Case information

Reference/Case ID	201506114

Scheduled Monument	New Abbey Corn Mill, mill, mill pond, lade, fish pond and curling pond		
Index no	M90323	**Grid Ref**	296210 566240

Date of Application	21 December 2015	**Application Received**	21 December 2015
Summary of proposed works	Repairs to kiln structure.		

1. Summary recommendation

This report recommends that consent be granted with one condition.

2. Background

The monument consists of the corn mill at New Abbey and associated remains. It is a Property in Care.

New Abbey Mill is a lowland type of water-powered grain mill built in the late 18th century and almost certainly replacing a monastic mill on the same spot. At some time in the 19th century it was substantially altered.

Unusually, the miller's house, drying kiln and mill form an integrated structure. The kiln contains a floor of perforated cast-iron plates supported on wrought-iron bearers above a brick funnel. It has roof trusses of steel and a ventilator which is circular in section and has a conical top surmounted by a fish weather-vane.

The monument is of national importance because it is a fine, and rare, example of a medium sized lowland water mill with its machinery intact. In addition, the monument has the potential to provide information on corn milling and the vital role of mills from the monastic period to the 20th century.

The kiln is roughly square in plan with brick vaulted partial arches rising from the square base in four directions and bearing against outer stone walls to form a funnel. The bricks are hand-made and appear to be 18th/early 19th century in date; the bonding mortar is mainly lime. There are slight plank mark indentations in mortar

snots remaining in-situ below the vault, which give an indication of temporary shuttering used during construction.

Though much of the kiln appears to be original fabric, significant past intervention is also evident and there have been repairs using more regular brickwork and cement mortar.

Inspection has identified serious defects in the brickwork of the kiln funnel's vaulted west elevation:

- Deformation towards the upper part of the arch structure, compromising structural performance of the thin 'arch'.
- Long continuous cracks in some bed joints and cracks in some perpend joints.
- Weakened lime mortar, which is turning to powder in many locations.

Following inspections by the HES District Architect and Structural Engineer it has been concluded that the entire arched area of the west side of the vault is at risk of collapse. Consequently, the passageway below this part of the kiln funnel has been closed to visitors for health and safety reasons (visitors were formerly taken on guided tours that passed through the kiln). However, collapse may still pose a risk to the Health and Safety of anyone working in the vicinity of the kiln or people accessing the area without permission.

It is predicted that the kiln's partial collapse would have serious consequences for the cultural significance of the monument, including loss of historic fabric due to breakage of bricks (thereby preventing their reuse) and collateral damage to adjacent areas.

Corrective action is proposed to prevent the kiln's partial collapse and hence consequent risks to Health and Safety and adverse effects on the cultural significance of the monument.

3. Proposals

Three options for corrective action to repair the unsound fabric and restore public access to the kiln have been considered and are set out in an Options Appraisal included with the application (Annex B). Two of the three options have been rejected because of technical difficulties, working conditions (including the potential for unsafe working) and either the possibility that a long-term solution would not be achieved or the need for a major, irreversible supporting structure.

The preferred option (Option 1) would be a like-for-like repair. It would be achieved by a safe means of working and restore structural performance as originally conceived.

The proposal would involve carefully dismantling the ½ brick thick arched section of the west vault between the corner ribs and reconstructing it using the salvaged bricks bonded with lime mortar. In order to correct the existing deformation of the arch structure and ensure structural performance exact reinstatement is not considered feasible, and a number of replacement bricks would be likely to be required. Where this is the case it is intended that 'red rubbers' would be used to allow new bricks to be cut down easily on site to match the irregular sizes of original bricks. The bricks would be used, as far as possible, to replicate original appearance.

The indentations present in lime mortar and relating to shuttering boards used in original construction, would be lost as a consequence of the down-taking. Mitigation is proposed and would comprise full photographic recording of the affected marks in advance of down-taking. An initial photographic survey has been included in the application and it is proposed that the record should be incorporated in a report.

4. Representations received

No representations have been received.

5. Report

a) Policy considerations

The application has been considered with the following legislative and policy considerations in mind:

Ancient Monuments and Archaeological Areas Act 1979 (AMAAA 1979)

- Part 1 Section 2 - Control of works affecting an ancient monument.
- Part 1 Section 2 (4) - allows consent to be granted with conditions.

Scottish Historic Environment Policy 2011

3.4. Scheduled monument consent is required for any works that would demolish, destroy, damage, remove, repair, alter or add to the monument or to carry out any flooding or tipping on the monument. It is a criminal offence to carry out any of these works without consent.

3.14. Scottish Ministers include a monument 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 SHEP, that is the primary consideration in determining applications for scheduled monument consent.

3.17. As each monument will require treatment specific to its individual nature, characteristics, significance and needs, any proposed change to it must be fully and explicitly justified.

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.

3.22. Where consent for the range of works set out in paragraph 3.4 is granted, conditions are normally applied to ensure the works are undertaken in an appropriate manner. Common requirements are:
a. the use of appropriate assessment methodologies to determine the full impact of any proposed management, use or development; b. the avoidance of irreversible change particularly wherever its effects cannot be adequately assessed;
c. that where change is necessary, strategies should be adopted to mitigate its impact and limit intervention;
d. that the management and execution of alteration, including remedial work, is sympathetic to the historic character;
e. that appropriate skills and techniques, materials and construction techniques are specified where appropriate;
f. that an appropriate level of record is made before, during and after any work and deposited in local and national archives, and, where appropriate, published;
g. that it is possible, on close inspection, to differentiate new work from old particularly on masonry structures;
h. that any archaeological excavation or other intrusive investigation should be based upon a detailed research strategy, with adequate resources, using appropriately skilled and experienced archaeologists with a satisfactory record of the completion and publication of projects (see Note 3.10); and,
i. that the design, planning and execution of works on scheduled monuments are undertaken by people with appropriate professional and craft qualifications, skills and experience.

b) Assessment

The proposals would involve reconstructing part of a kiln that is integral to a scheduled monument and forms an important part of its cultural significance.

The works have been proposed in order to reduce the risk of structural collapse of this part of the kiln. Collapse would pose a risk to Health and Safety and would have a significant adverse impact on both the fabric of the surrounding structure and the

materials used to construct the kiln. Addressing the danger of collapse is also necessary before public access to the structure can be reinstated. Therefore, remedial action is justified to reduce risks to Health and Safety and to reduce, as much as possible, adverse effects on the cultural significance of the monument.

A variety of options have been considered. The option proposed would be a like-for-like repair that would re-use existing materials and replicate the kiln's original appearance as much as possible. It would also restore the structural performance of the kiln as originally conceived. It would remove the risk of collapse and allow public access to the kiln.

Other options have been rejected for a number of reasons that are clearly presented in the application. These include difficult and unsafe working conditions, the possibility that a long-term solution would not be achieved and the need for a major, irreversible supporting structure. It is reasonably concluded that the option proposed is the most appropriate intervention in the circumstances described.

Because the works would be a like-for-like replacement they would, as far as possible, replicate the overall appearance of the kiln. However they would result in the removal of some indentations related to temporary shuttering used during the kiln's construction and would not be identical to the original structure.

It is proposed to mitigate this loss of original fabric by creating a photographic record prior to down-taking, which would be incorporated in a report. Nevertheless, there would be an adverse effect on the monument's cultural significance since some indentations and original fabric would be removed.

However, without the proposed works it appears likely that there would be structural failure in the foreseeable future which would result in a risk to Health and Safety, destruction of bricks and damage to adjacent parts of the structure. The adverse effects in this scenario would cause greater harm to the monument's cultural significance and would present Health and Safety risks (HES takes full account of all Health and Safety legislation and implements its Health and Safety Policy for Properties in Care; SHEP 4.42).

Consequently it is concluded there is clear justification for these works in relation to both Health and Safety and securing the long-term protection of the monument.

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

The application site does not lie in a Site of Special Scientific Interest (SSSI), Special Area of Conservation (SAC) or Special Protection Area. National Biodiversity Network GIS data sets indicate no evidence for Protected Species in the relevant 100m grid squares.

d) Conclusion

The proposals concern remedial works at the New Abbey Corn Mill kiln that are intended to repair the structure and address a risk of collapse. The works will remove a Health and Safety risk. There will be an adverse effect on the cultural significance of the monument but adverse effects would be greater if remedial works were not undertaken and structural collapse occurred. The proposed change has been fully and explicitly justified (SHEP 3.17).

The proposed works are intended to secure the long-term protection of the monument, as far as possible in the state it has come down to us and hence accord with SHEP 3.14. The proposal appears to be carefully considered and planned, according with SHEP 3.20.

Mitigation has been proposed with regard to recording those elements of the structure that would be affected by down-taking. An outline of these works has been set out in the proposals and an initial record produced.

It is important that this record is incorporated into an appropriate report suitable for archiving and made available to the public so that the record is preserved for the future and accessible to researchers or other interested parties. Hence it is recommended that a condition be applied to consent setting out the terms of that reporting, archiving and public availability.

The proposed works have been considered with regard to The Scheduled Monument Consent (Notifications of Applications) Direction 2015. The works are considered an intervention consistent with preserving as much of the cultural significance of the monument as possible and the minimum amount of change necessary for that aim. Consequently, it is concluded that it would not be proportionate for this application to be notified to the Scottish Ministers under paragraph 2C (1) of Schedule 1 to the AMAAA 1979.

6. Recommended decision

I recommend consent is **granted** and should be **subject to the condition detailed below**.

Subject to compliance with the schedule of conditions, the works proposed are considered acceptable in meeting the terms of national policy for scheduled monuments, and also accounting for other material considerations.

7. Conditions

1. A report containing a photographic record of the affected part of the structure, including indentations related to temporary shuttering preserved in the mortar, will be produced. Two copies of the report will be submitted to Historic Environment Scotland Heritage Management Directorate and a record of the work will be

uploaded to the OASIS database no later than 4 weeks after the recording works are completed.

Reason: *In order that a record of the structure prior to works is contained in a report, archived and made available to the public.*

8. Approval

Officer	**Simon Stronach**	**Date**	**5/2/2016**
Approved by	**John Raven**	**Date**	10/2/16

Annex A – list of supporting documents

Drawing: Kiln Vault Consolidation Proposed Works
Drawing: Photographic Record Kiln Vault – West Elevation
Drawing (A4) Location Plan
Annex A: Supporting Information
Annex B: Options Appraisal