

Archaeological watching brief at Buittle Castle, Buittle, Dumfries and Galloway

November 2016

A report for Connicks by John Pickin

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Scheduled Ancient Monument: Index No. 1115

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1 Introduction

1.1 This Data Structure Report presents the results of an archaeological watching brief undertaken for Connicks during the removal by SPIE of two pre-war electricity supply line towers within the scheduled area of Buittle Castle. Following the preparation of a Written Scheme of Investigation and the submission of a Scheduled Ancient Monument consent application permission was given to :

- Remove the two small pre-war steel lattice towers from concrete bases and remove them from site.
- Partially break out and remove the concrete bases of both towers.
- Reinststate the ground and re-seed with grass.

1.2 An archaeological watching brief was maintained during the groundworks. The main objectives of the watching brief were to ensure that the proposed work avoided damaging any archaeological remains and to record and recover any archaeological evidence impacted by groundworks.

2 Background

2.1 Buittle Castle is a courtyard castle dating to about 1230. It is built on a large 12th century motte and was destroyed early in the 14th century. North-west of the motte mound is an irregular bailey enclosure. The castle was a powerbase for the Balliols, one the most important landholding dynasties of Early Medieval Scotland.

2.2 The castle was excavated to some small extent during the nineteenth century. Parts of the bailey and moat were excavated in the 1990s (reported in DES 1993-20021) by the Stewartry Archaeological Trust when evidence was found for a range of plough-damaged stone and timber medieval buildings. Evidence was also found for prehistoric activity at the site.

2.3 Buittle Castle was scheduled in 2003.

3 Project Works and results

3.1 The watching brief took place on 7 November 2016. Ground conditions on the day of the watching brief were good but bright low level sunlight made it hard to detect more subtle soil changes in the excavated sections.

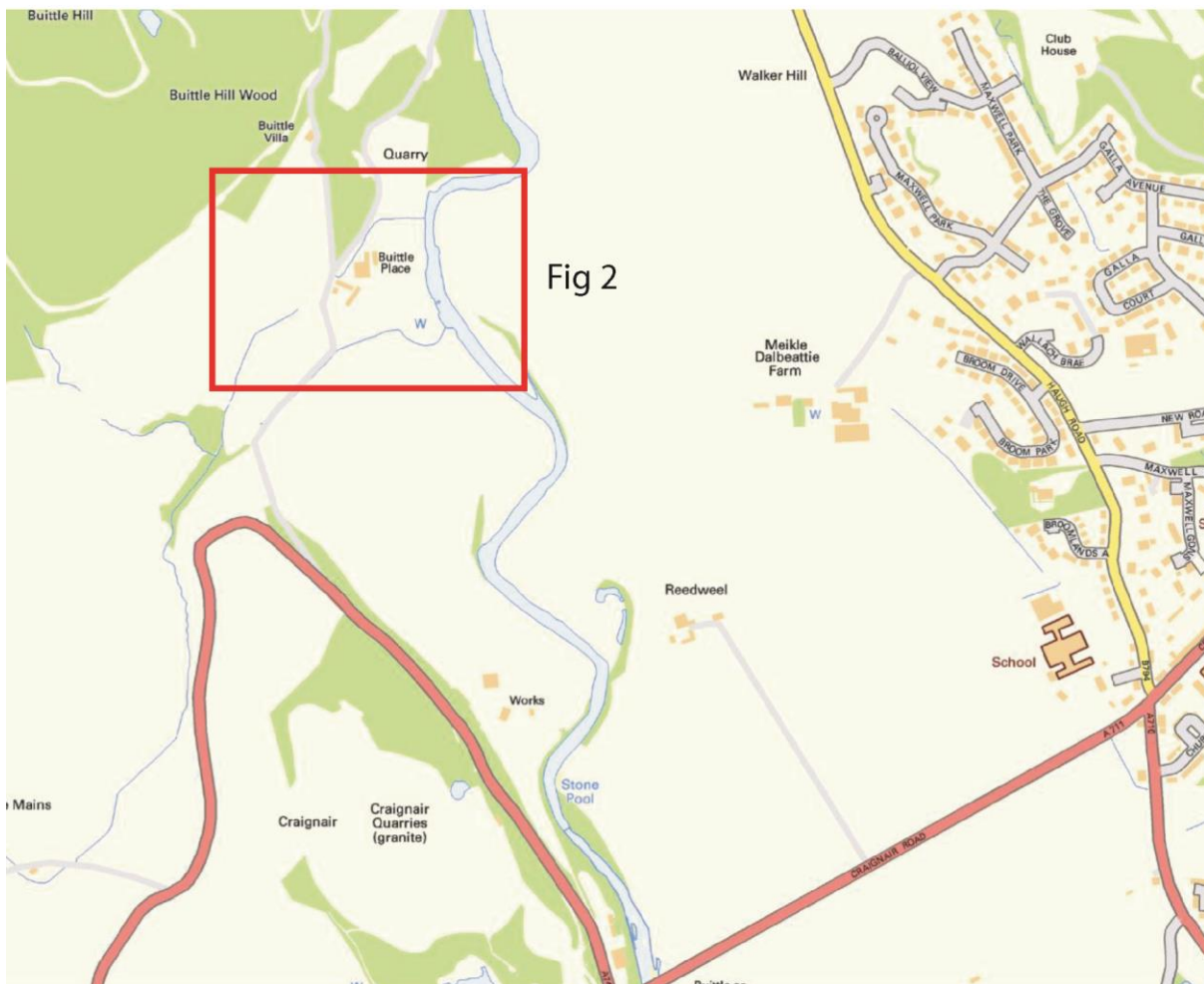


Fig 2

Fig 1. Site location map. Contains Ordnance Survey data © Crown Copyright and database 2014

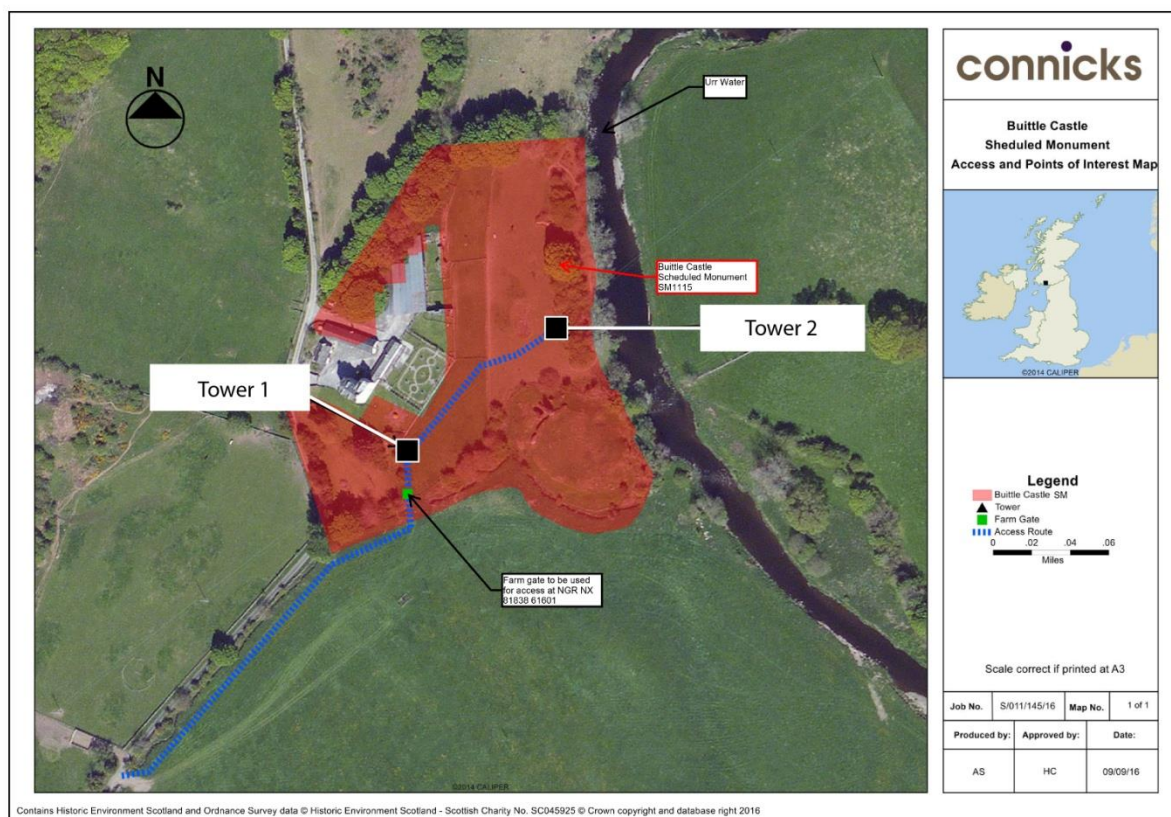


Fig 2. Aerial photograph showing extent of SAM and location of Towers 1 and 2.

3.2 The steel lattice towers were erected during the 1930s as part of an electricity supply line for the Edingham munitions plant at Dalbeattie. The towers to be removed were located within the bailey enclosure, an area of rough pasture north-west of the castle mound and east of the sixteenth century Buittle Tower (Fig 2).

3.3 A cherry picker was used to manually remove the ceramic insulators. The towers were cut close to their concrete bases, lowered on to straw bales to minimise ground impact and archaeological damage and were then removed from the site.

3.4 Tower 1 (NX 81837 61623) Figs.3a, 4, 6 and 7

3.4.1 Tower 1 was located on comparatively level ground in the the south central section of the bailey and close to the modern fence separating the pasture field from the garden of Buittle Tower. There were no obvious earthworks in the vicinity of the tower.

3.4.2 The tower's concrete base measured 0.55m x 0.90m and stood some 0.20m above ground level. A shallow trench, approximately 0.20m wide and 0.20m deep was hand-dug around the base and a mechanical pecker used to break out the concrete to a depth of around 0.45m. The remnant steel tower structure, exposed by pecking, was cut at the same depth and removed.

3.4.3 After pecking and reduction the excavation trench measured 1.05m x 1.40m x 0.45m deep. The excavated face comprised a very shallow (0.12m) top soil above a compact,

homogenous dark brown loam-like soil with occasional pebbles (Fig. 3a). There were no archaeological finds.

3.4.4 After recording the excavation trench was backfilled, the ground level reinstated and the surface reseeded.

3.5 Tower 2 (NX 81912 61679) Figs. 3 b-d, 5 and 8-11.

3.5.1 Tower 2 was located on the eastern edge of the field containing the bailey and may have been on or close to the line of any enclosure wall. The ground north of the tower was comparatively flat but to the south, and running parallel with the top of the slope, was an oval hollow measuring approximately 1.90m x 2.80m and beyond which was a low bank. Immediately east of the tower base the ground dropped steeply down slope to the the river Urr. The tower's concrete base measured 0.90m x 0.60m; the north end stood 0.15m above ground level and to the the south, due to a drop in ground level, 0.55m of the concrete face was exposed.

3.5.2 It had been intended to break out the concrete at an angle corresponding to the sloping ground. After inspection, however, it was realised that the presence within the concrete of the remains of the tower's steel legs would make this approach quite difficult and, given the restricted area for mechanical pecking, might damage the deposits around the base. Shallow hand-excavation (approx. 0.20m wide x 0.20m deep) indicated that the bottom of the base was only approximately 0.20m below ground level at the south end and it was felt that an alternative and less archaeologically damaging method would be to lift the base vertically. This change in approach was discussed in a telephone call with Historic Environment Scotland and it was agreed that lifting the concrete base was an acceptable alternative if it caused the least potential damage.

3.5.3 The base was removed by attaching webbing to the cut stubs of the steel legs and lifting vertically with the arm of the digger.. The concrete block was successfully removed within a machine trench measuring approximately 1.0m x 1.0m with a depth of 0.95m at the north-east corner and 0.45m at the south-west. Unexpectedly the tower's steel legs, encased in a concrete plug, extended below the base of the concrete for a further 0.80m.¹

3.5.4 Examination of the machine trench revealed a comparatively simple sequence of deposits (Fig. 3 b-d). At the north-west corner a top soil deposit (000), some 0.15m deep, sealed a mixed layer of black soil and orange clay (001) which sloped steeply to the west. This layer overlay a sloping deposit of orange sand and gravel (002) which at the south end contained two large stones (0.15m plus in length), one of which was lying at an angle suggesting tipping from the south. Beneath (002) was a deposit of finer gravel in a brown soil matrix (003); layer (003) was recorded in the north and south facing elevations but was not observed in the west facing elevation. The composition of (002) and (003) was very similar

¹ The SPIE contractors had previously removed the rest of the pylon towers on this supply line and said that they all had comparatively shallow concrete bases (typically 0.50m or less). Tower 2 was the only pylon they dealt with where the legs extended below the concrete base. This extension was presumably designed to provide additional support and security due to the tower's location on the top edge of a steep slope.

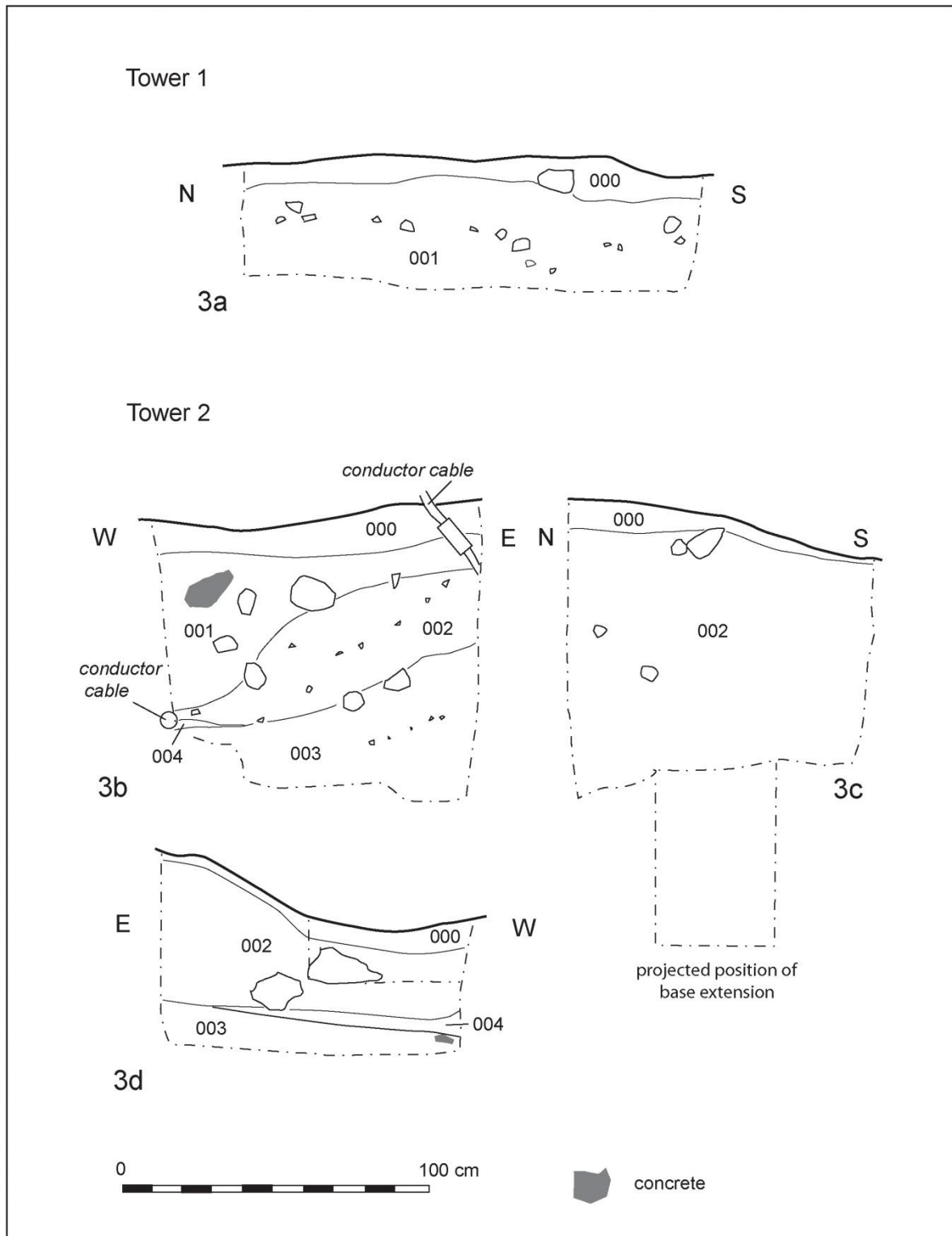


Fig 3 (a-d).

3a – west facing elevation, Tower 1; 3b – south facing elevation, tower 2; 3c – west facing section, Tower 2; 3d – north facing section, Tower 2.

and had the appearance of glacial sands and gravels. Sealed between (002) and (003) against the west side of the trench was a lens of black, humic soil and grey clay (004) which tapered to the south-east. The void left by the removal of the extension below the concrete base was too narrow for recording but its upper section appeared to be within a sand and gravel deposit similar to layers (002) and (003).

3.5.5. The deposits recorded in the trench excavation appear to be associated with the erection of the tower in the 1930s. Layer (001) contained a large piece of broken concrete, two separate sections of the tower's copper conductor cables were incorporated within layer (002) and layer (004) contained another concrete fragment. The stratigraphic association between the concrete fragments and conductor cables suggests that the deposits are contemporary and probably relate to the backfilling of the tower's construction trench. The sloping nature of layers (001) and (002) are also consistent with dumping and filling.

3.5.6 After recording the excavation trench was backfilled, the ground level reinstated and the surface reseeded.

4 Discussion

4.1 The method used to erect the towers could not be established but it is likely that the construction pits were excavated and shuttered and the tower footings positioned within the pits. Once the superstructures had been erected the pits were filled with concrete.

4.2 The primary layer (002) in the Tower 1 was a dark brown loam-like soil, probably an old plough zone deposit. It may have been disturbed and redeposited during the erection of the tower. No evidence was found for a construction pit edge.

4.2 A comparatively deep construction pit (in excess of 1.60m) would have been required to accommodate the concrete plug extension below the concrete base of Tower 2. This pit could have been constructed by excavating a vertical cut against the steep slope immediately to the east or alternatively by excavating a step-sided pit in the field. The oval depression noted south of the tower (3.5.1 above) may relate to an original construction pit. The sloping nature of layers (001) and (002) suggests tipped deposits, probably formed during the backfilling of the construction pit and this modern activity date is confirmed by the presence of concrete in the lowest recorded layer (004). No evidence was found for a construction pit edge.

4.3 No archaeological deposits or artefacts were found in either trench. It can be assumed that any potential archaeological deposits were disturbed or destroyed during the pre-war erection of the towers.

5 Appendix 1 - Record Summaries

5.1 Context summaries

Tower 1		
Number	Description	Interpretation
000	Top soil	
001		Tower construction backfill

Tower 2		
Number	Description	Interpretation
000	Top soil	
001	Black soil and orange clay, sloping to west; max. depth 0.55m. Seals (002). Contains concrete fragment.	Tower construction backfill
002	Gravel, sand and orange clay/soil with occasional stones, sloping to west; max. depth 0.35m. Contains copper conductor cables. Overlain by top soil and (001). Seals (003) and (004).	//
003	Fine gravel in brown soil matrix. Sealed by (002) and (004).	//
004	Tapering lens of black humic soil and grey clay; max. depth 0.05m. Sealed by (002) and part seals (003). Contains concrete fragment.	//

5.2 Site photographs (digital copies on archive CD)

Photo number	Description	From	Date
BC 1	Tower 1 during removal of insulators	S	07.11.2016
BC 2	Tower 2	S	Ditto and below
BC 3	Tower 2 concrete base	S	
BC 4	Dropping Tower 1	S	
BC 5	Removing Tower 1 from site	S	
BC 6	Dropping Tower 2	S	
BC 7	Lifting base of Tower 2	S	
BC 8	Tower 2, north facing elevation	N	

BC 9	Tower after cutting steel pylon	E	
BC 10	Tower 2, south facing elevation	S	
BC 11	Tower 2, west facing elevation	W	
BC 12	Tower 1, breaking out concrete base	SE	
BC 13	Tower 1, west facing elevation	W	
BC 14	Tower 1, reinstatement of ground	W	
BC 15	Tower 2, reinstated ground	S	

6 Appendix 2 - Discovery & Excavation in Scotland report

Local authority: Dumfries and Galloway

Parish: Buittle

Site name: Buittle Castle

Name of contributor: John Pickin

Type of project: watching brief

Name of organisation:

NGR: NX 8191 6162

Report: A watching brief was undertaken during the removal of two 1930s lattice electricity pylon towers and the reduction and removal of their concrete support plinths; both towers were located within the scheduled enclosure north-west of the castle mound (NX 81912 61679 and 81837 61623). The work exposed deposits interpreted as disturbed during the construction of the towers and no archaeological deposits were observed.

Location of report: DGC HER; HES; NMRS (intended)

Funder: SPIE

Contact details of organisation: High Weirston House, Leswalt, Stranraer DG9 0RQ

7 Appendix 3 – site photographs



Fig 4. Tower 1 during removal of insulators.



Fig 5. Tower 2 from south.



Fig 6. Base of Tower 1 after removal of tower structure.



Fig 7. Tower 1, west facing elevation after reduction of concrete base.



Fig 8. Tower 2, concrete base from south.



Fig 9. Tower 2, south facing section.



Fig 10. Tower 2, west facing section.



Fig 11. Tower 2, north facing section.