

# THE NEW BRIDGE AT HARDWICK WITH CONNECTING ROADS: 1835–1840

S. EVELEIGH

*The trustees of the Wendover to Buckingham Turnpike Road faced numerous practical difficulties in replacing the old bridge which crossed the brook between Weedon and Hardwick, including taking into account the views of Lord Nugent whose property 'Lilies' overlooked the site. This article describes how a solution was achieved.*

## THE PROBLEM

During the mid 1830s the bridge (of unknown age), spanning Hardwick Brook needed substantial repairs. On 10 February 1835, the Turnpike Trustees directed a surveyor (probably the Mr Howard referred to in Trustee Minutes of 4<sup>th</sup> and 5<sup>th</sup> April 1835), to inspect the bridge as a matter of urgency. The bridge's poor condition was endorsed by several inhabitants of Hardwick village who stated that they used it on the way to visit the hamlet of Weedon situated within Hardwick Parish. An alternative to this route will be discussed later.

Approximately three miles north of Aylesbury the road to Buckingham approaches Hardwick Brook which flows from north-east to south-west. On the north side Hardwick Hill rises steeply while to the south the rise is less steep. The classic elevation of Hardwick Bridge, built in accordance with Lord Nugent's original sketch, is partially hidden under a reinforced steel and concrete platform placed on the bridge's superstructure in 1991. This platform enables contemporary traffic, especially heavy good vehicles, to negotiate the crossing without any of the problems previously encountered when negotiating entry on to the narrow bridge roadway.

The *Aedes Hartwellianae* (1) of 1851 includes a map showing the brook as the Tame River, with its minor tributaries draining an area within the Thames – Ouse watershed lying to the east and north east of Hardwick Parish. During dry periods, the brook is neither wide nor deep, but after periods of heavy rainfall and snowmelt its level can rise by six feet or more. The low-lying land bordering the brook is thus subject to flooding. Any increase in water flow volume would have caused concern and hazard to those involved in transport, giving

credibility to the case for construction of a bridge with approach roads above flood levels.

After receiving the surveyor's report on the old bridge's structural deterioration (Minutes 27 July 1835), the Trustees acted in accordance with the relevant Act of Parliament for repairing and improving the Turnpike Road (11 Geo. IV. 1830). The Trustees had previously borrowed a considerable sum of money which remained undischarged, so repairs could not be undertaken without the aid and authority of Parliament. An Indenture of 20 April 1839 (2) applicable to construction details for a new bridge, stipulated that the old one should be completely demolished. Any remains, if sound, were to be used for the building of the new one. Parts of the piers were to be left standing, with a pedestrian causeway formed by means of strong planks laid across them. There are no records to indicate whether this work was ever undertaken. An elderly local inhabitant recalls using the pier stumps as stepping stones (3).

Between 1836 and 1838 four different plans were submitted to the Turnpike Trustees for consideration. A final plan of 1840 (Fig. 4) shows in detail the position of the new bridge in relation to the old one.

## COOLINGS'S PLANS

On 19 July 1836, the Trustees ordered Mr Henry Cooling, a surveyor, to prepare a plan and section of a route, together with estimates of expenses likely to be incurred, for a proposed new line of road and the building of a new bridge a short distance upstream from the old bridge. The plan included a short length of connecting roads (Fig. 1). These connecting roads were detailed in gradient sections, the steepest of which had an incline of 1

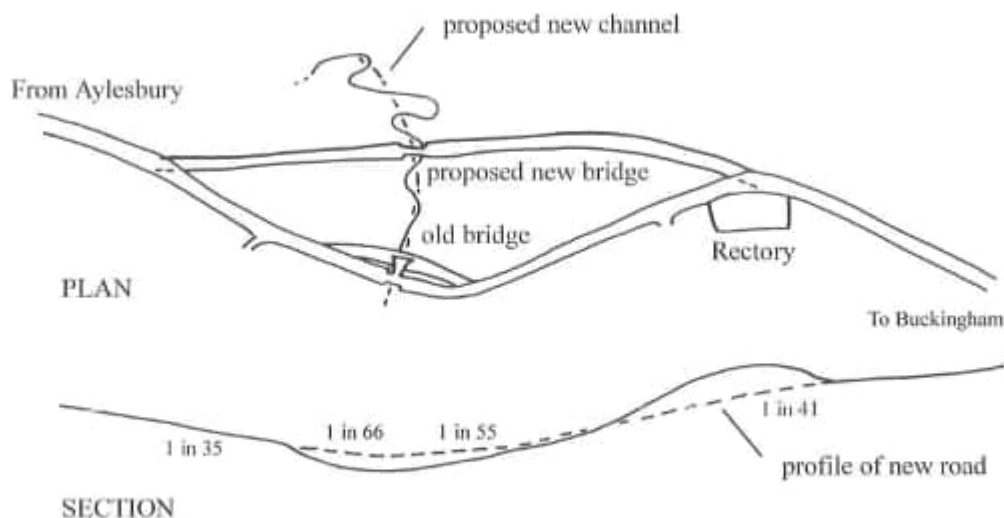


FIGURE 1 Simplified version of Cooling's plan of a proposed new road and bridge situated downstream from the old bridge. July/August 1836. (BRO. T3/55/2)

in 35, leading to the bridge from the direction of Aylesbury. The total cost was calculated at £1,382. 0s. 0d. which included the building of a new bridge at a cost of £260.

The estimated cost of land was £275 representing 19.9% of total costs, while the cost of building the bridge represented 18.8%. This indicates the high value placed on the land over which the turnpike road diversion was planned, especially as the sole use of the land was agricultural in an essentially rural area. In the opinion of the Trustees, the plan was an improvement to the line of the turnpike road and should be built providing that the funds of the Trust would 'admit such an outlay'.

The line of the new road would cross land owned by Mr Hancock and the Rev. C. Erle, the Rector of Hardwick. As a Turnpike Trustee, the Rector gave his immediate consent, while a reply to correspondence with Mr Hancock was awaited 'to ascertain his sentiments' (Minutes 22 August 1836).

Cooling's first plan of 1836 (Fig.1) shows a westerly movement from the old bridge and connecting roads, to a crossing a short distance downstream. This layout was adopted by the Trustees as the site of a new bridge.

A second plan was submitted by Cooling in July 1836, in which he proposed a much longer route with a bridge built upstream, linked to a road skirting the east side of Hardwick church and village

(Fig. 2). This diversion connected with the old turnpike road at a junction leading to the hamlet of Weedon with another road situated at the south end of the High Street, Whitechurch, leading to Cublington. The Trustees rejected this plan for three reasons:

1. The proposed road would have gradients as severe as those encountered on the old road.
2. The purchase of several tenements and gardens lying across the proposed line of road would incur considerable costs.
3. As Hardwick church is built on high ground, some parishioners seeking access would still have to ascend the old road from the foot of Hardwick Hill, thus obtaining no advantage from the proposals.

Cooling's estimate for constructing this road and bridge was £3,700.

To avoid the disadvantages, a road line west of the old bridge was recommended whereby 'the acclivity would be less steep, taking a circuitous route round the village of Hardwick. Such a proposal would render unnecessary the purchase of several tenements and gardens.'

Contemporaneously with the previous two plans Cooling presented a brief estimate of the cost of repairing the old bridge and widening the roadway.

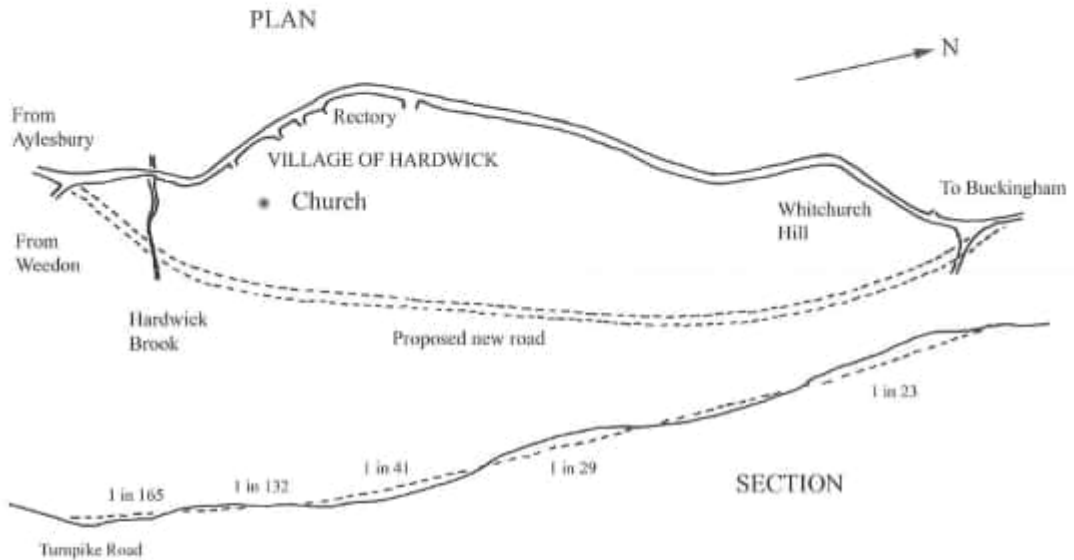


FIGURE 2 Simplified version of Coolings alternative plan of a new road skirting the rear of Hardwick church. 1836. (BRO. T3/55/2)

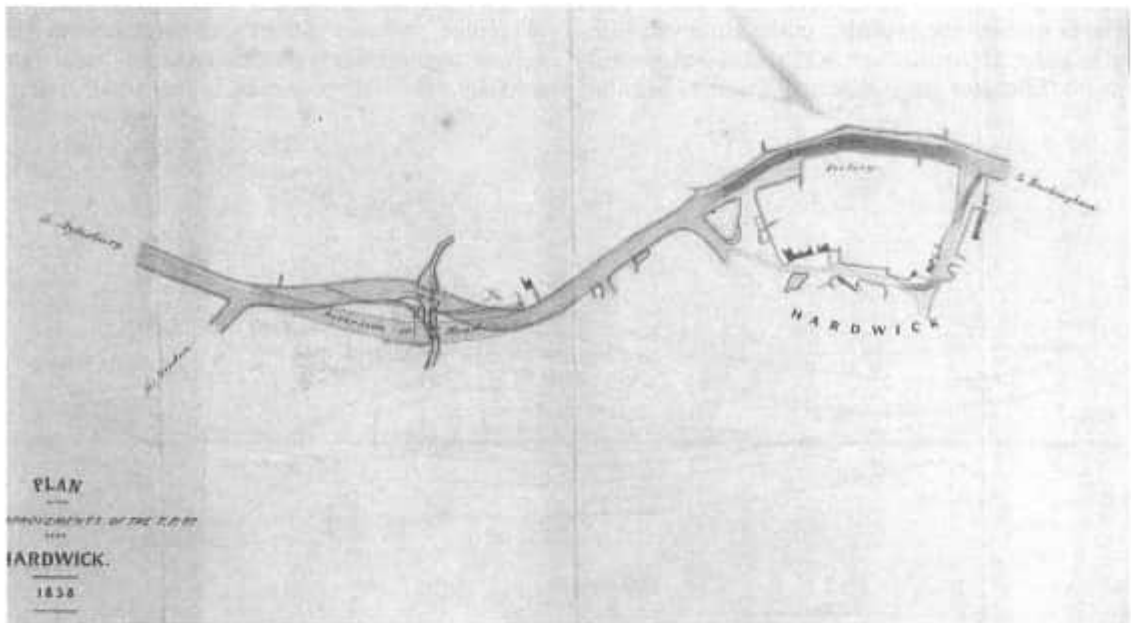


FIGURE 3 Hoppner's plan of the old bridge with a new bridge and connecting roads situated upstream. 1<sup>st</sup> February 1838. (BRO.T3/56/1). Reproduced courtesy Centre for Bucks Studies

This work entailed making good all defective parts of the bridge and widening it by four feet, giving an extra width of 3 feet 6 inches at the parapets. The estimated cost was £90, with an additional estimate of £300 for the construction of a 'good plain bridge'. However, if the Trustees required a 'highly ornamental bridge' the extra work 'would necessarily increase the expense'. On 21 July 1836 two eminent members of the Turnpike Trust, Sir T. F. Freemantle, Bart., and Sir T. D. Aubrey, Bart., accepted Cooling's earlier plan (Fig. 1) for building a bridge with connecting roads at Hardwick. Their acceptance of the plan was endorsed by a Committee of Trustees on the 12<sup>th</sup> August 1836 'as a more direct line desirable as well as a manifest advantage.' Cooling, as a surveyor, would probably have read and studied Thomas Telford's report of the 13 May 1824 (4) which contained illustrated reductions in road gradients of several sectional lengths of Watling Street between Fenny Stratford and Old Stratford. Such techniques improved the quality of road transport operations by reducing transit times and the tractive effort required for hauling all classes of road vehicles.

Despite initial approval of Cooling's plan, further consideration of the scheme must have been abandoned because of the lack of available Trust Funds to meet the probable costs. However, Minutes of the 28 September 1837 reveal that, providing Magistrates at Aylesbury Quarter Sessions

agreed to contribute one half of the expenses for building a new bridge, the Trustees would contribute the remainder. A design of a two-arch bridge was submitted and approved by the Magistrates at Aylesbury Adjourned Sessions, 10 July 1837 (Trustee Minutes, 1 March 1838), however, this design (Fig. 3) was rejected by Lord Nugent of 'Lilies' whose residence west of Weedon overlooked the bridge site.

#### HOPPNER'S PLAN

A new plan devised by Mr Hoppner for erecting a new bridge, simultaneously lowering the hill in front of the Rectory, was submitted to the Trustees on the 8 February 1838. After receiving confirmation of the County's contribution towards the cost of the new bridge, the Turnpike Trust Committee ordered that a new bridge should be built together with alterations to the road line (1 March 1838). Later that month on the 14 March, the Trustees placed an advertisement in the *Northampton Herald* requesting interested parties to submit tenders for the construction of the new bridge with road connections at Hardwick. This suggests that Cooling's (Fig. 1) had finally been abandoned.

An examination of Figs. 1 and 4 shows that the old bridge, probably of three arch construction, was narrow, approximately ten feet wide and low-lying, suitable only for pedestrians and light traffic.

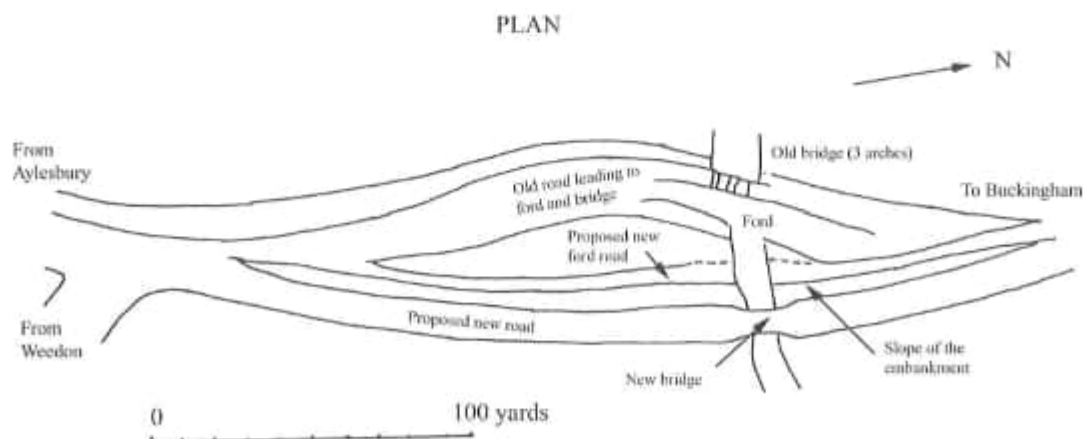


FIGURE 4 Simplified version of William Andrew's plan of old and new bridges with proposed new road and ford. August 1840. (BRO.T3/60)

Alongside, a ford for heavy traffic had been created. The turnpike road connecting with the old bridge was not used by Hoppner (Fig. 3). Andrew's plan (Fig. 4) shows the old roadway and also the new contiguous arrangement of bridge and ford roads. Along the west side of the old bridge leading from the Aylesbury, the old ford road, hidden by an undergrowth of brambles and shrubs, is a wall leading to the brook at a right angle (October 1996). This wall would have been a section of a boundary between the demolished Ford Cottage and the old ford bridge road (Fig. 10).

#### A FOOTWAY CONNECTING HARDWICK WITH WEEDON

An element of doubt surrounds the earlier reference to local inhabitants using the old bridge as a crossing from the nearby hamlet of Weedon to gain access to Hardwick village and church (Trust Minutes July 1835). The 1883–1884 Ordnance Survey map of Hardwick (Fig. 5) shows that a footpath extended from Hardwick churchyard to Weedon in a direct line. In the Hardwick Inclosure Act of 1778 (5) this path is referred to as 'a footway leading from the Common Street of Hardwick towards and into the hamlet of Weedon ... into and over the churchyard in a south east direction called West Dunn Road to a certain plank (laid across a brook) leading into the common fields of Weedon.'

The Inclosure Act of Weedon (1801) (6) refers to a public church path of breadth six feet, leading from Weedon to Hardwick church. This path was still in existence (December 2004) commencing at the south-east corner of the churchyard from where a short flight of five steps, forty-one inches wide, lead to a field. An ill-defined way then descends at an approximate gradient of 1 in 36 to a brook crossing, consisting of a renovated wooden bridge with the end structure resting on an ancient construction of brick. The underside of this bridge was six feet above the bed of the brook channel. From this bridge the footway approximately one foot wide, traverses level ground for a distance of 100 yards. When first visited, the path had a crazed surface probably the result of dry weather acting on its substructure of Kimmeridge clay (7), so this surface would become muddy and heavy after a period of prolonged wet weather. From this point the footway leads upwards along a gentle gradient to join a road linking the turnpike road with Weedon (Fig. 5).

Figure 5 shows that this footway is shorter than the more circuitous route via the old Hardwick Bridge and was probably used by Weedon inhabitants attending Hardwick church and by Hardwick villagers seeking the services of the larger number of tradesmen living in Weedon. Over the period 1831–1851, Weedon, although classified as a hamlet, had the larger population as shown below.

TABLE 1 Village Populations

Year	1831	1841	1851	
Hardwick	238	319	292	
Weedon	405	428	447	
% Hardwick	37	43	40	Populations as percentages
% Weedon	63	57	60	

The earliest Post Office Directory for Buckinghamshire of 1847 (8), lists important individuals and tradesmen. Hardwick with its Rector had 13, while Weedon with Lord Nugent, D. Williams Esq., and a Curate had 19. Both places had a predominance of farmers. The Weedon list included a tailor and three boot and shoemakers.

The church path would have been used more frequently in preference to the bridge crossing, and more so on Sundays until the mid nineteenth (9). In 1815 (10), Methodism was introduced to Weedon; a chapel was opened and regular services commenced in August 1854 (11). After this date the church path would have been used less frequently. An 1811 (12) census of chapel attendance stated that afternoon services numbered 142 with evening service numbers of 183. These figures included both Wesleyan and Primitive Methodists and probably some Hardwick inhabitants.

Who then were the inhabitants of Hardwick who complained about the deteriorating condition of the old bridge? The Rector of Hardwick was the youngest son of a wealthy family, he himself having a living of £641 per annum in 1851 (13). He would have had influence within his parish and also with Lord Nugent who lived at 'Lilies' in Weedon. Nugent was also a Trustee of the Turnpike Trust. As a Trustee, the Rector probably considered it his duty to raise the matter of the deteriorating state of the old bridge. Nugent, in common with other local landed gentry, would have used the old bridge crossing when engaged on social and professional activities, using the turnpike road as a stem way. The entrance to Lord Nugent's residence at 'Lilies'

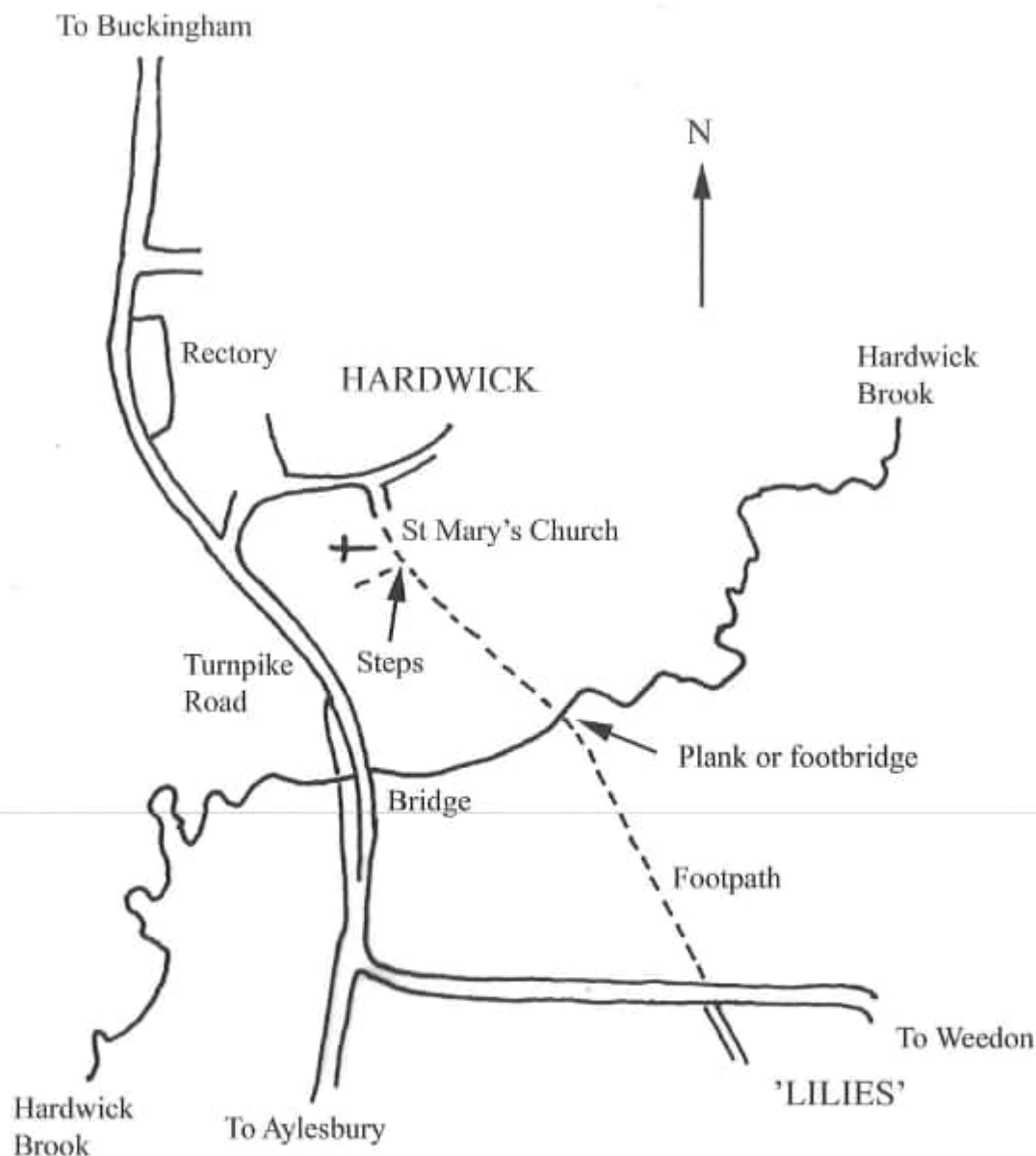


FIGURE 5 Footway connecting Harwick with Weeson, based on Ordnance Survey 6" sheets 28 and 33 (1883 and 1884)

was through a lodge gate, which still stands, on the turnpike road a short distance south of Hardwick Bridge. This entrance would have been used by visitors whether arriving from the south or north shortly after using the old bridge. Hardwick farm-

ers using horse-drawn vehicles would also have used the bridge or ford crossing for visits to the market at Aylesbury, but everyday needs of the majority of Hardwick inhabitants would have been satisfied by the shopkeepers of Weedon and the

LORD NUGENT'S LAND IN WEEDON

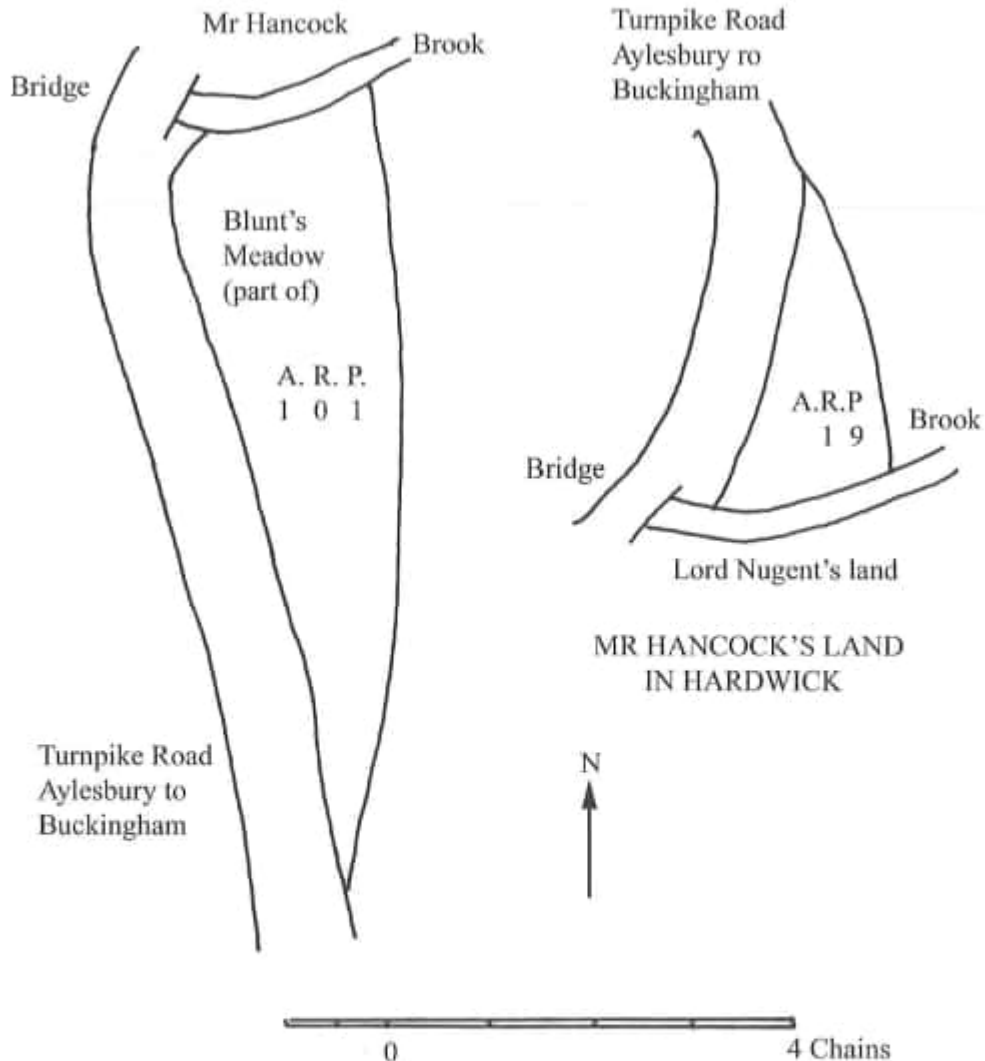


FIGURE 6 Simplified version of plan showing Lord Nugent's land in Weedon and Mr. Hancock's land in Hardwick. (BRO. T3/30/11)

nearby village of Whitechurch. Although the old bridge was becoming unsound, the influence of Hardwick inhabitants on a decision by the Trustees to construct a new bridge must have been minimal. They would have used it only when walking to Aylesbury market to purchase items unobtainable in the immediate area, or for trading.

#### THE DISPUTE WITH LORD NUGENT

The proposed new road was aligned to pass across land north and south of the brook. The parcel of land to the south crossed part of Blunt's Meadow and became the subject of an acrimonious dispute between Lord Nugent, the owner, and the Turnpike

Trustees (Fig. 6). Trustee Minutes of 12 January 1838, refer to a misunderstanding of ownership title. The Trustees erroneously assumed that the land was owned by the Duke of Buckingham, the elder brother of Lord Nugent. In correspondence with the Duke, the Trustees expressed their wish to purchase the land enabling them to proceed with the bridge and connecting road development. In fact the owner of the land was Lord Nugent whose seat 'Lilies' encompassed Blunts Meadow. Nugent may have been annoyed by the mistake over ownership but he also had strong objections to the proposed design of the bridge. This prompted him to write a series of six letters to the clerk of the Trustees, Thomas Tindall at Aylesbury, in which he expressed disapproval of the design and claimed that it would damage the value of his property: 'The high road level as planned would necessitate raising the levels of approach roads in the hollow of the stream valley disfiguring his land in a way, such as could be observed around the Paddington and Pentonville areas'.

Nugent sketched a proposal of his own for a bridge design (letter 23 March 1838) (Fig. 7), suggesting that it should be shown to Rev. C. Erle, (brother of Sir William Erle, Lord Chief Justice) (14) who, as a Turnpike Trustee and Rector of Hardwick,

'was a person of excellent taste who would not want such a bridge of brick construction situated at the entrance to a village in the Vale of Aylesbury'.

In his second letter (11 April 1838) Nugent expressed concern regarding intrusion on his property and damage caused by marking out the new road line. He accused the Trustees of a lack of courtesy by excluding him from relevant Trust meetings when the land in question could have been discussed 'with trouble spared to both parties'. He believed that the Trustees had exceeded the powers given within the General Turnpike Act and would hence resist the implementation of the project by 'such means in Law or Equity, as advised to adopt'. In letters dated 8 June and 21 July 1838 Nugent repeated previous protests about damage to his property at Blunts Meadow. In the second letter he adopted a more conciliatory attitude, having learned from his solicitors, Karslake and Crealock of Regent Street, London, that the Turnpike Trustees had the power under the General Turnpike Act to construct the proposed road across his land. In his first letter (March 1838) he had agreed that the project, when built, would be 'a convenience and benefit to the public'.

Nugent's objections to the previously accepted design of a two-arch bridge at Hardwick were

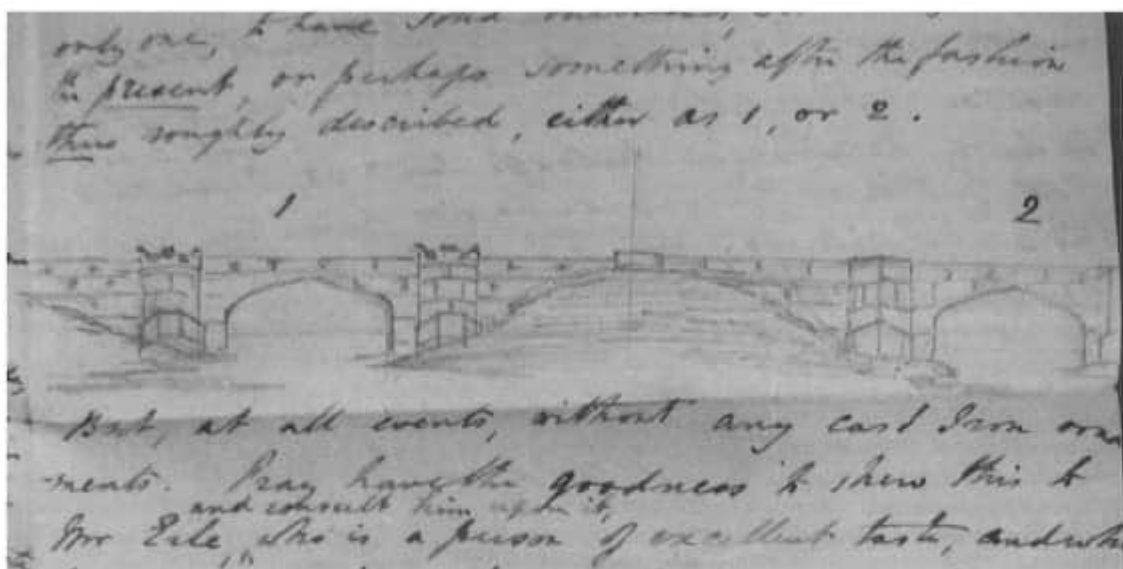


FIGURE 7 Lord Nugent's suggested design for a bridge at Hardwick. (BRO. T/3/30)

recorded in Trust Minutes of the 29 May 1838. To assist them in the continuing dispute, the Trustees sent a letter to the Duke of Buckingham requesting support for the purchase of part of Blunts Meadow. Trust Minutes of 7 June 1838 referred to delays in construction as a direct outcome of Lord Nugent's attitude.

To shorten the dispute the Trustees requested a Mr Plowman of Oxford to submit a bridge design, in accordance with the sketches in Lord Nugent's first letter, built of Whitchurch stone and having a road width of eighteen feet. Plowman acknowledged the letter dated the 17 June 1838 but it was not until the 17 July that he asked the Trustees' solicitor to arrange a meeting to discuss the bridge project. This alternative design had to be approved by the Court of Quarter Sessions and it was hoped it would satisfy Lord Nugent's 'wishes and tastes'.

Damages sustained to land at Blunts Meadow could be ascertained for compensation with respect to taking private land without first receiving permission (letters 8 September and 16 December 1838).

Desiring to terminate the dispute with Nugent, the Trustees wrote a second letter to the Duke of Buckingham (22 February 1839) reminding him of his late father's approval of a bridge and road plan at Hardwick which had been submitted previously. They urged the Duke to intercede with Lord Nugent on their behalf, persuading him to waive all objections and thus allowing the Trustees to purchase his land without the added expense of summoning a jury for a verdict.

Under the provision of the Act: 3 Geo IV c126, sec 91, the price paid for Lord Nugent's land was £121, the area in question being one acre and one

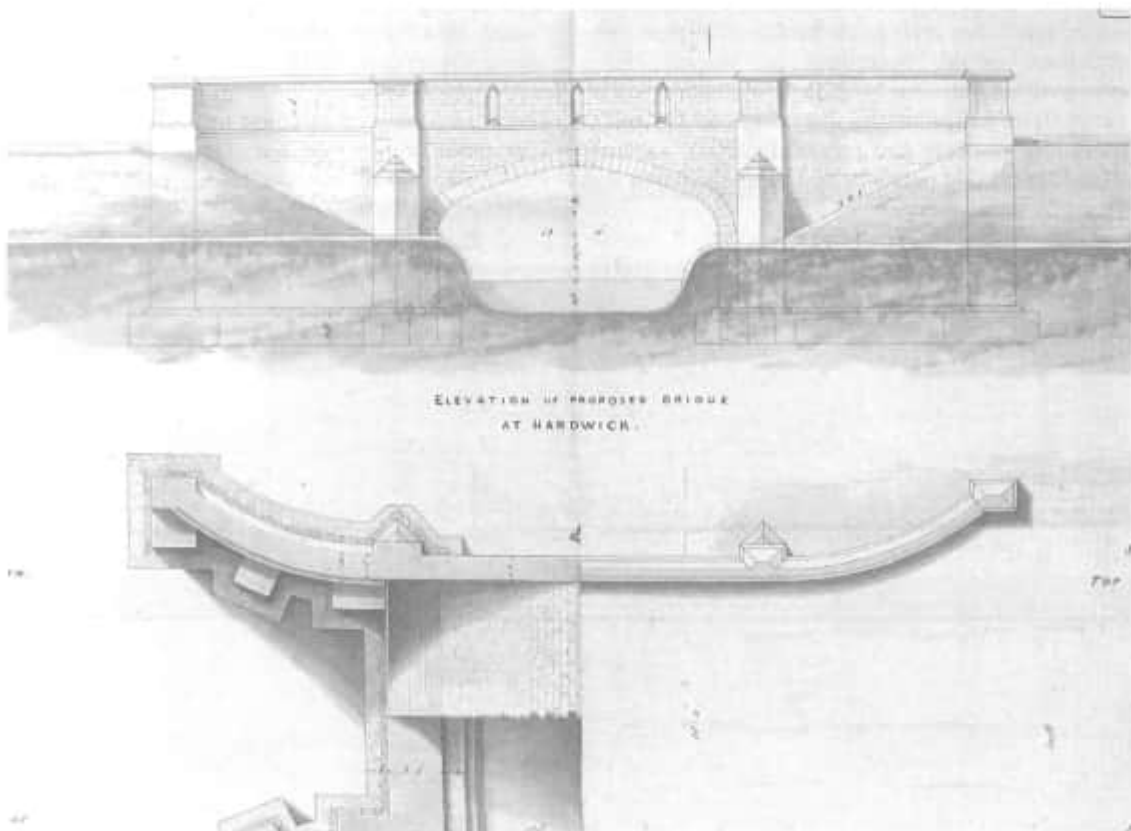


FIGURE 8 John Plowman's approved design of Hardwick bridge. (BRO. T3/59/1)

pole. Mr Hancock was paid £36. 15s. 0d for his land having an area of one rod and nine poles. (Fig. 6).

#### LORD NUGENT AND 'LILIES'

Lord Nugent was a Grenville, the young brother of the Duke of Buckingham. He was Warden and Fellow of New College Oxford, and resided at 'Lilies'. 'Lilies' was a large estate adjoining the hamlet of Weedon; the house was situated on elevated land (c.365 feet) with slopes westwards to the line of the old turnpike road, and northwards across the course of the Hardwick Brook and Church. From a viewpoint nearby the house, the parapet of Hardwick Bridge is clearly visible. The embankment forming the bridge approach roads obscures the substructure and arch. From another vantage point, no doubt frequented by Lord Nugent, the old bridge would have been visible, but being of low construction would have been unobtrusive. In contrast, the rejected two arch brick bridge of higher construction, would, according to Nugent, have appeared incongruous with the surroundings. The views from 'Lilies' across the valley and beyond is exceedingly scenic and peaceful (2003), possibly with little change over a period of one hundred and

sixty years. It is not difficult to sympathise with Nugent's preference for a classic bridge design compared to the design as originally submitted, which he considered 'unsightly and inappropriate' (letter 11 April 1838). Compensation to Lord Nugent for damages to his land and personal distress was settled on the 15 January 1841 by Dr Lee (of Hartwell House) who chaired a Magistrates Meeting at Aylesbury. The award of costs was fixed at £14. 7s. 0d after the deduction of tax, the Trustees paying this amount.

Lord Nugent died in 1850 age 62. Ten years after his death the house at 'Lilies' was destroyed by fire, to be rebuilt to a different design and eventually occupied by Baron Ferdinand de Rothschild (15).

#### COMMENCEMENT OF CONSTRUCTION

Anticipating that the dispute with Lord Nugent was approaching an amicable conclusion, the Trustees placed an advertisement in the local newspapers asking for tenders for the construction of a bridge according to Plowman's design (14 August 1838). There was only one response to the advertisement. This came from Mr William Green, (4 September 1838) who stated that the bridge could be com-

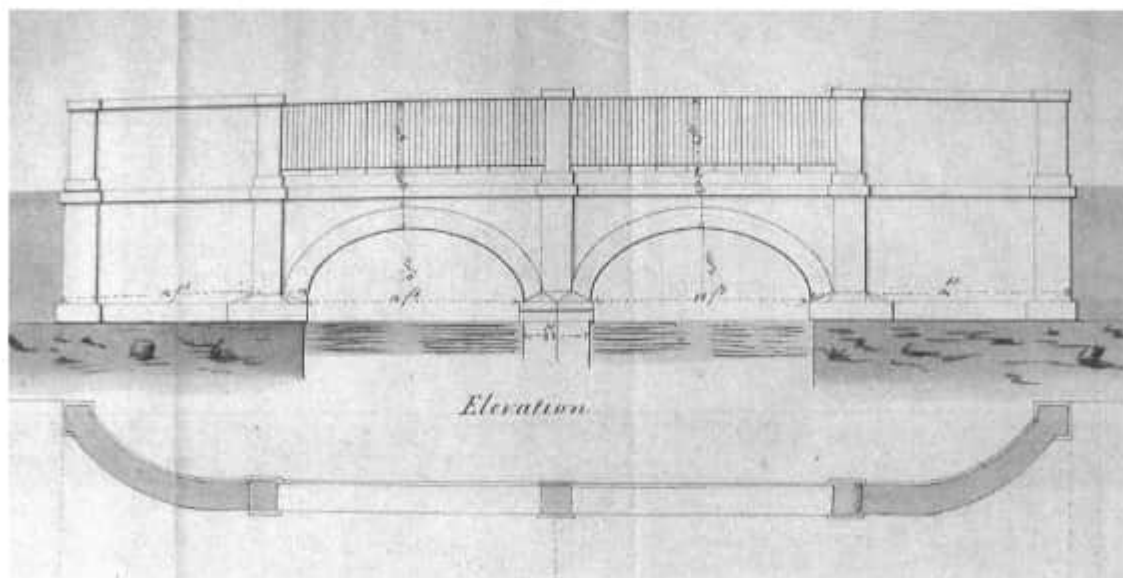


FIGURE 9 Brick bridge rejected by Lord Nugent. (BRO. T.3.55/4)

pleted and finished within two months, unless prevented by floods or other unavoidable accidents.

Green's tender was accepted by the Trustees who recorded that the bridge would not be built before the Spring of 1839. On the 16 April Green gave notice that he was ready to commence laying foundations for the bridge. The specification for bridge construction was contained in an Indenture dated 20 April 1839 (16), as devised by John Plowman, Architect of Oxford, signed by five Trustees and William Green. At the Magistrates Court, Aylesbury (10 April 1839) the County agreed to contribute £200 towards the cost of the new bridge at Hardwick in accordance with John Plowman's plan, based on the sketch submitted by Lord Nugent, thereby making it a County bridge.

#### ANDREW'S PLAN OF THE OLD AND NEW WAYS

The path across the shallow valley or hollow at Hardwick had its origin in antiquity. The ford-way lies between land levels that fit smoothly into the immediate countryside. Early travellers would have sought the easiest line for a crossing site, justifying the eventual building of a bridge.

Andrew's Plan of 1840 (Fig. 4) shows a bridge of unknown age, twenty-seven to twenty-nine yards downstream from the face of the new bridge. It lies at an angle to the line of the new bridge. The angle of the bridge relative to the watercourse can be explained by a slight change of flow direction after leaving the site of the new bridge, curving to meet the bridge at a right angle, an alignment which would have been originally planned. The road at the mid-span of the bridge was approximately seven feet above normal water level. Andrew's plan indicates a



FIGURE 10 Entrance gate from the old ford road to the now demolished Ford Cottage. 10 Sept. 1996



FIGURE 11 The arch of Hardwick bridge facing upstream. The lowest part of the reinforced platform lying on top of the bridge and also on side abutments are discernible. September 1994

level roadway across the bridge. This is unlikely as old bridges in Buckinghamshire were usually of hump-backed design. In comparison, Plowman's new bridge design (Fig. 2) gives a height of ten feet between normal brook level and the roadway.

During times of flood, the three arched channels would have become choked and unable to cope with floodwater. The bridge would have acted as a dam, the water flooding the road entrances to the bridge. This happened during February 1996 at Oxlane Bridge, near Padbury, following a rapid thaw of snow on the surrounding ground. In contrast the new single-arch bridge is able to cope with an increase in brook depth of six feet or more without the arch becoming choked. Infilling of the hollow on both sides of the brook has altered the original topography of the immediate area, the banks of the brook having been raised to form levees to reduce flooding adjacent land. All traces of the old road and bridge have been obliterated.

#### ESTIMATES OF NEW BRIDGE AND ROAD CONSTRUCTION as supplied by Cooling and Hoppner

Note: These Estimates are detailed in Appendices.

(a) Cooling's Estimates, 12 April 1836 Plan 1 (Fig. 1):

This Estimate included bridge construction, land purchase, fencing, embankment and approach road construction together with straightening of the brook.  
£1,382. 0s. 0d.

Cooling's alternative Plan with estimates, 12 August 1836 Plan 2 (Fig. 2) included new bridge construction, land purchase, embankments and cuttings requiring fencing and road metal to connect with the bridge.  
£3,700. 0s. 0d.

On the 28 May 1838, Mr William Green presented the costs of two alternative bridge designs –

Plan No 1 £251 of brick construction  
Plan No 2 £224 with no construction details.

These tenders were followed by a higher one of £330, dated 4<sup>th</sup> September 1838.

(b) Hoppner's Estimate of 1 July 1836 included the cost of new bridge construction, alterations for a new road with extra earth required for approaches, with land purchase, fencing and contingencies. The total cost of these estimates was £1,002. 0s. 0d. Hoppner's Estimate was accepted with work on the project gradually put into operation. Costs involved in this work were paid by the Trustees (see Appendix).

On the 26 October 1839 a sum of £341 was paid to William Green as the balance due on his contract for building Hardwick Bridge. On the same day it was recorded that Lord Nugent invested money in the purchase of £115. 14s. 0d of 3% Consols at a cost of £105 in the names of two Trustees appointed by him. This transaction was the outcome of Nugent's letter of the 21<sup>st</sup> July 1838 in which he waived previous objections to selling his land at Blunts Meadow for £121 at the rate of £120 per acre.

The General Statement of the Trust's Income and Expenditure disclosed Law Charges including Conveyancing and Inquisition as to Hardwick Bridge at £154. 8s. 10d. Work continued on the New Road with Bridge approaches until the end of 1840. Costs incurred by the Trustees from the 24 September 1838 to the end of 1840 relative to work done, together with compensation to Lord Nugent amounted to £1,292. 0s. 0d. (Details in Appendix).

## APPENDICES

### Appendix 1

Cooling's Estimates of proposed Construction Costs

12 April 1836 Plan 1 (Fig. 1)

Bridge: 2 x 12 feet Elliptic Brick  
Arches (piling if required to be considered as extra work)

£. s. d.

Purchase of about 2 acres, 3 rods, 0 poles of land	260.	0.	0.
(1 acre = 4 rods or 160 poles)	275.	0.	0.
272 poles of quicking and fencing	102.	0.	0.
Forming and stoning of road			
– 136 poles	272.	0.	0.
Embankments	459.	0.	0.
Straightening of brook	14.	0.	0.
<i>Total</i>	£1,382	0.	0.

Cooling's Estimate 12 August 1836

Plan 2 (Fig. 2) £3,700. 0. 0.

This amount is derived from the following:

Purchase of land, about 9 acres;  
41,000 cubic yards of cutting and  
embankment,  
800 poles of quicking and fencing,  
400 poles of forming with stones  
of a road connecting with a  
new bridge.

On the 28 May 1838, William Green presented the costs of two alternative bridge designs:

Plan No 1 Brick arch construction £251. 0. 0.  
Plan No 2 No mention of  
construction details £224. 0. 0.

These tenders were followed by a  
price of £330. 0. 0.  
dated 4 September 1838.

### Appendix 2

Hoppner's Estimates of New Bridge Construction and Connecting Roads:

1 July 1838.	£.	s.	d.
Bridge	293.	0.	0.
Earth for approaches	74.	0.	0.
Contingencies	27.	0.	0.
<i>Total</i>	394.	0.	0.

Alterations – New Road

Earthwork	202.	0.	0.
Roadway	148.	0.	0.
Fencing	63.	0.	0.
Land	90.	0.	0.
Contingencies	50.	0.	0.
<i>Total</i>	553.	0.	0.

Alterations to the temporary road	50.	0.	0.
Contingencies	5.	0.	0.
<i>Total</i>	55.	0.	0.

Total cost of Hoppner's Estimates £1,002. 0. 0.

Hoppner's estimate was accepted after which work on the project was gradually put into operation. The following list of costs were paid by the Trustees for work done.

24 November 1838 to Mr Hoppner, Architect for land section details of the road at Hardwick Bridge	£.	s.	d.
	10.	10.	0.
1 <sup>st</sup> December 1838 to Mr George Col, surveyor for a plan of Hardwick Bridge	1.	1.	0.
9 <sup>th</sup> March 1839 to Mr William Hancock for purchase of land to widen the road at Hardwick	36.	15.	0.
12 June 1838 to Mr William Green on account of his contract for building Hardwick Bridge	250.	0.	0.
9 August 1839 for carting and contract work	22.	3.	6.
18 August 1839 ditto	22.	15.	3.
30 August 1839 labour and contract work	9.	0.	6.
13 September 1839 ditto	14.	19.	2.
20 September 1839 ditto with contract work	5.	12.	7.
21 September 1839 Labour	3.	19.	8.
<i>Total</i>	83.	5.	3.
27 September 1839 to Mr Nicholson for survey work at Hardwick Bridge	5.	0.	0.
To labour and Contract work on the approaches to Hardwick Bridge			
5 October 1839 Labour and carting	6.	5.	4.
11 October 1839 ditto	7.	2.	8.
18 October 1839 ditto	10.	19.	0.
<i>Total</i>	24.	7.	0.
26 October 1839 To William Green balance due to his contract for building Hardwick Bridge	341.	0.	5.

### Appendix 3

#### General Work done

	£.	s.	d.
Mr Judkin delivered Hartshill Stone to Buckingham Wharf	50.	0.	0.
Joseph Howard, carrier, delivered Hartshill Stone from Buckingham Wharf to the road.			
the weight was 100 tons [1s. and 0.42d per ton lifted]	5.	3.	6.
8 May 1840 Work on the road by Thos. Morris— New road to connect with the old road, with an embankment on each side of the bridge	49.	0.	0.
Pack-up to make a proper connection with the old road	15.	0.	0.
To make up the buttments and fill up the sides of the approaches to the bridge	45.	0.	0.
A proviso concerning the transport of sand, if sufficient was not available in the immediate neighbourhood.			
5 September 1840 to Thomas Morris on account of road work at Hardwick Bridge	50.	0.	0.
To James Soden on account of quicking at Hardwick Bridge	10.	0.	0.
31 September 1840 to Thomas Morris balance due on the contract for road work at Hardwick Bridge	59.	0.	0.
To same for fencing at Hardwick Bridge	3.	16.	0.
To James Soden balance for quicking at Hardwick Bridge	15.	0.	0.
To James Brown costs relating to the Inquisition for taking land at Hardwick	14.	7.	0.
To Judkin a further account for Hartshill stone	50.	0.	0.
To same, balance of his contract for Hartshill stone	22.	5.	0.
31 December 1840 John Plowman received a sum of £22. 0. 0. for a plan and specification of Hardwick Bridge.			

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