Jarlshof
Proposal for new grounds maintenance regime and changes to site presentation

Background

Jarlshof is a complex site with numerous overlapping and intersecting structures dating from the Neolithic to the 17th century AD and covering an area of approximately 3 acres. It is one of the most important archaeological sites in the UK in terms of the incredible time depth of its remains: it displays an unrivalled range of surviving settlement and building forms, with evidence for continuous occupation for over 4000 years. It is the only staffed Property in Care in Shetland and is a popular visitor attraction, with an average of 13,351 visitors per year over the last decade.

Jarlshof was first 'discovered' in 1897, when a violent storm left part of the site exposed. The Landowner, Mr Bruce, carried out excavations over the next seven years that revealed many of the Iron Age structures. The site was taken into care in 1925, and a series of excavations were carried out between the 1920s and the 1950s, followed by consolidation of the excavated structures.

The complexity of the remains poses a challenge both in terms of presentation of the site to the public and conservation and maintenance. This is exacerbated by the inconsistent use of turf, gravel and paving across the site. The presentation of interiors, exteriors and wall lines varies across the site and lack of a detailed site plan defining individual structures and their management has led to confusion both in terms of maintenance and public understanding.

Introduction

This document outlines the proposal for a new ground maintenance plan for Jarlshof, changes to the existing presentation of the site and the principles behind it. The plan has arisen out of discussions with the District Architect over long term issues with management and maintenance of the site. It is anticipated that this, together with the site plans will act as reference to inform future maintenance of the site, the regime and the reasoning behind it. The proposals are an extension of an earlier programme of work to improve access, interpretation, presentation and management of the site, begun around 2008. There have been recommendations to review the presentation and maintenance of the site since at least the 1970's, which include laying gravel within the interiors of all structures.

The primary objective is to produce an informed ground maintenance plan for the whole site, clearly identifying archaeological features and defining their maintenance regime to assist the District Architect and MCU in future management of the site. The proposals are intended to reduce staff time and costs involved in managing the site, particularly in terms of grass cutting and vegetation control. At present the archaeological sensitivity of certain areas of the site is unclear when carrying out general site maintenance and a considerable amount of time is invested in careful management of vegetation around stonework and other features where this does not necessarily need to be the case.

In addition to this, the proposal also seeks to improve the overall presentation of the site to the public, by creating a consistent approach to the way in which interiors, exteriors and wall lines are presented and covering miscellaneous stonework or features which do not add to visitor understanding. It is anticipated that this will improve visitor understanding and access, making the various structures easier to understand and interpret on the ground as there will be a greater distinction between wall-lines and interiors and exteriors.

A number of site visits have been undertaken to discuss the nature of issues on site in terms of presentation and management of the structures and to determine a set of options going forward.

Desk-based research has also been undertaken by the HES Cultural & Natural Resources Team to determine the extent and nature of previous investigations and consolidation and to establish the basis of past management regimes; this has been taken into full consideration when determining the proposed changes. The conservation of the monument has been the foremost consideration at all times in the process of determining the new maintenance plan and opportunities to improve the conservation of the archaeological remains have been included in the proposals.

Given the scale and complexity of the site, several phases of work are proposed. The first phase of work will be the most straightforward, with more complex labour and cost intensive tasks being completed at a later date. Once complete, the works will result in a coherent and consistent presentation of the structures with a sensible maintenance regime that will be easier to maintain.

Details of the work proposed for Phases 1 & 2 are outlined below, with specific examples for illustration. An assessment of the archaeological sensitivity and potential impact is outlined alongside each of the proposed changes. Phase 3 works are only covered briefly here, as separate more detailed documentation will need to be developed in advance of these works. Upon completion of the works an annotated aerial photograph plan of the site will be produced detailing present management and presentation across the site and highlighting areas of archaeological sensitivity.

Proposed Works

The annotated site plans should be read alongside these proposals.

Phase 1

1. Exposed middens

There are a number of exposed areas of midden at Jarlshof, both around the earlier prehistoric settlement and within the Norse settlement. The middens are presented as open circles of earth covered with broken shells and surrounded by grass. These are archaeological deposits which at present are exposed to the elements and vulnerable to disturbance and the addition of modern deposits. However, the exposed deposits have been excavated previously and left exposed since at least Hamilton's excavations. The upkeep of the middens in their present form leads to increased staff time to maintain the edges of the middens, ensure that cut grass does not mix with the midden material and to ensure midden material is contained within the defined areas. It is therefore proposed to reduce the number and area of exposed middens across the site, while retaining a number for interpretive purposes where they add to the visitor experience and understanding. features.

It is proposed that the middens in the area of prehistoric settlement in the east of the site remain as they are at present, as they are an important element of the archaeology of the site, and add to visitor interest – they are also included in on-site interpretation and the audio guide. However, the small sections of exposed midden within the Norse settlement will be reburied, to prevent further disturbance of these exposed deposits and to remove a layer of complexity from the site. The small midden areas in the Norse settlement are not currently interpreted and do not add to visitor understanding. Covering these remains will allow for easier maintenance of these parts of the site, therefore reducing staff time required in the maintenance of these areas.

i. Assessment of archaeological sensitivity and potential impact

The midden deposits at Jarlshof are an important element of the archaeological resource. During previous excavations various midden deposits were found to cover much of the site – they occur within and around the Late Bronze Age/Early Iron Age settlement and across the Norse settlement,

interspersed with windblown sand. The excavated midden deposits provided valuable stratigraphic data, with numerous artefacts and evidence for phases of occupation and use of the various structures across the site.

The middens associated with the earliest exposed remains in the northeast corner of the site comprise some of the earliest archaeological deposits at Jarlshof. The area was excavated by Childe in 1937[1], and the middens to the south, associated with the Late Bronze Age/Early Iron Age structures were excavated by Curle in 1932 and 1933, along with the adjacent structures[2]. No record can be found relating directly to the excavation of the exposed areas of midden in the Norse settlement, though the midden deposits associated with house 1 were first investigated by Curle in 1934-5[3] and again by Richardson in 1936 and Hamilton between 1949-51[4]. The extent to which these midden deposits were excavated is not clear, though it seems that only selected sections were fully excavated and that the deposits left exposed are those that stratigraphically relate to the adjacent Bronze Age and early Iron Age settlement. We can assume that most if not all of the exposed midden deposits have been excavated and reinstated, and while it is likely that further sensitive deposits may survive in the surrounding areas, the exposed areas of midden are of reduced archaeological sensitivity and significance. .

ii. Archaeological mitigation

The work involves no ground disturbance and no archaeological mitigation or monitoring is required for the completion of this work. The location of each of the middens to be covered will be recorded prior to reburial, through aerial photography and site plans. The exposed midden locations are clearly shown on existing aerial photographs and in the attached plans, as such it is recommended that a photographic record be kept of the middens before and after burial, which will be included in the DSR for archaeological monitoring at Jarlshof, but no further recording is required. A layer of geotextile membrane will be laid over the exposed midden deposit before turf is laid, to provide a clear distinction between the archaeological layers and to provide additional protection.

Fig 1. Midden associated with Norse settlement.

[1] Childe, V G 1938, 'Excavations carried out by H M Office of Works in the Bronze Age levels at Jarlshof in 1937', Proc Soc Antiq Scot, 72, 348-363.

[2] Curle, A O 1934 'An account of further excavation at Jarlshof, Sumburgh, Shetland, in 1932 and 1933, on behalf of H M Office of Works', Proc Soc Antiq Scot, 68, 255-257.

[3] Curle, A O 1934-5, 'An Account of the Excavation of a Dwelling of the Viking Period at 'Jarlshof,' Sumburgh, Shetland, carried out on behalf of H.M. Office of Works', Proc Soc Antiq Scot, 69, 265-321.

[4] Hamilton, J R C. 1956, Excavations at Jarlshof, Shetland, Ministry of Works, archaeological reports no. 1, Edinburgh, 97-98; 111.

Fig 2. Midden adjacent to dwelling VI.

2. Exposed animal bone in stone boxes

Within dwelling IV of the Bronze Age settlement there is a deposit of mixed animal bones within a stone box. This feature was identified and excavated by Curle in 1932[5] and it is likely that the present remains have subsequently been added to/taken away from and mixed since their initial discovery. However, part of the original archaeological deposit remains and is exposed and open to the elements. As with the shell midden, this material is often disturbed and displaced and so reburial is proposed for these remains.

Removal of the animal bone was considered to be beyond minimal intervention – it would require archaeological input and costs would be involved to appropriately conserve the remains. Covering the deposit will prevent further disturbance or mingling of these remains and means that it can remain in-situ. However, it would also remove an element of understanding and interpretation from the site. As above for the midden deposits, these remains have been excavated, disturbed and left exposed, and it is unlikely that maintain the status quo will have a significant impact upon the archaeological resource. It is therefore recommended to leave the remains in situ as they are at present, though this may be reviewed in the future if necessary.

[5] Curle, A O 1934 'An account of further excavation at Jarlshof, Sumburgh, Shetland, in 1932 and 1933, on behalf of H M Office of Works', Proc Soc Antiq Scot, 68, 228

Fig 3. Close-up of animal remains deposit in stone box within dwelling IV.

Fig 4. Stone box in context, within dwelling IV.

3. Exposed stonework/features with no identification and individual loose stones

There are exposed or loose individual stones across the site at Jarlshof, and a number of stone features which are not obviously associated with a structure, and where there is no longer a clear record of the feature. This is particularly true of exposed stonework and features in the Norse settlement and early prehistoric areas of the site. The most problematic areas are those which are not interpreted on existing site plans, or not clearly recorded in past excavation reports. As far as possible these areas have been identified, their context and significance investigated and the archaeological sensitivity assessed.

There are also miscellaneous loose individual and piles of stones, which do not appear to be in-situ or have an obvious context. Some of these stones are likely to be archaeological, although no longer in their original context in many cases. Uncertainty around the archaeological provenance of these stones makes them difficult to manage and they add confusion to interpretation of the site. It is important that a clear course of action is determined for each of these areas to ensure that the best

outcome is reached in terms of conservation and management. It is recommended that miscellaneous loose stones, where the original context is unknown or has been lost, are removed – this action should only be undertaken with advice HES Cultural & Natural Resources and Heritage Management, on a case by case basis. The stones should also be checked by the on-site archaeologist to assess their archaeological significance prior to removal.

It is proposed that exposed stonework or features which are in-situ but do not obviously relate to a known structure should be turf-covered; these are clearly defined on the supporting plans. Reburial of stonework will be beneficial in terms of conservation, reducing damage through erosion and the risk of accidental damage from grass cutting. By reducing an element of the site's visual complexity it will also enhance overall presentation of the site, without reducing visitor understanding or experience. The areas to be reburied are limited in extent and 'removing' these elements of the site will not impact upon the character of the monument or its cultural significance. These areas will be recorded on site plans prior to reburial; where features are not already shown on plan a record will be taken prior to reburial, with a plan, brief description and photographs included in the DSR. The depth of topsoil cover and use of a geotextile membrane for reburial will be determined on a case by case basis on site in discussions with the District Architect and a Cultural Resources Advisor. This is to ensure that reburial does not significantly alter the appearance of the site or create trip hazards and to mitigate against exposure of the membrane and buried surfaces in the future.

There are a number of more complex areas, where the nature of the surviving remains is unclear and the exposed features no longer clearly relate to the structures shown on Hamilton's plans, such as the remains to the south of house 1, and the earliest structures in the northeast area. These areas form part of the phase 3 of works and will be discussed below.

4. Building differentiation: exposed walls/turf covered walls

At present there is an inconsistent approach to the treatment of wall heads across the site; some are capped with turf and some are left exposed. There is no clear conservation or interpretative reasoning behind this lack of uniformity. It is evident that in places turf cover has receded over time. It is proposed that all structural walls (both internal and external) are capped with turf to protect and stabilise the drystone wall. A consistent approach to the presentation of wall lines will also enhance the overall appearance of the site, making it easier to 'read'. Turf will be added to wall lines where it is not already present and will be reinstated along wall lines where turf cover has receded, these areas are shown on the attached plans as far as possible. However, additional areas requiring turf reinstatement may be identified on site when works commence, in such cases advice will be sought from HES Cultural and Natural Resources prior to extending turf cover. Any areas requiring consolidation or rebuilding prior to turf cover being reinstated will be addressed as a separate SMC application.

An additional issue which adds confusion to understanding of the site is the obscuring of different phases or structures by turf cover. While it is recommended that all wall lines remain turf covered, it would be beneficial to retain some distinction between multiple wall lines and phases of construction where these are overlapping, intersecting or adjacent to one another. These areas have been highlighted in plan and it is recommended that turf cover be managed to ensure that distinction between different wall lines is not lost. In cases where turf cover has encroached to obscure this distinction, the turf will be cut back enough to define the different phases of construction, without compromising the protection of the underlying wall line.

i. Archaeological impact and mitigation

This work will involve no ground disturbance beyond removal of turf in the areas defined on the supporting plans. There will be no disturbance of any underlying deposits, as such no archaeological

mitigation is proposed. However, work should stop and HES Cultural and Natural Resources should be consulted immediately if there is any uncertainty over the extent of turf cover to remove, or if anything of archaeological significance is uncovered or disturbed during turf removal. The extent of turf removal in areas where it has encroached to obscure different phases of construction or wall lines will be determined on site between HES MCU and a member of Cultural and Natural Resources prior to work commencing. This will ensure that turf is not removed from sensitive areas or cut back to an extent that it may have a negative impact on the conservation of the monument.

5. Portable objects e.g. quern stones

There are a number of stone artefacts across the site, particularly associated with the Bronze Age and Iron Age settlement. These finds are all recorded along with their existing locations in Historic Environment Scotland's Collections database (VERNON). Following discussions with the Regional Collections Manager it has been decided that these should remain in their present locations and no further action or treatment is required at this stage. Where quern stones are situated on exposed midden areas, they will be replaced in the same location once turf has been laid.

6. Additional works

In the area of prehistoric settlement, beyond dwellings II, III and IV is a grassed area with patches of exposed midden and partially exposed wall lines relating to the settlement. The existing turf cover is thinning in places, due to visitor footfall, and the ground is often wet area. To reduce erosion and improve the management of this area of the site is proposed to restrict access to this area of the site. By reinstating turf cover and clarifying the distinction between interiors, exteriors and modern paths it is hoped to discourage visitor flow in this area. In addition to this a small sign will be added in the location shown in fig. 5 to discourage access.

Fig 5. Location for new sign.

i. Archaeological impact and mitigation

The sign will be a small stone plaque in the style of the audio guide number plaques. It will not require any ground disturbance for installation and as such will not impact upon any underlying archaeological deposits. The exact location of the sign will be determined in consultation with HES Cultural & Natural Resources to ensure that it is not places on top of any sensitive features.

Phase 2

The second phase of work will require greater resources both in terms of MCU time and archaeological input.

1. Building differentiation: gravel/turf interiors

At present there is no consistent use of gravel and turf cover within interiors at Jarlshof and, where gravel is used, there is no distinction between modern surfaces and the interiors of structures. There are also differences in the types of gravel used across the site, in places the gravelled interiors resemble the exposed midden deposits. This makes the site difficult to maintain and difficult for visitors to interpret.

A simple regime is proposed that can be adopted across the site to bring consistency to the presentation and management of the structures. Gravel should be used to define the interiors of buildings; there will be a few exceptions to this in areas of greater archaeological sensitivity. Where possible, this should be different from that used for modern paths so as to distinguish between modern and historic surfaces. Red gravel will be used for hearth features within structures. Details of the proposed changes are shown on the supporting plans. It is hoped that the use of different surfaces at the site will act as a useful interpretive tool, which will simplify and clarify presentation of the complex settlement remains without compromising the archaeological potential. It will also reduce the time and costs associated with grass cutting in and around the structures and will reduce the risk of potential damage to stonework by strimming.

Where features are present and already exposed within a structure (e.g. drains, hearths, postholes) care will be taken not to obscure any part of these when laying the surrounding gravel. Areas where turf is to be removed and replaced with 'interior' gravel are shown on the supporting plans. An assessment of the archaeological sensitivity and appropriate mitigation is outlined in sections 3 and 4 below. Work will not take place in areas where there may be structures and sensitive archaeological deposits beneath the turf; these areas will be considered in phase 3 works.

2. Maintenance of paved areas

Historic paving is present in an number of areas within the Norse and Medieval settlement, forming interior floor surfaces or paths alongside a number of the structures. The paved areas within the Norse settlement were reinstated following Hamilton's excavations. However, these surfaces have become loose and uneven in places and weeds are growing around and between the paving stones. It is recommended that historic paving be retained, consolidated and weeded, where it is already present within structures or along pathways. This will improve the overall presentation and management of the site and should make the paved pathways easier to understand.

Vegetation around the paving stones will be removed by hand. Consolidation of the paved areas will require a small amount of ground disturbance to create a level foundation for the re-laid stones, with excavation extending to a maximum depth of 100mm. The paving stones will be carefully lifted by hand, the ground will be levelled and a geotextile layer laid, the paving stones will then be re-laid in their original position[6] as far as possible, with voids between the stones filled with fine gravel. In the Norse settlement, where paving is found on interior and exterior surfaces, different gravel will be used to differentiate between interiors and exteriors as far as possible, adding greater consistency to the presentation of structures across the site.

[6] The stones will be re-laid in the same position as prior to the works; none of the paving stones are believed to be in-situ, as they have been lifted and re-laid previously, during past excavations and conservation work.


Figs 6 & 7. Examples of paved areas to be consolidated, vegetation removed and paving relayed and surrounded by fine gravel.

3. Assessment of Archaeological Sensitivity

The remains at Jarlshof have been extensively excavated in the past, though the site has been selectively excavated to different levels and the precise extent of some of the earlier investigations is not clear. We do however have a reasonably good understanding of the stratigraphy across the site and the nature of the underlying archaeological deposits, as a result of Hamilton's work and more recent investigations such as that carried out by Bradford University as part of the Old Scatness and Jarlshof Environs Project[7]. The proposed changes have been determined so as to have minimal impact upon the archaeological remains and site conservation, while improving and simplifying the overall presentation and maintenance regime.

Much of the site has been thoroughly excavated, though we cannot assume that any areas are completely sterilised. As windblown sand deposits overlie many phases of occupation and activity, there remains potential for earlier archaeological deposits even within thoroughly excavated areas. It is reasonable to assume that archaeological potential remains high across the whole site. The proposed works have been designed with this in mind; ground disturbance will be kept to an absolute minimum and is unlikely to extend beyond the top 100mm. Turf and topsoil removal within interiors of structures has only been proposed in areas where we have clear information about the nature of the underlying deposits and the extent of previous excavations and we can be reasonably sure that these works will not impact upon sensitive archaeological deposits, based on the information available from the primary archive and excavation reports. A useful summary of the extent of interventions and conservation work up to the completion of Hamilton's excavations is provided in Hamilton's published report[8].

[7] Dockrill, Bond and Batey, S J, J M and C E 2004, 'Jarlshof (Dunrossness parish), multi-period settlement', Discovery Excav Scot, vol. 5, 116-17.

[8] Hamilton, J R C. 1956, Excavations at Jarlshof, Shetland, Ministry of Works, archaeological reports no. 1, Edinburgh, 216-7.

i. Prehistoric Settlement

Reports for the earlier excavations suggest much of the interiors of the prehistoric settlement were cleared. Dwelling II was excavated in 1934; areas were selectively excavated to different levels, as such there remains some potential for earlier occupation deposits. However, the walls were exposed down to foundation level, and overall the interior was excavated down to at least the earliest floor levels, with parts of the interior excavated down to natural[9]. Dwelling III is described as having been cleared out, which suggests complete excavation; the chambers were excavated down to at least the earliest floor levels. The entrance to this dwelling, recorded as chamber 'd' was first investigated in 1931, and was cleared out between 1931 and 1932[10]. Dwelling IV was excavated down to, but not through, the earliest floor levels. Chamber 'b', an area presently turf covered, was excavated down to reveal a layer of natural sand. The area around the hearth appears to have been thoroughly excavated but the present turf cover may be stabilising the wall lines of the souterrain passage and the stone boxes and its removal could have a negative impact upon the conservation of these structures. It is therefore recommended that the central area of turf cover remains in place. Elsewhere within dwelling IV the existing turf cover is overlying wall lines relating to different phases of the structure, again, these areas of turf should remain as are they are protecting fragmentary structural elements of the site and this conforms to the overall site plan of turf being used to stabilise and protect wall lines. The turf within chamber 'b' and a number of other small areas, where it has encroached into the floor space of the interior, can be removed on advice from HES Cultural and Natural Resources on site. Dwelling V has been less thoroughly excavated, with only the latest occupation phase being fully excavated, leaving the earlier underlying deposits and structures undisturbed. It is not clear whether the latest occupation levels were reinstated within these dwellings, or whether the level reached during excavations was retained and left exposed.

ii. Broch and wheelhouses

This area of Jarlshof was first the first to be investigated; the broch and post-broch settlement was cleared and consolidated by the landowner Mr John Bruce between 1897-1905[11]. Further, large-scale excavations were undertaken, exposing the present extent of remains, between 1950-52 by the Ministry of Works, directed by Hamilton. The area has been extensively excavated and the proposed works in this area is minimal, involving the removal of turf in several small areas and the interiors of all of the structures to be laid with an 'interior' gravel fill. The works are detailed on the accompanying plan (drawing no. 6, structures labelled as P1, P2, W1, W2, W3 & W4). The proposed work is unlikely to have any impact upon archaeological remains.

iii. Norse Settlement

Much of the Norse settlement was thoroughly excavated by Hamilton in order to obtain detailed stratigraphic information. In houses 1 & 2 the interiors were excavated down to the lowest floor levels, which were left exposed at the time of excavation. It is not clear when turf cover was reinstated within the interiors of the various houses.

The interior of house 3 was excavated in places down to the underlying windblown sand, the paving which survives today is a later phase of paving that was retained and reinstated following thorough excavation. The interior of house 4 was completely excavated down to underlying deposits, with the

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[9] Curle, A O 1935, 'An account of the excavation on behalf of H M Office of Works of another prehistoric dwelling (No. V) at Jarlshof, Sumburgh, Shetland, in the summer of 1934' Proc Soc Antiq Scot, 69, 85-107; Hamilton, J R C. 1956, Excavations at Jarlshof, Shetland, Ministry of Works, archaeological reports no. 1, Edinburgh, 19-21, Fig. 10.

[10] Curle, A O 1932, 'Interim report on the excavation of a Bronze Age dwelling at Yarlshof, Shetland, in 1931', Proc Soc Antiq Scot, 66, 113-128; Curle, A O 1933, 'Account of further excavation in 1932 of the prehistoric township at Jarlshof, Shetland on behalf of H M Office of Works', Proc Soc Antiq Scot, 67, 82-136; Hamilton, J R C. 1956, Excavations at Jarlshof, Shetland, Ministry of Works, archaeological reports no. 1, Edinburgh, 21-24, Fig. 10.

[11] Bruce, John 1906, 'Notice of the Excavation of a Broch at Jarlshof, Sumburgh, Shetland' Proc Soc Antiq Scot, 41, 11-33.

latest occupation phase floor reinstated; the paving in this area was completely removed during these excavations and subsequently re-laid. The paving exposed within house 5 relates to an earlier pathway pre-dating the house – for the most part the overlying floor deposits associated with house 5 have been largely removed, except for in the north-most section. From Hamilton's report it is suggested that the northernmost room was at least partly excavated down to earlier levels, but that the Norse floor level was retained or reinstated in places. Houses 6 and 7 were similarly excavated down to reveal earlier structures which pre-dated the Norse settlement. The later floor levels associated with the Norse structure of house 6 were reinstated following extensive excavation of the middens and pre-Viking cattle compound below. In house 7 the occupation deposits and flooring associated with this structure were removed entirely to reveal an earlier Norse smithy and below that sections of post-broch field or enclosure walling, which were left exposed.

The interiors of the house structures have been extensively excavated, and as noted above, in most of the structures the interiors have been reinstated following excavation, however it is not always clear what was reinstated or what level was left exposed for all areas of the settlement. The proposed works are minimal in nature and will not involve any intervention below turf and topsoil, or the top 100mm where paving is present – given the nature of previous interventions it is therefore unlikely that the works will impact upon sensitive archaeological deposits. However, the whole of the Norse settlement retains high archaeological potential and should be treated sensitively. Houses 6 and 7 are considered to be of slightly greater archaeological sensitivity owing to the potential presence of reinstated stone features below the turf and topsoil, as the precise nature, location and extent of what was left in-situ after excavation is uncertain.

iv. Medieval Farmstead

There is very little available information about the extent of excavation of the medieval farmstead, though excavations within the interior were down to at least the latest floor level and in places seem to have excavated down to deposits below[12]. The archaeological potential of these interiors is therefore unclear, though we can assume it to be high, particularly in terms of earlier occupational deposits or structures below the farmstead itself. However, given the minimal nature of the proposed works it is anticipated that the removal of turf will not have a significant impact upon underlying archaeological deposits.

4. Proposed Archaeological Response and Mitigation

While it is anticipated that much of the sensitive floor deposits within the interiors of the structures at Jarlshof have been removed during previous excavations, there remains high archaeological potential. As such, it is recommended that the removal of the turf and topsoil and levelling within interiors is undertaken under an archaeological watching brief to ensure that any disturbance does not impact upon underlying archaeological deposits and to take a photographic record of the works. Plans and written descriptions of the interiors should be produced and included in the DSR where appropriate. Where turf is removed a layer of geotextile membrane will be laid down and covered with a layer of fine gravel, or whin dust, to protect the underlying surface and provide a clear distinction between the modern surface and the archaeological layers below.

Archaeological monitoring is also recommended for the lifting, weeding and levelling of all paved areas across the site. Care will be taken to ensure that the paving is re-laid in the same position as far as possible, though paving across the site has already been lifted during previous excavations so that the precise original location of many of the stone slabs may already have been lost.

Most of the interiors of dwellings IV and V are already gravel covered, however small areas of turf exist in places which could be removed to clarify presentation without impacting upon the

[12] Hamilton, J R C. 1956, Excavations at Jarlshof, Shetland, Ministry of Works, archaeological reports no. 1, Edinburgh, 190-193.

upstanding structures or sensitive underlying deposits. However, there are potentially sensitive areas within these dwellings as certain areas of turf are protecting low wall lines and piers, as such the exact areas of turf to be removed will need to be determined on site in consultation with a member of HES Cultural and Natural Resources prior to work commencing. It is recommended that this work is carried out by hand and under archaeological watching brief.

As above, much of the interiors within the broch and wheelhouses are already gravel covered; only small areas of turf will be cut back or stripped within these structures. Given the minimal level of intervention and the extent of previous archaeological investigations no archaeological monitoring is necessary for the work in these areas. However, the area and extent of turf to be removed will be determined on site in consultation with a member of HES Cultural and Natural Resources. If any significant archaeological finds or deposits are encountered during any of the works, work will cease immediately and HES Cultural and Natural Resources and Heritage Management should be consulted on how to proceed. In discussion with HES CNR and HM the works will then be amended to ensure that any archaeological remains are preserved in situ.

Despite thorough excavation within the interiors of houses 6 & 7 in the Norse settlement, they may be of greater sensitivity due to the potential presence of internal features such as hearths and partition walls or wall lines relating to earlier structures. It is not clear if such features were reinstated or at what depth they may survive, furthermore if they do survive they present condition is not known. Removal of turf within these structures may have a greater archaeological implications or lead to further conservation work. It is recommended that the archaeological sensitivity of these interiors is investigated further before a decision is taken on their future presentation, to ensure that any potential underlying archaeological remains are adequately protected. Given this uncertainty, it is recommended that this is deferred to phase 3 work. These structures are much easier to interpret as houses in their present form than other areas of the Norse settlement, so while maintaining the status quo will leave an element of inconsistency in the site presentation, it should not create additional confusion for visitors or affect understanding of the site. Maintaining the present ground cover and maintenance is considered the best short-term option for the conservation of the monument, as it will ensure that any features which may survive below the present turf cover remain protected.

Phase 3

There are two main elements of work under phase 3. These are outlined briefly here, but will ultimately form separate SMC applications.

A. Investigation of rabbit damage

The west area of the site is suffering from on-going rabbit infestation. The extent of damage caused to archaeological deposits and structures is unclear, though from aerial photographs it is clear that the appearance of the site has changed as a result of burrowing and not all of the features recorded by Hamilton at the time of excavation and consolidation are still clear on the ground. A programme of archaeological investigation and recording is proposed for this part of the site to investigate the extent of rabbit damage before developing plans to deal with the issue. This will include geophysical and topographic survey, followed by targeted archaeological evaluation. A separate method statement has been produced which details the proposed works.


Figs 8 & 9. Iron Age settlement remains to the west of the Norse settlement suffering from rabbit damage.

B. Further archaeological investigation and recording

In an number of places at Jarlshof the previous extent of excavation, or present degree of survival is unclear and there are areas where the exposed remains no longer reflect the structures indicated on Hamilton's plans. These areas are indicated on the accompanying plans.

These areas will require further investigation before a future management regime can be determined; the status quo will be maintained at present, but archaeological investigation (including geophysical survey) and recording will be proposed at a future date and will form a separate SMC application(s) with individual desk-based assessments and methodologies.

Turf-stripping and archaeological excavation down to previous levels will allow us to determine the extent and nature of surviving structures and will provide an opportunity to more accurately record the archaeological remains on site, where this has become unclear over time due to turf encroachment and changes to the management of the site. Once these areas have been investigated and recorded a decision will be taken on how best to manage and present the archaeological remains. In some cases this will involve reburial of the remains, if the structure is fragmentary and where this would not impact upon overall understanding and interpretation of the site.

Fig 10. Exposed structures and stonework within the Bronze Age settlement; these remains do not clearly relate to existing site plans.

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References

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SC 21871/2A - Jarlshof Shetland, Excavations by A O Curle, 1932 & 1933 including consolidation work

SC 21871/2F – Jarlshof Shetland, Excavations by J C R Hamilton 1949-1952 and consolidation work

SC 21871/2D – Jarlshof Shetland, Excavations by Prof Childe & Miss B Laidler 1937-1939 and consolidation work

SC 21871/2B – Jarlshof Shetland, Excavations by A O Curle 1934-1935 & J P Grant 1936 including conservation work

Appendix

A. Historical Background and Summary of Significance

The earliest remains date to the late Neolithic, c. 2700 BC and consist of fragmentary walls, midden material and hearths situated at the north-east end of the site. A settlement seems to have been established at the east end of site by the late Bronze Age (c. 800 BC) which included a smithy and a series of cellular houses.

Roundhouses and two souterrains were constructed on top of the Bronze Age village between about 500 and 200 BC. This settlement fell out of use and the site was abandoned for a period before the construction of a broch and courtyard to the south-west, between c. 200 BC and 100 AD. An aisled roundhouse was constructed in the space between the broch and the courtyard wall soon after the completion of the broch. Following this, a series of wheelhouses were inserted into the central space of the broch, which by this time seems to have been reduced in height. At a later date, sunken passage-houses were dug into the sand/midden deposits to the east of the broch.

The first Norse settlement was established at the site, to the north of the Iron Age remains, around 850 AD. The earliest settlement comprised of a house, a possible temple or bathhouse, a smithy, byre and servants quarters. The small settlement developed and changed numerous times between about 900 AD and 1275 AD. A farmhouse and corn-kilns were built at the south-east end of the Norse settlement in the later 13th or early 14th century, which remained in use and underwent numerous modifications up until the 16th century.

The final phases of occupation at the site comprise the substantial laird's house built to the north-east of the broch in the 16th century. This was occupied and expanded by Earl Patrick in 1604, however, the house and its associated buildings had fallen into ruin by the later 17th century.

The property was taken into guardianship in 1925 and excavation and consolidation works undertaken. The recent history and precise nature and extent of 19th and early 20th century reconstruction of the site is not fully known.

The extended time depth of settlement remains at Jarlshof are one of the make it a hugely significant archaeological site. For such a constrained site, its sequence of development is extraordinarily complex, with a range of surviving prehistoric settlement and building forms.

It displays an unrivalled range of surviving settlement and building forms stretching from the prehistoric period into the medieval. The Norse settlement is of internationally significance providing a type site for Norse colonial settlements throughout the North Atlantic. The wheelhouses are the only examples in state care anywhere in Scotland.

The excavations at Jarlshof have provided a wealth of artefactual evidence (now mostly in the NMS, although some artefacts are in the on-site museum and the Shetland museum) which tell us much about how people lived at Jarlshof over a time-scale of several thousand years. The archaeological assemblage from the site is therefore of great cultural significance and the site retains potential for further significant artefacts and archaeological deposits.

B. Archaeological Background

The site was discovered in 1897 by the landowner after severe storms removed part of the shoreline, exposing the remains of Iron Age structures. It was partly explored between 1897 and 1905, revealing a major part of the Iron Age settlement including the broch, two wheel-houses on

the north-west side and a portion of the courtyard wall. Conservation and consolidation works were also undertaken at this time, which involved partial rebuilding and stabilisation of some of the broch and wheelhouse walls and the construction of buttresses to strengthen partition walls in wheelhouse 1.

Further excavations were undertaken alongside consolidation works after the site came into guardianship in the mid 1920's. Discoveries were made on the east side of the mound during the erection of a boundary fence. This led to a series of excavations directed by Dr A O Curle between 1931 – 1935 in the area of the Bronze Age settlement. In 1937 an additional area immediately to the north of these remains was chosen for further investigation, directed by Professor V G Childe: this revealed the earliest occupation levels.

The Norse settlement was revealed in 1933 during exploratory excavation by Curle. Three phases of excavation then followed, with two seasons in 1934 and 1935 under Curle and between 1936 – 1939. Between 1934 to 1935 Curle's excavations focused on houses 1 and the outbuildings immediately to the north; Richardson's excavations in 1938 focused on house 2. The methodology adopted during the latter phase of excavations was to grid and strip the entire slope across an area of approximately 1ha, down to foundations and floor levels. The excavations were halted by the Second World War and the structures and finds excavated up to this point were not fully analysed. These excavations revealed extensive deposits underlying the majority of the newly exposed house floors. The medieval farmstead was first discovered in 1932 during excavation of the Bronze Age settlement, but was not fully excavated until 1937.

The final phase of significant excavations were undertaken by Hamilton between 1949-51 and were largely concerned with investigating the extensive midden deposits and stratigraphic sequences of deposits underlying the Norse house floors to establish a development history of the settlement. Hamilton's investigations found earlier 9th century remains beneath the previously excavated houses, and evidence for pre-Norse occupation in places. In 1951 further excavations were carried out in the area of the Iron Age settlement. In 1952 one of the later medieval outbuildings which overlay earlier structures was completely removed during extensive excavation.

While we have a good record of Hamilton's excavations, the full extent of earlier investigations is not clear, although research could shed light on this. The archaeology was selectively explored to different levels on different parts of the site. Furthermore, the excavations were not undertaken to modern standards, and as such we have few absolute dates from the site and our understanding of certain building sequences, particularly the early levels, is poor.

The majority of interventions since the early 20th century have taken place for conservation purposes or to improve access to the site. As such, these have been minimal and have not greatly advanced our understanding of the archaeology. There has been little in the way of systematic excavation since these early investigations. Geophysical survey was undertaken in 1993 across much of the north-west portion of the site which indicated significant archaeological potential in areas which have not been fully excavated. The quality of the data, given the early date of the survey, is not ideal – future geophysical survey using a technique such as GPR could provide us with valuable new information on survival and the extent of the settlement remains.

An 8 week excavation took place in the summer of 1998. It intended to investigate the broch and surrounding settlement; the main North-South section of the broch was excavated. In 2004 three trenches were excavated in order to assess the degree of survival at the site and to provide scientific dating and environmental evidence for the sequence recorded in the 1950s. These excavations

confirmed that archaeological remains do survive intact, despite its lengthy history of archaeological investigation, and provided us with a better understanding of the site's stratigraphy.

Minor archaeological works in 2008 and 2009, ahead of improvements to access to the W of the area of current proposed works, revealed evidence of modern disturbance and landscaping. This has been similar elsewhere on site, where there has been previous disturbance during the construction of the original paths and steps. A watching brief was carried out in 2009 for the removal of turf and topsoil from the interiors of three structures around the 16th-century laird's house to replace with gravel to improve consistency of presentation across the site. The turf and topsoil levels varied from around 80 - 200mm thick. No significant archaeological deposits were encountered during this work; past excavation reports suggest that much of the interior floor surfaces were excavated completely, though the extent of this varied from structure to structure.