



Modular Steel Bridge Keeps Forest Management and Farming Work on Schedule in North East Scotland

Increased strength and capacity of structure offered smart replacement for ageing Bailey Bridge

At Bithnie Farm in Alford, Aberdeenshire, an ageing Bailey Bridge was nearing the end of its service life. No longer capable of safely supporting logging vehicles, the structure needed to be replaced to enable forest management company Scottish Woodlands Ltd. to carry out timber extraction and woodland restoration works. Beyond the immediate forestry operations, the farm also required a durable, long-term bridge capable of accommodating heavy agricultural equipment.

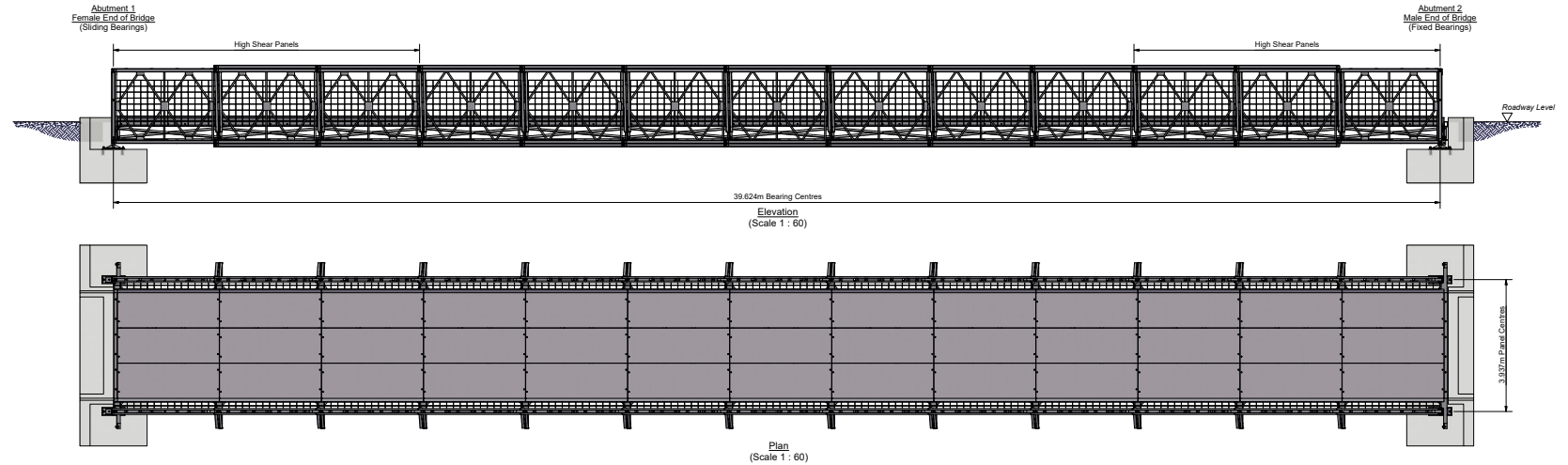
Due to planning and land ownership restraints, the footprint of the new bridge had to match the previous space occupied by a two-span structure with a central concrete pier. Despite this, Acrow was able to supply a single-span replacement, with a lifespan that will not be limited to the design life of the concrete pier that was already showing scour and age-related damage.

A Mabey Compact 200® Bridge (C200®) was provided to CRC.scot, the contractor selected by Scottish Woodlands to carry out the assembly and installation. The C200 was designed to meet the project's load requirements while

offering a long service life with minimal maintenance requirements. In addition, the rapid assembly and installation of the modular structure caused far less disruption to farm and woodland operations than traditional construction methods.

The modular steel bridge is 39.62 metres long and 3.15 metres wide with a durbar plate deck surface. Once the Acrow bridge was assembled, an adaptor post was installed at the end of the existing Bailey Bridge, allowing the new C200 to be assembled bay by bay onto the end of the existing structure. This arrangement enabled the Bailey Bridge to act as a launch nose, so the combined structure could be pushed clear of the bearing positions, leaving the new C200 bridge correctly positioned. The old bridge was then dismantled and the C200 jacked down into its new position over the original bearing positions.

Assembly of the bridge began on October 25, 2025, and it was installed and completed on October 31, less than one week later.



Specifications

Bridge length:

39.62m

Roadway width:

3.15m

Guide rails:

Mesh panels

Deck surface:

Durbar steel plate

Bridge erection method:

Cantilever launch using the existing bailey bridge as a launch nose

Design load:

44t vehicle as defined in CS454

Mabey C200® bridge finish:

- All major components galvanized to BS EN ISO 14713 and BS EN ISO 1461
- All bolts are spun galvanized to BS EN 1461
- All pins are electro-plated in accordance with BS EN ISO 2081

Mabey C200® bridge specification:

- (A) Panel components to BS EN 10025 Grade S450J0 and Grade S355J2
- (B) Transoms to BS EN 10025 Grade S460M or Grade S355J2
- (C) Deck components to BS EN 10025 Grade S355JR and BS EN 10149 Grade S460MC
- (D) Ancillaries to BS EN 10025 Grade S275JR minimum
- (E) Panel pins to BS970 Grade 709M40 or 708M40
- (F) Bolts to BS 3692, BS14399, DIN 912, DIN 267, DIN 931, BS1083, EN8, EN3, EN15 and ISO898