HISTORIC ENVIRONMENT SCOTLAND ESTATES PEER REVIEW 2017-18

HISTORIC ENVIRONMENT SCOTLAND | ÀRAINNEACHD EACHDRAIDHEIL ALBA

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1 INTRODUCTION

Historic Environment Scotland (HES) is required under Clause 3.16 of the Scheme of Delegation to have a peer review process in place to ensure that its conservation principles, policies and standards are being assessed by a group of independent professionals in similar fields. The HES *Conservation Standards for Properties in Care* provides a brief outline of the peer review process, which was further developed by *Conservation peer review arrangements for the properties in care of Scottish Ministers in 2015* and a subsequent supplement *Terms of Reference* in September 2017.

Therefore in the summer of 2017 a Peer Review Panel was established, comprised of 12 independent experts from various fields relating to conservation, construction management, estate management and skills development and chaired by a member of the HES Board.

It was agreed at their first meeting, in October 2017, that members of the panel, working in small groups, would each review about three projects per year. The aim of reviewing HES Estates conservation projects was to assist by:

- providing assurance to Scottish Ministers;
- ensuring benefits from the wider experience, knowledge and contacts of expert colleagues;
- improving HES practice and performance;
- improving quality and upholding standards;
- encouraging consistency in approach and methods.

This report covers the first year (October 2017 – October 2018) of the Peer Review Panel during which a total of 9 site visits were carried out. It provides details on how the reviews were conducted and the key findings of the subsequent panel reports.

This is the first report by the Peer Review Panel. It is proposed that the next report will take the form of a supplement to this one, covering a shorter period (November 2018 – March 2019), so that subsequent reports will be in line with the annual report on the Properties in Care of the Scottish Ministers.

2 THE PANEL

- Dr. Paul Stollard, Chair of the Panel & HES Board Member
- Bryan Dickson, National Trust for Scotland, Head of Buildings Conservation (Policy)
- Colin Proctor, Scotland Futures Trust, Asset Management Director
- John Cahill, Office of Public Works, Head of Conservation
- Neal O'Leary, Cadw, Head of Conservation & Estates
- David Narro, David Narro Associates, Chairman
- Stuart MacPherson, Irons Foulner Consulting Engineers, Founder
- Prof. Ian Simpson, University of Stirling, Professor of Geography & Environmental Sciences
- Lucy Stewart, Stewart Architects, Conservation Architect and sits on the RIAS Conservation Committee
- Tina Pringle, National Building Specification at RIBA Enterprises Ltd, Head of Technical Information

The following were invited to sit on the Peer Review Panel but were unable to take up their posts.

- Colin Broadwood, Scottish Canals, Head of Asset Management – left Scottish Canals in March 2018.
- Morgan Cowles, English Heritage, Head of Conservation Maintenance – left English Heritage in May 2018

The following panel member was unable to attend due to ill health

- Prof. Sian Jones, University of Stirling, Chair in Environmental History and Heritage – expected to resume duties in October 2018.

3 SITE VISITS

At each full panel meeting six project options were presented to the panel. All project suggestions came from within the Estates team, although it should be noted that as agreed at the October 2017 panel meeting panel members are able to make their own suggestions for consideration. From these the panel voted on which they were most interested in reviewing and the top three were selected for site visits and review. Those projects that were not picked in a round were re-submitted for consideration in the following batch of projects. In total 13 different projects were put before the panel for consideration over the year resulting in nine site visits.

Project	Round One	Round Two	Round Three	Reviewed
Site Closures	●	●	●	Not picked
Duff House: CCTV & Security Upgrade	●			23-Jan-18
Dunkeld Cathedral: Conservation Works South Nave & Aisle	●			30-Jan-18
Edinburgh Castle: Rock Risk Management Plan & Johnston Terrace Rock Containment	●	●		Not picked
Kinneil House: Orchard Wall Re-Build	●			12-Jan-18
Stirling Castle: Visitor Safety Risk Assessment	●	●		11-May-18
Bothwell Castle: Latrine Tower Conservation Works		●		11-May-18
Dumbarton Castle: Pepper Pot Sentry Turret Repairs		●	●	30-Aug-18
Toilet Infrastructure Upgrade Projects		●		30-May-18
Holyrood Parks: Path Erosion Works			●	Not picked
Smailholm Tower: Electrical Upgrade			●	17-Aug-18
Urquhart Castle: Access Improvements			●	06-Sep-18
Kilmartin Glen: Access Improvements			●	Not picked

● = presented
● = picked

4 PANEL REPORTS

Each review consisted of between one and three panel members, a team of HES Staff who were involved in the project plus a member from the Estates Management team responsible for facilitating the peer review process.

Following each visit the panel members would co-ordinate a report commenting on the works they had seen and assessing each project to identify areas in which the Estates team are working well, and areas where processes or procedures could be improved.

The focus for the reviews has been to ensure HES are working in accordance with internal conservation standards and principles. However, many of these projects also gave the panel opportunity to see and review various other factors involved in project co-ordination and management within the Estates team and HES more widely.

Round 1

- Kinneil House: Orchard Wall
- Duff House: CCTV & Security
- Dunkeld Cathedral: South Nave & Aisle

Round 2

- Stirling Castle VRSA
- Bothwell Castle: Latrine Tower
- Toilet Infrastructure Upgrade

Round 3

- Dumbarton Castle: Pepper Pot Repairs
- Smailholm Tower: Electrical Upgrade
- Urquhart Castle: Access Improvement

5 LESSONS LEARNED

Generally the reviews have been positive and confirmed that HES Estates teams are operating responsibly and in accordance to established standards and principles in delivering the National Investment Plan programme of works under the HES Asset management Plan for the Properties in Care. Bringing in a fresh perspective has also had benefits in promoting interesting and thought provoking conversation. At Dunkeld Cathedral, for example, the District Architect is now investigating the potential installation of a weather station following discussions on monitoring freeze/thaw cycles that may be effecting the stonework of the site. The employment of waste from a shellfish farm for use in hot lime mortar at Kinneil was also praised and encouraged. Such insights and discussions were welcomed and well received by the Estates team. The sections below draw out some of the key areas which have emerged where Estates, or HES more widely, should be congratulated or could perhaps consider improvements and changes to the way in which they currently operate.

5.1 Conservation Principles and Standards

Across all of the reports submitted by panel members there was a strong, reassuring theme that each of the projects were suitably compliant with HES conservation standards and principles. Commenting on the works at Dunkeld Cathedral it was *'considered that the approach being taken was exemplary'*. At Bothwell Castle the report stated that the project execution *'clearly meets HES Conservation Principles (CPs) through the team's insight, experience, skill set, and their strongest possible commitment to perpetuating the site's integrity and its cultural significance'* while at Smailholm Tower *'adherence to conservation principles appears to have been a strong point of the project'*.

At no point in any of the reviews was any significant concern raised over performance of the Estates team with regard to upholding the established conservation standards and principles.

5.2 Clarity in Project Leadership, Client Role and Cross Directorate Working

It was highlighted that in some of the projects, particularly where the requirement for work had come from other Directorates, greater clarity around project drivers, roles and responsibilities of the client and project manager would aid efficient project delivery.

For example, in the report on the toilet upgrade project, a national programme commenced by Visitor Operations and Estates, the view was expressed that there was no defined client role or single point of ownership or responsibility for the project management of the programme. Similarly the reviewers of the CCTV and security upgrade at Duff House, where Estates were leading the project to meet a requirement of the Collections team, the reviewers noted that *'certain aspects of project sponsorship and leadership could be clearer, with reference to; defining project scope and objectives, stakeholder management, and measuring project success'*.

Agreement of joint corporate priorities was also highlighted as an area for improvement to avoid potential areas of confusion and conflict. When prioritising the toilet upgrade works the emphasis placed on Visit Scotland ratings was also seen a potential failing in the selection of which toilets to work on. Not only did it not line up with the Visitor Facing Facilities and Infrastructure Audit, but the panel members felt that *'it could drive priorities disproportionately in the context of historic buildings'*. This also gave rise to a concern that there could be a lack of joined up thinking with works being conducted as disjointed individual initiatives, *'perhaps leading to sub-optimal use of resources and unnecessary disruption'*.

The HES response did note the recent delivery of Monument Investment Plans, setting out all corporate investment requirements which will help deliver a more co-ordinated strategic prioritisation and delivery of investment at each Property in Care.

There were also instances where the Estates team were, perhaps, not making full use of the internal resources. At Bothwell Castle it was felt that a more science based approach could have been taken when attempting to understand the stone decay process on the latrine tower. A research project has now been

commissioned by Estates to 'measure decay'. This will be delivered by the HES Research Team based at the Engine Shed.

5.3 Annularity of Budgets and Timescales

Panel members noted that the timescales associated with the release of budgets often forces a degree of haste upon projects. At Duff House the timescales were a point of concern, 'Regarding project scope; essential need, budget availability and timescale available to do the work appeared to be primary drivers. End of financial year time pressure created limitations'

Similarly during the review of the toilet upgrade project the programme outlined in the Project Initiation Document was considered *'very ambitious'* with approval taking place in September 2017 and planned delivery to complete by March 2018, with a very loosely outlined budget this was an 'element of concern' to the reviewers.

What did come out of the toilet upgrade project review was the strategy of having 'construction ready' projects where design and tendering had been completed and waiting to be programmed when funding became available. These were thought to be a sensible way of dealing with the uncertainty of budgets and were considered as something that *'could be formalised to become part of the capital planning arrangements'*.

5.4 Proof of Decisions and Sign Off

On some occasions panel members observed that there was a lack of evidence to support certain decisions. Suggestion of a more formalised procedure are being reviewed by the teams to ensure key decisions and sign off in the span of a project are recorded with suitable evidence.

5.5 Tendering, Contractor Work and CDM

Some comments were made on the tendering process of some projects. Following the Duff House review, the panel members report stated that *'the time scales for assembling tender information from receiving final confirmation of the project objectives was restricted and could maybe have been longer'*. The tender was also thought to be lacking detail in some areas which may put greater reliance on the

contractor to go out of their way to familiarise themselves with the site and planned works.

The appointment process of contractors and the arrangements which are put in place were also highlighted as an area for review. In particular the panel identified potential conflicts as to who acts as principal contractor and who operates as sub-contractors under Construction Design and Management Regulations (CDM) on complex projects with multiple and concurrent contractors.

In one instance where an external contractor took the role of principal contractor for CDM purposes the report notes that *'it is not clear how the contractor met their obligations under the regulations in respect of the separately employed local building contractor who carried out the builder work in connection'* This was noted as a lesson learned in the subsequent HES response stating that where there are multiple contractors working on the same project it may be better to appoint a member of the regional HES works team as principal contractor.

As there may not be a typical principal contractor and sub-contractor arrangement, there are also potential conflicts between contractors and Monument Conservation Unit (MCU) staff working alongside one another if not accounted for and mitigated in contractual agreements. The reviewers made the point that a contractor could claim his work has been delayed through no fault of their own but by builder works by the MCU (or indeed another contractor). This could be compounded by lack of information in tender documentation.

Responsibility for certain works and re-certification should also be considered in contracts. Following the Duff House review the panel questioned *'if fire compartmentation is affected by the creation of new routes does the responsibility for recertification lie with the contractor or the HES Project Team?'* Clear definition of roles and responsibilities when appointing contractors and considering who will act as principal contractor is now a key area for Estates teams to consider collectively at project inception.

Another issue that was identified with contractor work was the over-reliance on one company for project delivery across a number of projects. With the current procurement approach the panel members reviewing the toilet improvement project felt that fit out works were relying too much on the same company who were working beyond capacity. Dividing projects by size and geographic location

may yield a wider range of contractors. Works at Stirling Castle had experienced similar issues struggling with a lack of appropriately skilled blacksmiths, however this was considered more of an issue with the sector itself rather than procurement processes and there was a hope that the Engine Shed might spark an upturn in the supply chain of contractors with appropriate skills.

5.6 Hidden Project Costs

Due to the reliance on internal professional and works teams there is a high level of resources being committed to projects that are not reflected in the project costs. This is particularly relevant in production information, management, co-ordination and supervision. However, this may be justified in many cases to ensure contractors are correctly interpreting our conservation principles. Reporting on the Smailholm Tower electrical works the reviewers emphasised that *'HES should be aware of the high level of resource applied to projects like this which can be 'hidden' when the resource comes from HES employees and therefore is not paid for directly from a project budget.'* High levels of 'hidden' staff resources were also identified at other projects reviews. How to represent this 'true cost' of a project within the organisation is being considered by the Estates team at present.

6 REFLECTION ON THE PEER REVIEW PROCESS

The first year of any new structure or process is bound to be one of cautious development and exploration. It has therefore been very pleasing how well and swiftly the Peer Review Process has in fact become embedded within the HES and how robust its processes have already become. Four meetings of the panel have been held at the Engine Shed in Stirling and three rounds of review visits (each of three conservation projects) held with sites visits across the country. The work of the independent panel members has been conscientious and thorough, while the HES staff appear to have found the process useful and interesting. The panel members have provided acknowledgement and praise of best practice, together with honest feedback and a number of areas for improvement.

It is clear that the process is operating effectively with demonstrable benefit to the HES Estates team. The Peer Review Panel have provided assurance that

National Investment Plan works are being delivered in accordance with HES standards and principles and that HES are fully compliant with our responsibilities under the Scheme of Delegation for the delivery of works at the Properties in Care. By engaging with a panel of experts from across the British Isles it has been able to improve and add value to the delivery of the works and our processes within the Estates team, the Conservation Directorate and HES as an organisation.

Inevitably, there has been changes of jobs for some panel members and a couple of members who initially agreed to take part have had to withdraw - those from English Heritage and Scottish Canals. While the total number of panel members still meets the required eight to ten, the loss of English Heritage in particular is a significant one. As a national charity operating and conserving historic properties English Heritage share many similarities and a suitable representative would be expected to make a valuable contribution to the Peer Review process. A representative from Scottish Canals has already agreed to join the panel in March 2019 and it is intended to extend an invite to the new Head of Survey and Asset Management at English Heritage once they have taken up their post.

It is also important to ensure that the HES resources needed to support the Review Panel are monitored and proportionate to the benefits it provides. Organising, hosting and administering outputs for nine site visits this year required a significant amount of staff time from within the Estates team, limiting the resource available to deliver other core functions. With an average of four HES staff attending each visit, with nine visits a year lasting an estimated four hours each (a conservative estimate including travel time) a total of 144 staff hours are consumed. This is before factoring in time required in the office to co-ordinate the visits, prepare packages of documents and pre-visit meetings and discussions. It should be noted that in the *Terms of Reference* it was envisaged that there would be only three site visits per year. At the Peer Review Panel meeting in October 2017, eight to nine visits per year were agreed for 18-19 cycle. Therefore, now that the process is firmly established, the actual number of visits each year will be reviewed.

In conclusion, it is important to thank the Review Panel members for their generous and valuable commitment to the process and the HES staff for making it run so smoothly. In its first year of operation, the Peer Review process, has clearly met its intended aims in:

- providing assurance to Scottish Ministers;
- ensuring benefits from the wider experience, knowledge and contacts of expert colleagues;
- improving HES practice and performance;
- improving quality and upholding standards;
- encouraging consistency in approach and methods.

A. APPENDIX: PANEL REPORTS AND ASSOCIATED PROJECT INFORMATION SHEETS

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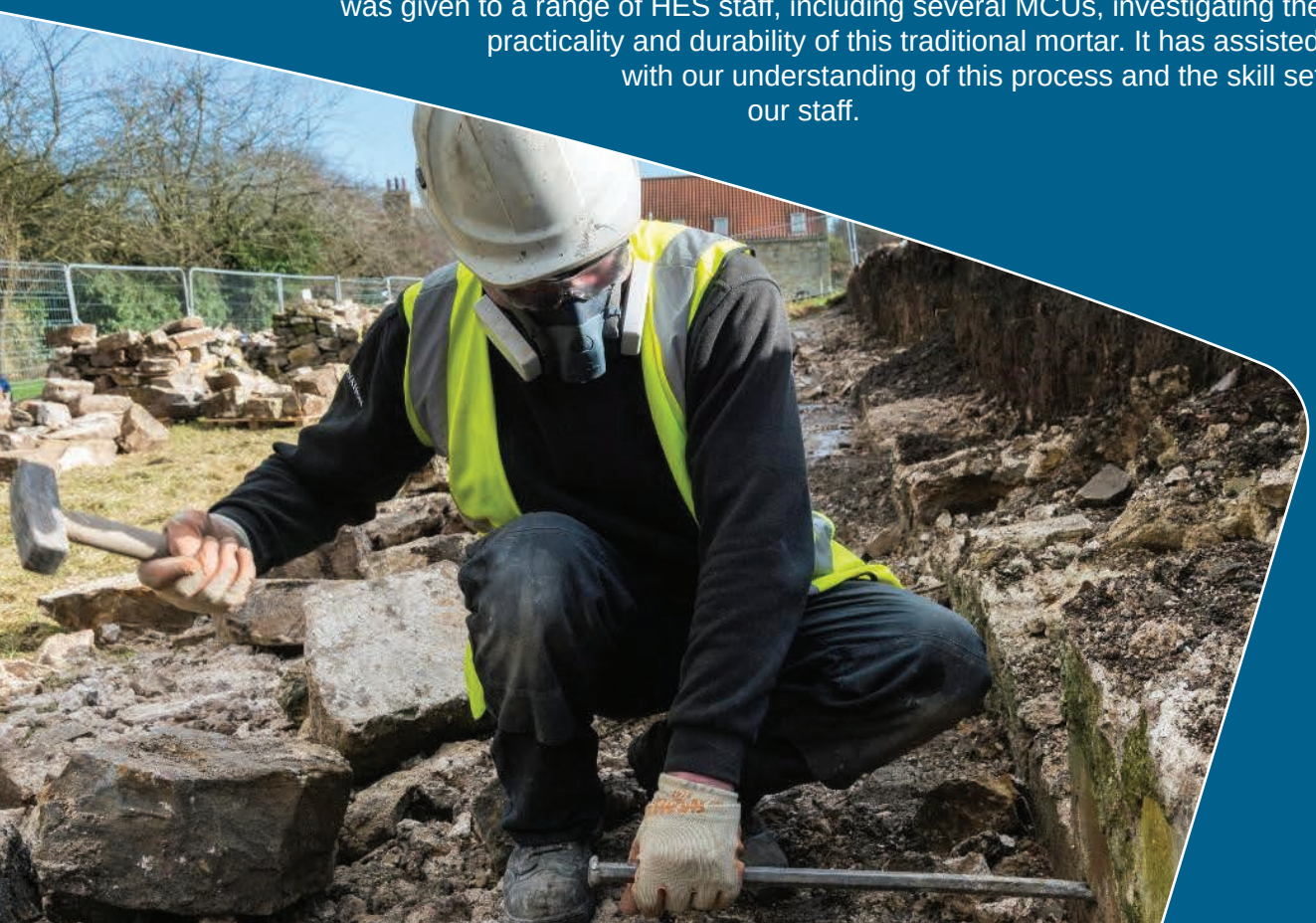
KINNEIL HOUSE: ORCHARD WALL RE-BUILD

Location	Bo'ness, Falkirk, EH51 0PR
HES Investment Plan Category	Conservation
Conservation Directorate Prioritisation Category	Structural Stability
HES Benefits and Opportunities	Knowledge, Education & Training, Innovation & Economy, Sustainabiliy
Budget Cost	£10,000 in 2017/18
Project Dates	March 2017 - Present
Project Status	90% Complete. On site RIBA plan of work stage 5
Project Delivery	HES Professional & MCU Team
Project Team	Conservation, MCU, Specialist Services (Engineers), Technical Research
Point of Contact	Peter Ranson, District Architect Peter.Ranson@HES.Scot

The historic Orhard wall at Kinneil house was identified as being in need of conservation intervention. It has started to lean and was found to have insufficient foundations.

HES Engineers surveyed the wall and the decision was made to take the 30 meter wall down and rebuild it on new foundations using the original stones.

This project was one of the the HES Hot Mixed Mortar pilots. Training in hot mixed mortar was given to a range of HES staff, including several MCUs, investigating the practicality and durability of this traditional mortar. It has assisted with our understanding of this process and the skill set of our staff.



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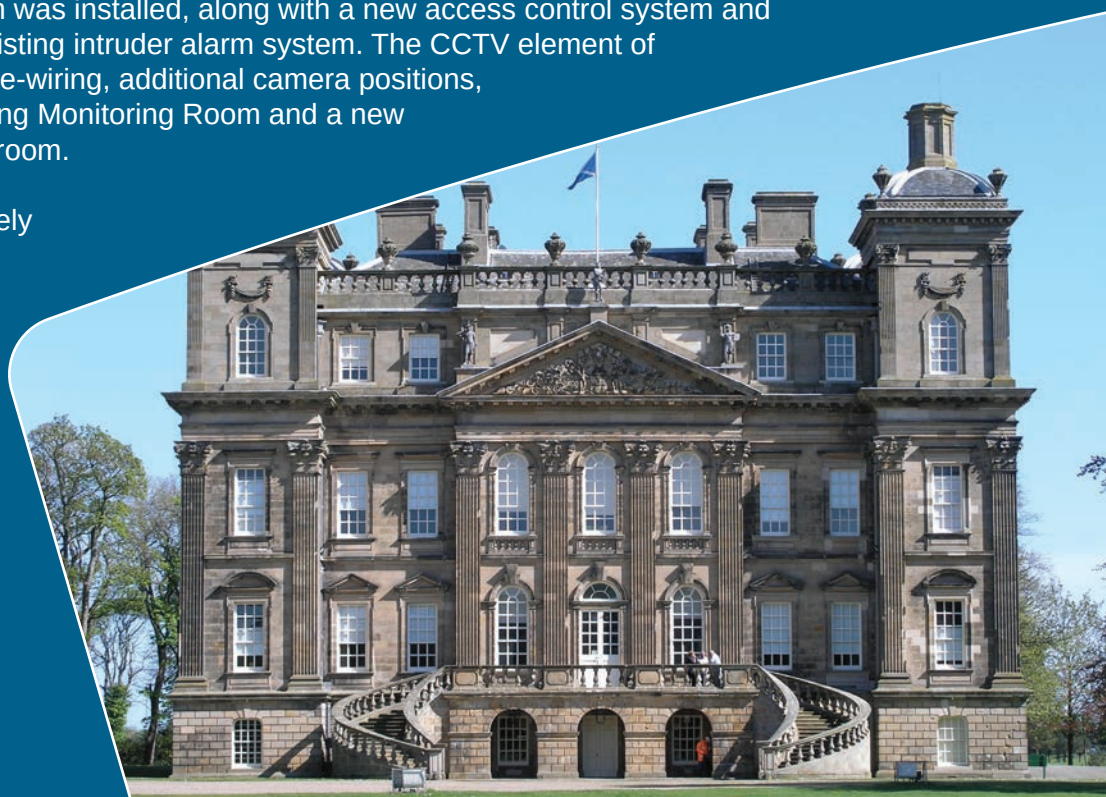
DUFF HOUSE: CCTV & SECURITY UPGRADE

Location	Banff, Aberdeenshire, AB45 3SX
HES Investment Plan Category	M&E
Conservation Directorate Prioritisation Category	Regulatory Compliance
HES Benefits and Opportunities	Knowledge, Community, Education & Training, Innovation & Econonomy, Sustainability
Budget Cost	£250,000
Project Dates	January 2017 - March 2017
Project Status	Completed. RIBA Plan of Work Stage 5
Project Delivery	HES Professional & MCU Team and external contractor
Project Team	Collections, Commercial & Tourism, National Galleries, Visitor Operations, Heritage Management Team, Health and Safety, Conservation, M&E
Point of Contact	David Blair, M&E Engineer David.Blair@HES.Scot

The CCTV and security systems at Duff House were identified as requiring improvement by the National Galleries Security Advisor so that HES could apply for cover of the various Collections within Duff House via the Government Indemnity Scheme. This was a collaborative project identified and set-up by HES Conservation, involving input from National Galleries Scotland (NGS) staff and HES colleagues in Collections and Visitor Operations.

A survey of the existing systems was carried out and a report was produced. Tender documents were then prepared and after a tender exercise the contract was awarded. A new IP CCTV system was installed, along with a new access control system and an upgrade of the existing intruder alarm system. The CCTV element of the project included re-wiring, additional camera positions, redesign of the existing Monitoring Room and a new CCTV security suite room.

The works were closely managed by HES Conservation, with daily on-site presence and regular progress meetings with NGS staff and HES Collections and Visitor Operations staff.



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DUNKELD CATHEDRAL: CONSERVATION WORKS SOUTH NAVE & AISLE

Location	Dunkeld, Perthshire, PH8 0AW
HES Investment Plan Category	Conservation
Conservation Directorate Prioritisation Category	Structural Stability
HES Benefits and Opportunities	Knowledge, Community, Education & Training, Innovation & Economy, Sustainability
Budget Cost	£54,000 (Conservation) 17/18 £42,000 (Hewing Sheds) 17/18
Project Dates	October 2017 - March 2018
Project Status	RIBA Plan of Works stage 5 (Construction)
Project Delivery	HES
Project Team	Technical Research & Science, Applied Conservation, Cultural Resources, Natural Heritage, Digital Documentation, Engineering, Conservation, MCU
Point of Contact	David Borthwick, District Architect David.Borthwick@HES.Scot

Conservation works to the Nave at Dunkeld have been ongoing for over three years during an ongoing consolidation programme addressing the risk of stone fall from high level. The proposals include works to conserve the remains of the important late medieval window tracery and replacement of stones that are no longer structurally sound or otherwise prone to failure. The full programme began in 2014 and will run in phases until approximately 2021. Works already completed have reduced the impact of water moving through the masonry. Future works to the South Nave and Aisle will fully ensure safe internal visitor access.

This site is to be utilised by the Engine Shed Conservation Centre as a case study for the postgraduate conservation course. A new publically accessible masonry hewing facility and accessible and covered scaffolds will allow members of the public to engage with the work in progress.

Insight tours have taken place and have proved popular. To develop this part of the investment will be a new MCU hewing shed with visitor access providing an opportunity for the public to engage with the masons as they carry out their work.

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STIRLING CASTLE: VISITOR SAFETY RISK ASSESSMENT

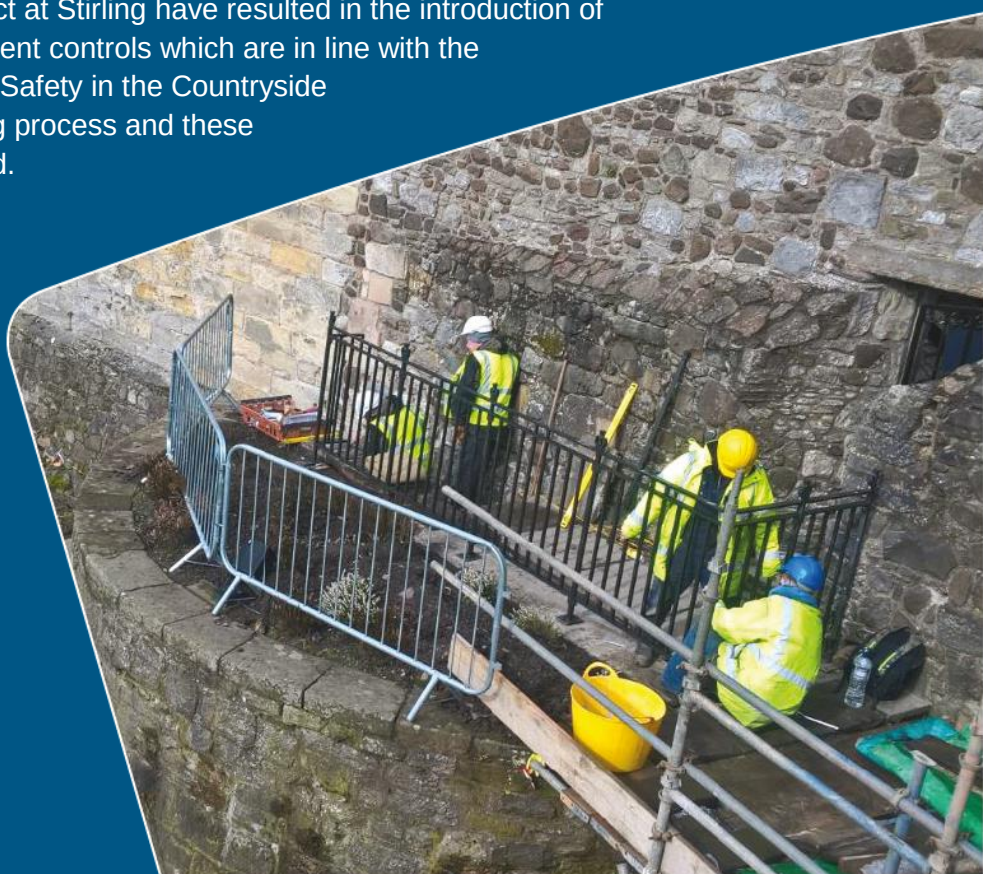
Location	Stirling, Stirlingshire, FK8 1EJ
HES Investment Plan Category	Visitor Facing
Conservation Directorate Prioritisation Category	Health and Safety
HES Benefits and Opportunities	Knowledge, Community, Education & Training, Innovation & Economy
Budget Cost	£150,000 to date
Project Dates	May 2017 – December 2017
Project Status	RIBA plan of works stage 5 (Construction)
Project Delivery	HES Professional & MCU teams and external contractor
Project Team	Conservation, Commercial Tourism, Cultural Resources Team, Visitor Operations, Heritage Management, Health and Safety
Point of contact	Tom Gaze, District Architect Tom.Gaze@HES.scot
Scope of Review	Process and delivery of remedial actions

The Visitor Safety Risk Assessment (VSRA) is part of an Estate H&S Risk Assessment project. Visitor Safety Risk Assessments are carried out across all HES properties to ensure a safe standard of practice for both staff and visiting members of the public is achieved. The Risk Assessment process balances risk and benefits to the visitor.

Each risk identified is discussed and key points recorded, together with the decision and the rationale for the decision. Risk control measures are implemented based on what is appropriate at a particular location.

The findings of the VSRA Project at Stirling have resulted in the introduction of additional physical or management controls which are in line with the recommendations of the Visitor Safety in the Countryside Group. The VRSA is an ongoing process and these controls continue to be reviewed.

The Peer Review panel are invited to review the process at Stirling Castle and the delivery of controls as part of the wider VSRA project.



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BOTHWELL CASTLE: LATRINE TOWER CONSERVATION WORKS

Location	Bothwell, Uddingston, G71 8BL
HES Investment Plan Category	Conservation
Conservation Directorate Prioritisation Category	Structural Stability
HES Benefits and Opportunities	Sustainability
Budget Cost	£18,000 in 17/18, £40,000 in 18/19
Project Dates	Autumn 2015 - Present
Project Status	RIBA plan of works stage 5 (Construction)
Project Delivery	Conservation Directorate and MCU teams
Project Team	Conservation, Structural Engineers, MCU Masons, Confined Spaces Team, Heritage Management
Point of contact	Paul Beaton, District Architect Paul.Beaton@HES.scot
Scope of Review	Conservation Principles and Standards

At Bothwell Castle the latrine tower had become heavily eroded and potentially unstable. Wetting and drying cycles had caused the soft red sandstone masonry to erode particularly around the base of the tower. It is also thought that through its use as a latrine tower salts from urine would have contributed to the decay. A previous repair in the early 19th century had also introduced cement mortars to the stone work.

The outer facing of the wall had been lost entirely in places exposing the vulnerable core. Assessments were carried out by the HES District Architect and by internal Structural Engineers. An extensive programme of masonry consolidation was planned along with several reinforcing metal bars to tie the structure together and improve its structural stability.

This visit will highlight the range of methods involved in strengthening and repairing historic masonry whilst ensuring that the character of the monument is not harmed.

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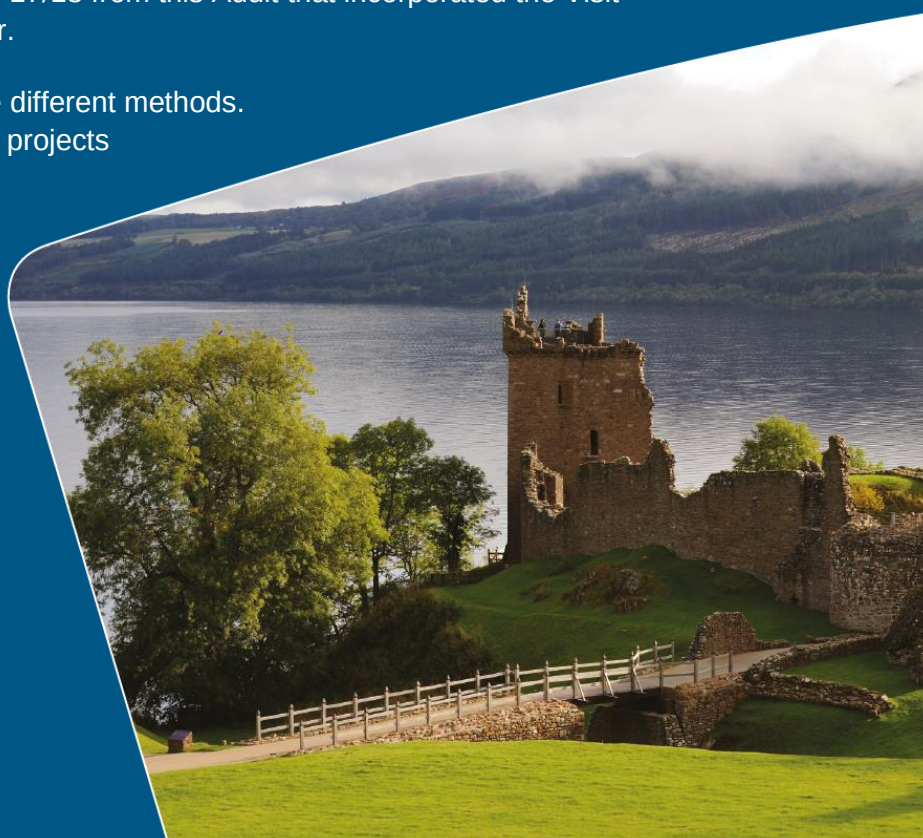
TOILET INFRASTRUCTURE UPGRADE PROJECTS

Location	16 sites across Scotland, including Edinburgh, Stirling & Urquhart castles
HES Investment Plan Category	Visitor Facing
Conservation Directorate Prioritisation Category	N/A – Commercial and Tourism led
HES Benefits and Opportunities	Sustainability, Innovation & Economy, Community
Budget Cost	£460,000
Project Dates	October 2017 - Present
Project Status	RIBA plan of works stage 5 (Construction)
Project Delivery	HES Architects, external consultants (Surveyors & Architects), external contractors
Project Team	Conservation, external consultants, external contractors, Commercial and Tourism, Visitor Operations, Procurement
Point of contact	Tom Gaze, Investment Plan Coordinator for Conservation Tom.Gaze@HES.scot
Scope of Review	Project Scoping & delivery; Client role; outsourcing of design services and fit out works at large and small visitor facilities

Feedback from the VisitScotland (VS) Quality Assurance Scheme highlighted that the toilet provision at a number of our staffed sites requires improvement to avoid being downgraded. This scheme contributes to one of our Key Performance Indicators (KPI) to provide excellent service to our visitors so works were seen by C&T as a priority.

In summer 2017 the Conservation Directorate completed a Visitor Facing Facilities and Infrastructure Audit to identify the staffed sites most in need of investment. Sixteen sites were prioritised for investment within 17/18 from this Audit that incorporated the Visit Scotland risk as a prioritisation factor.

The projects were delivered by three different methods. Stirling Castle and Edinburgh Castle projects were delivered using an existing framework contract on a one stage design and fit out basis. Urquhart Castle and north region projects were designed by HES Architects and delivered by an external contractor on site. Ten smaller projects were outsoruced on a design services fraemwork and construction works completed by an external contractor.



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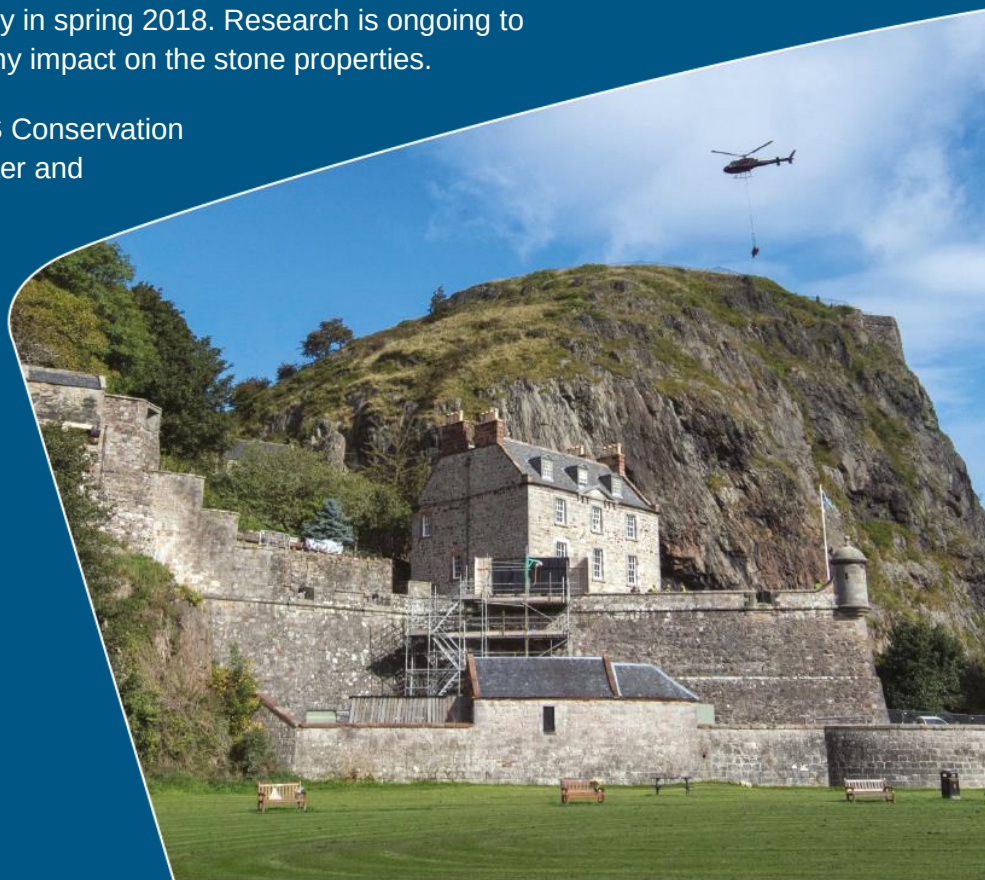
DUMBARTON CASTLE: PEPPER POT SENTRY TURRET REPAIRS

Location	Dumbarton, Dunbartonshire, G82 1JJ
HES Investment Plan Category	Conservation
Conservation Directorate Prioritisation Category	Health and Safety
HES Benefits and Opportunities	Knowledge, Community, Education & Training and Sustainability
Budget Cost	£22,000 in 17/18 and £40,000 in 18/19
Project Dates	July 2017 – Present
Project Status	RIBA plan of work stage 5 (Construction)
Project Delivery	Conservation Directorate and MCU teams, Estates Professional services, external contractors
Project Team	Conservation, Science team, MCU Masons, Structural Engineers and external transportation services (helicopter)
Point of contact	Ian Lambie, District Architect Ian.Lambie@HES.scot
Scope of Review	Disaster response, reactive works, masonry repairs and working with challenging site access

In December 2016 the Beak sentry turret was struck by lightning. Work to restore the turret is ongoing on site. There are many challenges involved due to the location of the tower, including use of a helicopter to lift materials to the upper levels of the castle.

Scaffolding has been erected around the remains of the turret to provide access and to build up traditional wooden propping to support the roof as it is reconstructed. Stonemasons will then undertake repointing work on the turret and the surrounding area, before the scaffolding is removed, hopefully in spring 2018. Research is ongoing to determine if the lightning had any impact on the stone properties.

This project illustrates how HES Conservation team reacted to a natural disaster and the procedures and safeguards put in place at the monument as a result. The review should also consider the additional challenges presented by the unique location of the turret and how these have been addressed throughout the works.



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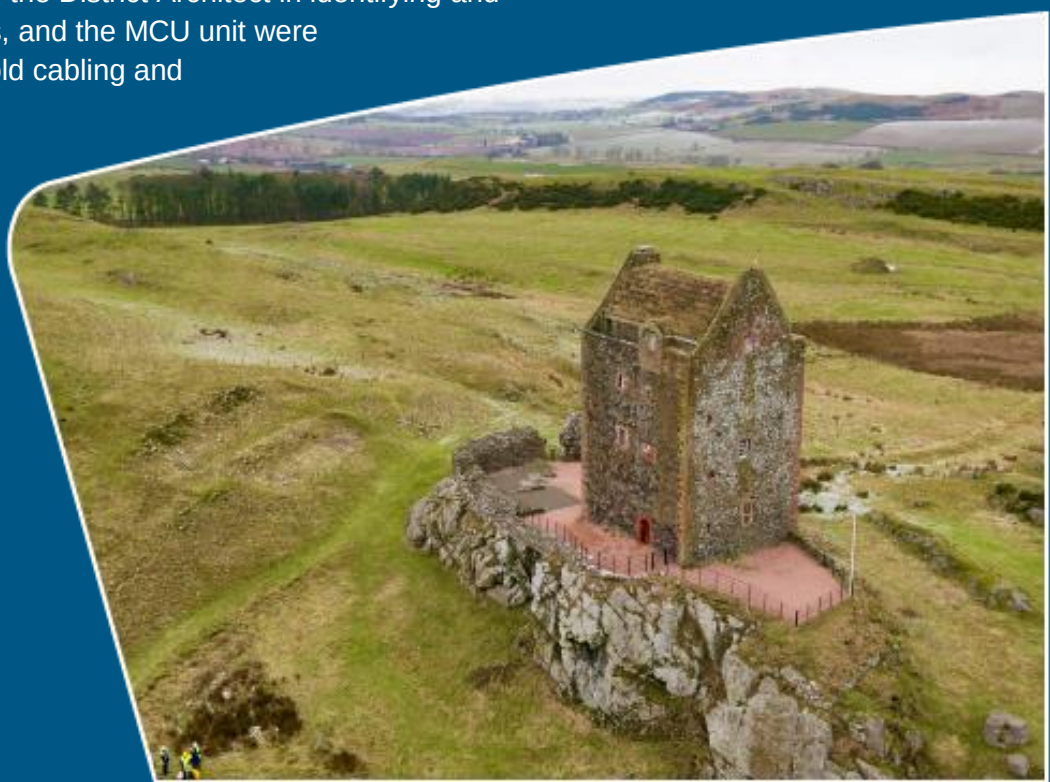
SMAILHOLM TOWER: ELECTRCIAL UPGRADE

Location	Sandyknowe Farm, Kelso, TD5 7PG
HES Investment Plan Category	Mechanical & Electrical
Conservation Directorate Prioritisation Category	Regulatory Compliance
HES Benefits and Opportunities	Sustainability
Budget Cost	£50,000
Project Dates	December 2017 to March 2018
Project Status	RIBA stage 7 (In use)
Project Delivery	Conservation Directorate and MCU teams, Estates Professional Services, external contractors
Project Team	Conservation, MCU Masons, external contractors
Point of contact	David Blair, M&E Engineer David.Blair@hes.scot
Scope of Review	Conservation Standards and Principles, Building Resilience Adaptation

Due to the exposed location of Smailholm Tower, the top floor is susceptible to flooding and water ingress during periods of stormy weather. As a result of this, the electrical system was prone to cutting out when the wiring and cabling was affected at high level. A solution was sought to improve the electrical system and make it more resilient to these adverse conditions.

A full re-wire of the building was designed to address some of the more persistent issues, and also bring the building up to a good conservation standard. A new distribution board was installed and the floor circuits were separated to keep the majority of the building operational should the top floor circuit cut out. In addition, emergency lighting was installed and fire door closers re-wired to improve visitor safety. Conservation heating was also introduced to promote drying out of the building fabric after wet weather events.

This project involved many HES specialisms including; the M&E Engineer from design through to implementation, the District Architect in identifying and instructing the fabric works, and the MCU unit were employed to rake out the old cabling and re-instate fresh wiring.



HISTORIC ENVIRONMENT SCOTLAND | ÀRAINNEACHD EACHDRAIDHEIL ALBA

URQUHART CASTLE: ACCESS IMPROVEMENTS

Location	Drumnadrochit, nr Inverness, IV63 6XJ
HES Investment Plan Category	Infrastructure
Conservation Directorate Prioritisation Category	Enhance Access
HES Benefits and Opportunities	Sustainability, Community, Apprentice Placement
Budget Cost	£74,000 (paths), £161,000 (stairs)
Project Dates	February 2018 to May 2018
Project Status	RIBA stage 7 (In use)
Project Delivery	Conservation Directorate teams, Estates Professional Services and external contractors
Project Team	Conservation, Structural Engineers, external contractors and external transportation services (helicopter)
Point of contact	Stephen Watt, District Architect Stephen.Watt@hes.scot
Scope of Review	Infrastructure and Visitor Flow Management

Since the previous infrastructure upgrade and construction of the Visitor Centre in 2000, visitors to the site have significantly increased. As such, two projects combined to increase the capacity of the site infrastructure whilst improving visitor safety. Findings from the Condition Survey, Annual Conservation Audit, and Visitor Safety Risk Assessment suggested an extension of the existing path network and an additional stairway to the Grant Tower would improve site visitor flow.

The existing surface material of the pathway comprised of crushed whin dust which was susceptible to washout and erosion. This was replaced with a resin bonded aggregate which is stable (non-slip), solid and can be removed and replaced easily during maintenance. The network was also extended to prevent visitors from cutting their own path down an unsafe slope to the popular kiln area. In addition to this, the existing masonry stair to the high level viewing deck at the Grant Tower was frequently congested and a new timber stairway was installed to alleviate this, whilst also replacing the timber of the platform itself.

This project is a good example of a site adapting to increasing pressures from visitors and also improving climate change resilience. The focus is primarily on health and safety and increased site infrastructure capacity, however, has the added benefit of reducing the maintenance burden on the HES MCU unit.

B. APPENDIX: PANEL ATTENDANCE

Member	31 October 2017	Round 1	27 February 2018	Round 2	22 June 2018	Round 3	23 October 2018
Paul Stollard[1]	Yes	None	Yes	None	Yes	Smailholm 17/8/18	Yes
Bryan Dickson	Yes	Kinneil 12/1/18	Yes	Stirling 11/5/18	Yes	None	Yes
Colin Proctor	Yes	Duff 23/1/18	Yes	Toilets 30/5/18	Yes	Dumbarton 30/8/18	Yes
John Cahill	Yes	Duff 23/1/18	No	Stirling 11/5/18	Yes	None	No
Neal O'Leary	No	None	Yes	None	Yes	Dumbarton 30/8/18	Yes
David Narro	Yes	Dunkeld 30/1/18	Yes	Bothwell 11/5/18	No	Dumbarton 30/8/18	No
Stuart MacPherson	Yes	Duff 23/1/18	Yes	Toilets 30/5/18	Yes	Smailholm 17/8/18	Yes
Ian Simpson	Yes	Kinneil 12/1/18	Yes	Bothwell 11/5/18	Yes	Urquhart 6/9/18	No
Tina Pringle	Yes	Dunkeld 30/1/18	No	None	No	Smailholm 17/8/18	Yes
Lucy Stewart	No	None	Yes	Toilets 30/5/18	No	None	Yes

[1] As Chair Paul Stollard was not required to attend visits or input into reviews. He attended the Smailholm Tower visit for increased awareness of the process only.

We are the lead public body established to investigate, care for and promote Scotland's historic environment.

We want to make sure Scotland's heritage is cherished, understood, shared and enjoyed with pride by everyone.

HISTORIC ENVIRONMENT SCOTLAND | ÀRAINNEACHD EACHDRAIDHEIL ALBA

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