

## Creative Ireland Projects 2021 – Follies Project



### **CI Folly Project Kinnitty Suspension Bridge, Kinnitty Demesne, Birr, Co. Offaly €10,000**

Repairs to the existing bridge include replacement timber deck and steel flats, repair of existing cast iron frames and main cables. Repair and minor replacement of wrought iron stays, hangers and latticing. Proposed works a combination of direct labour by Coillte and specialist contractor.

**Significance:** Kinnitty Bridge is a single-spire wire suspension footbridge, built c.1840, over the River Camcor within the demesne of Kinnitty Castle. The bridge is hung from cast-iron columns with uprights anchored to the ground behind with a pair of diagonal wrought-iron rods. The bridge is accessed through wrought-iron gate with iron circular framing. Manufacturer's name 'T & D Roberts' on downstream upright.

It is one of only two suspension bridges in Offaly (the other is at Birr Castle demesne) and one of several footbridges with Kinnitty Castle demesne. **It is a rare surviving example of a multiple-wire cable suspension bridge and** is also significant because of its association with the Mountmellick Foundry, lending interest to the riverscape. As noted by Chris Southgate both Birr and Kinnitty examples 'were comparatively early for wire suspension bridges and the first wire suspension bridge in England was built in 1823. The first wire cable suspension bridge in the US was not built until 1842'. He also notes, **'The overall effect is of elegance and lightness of form and the technology although simple is of significance from a technical and engineering perspective'**.

**Efficacy:** The proposed works will halt further damage and ensure the repair of the existing structure. As an unusual form of early 19<sup>th</sup> century cable construction, the repairs will provide employment in this key area, encouraging traditional techniques.

A detailed **Methodology** is provided by Conservation Engineers Southgate and Associates, indicating repair proposals in an efficient, cost effective manner. Key conservation principles are maintained throughout all stages of the project.

**Contribution:** The suspension bridge is located alongside the Kinnitty Riverwalk which has recently been upgraded as part of works carried out by Coillte in the immediate area. The route is interlinked with the new Slieve Bloom Mountain Bike Trail providing a vibrant, well utilised facility. The repair of the bridge will provide a unique visual attraction in the area, and as part of the designed landscape in Kinnitty Demesne, may be appreciated once again, by the passing public.

**30 June 2021: Southgate Associates** - A tender package is being prepared for issuing to applicable contractors presently with a this hoped to be issued in the next couple of days. Once the tender competition is complete a contractor will be appointed and works will commence. This is hoped to be completed in the coming weeks. Covid-related construction backlogs have been delaying the process.



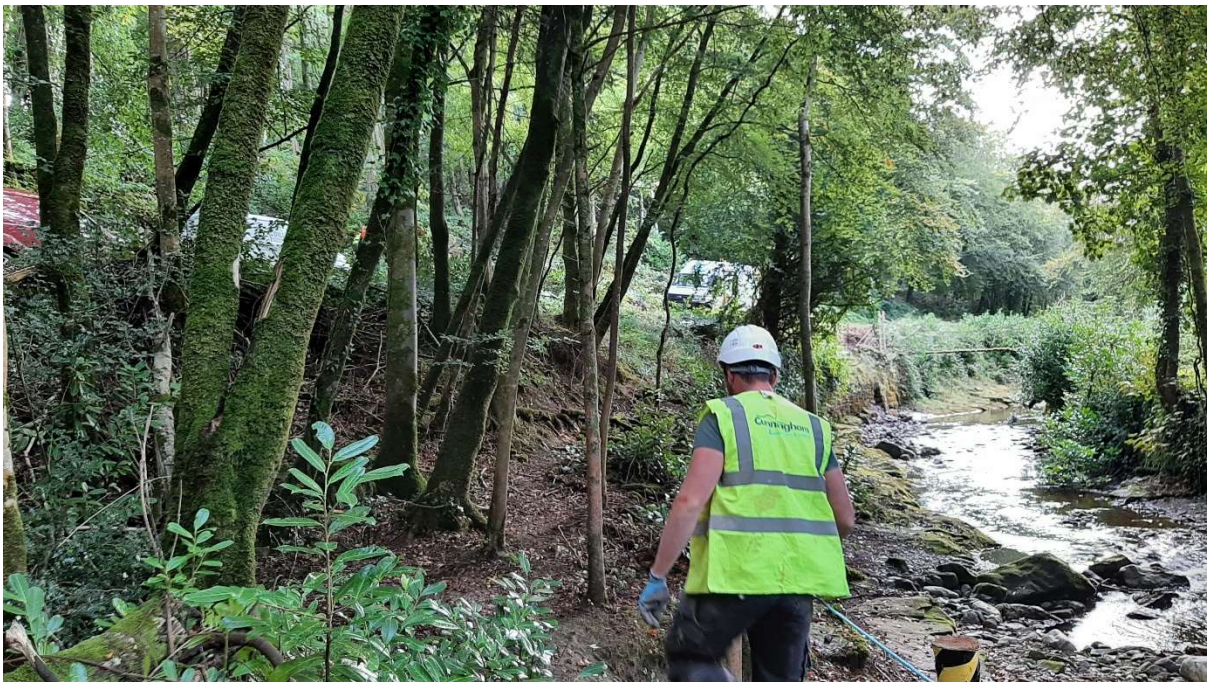
Meeting with consultant and successful contractor Cunningham Marine on site to determine best approach for the sensitive works. Methodology revised and agreed. Coillte commenced site clearance and arranged necessary permissions.

**2021\_0923** Contractor on site repairing stone wall embankment below the bridge. Steps down to the bridge have been cleared, access to the location prepared for tuck and site removal next week.





Stone steps and cappings uncovered as part of clearing and site preparation



Site clearance and safe passage to river



Sections of embankment washed out requiring repair with lime mortar



Loose stones washed down river, returned and set in lime mortar





Oak from the site prepared and planked by Coillte for bridge decking





Scaffolding built around bridge with first layer of support below deck





Temporary support below and around the bridge





Existing pedestrian swing gate to bridge



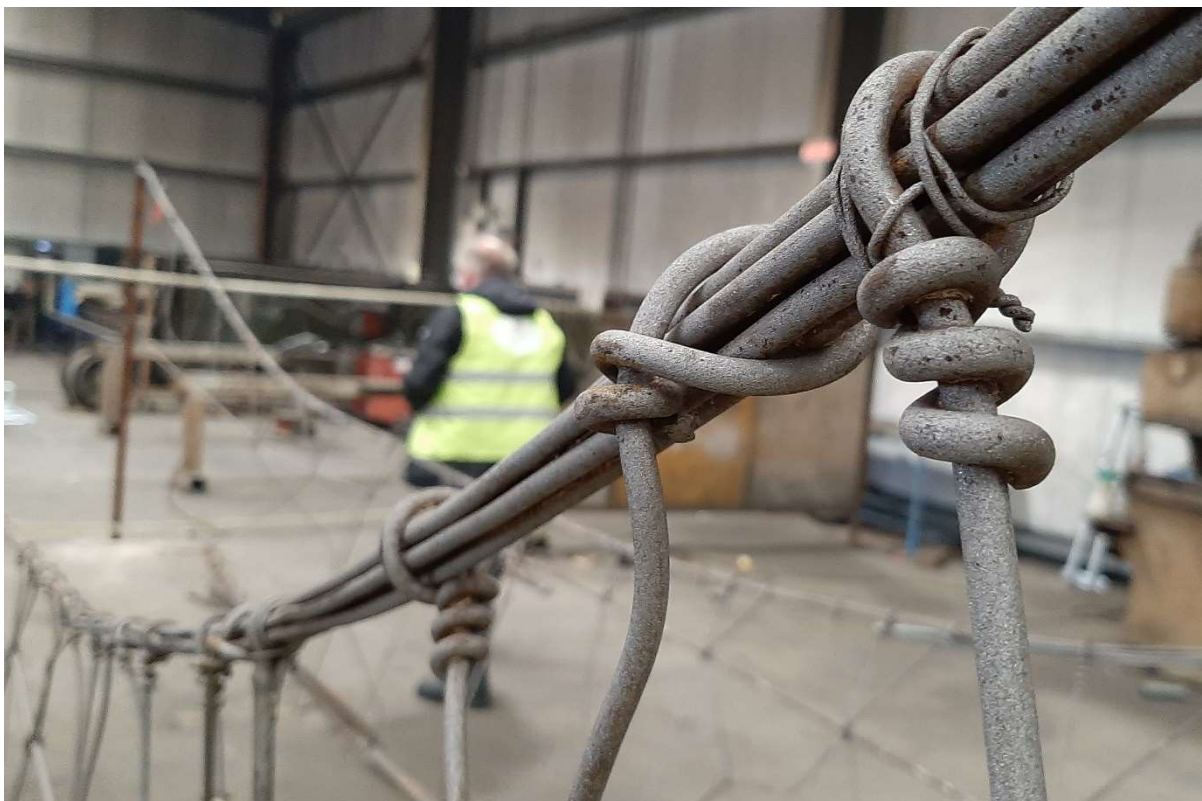
Preparations for removal



Embankment built up and secured with lime mortar



Assessing the side cable structures at the workshop



Top chord multi strand in good condition. Requires filler between top chord strands for corrosion protection (CS)



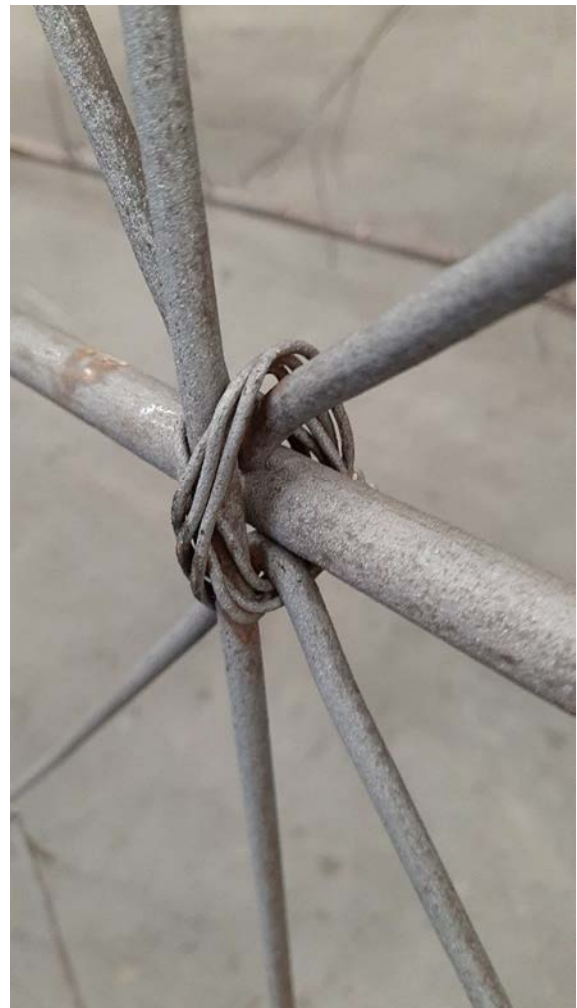
3 No 10mm uprights each side to be extended with M10 couplers (CS)



11 No 6mm uprights to be extended with couplers (CS)



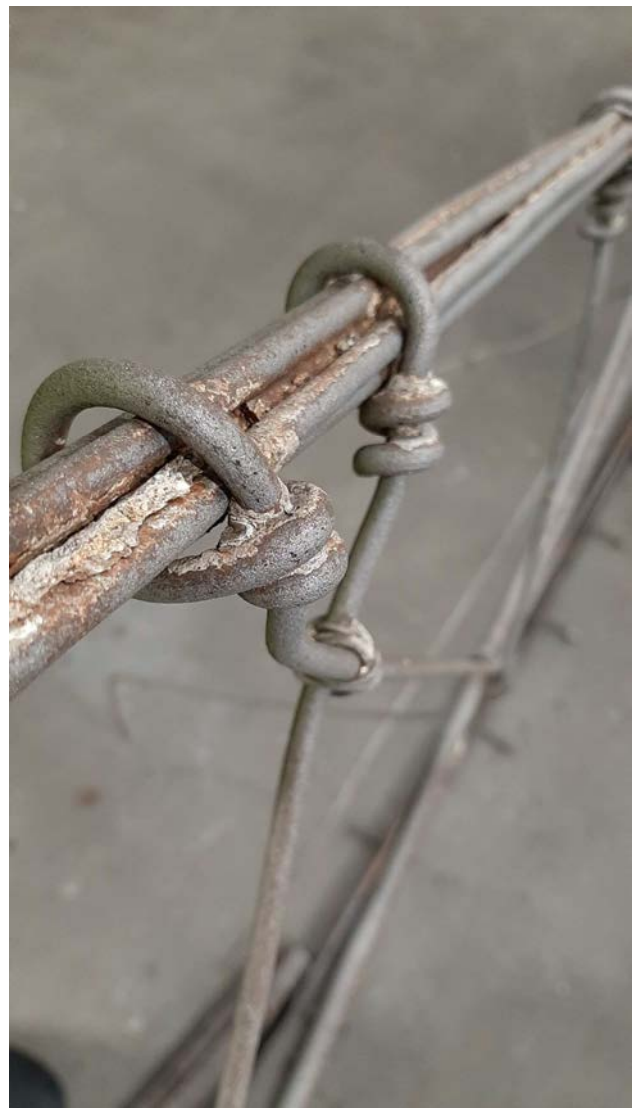
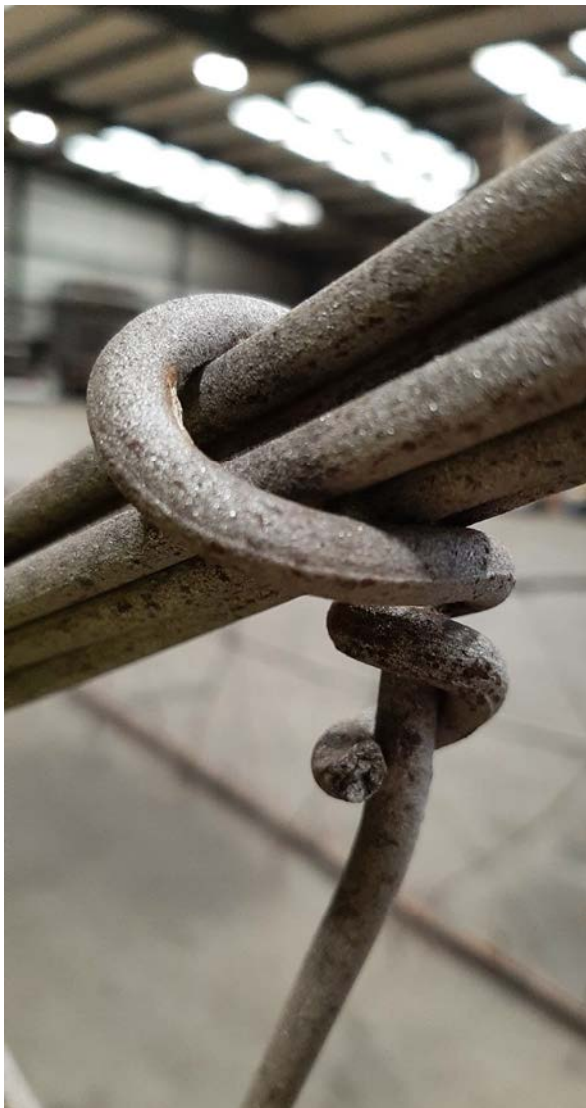
Diagonal bracing (lower) to be extended by TIG welding. All original components to be retained (CS)



Details



Connection details





Pedestrian gate (Coillte side) with blacksmith mark

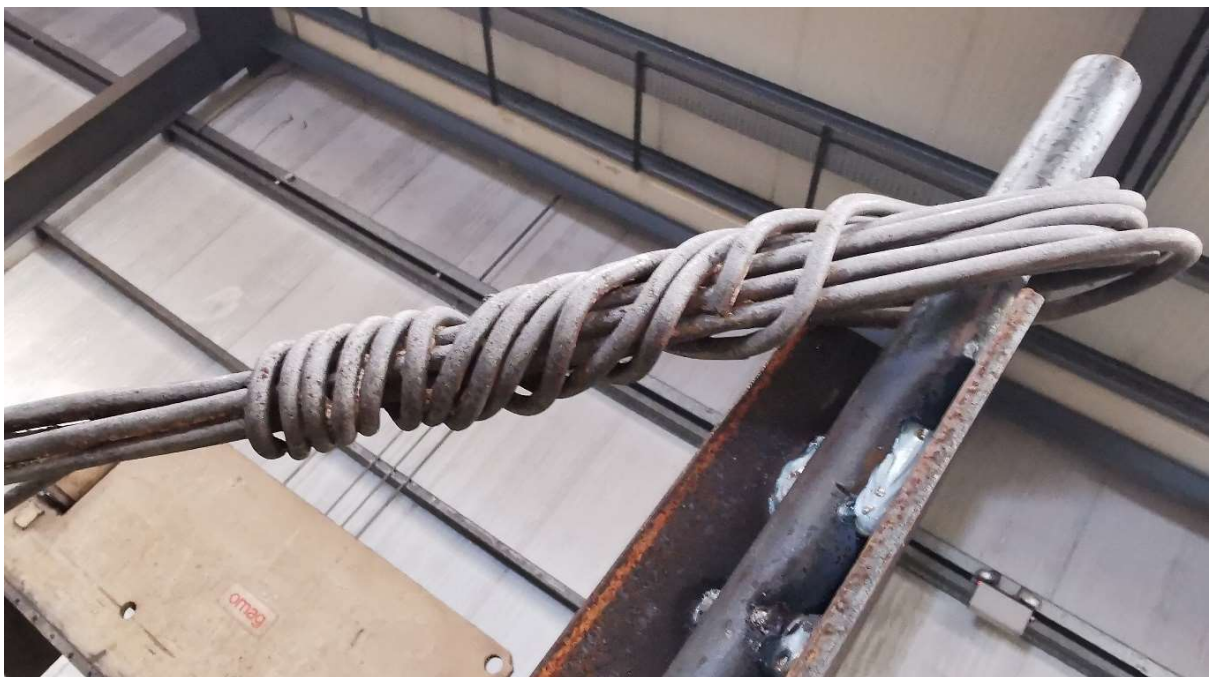


Taller pedestrian gate (Castle side) with spear finials, DOWLAIS Foundry stamp



Note also: Upright on site with T & D Roberts, Mountmellick Foundry. At the workshop we spotted another stamp which appears to be DOWLAIS. See [https://en.wikipedia.org/wiki/Dowlais\\_Ironworks](https://en.wikipedia.org/wiki/Dowlais_Ironworks)

The Robert brothers appear to have come from Wales so perhaps a direct link there. *'In 1834 the Roberts brothers of Anglesea, in Wales, came to Mountmellick, where they set up an iron and brass foundry called the "Hibernian Foundry" in what later became known as Foundry Street.'* <http://www.askaboutireland.ie/reading-room/history-heritage/heritage-towns/towns-and-villages-of-lao/mountmellick/mountmellick-the-manchest/>



Top chord fixing detail to uprights (viewed at an angle)

2021\_10 Workshop – Images, Finial repairs





**Workshop images: 2021\_1022** New bottom rail prepared to take existing supports



**Workshop images: 2021\_1102** Supports with couplers added to fix to bottom rail

2021\_1104 site visit to Workshop – ready for painting. Gate repairs on site to commence 2021\_1105



Pedestrian Gate – Existing drawbar



New matching drawbar



Repairs to bottom rail of gate – retaining original material



Bridge repairs underway



Welding new sections where required to horizontal rail



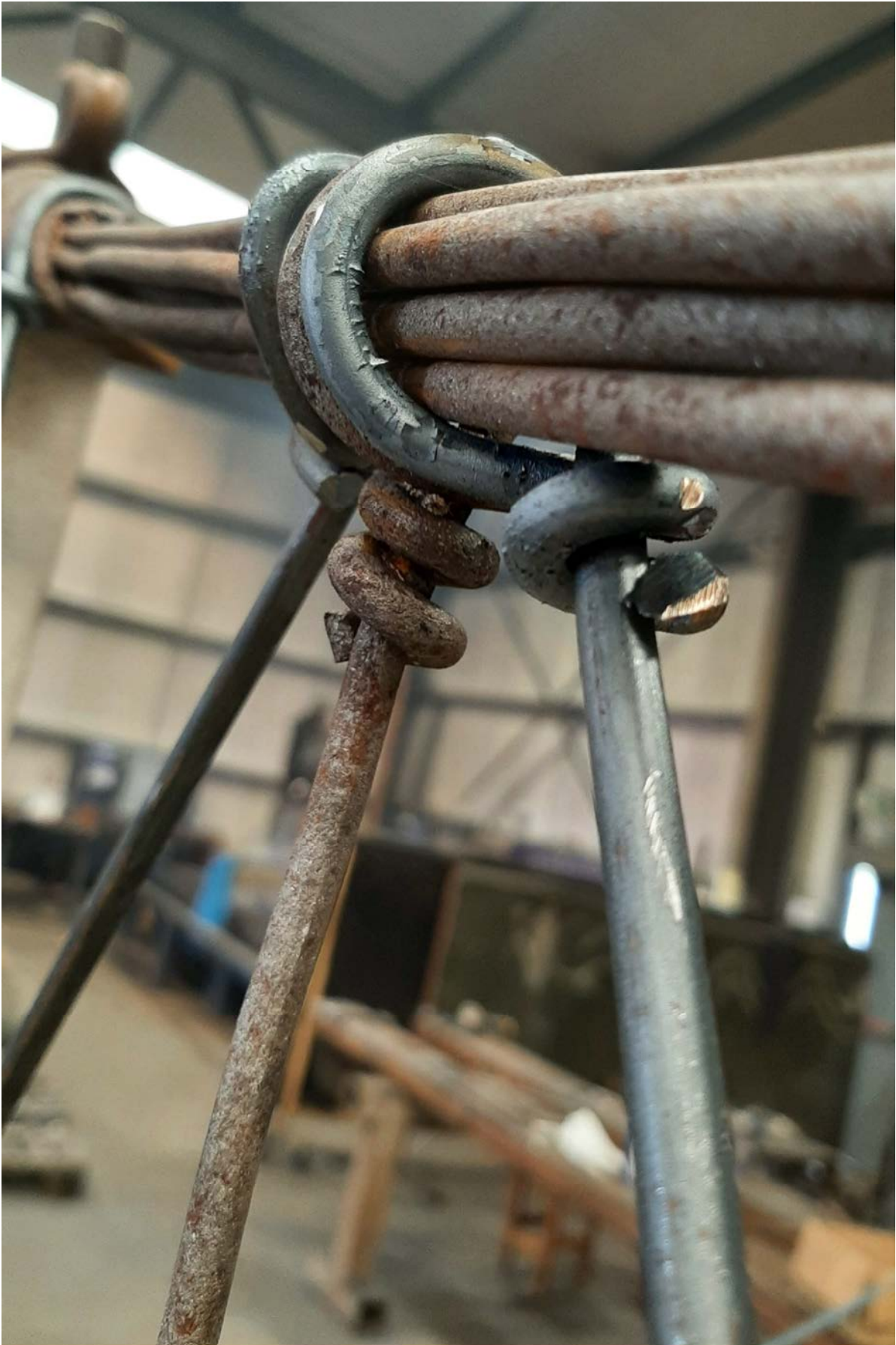
New wire binding



End detail reading for timber deck



Threaded fixing to coupler



Original and new diagonal support with graceful twist detail to match

2021\_1115 Suspension Bridge back on site





New timber deck with Oak from the estate by Coillte, diagonal supports and the delicate connection through new decking to horizontal bar below as per original detailing





Top chord fixing detail to uprights



Freshly painted diagonal and horizontal connections to top chord



Castle side with full height gate and spear finials in place



Coillte side gate in place and elegant side connection details

Before and After



Prior to works, missing sections



Back in place, repaired and conserved



Replacement and original sections



Painted and back on site