



# **Clapper Bridge, Pillaton, Cornwall Archaeological Recording**





Report No

2016R022

Report Name

Clapper Bridge, Pillaton: Archaeological Recording

Report Author

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Event Type

Watching Brief

Client Organisation

Cornwall Council

Client Contact

John Armstrong

Monuments (MonUID)

SM

DCO1293

LB

DCO2531

II

Fieldwork dates (From)

20/07/2015

(To)

20/07/2015

(Created By)

SRT

(Create Date)

08/12/2015

Location (postal address; or general location and parish)

Clapper Bridge, Pillaton

(Town - for urban sites)

(Postcode)

(Easting) X co-ord

23517

(Northing) Y co-ord

6525



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## 1 Project background

Clapper Bridge spans the River Lynher to the north-west of Pillaton, straddling the parishes of St. Mellion and Quethiock at NGR SX 3518 6525. The bridge is a 16th century structure built on the site of an earlier bridge and is both a Scheduled Monument (DCO1293) and Grade II Listed Building (DCO2531). A smaller 18th or early 19th century bridge, Bay Park Clapper Bridge at NGR SX 3520 6527, also Listed (DCO3409), crosses a small tributary of the Lynher immediately to the north-east of the larger bridge.

During July 2015 an HGV crashed into both Clapper Bridge and Bay Park Clapper Bridge. This caused substantial structural damage to both structures. Since Clapper Bridge is both a Scheduled Monument and Listed Building, Historic England (HE) set out requirements for archaeological recording during emergency repair works to stabilise the bridge. Cornwall Archaeological Unit were instructed by Cormac Solutions Ltd to carry out archaeological recording whilst one of the Clapper Bridge piers was partially dismantled and to record building construction and detail that had been revealed in the damaged areas elsewhere.

## 2 Aims and objectives

The principal aim of the recording work was to gain an archaeological record of the exposed structural elements associated with the bridge prior to reconstruction work.

Specific aims were to:

- Establish the presence/absence of any earlier structural elements.
- Record construction techniques and materials.
- Determine the extent, condition, nature, character, date and significance of any archaeological remains encountered.
- To provide further information on the design, construction dates, and engineering of the bridge from any remains encountered.

## 3 Working methods

All recording work was undertaken according to the Chartered Institute for Archaeologists *Standards and Guidance for Archaeological Investigation and Recording*. Staff followed the CIfA *Code of Conduct* and *Code of Approved Practice for the Regulation of Contractual Arrangements in Archaeology*. The Chartered Institute for Archaeologists is the professional body for archaeologists working in the UK.

### 3.1 Desk-based assessment

A desk-based assessment was carried out. This comprised:

- Published sources
- Historic maps, including
  - Joel Gascoyne's map of Cornwall (1699)
  - Thomas Martyn's map of Cornwall (1748)
  - OS 1 inch survey (c1810)
  - parish Tithe maps (c1840),
  - 1st and 2nd Editions of the OS 25 inch maps (c1880 and c1907)
- Modern maps

### 3.2 Fieldwork: drawings

Archaeological recording included architectural features and details of sub-surface elements. Measured information was created as part of the site works.

### 3.3 Fieldwork: description

Analysis of the fabric was undertaken on site (recorded as notes) to allow a description to be written up at the archive stage.

### 3.4 Fieldwork: photographic recording

Photographic recording included colour photography using a digital compact camera (with a resolution of 10 million pixels or higher).

CAU follows English Heritage guidance on digital image capture and file storage (2014).

The photo record comprised:

- General views.
- Examples of structural and architectural detail.

## 4 Results

### 4.1 Desk-based assessment

The bridges are situated 1.8km to the north-west of the village of Pillaton in the Lynher River valley (Fig 1). A bridge has stood at this location since at least 1480, linking the settlements of Quethiock and Pillaton. The bridges are located in a rural area, within a Steep Sided Valley and surrounded by Anciently Enclosed Land, as identified by the Cornwall Landscape Assessment (Cornwall County Council 1996). The location is also at the southern extent of the Newton Ferrers estate and may once have lain within the estate deer park dating to at least the early 17th century (Cornwall and Scilly HER MCO23397). Both bridges are set in a wooded area in close proximity to substantial oak trees which almost certainly date to the use of the deer park.

Geology in the area is Lower Carboniferous sedimentary rocks containing a thick group of sandstones, siltstones and shales, known as the Crocadon Sandstone (Bristow, 1999, 74 and 80). These siltstones have been used to construct the majority of the bridges' structure, with the addition of imported granite.

Clapper Bridge is shown on John Norden's map of c1580 and Joel Gascoyne's map of 1699. Both of these early maps depict the road continuing to the north of the main bridge across the location of Clapper Bay Park Bridge. This suggests that either there was a bridge or a ford at this location or that the tributary has been diverted at a later date. Similarly Martyn's map of 1748 only shows Clapper Bridge as does the OS map (1 inch to 1 mile scale) surveyed in 1803 (Fig 2) although neither of these are detailed enough to show such a small structure. However, as with the earlier mapping, the road which the bridge carries is shown on both of these maps indicating that a bridge or a ford was likely to have been present at this location.

The first cartographic indication of the Clapper Bay Park Bridge is on the St Mellion and Quethiock Tithe Maps of 1841 (Fig 3), where the stream is shown. On the first edition OS map of 1882 the stream is clearly shown passing under the road at this point (Fig 4) as it is on the second edition OS map of 1907-8 (Fig 5). On the first edition OS map some of the oak trees that survive today are depicted.

#### 4.1.1 Designations

Clapper Bridge was Scheduled in 1953 and the schedule includes the following information:

*'Multi-span bridges are structures of two or more arches supported on piers. They were constructed throughout the medieval period for the use of pedestrians and packhorse or vehicular traffic, crossing rivers or streams, often replacing or supplementing earlier fords. During the early medieval period timber was used, but from the 12th century stone (and later brick) bridges became more common, with the piers sometimes supported by a timber raft.'*

*Most stone or brick bridges were constructed with pointed arches, although semicircular and segmental examples are also known. A common medieval feature is the presence of stone ashlar ribs underneath the arch. The bridge abutments and revetting of the river banks also form part of the bridge. Where medieval bridges have been altered in later centuries, original features are sometimes concealed behind later stonework, including remains of earlier timber bridges. The roadway was often originally cobbled or gravelled. The building and maintenance of bridges was frequently carried out by the church and by guilds, although landowners were also required to maintain bridges. From the mid-13th century the right to collect tolls, known as pontage, was granted to many bridges, usually for repairs; for this purpose many urban bridges had houses or chapels on them, and some were fortified with a defensive gateway. The original clapper bridge, built from large slabs of stone is still thought to be contained within the structure of the present bridge, and is a significant survival of this early bridge type. The later rebuilding and elaboration of the bridge demonstrate its continuing importance and add to its interest.'*

The Scheduled Monument description is as follows: :

*'The monument includes a multi-span bridge over the River Lynher, known as Clapper Bridge. The bridge survives as a four-arched bridge with parapets and cutwaters with refuges above on the west side. Three of the arches are gently curved and the fourth has a flat granite lintel on the south side. The bridge was initially built from clapper stones which were incorporated into a 16th century rebuilding with 19th century additions. In 1480 during the Wars of the Roses, the Lancastrian Richard Edgcumbe of Cotehele referred to a problem encounter at 'Klaper Brygge' with Richard Willoughby, later Lord Broke of Callington. Norden also recorded it as 'Clayper Bridge' in 1584.'*

In 1968 EH listed the structure and provided the following description:

*'Bridge over River Lynher. Circa early C16 replacing earlier clapper stones. Partly rebuilt, possibly in C19. Stone rubble and moorstone. 3 round arches of 7 and 10 foot span with dressed stone and granite voussoirs with granite keystones. Cutwaters between, partly of granite, continued up to form angled refuges on west side. Cutwaters on east side partly replaced with buttresses between first and second and second and third arch. C19 fourth span with granite lintel on south. 9 foot wide roadway with stone rubble parapets with chamfered granite copings, splayed over abutments. In 1480 during the War of the Roses, the Lancastrian, Richard Edgcumbe of Cotehele complained that Richard Willoughby, later Lord Broke of Callington, with his retainers "contrewayted him at Pilyton and at Klaper Brygge so that he might nought pass no care for jupertye of his life" called Clayper Bridge by Norden in 1584.'*

Bay Park Clapper Bridge, the smaller bridge to the north-east, was listed in 1985. Its Listed Building description is as follows:

*'Road bridge over tributary of River Lynher. Circa early C19, reusing some cut granite. Remodelled on north west side in early C20. Rubblestone and granite. Single round arch on south east side with granite voussoirs. Cut granite lintels above arch at height of road surface. North west side widened with inner round arch set back. C19 railings replaced on north west side. Included for group value with Clapper Bridge (qv Clapper Bridge, Quethiock parish).'*

Referring to Clapper Bridge, The Cornish Bridge Project states:

*"A three span bridge with single centred arches, each with neatly dressed voussoirs, approached by a road flanked by long curved walls on the south side. The central arch has a pronounced keystone on upstream side and chamfered*

*imposts. The upstream side has cutwaters and refuges to both piers. A later square span with a slab over has been inserted onto the south end. Slabs placed above the arches are showing through into the road surface. Both parapets have been rebuilt in small squared stones, although the original chamfered granite copings have been retained without the iron clamps which once held them in place. The downstream side has rough cutwaters and the restored central arch can clearly be seen to project outwards. There is good example of a cast iron traction engine warning sign on the parapet." (Oxford Archaeology, 2003, Cornish Bridge Project).*

#### 4.1.2 Previous work

Work was carried out in 2004 to strengthen Clapper Bridge. This work was monitored by CAU and reported on (Mossop 2004). The conclusions of this report were that four main phases of construction could be seen in the bridge:

1. The main fabric of the northern three spans is likely to be of early 16th century origin.
2. The plug and feather scarred granite clappers of the southern span are likely to be of late 19th century origin. Contemporary with this are the bridge parapets. This phase is dated to 1889-95 by the plaque
3. The succession of bitumen and tarmac surfaces with relating drains date to the 20th century.
4. The granite paving, added to restrict traffic access, was laid or re-laid in the 1970s.

A similar bridge-strengthening programme was carried out on the smaller Clapper Bay Park Bridge in 2007, also monitored and reported on by CAU (Sturgess 2007). This work noted the reuse of 16th century coping stones in the structure of the 18th or 19th century bridge, indicating that it probably occupies the site of an earlier bridge.

#### 4.1.3 2015 fieldwork

The site was visited in July 2015 during repairs to the bridge occasioned by the damaged to both bridges caused by an HGV on the 6th July. The HGV appeared to have approached the two bridges from the east, scraped through the Clapper Bay Park Bridge resulting in the demolition of the south-eastern pillar, wall, and coping, before becoming wedged in the angle of Clapper Bridge after damaging the walling and coping on both sides at the eastern end of the bridge. An attempt to reverse the HGV then seems to have been made resulting in the westernmost cutwater breaking away from its foundation and pivoting a degree or so to the north. The lorry then seems to have continued on its way westwards, causing more damage to the coping at the western end of the bridge as it did.

By the time of the site visit on 20th July much of the walling and coping on the Clapper Bay Park Bridge had been repaired and the engineers were concentrating on the cutwater on Clapper Bridge. The damage necessitated the removal of the stone facing on the south-western face of the cutwater, revealing detail and layers beneath (Table 1; Fig 7). It was apparent that the cutwater, or at least the granite facing stone, was an addition to the bridge and that this addition had occurred relatively recently since cement bonding of the underlying stones of the arch was visible. It is likely that this represents superficial repairs to the underlying structure rather than that the bridge was completely rebuilt at some stage in the 19th century.

Context	Description
(1)	Dark brown clay containing frequent small rubble and pebbles.
(2)	Mid brownish red clay forming a matrix to large sub-angular blocks of killas.
(3)	Dark brownish grey fine clay forming a



	matrix to flat-laid killas and a single waterworn boulder.
(4)	Loose killas rubble beneath parapet.
(5)	Cut granite blocks forming the facing to the cutwater.

Table 1: List of contexts recorded on damaged cutwater

## 5 Conclusions

It is clear that much of the two bridges has been rebuilt and altered during the 19th and 20th centuries. On the Clapper Bay Park Bridge the round arch structure itself remains as an intact part of the original build with patches of 20th century replacement stonework on the south-east side around the top of the arch. On the north-west side the majority of the original elevation has been obscured by the widening of the bridge in the 20th century when the parapet on this side was also rebuilt.

The parapet wall on the south-east side appears to be an intact 18th or 19th century feature. An interesting element of the bridge is the granite coping stones on the parapet walls and above the south-east arch. All of these coping stones are reused 16th century bridge coping stones and are identical to those on the main Clapper Bridge. It seems possible, therefore, that there may have been a 16th century predecessor of Clapper Bay Park Bridge.

The main bridge itself is clearly the product of many different phases of construction. All four openings are in different styles with the only clear chronology being that the westernmost with its flat-laid drilled lintels is unmistakably later (19th century).

The revealing of cement bonding beneath the dressed granite facing stones of the cutwater shows that the structure underwent fairly extensive repair/rebuilding work in the 19th or 20th century. This work is likely to have been undertaken as part of the remodelling commemorated by the plaque (1889-95). Although the bridge is clearly of earlier origin, evidence suggests that the parapets, the cutwaters and the western span were rebuilt at this time.

## 6 References

- Bristow, C, 1999, *Cornwall's Geology and Scenery*, St Austell, Cornwall
- Cornwall County Council 1996. *Cornwall Landscape Assessment 1994*, Cornwall County Council, Truro
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- Mossop, M, 2004. *Clapper Bridge, Cornwall, Archaeological Watching Brief*, CAU, Truro
- Oxford Archaeology, 2003, *Cornish Bridge Project*.
- Sturgess, J, 2007. *Clapper Bay Park Bridge, Cornwall, Archaeological Assessment*, CAU, Truro
- Sturgess, J, 2015. *Clapper Bridge, Pillaton: Written Scheme of Investigation for archaeological recording*, CAU, Truro

## **6.1 Websites**

Parish council report of the incident (accessed 8/12/2015)  
[http://pillaton.org.uk/news/clapper\\_bridge\\_damage\\_20150706.html](http://pillaton.org.uk/news/clapper_bridge_damage_20150706.html)

News item on the bridge damage (accessed 8/12/2015)  
<http://www.cornishguardian.co.uk/PICTURES-Ancient-Clapper-Bridge-South-East/story-26906100-detail/story.html>

## **7 Project archive**

The CAU project number is **146511**

The project's documentary, digital, photographic and drawn archive is maintained by Cornwall Archaeological Unit, Cornwall Council, Fal Building, County Hall, Treyew Road, Truro, TR1 3AY.

Historic England/ADS OASIS online reference: cornwall2-245041

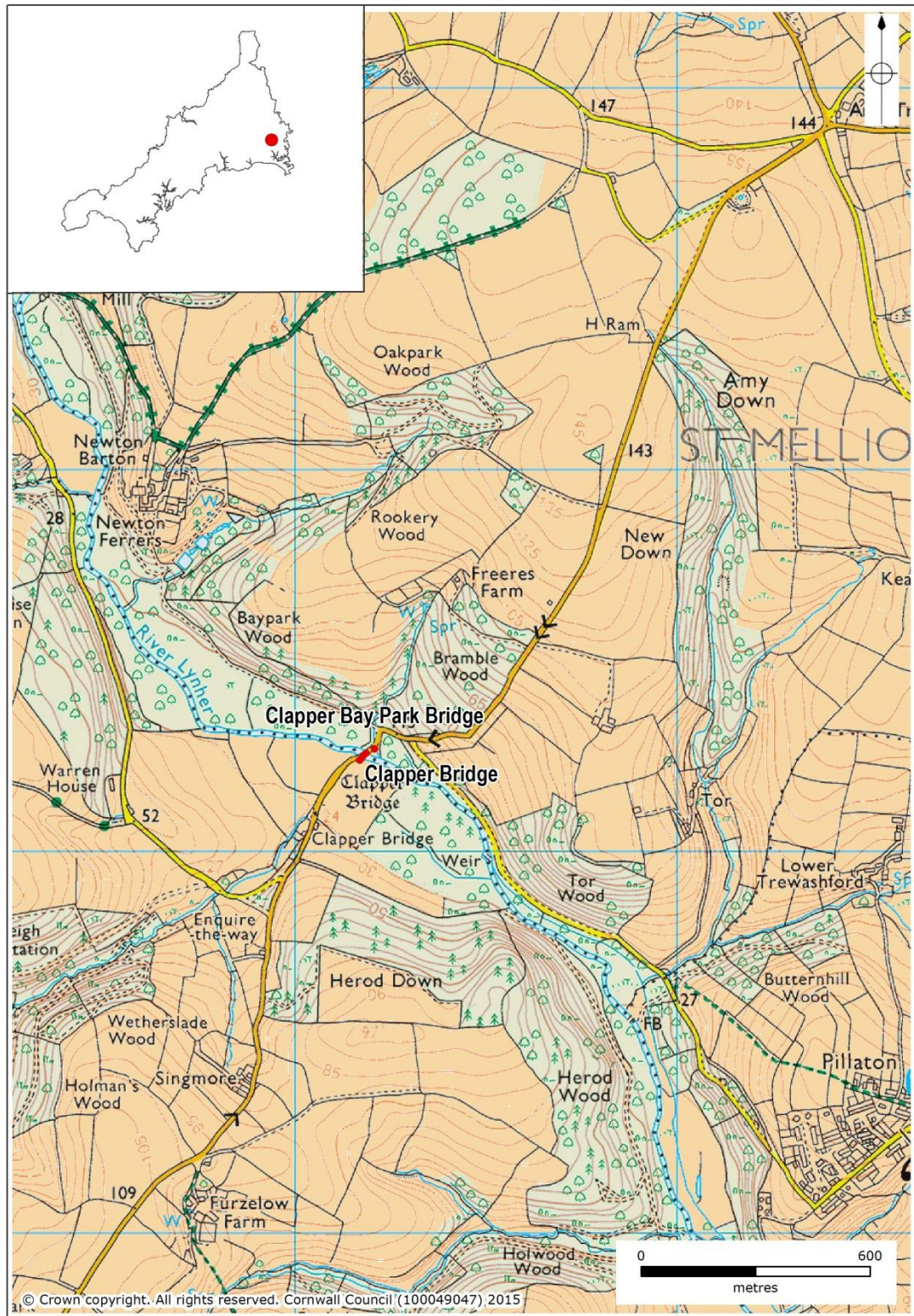


Fig 1 Location map.

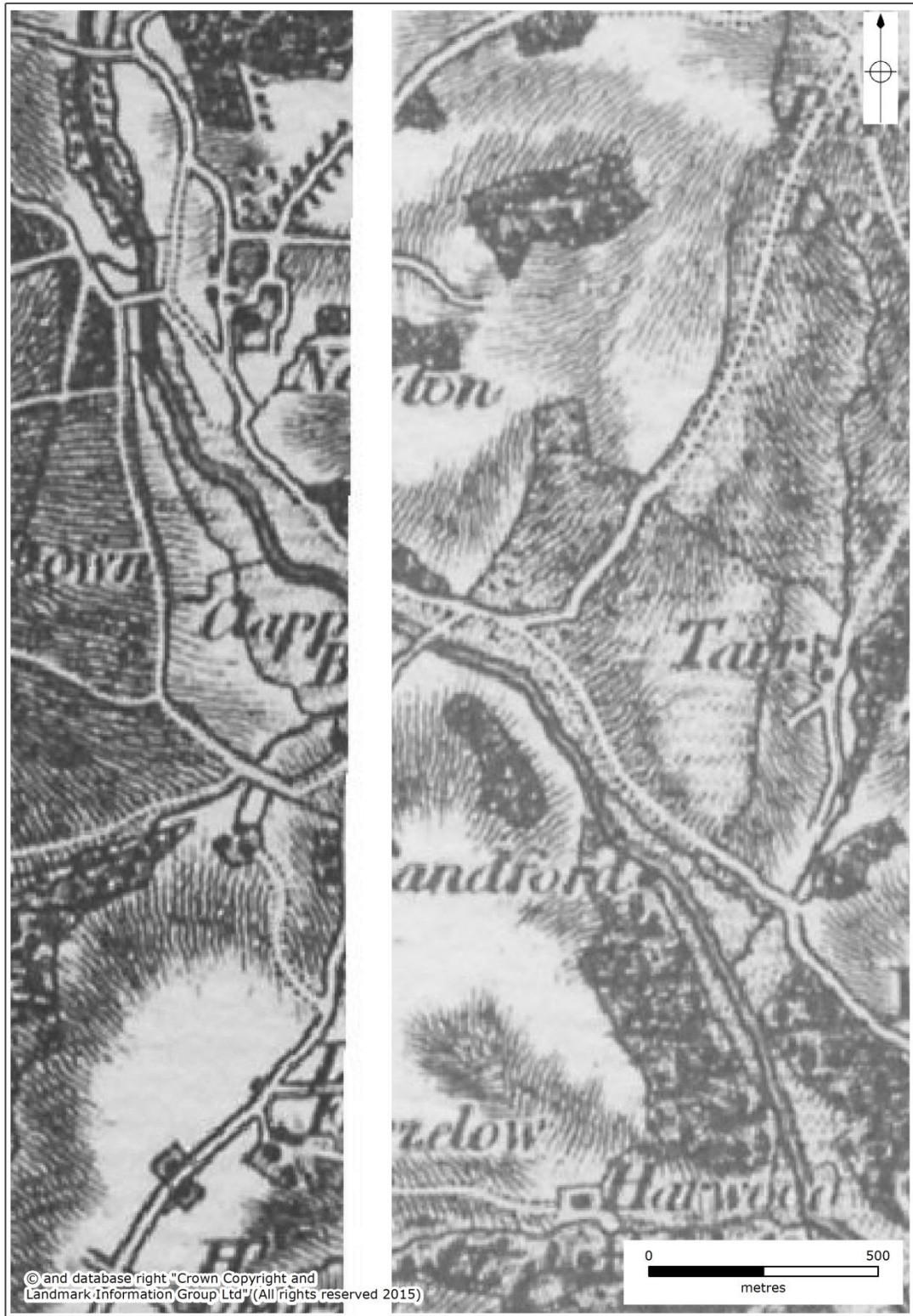


Fig 2 Extract from the OS First Edition One Inch Map 1803.

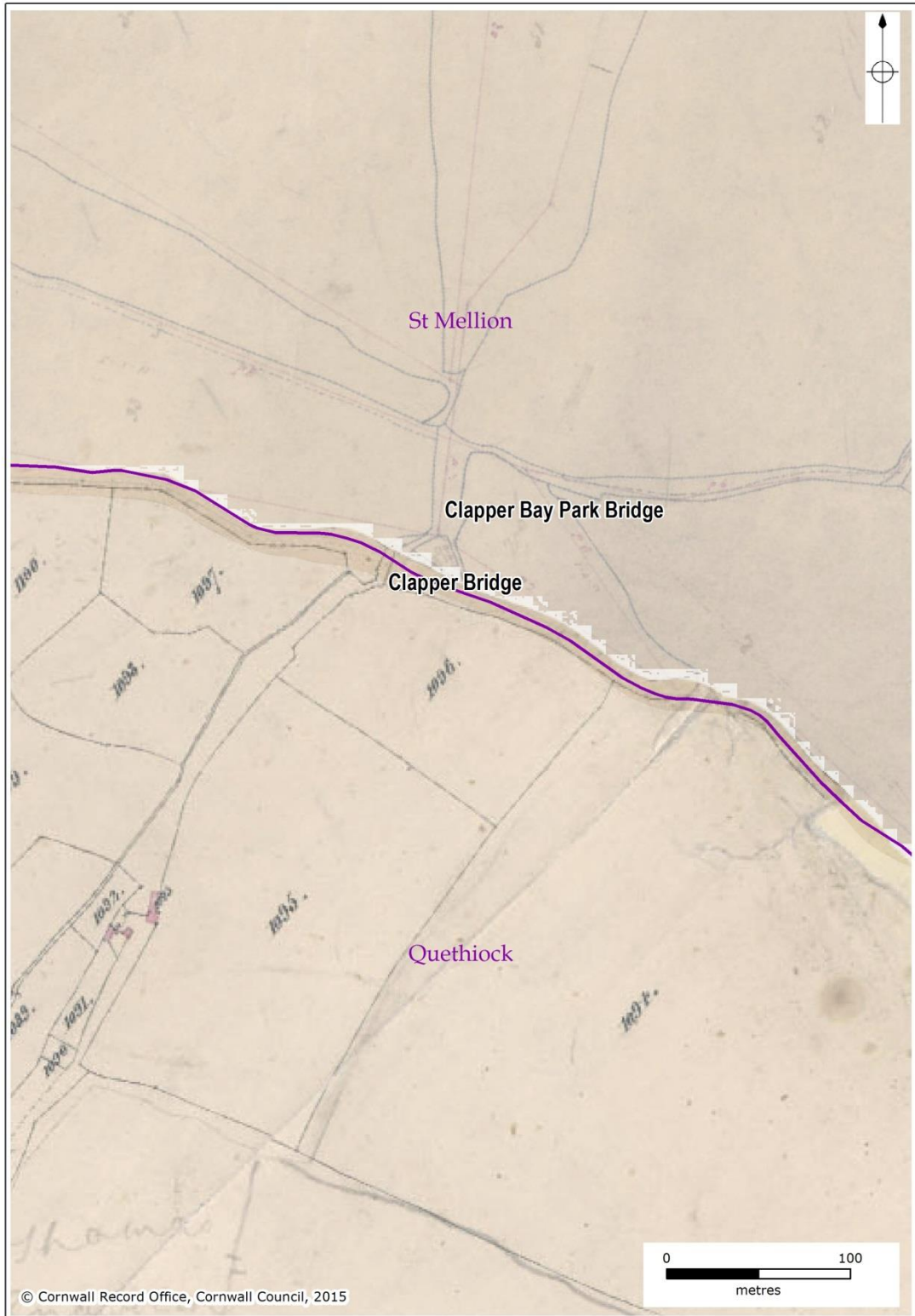


Fig 3 Detail from St Mellion and Quethiock Tithe Maps, 1841.

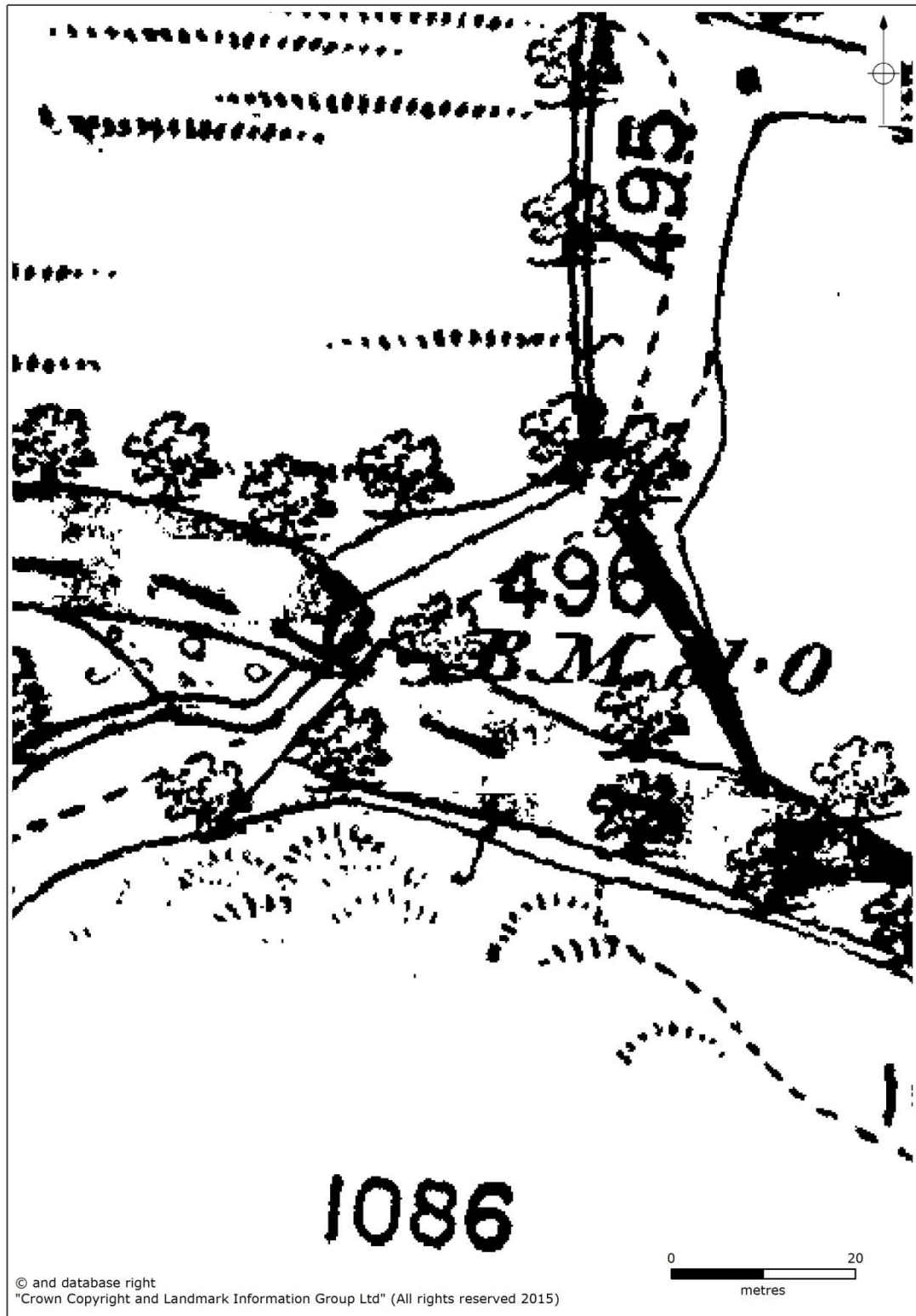


Fig 4 First Edition of the Ordnance Survey 25 Inch Map, 1882.

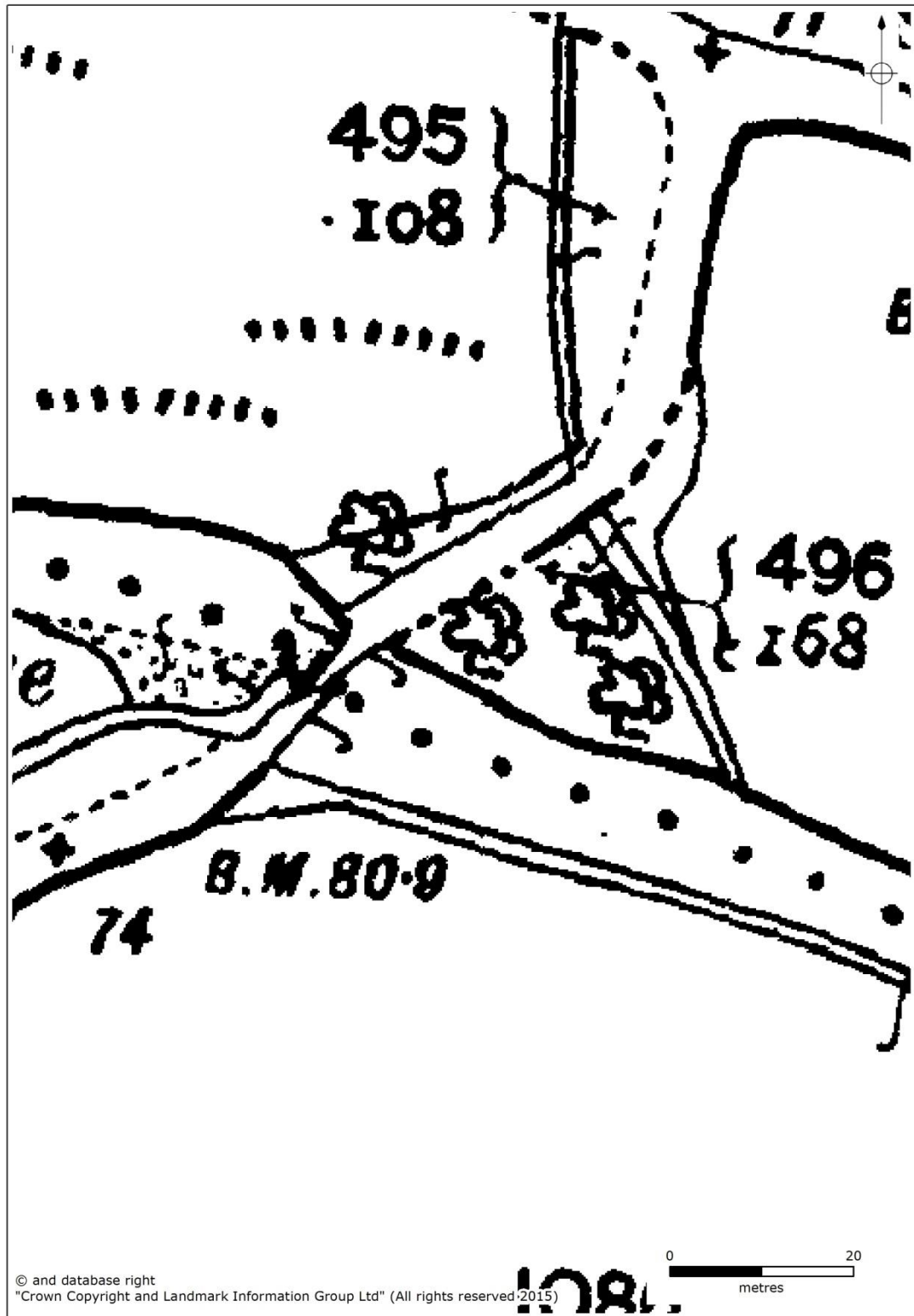


Fig 5 Second Edition of the Ordnance Survey 25 Inch Map, 1907-8.

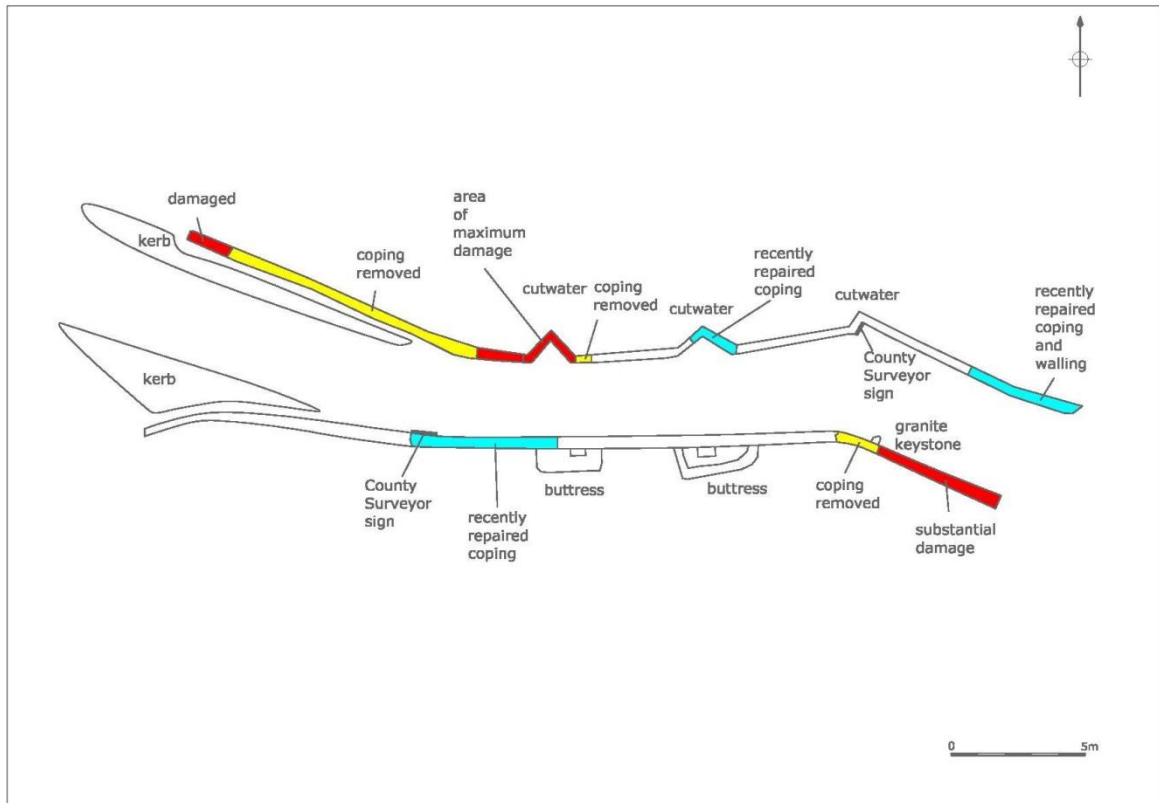


Fig 6 Plan of bridge, detailing damage (red-severe, yellow-slight) and repairs (blue).

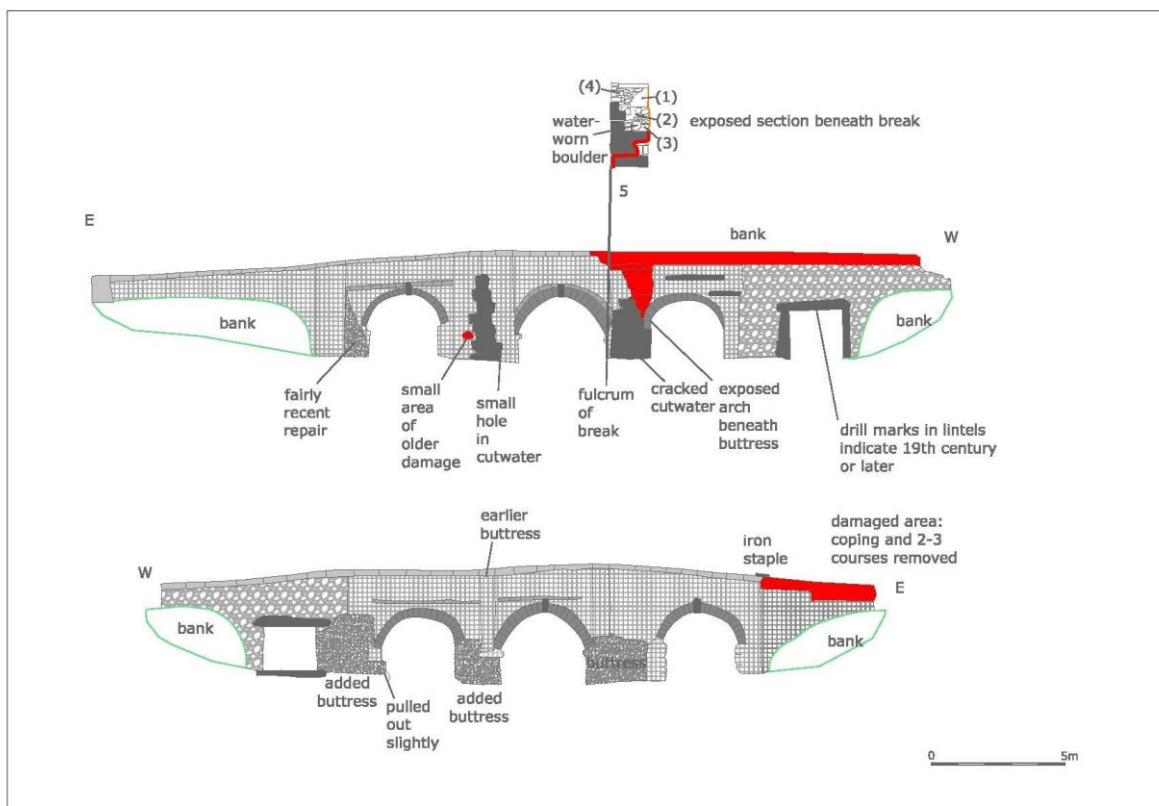


Fig 7 Elevations of bridge, detailing damage (red).





*Fig 8 Damage and recent repairs to the Bay Park Clapper Bridge.*



*Fig 9 Damage to the eastern coping, south side of the Clapper Bridge.*



*Fig 10 Damage to the wall and cutwater on the north side of Clapper Bridge.*



*Fig 11 Removing the damaged section of cutwater.*



*Fig 12 Beneath the damaged cutwater.*



*Fig 13 Pivoting the cutwater back to its original position.*