development will achieve the Reading 2020 Vision for the town and 'a framework for how Reading can grow in a sustainable way in the future.'

The relevant policies are CS7 Design and the Public Realm and CS33 Protection and Enhancement of the Historic Environment.

Policy CS7 Design and the Public Realm notes that all development must be of a high design quality 'that maintains and enhances the character and appearance of the area of Reading in which it is located.' The components of development including:

- *Layout, urban structure and urban grain;*
- *Landscape;*
- *Density and mix;*
- *Scale: height and massing; and*
- *Architectural detail and materials.*

[...] will also be assessed to ensure that they: -

- *Respond positively to their local context and create or reinforce local character and distinctiveness, including protecting and enhancing the historic environment of the Borough and providing value to the public realm;*

[...]

- *Address the needs of all in society and are accessible, usable and easy to understand by them; and*
- *Are visually attractive as a result of good high quality built forms and spaces [...] and appropriate materials and landscaping.*

Policy CS33 states that historic features and areas of historic importance and other elements of the historic environment including settings, 'will be protected and where appropriate enhanced.' Paragraph 11.9 notes:

The character and integrity of listed buildings will be preserved, and the Council will seek to enhance the settings of Listed Buildings wherever appropriate, by ensuring that new development in their vicinity is sympathetic.

2.3.2 Reading Borough Council Sites and Detailed Policies Document (2012, with alteration adopted January 2015)

The Sites and Detailed Policies Document was originally adopted on 23 October 2012. Alteration to policy DM6 (Affordable Housing) was adopted on 27 January 2015.

Policy SD1: Presumption in Favour of Sustainable Development notes that 'a positive approach to considering development proposals will be taken that reflects the presumption in favour of sustainable development contained in the National Planning Policy Framework.'

Section 9 deals with the Built and Natural Environment. Paragraph 9.1.7 notes that the 'focus is on conservation and where appropriate enhancement, recognising that some new development may make a positive contribution to the character and local distinctiveness of a part of the historic environment.' Paragraph 9.1.10 further notes:

Heritage assets are a non-renewable resource. Harm to or loss of an asset's significance including the complete loss, demolition or destruction, causes a loss of value to society and a loss of public benefit. There is a presumption in favour of conservation of all heritage assets. Any harm to or loss of an asset needs clear and convincing justification as set out in national planning policy.

2.3.3 Reading's Culture and Heritage Strategy 2015-2030

The strategy was produced by Reading's Cultural Partnership. The proposed period covered by the strategy is 2015-2030 with a review planned in 2020. The strategy states that 'Culture and Heritage in Reading are integral to the town's success as a place that welcomes and excites people to live, work and visit.' Heritage is a key part of Reading's Cultural Vision:

Reading's heritage is an important and unique asset, albeit sometimes out best kept secret, playing a vital part in the local people's pride and sense of identity. Reading's vision for the town's heritage is applied within the framework of national and local policies for culture, heritage and planning. The local planning authority has a statutory responsibility to protect Reading's assets.

3.0 Understanding Tilehurst Road Overbridge

3.1 Description

Tilehurst Road Overbridge was designed by Brunel and built c. 1845-47. It carries Tilehurst Road over the Berkshire and Hampshire branch line, to the west of Reading city centre.

It is a tall triple-arch skew road overbridge with semi-elliptical spans, set in a cutting. It was constructed in red brick, laid in English bond, and the parapets have limestone coping stones. The central arch is slightly taller and wider than the side arches; the contract drawings also show the central span as 38 ft (11.7 m.) and the side arches having spans of 31 ft (9.5 m.). The drawings show that the superstructure in the spandrels was lightened by the construction of a series of voids and spine walls, with the carriageway carried on arches linking the spine. There are tall tapering piers on each face; each originally pierced by two transverse arches (now infilled so that they are blind arches). Each face also features a stepped string course. The wing walls are gently curved.

The parapets are stepped on the outer faces only. The carriageway carried over the railway is 24 ft (7.3 m.) wide between parapets. This measurement was favoured by Brunel for larger road bridges.

Please see Appendix 1 for historic drawings.

3.2 The Great Western Main Line

The original Great Western Railway was part of the 'pioneering phase' of railway development. It was built at the initiative of Bristol businessmen and industrialists who recognised that a railway link to London and the rest of the country would help invigorate their city's economy. The committee set up to promote the link appointed Isambard Kingdom Brunel as engineer for the line in 1833. The line was built in stages from the two ends: London to Wootton Bassett was complete by December 1840, and Bristol to Bath by August the same year. The middle section, including Box and Middlehill Tunnels, was completed in June 1841. The main line is known by the Engineer's Line Reference MLN1.

The Reading to Newbury Line, known by the Engineer's Line References BKE and BHL, was one of the subsidiary lines built shortly after the completion of the Great Western Railway between London and Bristol. The line was completed between 1845 and 1847 by the Berks and Hants Railway Line. The company was incorporated under the Berks & Hants Railway Act of 30 June 1845 and amalgamated with the Great Western Railway in May 1846.

The line formed part of the route south of the Marlborough Downs that Brunel had dismissed as a result of his first surveys. In its planning stages it was the subject of a dispute between the GWR and the London & South Western Railway. The resolution of this dispute allowed the Berks & Hants to complete the line to Hungerford via Newbury. The line opened in December 1847.

3.3 The structure today

Tilehurst Road is a busy road serving the surrounding sprawling residential area. The minor railway station Reading West is accessible from the pavement on the north (low mileage) side of Tilehurst Road Overbridge.

Overall, the bridge is relatively little altered, although it does have some red engineering brick patching and replacement English bond. In addition, the parapets were subsequently raised by four courses of engineering brick above the original stone coping (which was left *in situ*). The western (Up) ends of both parapets were recently rebuilt in engineering brick, but apparently also reused the original coping *in situ*, with the north (low mileage) parapet stepping up towards a rectangular brick pier which forms part of the approach to the neighbouring modern steel footbridge. The pitched tile coping is topped by small iron anti-climbing spikes.

Buttresses of engineering brick were added to the wing walls in c. 1896.

The bridge is not visible in the wider landscape because it is in a deep cutting and also because of topography and existing structures. However, it is intervisible with the similar Brunel-designed Bath Road overbridge (BKE 3729).

In railway terminology, the high and low mileage is taken from the distance from London Paddington.



Figure 3: 1816-1830 Old Series_BKE 3709 & 3729



Figure 4: 1878-1881 County Series Berkshire_BKE 3709 & 3729



Figure 5: Low mileage face



Figure 6: High mileage face



Figure 7: High mileage face seen from Bath Road Overbridge



Figure 8: View from bridge towards country end showing Bath Road Overbridge



Figure 9: Low mileage parapet with modern adjacent footbridge



Figure 10: Detail of low mileage parapet



Figure 11: Detail of anti-climb spikes on low mileage parapet



Figure 12: High mileage parapet



Figure 13: Detail of high mileage parapet with anti-climb spikes



Figure 14: Close up of low mileage parapet

4.0 Assessment of significance

4.1 Assessing significance

'Significance' is the means by which the cultural importance of a place and its component parts can be identified and compared, both absolutely and relatively. By identifying and analysing the significance of a site it is possible to provide a clear set of guidelines against which the impact of proposals for alteration or addition can be judged.

The primacy that should be given to the analysis of significance in plan-making and planning decisions is at the heart of national planning policy. Para 129 of the NPPF states: 'Local planning authorities should identify and assess the particular significance of any heritage asset that may be affected by a proposal [...] taking account of the available evidence and any necessary expertise. They should take this assessment into account when considering the impact of a proposal on a heritage asset, to avoid or minimise conflict between the heritage asset's conservation and any aspect of the proposal.'

The **Great Western Main Line – Overhead Line Electrification – Environmental Statement and Impact Assessments** described the significance of every structure on the route. This was necessarily at a high level; a listed building consent application requires a more detailed and sophisticated analysis. This chapter provides such an analysis.

In accordance with English Heritage's **Conservation Principles, Policies and Guidance** (2008), which is a recognised methodology for meeting the requirements of the NPPF, the significance of Tilehurst Road Overbridge is articulated as the sum of its identified heritage values. In addition to the familiar architectural-historical values used in most assessments of significance, this takes account of a wider range of values:

Evidential values: the potential of Tilehurst Road Overbridge to provide primary evidence about the past

Historical values: the way in which Tilehurst Road Overbridge provides a means of connecting to and interpreting aspects of past people, events and movements

Aesthetic values: the visual qualities of Tilehurst Road Overbridge, deriving from conscious design and changes over time

Communal values: the symbolic or social importance attached to Tilehurst Road Overbridge by individuals or communities and its contribution to local identity

The summary of significance at the end of this section is an amalgam of these different values and interests.

4.2 Statutory designations

The following designations are relevant to the consideration of the significance of Tilehurst Road Overbridge:

- Tilehurst Road Overbridge – listed at Grade II in 2012. This recognises the special historic and architectural interest of the bridge

Tilehurst Road Overbridge is in a sequence of other structures designed by Brunel on the GWML: Bath Road Overbridge is approx. 390m up mileage from Tilehurst Road Overbridge; together with other structures on the line they hold group value in relation to the GWML as a whole, however, they are not statutorily listed as a group. As these two bridges are intervisible, they impact upon each other's setting.

Together with other surviving Brunel structures on the route they hold substantial group value.

Furthermore, within 100m of Tilehurst Road Overbridge there are two statutorily designated heritage assets. Nos. 35 and 52 Tilehurst Road are both Grade II listed residential buildings. Tilehurst Road Overbridge can be seen from No. 35 Tilehurst Road, but not clearly from No. 52. Furthermore, these two buildings do not have any direct historic relationship to the railway. Therefore, the proposed works will have negligible impact on the setting of these two heritage assets.

No other heritage assets are within the setting of the bridge.

4.3 The significance of the GWML and its overbridge

To understand the significance of Tilehurst Road Overbridge it is necessary to consider it not just as an isolated structure on the Reading to Newbury and Hungerford line, but also as a part of Brunel's Great Western Railway. Although individual structures vary in quality and interest, they combine to give the line as a whole a distinctive character and an historical and engineering importance that is greater than the sum of the parts. A fuller analysis of the significance of the GWML, and of Brunel's overbridges, is given in ABA's **History and Significance of the Great Western Main Line** (April 2012), but the key points are set out below.

4.3.1 The overall significance of the GWML

Evidential values: the survival of large parts of the fabric of Brunel's railway provides physical evidence of the way railways were built and operated during the nineteenth century.

Historical values: the GWML mainline belongs to what Historic England has described as the 'pioneering phase' of railway development. The line from Reading to Newbury and Hungerford belongs to what Historic England has described as the 'heroic age' of railway development. It has a powerful association with one of the great nineteenth-century engineers, Isambard Kingdom Brunel.

Aesthetic values: many of its structures display a high quality of design, in a variety of architectural styles, and parts of the line were moulded to the landscape with picturesque effect in mind.

Communal values: the Great Western Railway, which built the line and operated it for over a hundred years had a strong culture and identity, and has a special value for railway enthusiasts and for the communities it served.

4.3.2 The significance of Brunel's overbridges as a group

Evidential and historical values: as a group, the overbridges on the GWML, including the subsidiary line from Reading to Newbury and Hungerford, are integral parts of one of the most important railways dating from the 'pioneering phase' and 'heroic age' and all were personally designed by Brunel.

The simpler overbridges are generally a development on a large scale of the simple masonry arch bridge; a type that was already common on canals. Except where a skew was necessary – to carry a road over the railway on a diagonal – they show no innovation in design or construction.

Later alterations to many of the overbridges on the main line add to their historical interest because they illustrate the widening of the Great Western in the late-nineteenth century to accommodate growing volumes of traffic. This interest is strengthened by the fact that it can be seen on many structures along the line, not just in isolated cases. It is also of historic interest that these changes were often carried out with great sensitivity, out of respect for Brunel's achievement.

Aesthetic values: the overbridges vary in appearance, some being plain engineering structures while others are more obviously architectural. As a group they therefore demonstrate the way in which Brunel altered his design approach according to the location of the bridge and its functional requirements. The aesthetic values of the overbridges also derive from the choice of materials, generally local stone or brick that was readily available. It is notable that in many cases, aesthetic appreciation of the bridges as a group is today largely limited to train drivers or track workers - passengers no more than glimpse them.

Communal values: since the ability to appreciate most overbridges is limited, as described above, their social and symbolic importance as a group is largely restricted to railway enthusiasts.

4.4 Significance of Tilehurst Road Overbridge

Evidential values: Tilehurst Road Overbridge is a good example of a tall triple-arch skew overbridge dating from c.1845-47. It subsequently had its parapets raised and in places recently reconstructed. It has undergone some areas of re-patching and buttresses added to the wing walls. However, the form of the bridge is well preserved and retains its original form as designed by Brunel.

Historical values: The historical importance of Tilehurst Road Overbridge lies in its construction as part of the 'heroic age' Berks & Hants Railway and its association with I.K. Brunel. Its proportions are largely unaltered and the bridge is intervisible with Bath Road Overbridge. The Berks & Hants Railway was one of the early subsidiary lines built after the completion of the GWR mainline.

Aesthetic values: Tilehurst Road Overbridge retains the original Brunel three-span design with its taller central arch. The bridge has not been extended. Its original parapet and brick stone coping were raised by the addition of four brick courses and steeple coping. The coping was topped by decorative anti-climb spikes.

Communal values: The setting of the bridge is urban but is not visible in the wider landscape. A modern pedestrian footbridge is located adjacent to its low mileage face. However, its high mileage face is clearly visible from the neighbouring Bath Road Overbridge.

4.5 Summary of significance

Taking into account all the values (evidential, historical, aesthetic, and communal), the significance of Tilehurst Road Overbridge lies in it being:

1. a surviving structure from the Berks & Hants Railway built c.1845-47 designed by Isambard Kingdom Brunel;
2. retains its original Brunel design;
3. intervisible with the neighbouring Bath Road Overbridge.

5.0 Proposed works

5.1 Design objective

The design of electrification and associated works along the GWML and its branch lines aims to minimise the danger of public proximity to a fatal amount of electricity, while minimising the physical impact on historic fabric and the visual impact on listed structures and their settings. In consultation with local planning authorities and Historic England (formerly English Heritage) it has been agreed that, along with satisfying safety requirements, the new works affecting the historic structures along the route shall, as far as practicable, prioritise maximum fabric retention and be of sympathetic design.

The design of a form of parapet extension to achieve safety requirements on the bridges seeks to maintain the integrity of the historic structures and add something which is of practical design in its own right. Furthermore, the use of a common approach on Bath Road Overbridge will create a consistency for this group of Brunel-era bridges.

In the design of the parapet extensions, a balance has been achieved between the maximum retention of the bridge's historic fabric and the preservation of their overall aesthetic qualities. It was decided that the significance of the bridge as a heritage asset was best conserved by adding a solid parapet extension, retaining the decorative anti-climb spikes and leaving the existing fabric *in situ* so that distinct 'historic' and new layers would be legible in the structure.

5.2 Design requirements

The electrification of the GWML introduces risks to the public and to those working on the railway, putting them in proximity to a fatal amount of electricity. The risks have to be made as low as reasonably practicable in order to comply with UK and European legislation and regulations. The relevant standards are described in detail in ABA's *A Guide to Overhead Electrification* (March 2017 Rev 12.1).

In summary, the aim of the safety measures is to prevent anyone from coming sufficiently close to the live wires to be electrocuted. This affects the following aspects of the existing parapets:

- Height*
- Coping profile
- Solidity

Two general options have been identified for modifying bridges to comply with Network Rail's standards:

A) 1.85m high solid parapet raised in masonry or steel with steeple coper

B) 1.25m high solid parapet with a 0.6m high perforate top (making a total height of 1.85m) and treatment to deter access to outside face

Both of these options satisfy the requirement to achieve a 1.8m height. The addition of a further 0.05m has been factored in to allow for future road or pavement resurfacing which, by building up the standing surface over time, would reduce the effective height of the parapet.

In some circumstances, the height over the 'Danger Zone' can be reduced to 1.55m, where the standing surface of the bridge is more than 2.25m above the proposed live parts. As Tilehurst Road Overbridge is considered to constitute a suicide risk, however, the reduction is not possible in this case.

For parapet copings that are wide enough to stand on, they should either be profiled to deter standing (e.g. a 45° slope on each side, or 35° on the inner face and 60° on the outer) or be made somehow inaccessible. Similarly, ledges on the outside faces of overbridges should be treated to deter anyone walking along them from either end and thereby reaching the centre of the bridge.

**The height standards apply only to 3m either side of fixed live components - known as the 'Danger Zone' - not the full length of the bridge.*

5.3 Description of proposed works to Tilehurst Road Overbridge

The proposed works to Tilehurst Road Overbridge constitute alterations to the historic structure, to enable it to retain its original use in relation to the newly electrified railway. The following aspects of Tilehurst Road Overbridge are not compliant with the safety standards described above and therefore need remedial work.

- The parapets stand at approximately 1.02m to 1.04m from the level of the pavement in the central part of the bridge.
- The string course and the plinth above it are deep enough to form a standing surface on the outside of the bridge.

The proposed works are shown in full on the application drawings, but are summarised here.

Network Rail's proposal is to leave the existing historic fabric of the bridge intact and satisfy the anti-climb and safety requirements through the addition of a steel parapet extension across the bridge.

Outside of the 'Danger Zone' the parapet will be raised by the addition of a steel solid parapet extension. This will raise the parapet to a minimum height of 1.25m. Above the central span, the regulation defined 'Danger Zone,' the parapet will be raised by the addition of a steel solid parapet extension topped with a perforated plate. This will raise the parapet to a minimum height of 1.85m. The perforated plate will terminate at 600mm below the top of the parapet extension. The addition of a steel parapet extension has the beneficial effect of avoiding wholesale parapet demolition and leaving the unusual decorative anti-climb spikes in place.

The ends of the 1.85m 'Danger Zone' parapet extensions will have mesh panels installed at the rear to prevent access. The mesh will measure 25mm x 25mm and will be welded to the steel frame.

The ends of the 'Danger Zone' also require the introduction of anti-climb ledge treatments to the external elevations. The long section of chamfered brick will be designed to match the existing masonry. The ledge detail will be of natural stone or fired brick – this detail is to be confirmed with the Local Planning Authority.

The paint colour of the steelwork is to be confirmed with the Local Planning Authority.

Before work begins on the parapet extension, a number of defects identified will be rectified. These defects include:

- Spalling and mortar loss
- Vertical and step fractures
- Longitudinal fracture and separation fracture
- Salt and calcite deposits
- Separation fracture
- Loss of masonry and spalling

Please refer to the Repair Details drawing for the full list of defects identified and for details of repairs.

Warning signage, required as a safety precaution on the bridge, will be placed to either side of the regulated defined 'Danger Zone'. There will be a total of four signs either side of the centre of the bridge, which will be fixed to the parapet extension.

6.0 Heritage impact assessment

6.1 Overview

The proposed parapet extension and anti-climb ledges will fulfil the safety requirements for a bridge over a railway line with overhead electrification. The way in which it is proposed to achieve this has been designed to minimise the harm to the significance of the listed structure by providing a physically reversible option which leaves the historic fabric *in situ*.

Nevertheless the proposals will cause some harm to the significance of the structure and cumulatively to the significance of the neighbouring Bath Road Overbridge which forms a group with Tilehurst Road Overbridge. This section of the Heritage Statement will demonstrate that this harm has been minimised, is less than substantial and is outweighed by the public benefits that the proposals deliver.

6.2 Impact on historic fabric

The proposals involve the addition of a parapet extension raising the parapet height above the central span to a minimum of 1.85m and to a minimum height of 1.25m across the length of the rest of the parapet. These proposals result in the very minor loss of historic fabric wherever the steel panels and anti-climb ledges are fixed. The proposals will retain the decorative anti-climb spikes. The vast majority of the historic fabric will be left *in situ*.

6.3 Visual impact

The addition of a parapet extension means that exterior elevations of the original Brunel structure will remain largely visible, albeit with an added element obscuring the parapets. The extent of the 1.85m parapet height has been minimised – to just the ‘Danger Zone’ above the electrified wires – so as to minimise visual impact.

The impact in views of the bridge seen obliquely as one crosses the bridge will be high. With the exception of the central span ‘Danger Zone’, the parapet extensions will be seen as a series of solid panels. The 1.85m parapet height is minimised to just the ‘Danger Zone’ which will reduce the impact on views of the bridge from its approaches.

The warning signage, required by safety regulation to be on the overbridge, has been designed to be as small as possible to minimise its visual impact.

6.4 Impact on the neighbouring listed buildings

Tilehurst Road Overbridge forms part of a group with neighbouring Bath Road Overbridge. As these two bridges are intervisible, they impact on each other’s setting, although the view of Bath Road Overbridge is obscured by the pedestrian footbridge. As outlined in the pre-application advice from Reading Borough Council, the works to Bath Road Overbridge will be carried out in matching materials and use a common design approach to Tilehurst Road Overbridge where possible.

Within 100m of Tilehurst Road Overbridge are two listed buildings: No. 35 Tilehurst Road, located on the corner of Brunswick Street and Tilehurst Road and No. 52 Tilehurst Road, located east of Brunswick Hill. The bridge is visible in long views from these locations and the works to Tilehurst Road Bridge will have a negligible effect on the setting of these heritage assets.

6.5 Cumulative impact

The proposals for Tilehurst Road Overbridge are one component of the works required to electrify the GWML. Alterations are needed to all overbridges which have low parapets, and, where the structure is listed, a separate listed building consent application is being made for each one.

Tilehurst Road Overbridge and Bath Road Overbridge are well-preserved examples of Brunel’s design on the Reading to Newbury line. The same design approach is being taken with both bridges: to preserve the majority of the historic fabric *in situ* and add a parapet extension to achieve the necessary safety requirements on the bridges. The cumulative impact on significance will be minimised, by adapting this common approach.

6.6 Setting

The proposed works will have little impact on setting. The bridge is located in a deep cutting and its topography, as well as the location of other structures, means that it is not visible in the wider landscape.

6.7 Mitigation

A historic building record of Tilehurst Road Overbridge has been undertaken prior to the commencement of works to the bridge. This was to Historic England’s recording level 2. The record will be deposited in the Berkshire Historic Environment Record.

6.8 Public benefits

This proposal is necessary to enable the electrification of the line from Reading to Newbury. The electrification of the GWML is a project of strategic national importance and effect. The GWP will make a significant contribution to securing a low carbon future, a key objective of the NPPF. The improved rail infrastructure that GWP will supply will deliver trains that are more efficient, cleaner, quieter, lighter and faster to accelerate. Consequently, the proposal delivers public benefits that are manifestly substantial.

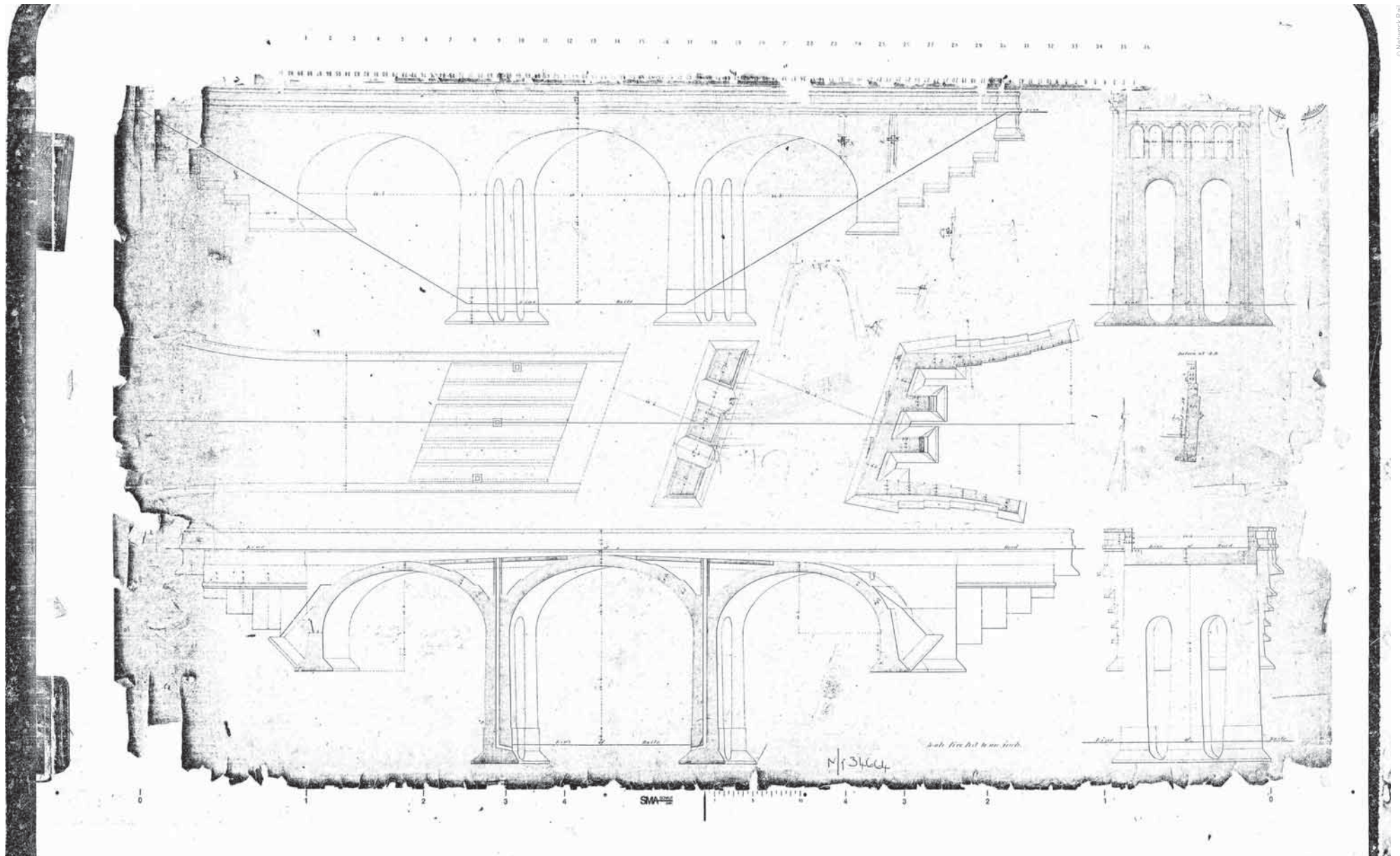
6.9 Conclusion

The proposal will cause harm to the significance of Tilehurst Road Overbridge by altering its overall form and appearance. It will also detract from the views between this bridge and the nearby Bath Road Overbridge (BKE 3729). The structure will still be recognisable as a Brunel designed overbridge dating from the construction of the Berks & Hants Railway. The majority of the bridge’s historic fabric will remain untouched: both its Brunel-designed fabric and the later parapet fabric designed with decorative spikes. The proposal respects the integrity of historic design by not seeking to modify it and takes account of its group value. Overall the proposed works amount to less than substantial harm to the significance of the heritage asset.

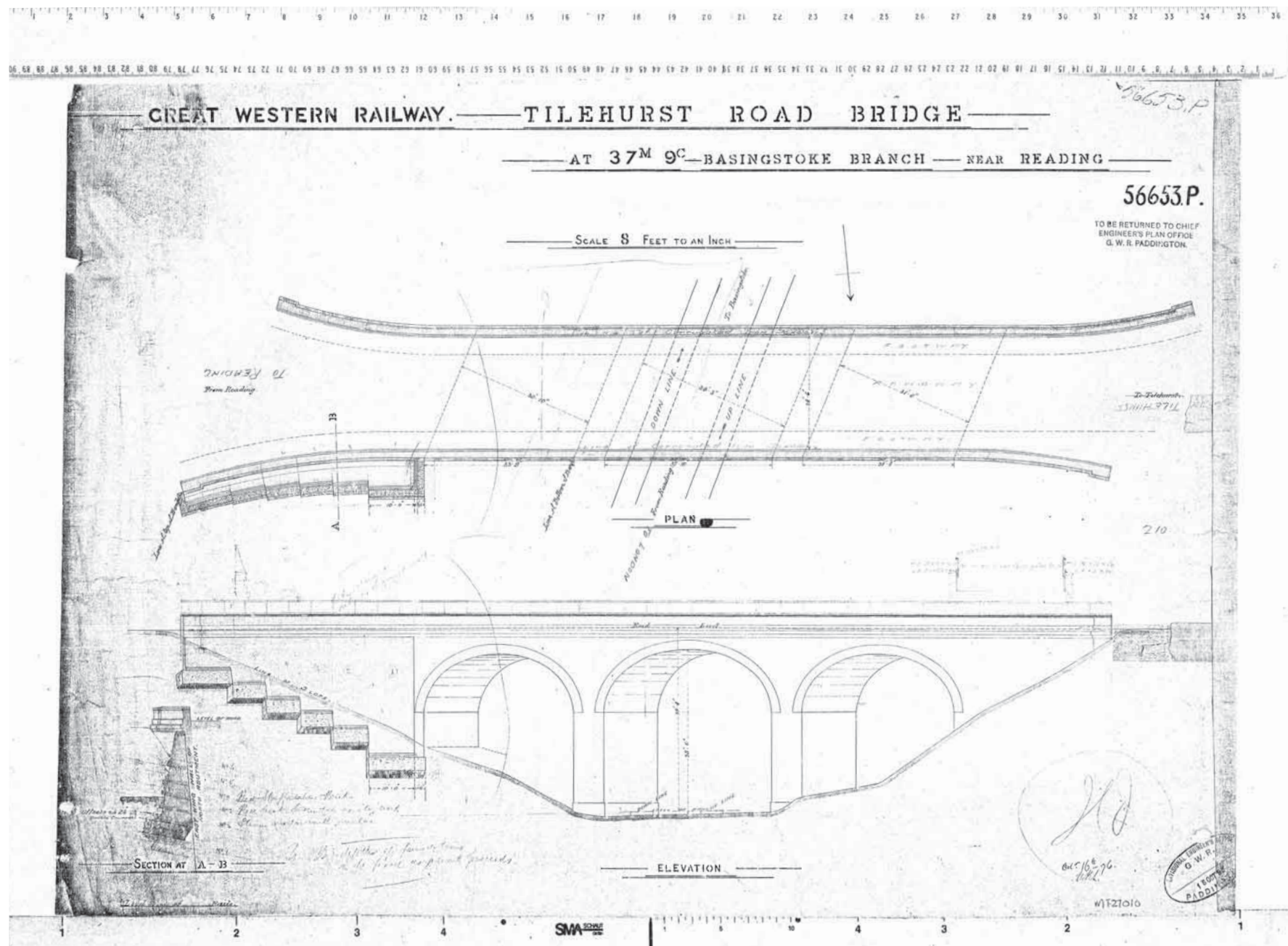
In such circumstances, the NPPF requires that harm be weighed against the public benefits of the proposal (para 134). In this case the safe operation of an improved and less environmentally damaging train service outweighs the harm to significance, which has been minimised by designing on the basis of an understanding of the heritage values of the structure.

Therefore the proposal is in accordance with national planning policy and the core planning principles of the NPPF, in particular those of sustainable development, high quality design, the transition to a low carbon future and sustaining the significance of heritage assets. It meets the requirements of local policies by sustaining the significance of Reading Borough Council’s heritage assets.

Appendix 1: Historic Drawings



BKE3709_Contract drawing_MF34664



Appendix 2: List Entry



Historic England

Tilehurst Road Bridge (BKE3709)

List Entry Summary

This building is listed under the Planning (Listed Buildings and Conservation Areas) Act 1990 as amended for its special architectural or historic interest.

Name: Tilehurst Road Bridge (BKE3709)

List entry Number: 1409246

Location

Tilehurst Road Bridge, Tilehurst Road, Reading

The building may lie within the boundary of more than one authority.

County:

District: Reading

District Type: Unitary Authority

Parish: Non Civil Parish

National Park: Not applicable to this List entry.

Grade: II

Date first listed: 17-Jul-2012

Date of most recent amendment: Not applicable to this List entry.

Asset Groupings

This list entry does not comprise part of an Asset Grouping. Asset Groupings are not part of the official record but are added later for information.

List entry Description

Summary of Building

Tall triple-arch skew road overbridge with semi-elliptical spans, set in a cutting, erected c.1845-7.

Reasons for Designation

Tilehurst Road Bridge is designated at Grade II for the following principal reasons: * Selectivity: a triple-arch skew overbridge with semi-elliptical arches; in this case it is unusually and strikingly high, built to span a deep cutting; * Design, engineering & material interest: built to the high standard employed for brick-built bridges of this date; constructed with internal voids and spine walls that reduce the weight of the superstructure and carry the carriageway; intact outer faces and arches, with slightly, heightened, patched and repaired parapets; * Historic interest: built 1845-7, shortly after the main line by the Hampshire and Berkshire Railway for the Reading-Newbury line, probably by an assistant engineer to Brunel's earlier specification; the drawings survive; * Group Value: forms an impressive pair with the similar and contemporary Bath Road Bridge.

History

Tilehurst Bridge was built c.1845-47 as part of the railway line from Reading to Newbury, opened in 1847, which was the outcome of a dispute between the Great Western Railway (GWR) and the London and South Western Railway about the provision of a railway to Newbury. The GWR originally proposed to reach the town by a branch from the main line at Pangbourne, but eventually settled on the present route. This was built by a subsidiary company to the

GWR, the Berkshire and Hampshire Railway. The engineer was Isambard Kingdom Brunel (1806-59) who, as with the main line, designed the line on the broad gauge. Having previously dismissed the idea of a route to Bristol via Newbury and the Vale of Pewsey he did not regard this as a major project: it only became part of the direct GWR route to Exeter in 1906. It is not known who was the Resident Engineer for the project.

Original contract drawing survive. In c.1896 the north-west abutment was buttressed in brick. Since c.1900, the parapets have been raised and partially rebuilt in engineering brick.

Details

MATERIALS: original handmade red brick with some red engineering brick patching and replacement. English bond. Limestone coping.

DESCRIPTION: the central arch is slightly taller and wider than the side arches. The contract drawings give a span of 38ft 4in and the side arches a span of 31ft 2in. The carriageway is 24ft [7.3m.] wide between parapets, favoured by Brunel for larger road bridges.

Tall tapering piers. Each originally pierced by two tapered transverse arches, now infilled so that they read as blind arches. Abutments/wing walls vertical and gently curved, the north-west abutment with shallow engineering brick buttress of c. 1896. Stepped string course to each face. Parapets stepped on the outer face only and raised in the C20 by four courses of engineering brick above the original stone coping (left in situ), with pitched tile coping topped by small iron anti-climbing spikes. The western (Up) ends of both parapet recently rebuilt in engineering brick, but apparently reusing the original coping in situ, with the north (low mileage) parapet stepping up towards a rectangular brick pier which forms part of the approach to the neighbouring modern steel footbridge. Neither the pier nor the footbridge are part of the historic structure. They abut but are not attached.

The bridge was built in open countryside but is now in the suburbs of Reading. It is not visible in the wider landscape because it is in a cutting and because of topography and existing structures. However, it is mutually visible with the similar Brunel-designed Bath Road Overbridge (BKE3729).

Selected Sources

Books and journals

Bourne, J C, *The History and Description of the Great Western Railway* , (1846)

Brindle, S, Cruickshank, D, *Brunel: The Man Who Built the World*, (2005)

Cross-Rudkin, P, Chrimes, M, EDS, *Biographical Dictionary of Civil Engineers Volume 2: 1830–1890* , (2008)

MacDermot, E T, *A History of the Great Western Railway*, (1927, revised ed. 1964)

Pugsley, A, *The Works of Isambard Kingdom Brunel*, (1976)

Vaughan, A, *A Pictorial Record of Great Western Architecture* , (1977)

Other

Alan Baxter & Associates, *The History and Significance of the Great Western Main Line* , 2012,

Kinchin-Smith, R, *Crossrail Technical Assessment of Historic Railway Bridges* , 2005,

Network Rail, *Network Rail National Records Centre Roll Number 56653P*, 34664,

National Grid Reference: SU7012473044

Map



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The above map is for quick reference purposes only and may not be to scale.
 For a copy of the full scale map, please see the attached PDF - [1409246 .pdf](http://mapservices.HistoricEngland.org.uk/printwebservicehle/StatutoryPrint.svc/472830/HLE_A4L_Grade/HLE_A3L_Grade.pdf)
http://mapservices.HistoricEngland.org.uk/printwebservicehle/StatutoryPrint.svc/472830/HLE_A4L_Grade/HLE_A3L_Grade.pdf

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This copy shows the entry on 31-Jul-2017 at 02:51:42.

End of official listing

Berkshire Archaeology Event/Activity Full Report

23/09/2014

Archaeological events within a 200m radius of Tilehurst Road Bridge BKE3709

Event ID	Event Name	Event Type
ERM926	The Water Tower, Bath Road, Reading, Berkshire	Event - Interpretation

External Reference:

Dates: 01/08/2008 - 31/08/2008, at some time (2008)

Project Details:

Event/Activity Types

Archaeological Interpretation/Desk Based Assessment

Event/Activity References - None recorded

Organisation: CgMs Consulting

Associated Individuals - None recorded

Associated Organisations - None recorded

Location

Grid Reference

SU 70211 72835 (point) SU77SW Point

Administrative Areas

Non Parish Area Reading, Reading, Berkshire

Unitary Authority Reading, Berkshire

Address - None recorded

Description and Sources

Description

An historic buildings report was produced for the Water Tower and associated buildings on the waterworks site at Bath Road, Reading. The waterworks were brought into operation in 1852. In 1868 the Corporation of Reading acquired the waterworks, and in 1870 built a new brick water tower supporting a high-level cast iron storage tank holding 112,000 gallons of water at the Bath Road site to supply properties in the area. The tank remained in use well into the 20th century. Despite various developments and changes in water supply, the Bath Road water tower remained in use until the 1970's when it became redundant. The cast iron tank remained in position until it was removed in the 1990's. A map regression exercise shows that the Bath Road site had been fully laid out by 1879, with the OS map of that year showing the site containing two large reservoirs, three circular filter beds, a circular settling tank, a pumping station and a water storage tank in the south east corner. The map also shows what appears to be the station supervisor's house within the south west corner of the site. The OS map of 1899 shows a similar arrangement. The footprint of the station supervisor's house is larger on this map than on the previous one, suggesting that the house had been rebuilt or substantially remodelled by this time. The OS survey map of 1911-1912 shows much the same configuration as the map of 1899, however the footprint of the pump house is shown as larger and projecting more deeply into the reservoir bank, which corresponds to the visual assessment of the site. Later OS maps show only gradual changes to the site over time, with the reduction in use of the reservoirs. By 1993 both reservoirs are shown as disused on the map. The water tower is a building of square plan form, each side measuring approximately 14m. It is of two tall stages and approximately 20m in height. It is constructed of red engineering brick, laid in Flemish Bond, and banded with blue/grey bricks at regular intervals. The brick structure was originally surmounted by a cast iron water tank, but is currently capped by a modern lightweight timber roof with mineral felt cover. Architecturally the building is of eclectic high Victorian design, in predominantly Venetian gothic revival style, with some classical detailing. Documentary evidence consulted does not reveal the name of the architect of engineer responsible for the design of the building, but it is clear that it is a confident and scholarly piece of municipal engineering. Internally the building is of cellular construction, comprising a series of brick cross walls rising to the full height of external masonry, dividing the interior into six chambers. This massively built internal structure was clearly originally designed to provide support for the cast iron water tank above. With the exception of cross walls, the interior is largely devoid of other structures, although there is some vestigial evidence of there having been intermediate floor structures in some of the bays. Also on the site is an unlisted Victorian red brick pump house, built in an eclectic baroque revival style, with Dutch Gables fronting Bath Road. Visual inspection of the building clearly shows that it had been extended rearwards into the

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Page 1

Event ID: ERM926

Name: The Water Tower, Bath Road, Reading, Berkshire

reservoir bank at some stage, and map evidence referred to above indicates that this was during the early part of the 20th century. It must be assumed that this building originally housed a steam pump, but it now contains 20th century pumping gear. Together with other surviving elements of the site, this building forms part of the ensemble of waterworks structures. It is therefore proposed that this structure be retained as part of the development scheme, and that it should be given a viable new use as residential accommodation as part of the redevelopment proposals. At the front of the site facing Bath Road, a continuous limestone boundary wall and cast iron railings extend for the entire frontage of the site. They are of typical mid-Victorian style, and clearly date from the time of the establishment of the waterworks site. Both the railings and the wall were, however, deleted from the listing description in 1995. The flight of steps that rise between the water tower and pump house to the top of the reservoir bank appear on the 1879 OS 1:2500 scale first edition map, and clearly form part of the original waterworks structures. However, they have been subject to past modification and are therefore of considerably less intrinsic architectural significance than the listed water tower, pump house and boundary wall and railings. Therefore their loss through development would be less damaging to the group as a whole. In addition to these central structures, immediately beyond the current site boundary to the west is what appears to be the original station supervisor's house. Map evidence indicates that this building was rebuilt or substantially remodelled towards the latter part of the 19th century, and a terracotta date stone on the front of the building shows a date of 1884. Although modest, the house forms part of a grouping of Victorian buildings associated with the waterworks. Directly adjacent to the waterworks on the east side, and located close to the listed water tower, is no. 42 Bath Road, a Grade II Listed building. The 3 storey red brick 18th century mansion, formally known as Brunswick House, was acquired by Reading Blue Coat School in 1852, and continued as a school until 1947. It is currently a residential nursing home. An early 19th century cast iron listed mile post stands hard up against the boundary wall on the Bath Road frontage, approximately 50m south west of the water tower. This listed feature is part of the street furniture of the old London to Bristol highway, the main route from London to the west. In conclusion, the water tower is significant as part of an early local example of municipal waterworks engineering that followed the public health act of 1848, and is representative of Reading's first filtered public water supply. The building is also a prominent and familiar part of the local scene on the approach to the town centre from the west, and is an accomplished piece of civil engineering. Together with the associated unlisted pump house and the front boundary wall and railings, the building marks a significant stage in the 19th century development of Reading, and therefore all of these elements are proposed to be retained/enhanced and incorporated within the new proposed scheme. This will ensure their long-term future <1>.

Sources

- (1) Unpublished document: CgMs Consulting. 2008. Historic Buildings Report - The Water Tower, Bath Road, Reading, Berkshire.

Associated Monuments

MRM15888	Water Tower, Bath Road, Reading, Berkshire (Listed Building MRM15888)
MRM16230	Victorian pump house, the waterworks site, Bath Road, Reading, Berkshire (Monument MRM16230)
MRM16231	Station supervisor's house, the waterworks site, Bath Road, Reading, Berkshire (Monument MRM16231)
MRM16232	Limestone boundary wall and cast iron railings, the waterworks site, Bath Road, Reading, Berkshire (Monument MRM16232)

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Berkshire Archaeology Designation Full Report

23/09/2014

Number of records: 4

Designations within a 200m radius of Tilehurst Road Bridge BKE3709

DesigUID:	DRM1683	Type:	Listed Building	Status:	Active
NHLE ID	1302538	National Ref	1302538	Volume/Map/Item	934, 12, 256
Name:	NO 35 TILEHURST ROAD				
Grade:	II	Date Assigned:	22/03/1957	Amended:	
		Revoked:			

Legal Description

1. TILEHURST ROAD 5128 No 35 SU 7073 12/256 22.3.57 G.V. II.
 2. Front to Brunswick Street. Circa 1835. 2 storeys, attic and basement terrace house. Slate roof. Grey brick headers on red brick plinth. 5 bays to Brunswick Street, glazing bar sashes. Central Ionic doorpiece, fluted and reeded pilasters, pulvinated frieze and modillion cornice. Modern door. 4 centre arch headed attic window subdivided by 2 similar. Dwarf wall to street with arrow head railings. 2 storey square bay to Tilehurst Road with round headed lights.
 Listing NGR: SU7023173049

Curatorial Notes

Type and date: c1835 TERRACED HOUSE. Date: from 1815 to 1855
 Type and date: WALL.
 Type and date: RAILINGS.
 Main material: brick
 Covering material: slate

Designating Organisation:

Location

Grid Reference: SU 70231 73049 (point)

Map sheet: SU77SW Area (Ha):

Administrative Areas

Non Parish Area Reading, Reading, Berkshire
 Unitary Authority Reading, Berkshire

Postal Addresses

35 Tilehurst Road, Reading, RG1 7TT

Sources - None recorded

Associated Monuments

MRM15886 Listed Building: 35 Tilehurst Road, Reading, Berkshire

Additional Information

LegacyID: 39208

List Locality:

List Parish:

List District: READING

List County: BERKSHIRE

Group Value: Upload Date:

DesigUID:	DRM1753	Type:	Listed Building	Status:	Active
NHLE ID	1321897	National Ref	1321897	Volume/Map/Item	934, 12, 587
Name:	NO 52 TILEHURST ROAD				
Grade:	II	Date Assigned:	14/12/1978	Amended:	
		Revoked:			

Legal Description

1. TILEHURST ROAD 5128 (North Side) No 52 SU 7075 12/587 G.V II.

DesignationFullRpt

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Page 1

DesigUID: DRM1753 Name: NO 52 TILEHURST ROAD

2. Mid C19 suburban villa. 2 storeys and basement. Stucco with rusticated corner piers. Flat eaves to hipped slate roof, pepperpot skylight to east side. 3 by 3 bays, glazing bar sashes; outer windows with louvred shutters. Door to east side. Stables to west. 5 foot high panelled stucco wall to street ramped up for flanking side doors.
 Listing NGR: SU7027773087

Curatorial Notes

Type and date: Mid C19 VILLA. Date: from 1833 to 1866
 Type and date: STABLE.
 Type and date: WALL.
 Main material: stucco
 Covering material: slate

Designating Organisation:

Location

Grid Reference: SU 70277 73087 (point)

Map sheet: SU77SW Area (Ha):

Administrative Areas

Unitary Authority Reading, Berkshire

Postal Addresses

52 Tilehurst Road, Reading, RG1 7TS

Sources - None recorded

Associated Monuments

MRM15887 Listed Building: 52 Tilehurst Road, Reading

Additional Information

LegacyID: 39210

List Locality:

List Parish:

List District: READING

List County: BERKSHIRE

Group Value: Upload Date:

DesigUID:	DRM1721	Type:	Listed Building	Status:	Active
NHLE ID	1303726	National Ref	1303726	Volume/Map/Item	934, 13, 32
Name:	THE BRUNSWICK ARMS				
Grade:	II	Date Assigned:	14/12/1978	Amended:	
		Revoked:			

Legal Description

1. BRUNSWICK STREET 5128 Nos. 49 to 55 (odd) (The Brunswick Arms) SU 7072 13/32 G.V. II.
 2. Mid to late C18. Former terrace cut down and altered. 2½ storeys. Red brick with blue brick band over ground floor. Brick block eaves cornice. Mansard old tile roof with 2 brick stacks. 3 dormers (2 are glazing bar sashes). A narrow panel of silver grey bricks and 2 tripartite windows, a further panel and another window on 1st floor, glazing bar sashes. Segmental heads to ground floor openings (altered). Royal Insurance Mark to right of inn sign.
 Listing NGR: SU7029172943

Curatorial Notes

Type and date: Mid to late C18 TERRACED HOUSE. Date: from 1733 to 1799
 Type and date: Mid to late C18 TERRACE. Date: from 1733 to 1799
 Type and date: INN.
 Type and date: INN SIGN.
 Main material: brick
 Covering material: tile

Designating Organisation:

DesignationFullRpt

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Page 2

DesigUID: DRM1721 **Name:** THE BRUNSWICK ARMS

Location

Grid Reference: SU 70291 72943 (point)

Map sheet: SU77SW **Area (Ha):**

Administrative Areas

Non Parish Area Reading, Reading, Berkshire

Postal Addresses

51 Brunswick Street, Reading, RG1 6NY

51 Brunswick Street, Reading, RG1 6NY

53 Brunswick Street, Reading, RG1 6NY

55 Brunswick Street, Reading, RG1 6NY

Listed Building Addresses

Statutory

THE BRUNSWICK ARMS

Sources - None recorded

Associated Monuments - None

Additional Information

LegacyID: 38780

List Locality:

List Parish:

List District: READING

List County: BERKSHIRE

Group Value: **Upload Date:**

DesigUID: DRM2662 **Type:** Listed Building **Status:** Active

NHLE ID **National Ref** **Volume/Map/Item**
1409246 1409246

Name: Tilehurst Road Bridge (BKE3709)

Grade: II **Date Assigned:** 17/07/2012 **Amended:** **Revoked:**

Legal Description

Tilehurst Road Bridge (BKE3709), Tilehurst Road, Reading. Grade: II 17-Jul-2012

Asset Groupings: This List entry does not comprise part of an Asset Grouping. Asset Groupings are not part of the official record but are added later for information.

List Entry Description

Summary of Building

Tall triple-arch skew road overbridge with semi-elliptical spans, set in a cutting, erected c.1845-7.

Reasons for Designation:

Tilehurst Road Bridge is designated at Grade II for the following principal reasons:

- * Selectivity: a triple-arch skew overbridge with semi-elliptical arches; in this case it is unusually and strikingly high, built to span a deep cutting;
- * Design, engineering & material interest: built to the high standard employed for brick-built bridges of this date; constructed with internal voids and spine walls that reduce the weight of the superstructure and carry the carriageway; intact outer faces and arches, with slightly, heightened, patched and repaired parapets;
- * Historic interest: built 1845-7, shortly after the main line by the Hampshire and Berkshire Railway for the Reading-Newbury line, probably by an assistant engineer to Brunel's earlier specification; the drawings survive;
- * Group Value: forms an impressive pair with the similar and contemporary Bath Road Bridge.

DesigUID: DRM2662 **Name:** Tilehurst Road Bridge (BKE3709)

History

Tilehurst Bridge was built c.1845-47 as part of the railway line from Reading to Newbury, opened in 1847, which was the outcome of a dispute between the Great Western Railway (GWR) and the London and South Western Railway about the provision of a railway to Newbury. The GWR originally proposed to reach the town by a branch from the main line at Pangbourne, but eventually settled on the present route. This was built by a subsidiary company to the GWR, the Berkshire and Hampshire Railway. The engineer was Isambard Kingdom Brunel (1806-59) who, as with the main line, designed the line on the broad gauge. Having previously dismissed the idea of a route to Bristol via Newbury and the Vale of Pewsey he did not regard this as a major project: it only became part of the direct GWR route to Exeter in 1906. It is not known who was the Resident Engineer for the project.

Original contract drawing survive. In c.1896 the north-west abutment was buttressed in brick. Since c.1900, the parapets have been raised and partially rebuilt in engineering brick.

Details

MATERIALS: original handmade red brick with some red engineering brick patching and replacement. English bond. Limestone coping.

DESCRIPTION: the central arch is slightly taller and wider than the side arches. The contract drawings give a span of 38ft 4in and the side arches a span of 31ft 2in. The carriageway is 24ft [7.3m.] wide between parapets, favoured by Brunel for larger road bridges.

Tall tapering piers. Each originally pierced by two tapered transverse arches, now infilled so that they read as blind arches. Abutments/wing walls vertical and gently curved, the north-west abutment with shallow engineering brick buttress of c. 1896. Stepped string course to each face. Parapets stepped on the outer face only and raised in the C20 by four courses of engineering brick above the original stone coping (left in situ), with pitched tile coping topped by small iron anti-climbing spikes. The western (Up) ends of both parapet recently rebuilt in engineering brick, but apparently reusing the original coping in situ, with the north (low mileage) parapet stepping up towards a rectangular brick pier which forms part of the approach to the neighbouring modern steel footbridge. Neither the pier nor the footbridge are part of the historic structure. They abut but are not attached.

The bridge was built in open countryside but is now in the suburbs of Reading. It is not visible in the wider landscape because it is in a cutting and because of topography and existing structures. However, it is mutually visible with the similar Brunel-designed Bath Road Overbridge (BKE3729).

Selected Sources

- 1.Book Reference - Author: Brindle, Steven and Cruickshank, Dan - Title: Brunel: The Man Who Built the World - Date: 2005
 - 2.Unpublished Title Reference - Author: Alan Baxter & Associates - Title: The History and Significance of the Great Western Main Line - Date: 2012 - Source: Alan Baxter & Associates
 - 3.Book Reference - Author: Bourne, J, C - Title: The History and Description of the Great Western Railway - Date: 1846
 - 4.Book Reference - Author: Cross-Rudkin, P and Chimes, M - Title: EDS, Biographical Dictionary of Civil Engineers Vol 2: 1830-1890 - Date: 2008
 - 5.Unpublished Title Reference - Author: Kinchin-Smith, R - Title: Crossrail Technical Assessment of Historic Railway Bridges - Date: 2005 - Source: RPS Planning and Environment
 - 6.Book Reference - Author: MacDermot, E, T - Title: A History of the Great Western Railway - Date: 1927, revised ed. 1964
 - 7.Book Reference - Author: Pugsley, A - Title: The Works of Isambard Kingdom Brunel - Date: 1976
 - 8.Book Reference - Author: Vaughan, A - Title: A Pictorial Record of Great Western Architecture - Date: 1977
 - 9.Unpublished Title Reference - Author: Network Rail - Title: Network Rail National Records Centre Roll Number 56653P, 34664
- National Grid Reference: SU7012473044

Curatorial Notes

Designating Organisation: English Heritage

Location

Grid Reference: SU 70124 73044 (point)

Map sheet: SU77SW **Area (Ha):** 0.00

Administrative Areas

Non Parish Area Reading, Reading, Berkshire

DesigUID: DRM2662 **Name:** Tilehurst Road Bridge (BKE3709)

Unitary Authority Reading, Berkshire

Postal Addresses - None recorded

Listed Building Addresses

Tilehurst Road Bridge, Tilehurst Road, Reading

Sources

English Heritage National Inventory: English Heritage. The National Heritage List for England. 1409246

Associated Monuments

MRM16676 Listed Building: Tilehurst Road Overbridge (BKE3709), Reading, Berkshire

Additional Information

LegacyID:

List Locality:

List Parish: READING

List District: READING

List County:

Group Value:

Upload Date:

Berkshire Archaeology Monument Full Report**23/09/2014**

Number of records: 5

Monuments within a 200m radius of Tilehurst Road Bridge BKE3709

HER Number	Site Name	Record Type
05055.01.000 - MRD6122	Reading to Mortimer Station, Berkshire	Monument
Section of Basingstoke branch railway line between Reading and Mortimer Station.		

Monument Types and Dates

RAILWAY (Post Medieval to Modern - 1848 AD to 2050 AD)

Evidence STRUCTURE

Description and Sources**Description**

Section of Basingstoke railway line between Reading and Mortimer Station. The Basingstoke branch line went from Reading to Reading West, Mortimer, Bramley and Basingstoke <1>.

Sources

(1) Bibliographic reference: Adams, W (ed). 1993. Encyclopedia of the Great Western Railway.

Location**National Grid Reference**

Centroid SU 69932 72232 (MBR: 1563m by 3398m) SU67SE Area

Administrative Areas

County Berkshire

Non Parish Area Reading, Reading, Berkshire

Unitary Authority Reading, Berkshire

Address/Historic Names - None recorded

Designations, Statuses and Scorings

Associated Designations - None recorded

Other Statuses and Cross-References

Historic Environment Record - 05055.01.000 Active

Ratings and Scorings

Condition Good

Land Use

Associated Historic Landscape Character Records - None recorded

Other Land Classes - None recorded

Related Monuments - None Recorded

Finds - None recorded

Associated Events/Activities - None recorded

Associated Individuals/Organisations - None recorded

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HER Number MRM16675 **Site Name** Tilehurst Road Footbridge, Reading, Berkshire

HER Number	Site Name	Record Type
MRM16675	Tilehurst Road Footbridge, Reading, Berkshire	Monument

Modern footbridge adjacent to 19th century Tilehurst Road bridge.

Monument Types and Dates

FOOTBRIDGE (Modern - 1901 AD to 2050 AD)

Evidence EXTANT STRUCTURE

Main Building STEEL

Material

Description and Sources**Description**

Modern utilitarian steel truss footbridge, adjacent to 1840s Tilehurst Road bridge. Considered to be of minimal architectural and historical interest and no archaeological or artistic interest <1>.

Sources

(1) Unpublished document: Alan Baxter. 2012. Great Western Main Line Route Structures Gazetteer. BKE3708

Location**National Grid Reference**

SU 7012 7305 (point) SU77SW Point

Administrative Areas

Non Parish Area Reading, Reading, Berkshire

Unitary Authority Reading, Berkshire

Address/Historic Names - None recorded

Designations, Statuses and Scorings

Associated Designations - None recorded

Other Statuses and Cross-References - None recorded

Ratings and Scorings - None recorded

Land Use

Associated Historic Landscape Character Records - None recorded

Other Land Classes

Landuse In use as building

Related Monuments

05053.00.000 Great Western Railway (GWR) - London to Reading Station Hierarchical

Finds - None recorded

Associated Events/Activities - None recorded

Associated Individuals/Organisations - None recorded

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Page 2

HER Number MRM16676 **Site Name** Tilehurst Road Overbridge (BKE3709), Reading, Berkshire

HER Number	Site Name	Record Type
MRM16676	Tilehurst Road Overbridge (BKE3709), Reading, Berkshire	Listed Building

A Grade II listed tall triple-arch skew road overbridge with semi-elliptical spans, set in a cutting, erected c.1845-7.

Monument Types and Dates

ROAD BRIDGE (Post Medieval - 1845 AD to 1847 AD)

Evidence	EXTANT STRUCTURE
Main Building Material	BRICK

Description and Sources

Description

Grade II listed tall triple-arch skew road overbridge with semi-elliptical spans, set in a cutting, erected c.1845-7 <1>.

Tall, little altered, triple-arch skew road overbridge with semi-elliptical spans, set in a cutting, erected c.1845-47. Original handmade red brick with some red engineering brick patching and replacement. English bond, limestone coping. The central arch is slightly taller and wider than the side arches. The contract drawings give a span of 38ft 4in and the side arches a span of 31ft 2in. The carriageway is 24ft wide between the parapets, favoured by Brunel for larger road bridges. Tall tapering piers. Each originally pierced by two tapered transverse arches, now infilled. Abutments/wing walls vertical and gently curved, the north-west abutment with shallow engineering buttresses of c. 1896. Stepped string course to each face. Parapets stepped on the outer face only and raised in the twentieth century by four courses of engineering brick above the original stone coping and pitched tile coping, topped by small iron anti-climbing spikes. The western end of both parapets recently rebuilt in engineering brick, but reusing the original coping. The bridge is inter-visible with the Bath Road overbridge but because it is situated in a cutting is not visible in the wider landscape. It is considered to be of medium architectural and historic interest but no archaeological or aesthetic interest <2>.

Sources

- (1) English Heritage National Inventory: English Heritage. The National Heritage List for England. List entry number: 1409246
- (2) Unpublished document: Alan Baxter. 2012. Great Western Main Line Route Structures Gazetteer. BKE3709

Location

National Grid Reference

SU 7012 7304 (point) SU77SW Point

Administrative Areas

Non Parish Area Reading, Reading, Berkshire
Unitary Authority Reading, Berkshire

Address/Historic Names - None recorded

Designations, Statutes and Scorings

Associated Designations

Listed Building (II) - 1409246	Tilehurst Road Bridge (BKE3709)	Active	DRM2662
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Other Statutes and Cross-References - None recorded

Ratings and Scorings - None recorded

Land Use

Associated Historic Landscape Character Records - None recorded

Other Land Classes

Landuse	In use as building
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Related Monuments

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Page 3

HER Number MRM16676 **Site Name** Tilehurst Road Overbridge (BKE3709), Reading, Berkshire

05053.00.000	Great Western Railway (GWR) - London to Reading Station	Hierarchical
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Finds - None recorded

Associated Events/Activities - None recorded

Associated Individuals/Organisations - None recorded

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HER Number MRM17562 **Site Name** Reservoirs and filter beds - Bath Road Reservoirs, Bath Road, Reading, Berkshire

HER Number	Site Name	Record Type
MRM17562	Reservoirs and filter beds - Bath Road Reservoirs, Bath Road, Reading, Berkshire	Monument

Two Victorian reservoirs and filtration beds at Bath Road Reservoirs.

Monument Types and Dates

RESERVOIR (Post Medieval to Modern - 1852 AD to 2013 AD)

Evidence DOCUMENTARY EVIDENCE

Evidence EXTANT STRUCTURE

Description and Sources

Description

The original plans for the Bath Road reservoir site are dated 30th November 1850 and show the two reservoirs, four circular filtration tanks surrounded by a bund and the pump house in the south-west corner. The Board of Health commissioned a map in 1853 of the waterworks within Reading, which included the reservoirs. This appears to show the site as it was built, with the two reservoirs at the rear and four filtration tanks at the southern end of the site.

The 1881 OS map shows two reservoirs and six circular tanks. By 1899–1900 the round tanks are now labelled as filter beds. By 1931–1932 the westernmost of the filtration beds has been filled in, and by 1958–1960 the eastern filtration bed has also been filled in. By 1968 the northern reservoir is labelled as disused.

Building recording was undertaken in 2013 prior to the proposed development of the site. The filtration beds and reservoirs were located within an earthen bund, accessed by a set of steps from the south-central part of the site, between the pump house and water tower. The steps were of brick construction overlaid by a stone slab and held together by cement mortar. The bricks measured 230mm x 106mm x 72mm (9 1/16" x 4 3/16" x 2 13/16"). Down the western side of the steps was a steel rail, which was probably a later addition.

The filtration beds were at the southernmost end of the bund and consisted of a covered circular tank which was covered in scrub and inaccessible. Further to the north was a larger circular tank of brick construction and whitewashed. No access was possible, thus the type of brick bonding was not discernible. Within the centre of the tank was a brick pillar. Around the edges were various cast iron inlet and outlet pipes. A set of iron ladder rungs were laid into the wall on the southern side for access. To the north of the main tank was a further small, brick built, covered tank.

Behind the filtration beds was the rectangular, covered reservoir. This was completely grassed over and no detail of the actual reservoir could be seen. Around the edges were brick built box structures. Architectural plans suggest that the reservoir had approximately 45° sloping sides and a flat base. The cover was constructed of iron, supported on columns and girders. The signature and date suggest that the cover was constructed around 1933.

At the rear of the site (northern end) was the disused reservoir. It was rectangular in shape, except for the north-west corner where it followed the line of the site boundary and railway line. It consisted of sloped sides at approximately a 45° angle and a flat base. The entire reservoir was overgrown with scrub <1>.

Sources

- (1) Unpublished document: Thames Valley Archaeological Services. 2014. Bath Road Reservoirs, Reading, Berkshire - Building Recording. Page 7; Figures 4-9 and 17; Plate 24-27

Location

National Grid Reference

Centroid SU 70204 72845 (MBR: 83m by 187m) SU77SW Dispersed

Administrative Areas

Non Parish Area Reading, Reading, Berkshire

Unitary Authority Reading, Berkshire

Address/Historic Names - None recorded

Designations, Statuses and Scorings

Associated Designations - None recorded

Other Statuses and Cross-References - None recorded

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HER Number MRM17562 **Site Name** Reservoirs and filter beds - Bath Road Reservoirs, Bath Road, Reading, Berkshire

Ratings and Scorings - None recorded

Land Use

Associated Historic Landscape Character Records - None recorded

Other Land Classes

Geology gravel

Related Monuments

MRM16230 Victorian pump house, the waterworks site, Functional Association
Bath Road, Reading, Berkshire

MRM17561 Ancillary buildings - Bath Road Reservoirs, Functional Association
Bath Road, Reading, Berkshire

Finds - None recorded

Associated Events/Activities

ERM1571 Bath Road Reservoirs, Reading, Berkshire (Event - Survey. Ref: BRR13/109)

Associated Individuals/Organisations - None recorded

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HER Number MRM17563 **Site Name** Reading Water Works - Bath Road, Reading, Berkshire

HER Number	Site Name	Record Type
MRM17563	Reading Water Works - Bath Road, Reading, Berkshire	Monument

Reading Water Works date back to the mid 19th century. A number of extant buildings are still on the site including the pump house, water tower and Station Supervisors house.

Monument Types and Dates

WATERWORKS (Post Medieval - 1853 AD)	
Evidence	DOCUMENTARY EVIDENCE
Evidence	EXTANT BUILDING

Description and Sources

Description

In 1848 Parliament introduced the Public Health Act as the first step in improving sanitary conditions and therefore public health. A local Water Act was passed in 1851 for Reading and was amended in 1868 to further provide waterworks for Reading. The original plans for the Bath Road reservoir site are dated 30th November 1850 and show the two reservoirs, four circular filtration tanks surrounded by a bund and the pump house in the south-west corner. The field is numbered '24' and is recorded as being an arable field belonging to William Stephens, who appears to be a local landowner.

In 1853 the Board of Health commissioned a map of the waterworks within Reading, which included the reservoirs. This map appears to show the site as it was built, with the two reservoirs at the rear and four filtration tanks at the southern end of the site. The pump house was located to the south-west and the superintendents' house was beside it to the west. The pump house has been extended to the rear and cut into the bund around the reservoir. It is not clear whether it was built larger than the original plan or rapidly extended after being built. The boundary with Bath Road is marked by a wall which curves to an entrance at the west end of the site. The water tower is not present at this point.

The next map to show any detail of the site is the 1879 Reading Town plan, which however, extends only as far as the water tower. The rest of the site is included on the 1881 map which shows the water tower (labelled tank) and pumping house, behind which were the two reservoirs and six circular tanks. The pump house has been extended again, to the east. At this period the house to the west of the pumping station was included within the boundary of the waterworks and was housing for the superintendent. No change is shown by 1899–1900, but the round tanks are now labelled as filter beds. By 1911–1912 the eastern block of the pump house has been extended at the front and rear and by 1931–1932 further buildings have been added to the rear of the pump house. The westernmost of the filtration beds has also been filled in. By 1958–1960 the eastern filtration bed has also been filled in. By 1968 the northern reservoir is labelled as disused.

The water tower is a Grade II listed building. A building survey of the buildings on the Bath Road Reservoirs site (excluding the Station Supervisors House) was undertaken in 2013 <1>.

Sources

- (1) Unpublished document: Thames Valley Archaeological Services. 2014. Bath Road Reservoirs, Reading, Berkshire - Building Recording.
- (2) Unpublished document: CgMs Consulting. 2008. Historic Buildings Report - The Water Tower, Bath Road, Reading, Berkshire.
- (3) Newsletter: Berkshire Industrial Archaeology Group. 2009. BIAG News. No. 21.

Location

National Grid Reference

Centroid SU 70202 72844 (MBR: 163m by 252m) SU77SW Area

Administrative Areas

Non Parish Area	Reading, Reading, Berkshire
Unitary Authority	Reading, Berkshire

Address/Historic Names - None recorded

Designations, Statutes and Scorings

Associated Designations - None recorded

Other Statutes and Cross-References - None recorded

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HER Number MRM17563 **Site Name** Reading Water Works - Bath Road, Reading, Berkshire

Ratings and Scorings - None recorded

Land Use

Associated Historic Landscape Character Records - None recorded

Other Land Classes

Geology	gravel
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Related Monuments

MRM15888	Water Tower, Bath Road, Reading, Berkshire	Hierarchical
MRM16230	Victorian pump house, the waterworks site, Bath Road, Reading, Berkshire	Hierarchical
MRM16231	Station supervisor's house, the waterworks site, Bath Road, Reading, Berkshire	Hierarchical
MRM16232	Limestone boundary wall and cast iron railings, the waterworks site, Bath Road, Reading, Berkshire	Hierarchical
MRM17561	Ancillary buildings - Bath Road Reservoirs, Bath Road, Reading, Berkshire	Hierarchical

Finds - None recorded

Associated Events/Activities

ERM1571 Bath Road Reservoirs, Reading, Berkshire (Event - Survey. Ref: BRR13/109)

Associated Individuals/Organisations - None recorded

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Alan Baxter

Prepared by Susannah Homer and Reider Payne

Reviewed by Nicolas Chapple

Issued August 2017

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