

Appendix to Chapter 16: Cultural Heritage

Appendix 16.2: Architectural Heritage Impact Assessment of Anglesey Bridge NIAH 22403905

The data and descriptions in this appendix have informed the cumulative evaluations in the EIA Main Report.

Table of Contents, overleaf

TABLE OF CONTENTS

A16.2.1 Introduction 3

A16.2.2 the author of the ARCHITECTURAL HERITAGE IMPACT ASSESSMENT 4

A16.2.3 description of the structure 5

A16.2.4 history of the structure 6

A16.2.5 Impact assessment..... 8

A16.2.6 options for raising the parapets walls..... 9

A16.2.7 recommendations & Conclusions 11

A16.2.8 references 12

A16.2.9 photographs..... 13

A16.2.1 INTRODUCTION

Upperchurch Windfarm (UWF) has already received planning permission but is not yet constructed. This planning application is for grid connection works (UWF Grid Connection) to connect the windfarm to the national electricity system.

UWF Grid Connection comprises two main parts; the first part is the proposed '110kV UGC' which is a 30.5km long underground electrical cabling network at high voltage (110 kilovolts (kV)), to connect the already consented Upperchurch Windfarm substation at Knockcurraghbola Commons townland to a new proposed substation at Mountphilips townland. The second part is a proposed 110kV electrical substation 'Mountphilips Substation', which will manage and control the power coming from the consented Upperchurch Windfarm (via the 110kV UGC), and from there the power will be transported to national electricity system, at an adjacent point on the existing Killonan to Nenagh 110kV overhead line.

The route of the 110kV UGC follows the Regional Road R503 and crosses over the Anglesey Bridge in the townland of Foildarragh. Anglesey Bridge is a NIAH protected structure. This report accompanies the Planning Application and covers the conservation related aspects of the proposed development relating to Anglesey Bridge.



Figure 1: Anglesey Bridge

A16.2.2 THE AUTHOR OF THE ARCHITECTURAL HERITAGE IMPACT ASSESSMENT

This assessment was written by James Powell BSc MIEI CEng, is a Chartered Engineer and has completed a post graduate diploma in Applied Building Repair and Conservation at Trinity College Dublin in 2008. He is also a member of ICOMOS and was a Committee member of the Building Limes Forum Ireland. He has been working as a built heritage conservation consultant since 2008 and has prepared Architectural Heritage Impact Assessments, Method Statements and other conservation related reports for more than 80 projects throughout Ireland.

A16.2.3 DESCRIPTION OF THE STRUCTURE

The Anglesey Bridge is a twin arched sandstone bridge over the Bilboa river built around 1830. The stepped voussoirs are dressed, and surrounded with coursed random rubble in a lime mortar. There is a dressed string course at road level and cut coping stones to finish. The parapet is in poor condition, with areas of sand and cement repairs to the outer faces. Inside the parapet, either side of the roadway, the ashlar facing stones have slipped in places revealing the rubble core. Some of the coping stones are missing and dislodged. Much of the bridge would benefit from re-pointing.

Property: Anglesey Bridge, Foildarragh, North Tipperary
Status: Protected Structure No.S805
NIAH No. 22403905 - Rated: Regional
Coordinates: 588913, 658722
Owner: Tipperary County Council

A16.2.4 HISTORY OF THE STRUCTURE

The bridge appears on both the first and second OS maps, named as Anglesey Bridge. So was clearly built before c.1841. The NIAH record states the bridge was being built c.1800.

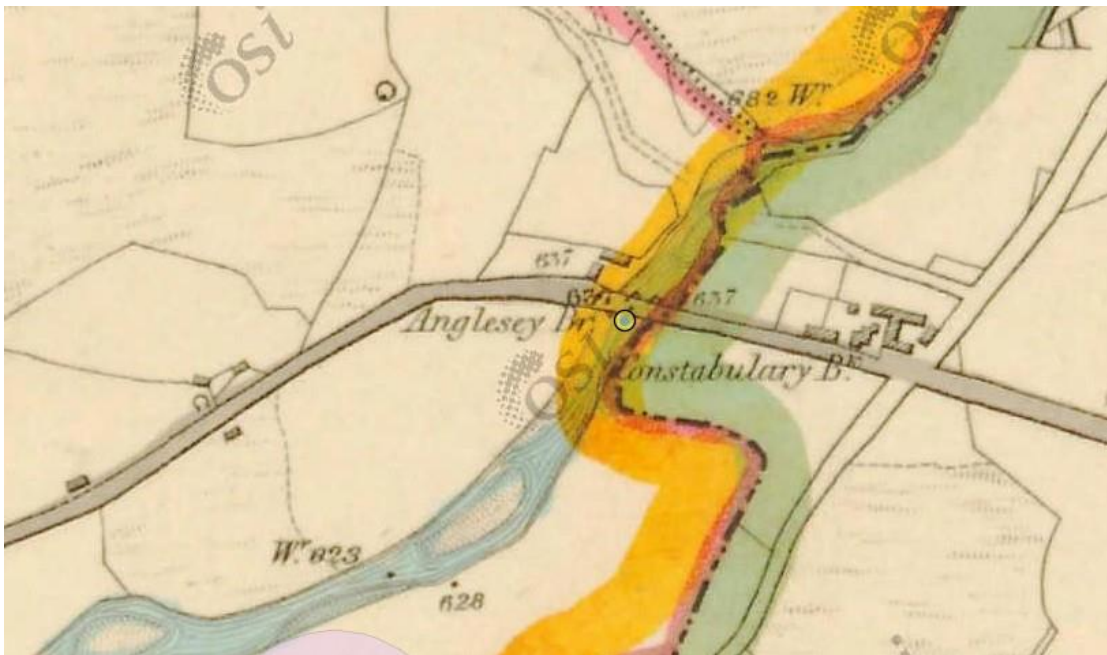


Figure 2: Detail from First OS map c.1839



Figure 3: Detail from Second OS map c. 1901

Extensive road improvements were carried out in Cork, Kerry, Tipperary and Limerick in response to the famine of 1822 as a road building relief program under the charge of Richard Griffith (1784-1878) of Griffith Valuation fame. Griffith is known to have directed the construction of the road from Newport to Thurles, completing the work in 1830. The R503, Anglesey Road, would appear to be that road as it runs between the two towns, and Anglesey Bridge would have been part of those works. The road and bridge were named after William Henry Paget, 1st Marquess of Anglesey, who was Lord Lieutenant of Ireland at the time.

(1) Anglesey famously lost a leg at Waterloo remarking to the Duke of Wellington "By God sir I've lost my leg" to which the Duke replied "By God sir you have!"

The design of the bridge shows some similarities to Goulburn Bridge (NIAH 21904302) near Abbeyfeale which was known to have been designed by Griffiths in c.1831, however Goulburn Bridge is of clearly better quality construction.



Figure 4: Goulburn Bridge Co. Limerick, shows similar design features to Anglesey Bridge (photo from NIAH Record 21904302) Note: Stepped voussoirs, the similar string course and the coping stones



Figure 5: Detail of Goulburn Bridge Co. Limerick (photo from NIAH Record 21904302)

A16.2.5 IMPACT ASSESSMENT

- 1) Over Anglesey Bridge, the proposed works include cutting a trench approximately 675mm deep and 1430mm wide into the roadway in order to lay 5 cable ducts through which the cables will be pulled. The trench is designed to cut through the road surface and the infill below but to avoid contact with the stonework of the barrel of the arch.
- 2) The surface of the roadway must then be raised to allow provision of sufficient depth of cover over the ducts (450mm cover must be achieved). The entire trench is then filled with C25/30 concrete and the road surface reinstated.
- 3) Due to the increase in the height of the road surface the parapets of the bridge will need to be raised by around 850mm to provide safety against accidental falls from the bridge.
The existing parapet walls are in a poor state and will need to be dismantled in places and rebuilt in random rubble and lime mortar by a suitable conservation stonemason before raising the height.
See below options for raising the parapet walls.

A16.2.6 OPTIONS FOR RAISING THE PARAPETS WALLS

The cutting of the trench through the road surface and into the fill is unlikely to damage the bridge. However the necessity to raise the road surface to provide cover for the cables will clearly effect the appearance when crossing the bridge on the road. Further the increase in road surface height will necessitate an increase in the height of the parapet walls. This inevitably will have an effect on the appearance of the bridge.

Firstly the existing parapet is in poor condition and will need to be repaired using a sand/lime mortar. Fresh ashlar and other stones will be needed to replace those that have been lost. Care should be taken to avoid damaging the existing bridge masonry units during construction of the additional parapet wall by power tools etc.

There are a number of possible ways to raise the parapet which can be considered. Below outlines three options:

- 1) Remove coping stones and build up the masonry, complete with new ashlar over random rubble core. Replace the coping stones onto the new wall top. See figure 6 below.
- 2) Leave existing coping stones and build up the wall capping with new coping stones to leave the storey of the bridge intact and make the intervention a clear one. The extended wall should be built in a lime mortar but the masonry blocks may be chosen to be deliberately different to the historic structure. See figure 6 below.
- 3) Repairing the existing parapet, raising the parapet as described in option 1 or option 2 and then adding a stainless steel railing along the top to provide safety while minimising the impact on the appearance of the bridge. See figure 7 below.

It was investigated whether a slim modern railing installed on the inside of the parapets and separate to the bridge structure. This would allow the original bridge design to be read whilst providing a practical solution to raising the parapets. However, the roadway is too narrow to permit the installation of a railing between the parapet walls and therefore not considered an appropriate solution.

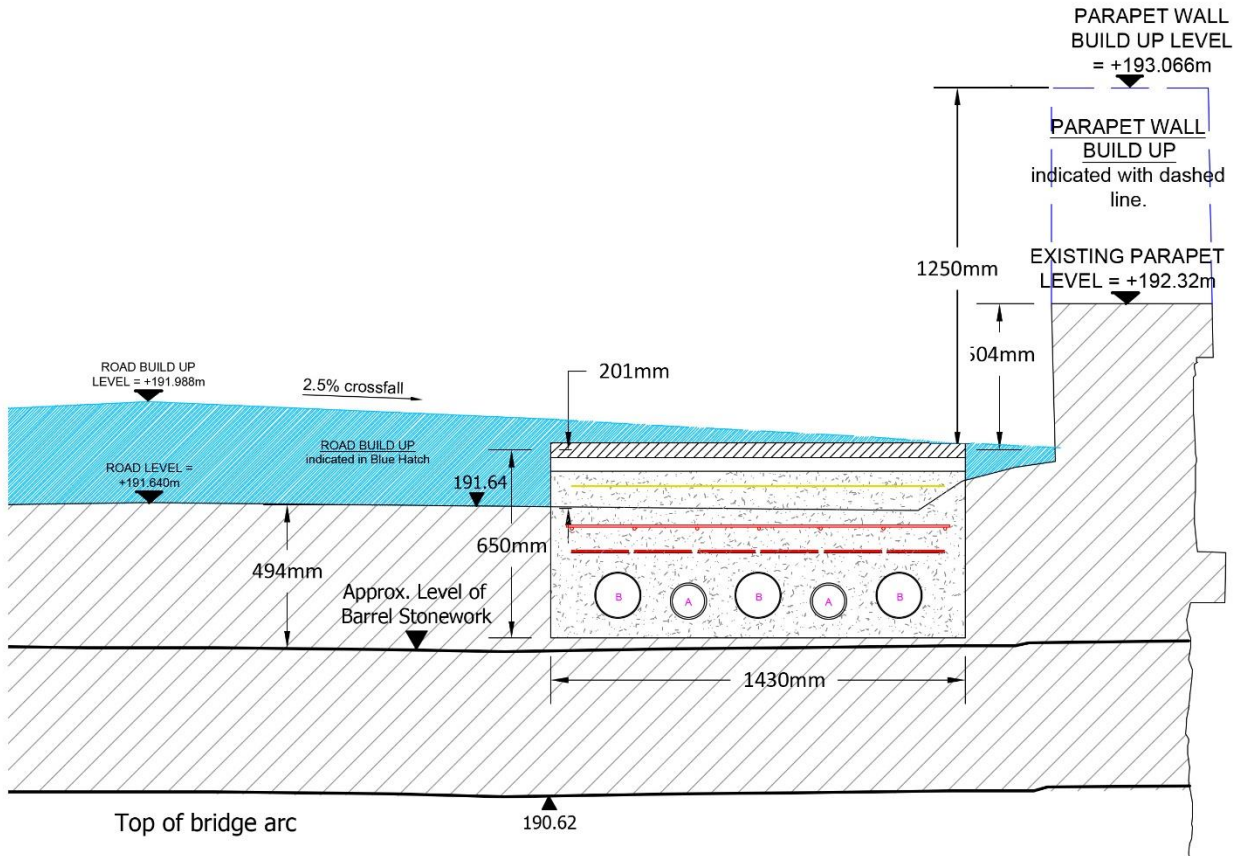


Figure 6: Option 1, raising the parapet by build-up of masonry in same style stone or Option 2, raising the parapet by build-up of masonry in deliberately different stone

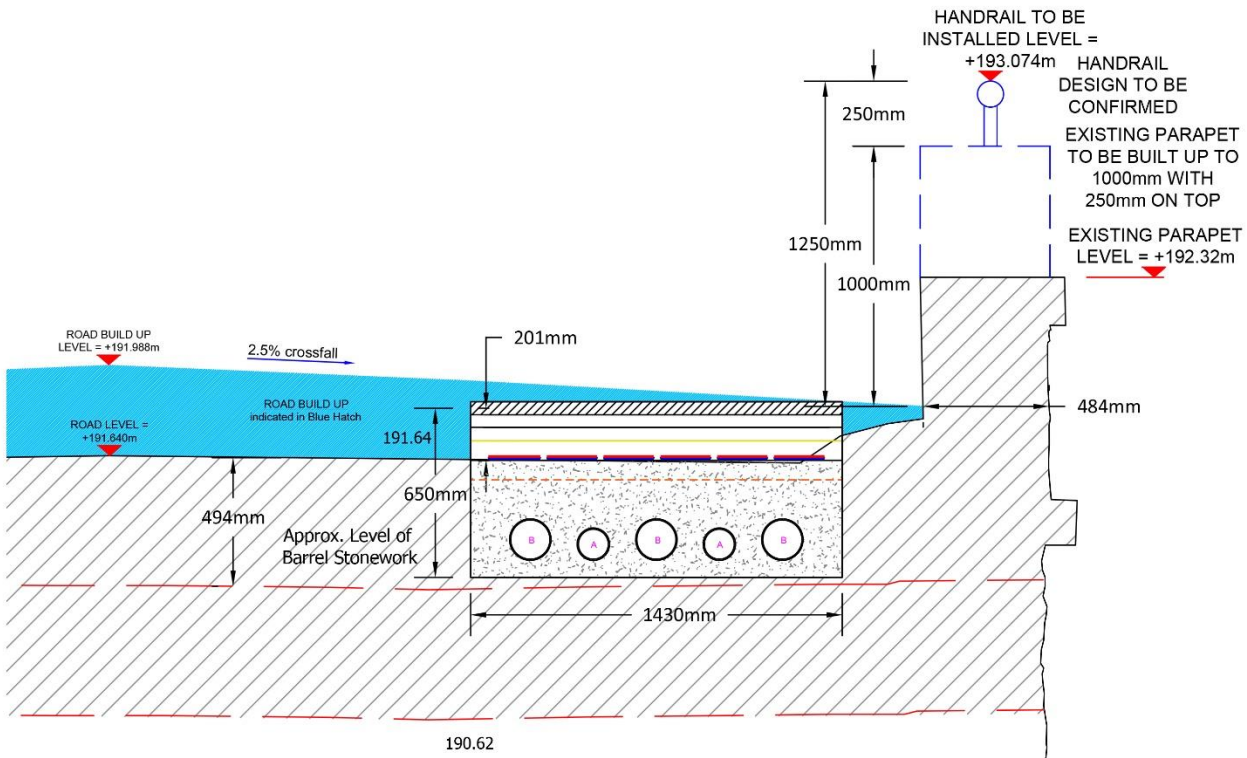


Figure 7: Option 3, raising the parapet by adding a stainless steel railing.

A16.2.7 RECOMMENDATIONS & CONCLUSIONS

In the event of the Planning Authority approving the proposed development it is suggested that strict conservation principles should be applied throughout the intended works to the existing bridge and in all aspects of workmanship. The methodology to be adopted should observe the recommendations contained in Architectural Heritage Protection – guidelines for planning authorities (2004), published by the DoEHLG. The Building Regulations 1997 – 2012, as appropriate, will be observed. Further, the works will use traditional materials where practical taking due regard of the status of the bridge, and will be carried out in accordance with good building conservation principles as stated in the ICOMOS Charters (1979-88). The overall repair specification, at all times, will be the faithful replacement of what exists, or did exist, as is appropriate to good conservation practice, i.e.; repair with like materials or replace with what was – and in like manner – where at all possible..

Construction works on the Anglesey Bridge, will be carried by a specialist architectural restoration stonemason and will be supervised by a suitable qualified conservation engineer, observation notes and a photographic record will be maintained throughout the parapet wall works which will be certified by a suitably qualified conservation engineer on completion.

These recommendations have been incorporated into the design of UWF Grid Connection.

A16.2.8 REFERENCES

(1) Richard Griffith - A Mallow Resident of National Influence by AJ Coughlan. Mallow
Field Club Journal No.19 2001

A16.2.9 PHOTOGRAPHS



Figure 8: Showing the existing low parapet wall on Anglesey Bridge. Note lost ashlar



Figure 9: Showing the condition of the south western pier, note damaged coping stone



Figure 10: Detail of north eastern end of parapet, note loss of stones

