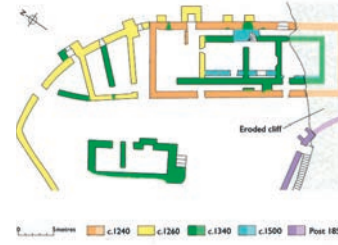




View of east elevation



Layers of history over time



Natural stratification in slate rock



Laminated timber beam



Man-made slate wall

Few places evoke such a sense of history, myth and legend as this barely attached headland forming part of the remarkable rugged Cornish coastal landscape. It is a site that demands an intervention exhibiting only a light touch, with minimal foundations, recreating a connection that seeks not to compete with the historic remains, but rather serves to enhance the site's dramatic nature while improving accessibility for all.

Our bridge design, leaving uninterrupted space below, emphasises a feeling of lightness and daring in a single span over the narrow isthmus to reconnect the two parts of Tintagel castle.

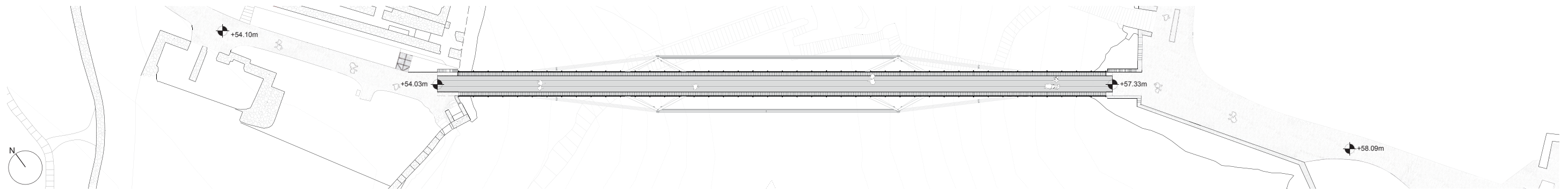
Constructed from oak and stainless steel (using the simply supported structural typology as the optimum non-disruptive foundation solution) the elements of the bridge are made up from a series of small components that are wheeled to site and assembled in-situ. The bridge deck is straight and relatively narrow, with stratified components, solid in the centre and perforate at the edges, accentuating its linearity. This layering is inspired by the striking abundance of slate at the site - the layering of the material representing a physical reminder of the passing of time.



View towards island looking northwest

## Tintagel Bridge - Overall Design Concept

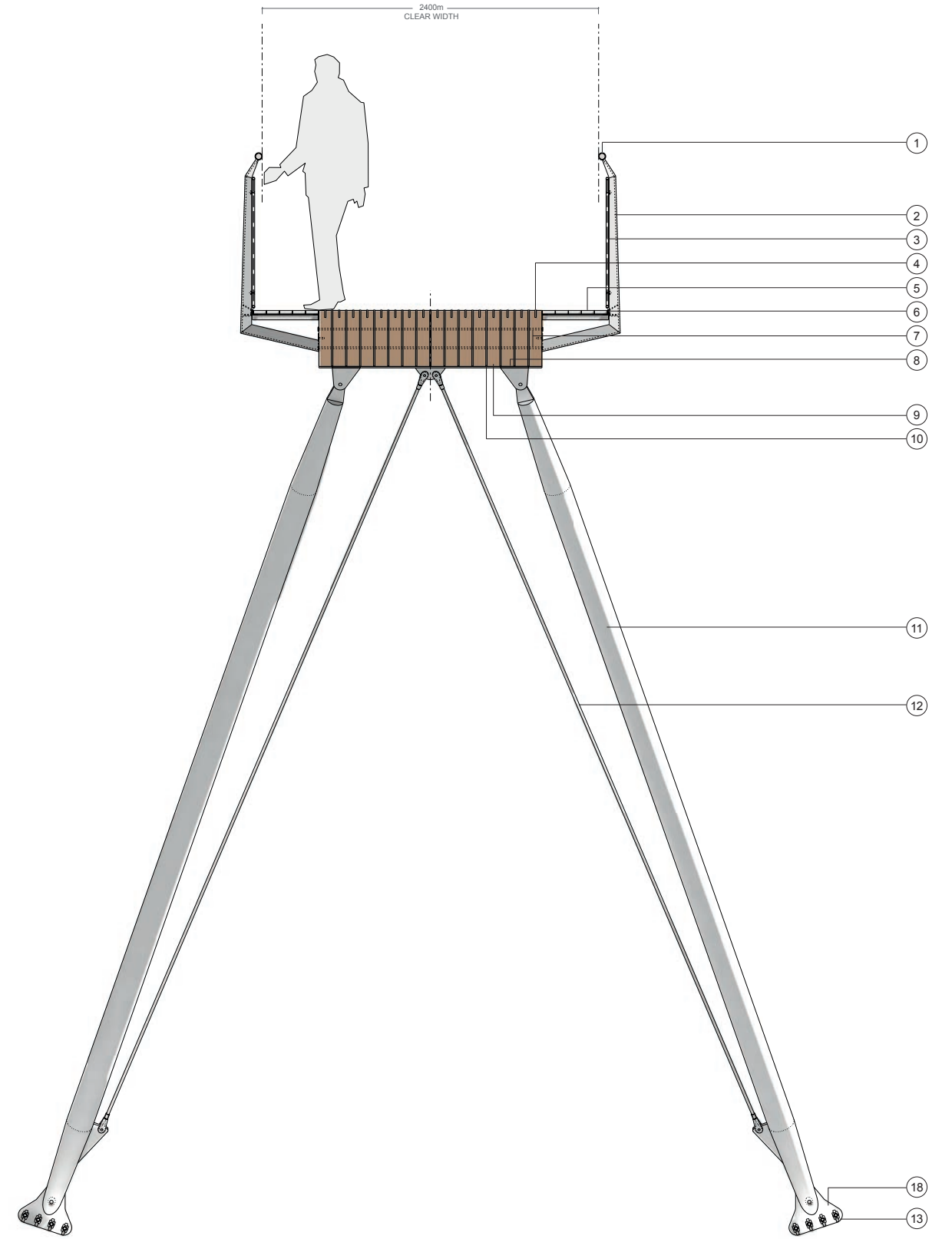
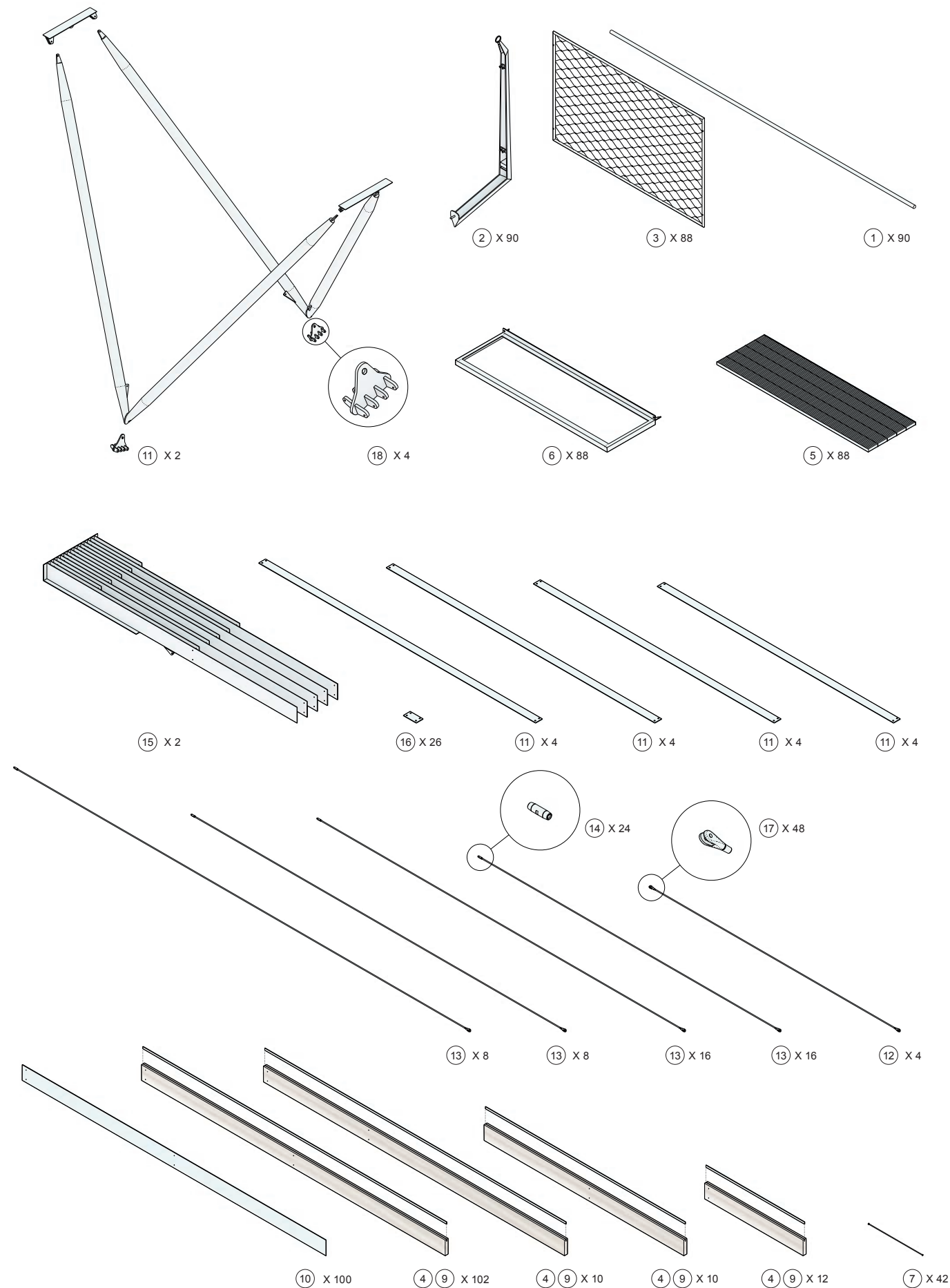




Bridge plan, scale 1:200



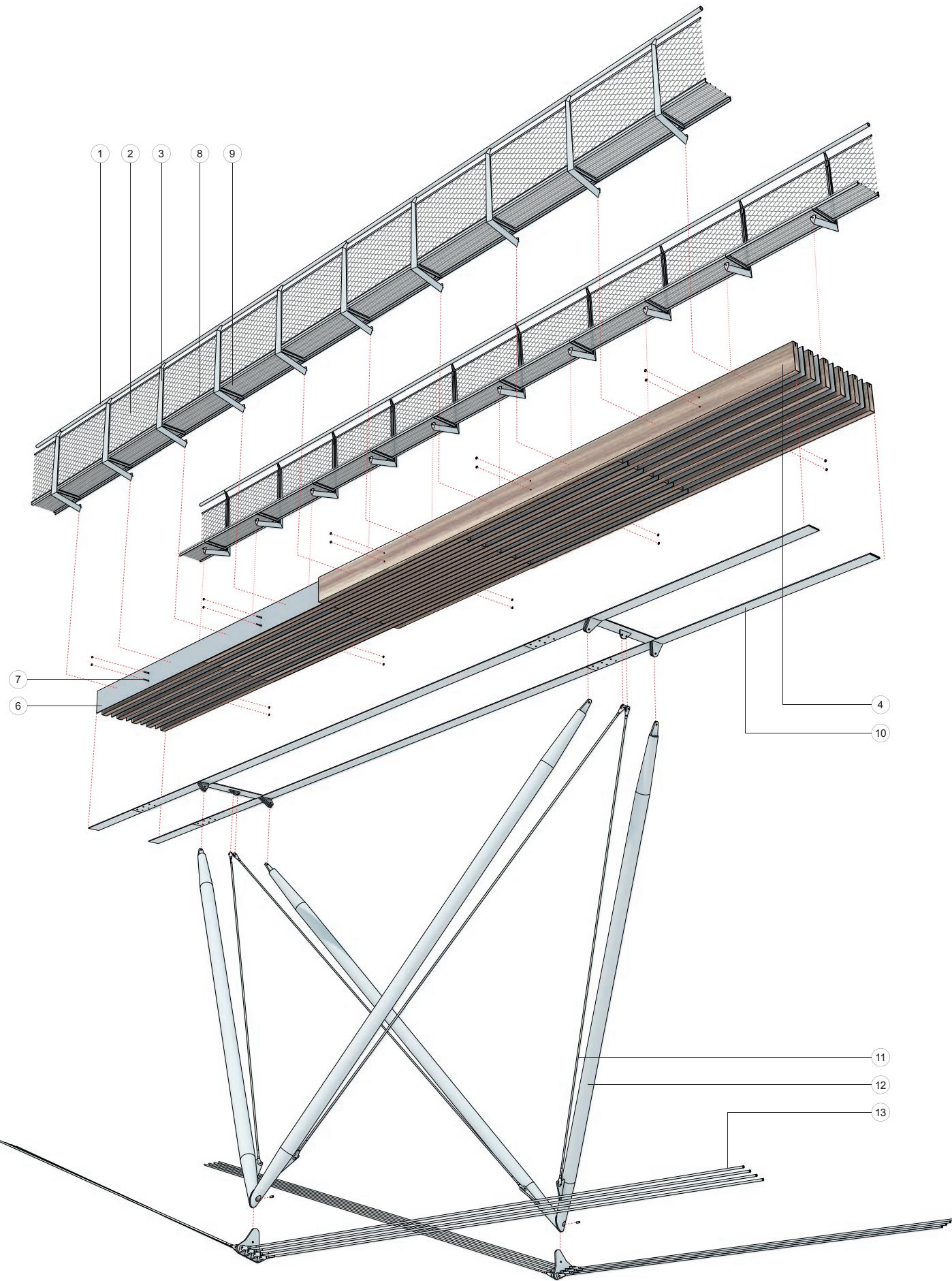




Typical cross section, scale 1:20

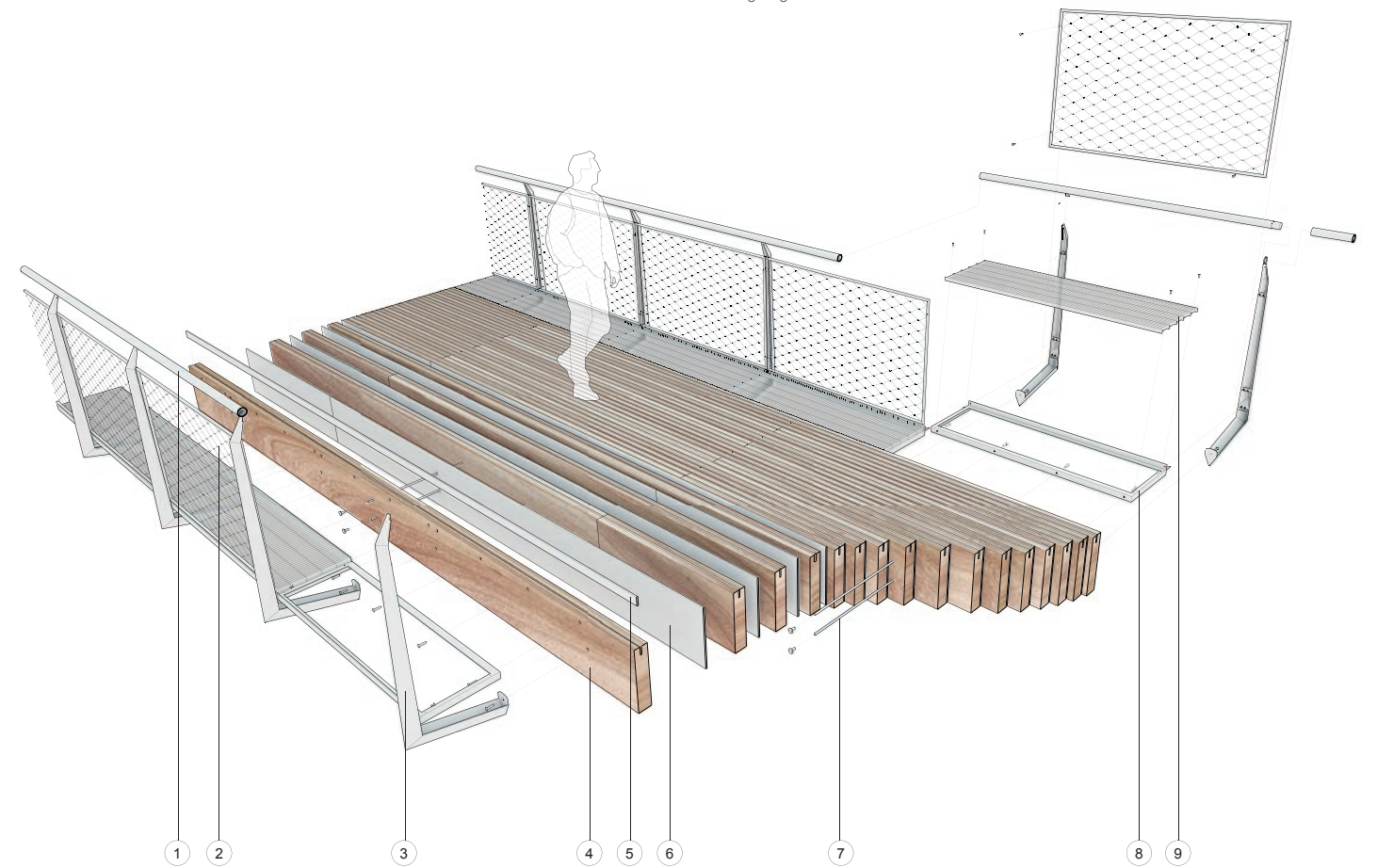
- |  |   |  |
|--|---|--|
| 1. Continuous stainless steel handrail with 'soft' knurled finish            | 6. Blackened stainless steel frame to grillage                          | 12. Stainless steel bracing rods         |
| 2. Shaped stainless steel parapet post with polished finish to outer surface | 7. Stainless steel transverse tension tie                               | 13. Stainless steel lower chord rods     |
| 3. Framed stainless steel tension mesh                                       | 8. Longitudinal stainless steel strap                                   | 14. Stainless steel coupler              |
| 4. Stainless steel insert with knurled anti-slip finish to exposed edge      | 9. Oak beam   | 15. Fabricated stainless steel end frame |
| 5. Blackened stainless steel grillage  | 10. Stainless steel plate with knurled anti-slip finish to exposed edge | 16. Stainless steel splice plate         |
|  | 11. Stainless steel compression struts                                  | 17. Stainless steel fork ends            |
|  |   | 18. Fabricated connection node           |



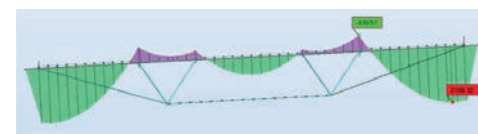


Exploded axonometric showing structural composition

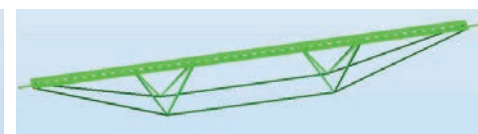
1. Continuous stainless steel handrail with 'soft' knurled finish
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9. Blackened stainless steel grillage
10. Longitudinal stainless steel strap
11. Stainless steel bracing rod
12. Stainless steel compression strut
13. Stainless steel lower chord rod



Exploded axonometric showing layering of deck structure

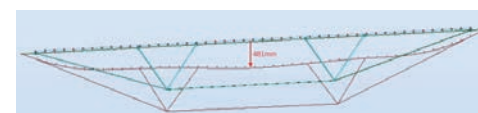


ULS bending moment diagram

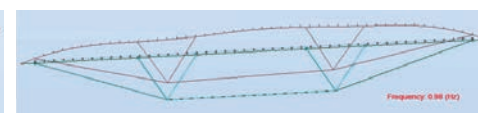


Capacity ratio diagram

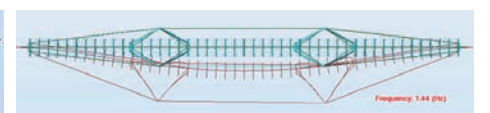
Atelier One has carried out detailed structural analysis of the bridge in accordance with Eurocode design criteria and the Design Manual for Roads and Bridges (DMRB). This has been used to optimise the section sizes and foundation design shown.



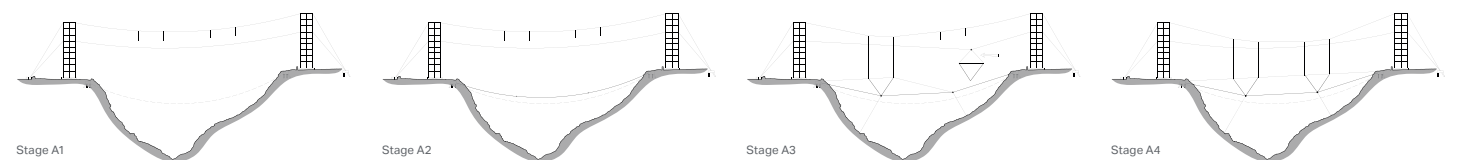
Deflections diagram



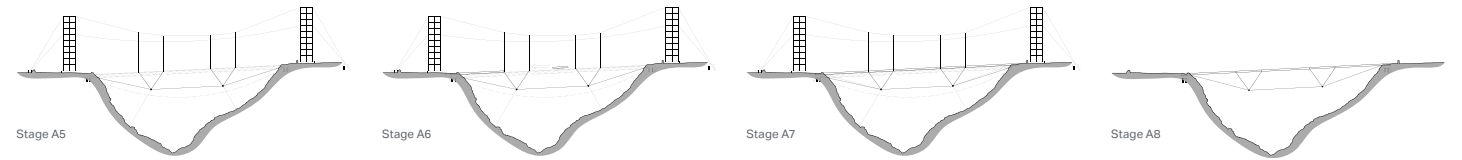
Dynamic analysis diagram - vertical mode



Dynamic analysis diagram - lateral mode



Construction methodology, Option A - Rope access solution



Construction methodology, Option B - Scaffolding solution





Elevated view of bridge looking southeast



View of bridge looking north



View of bridge soffit from existing timber bridge



View of bridge looking toward island

## Tintagel Bridge - Pedestrian Journey, Context and Design Quality