



The Conservation of Masonry Ruins in Jersey



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1 Introduction

- 1.1 The subject of this guidance are the masonry ruins of buildings in Jersey, mainly military and industrial structures from the 18th century and 19th century which are an important part of the Island's heritage, being of great historical interest and a blend of architecture and archaeology.
- 1.2 These buildings have lost their historic function and have fallen into various stages of ruination, sometimes through neglect, accidental or deliberate destruction. Some have lost their roofs, windows and doors which leave them open to the elements, with interior fabric degraded and structural integrity weakened. These structures will not survive into the future without considered maintenance and care. The best way to ensure that a ruin is properly maintained is to make use of it.
- 1.3 The guidance seeks to preserve and enhance the significance of the historical remains and wildlife habitats and ensure that they are conserved in strict accordance with international best practice; guide management proposals for the preservation of the ruins as heritage and educational assets; and ensure that the ruins can survive as heritage assets for the foreseeable future.
- 1.4 The underlying principles for the conservation of a ruin are a minimum intervention into the historic fabric of a structure to ensure its future, repairing rather than replacing elements, and avoiding conjectural reconstruction. The primary objective is to stabilise the structure and prevent further deterioration.
- 1.5 Much of the advice is adapted from '*Ruins – The Conservation and Repair of Masonry Ruins*' by The Department of the Environment, Heritage and Local Government, Government of Ireland (2010) and '*A Heritage In Ruins - The Maintenance and Preservation of Ruined Monuments*' by Robin Kent (2003).

2 Legislation

- 2.1 The ruins will be conserved, repaired and maintained in accordance with international conservation laws, policies, principles, and best practice. Clear policies for repair and restoration are set out in the international Venice Charter (1964) and the ICOMOS specialist charters, in particular the Australian ICOMOS Burra Charter (1979 – revised in 1981 and 1988). The British Standard *Guide to the principles of the conservation of historic buildings* (BS 7913:1998) is a valuable standard in that it sets out general conservation principles relating to historic buildings as well as providing definitions of terminology.
- 2.2 The conservation of the ruins will meet legal and statutory requirements; comply with the Island's laws, with policies contained in the Island Plan, and with supplementary planning guidance. The Planning and Building (Jersey) Law 2002 contains a number of relevant provisions, including Articles 50-56, which apply to Sites of Special Interest. The policies pertaining to Listed Buildings and Places in the Island Plan and Planning Advice Note 6: Managing Change in Historic Buildings (2008) are also applicable. The Conservation of Wildlife (Jersey) Law 2000 makes provision for the

protection of specified wild animals, birds and plants and their habitats and has been supplemented by a Biodiversity Strategy; Policies NE1 & NE2 in the Island Plan; and by Draft Supplementary Planning Guidance on the Natural Environment.

- 2.3 The conservation works will comply with the Health and Safety at Work (Jersey) Law (1989).

3 Recording

- 3.1 It is important to implement a detailed recording and assessment of a ruin before undertaking any repair or stabilisation works. A record of the building should then be maintained including copies of historical records, maps, photographs and drawings along with ongoing information about any repairs, alterations to the fabric and maintenance.

4 Materials

- 4.1 Traditional masonry construction in Jersey consists of stone or brick with lime or clay mortar. The stone used in historic masonry construction was generally quarried locally and reflects the geology of the immediate area. Some stone was imported if carving was required, such as Chaussey granite and Caen stone from Normandy, and later Portland stone from Dorset. Brick in historic structures, particularly from the 19th century, is likely to have been made at a Jersey brickfield. This is found in ruined structures primarily in door and window openings and vaulting. Lime mortar is traditional in masonry construction and also used as external render and internal plaster. Clay mortars are sometimes used.
- 4.2 Some ruined structures may also include sections of steel reinforced concrete, introduced by the German occupying forces in the 1940s to military defensive sites.
- 4.3 Early buildings in the Island used oak or elm timber, but imported Baltic pine is most common from the 18th century onwards.

5 Vulnerability

- 5.1 The unprotected historic fabric of masonry ruins is often subject to the full effects of weathering and vulnerable to deterioration, decay and collapse from a variety of agents.
- i. Uncontrolled intrusive plant growth is a major factor, principally through direct damage from ivy, red Valerian and other woody vegetation growing on the structure, weakening joints and levering stonework apart. The weight of heavy vegetation can cause damage to a masonry structure, and wind forces on excess foliage can lever

apart walls resulting in a partial collapse. Similarly, roots of trees can run inside the core of historic masonry.

- ii. Freestanding walls with little lateral support can be blown over in high winds.
- iii. Weathering can erode soft lime and clay mortars leading to loss of integrity and progressive collapse of the masonry structure.
- iv. A common and significant cause of deterioration is water penetration of wall tops - the subsequent loss of the wall core, with mortar washed out, leading to instability.
- v. Loss of mortar is also often the cause of failing arches, which are dependent for their survival on other supporting masonry and the mortar between the bricks/stones which helps maintain the shape of the arch.
- vi. Failing lintels - most commonly straight-through cracking – is often found with the masonry overhead surviving because a new natural arch has developed within that masonry.
- vii. Leaning walls are common in ruined structures – this may be historic and the wall has settled, or progressive leading to collapse.
- viii. Bulging areas of wall have a variety of causes – commonly the movement of foundations or the growth of ivy or tree roots within the core of the wall.
- ix. Exposed brick can be vulnerable to weather damage, softening due to continuous moisture retention and eroding back.
- x. Exposed timber in masonry ruins is subject to rot through water decay.
- xi. Masonry ruins may have been subject to the robbing out of stone for other building works, thereby creating areas of weakness.
- xii. Exposed ironwork will rust. Embedded iron cramps and armatures, which were frequently used in construction from the 18th century onwards to connect masonry pieces together within the wall, may get wet resulting in rusting and expansion and consequent damage to stonework. A similar problem is faced with rusting steel reinforcements damaging world war two concrete structures.
- xiii. Historic masonry structures may also be damaged through inappropriate modern repairs, such as re-pointing or rendering in hard cement mortar which is likely to crack and allow water penetration.

6 Vegetation and Wildlife

- 6.1 Trees and plants around a ruin can be aesthetically pleasing, and may also provide a habitat for wildlife such as nesting birds or roosting bats. Advice will be sought, specifically for each site, from the States of Jersey Environment Department and if required, a wildlife survey undertaken in order to establish the extent and range of habitats.
- 6.2 However, uncontrolled plant growth such as ivy, red Valerian and other woody vegetation can cause serious structural damage and should be removed. Consideration should also be given to controlling tree roots and overhanging branches in close proximity to a ruin that pose a threat to the stability of the walls and foundations.
- 6.3 Lichens should not be removed from the masonry.

- 6.4 Physical works to a ruined structure will take place outside of the nesting season.
- 6.5 Advice will be sought from the States of Jersey Environment Department in order to manage the sites positively for wildlife, for example the installation of bat roosts, where appropriate.

7 Archaeology

- 7.1 Archaeological research will be undertaken prior to the commencement of repairs or restoration works. This should include archaeological recording of standing fabric to determine original form and the extent of later alterations, and examination of original floor surfaces; and may require specialist study of materials.
- 7.2 An archaeological watching brief should be in place during significant repairs or disturbance below present ground level, in accordance with the standards set out by the Institute of Field Archaeologists and the Jersey Heritage archaeological protocol.
- 7.3 All material below present ground level at the site of a masonry ruin is of archaeological interest. Buried building remains could include the in-situ fabric of masonry walls and flooring, domestic debris and artefacts relating to the past history of the building, and demolition material - all of which assist in tracing the history of the ruin.

8 Stabilisation and Repairs

- 8.1 Ruins which exhibit structural problems require the services of a structural engineer with specialist experience of traditionally constructed masonry structures.
- 8.2 It is not appropriate to introduce modern material into a ruined structure, unless necessary to ensure the stability of the ruin, e.g. stitching may be necessary to tie together cracked or damaged areas of masonry. There is never a case for introducing new material on a conjectural basis.
- 8.3 Repair of wall cappings. If the original coping stones exist but have been dislodged, they may be re-set. If some coping stones are missing, it is acceptable to introduce new material to replicate the originals, if the original design survives on site. Broken and uneven wall heads without coping stones can have existing stonework reset, but it is not acceptable to otherwise level off the wall. The wall top could be lime mortared to shed water from the surface, or finished with a 'soft-capping' such as a natural grassed cap.
- 8.4 If there has been a recent collapse of a plain rubble wall caused by weather or vegetation, and the rubble is lying on the ground, there is no reason not to repair the collapse. The masonry should be rebuilt in character with the surviving wall in similar style and workmanship.

- 8.5 The rebuilding of a historic collapse may be acceptable if structurally necessary, and the reconstruction is not based on conjecture.
- 8.6 Missing stone may be found within the site and a good search under archaeological supervision should be undertaken before introducing material from outside the site.
- 8.7 Missing masonry should not be replaced unless structurally necessary. Where missing stone has left a structural weakness, replacement stone should be of the same type and of similar appearance. Similarly replacement brick should be of similar appearance although it may be difficult to source a modern replacement brick for repair and the use of salvaged material may be the only option.
- 8.8 The cleaning of stone for aesthetic reasons alone is not appropriate in a ruined structure, unless to remove unsightly graffiti.
- 8.9 There may be occasions when it is not possible to secure an area of masonry without dismantling some stonework and rebuilding. This is only acceptable if it is proven to be the only way to ensure structural stability. Before dismantling, all the stones should be numbered and the section of wall recorded photographically to allow near replication of the original masonry.
- 8.10 Lime mortar (or in some cases clay mortars) are best used in the conservation of historic ruins to replicate the original materials used in the construction that works best with the historic structure. Only areas of defective pointing should be raked-out. The pinnings should be retained and reused in the new pointing mortar.
- 8.11 Consideration will be given to omitting sections of repointing, for the benefit of wildlife access, providing that the stabilisation of the structure is secured.
- 8.12 Masonry walls should always be carefully examined for evidence of surviving finishes such as lime plaster or render. It is generally not appropriate to remove or replace lost external render or internal plaster on a ruin.
- 8.13 Any surviving historic timber fragments should be left in place undisturbed.
- 8.14 Surviving historic ground surfaces should be consolidated and protected from further damage.
- 8.15 All repairs should be visually unobtrusive, but distinguishable from the original work.

9 Access

- 9.1 Agreement will be sought from the States of Jersey Environment Department on site access and storage of materials during repair works.
- 9.2 Consideration will be given to improving access to the ruins as a resource for education and visitors, and an access audit undertaken.
- 9.3 Interpretation will be provided to ensure that the visitors' experience is enjoyable and that a genuine understanding of the site is possible.

10 Future Maintenance

- 10.1 Regular condition audits of the ruins will be undertaken, on a four or five-year cycle to ensure that defects are discovered before irreversible damage occurs.
- 10.2 An on-going maintenance strategy will be prepared, with annual programmes of repair and a phased maintenance schedule.