



Case Information

Reference/Case ID	300018568		
Scheduled Monument	Union Canal, Fountainbridge to River Almond		
Index no	SM11097	Grid ref	NT 20500 70200
Date application validated	11 October 2016		
Summary of proposed works	Unpinning eroded aqueduct wing walls – Pirleyhill Aqueduct		

1. Summary recommendation

This report recommends that approval for the repairs to the Pirleyhill Aqueduct on the Union Canal be granted without conditions.

2. Background

The monument is a section of the Union Canal

The scheduled area comprises the canal and associated culvert systems

The monument is of national importance because, as an integral part of the Union Canal, and an important piece of Georgian civil engineering. Designed by a noted Scots Engineer, Hugh Baird, and built 1818-23, its continuous watercourse was without need of a single lock, and was graced by three major aqueducts inspired by another great Scots civil engineer, Thomas Telford.

This application relates to the Pirleyhill aqueduct on the Union Canal. In a recent Principal Inspection by Scottish Canals dated May 2016 the aqueduct was given a condition grade D 'poor' on account of the scour damage to the bed protection at the downstream headwall and undermining of the outer ends of the east & west downstream wingwalls. They consider the most likely outcome of a catastrophic failure of this aqueduct would be localised downstream flooding, but may also have an adverse effect on the nearby railway line that crosses the same watercourse as the canal aqueduct. Uncontrolled discharge of canal water would flow into the Westquarter Burn, then under the Glasgow to Edinburgh railway line, approx 100m



downstream to the north. A short distance further (approx. 230m) the Westquarter Burn is joined by the Glen Burn. Water would flow through the Westquarter housing, then north-eastwards under the A803, the A9 and the M9 at Junction 5, to discharge to sea in the Forth Estuary at Grangemouth. Whilst emergency procedures have been written to install stop logs across the Union Canal at bridge stop log grooves on the Union Canal in such an event, the volume of water that could be lost is considerable.

The scour at the downstream end of the aqueduct is of concern and could have serious consequences if not addressed before the next flood. It is therefore important that the scour hole is filled, the downstream wingwall ends are underpinned with concrete, and the scour protection is significantly enhanced. This will ensure that future floods are conveyed well away from the downstream end of the structure and minimise the risk of undermining the masonry walls, eroding the canal embankment toe, or scouring the river bed back to the aqueduct downstream headwall.

The application is accompanied by a assesement of stability, method statement for insertion of underpinning, and photograph evidence of the poor condition of the Canal at this point.

HES Heritage Management Directorate has undertaken pre-application discussions with the applicant regarding the scope and timing of works, and this application accords with the outcome of those discussions.

3. Proposals

The proposed works include:

- Underpin the existing aqueduct wing walls.
- Install a new concrete base and enhance the scour protection to minimise future erosion.

Consented works – Repairs to the Pirleyhill Aqueduct on the Union Canal.

Description of works

Aims - to stabilise a significant part of the Pirleyhill Aqueduct

Timetable - due to Health and Safety issues, the applicant will undertake the works as soon as possible

Personnel - Scottish Canals will undertake the works



4. Representations received

No representations were received.

5. Report

a) Policy considerations

The application should be considered with the following legislative and policy considerations in mind:

Ancient Monuments and Archaeological Areas Act 1979

Part 1 Section 2: Control of works affecting scheduled monuments.

Historic Environment Scotland Policy Statement June 2016

3.14. A monument is included in the schedule to secure the long-term legal protection of the monument in the national interest, in situ and as far as possible in the state it has come down to us. Scheduled monuments have an intrinsic value as monuments, not related to any concept of active use. It is the value of the monument to the nation's heritage, in terms set out in the section on Scheduling in Chapter 2 of this policy statement that is the primary consideration in determining applications for scheduled monument consent.

3.15. Monuments are subject to decay and the threat of destruction, from natural and human causes. Conservation work is normally needed to prolong the life of a monument, but there is a risk that this can be so invasive that it irreversibly modifies the monument's character and affects the special interest or features that made the monument important in the first place.

3.16. Works on scheduled monuments should therefore normally be the minimum level of intervention that is consistent with conserving what is culturally significant in a monument.

3.18. Scheduled monument consent applications must be considered in terms of the cultural significance of the monument and the impact that the proposals would have upon this cultural significance. The more important particular features of the monument are to its cultural significance, the greater will be the case against interventions which modify these features.



3.20. Where change is proposed, it should be carefully considered, based on good authority, sensitively designed, properly planned and executed, and where appropriate in the context of an individual monument, reversible.

b) Assessment

The proposed works involve the maintenance and repair of the wing walls of the aqueduct, being underpinning of the wing walls, new concrete base and enhanced scour protection of the aqueduct at Pirleyhill.

The physical impact of the proposed works will have a very small impact on the monument being insertion of concrete scour and underpinning with no removal of historic stonework of the wing walls themselves.

The physical impact of these works on the monument and its cultural significance would be comparatively minor, but the benefits to the long term preservation of the monument would be significant.

The work would involve undertaking remedial and conservation works to mitigate health and safety risks to the public and to maintain the structural integrity of the masonry.

The application has been accompanied by a Project Design that sets out a well-considered, appropriate and careful methodology. The method statement covers the procedures which will be followed and these are acceptable and conform to industry standards.

c) Other material considerations, including impact of the works on Protected Species and Places

No impact on Protected Species and Places considered likely – see PP&S assessment.

d) Conclusion

The application should be viewed as works as set out in both Part 1 Section 2 of the AMAA Act 1979 and paragraph 3.4 of the policy statement.

The works, comprising repairs to the aqueduct, are being done to elements of the monument in such a way that they will have minimal impact on the cultural significance of the monument. They do not, therefore, conflict with paragraphs 3.16 and 3.18 of the policy statement.

Scheduled Monument Consent: Report on Handling



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The application meets paragraph 3.20 because it has demonstrated that the works have been carefully considered, based on good authority, sensitively designed and properly planned.

Consequently, no conditions are considered necessary.

6. Recommended decision

The works proposed are considered acceptable in meeting the terms of national policy for scheduled monuments, and also accounting for other material considerations.

I recommend consent is **granted without conditions**.

7. Conditions

No conditions have been attached to this decision.

8. Approval

Case officer	James Bruhn	Date	25 November 2016
Approved by	George Findlater	Date	05 December 2016

Annex A – list of supporting documents

- Workscope - Method Statement
- Photos of erosion - Pirleyhill Aqueduct
- Location plan 1 to 2500
- Location plan 1 to 15000