REFURBISHMENT CASE STUDY 34

SOUDEN KIRK SOUTHDEAN PARISH

INTERIM REPAIRS

HISTORIC ENVIRONMENT SCOTLAND | ÀRAINNEACHD EACHDRAIDHEIL ALBA

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HISTORIC ENVIRONMENT SCOTLAND REFURBISHMENT CASE STUDY 34

SOUDEN KIRK, SOUTHDEAN PARISH

INTERIM REPAIR WORKS AT SOUDEN KIRK

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WITH THANKS TO:
SPAB
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SOUTHDEAN FARM
SCOTTISH BORDERS COUNCIL

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1. INTRODUCTION

This Refurbishment Case Study describes interim repairs to the roof of Souden Kirk, a historic church in the Scottish Borders, now visible as a ruined masonry structure. Although owned by the Local Authority, changed budgets and access to suitable skills and funding had meant that areas of the monument were in poor repair. Damage from a fallen tree added to the issues facing the structure. The site is well known and popular in the Scottish Borders with many historic associations, some of which are annually celebrated at the site.

The works described in this document sought to address the key defects in a specific part of the building using simple materials and techniques (Figure 1). The works were done to a basic specification, but subsequent inspection has shown the soft capping and the felt work to have been largely effective in minimising water ingress into the monument. The works were delivered by volunteers with modest supervision and minimal cost, showing that the custody of a certain type of building or monument does not need to be expensive, and such interim repairs can 'buy time' while a more formal scheme is developed. As the custody of many buildings and sites is transferred from Local Authorities to community groups, this example may offer ideas to those responsible for properties that some works can be delivered locally by volunteers with suitable permissions and supervision.

Figure 1. Site plan showing the church plan and area of proposed works

As the site is so well known and invariably attracted local interest, some notes of a non-technical nature on its history and evolution have been made to capture information as it came to light, in order to ensure that it is not lost. It is likely that this can be re-presented more formally, if further work on this important site is planned.

2. THE SITE

2.1 Early history

Souden Kirk is a historic site with church remains dating from the 12th century, and evidence of an earlier structure on the same site. The sequencing and development of the pre-eformation church has been established with a fair degree of certainty by the English liturgical scholar and ecclesiastical historian F. C. Eeles. The building, while modest in scale, was of excellent quality and build, with all the liturgical details that one would expect. The 15th century chapel is of particular note and the accomplished carved stone work that survives gives a clue to the quality of the building. This quality would have been all the more significant, when the remoteness of the site is considered. While it would have been isolated by modern standards, it should be remembered that in the early Middle Ages the rural population was probably higher than it is now and a warmer and better climate meant that the district was probably reasonably prosperous. It is likely that the Church was fully connected to the active ecclesiastical establishments of Jedburgh and Melrose; there are also documented links to the Bishopric of Glasgow. With close proximity to St Cuthbert's Way (the pilgrimage route from Lindisfarne to Melrose), Souden Kirk had a connection to a wider Christian community. Remains of similar sized churches survive in the area; the Wheel Church, some 7 miles distant to the west, and the church at Cavers to the north east are similar in style and construction, and would have been on this route. The building evolved in four phases. The excavations in 1910 showed the foundations of an earlier structure on the same alignment a few feet to the north. Phase 2 probably consisted of the current tower and the nave dating from the mid-13th century. The gothic choir was added in the 14th century as an extension to the nave; it might have replaced a smaller, more modest choir that was contemporary with the nave. A reconstruction of some of the internal details of the choir was made by Hawick architect Alexander Inglis, and was written up in the Society of Antiquaries Journal, Vol. 45 (Figure 2). This reconstruction and the surviving remains at the church show that it was work of a most competent standard.

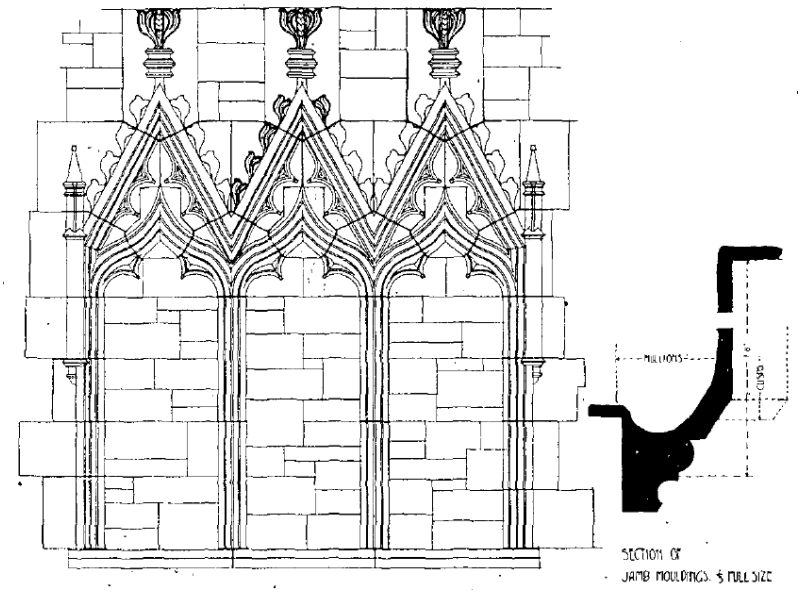

Figure 2. A reconstruction of the 'sedilia' in the choir by Alexander Inglis, dating from 1911.

2.2 Decline

While the Reformation in Scotland changed the ecclesiastical landscape liturgically and architecturally, the isolation of Souden Kirk meant that it probably escaped the targeted destruction of the buildings experienced in other parts of Scotland. However, it is likely that what did stop was the maintenance of the building; central or diocesan funds were simply not available under the new church structure. By convention, the congregation or laity were responsible for the upkeep of the nave, the public area, and the priesthood were responsible for the care of the choir, the more private space from which the public were excluded. It has been suggested that the stone vaulted choir was not maintained and it reportedly collapsed in the mid-17th century. In addition, the focus of the parish moved to higher ground some 2 miles to the north east, where a new church (itself now a ruin) was constructed around 1680. This structure used many masonry elements from Souden, including its arched doorway and extensive quantities of ashlar masonry. However, it is likely that internments may have continued for a while in the graveyard, but by the late 19th century, the Souden site was entirely covered and consisted of a grass covered mound.

2.3 19th century changes

To the south of the Kirk site is the steading and old farmhouse of Southdean Farm. This complex is largely the result of early 19th century improvements to the farm. At some stage, possibly at the turn of the century, the graveyard boundary, which would have been close to the back of the steading buildings, was moved some 30 meters to the west to its present location, reducing the graveyard size considerably. This movement of the boundary was mentioned by a visitor to the site whose family had worked at Southdean Farm. He recalled his father telling him that he

remembered dragging some of the grave markers into the present graveyard area with farm horses. The former graveyard area is now a small grazed paddock behind the old steading with no hint of its origins. This verbal evidence is supported by examination of local maps which show a changed boundary on the south side, seen when the Ordinance survey map of 1865 can be contrasted with the 1925 version.

2.4 Early 20th century works

The site in its present form is really a product of the excavations from 1910, when the site was excavated by the Hawick Archaeological Society. This work, which involved considerable excavation, the uncovering of wall footings and the removal of material, took the site from an entirely covered grassy mound to the current condition, with exposed wall footings and largely original ground level at the wall base. While much of the wall footings are original, there have been areas of rebuild, taking the walls of the nave and the choir to their present even height. This rebuilding used masonry of various sorts, including fragments of grave markers from the adjacent graveyard. In addition, the tower at the west end of the nave, which was excavated to its surviving height of approx. 500mm, was rebuilt and raised to a single story structure with a flat concrete roof. Inside were placed the extensive fragments of carved stones, mainly from the 15th century choir.

2.5 Current condition

Over many years, the concrete flat roof and its drain to take water away had failed. In 2005, a large ash tree - itself many years old - fell over onto the tower, dislodging the facing masonry on the northeastern face of the tower, causing considerable damage. While the timber debris was cleared shortly afterwards, a large number of samplings became established in the tower wallheads. The growth of these and weather action entirely broke up the cement pointing and capping of the wall head, and a split in the concrete roof was letting in considerable volumes of water. In a curious attempt to address water ingress, the external walls of the tower had been pointed with a strong sand and cement mortar at some time in the past. This compounded the dampness by preventing any drying of the walls through the mortar joints. The site and the graveyard are now grazed by sheep, which keeps down the grass and nettles (Figure 3).

Figure 3. Souden Kirk viewed from the north east; the choir in the middle foreground, with the nave and the rebuilt tower in the middle right.

3. PLANNING THE WORKS

3.1 Ownership

It is necessary in a project of this nature to establish from the outset who has ownership or title of the property where works are envisaged. Remains of structures that have sat long in the landscape may no longer feature as buildings, but even the ground on which they sit will have an owner. In Scotland, the ownership of graveyards and church ruins is sometime complex, although generally under the 1923 Graveyards Act, all graveyards, including the remains of former churches on the sites, were transferred to Local Authority ownership. Dialogue with the General Trustees of the Church of Scotland by the Minister of Hobkirk established that this was indeed the case at Souden and Scottish Borders Council were approached about the feasibility of carrying out some repairs to the tower.

It was agreed that staff and volunteers from the Hobkirk Church SPAB working party taking place close by, would be used to deliver a limited programme of interim repairs to the roof of the tower of Souden Kirk. This would address and reduce water ingress and allow a degree of stability to

be given to the tower roof, pending a more formal phase of work to address the damaged masonry from the collapsed tree.

3.2 Consents

The site is a Scheduled Monument (index no. SM7034) and is owned by the Scottish Borders Council. Scheduled Monument Consent (SMC) is required for any activity on such sites, including details of the works being planned, and this is applied for by the body delivering the work; in this case, SPAB. Scottish Borders Council was content for this to be the route and dialogue with the Council's Archaeology Officer established what was needed for the monument and why, and how the project could be planned. As the work would be taking place on building fabric from the 1910 work only, there was less sensitivity than if intervention was planned closer to any medieval fabric or archaeology. Historic Environment Scotland, the body charged by the Scottish Ministers with the protection of Scheduled Monuments, would review the application and consider its suitability and any adjustments needed. By its nature, SMC is a lengthy process and, therefore, a period of three months was allowed for the application to be progressed.

3.3 Design

It was agreed that the cement capping to the wall heads would be removed and replaced by a 'soft cap' of clay and turf. The upper course of masonry would be re-set in a lime mortar. To reduce water ingress, a layer of bitumous felt would be set onto the masonry, and covered with a layer of clay and turf. The edges would be set or bound with new stones at the sides. The purpose of the soft cap was less to shed water in the traditional sense, but to absorb or buffer rain fall and prevent it running into the walls and interior of the tower. This turf layer would then dry out and the cycle repeated during the next rain. The concrete flat roof with its central join line letting in water would be made more waterproof with the application of two layers of torch on mineral felt. The upstands would be torched onto the vertical masonry and the run of the deck would connect to a new drain through the wall and out via a new lead spout. The details of this were recorded in drawings to accompany the SMC application (Figure 4).

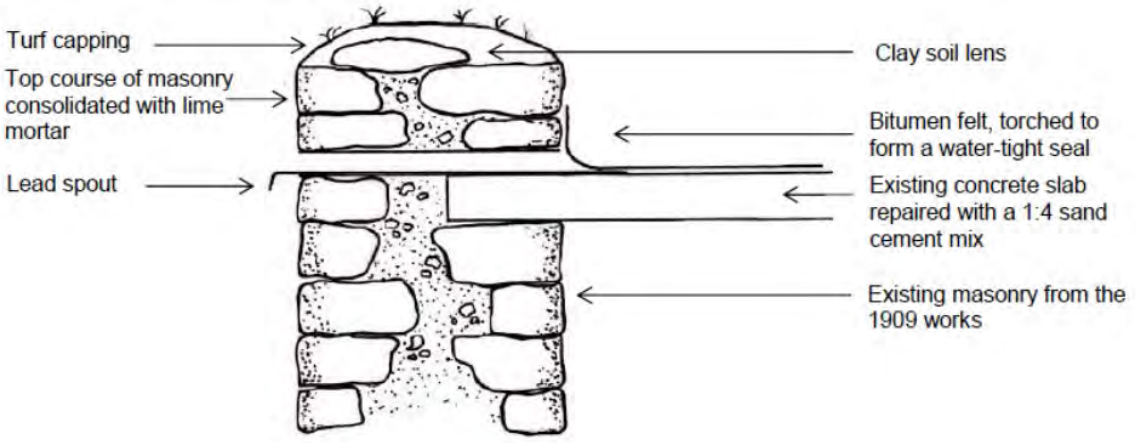

Figure 4. Detailed section through the wallhead showing the proposals, as part of the SMC application

4. DELIVERY

4.1 Pre-works required

A degree of pre-work was required, and in the summer of 2014, the saplings on the roof of the tower were cut back and the stumps poisoned. When the project began in the late summer of 2015, the woody stumps could then be removed, confident that growth had been killed off. The initial work was the clearing and cleaning of the concrete roof and the adjacent masonry to allow for a better assessment of the wall head condition and the concrete roof (Figure 5).

4.2 Site set-up

To minimise impact on the site, and to keep equipment and tools in one place, the equipment and materials were stored at the Hobkirk site pound, and the volunteers with their tools etc. were transported to Souden during the four days of working.

Figure 5. The roof of the tower following cleaning. The sapling stumps and the cracked concrete roof can be seen.

4.3 Consolidation of masonry

The top course of masonry was largely loose and the cement had entirely come away, admitting water freely to the wall structure below. The cement fragments were removed along with any vegetation and the top course of masonry was re-bedded in a hot mixed lime mortar, delivered from the site at Hobkirk Church (Figure 6). This mortar was given two days to stiffen up before the next layer was added. Once the mortar had set, the next layer, the bitumous felt, was cut and laid. Frequent adjustments were required to accommodate the changes in levels and profiles across the wall heads.

Figure 6. Re-bedding the masonry of the tower wall heads prior to the application of the soft capping.

4.4 Mineral felt application

Good weather allowed steady progress on the roof, and the bitumen paint layer was applied to the cleaned stone and then the 'torch on felt' was applied. As with most flat roofing work, the key areas are the junctions between the roofing material and the vertical upstand of masonry. The nature of the masonry meant that the only way was to bond the felt onto the vertical faces of the lower stones.

4.5 Cutting and placing the turf

Investigation in the field adjacent to the monument, and discussion with the landowner, identified an area of clay rich soil with a strong growth of grass. The soil was sufficiently rich in clay to not need a clay layer below. While the areas of the wall head were modest, and the quantities required were small, time was short and the weather window for completion of the tower interim works narrow. To achieve the soft capping task quickly, two members of staff worked on the wall heads and a chain of six volunteers passed the turf squares from the field up to the tower. The turf and its clay rich soil were pressed onto the bitumen felt to give a layer approximately 200mm in thickness (Figure 7). This allowed the capping to be substantially complete within 2 hours. The clay and turf layer was edged on the windward side with edging stones to prevent wind scour and wind driven rain washing out the soil from the turf and breaking down the clay.

Figure 7. The new turf forming the soft capping on the tower wallheads during laying. Due to the exposed nature of the site from the southwest, the turf was edged with masonry. The application of the new mineral felt covering to the flat concrete roof is underway, seen to the right.

4.6 New drain spout

While there had been provision for water to run off the concrete roof, the channel through the wall head had become cracked and broken, leaving water to percolate through the masonry. A new spout was worked from a sheet of code 8 lead, and mounted within the existing channel to take water off the tower roof (Figure 8).

Figure 8. The new lead spout inserted in the existing stone opening to take water off the roof.

When viewed from the ground, the soft capping layer is very discrete and will give a more durable and appropriate protection to the wall heads (Figure 9). There was not enough time in the project to address the removal of the hard cement pointing on the outside of the tower, although this may be possible under a separate project.

4.7 Architectural fragments

The opportunity was also taken to re-order the architectural fragments stored inside the tower as the timber shelving and supports had entirely decayed. Holes made by burrowing animals were filled in and the surface of the room re-levelled. Some carved stones that were piled outside at some stage in the past were moved inside for safekeeping. It is hoped that a further phase of work will allow a better layout and display of these important fragments.

Figure 9. The tower viewed from the south west. The turf and grass of the soft capping is just visible. The grey cement pointing from earlier works is very evident on the lower courses.

5. OUTREACH

As with the companion project at Hobkirk, an open day was organised for the site, with visitors from Hawick Archaeological Society (the sponsors of the 1910 excavations) looking at the works and discussing the approach with the staff and volunteers. It was during this visit that mention was made of the changed boundary of the graveyard precinct described earlier.

As part of the open day, a lecture on Souden Kirk was delivered in Hobkirk Church, by Professor Richard Fawcett from the University of St Andrews. During this lecture, he described the origins of Souden Kirk and how the building had evolved; elements of this have been summarized in Section 2. Many examples were given of similar churches in Scotland still standing, where the surviving architectural fragments could be 'placed' or located in the building and put into a liturgical context. This lecture showed that the church, whilst modest in size, was architecturally developed and the 15th century work in the choir was of excellent quality.

6. LESSONS LEARNT

6.1 Condition and durability

Souden Kirk has been visited annually since 2015, and the condition of the turf and the clay is generally good. There has been a small amount of wind scour on the south west corner, and on the nave side the turf is weathering back, allowing the clay to be washed out, but in most areas the turf is well established (Figure 10). Some docks and other weeds were removed, and it seems that occasional grazing by lambs has helped keep the turf tight. The mineral felt covering to the concrete roof is working well, although the bond to the stones with the felt up stand is failing in some places. Re-growth of the ash saplings appears to have been arrested. The drain area into the spout does need regular cleaning out.

Figure 10. The roof and soft capping photographed in 2016.

6.2 Use of bitumen felt

While this material gave a good base on which to bed the clay and turf, it was not consistent in providing a barrier, and as the material was not very flexible, it did not contour over higher or uneven stones and other level changes. Where the turf wore away, edges protruded. A better material for this application would have been an enclosed clay mat, which would have had better flexibility, would have provided a more contoured water

resistant layer, and formed a better bond with the stone below and the turf above.

6.3 Junction of the spout and the felt covering

Inspection of the roof at intervals following the works showed that this was an area of potential blockage through the accumulation of organic debris and washed out clay. While satisfactory regular cleaning was required, as with any roof water disposal arrangement. The junction between the felt roof covering and the lead of the spout failed on two occasions and had to be re-torched.

7. CONCLUSION

The project showed that effective interim repair work can be delivered to less sensitive parts of monuments, with modest resources but careful supervision. Basic materials such as lime, clay and turf were used effectively to give temporary protection to the wall heads of this monument. Following inspection in 2017, the measures seem to be effective in keeping out the majority of the water. The interior of the tower is considerably drier and water ingress appears to have ceased. While the work was done on the more modern parts of the structure, there is no issue, in principle, why they could not have been delivered on other, older parts of the building that also need protection. Consents and permissions were not an issue given a long lead time and appropriate dialogue and preparation. Community groups and others with similar structures can utilise the physical techniques used at Souden in repair projects. What also came out from the project is that a focus on physical repairs can generate and stimulate interest at a number of levels, resulting in elements of history and knowledge, previously unknown or unappreciated, coming forward and being celebrated.

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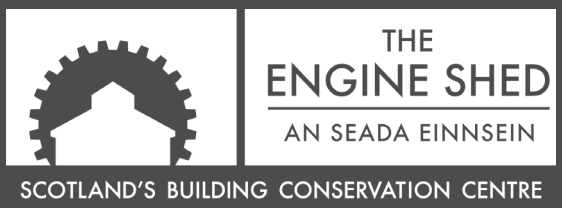

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