

Inspection of Millfield Road Bridge and Marchburn Lane Bridge - 2004

6/01/2004

The inspection was undertaken after a request by Geoff Marshall of the Development Control Section of Northumberland County Council.

The scope of the request was to include an inspection of the Millfield Road Bridge and report a budget for bringing the structure up to an adoptable standard. The Marchburn Lane Bridge was not covered in the initial scope of the report but it was considered prudent to include it at this instance in the interests of public safety.

It was carried out on the 5 December 2003 where foot access was achieved to all structural elements of both bridges.

The bridges are of similar single (approximately) 7 metre span construction with the decks formed with RSJ's supporting concrete slabs all supported on mass concrete substructures. The parapets are expanded metal sheeting with posts consisting of steel angles and are bolted to the edge beams. There are no parapet plinths with water freely able to run off the edge of the deck and down the side of the edge beams. Concrete wing walls train the river between the abutments.

Millfield Road Bridge

The internal RSJ's are painted and in good condition. The outer beams are also painted but water running off the edge of the deck is causing corrosion particularly at the south (upstream side) element.

Concrete to deck and substructures has been made from a rounded river aggregate and is of a poor quality. The north abutment is being undermined and should be repaired as a matter of urgency. The SW wing wall has disintegrated at lower levels with all the concrete being subsequently washed away by the river. The NE wing wall is also in a very poor state of repair. The other wing walls are acceptable.

The bridge parapets are recently painted and in fair condition but are ornamental and would not restrain errant vehicles in line with current standards. The approach parapets to the wing walls are either hedging or light weight timber and are unacceptable to the restraint of any form of highway user.

The surfacing appears new but is open textured and will be subject to damage from weathering.

Remedial works should be carried out as a matter of urgency to repair the undermined north abutment and SW and NE training walls.

Marchburn Lane Bridge

This bridge has the same construction as the Millfield Road Bridge. All the steelwork has lost the corrosion protection with the main beams corroding lightly overall but some corroding heavily at the bearing locations. Both ornamental expanded steel mesh parapets are unsecure with the supporting angle posts completely rusted through in several locations. They could be easily pushed off by pedestrians and pose a falling hazard to the unsuspecting user.

Most of the concrete substructures appear sound but the NE wing wall has suffered washout by the river with a void created through to the embankment beyond. The void extends under the verge above and could create a hole for pedestrians to fall into.

Remedial works should be carried out as a matter of urgency to repair the parapets and reinstate the void behind the NE wing wall.

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Estimate for remedial work to Millfield Road Bridge.

Estimate is for work to bring bridge to a standard where the Authority would have a structure rated to carry 7.5 tonne vehicles, parapets of a similar rating and little/no maintenance liability for a number of years.

Work includes under pinning to the north abutment and two wing walls, construction of parapet plinths across deck and wing walls, waterproofing to whole structure, erection of containment parapets to current standards, and highway reinstatement.

Budget estimate for the above, including professional fees, £50,000 to £100,000.

A detailed estimate could be provided after survey, detailed design and pricing of documentation.

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