

ARNOL BLACKHOUSE
TIMBER ROOF STRUCTURE REPAIR AND WALL CONSOLIDATION:
METHODOLOGY AND SPECIFICATION

For locations and extent of the following work please refer to drawing 259-022-94 attached.

Note: access for the following works will be facilitated by a scaffold deck at wall head height and the work activity will be protected from wind and rain by a fully enclosed, including a roof, temporary scaffold structure.

Replacement of Rotted Elements of Timber Roof Structure

Note: rot in the roof structure is not thought to be extensive but only likely locally around the washed out south section of east wall. However, the works provide a good opportunity to check the whole structure.

1. Strip off of all thatch.
2. Inspect all elements of the timber roof structures for both the main building and the barn. Turfs are to be lifted and reinstated as necessary to facilitate this inspection. Timbers are to be inspected for rot and security of fixing.
3. All rotted elements are to be marked with a bright yellow chalk and the roof photographed to show extent and location of rot for record purposes.
4. Part rotted slats and purlins are to be taken out and inspected. If possible the slat or purlin is to have the rot cut out and a patch or splice repair employed but this may not be possible due to the structural spanning requirements. Only if unavoidable is a completely new slat or purlin to be installed and must be of matching shape. Note: while a great deal of the timbers in the roof structure are replacements installed while the property has been in care, there are still a number of historic timbers, mostly drift wood or from ship wrecks, spars and oars and the like, and such timber **must be retained** even if badly rotted. Should such element be incapable of pieced-in repair than new supporting timber must be used beside to give additional support. Should any part of the roof trusses be rotted then splice repairs to engineer's details will be employed together with any necessary temporary propping. Any coir or heather rope removed to facilitate access to timbers is to be retained and reused in the same location after the repair.
5. The solder course of slats at the wall head of the washed out south section of east wall are to be inspected in detail and any that are slumped are to be reset.
6. The security of fixing of the thatching sticks should in particular be checked.
7. Upon completion of timber repair work, and prior to re-thatching, the roof structure is comprehensively scrubbed down employing bristle brushes, water and mild environmentally friendly detergent and then photographed.

Materials for timber roof structure repair:

Slats: Crudely split larch boarding to match thickness of slat it is replacing.

Trusses: SS grade Douglas Fir.

Nails: Copper, length and diameter to suit.

Consolidation of Washed Out South Section of East Wall

The following works are to occur after stripping of the thatch and prior to its reinstatement.

1. As located by the hatched area on the attached plan and as outlined on the attached photograph, carefully take off and set aside for reuse the roof eaves and wall head turfs to expose the underlying blue clay. Turfs are to be watered should there be a delay in reinstatement.
2. Should exposed blue clay be intact with no obvious cracks or holes then the wall head and roof turfs are to be reinstated.
3. Should exposed blue clay be failed; fit temporary propping to internal and external wall faces.

Temporary propping is to utilise sand bags at pressure points with masonry and sand bags, not digging-in, are to be used to retain propping hard to the wall faces or spanning across to the opposite wall.

4. Cut out clay and put in buckets for future reworking.
5. Mix local top soil, peat dust, fresh blue clay and ash to form the material for the tempered-earth core and compact this material in layers into the wall core to fill voids. Reset any loose or lost pinnings to the core wallfaces at this time.

As core packing occurs push back any dislodged stones on the internal and external faces as temporary propping allows.

6. Recap wallheads with a 150mm thick layer of fresh high quality blue clay.
7. Reinststate wall head and roof eaves turfs.
8. Remove temporary propping pushing back any dislodged stones that could not be reach while the propping was in place.
9. Provide to the DA clear digital photographs for the full sequence of these works.

Stephen Watt
District Architect, Conservation Group, 04/11/2015