

High Street railway bridge arches: photographs donated to SHG 2019

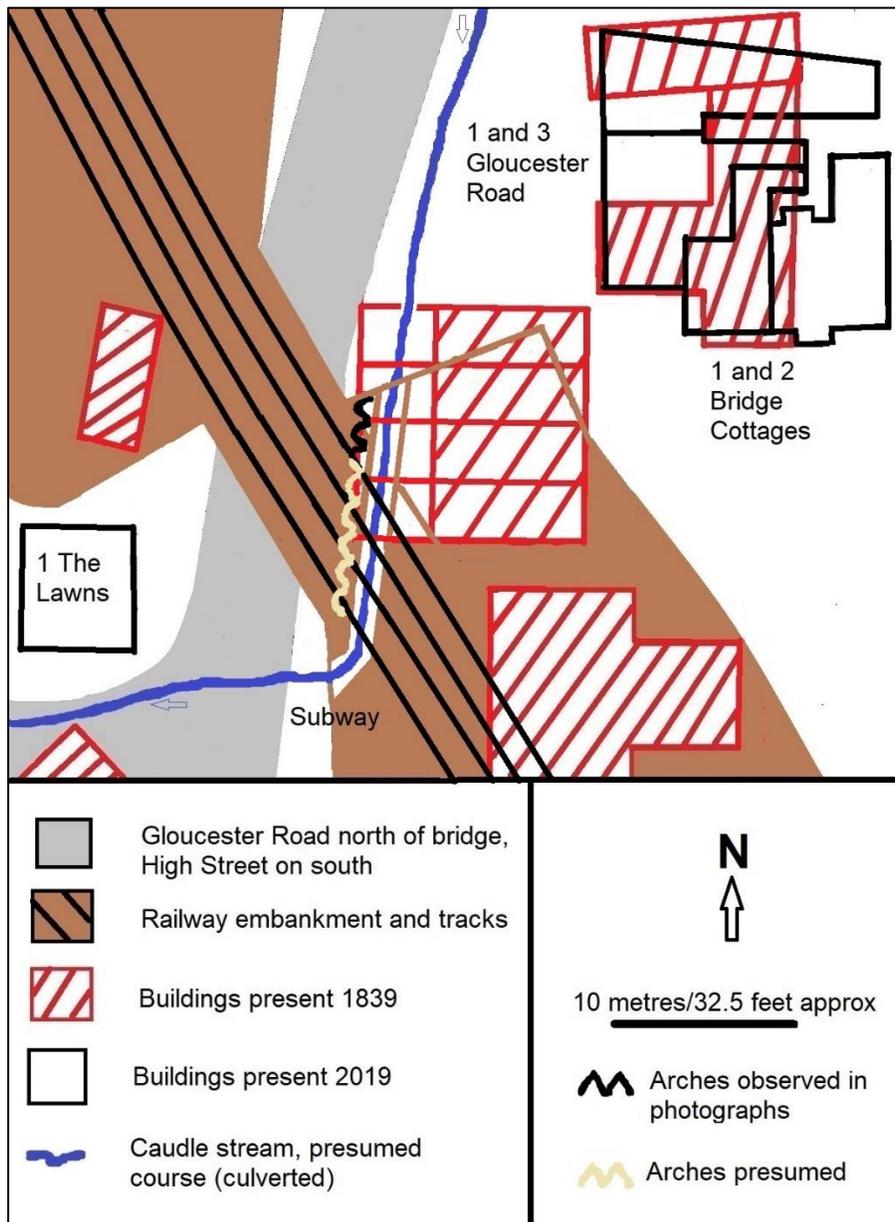
These photographs were taken by British Railways Western Region engineers. They show the construction in 1957 of the subway on the east side of the skewed bridge between Stonehouse High Street and Gloucester Road, built for the Great Western Railway in 1845. In the process, some stone arches were uncovered.

If the modern map is compared to the 1839 tithe map of Stonehouse, the subway is seen to clip the west end of a block of four 'tenements', or terraced houses. These were built in about 1826, and in 1839 were owned by William Fryer, landlord of the Crown and Anchor Inn. He had inherited a group of cottages here, which were rebuilt after the railway arrived as 1 and 3 Gloucester Road, with Bridge Cottages added later. The tenements were built on a plot of land which is shown on a map of 1803 as projecting towards the road next to the older cottages, although there were then no buildings on it. The schedule to the plan for the proposed railway, surveyed in 1836, describes them as eight cottages, each tenement housing two families. The tithe map shows the houses standing at the east end of the plot, with open yards on the west, where the subway is now.

The importance of this projecting enclosure, and the reason why the tenements were not built up to the west end of it, lies in the course of the Caudle Stream. This was the main source of running water for the village. It flowed, in modern terms, from the Glen, along Woodcock Lane, then down past Stream Cottage, Bede Cottage and the east side of Gloucester Road to about the Meadow Road turning, and along Gloucester Road to the railway bridge. The stream still flows, with modifications, and the subway probably follows the course of the culvert, including the turn at the end to cross the High Street on its way down to The Ocean. No record has been found of any road bridge over it, although there may have been an early culvert across the road. The manor court repeatedly protected public access to the water, and penalised householders who diverted it for their own purposes. In 1772 William Hyde, living in what is now 5 and 7 The Square, had 'turned the watercourse in Stonehouse Street [in front of his house] to a trough on the causey [causeway] in the said street'. He was ordered to turn it back. The

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stream could flow through private land, but the landowners were required to keep it clear. In 1793 the manor court ordered the watercourse to be scoured between the property shown to the south on the sketch map and the 'garden of William Fryer'. In 1818 the court declared that [the Caudle Stream which runs] 'through the village ought of right to serve the Inhabitants with water'.



Sketch plan of the High Street railway bridge area, based on the tithe map of Stonehouse, 1839, and Ordnance Survey maps

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At first, it was thought that the stone arches might predate the railway bridge, built by 1845, and might relate in some way to William Fryer making use of the stream, either for his tenants, or for some public facility. Unfortunately, no records seem to have survived which might give information about the water in the 1820s, but it was at about this time that a pond fed by the Caudle Stream, on the corner of Elm Road and Quietways, became less easily accessible, due to development on the Green. The public pump was also probably provided in the 1820s on another stream crossing what is now the Memorial Green. The arches do resemble some continental washing and drinking places but, when compared to the subway, they are estimated to have stood between three and four metres high (10-12 feet), and their massive construction seems unnecessary even for the most monumental well arches. Another idea was that they might have been built so high to accommodate horses being provided with water and hay at a public way station. Two of the tenants here in 1841 were hay dealers. However, the arches are narrower than a comfortable stable width, and too short to shelter a horse. If there had been a roof over the stream area, the structure would surely have been large enough to be shown on the tithe map, which it is not.

The arches were clearly set parallel to the probable course of the culverted stream, and it was at first assumed that they also ran straight along the west end of the tenement yards. Experiment showed that this assumption could only be reconciled with both the tithe map and Ordnance Survey maps by distorting the tithe map. There are differences of proportion between the maps, but they are not as great as was required for this distortion. When the maps were taken as they stood, simply reconciling known points, the arches were out of line with the tenements, as is seen in the sketch plan.

Two and a half arches are visible in the photographs. They are pointed in form, estimated to be about 1.25 metres (4 feet) wide with dividing pillars about 0.6 metres (2 feet) square at the base, and with a flat top. They are built of rubble stone which looks old, and are roughly finished, if at all, underneath the arches,

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Photo 1: looking west, shows higher skin of brick vaulting resting on the stone arches, stone wall under bridge behind arches, stub of end stone wall



Photo 2: detail of photo 1, area edged white, from along the plank, shows lower skin of brick vaulting continuing behind stone arch and resting on stone wall



Photo 3: detail of photo 2, area edged red, looking up under stone arch, shows roughly finished surface, and metal tie

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suggesting that they were not intended to be entered or seen. A stone wall behind them, of about half their height, supports the lower (visible) brick vault of the bridge arch, and their upper edge supports the higher brick vault, which would have been concealed. There are metal ties through the arches which may have secured further stone placed against the vaulting. The same stone had been used to construct a wall edging the embankment at the north end, of which only a stub remains. This wall appears to have been built with the end arch pillar, rather than added onto it. New work using brick and concrete was in progress around the arches in 1957.



Photo 4: looking south towards the High Street, shows brick and concrete work 1957

These features, and the lack of evidence for a building on the tenement yards before 1840, suggest that the arches were built as part of the bridge in 1845. They may have been an engineering response to the presence of the stream, which might have caused instability in the ground just where the bridge would have needed strength. Their ancient appearance was probably due to their being built with stone recovered from the various older cottages which had been demolished.

We have not, so far, been able to locate the original plans of the bridge, but we have found the plans for the subway.

These make no reference to the stone arches, implying that they already existed as part of the original bridge. Assuming that arches were built across the whole width of the bridge, up to the turn in the stream, there could be eight in total, now mainly hidden behind the brick walls of the subway. The Caudle Stream may have been the reason for building the arches after all.

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Photo 5: aerial view, looking north, shows stone arches aligned with presumed course of stream in culvert: remnants of stone added above the brick vault, metal ties used to secure it, and stump of angled stone wall across front of the embankment: 1 and 3 Gloucester Road visible on right



Photo 6: looking north, the bridge arch in 1957, shows stone walling at the base of the bridge arch, supporting the brick vault. The outer face of this stone has since been replaced by brick. The hidden stone arches are about twice as tall as the visible stone wall

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Sources of information: GA = Gloucestershire Archives

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| Stonehouse manor court book 1772 | GA D517 |
| Stonehouse manor court papers 1793, 1818 | GA D445/M11 |
| Map of Stonehouse by John Elliott, 1803 | GA D1347 |
| Associated survey by John Elliott 1804 | GA P263/MI9 |
| Plan and schedule for proposed Great Western Railway at Stonehouse, surveyed 1836 | GA Q/Rum 146 |

Plans for the subway 1957, at Network Rail <https://nr.printstoreonline.com/bridges-viaducts/gloucester-road-bridge-stonehouse/>

Stonehouse tithe map 1839 and Ordnance Survey maps are available to compare at Know Your Place Gloucestershire <http://maps.bristol.gov.uk/kyp/?edition=glos>

1841 census at www.Ancestry.com, free to use at GA and libraries

Advice from colleagues with knowledge of engineering is gratefully acknowledged