

**BORDERS RAIL**  
**EDINBURGH, SCOTLAND, UNITED KINGDOM**

Mass Gravity Retaining Walls

**Problem**

The Waverley Route, also referred to as Borders Railways, traverses through Edinburgh, Midlothian, and the Scottish Borders, finally arriving at Carlisle. The closure of the railway line dates back to 1969 as a result of the rationalisation of the railways.

Since the early 2000s, discussions regarding the reopening of the northern section of the railway line and following extensive deliberations in the Scottish Parliament, the Waverley Railway (Scotland) Act 2006 was granted royal assent in June 2006. Subsequently, the legislation was renamed the Borders Railway in August 2008, and construction work commenced in November 2012.

The process of reopening the railway required significant improvements to be made, including widening the existing route and implementing new infrastructure. To facilitate the necessary changes, gabions were utilised in cuttings where appropriate. These improvements were crucial in enabling the implementation of new tracks.

**Solution**

Maccaferri's gabions were used to support widened cuttings extensively along the 35-mile route which connects Edinburgh to Tweedbank. This became the single largest supply order in the UK, resulting in Maccaferri supplying 35,000m<sup>3</sup> and installing 25,000m<sup>3</sup> of polymer-coated woven "double twist" gabions.

Our woven double-twist polymer-coated gabion units have proven to be an effective choice in infrastructure works due to their robustness, long life and ability to accommodate differential settlement. These attributes are particularly important when next to railway lines when exposed to regular vibrations. Our gabions are manufactured from steel wire with a zinc-aluminium heavy-duty galvanising and an additional polymer coating. The gabions are BBA Certified with a design life of up to 120 years. The gabions were filled with locally sourced stone and hand packed at the front face to provide a high-quality attractive dry-stone wall-type finish.

Maccaferri's woven wire mesh products have Environmental Product Declarations which provide independently audited data on the environmental footprint of the manufacture of the units. The EPD system enables clients to compare the environmental performance of solutions

**Client:** BAM NUTTALL LTD

**Designer / Consultant:** Donaldson Associates

**Contractor:** BAM NUTTALL LTD

**Products used (Qty.)**

- Gabions 5490 Sq.m

**Date of construction:** 10/2013 - 11/2015

[Google Maps](#)

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Gabion retaining wall



Area of Ladybray, installing the Gabion retaining structure



Area of Ladybray with Gabion retaining wall installed



Ladybray completed structure and area



Completed retaining structure and railway line in Catcune



Retaining structure being installed at Gorebridge Station