NAA

FINAL REPORT

CHURCH OF OUR LADY, SEATON DELAVAL HALL ARCHAEOLOGICAL MONITORING OF REPAIRS TO THE SOUTH-WEST BASTION AND HA-HA WALLS

on behalf of

Mosedale Gillatt Architects
for Historic England

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Summary

This document presents the results of a pre-intervention survey and archaeological monitoring during repairs to the south-west bastion and ha-ha walls within the grounds of the Church of Our Lady at Seaton Delaval Hall in Northumberland (NZ 32175 76302). It has been prepared by Northern Archaeological Associates Ltd (NAA) for Mosedale Gillatt Architects on behalf of Historic England, in response to a Church of England Faculty condition. The church is under the ownership of the Diocese of Newcastle.

Significant ground disturbance had caused the east side of the bastion to bow outwards and several large cracks were evident running vertically within the masonry. As a result, the whole of the east side of the structure needed to be dismantled and rebuilt as part of the conservation works. A Level 3 historic building survey was conducted in May 2021 as a pre-intervention record of the Listed structure. A written, photographic, and measured record was prepared, describing the form and structure of the south-west bastion and associated ha-ha walls. Continuous archaeological monitoring was subsequently maintained during any ground intervention works or removal of substantial amounts of historic masonry.

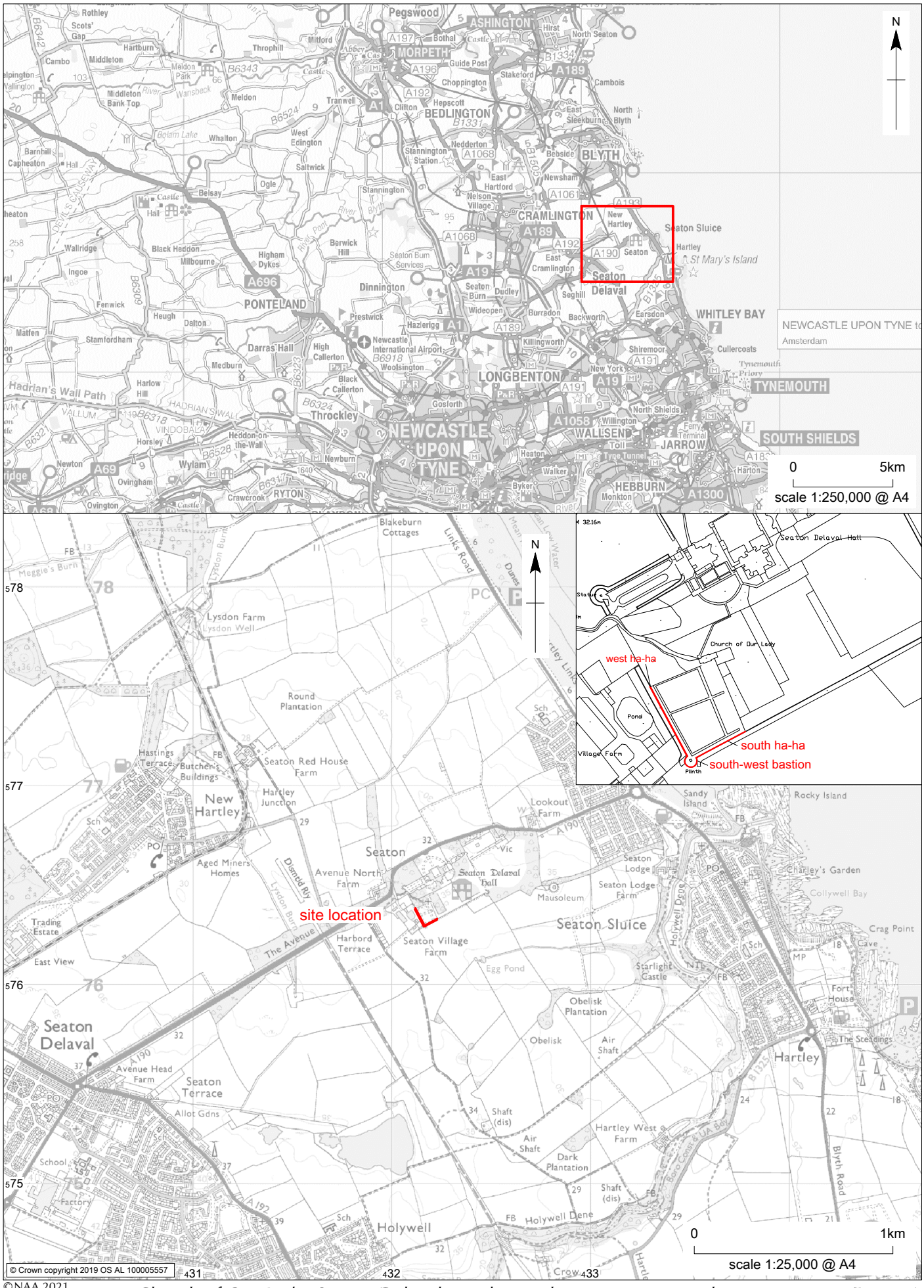
The construction of the south-west bastion was shown to be consistent with that of the other three bastions recorded during archaeological monitoring as part of 'The Curtain Rises' project. However, the south-west bastion had suffered considerably more damage than its counterparts, with large vertical cracks evident on the outer face, exposing the inner rubble core. The outer face of the structure stood c.3m high and was constructed of dressed ashlar set in regular courses and originally topped with flat, sandstone coping slabs. The interior was infilled with soil and landscaped to form a grassy slope, which led upwards from ground level to the outer wall. In the centre of the bastion were the remains of a statue plinth. A deep ditch originally surrounded the building, but this had been infilled by later deposits to facilitate construction of a farm track.

The external ashlar facing was removed from the east side of the bastion in courses. The blocks had been tooled into a trapezoid form, interspersed with a number of triangular through-stones that extended into the rubble core, presumably to tie the structure together. A trench was

excavated around the eastern interior of the bastion, which revealed it had been built in three stages. A foundation course stepped inwards to a mid-section, both constructed of roughly squared blocks that were predominately hidden below ground level. The mid-section was topped with two courses of ashlar topped with sandstone coping stones. The infill deposits were comparable with those observed within the Pleasure Grounds bastions, comprising thick layers of sands, clay and rubble.

Repairs to the south ha-ha wall were minimal and comprised only the reinstatement of blocks from the upper course and repointing of the western extent. Works along the west ha-ha wall were more extensive and involved the stripping of six sections of masonry that had been disturbed by the growth of mature trees. Both walls were constructed of courses of ashlar with packed rubble to the rear, and topped by a thick layer of lime mortar.

No evidence of pre-18th-century activity was recorded, and no human remains or finds of importance were present.



Church of Our Lady, Seaton Delaval: south-west bastion repairs site location *Figure 1*

1.0 INTRODUCTION

1.1 This document presents the results of archaeological monitoring (watching brief) during repairs to the south-west bastion and ha-ha walls within the grounds of the Church of our Lady at Seaton Delaval Hall in Northumberland (NZ 32175 76302; Fig. 1). It has been prepared by Northern Archaeological Associates Ltd (NAA) for Mosedale Gillatt Architects on behalf of Historic England, in response to a Church of England Faculty condition. The church is under the ownership of the Diocese of Newcastle.

1.2 All work was undertaken in accordance with a Written Scheme of Investigation (WSI) prepared by NAA (NAA 2020a) and approved in advance by both Historic England and the Diocesan Chancellor.

1.3 The south-west bastion is one of four penannular structures located at each corner of a rectangular enclosure formed by a ha-ha to the south of Seaton Delaval Hall. This was the south Pleasure Grounds and is frequently cited as an archetypal example of Vanbrugh's 'fortified' garden design. However, recent research conducted by the National Trust has established that the gardens were not actually constructed until the 1730s–40s, some years after the architect's death (Newman 2017).

1.4 The north-west, south-east and north-east bastions and associated ha-ha walls lie within the adjacent National Trust landholding and were recently stabilised and conserved as part of 'The Curtain Rises', a three-year restoration scheme, part-funded by the National Lottery Heritage Fund. The restoration of the south-west bastion and ha-ha, although related in purpose, stands separate from this project. The work was funded by a generous grant from Historic England.

2.0 LOCATION, TOPOGRAPHY AND GEOLOGY

Location

2.1 Seaton Delaval Hall is situated between Seaton Delaval and Seaton Sluice, c.5km south of the Port of Blyth. To the south of the Hall is an extensive rectangular Pleasure Grounds defined by a stone-walled ha-ha and featuring a raised circular bastion at each corner. The south-west corner of the enclosure forms part of the churchyard of the medieval Church of Our Lady (Fig. 1) and sits separate from the main landholding, held by the National Trust. The south-west bastion and associated length of ha-ha wall define the east and northern boundaries of the church land.

Geology and soils

2.2 Seaton Delaval Hall is located on Devensian diamicton, which is poorly sorted glacial till deposited at the end of the last ice age. This lies above Carboniferous Pennine Middle Coal Measures Formation deposits – sedimentary mudstones, siltstones and sandstones created in shallow seas (BGS 2021).

Designations

2.3 The ha-ha walls and bastions together comprise a Grade II Listed building (NHLE: 1041323), granted statutory protection under the Planning (Listed Buildings and Conservation Areas) Act 1990. It also forms part of the curtilages of the Grade I Seaton Delaval Hall (NHLE: 1041321) and Grade I Church of Our Lady (NHLE: 1041317). The grounds of the Seaton Delaval estate are designated Grade II* on the Register of Parks and Gardens of Special Historic Interest in England (NHLE: 1001052).

Previous work

2.4 An archaeological watching brief was conducted by Archaeological Research Services (ARS) in early January 2021 during the excavation of two drainage trenches running parallel to the western and southern walls of the church. Evidence of a probable medieval foundation wall was uncovered in the western-most trench, hinting at the presence of a structure potentially pre-dating the extant 12th-century church core. Disarticulated human remains were found bordering the southern wall of the nave, demonstrating a higher degree of disturbance and truncation at the southern and western margins of the church building than previously known (ARS 2021).

2.5 In 2016–17, ARS undertook two archaeological investigations during groundworks associated with the replacement of drainage both around and to the south-west of the church. The works exposed a number of articulated skeletons (seven in total) as well as evidence for disarticulated remains previously disturbed by the original Victorian pipe run (ARS 2017).

2.6 In September 2013, ARS carried out an archaeological evaluation and watching brief during investigations into the cause of structural movement within the church. Four evaluation trenches revealed limited archaeological features in the vicinity of the church, the most significant of which was an articulated skeleton. A subsequent watching brief characterised the foundations of the medieval church (ARS 2013).

2.7 No other archaeological work has been undertaken within the immediate vicinity of

the site. However, an extensive programme of archaeological monitoring (2018-2020) was conducted during the restoration of the other three bastions and related ha-ha walls as part of National Trust's 'The Curtain Rises' project at Seaton Delaval Hall. The results of this work are published in *The Pleasure Grounds, Seaton Delaval Hall, Northumberland. Archaeological Investigations* (NAA 2020b).

2.8 In January 2017, a LiDAR survey covering the South Pleasure Grounds was commissioned by the National Trust in preparation of 'The Curtain Rises' project. The results of this, together with all previous archaeological and historic evidence, informed a forensic study of the estate, which is detailed in *Historical Gardens within and around the Bastions at Seaton Delaval: The Documentary and Archaeological Evidence* (Newman 2017). This work was informed by the results of a Historic Park Management Plan (Southern Green 2012), and a Conservation Management Plan (Simpson and Brown Architects 2017).

3.0 SUMMARY ARCHAEOLOGICAL AND HISTORICAL BACKGROUND

Pre-medieval

3.1 A possible Neolithic causeway enclosure or prehistoric farmstead has been identified from aerial photographs c.1km north of the Church of Our Lady. Other undated cropmark enclosures have been identified to the north-west and north-east of the church. Several flint artefacts have been found in the surrounding area (NAA 2020b).

3.2 During excavation in the Pleasure Grounds to the east of the church three sherds of Roman pottery were found in a buried soil, hinting at the presence of a Roman settlement somewhere in the vicinity. In addition, a possible Iron Age or Romano-British farmstead comprising an oval-shaped enclosure containing several circular structures has been recorded c.1km south of the church, and a timber structure, tentatively dated to the prehistoric or Roman period, has been identified at Blackhaugh Drive, c.2km west of the church (Copp 2012).

3.3 All such finds suggest the occupation and settlement of the surrounding coastal plain during the prehistoric and Romano-British periods.

Medieval to Post-Medieval

3.4 Following the Norman Conquest, the area around Seaton Delaval was granted to the De Laval family. A tower is known to have existed at Seaton Delavalby the early 15th

century, recorded in the 1415 list of fortresses of Northumberland. In 1539, the poet and antiquary John Leland makes reference to 'Delaval Castle' in an account of his travels through Northumberland (Leland & Chandler 1998, 342).

3.5 By the mid-16th century, a Tudor mansion had been constructed adjacent to the tower. The 1865 First Edition Ordnance Survey (OS) map places the 'supposed site of the Castle' to the south-west of the Church of Our Lady, within the current graveyard, as does the Second Edition (1898), although thereafter (e.g. OS 1924; 1947) the caption was moved to the north-east of the church implying a considerable level of uncertainty as to its true location. In situ medieval remains were recorded beneath the north lawn of the hall (ARS 2014), beneath the 18th-century landscaping, and could potentially relate to the castle or a later medieval manor.

3.6 In the early 17th century, Sir Ralph Delaval (1577–1628) made considerable modifications to the house and estate, building a large Jacobean hall. This focused on a forecourt and backcourt surrounded by three gardens, and included bakehouse, brewhouse, stables and dovecot. The medieval tower was retained (Simpson and Brown Architects 2017, 25).

3.7 By 1660, his grandson, also Sir Ralph Delaval (1622–91) had inherited the estate and was made Baronet of Seaton. His eldest son died without issue in 1696 and the property passed to Sir John Delaval (1654–1729). By 1717, Sir John was bankrupt and obliged to sell the estate to his cousin, Admiral George Delaval (1668–1723). The Admiral soon after commissioned a new house to be built, designed by the architect Sir John Vanbrugh (1664–1726) (NHLE: 1001052). Almost all the buildings associated with the former Jacobean/Stuart mansion and medieval tower were demolished as part of the new building project, one of the exceptions being the medieval Church of Our Lady.

3.8 In 1723, before the completion of the hall, the Admiral died after a fall from his horse. The estate then passed to his nephew, Captain Francis Blake Delaval (1692–1752). Just three years later Vanbrugh died, soon after the completion of the central hall but with the west and east wings still incomplete. Both are thought to have been finished c.1750, although the degree of Vanbrugh's involvement in their design is a topic of debate (Simpson and Brown Architects 2017).

The 18th-century Pleasure Grounds

3.9 The bastions and ha-ha were in construction c.1743 (Newman 2017). These have previously been attributed to Vanbrugh and cited as a prime example of one his 'fortified gardens', although they were not actually constructed until 17 years after the architect's death. The degree, if any, of Vanbrugh's direct involvement in the design of the bastion enclosure is unclear, although it was plainly influenced by similar schemes at Castle Howard and Blenheim. However, the grounds also have parallels with the works of the later landscape architect Charles Bridgman (Newman 2017; Simpson and Brown Architects 2017).

3.10 Captain Francis Blake Delaval died in 1752 following a fall down the steps of the south portico. He was succeeded by his son Sir Francis Blake Delaval (1727–71). In the same year, a fire started in the kitchen chimney of the west wing and damaged the rooms to the south. Sir Francis showed little interest in either the hall or estate, often preferring to spend his time in London where he accumulated considerable debt.

3.11 In 1761, in a bid to preserve the estate from ruin, Sir Francis' brother, John Hussey Delaval (1728–1808), purchased the estate in return for an annuity. Francis remained living in the hall while John, and his younger brother Thomas, took over the management of the estate. Two years later, the Delavals opened the Royal Hartley Bottleworks at Seaton Sluice. By the end of 18th century, this was one of the largest glass manufactories in the country, producing nearly 2 million bottles a year (NCC HER 12006).

3.12 John succeeded to the estate outright on Francis' death in 1771. A leading industrialist and politician, he implemented a programme of improvements which included the enclosure of Hare Park, radical enlargement and later contraction of the wider designed landscape, and an extensive tree planting campaign.

3.13 The first depiction of the South Pleasure Grounds is on a plan of the estate dated 1781 (Plate 1). This clearly shows the four bastions, connected by the ha-ha. The Church of Our Lady (marked as chapel) is surrounded by woodland, with a diagonal path running north-east providing a contrived view between the building and the south portico. South and east of the church are more formal gardens, including that bordering the south ha-ha (Plate 1).

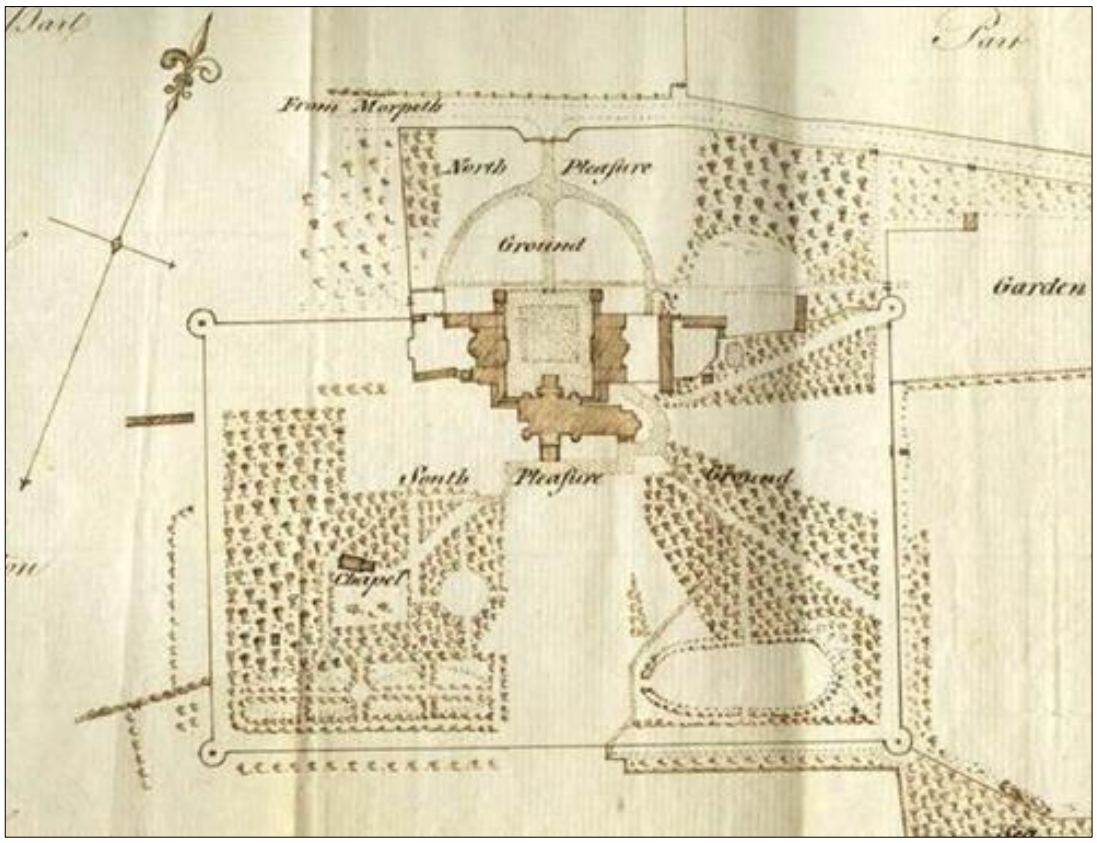


Plate 1: extract from 1781 plan of the estate showing the wooded churchyard and formal garden to the north of the south ha-ha (NRO 740/Box 14).

Later developments

3.14 Sir John died in 1808, the estate passing to his brother Edward, the last of the direct Delaval line. On his death in 1814, the estate passed to Edward's nephew, Sir Jacob Astley (1756–1817). His son, also Jacob Astley (1797–1859), became the 16th Baron Hastings, a title that had been in abeyance since 1389. In 1822, the hall was severely damaged by a devastating fire that gutted the central hall and south-east domestic wing, although the east and west service wings survived relatively unscathed.

3.15 The First Edition OS map, surveyed in 1855, shows the remains of the hall following the fire (Plate 2). The bastions are depicted, each surmounted by a statue. These features are intimated in the 1781 plan, but not annotated directly. The area surrounding the church appears from the OS map to be woodland, the formal garden elements having disappeared. Reference to the remains of the medieval castle also occurs for the first time.

Plate 2: extract from 1860 First Edition six-inch OS map.

3.16 The First Edition OS map, surveyed in 1855, shows the remains of the hall following the fire (Plate 2). The bastions are depicted surmounted with a statue. This is intimated in the 1781 plan, but not annotated directly. The area surrounding the church appears now to be woodland, the formal garden elements having disappeared. The reference to the remains of the medieval castle also occurs for the first time.

The Church of Our Lady

3.17 The parish Church of Our Lady (formerly the manorial chapel) was built by Guy de Lavel in the late 11th century and consecrated by Bishop Flambard in 1102 (Simpson and Brown Architects 2017). The core of the standing building dates from the early 12th century, although evidence of an earlier wall foundation was recorded by archaeological monitoring to the south of the church (ARS 2021).

3.18 The east end of the church was rebuilt around 1330 (Historic England 2020) with a vestibule added to the western end in the 19th century. The church served as the manorial chapel, used by villagers and the hall household, until 1891 when Lord Hastings bequeathed it to the Church of England to serve the new parish of Seaton Delaval. The Second Edition OS map (Plate 3) shows the new churchyard, which was consecrated by Bishop Wilberforce of Newcastle in the 1890s. This formally separated the landholding from the Seaton Delaval estate (Plate 3).

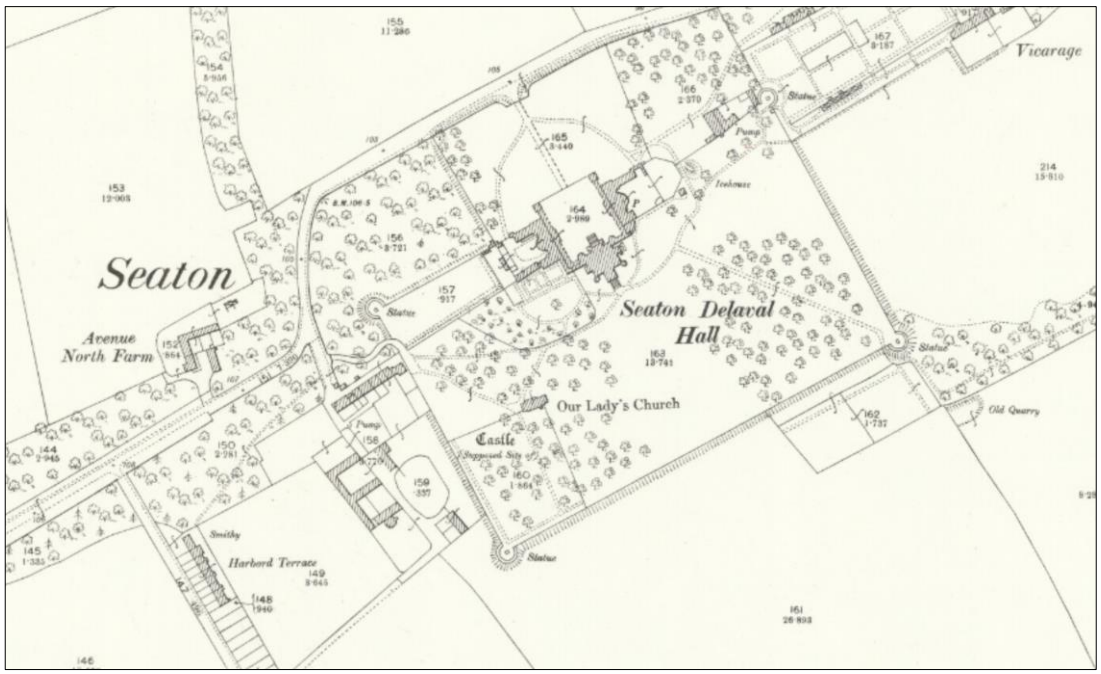


Plate 3: extract from 1897 Second Edition 25-inch OS map.

3.19 Investigative work to assess the church's foundations (ARS 2013) and to replace existing drainage (ARS 2017) uncovered remains of a number of burials close to the church, providing tantalising evidence for an earlier cemetery, potentially dating to the medieval period. Any above ground remains relating to this earlier churchyard were lost due to interment of late 19th- and early 20th-century burials. The density of burials within the current churchyard has most likely heavily disturbed any evidence for earlier structures or interments.

4.0 SCOPE OF WORKS

4.1 The archaeological work comprised a pre-intervention survey followed by continuous monitoring (watching brief) during all ground intervention or substantial removal of historic fabric (NAA 2020a).

4.2 Work on the south-west bastion comprised monitoring and recording during the initial removal of the statue base from the top of the structure, the subsequent excavation of the interior, and removal of stonework in unstable areas.

4.3 Work on the south and west ha-ha walls comprised monitoring during the removal of large tree roots embedded within the historic fabric, turf removal and excavation along the top of the wall, and the removal of substantial sections of stonework.

5.0 AIMS AND OBJECTIVES

5.1 Given the high significance of the designated south-west bastion and ha-ha walls, and the high potential for the survival of sub-surface archaeological remains, continuous archaeological monitoring was required during ground interventions or substantial removal of fabric throughout the conservation works. The aim of this work was to 'preserve by record' any remains or features of interest that may be lost or revealed as a result of the works (NAA 2020a).

5.2 The objectives of the monitoring were to:

- establish the presence, nature, extent, preservation and significance of any archaeological remains, including human remains;
- provide a detailed record of any such archaeological remains;
- recover and assess any associated structural, artefactual and environmental evidence (including any reused worked stone);
- undertake a programme of investigation that meets with national and regional standards (Historic England 2015a; CIfA 2020a–d); and
- prepare an illustrated report on the results of the archaeological monitoring to be deposited with the NCC Historic Environment Record (HER) and National Trust Sites and Monuments Record.

6.0 STANDARDS AND GUIDELINES

6.1 The following methodology is based upon NAA's previous experience of undertaking similar work and with reference to the following published standards and guidelines of practice:

- *Standard and guidance for an archaeological watching brief* (CIfA 2020a);
- *Standard and guidance for the collection, documentation, conservation and research of archaeological materials* (CIfA 2020b);
- *Standard and guidance for the archaeological investigation and recording of standing buildings or structures* (CIfA 2020c);
- *Understanding Historic Buildings: A Guide to Good Recording Practice.* (Historic England 2016);
- *Management of Research Projects in the Historic Environment: The MoRPHE Project Managers' Guide* (Historic England 2015), and

- *Guidance for Best Practice for Treatment of Human Remains Excavated from Christian Burial Grounds in England* (Advisory Panel on the Archaeology of Burials in England 2017).

7.0 METHODOLOGY

7.1 Prior to the commencement of works, all mature trees and shrubs within the bastion interior and along the ha-ha walls and ditch were removed and treated to prevent regrowth.

Pre-intervention building recording

7.2 A Level 3 pre-intervention survey of the bastion and ha-ha was conducted prior to the commencement of work. This comprised a photographic, written and measured survey, the latter using Structure from Motion (SfM) technologies. All work was conducted in accordance with guidance and standards issued by Historic England (2016) and the Chartered Institute for Archaeologists (CIfA) (2020c).

7.3 A full photographic record of the bastion structure, both internal and external, and the south and west ha-ha walls was made. All elevations were photographed parallel to the structure as was possible to avoid distortion. General shots of the structures were taken, as well as detailed shots of areas that provided information on the composition and construction of the structure.

7.4 Photographs were taken using a digital camera with a sensor of at least 16 megapixels. Each photograph contained a graduated photographic scale of appropriate dimensions. A suitably ordered catalogue of all photographs will be submitted to the Archaeology Data Service for long-term archive storage.

7.5 External elevations of the ha-ha wall and both internal and external elevations of the south-west bastion were prepared using orthogrammetric photomontage employing SfM technology (Figs 2–5). This technique provides accurate, measurable plan and elevation data. Subsequent drawings were produced in AutoCAD using structured layer control in accordance with current guidelines (Historic England 2016). Full digital data (DWG and DXF formats) will be provided with the site archive.

Archaeological monitoring (watching brief)

7.6 The archaeological monitoring took place over 18 days between May and July 2021. The outer facing-stones of the bastion were removed course-by-course under

archaeological supervision and stored nearby so they could be reinstated as close to their original positions as possible on rebuilding.

7.7 A trench was dug by a 360° tracked excavator, fitted with a toothless bucket, along the inner face of the bastion at the eastern edge, to expose and assess the inner foundations. The western edge was stepped to comply with health and safety regulations. A further trench was excavated along the outer edge of the bastion to the east.

7.8 Spoil from the excavations was stored in bunds within the graveyard in areas designated by the church incumbent, church wardens and Historic England, where no marked graves were present. The area occupied by the spoil bunds and the trackway leading to them from the bastion was covered with wooden boards to minimise ground disturbance.

7.9 A previously unrecorded grave, featuring white ceramic edging, was identified along the access path to the spoil heap, in an area thought to lie outside the churchyard. Following consultation with the Diocese of Newcastle and Historic England, it was agreed to double the coverage of wooden boards over the area to prevent any disturbance to the grave and monitor the underlying ground conditions on a daily basis.

7.10 The removal of the facing-stones of six sections of the western ha-ha was conducted under archaeological supervision, with the stones stored in ordered courses along the upper edge of the ha-ha ditch.

7.11 The eastern arc of the bastion was almost entirely dismantled and rebuilt, with geotextile mesh inserted between the courses at intervals. The geotextile extended into the backfill within the bastion in order to tie the inner and outer masonry, rubble core and clay infill together and prevent further subsidence. Where the inner foundations were retained, they were repointed before the bastion was backfilled with its original spoil. The ashlar facing was reinstated and, where the original blocks were missing, new sandstone facsimiles made.

7.12 Monitoring was conducted during the removal of two large tree roots protruding from the west-facing elevation of the east ha-ha. The associated trees had been cut as part of the preparatory works, but the roots extended deep into the fabric of the structure. Monitoring was maintained for two days while the roots were cut back to the face of

the wall. The remainder was treated and left in situ to minimise any unnecessary damage to the stonework.

7.13 Where safe to do so, sections of exposed masonry and infill deposits within the bastion and along the western ha-ha were cleaned by hand by the archaeologist and an extensive digital photographic record of the works created. All photographs included a suitable scale and were recorded on a photographic register noting the subject and direction of each shot. A catalogue of all photographs will be submitted with the site archive. All structures and archaeological features and deposits were recorded on pro-forma context sheets.

7.14 An assemblage of post-medieval finds was collected from infill deposits within the bastion. These were photographed but not retained.

7.15 No environmental samples were taken, and no human remains found.

8.0 RESULTS

South-west bastion

8.1 The south-west bastion stood c.3m high from the external ground level and had an outer face of dressed ashlar, set in regular courses and originally topped with flat, sandstone coping slabs (Plate 4).

8.2 The interior of the structure was infilled with soil and landscaped to form a grassy slope, leading upwards from ground level to the outer wall. This area would have served as a viewing platform, looking out over fields to the south and west (Plate 5). In the centre of the bastion were the remains of a statue plinth for a mythological or classical figure like the statue of the goddess Diana now erected on the north-west bastion. A deep ditch originally surrounded the bastion, but this had been infilled by modern deposits to facilitate construction of a farm track.

8.3 The construction of the south-west bastion was comparable to that of its three counterparts within the grounds of Seaton Delaval Hall (NAA 2020). The structure, however, had suffered considerably more damage, with large vertical cracks evident on the outer face, exposing the inner rubble core (Plate 4). The upper two courses had also suffered significant disturbance and most of the coping was missing. A few original sandstone coping slabs survived, along with a number of later concrete replacements. These measured 0.5m wide and up to 0.7m long by 0.12m thick.

Plate 4: east side of the south-west bastion, looking north-west, showing large vertical cracks and a bulge on the right-hand side.

Plate 5: interior of the south-west bastion, looking south-west, showing tumbled stone of central statue plinth.

8.4 The primary focus of the conservation works was the dismantling of the eastern arc of the bastion, where subsidence had caused significant shifting of the masonry, causing

it to bow outwards. Further disturbance had resulted from extensive rooting of mature trees within the bastion and the passage of heavy farm machinery on the adjacent trackway.

South-west bastion exterior (Fig. 2)

8.5 Work commenced with the removal of the upper two courses of ashlar blocks around the entirety of the structure, many of which were missing or in a poor state. The north and west face of the bastion was evaluated by the architects and determined to be structurally sound, with only repointing between the facing stones required.

8.6 The south and east sides of the structure were more heavily disturbed and all the ashlar facing-stones between the two major structural faults were removed in this area. These were removed course-by-course from the top, numbered, and stored in order on land to the west of the bastion.

8.7 A number of facing-stones featured toolmarks in the form of horizontal dashes or rows of circular depressions (Plate 6). These appeared to be distributed at random throughout the structure and were also recorded on the ashlar facing-stones of the western ha-ha.

Plate 6: example of circular toolmarks recorded on the ashlar facing stones of the south-west bastion.

Plate 7: south-west bastion ashlar, stored in courses and displaying trapezoidal form of blocks with roughly tooled rear faces.

8.8 Although laid in regular courses, the ashlar blocks varied in length from 0.15m to 0.8m. On removal, the rear faces of the blocks were found to be rough-hewn, meaning overall the stones were trapezoid in shape. The rear faces, too, had been deliberately scored with diagonal tool marks, presumably to aid the adhesion of the mortar bond (Plate 7).

Plate 8: example of a tapering, triangular through-stone.

8.9 A series of long, triangular through-stones was distributed throughout the upper four courses of the structure (Plate 8). The shape of the triangular stones helped to facilitate the curving form of the bastion and tie the structure through to the rubble core.

8.10 Once the facing-stones were removed to ground level and the scaffolding taken down, a trench was excavated by machine around the exterior of the bastion to reveal the external foundation (Plate 9). This involved removing the infill of the associated ditch (**15**), which measured c.3m wide and 0.8m deep. Two further ashlar courses were revealed below the modern ground level, with the foundation footing stepping out 0.1m at what would originally been the base of ditch **15**. The below-ground foundation was of rubble and lime mortar and was rather insubstantial, measuring just 0.3m high. Adding the height of the buried courses and foundation to the above-ground wall gave an overall height of the structure of 4.2m.

*Plate 9: external foundation of the south-west bastion and southern ha-ha at the base of ditch **15**.*

8.11 The profile through ditch **15** revealed that it had been initially filled by a 0.2m-thick colluvial, waterlogged deposit of greenish-grey silty clay (**09**). Later, it had been deliberately backfilled with dumps of relatively modern refuse (**08**), comprised primarily of concrete blocks and bricks as well as a notable quantity of post-medieval refuse, including glass bottles, ceramic jars, transfer-printed pottery and tin cans. The ditch was then topped by a layer of hardcore to consolidate the farm track that runs past the bastion to the south.

South-west bastion interior (Fig. 3)

8.12 A trench was excavated by machine along the interior of the eastern edge of the bastion. It was excavated in stages as the internal masonry was dismantled until the base of the foundations was reached. The west edge of the trench was stepped for safety reasons. Internal elevations were cleaned by hand by the archaeologist where safe to do so.

Plate 10: inner foundation of the south-west bastion, cut into natural clay.

8.13 The bastion had been constructed in three stages, with the inner foundations, rubble core and ashlar facing applied contemporaneously course-by-course. Two internal steps of roughly squared sandstone blocks, built to courses, were intended to be

buried beneath the infill of the bastion. The first was a 1.1m-wide and 2.3m-high foundation, of which the initial 0.5m was bedded into the natural pinkish-brown clay (**10**, Plate 10).

8.14 The mid-section stepped inwards from the first and measured 0.8m wide and 1.4m high (Plate 11). Within this second step, the triangular blocks mentioned previously were recorded (see 6.8–6.9, Plate 6). The final stage was an upper wall of dressed ashlar, topped with coping. This comprised two courses, 0.4m wide and 0.6m high, around the majority of the span of the bastion, except at each end where the ashlar was stepped down to 8 courses (c.2m high), level with the top of the ha-ha walls, reflecting the intended original slope of the landscaped interior.

Plate 11: internal elevation of the east side of the south-west bastion, showing partially exposed foundation step, mid-section, and upper ashlar courses. The original level of the internal deposits is denoted by the dark staining.

8.15 After construction, the area within the bastion was infilled with a sequence of deposits, built-up to create an artificial slope leading from ground level to the bottom of the upper ashlar wall. Evidence of this sequence was visible in the west section of the trench. The natural clay (**10**) had been stripped of topsoil prior to the construction of the bastion foundations. On top of the natural clay there was a mixed deposit of clay, sandy soil and degraded sandstone fragments (**11**). This was overlain by a 0.4m-

thick layer of greyish-brown sand that contained lenses of orange sand and charcoal flecks (**07**, Plate 12).

*Plate 12: south-facing section through the infill of the south-west bastion, showing (from bottom to top) deposits **11**, **07** and **06**.*

*Plate 13: east-facing section through the infill of the south-west bastion, showing (from bottom to top) deposits **03**, **02** and topsoil **01**.*

8.16 Above sandy deposit **07** there was a substantial layer of pinkish-brown clay (**06**), up to 0.8m thick, which contained fragments of coal and slag, seemingly resulting from both iron and glass production. Deposit **06** was overlaid by mixed clay (**03**), which was variously yellow, with lenses of brown, bluish-grey and black and measured up to 1.7m thick against the internal face of the masonry (Plate 13). It appears that clay **03** was a levelling deposit for a subsequent layer of compacted clay and sandstone rubble (**02**), up to 0.8m thick onto which topsoil and turf (**01**) had then been laid.

8.17 The interior trench also served to highlight an attempt to previously repair the shifting masonry of the bastion. This was not immediately obvious from an inspection of the exterior. A large section of the eastern face of the structure had been dismantled and rebuilt, but only down to the present, external ground level of the infilled ditch. An attempt had been made to retain the internal stepped foundation; however, the coursing was increasingly irregular in comparison to the original structure and there was a distinct absence of the thick lime mortar that bonded the interior to the rubble core elsewhere. This may account for the pronounced outward bowing of the eastern face that necessitated the current scheme of renovations. No cut was evident through the internal deposits, indicating that the repair work had been conducted externally, the stones being pressed into the original internal deposits. Plastic packaging retrieved from between the replaced foundation stones suggests that this phase of repair occurred in the latter half of the 20th century and most likely corresponds to the installation of concrete coping slabs along the top of the bastion.

8.18 Further modern interventions were recorded within the access ramp into the interior trench, where an east to west linear feature (**13**), 2m wide, cut through the topsoil immediately beneath the turf (Plate 14). The cut was infilled with sandstone rubble and black soil (**14**) that contained elements of early 20th-century grave furniture, fragments of white ceramic edging, an iron wreath and green glass fragments, as well as modern plastic refuse. To the north, beneath the boards of the access track, the top of white ceramic edging marking a previously unrecorded grave was recorded. No further disturbance to the grave occurred, but the same decorative edging can be seen on graves immediately to the south, dating to the early 1900s.

*Plate 14: feature **13** cutting through topsoil and deposit **02**, looking south-east.*

Plate 15: slot excavated along the eastern face of the statue plinth foundation.

Statue plinth

8.19 The base of the central statue plinth (**04**) was visible within the interior of the bastion. It measured 1.05m by 1m square, and comprised two courses of rectangular ashlar, 0.53m high, surrounding a rubble core. The ashlar sat upon a 0.15m-thick sandstone slab on top of a rubble and lime mortar foundation. An exploratory slot along the eastern edge of the plinth showed that the foundation was at least 0.5m high (Plate 15).

8.20 Previous excavations of the north-east bastion in the hall grounds had demonstrated that the foundations of the statue plinths were, like the bastion walls, established within the natural clay (NAA 2020). The south-west bastion statue plinth appears to be similar in construction and was erected after the completion of the outer wall but prior to the infilling of the interior.

8.21 The upper courses that would have formed the decorative element of the plinth superstructure were scattered around the base in a haphazard fashion (see Plate 5). The plinth would have been constructed of three courses of dressed stone that, when assembled, featured a rectangular plaque on each face of the base. Chamfered stone slabs with moulded edges were placed along the top and bottom of the structure. There were notches in the upper slabs, some of which featured in situ fragments of iron that presumably once anchored the statue to the plinth (Plate 16).

Plate 16: fragments of the statue plinth superstructure from the south-west bastion. The statue anchor points can be seen on the blocks at the centre.

8.22 From comparisons with the in situ plinth within the north-west bastion (Plate 17), it appeared that most of the pieces were present to facilitate a full reconstruction. The blocks were removed from around the foundation and placed on boards to the north of the bastion, with the intention to reconstruct and reinstate the plinth on completion of the works.

Plate 17: statue plinth and surviving statue of Diana within the north-west bastion.

West ha-ha wall (Fig. 4)

8.23 Only the portion of the west ha-ha wall running south from the churchyard fence was repaired as part of the recorded scheme of works; a span of c.100m, running northwards from the bastion.

8.24 Six sections of the western ha-ha were dismantled and rebuilt. In the majority of cases, the displacement of the masonry had been caused by extensive root

disturbance from mature trees planted along the top of the ha-ha wall, around the perimeter of the graveyard. In the case of Section 5, the disturbance probably originated from the excavation of two graves directly behind the wall during the late 20th century (Plate 16), although no human remains were exposed during remediation works. The stone facing of Section 3 had also suffered disturbance, probably during the installation of a modern septic tank within the ditch, adjacent to the ha-ha wall.

Plate 18: two graves directly behind the western ha-ha wall.

8.25 The west ha-ha wall was visible up to 1.87m high, although the foundations were hidden beneath the fill of the associated ditch and were not seen during the remediation works. The construction of the wall comprised an ashlar face of rectangular blocks, behind which was a non-mortared rubble core to retain the earth behind. Bands of mortar that remained following removal of the ashlar facing stones demonstrated that, like the bastion, the ha-ha wall was constructed in courses: first the ashlar was placed, then the space behind filled with rubble, then the entire course covered with a layer of mortar. All six sections displayed the same construction technique (Plates 19–31).

8.26 In all instances, the ashlar facing was removed along with the old mortar, the roots of the trees were cut back and treated to prevent regrowth and then the facing replaced, with each course being topped with wire mesh and lime mortar to tie the facing into the rubble revetment behind.

Section 1

8.27 Section 1 (Plates 19–20) was located c.5m south of the churchyard boundary and had been disturbed by tree-rooting. Six courses of ashlar facing were removed over a span of 3m.

Plate 19: pre-intervention photograph of Section 1.

Plate 20: Section 1 of the west ha-ha after removal of the ashlar facing.

Section 2

8.28 Section 2 (Plates 21–22) was located c.12m to the south of Section 1 and had suffered extensive disturbance from the rooting of two mature trees. The rootlets had grown along the mortar beds and through the rubble core behind. Six courses of ashlar facing were removed over a span of 8m.

Plate 21: pre-intervention photograph of Section 2.

Plate 22: Section 2 of the west ha-ha after removal of the ashlar facing.

Section 3

8.29 Section 3 (Plates 23–24) was located c.10m to the south of Section 2 and had suffered disturbance from the roots of a large mature tree and perhaps from the installation of a modern septic tank in the ha-ha ditch directly below. Four courses of ashlar facing were removed over a span of 4m and the tree root cut back so it was flush with the rear of the ha-ha wall to allow the ashlar to be replaced.

Plate 23: pre-intervention photograph of Section 3.

Plate 24: Section 3 of the west ha-ha after removal of the ashlar facing.

Section 4

8.30 Section 4 (Plates 25– 27) was located c.10m to the south of Section 3 and had suffered substantial root disturbance. Four courses of ashlar facing were removed over a span of c.10m and the root systems removed.

Plate 25: pre-intervention photograph of Section 4.

Plate 26: Section 4 of the west ha-ha after removal of the ashlar facing.

8.31 A single ashlar facing-stone within Section 4 of the west ha-ha was the only example in the entire south-western quadrant to indicate potential reuse. It displayed two horizontal incised lines with the upper portion of the face filled by closely set diagonal lines, which most likely formed part of a larger scheme of decoration (Plate 27). Otherwise, the only markings noted were on occasional stones showing rows of horizontal dashes or circular depressions, as recorded on blocks within the bastion.

Plate 27: potentially reused facing stone in Section 4 of the west ha-ha.

Section 5

8.32 Section 5 (Plates 28–29) was located c.3m to the south of Section 4 and had suffered disturbance from the excavation of two 20th-century graves directly behind the ha-ha wall and from a semi-mature tree set in the wall directly to the north of the graves. Six courses of ashlar facing-stones were removed over a span of c.6m and demonstrated that the excavation of the graves had left the rubble revetment behind intact. The roots were removed, and the tree stump cut back before the facing stones were replaced.

Plate 28: pre-intervention photograph of Section 5.

Plate 29: Section 5 of the west ha-ha after the removal of the ashlar facing.

Section 6

8.33 Section 6 (Plates 30–31) was located c.10m south of Section 5 and c.7m north of the south-west bastion and had suffered disturbance from the root system of a large, mature tree. Seven courses of ashlar facing were removed over a span of 3m.

Plate 30: pre-intervention photograph of Section 6.

Plate 31: Section 6 of the west ha-ha after the removal of the ashlar facing.

South ha-ha (Fig. 5)

8.34 The southern ha-ha had suffered far less disturbance than its western counterpart and south-west bastion and therefore the remediation works were less intrusive. The western extent was repointed with fresh mortar and fallen blocks from the upper course were retrieved from the ha-ha ditch and reinstated. New sandstone blocks were installed where those from the upper course were lost. No sections of masonry were removed, and no ground intervention made within the churchyard. There was therefore only limited archaeological monitoring during this work.

9.0 DISCUSSION

9.1 The construction of the south-west bastion was consistent with that of its three counterparts recorded during archaeological monitoring as part of 'The Curtain Rises' project (NAA 2020). The outer face of the structure comprised even courses of dressed ashlar, while the stepped interior was built of roughly dressed blocks, with an upper internal parapet comprising two courses of dressed ashlar that define the viewing platform. The only element encountered in the current scheme of monitoring, that was not seen in previous work was the external stepped foundation at the base of the outer ditch. This was demonstrated to be fairly insubstantial, considering the overall size of the structure, measuring just 0.3m high and stepping out by 0.1m. The trench excavated around the exterior of the bastion showed that this foundation course continued beneath the south ha-ha and it can be assumed was implemented around the entirety of the enclosure.

9.2 The foundation of a central statue plinth within the bastion would probably have been constructed at the same time as the bastion wall. Although only an exploratory slot was dug along the eastern face, previous interventions in the north-east bastion demonstrated that the foundation was probably dug into the natural clay (NAA 2020). The components of the decorated plinth facing were scattered around the base and will be reconstructed as part of the final stages of the scheme. However, the whereabout of the original statue is unknown.

9.3 Following the construction of the bastion and statue plinth, the interior was infilled with a series of deposits and landscaped to form a slope up to the viewing platform. The deposits recorded within the make-up of the south-west bastion also compare closely with the crushed stone rubble and mixed soils and clays recorded during excavations of the other bastions within the hall grounds (NAA 2020). It is likely that

these substantial deposits of material originated from the various industries undertaken by the Delaval family in the surrounding area, as evidenced by occasional fragments of slag from iron and glass working retrieved from clay deposit **06**. This reuse of materials can be seen across the estate in the capping of walls with slag reclaimed from the nearby Royal Hartley Bottle Works.

9.4 One of the main aims of the archaeological monitoring was to assess the removed stonework from the south-west bastion and west ha-ha for evidence of reuse from earlier structures believed to have been located in the vicinity, most notably the medieval castle noted on the First Edition OS map (Plate 2). Given the considerable quantities of stone required in the construction of the 18th-century hall and associated landscape structures, the reuse of any available building stone might be anticipated, although there is no direct reference to the building accounts of the period.

9.5 No evidence of reused tracery or moulding was found during the renovation works, except for a single block from the west ha-ha wall, which featured a linear groove and diagonal droved tooling (Plate 27). However, a number of stones were dressed with horizontal dashes or rows of circular depressions, though there did not appear to be uniformity in the distribution of the marks, which would be expected if they were decorative. Furthermore, such decoration would seem rather redundant on a wall that was largely screened from view. Similarly, there would seem to be no reason to tool the surface of the ha-ha to improve plaster adhesion, given there is little to suggest the ha-ha was ever rendered. This may be evidence, therefore, of the reuse of stone from an earlier building. Alternatively, the material may have been tooled at the quarry for an alternative purpose and simply been redirected for use on the ha-ha.

9.6 Although not visible from the external elevation, the removal of the infill around the eastern interior of the bastion revealed a later repair to the structure, dated by plastic wrappers retrieved from within the stones to the 20th century. No disturbance was apparent within the sequence of internal fills, which indicates that the repair was conducted from the exterior and accounts for the lack of pointing on this section of the internal face of the bastion. The repair was only conducted to the height of the modern ground level, indicating that any collapse and subsequent rebuilding had occurred after the infilling of the outer ditch. This episode of renovation probably corresponds to the installation of the modern concrete coping.

9.7 No evidence of any pre-18th century activity was recorded, or of the formal gardens

seen on the 1781 estate plan. However, the subsequent planting of woodland and opening of the graveyard for parish burials is likely to have removed any but the most substantial evidence for such earlier activity.

9.8 No human remains were seen during the works. An assemblage of post-medieval finds was recovered and photographed but was not retained on the advice of NAA materials specialists.

10.0 ARCHIVE DEPOSITION

10.1 Digital copies of the report will be provided to Historic England and the Newcastle Diocesan Chancellor. On their approval, a copy will also be sent to the Northumberland Historic Environment Record (HER). On approval by the HER, a copy of the report, all digital material and scans of the paper archive will be deposited with the Archaeology Data Service . There is no finds assemblage.

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APPENDIX A

CONTEXT CATALOGUE

Context Number	Interpretive Description
01	Topsoil
02	Rubble infill of the bastion
03	Mixed bluish-grey clay beneath **02**
04	Statue plinth
05	South-west bastion wall
06	Mixed pinkish-brown clay beneath **03**
07	Greyish-brown sand beneath **06**
08	Upper ditch fill of modern refuse in **15**
09	Colluvial ditch fill beneath **08** in **15**
10	Natural clay
11	Mixed stony layer beneath **07**
12	Western ha-ha wall
13	Cut of modern ditch in access ramp
14	Fill of **13**
15	Cut of enclosure ditch around the bastion and ha-ha

APPENDIX B
PHOTOGRAPH CATALOGUE

Image No.	Phase of work	Location	Contexts	Facing	Scales	Description	Film type	Date	Initials
1	Pre-intervention	South Ha-ha	N/A	N	2m	Section of southern Ha-ha	Digital	20/04/2021	KC
2	Pre-intervention	South Ha-ha	N/A	N	2m	Section of southern Ha-ha	Digital	20/04/2021	KC
3	Pre-intervention	South Ha-ha	N/A	N	2m	Section of southern Ha-ha	Digital	20/04/2021	KC
4	Pre-intervention	South Ha-ha	N/A	N	2m	Section of southern Ha-ha	Digital	20/04/2021	KC
5	Pre-intervention	South Ha-ha	N/A	N	2m	Section of southern Ha-ha	Digital	20/04/2021	KC
6	Pre-intervention	South Ha-ha	N/A	N	2m	Section of southern Ha-ha	Digital	20/04/2021	KC
7	Pre-intervention	South Ha-ha	N/A	N	2m	Section of southern Ha-ha	Digital	20/04/2021	KC
8	Pre-intervention	South Ha-ha	N/A	N	2m	Section of southern Ha-ha	Digital	20/04/2021	KC
9	Pre-intervention	South Ha-ha	N/A	N	2m	Section of southern Ha-ha	Digital	20/04/2021	KC
10	Pre-intervention	South Ha-ha	N/A	N	2m	Section of southern Ha-ha	Digital	20/04/2021	KC
11	Pre-intervention	South Ha-ha	N/A	N	2m	Section of southern Ha-ha	Digital	20/04/2021	KC
12	Pre-intervention	South Ha-ha	N/A	N	2m	Section of southern Ha-ha	Digital	20/04/2021	KC
13	Pre-intervention	South Ha-ha	N/A	N	2m	Section of southern Ha-ha	Digital	20/04/2021	KC
14	Pre-intervention	South Ha-ha	N/A	N	2m	Section of southern Ha-ha	Digital	20/04/2021	KC
15	Pre-intervention	South Ha-ha	N/A	N	2m	Section of southern Ha-ha	Digital	20/04/2021	KC
16	Pre-intervention	South Ha-ha	N/A	N	2m	Section of southern Ha-ha	Digital	20/04/2021	KC
17	Pre-intervention	South Ha-ha	N/A	N	2m	Section of southern Ha-ha	Digital	20/04/2021	KC
18	Pre-intervention	South Ha-ha	N/A	NE	2m	General view of the southern Ha-ha	Digital	20/04/2021	KC
19	Pre-intervention	South Ha-ha	N/A	E	2m	General view of the southern Ha-ha	Digital	20/04/2021	KC
20	Pre-intervention	South Ha-ha	N/A	NW	2m	General view of the southern Ha-ha	Digital	20/04/2021	KC
21	Pre-intervention	South Ha-ha	N/A	W	2m	General view of the southern Ha-ha	Digital	20/04/2021	KC
22	Pre-intervention	South Ha-ha	N/A	NW	2m	View showing the southern Ha-ha joining the SW bastion	Digital	20/04/2021	KC
23	Pre-intervention	South Ha-ha	N/A	W	2m	Top of the facing wall of the southern Ha-ha	Digital	20/04/2021	KC
24	Pre-intervention	South Ha-ha	N/A	W	2m	Top of the facing wall of the southern Ha-ha	Digital	20/04/2021	KC
25	Pre-intervention	South Ha-ha	N/A	E	2m	Top of the facing wall of the southern Ha-ha	Digital	20/04/2021	KC
26	Pre-intervention	South Ha-ha	N/A	E	2m	Top of the facing wall of the southern Ha-ha	Digital	20/04/2021	KC
27	Pre-intervention	South Ha-ha	N/A	E	2m	Top of the facing wall of the southern Ha-ha	Digital	20/04/2021	KC
28	Pre-intervention	South Ha-ha	N/A	S	2m	Top of the facing wall of the southern Ha-ha	Digital	20/04/2021	KC

Image No.	Phase of work	Location	Contexts	Facing	Scales	Description	Film type	Date	Initials
29	Pre-intervention	South Ha-ha	N/A	W	2m	Top of the facing wall of the southern Ha-ha where it joins the bastion	Digital	20/04/2021	KC
30	Pre-intervention	South Ha-ha	N/A	W	2m	Top of the facing wall of the southern Ha-ha where it joins the bastion	Digital	20/04/2021	KC
31	Pre-intervention	Bastion	N/A	S	2m	Interior wall of bastion	Digital	20/04/2021	KC
32	Pre-intervention	Bastion	N/A	SW	2m	General view of the interior of the bastion	Digital	20/04/2021	KC
33	Pre-intervention	Bastion	N/A	E	2m	Interior wall of bastion	Digital	20/04/2021	KC
34	Pre-intervention	Bastion	N/A	SE	1m	Interior wall of bastion	Digital	20/04/2021	KC
35	Pre-intervention	Bastion	N/A	S	1m	Interior wall of bastion	Digital	20/04/2021	KC
36	Pre-intervention	Bastion	N/A	SW	1m	Interior wall of bastion	Digital	20/04/2021	KC
37	Pre-intervention	Bastion	N/A	E		Interior wall of bastion	Digital	20/04/2021	KC
38	Pre-intervention	Bastion	N/A	SW		Detail of the interior wall of the bastion	Digital	20/04/2021	KC
39	Pre-intervention	Bastion	N/A	S	1m	Interior wall of bastion	Digital	20/04/2021	KC
40	Pre-intervention	Bastion	N/A	SW	1m	Interior wall of bastion	Digital	20/04/2021	KC
41	Pre-intervention	Bastion	N/A	W	1m	Interior wall of bastion	Digital	20/04/2021	KC
42	Pre-intervention	Bastion	N/A	NW	1m	Interior wall of bastion	Digital	20/04/2021	KC
43	Pre-intervention	Bastion	N/A	N	1m	Interior wall of bastion	Digital	20/04/2021	KC
44	Pre-intervention	Bastion	N/A	SW		General view of the bastion wall and infill	Digital	20/04/2021	KC
45	Pre-intervention	Bastion	N/A	W	2m	Interior wall of bastion	Digital	20/04/2021	KC
46	Pre-intervention	Bastion	N/A	SW	1x1m	General view of collapsed statue plinth	Digital	20/04/2021	KC
47	Pre-intervention	Bastion	N/A	S	1x1m	General view of collapsed statue plinth	Digital	20/04/2021	KC
48	Pre-intervention	Bastion	N/A	S	2m	Exterior of bastion showing where it joins the western Ha-ha	Digital	20/04/2021	KC
49	Pre-intervention	Bastion	N/A	S	2m	Exterior of bastion	Digital	20/04/2021	KC
50	Pre-intervention	Bastion	N/A	E	2m	Exterior of bastion	Digital	20/04/2021	KC
51	Pre-intervention	Bastion	N/A	NE	2m	Exterior of bastion	Digital	20/04/2021	KC
52	Pre-intervention	Bastion	N/A	NE	2m	Exterior of bastion	Digital	20/04/2021	KC
53	Pre-intervention	Bastion	N/A	N	2m	Exterior of bastion	Digital	20/04/2021	KC
54	Pre-intervention	Bastion	N/A	N	2m	Exterior of bastion	Digital	20/04/2021	KC
55	Pre-intervention	Bastion	N/A	NW	2m	Exterior of bastion	Digital	20/04/2021	KC

Image No.	Phase of work	Location	Contexts	Facing	Scales	Description	Film type	Date	Initials
56	Pre-intervention	Bastion	N/A	NW	2m	Exterior of bastion	Digital	20/04/2021	KC
57	Pre-intervention	Bastion	N/A	N	2m	Detail of the bulge in the wall of the bastion	Digital	20/04/2021	KC
58	Pre-intervention	Bastion	N/A			Detail of tool marks	Digital	20/04/2021	KC
59	Pre-intervention	Bastion	N/A	W	2m	Exterior of bastion showing where it joins the southern Ha-ha	Digital	20/04/2021	KC
60	Pre-intervention	Bastion	N/A			Detail of tool marks	Digital	20/04/2021	KC
61	Pre-intervention	West Ha-ha	N/A	E	2m	Section of western Ha-ha	Digital	20/04/2021	KC
62	Pre-intervention	West Ha-ha	N/A	E	2m	Section of western Ha-ha	Digital	20/04/2021	KC
63	Pre-intervention	West Ha-ha	N/A	N	2m	General view of the western Ha-ha	Digital	20/04/2021	KC
64	Pre-intervention	West Ha-ha	N/A	E	2m	Section of western Ha-ha	Digital	20/04/2021	KC
65	Pre-intervention	West Ha-ha	N/A	E	2m	Section of western Ha-ha	Digital	20/04/2021	KC
66	Pre-intervention	West Ha-ha	N/A	S	2m	General view of the western Ha-ha	Digital	20/04/2021	KC
67	Pre-intervention	West Ha-ha	N/A	E	2m	Section of western Ha-ha	Digital	20/04/2021	KC
68	Pre-intervention	West Ha-ha	N/A	E	2m	Section of western Ha-ha	Digital	20/04/2021	KC
69	Pre-intervention	West Ha-ha	N/A	E	2m	Section of western Ha-ha	Digital	20/04/2021	KC
70	Pre-intervention	West Ha-ha	N/A	E	2m	Section of western Ha-ha	Digital	20/04/2021	KC
71	Pre-intervention	West Ha-ha	N/A	N	2m	General view of the western Ha-ha	Digital	20/04/2021	KC
72	Pre-intervention	West Ha-ha	N/A	E	2m	Section of western Ha-ha	Digital	20/04/2021	KC
73	Pre-intervention	West Ha-ha	N/A	E	2m	Section of western Ha-ha	Digital	20/04/2021	KC
74	Pre-intervention	West Ha-ha	N/A	E	2m	Section of western Ha-ha	Digital	20/04/2021	KC
75	Pre-intervention	West Ha-ha	N/A	E	2m	Section of western Ha-ha	Digital	20/04/2021	KC
76	Pre-intervention	West Ha-ha	N/A	E	2m	Section of western Ha-ha	Digital	20/04/2021	KC
77	Pre-intervention	West Ha-ha	N/A	N	2m	General view of the western Ha-ha	Digital	20/04/2021	KC
78	Pre-intervention	West Ha-ha	N/A	NE	2m	Section of western Ha-ha	Digital	20/04/2021	KC
79	Pre-intervention	West Ha-ha	N/A	SE	2m	General view of the western Ha-ha showing a bulge in the wall	Digital	20/04/2021	KC
80	Pre-intervention	West Ha-ha	N/A	SE	2m	General view of the western Ha-ha showing a bulge in the wall	Digital	20/04/2021	KC
81	Pre-intervention	West Ha-ha	N/A	NE	2m	General view of the western Ha-ha	Digital	20/04/2021	KC
82	Pre-intervention	West Ha-ha	N/A	SE	2m	General view of the western Ha-ha	Digital	20/04/2021	KC

Image No.	Phase of work	Location	Contexts	Facing	Scales	Description	Film type	Date	Initials
83	Pre-intervention	West Ha-ha	N/A	N	2m	General view of the western Ha-ha	Digital	20/04/2021	KC
84	Pre-intervention	West Ha-ha	N/A	SE	2m	Section of western Ha-ha	Digital	20/04/2021	KC
85	Pre-intervention	West Ha-ha	N/A	E	2m	Section of western Ha-ha	Digital	20/04/2021	KC
86	Pre-intervention	West Ha-ha	N/A	NE	2m	Section of western Ha-ha	Digital	20/04/2021	KC
87	Pre-intervention	West Ha-ha	N/A	E	2m	Section of western Ha-ha	Digital	20/04/2021	KC
88	Pre-intervention	West Ha-ha	N/A	S	2m	General view of the top of the Ha-ha wall	Digital	20/04/2021	KC
89	Pre-intervention	West Ha-ha	N/A	S	2m	General view of the top of the Ha-ha wall	Digital	20/04/2021	KC
90	Pre-intervention	West Ha-ha	N/A	N	2m	General view of the top of the Ha-ha wall	Digital	20/04/2021	KC
91	Monitoring	Bastion	4	SW	1x0.5m	Statue plinth pre-ex	Digital	05/05/2021	HD
92	Monitoring	Bastion	4		1x0.5m	Plinth piece with anchor	Digital	05/05/2021	HD
93	Monitoring	Bastion	4			Laid out masonry blocks of statue plinth	Digital	05/05/2021	HD
94	Monitoring	Bastion	5			Bastion upper facing removed	Digital	05/05/2021	HD
95	Monitoring	Bastion	4	W	1x1m	E-facing elevation of plinth foundation	Digital	05/05/2021	HD
96	Monitoring	Bastion	5			Triangular "through" stone	Digital	06/05/2021	HD
97	Monitoring	Bastion	01, 02, 03	S	1x1m	Section through bastion deposits	Digital	06/05/2021	HD
98	Monitoring	Bastion	5	S	1x1m	Overview of internal elevation	Digital	07/05/2021	HD
99	Monitoring	Bastion	5	E	1x1m	Overview of internal elevation	Digital	07/05/2021	HD
100	Monitoring	Bastion	5	NE	1x1m	Overview of internal elevation	Digital	08/05/2021	HD
101	Monitoring	Bastion	5	SW	1x1m	Overview of internal elevation	Digital	08/05/2021	HD
102	Monitoring	Bastion	5	SE	1x1m	Large fault, internal elevation	Digital	08/05/2021	HD
103	Monitoring	Bastion	6	SE	1x1m	Large fault, internal elevation	Digital	08/05/2021	HD
104	Monitoring	Bastion	7	SE	1x1m	Large fault, internal elevation	Digital	08/05/2021	HD
105	Monitoring	Bastion	5			Dismantling eastern "bulge"	Digital	08/05/2021	HD
106	Monitoring	Bastion	5	E	1x1m	Overview of internal elevation	Digital	08/05/2021	HD
107	Monitoring	Bastion	01, 02, 03, 05	SW	1x1m	Infill of bastion	Digital	08/05/2021	HD
108	Monitoring	Bastion	01, 02, 03, 05	SW	1x1m	Infill of bastion	Digital	08/05/2021	HD
109	Monitoring	NW Bastion				NW Bastion with Diana statue	Digital	12/05/2021	HD
110	Monitoring					Example of statue plinth	Digital	12/05/2021	HD

Image No.	Phase of work	Location	Contexts	Facing	Scales	Description	Film type	Date	Initials
111	Monitoring	Bastion	5	S	1x0.5m	Section through bastion wall	Digital	12/05/2021	HD
112	Monitoring	Bastion	03, 06, 07	SW	1x1m	Infill of bastion	Digital	13/05/2021	HD
113	Monitoring	Bastion	03, 05, 06, 07	E, SE	1x1m	Interior wall and infill	Digital	13/05/2021	HD
114	Monitoring	Bastion	5			Chisel marks on facing stones	Digital	14/05/2021	HD
115	Monitoring	Bastion	5			Chisel marks on facing stones	Digital	14/05/2021	HD
116	Monitoring	Bastion	5	SW	1x1m	Overview of internal elevation	Digital	15/05/2021	HD
117	Monitoring	Bastion	5	W	1x1m	Exposed rubble core of bastion wall	Digital	18/05/2021	HD
118	Monitoring	Bastion	5	NE	1x1m	Exposed rubble core of bastion wall	Digital	18/05/2021	HD
119	Monitoring	Bastion	5	NE	1x1m	Exposed rubble core of bastion wall	Digital	18/05/2021	HD
120	Monitoring	Ditch	TP1, 08			Co-op jar from modern infill of ditch 15	Digital	18/05/2021	HD
121	Monitoring	Bastion and Ha-ha	TP1, 05	NE	1x1m	Rubble foundation of bastion and ha-ha	Digital	18/05/2021	HD
122	Monitoring	Bastion and Ha-ha	TP1, 05	NE	1x1m	Rubble foundation of bastion and ha-ha	Digital	18/05/2021	HD
123	Monitoring	Ditch	TP3	NE		Modern concrete blocks in ditch 15	Digital	18/05/2021	HD
124	Monitoring	Bastion	TP3, 05	N	1x1m	South-facing elevation of bastion showing large crack to foundation level	Digital	18/05/2021	HD
125	Monitoring	Ditch	TP3, 09	W	1x1m	East-facing section TP3 showing fill of ditch 15	Digital	18/05/2021	HD
126	Monitoring	Bastion	TP2, 05	NW	1x1m	Tilting foundation courses at east side of bastion	Digital	19/05/2021	HD
127	Monitoring	Bastion	05, 06, 07, 11	N	1x1m	Deposits in bastion infill	Digital	19/05/2021	HD
128	Monitoring	Bastion	05, 06, 07, 11	NE	1x1m	Repaired inner foundation of bastion, no mortar	Digital	19/05/2021	HD
129	Monitoring	West Ha-ha	Section 3	E	1x1m	Dismantled section western ha-ha	Digital	20/05/2021	HD
130	Monitoring	West Ha-ha	Section 3	E		Removed blocks from section 3	Digital	20/05/2021	HD
131	Monitoring	West Ha-ha	Section 5	E	1x1m	Section 5, western ha-ha, behind graves	Digital	20/05/2021	HD
132	Monitoring	West Ha-ha	Section 6	E	1x1m	Section 6, western ha-ha	Digital	20/05/2021	HD
133	Monitoring	West Ha-ha	Section 6	SE		Section 6, western ha-ha, looking towards bastion	Digital	20/05/2021	HD
134	Monitoring	West Ha-ha	Sections 6 & 5	NE	1x1m	Sections 6 & 5, western ha-ha	Digital	20/05/2021	HD
135	Monitoring	West Ha-ha	Section 2			Section 2, western ha-ha with extensive rooting	Digital	24/05/2021	HD
136	Monitoring	West Ha-ha	Section 1	E		Northernmost section of western ha-ha	Digital	25/05/2021	HD
137	Monitoring	Bastion				Excavation of ramp, interior of bastion	Digital	25/05/2021	HD
138	Monitoring	Bastion	13, 14	E		Modern N-S linear in ramp	Digital	25/05/2021	HD

Image No.	Phase of work	Location	Contexts	Facing	Scales	Description	Film type	Date	Initials
139	Monitoring	Bastion	5	E		Internal foundation bastion, no step, shovel under base.	Digital	25/05/2021	HD
140	Monitoring	Finds	1		1x0.5m	Finds from topsoil 01	Digital	25/05/2021	HD
141	Monitoring	Finds	3		1x0.5m	Finds from upper clay 03	Digital	25/05/2021	HD
142	Monitoring	Finds	6		1x0.25m	Iron and glass slag from 06	Digital	25/05/2021	HD
143	Monitoring	Bastion	5	S		Internal foundation of bastion, no further excavation	Digital	26/05/2021	HD
144	Monitoring	West Ha-ha	Section 4			Potential worked facing stone of ha-ha	Digital	26/05/2021	HD
145	Monitoring	West Ha-ha	Section 4	NE		Section 4, western ha-ha	Digital	26/05/2021	HD
146	Monitoring	West Ha-ha	Section 4	NE		Section 4, western ha-ha	Digital	26/05/2021	HD
147	Monitoring	West Ha-ha	Sections 6 and 5	NE		Repairs to sections 6 and 5	Digital	09/06/2021	HD
148	Monitoring	West Ha-ha	Section 4	NE		Repair in progress	Digital	09/06/2021	HD
149	Monitoring	Bastion	5	W		Repair in progress to E foundation of bastion	Digital	09/06/2021	HD
150	Monitoring	Bastion	5	N		Reinstating rubble core of bastion wall	Digital	10/06/2021	HD
151	Monitoring	West Ha-ha	North end	NE	1m	Pre-intervention removal of tree root	Digital	12/07/2021	PM
152	Monitoring	West Ha-ha	North end	E	1m	Pre-intervention removal of tree root	Digital	12/07/2021	PM
153	Monitoring	West Ha-ha	North end	NNE	1m	Pre-intervention removal of tree root	Digital	12/07/2021	PM
154	Monitoring	West Ha-ha	North end	N/A		Root cutting underway (chain sawing)	Digital	12/07/2021	PM
155	Monitoring	West Ha-ha	North end	N/A		Removed masonry	Digital	12/07/2021	PM
156	Monitoring	West Ha-ha	North end	NNE	1m	Tree root removal underway	Digital	12/07/2021	PM
157	Monitoring	West Ha-ha	North end	E	1m	Tree root removal underway	Digital	12/07/2021	PM
158	Monitoring	West Ha-ha	North end	E	1m	Tree root removal underway	Digital	12/07/2021	PM
159	Monitoring	West Ha-ha	North end	NE		After tree root removal	Digital	13/07/2021	TF
160	Monitoring	West Ha-ha	North end	NE		After tree root removal	Digital	13/07/2021	TF

Church of Our Lady, Seaton Delaval: pre-intervention survey, south-west bastion external elevation

Figure 2

Church of Our Lady, Seaton Delaval: pre and post-intervention survey south-west bastion internal elevation

Figure 3

Church of Our Lady, Seaton Delaval: pre-intervention survey, west-facing elevation of west ha-ha wall.

Figure 4

33m SW

NE 33m

0 2m

scale 1:50 @ A3

Church of Our Lady, Seaton Delaval: pre-intervention survey, south-facing elevation of south ha-ha- wall.

Figure 5