

STAFF REPORT

TO: Mayor and Councillors

FROM: Philip Drummond, Asset Engineer

REFERENCE: BG112302

DATE: 27 July 2009

SUBJECT: **SALISBURY HISTORIC FOOTBRIDGE - AORERE**

1 PURPOSE

The purpose of this report is to inform Council of the current programme to make the Salisbury Historic Footbridge over the Upper Aorere River safe for limited use by the public.

2 BACKGROUND

The Salisbury Suspension Footbridge was originally built for gold miners more than one hundred and twenty years ago. It is listed by the NZ Historic Places Trust (NZHPT) as a Category II Registered Heritage Structure, Number 5123. Tasman District Council has in the past made repairs to preserve the original structure. The bridge spans 36 metres across the Aorere River which is vested with Tasman District Council for management purposes.



3 RECENT MANAGEMENT

Remedial maintenance works were carried out in 1995 and 1997 to repair damage that occurred as part of a flood event in April 1995.

In 2001 the footbridge needed further major structural repair. Consultant inspection reports note a range of maintenance works. From a structural engineering perspective the bridge's tower structures needed to be replaced within five to ten years. This was due to the timber structures having a significant amount of rot.

The significance of the NZHPT listing led to a review of remedial works in 2002 which was to replace the tower structures. The full replacement of the towers was considered to lead to a downgrading of the heritage nature of the structure. Reference to the Department of Conservation and Forest Research's publication "Stop the Rot! Stabilisation of Historic Timber Structures" was applied to a revised proposal. This document was used to address the issues of the structural integrity of the bridge. A safe operating load of just two people was also proposed.

A report prepared in October 2003 stated that the bridge was generally in a fair condition. Timber preservation and repair works were carried out to prolong the structure's useful life. The bridge was closed in December 2003 pending detailed load testing which was completed during early 2004. A sum of approximately \$40,000 was spent on the repairs. The bridge loading was posted for a maximum of two people at any time. An inspection programme was requested for the following year and then biennially, with an experienced Structural Consultant inspection after five years.

In accordance with the maintenance strategy for the bridge an inspection was carried out in 2009.

4 INSPECTION JANUARY 2009

The January 2009 inspection resulted in the closure of the bridge. Cable faults, continuing timber deterioration at previously treated sites and new locations of timber decay were reported. Repair work was recommended within six months. The urgent issues included installing more anti-sway cables to minimize stress put on the structure by overly exuberant visitors on the bridge. Work also includes better signage on the nature of the historical significance of the bridge and its dangers. There is no economic or practical way of ensuring that the load recommendation is practised by visitors who use the bridge.

It was decided to obtain more information about costs to address the structural issues relating to the bridge. We have now received advice on the costs associated with repairing the bridge in a way that would satisfy the NZHPT requirements.

5 COSTS FOR BRIDGE REPAIR

Estimated costs for two options have been sought which included using second hand timber and an option to replace the rotten members of the bridge with steel encased with new timber.

Tower replacement remains the preferred priority in dealing with the structural integrity for the long term. This option replaces the existing towers with a new steel structure with second hand timber attached to the outside to give the appearance of a wooden bridge. However at an estimated cost of some \$100,000 it is not within our existing budgets to carry out this work. This option would have lower ongoing maintenance costs. This work would also require NZHPT approval because of the classification of the bridge. The approval is expected to be readily forthcoming from NZHPT.

The second option looked at a more affordable remedial measure which consists of replacing the existing wooden structure with second hand timber sourced from Southland. This is the NZHPT preferred choice. This option would also include additional sway cables and load testing for the completed retrofit of the structure. This option has an estimated cost of \$18,000. This work can be carried out within our current budget levels. NZHPT has granted dispensation for the use of the second hand timber for the bridge structure.

The Engineering Manager has authorised a more detailed regular monthly contractor inspection and any suspected defect advice will be followed up by a structural engineering consultant evaluation.

5 CONCLUSION

The option to replace the existing structure with second hand timber is considered to be the most affordable for Council at this stage with a cost of around \$18,000 to complete the retrofit of the bridge. While it is preferred to replace the structure with steel, this option will need to be included in the next round of the Ten Year Plan process to allow for it in the future.

6 RECOMMENDATION

6.1 THAT Council approve the option to replace the existing rotting timbers with second hand timber.

6.2 THAT Council carry out regular inspections of Salisbury footbridge as part of the on going maintenance to ensure the signage and structure is maintained appropriately.

Philip Drummond
Asset Engineer