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Geophysical Survey

**Royal Edinburgh Military Tattoo Grandstand
Works,
Edinburgh Castle Esplanade.
SMC B: Scottish Horse & North Esplanade
Wall
Photographic Survey & Watching Brief
Report No. 1780**

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1. INTRODUCTION

1.1 General

This report presents the results of a programme of archaeological works carried out at Edinburgh Castle Esplanade in Year 1 (2009/2010) and Year 2 (2010/2011) of a project to provide a newly designed temporary grandstand on the Esplanade. The work was commissioned by Sir Robert McAlpine on behalf of the Royal Edinburgh Military Tattoo Ltd.

A Written Scheme of Investigation (WSI) was prepared by CFA in support of an application for Scheduled Monument Consent (SMC B) for the removal of the Scottish Horse Memorial statue from Edinburgh Castle Esplanade and eventual replacement on a new abutment extending from the north Esplanade wall. The WSI provided the methods statement for archaeological watching briefs and photographic recording to be carried out by CFA during the works.

Works carried out in January and February 2010 were a photographic survey of the North Esplanade Wall and a watching brief during the dismantling and removal of the Scottish Horse memorial from Edinburgh Castle Esplanade (Fig. 1). In November 2010 and March 2011 a section of the stone cladding was removed from the North Esplanade Wall to allow a concrete abutment to be added to the existing concrete wall behind the cladding. The cladding was then reinstated.

The Scottish Horse was moved in order to accommodate the new design of the temporary grandstand, as the height of the monument would have caused it to protrude through the seating area of the north stand, exposing the top of the monument to the potential for damage during erection and dismantling of the stand.

The removal, conservation and reinstatement of the Scottish Horse and the reinstatement of stone cladding, coping stones and railings on the new abutment was carried out by Nicolas Boyes Stone Conservation (NBSC). The concrete construction works for the new abutment was carried out by Sir Robert McAlpine (SRM) with the cladding being replaced by NBSC. .

This work described in this report is part of a larger scope of archaeological commissioned by Sir Robert McAlpine on behalf of Royal Edinburgh Military Tattoo Ltd. A series of Scheduled Monument Consents (SMCs A-E) were obtained for different packages of work; and these are reported on under separate cover as follows:

- SMC A: Foundations – CFA Report no. 1732v3 (Suddaby 2011a)
- SMC D: Earl Haig – CFA Report Nos. 1829, 1873 (Suddaby & Johnson 2010, Suddaby 2011b)
- SMC E: Utilities outside of Esplanade – CFA Report no. 1830v2 (Suddaby et al 2011)

SMC C has no archaeological element to it as it relates to the construction of the stands.

1.2 Background

Edinburgh Castle and the Esplanade are protected as a Scheduled Monument (SM No. 90130) and lie within the Old and New Towns of Edinburgh World Heritage Site, which was inscribed in 1995. Edinburgh Castle and the Esplanade are, therefore, of international importance. The Castle and Esplanade is a Property in the Care and ownership of Historic Scotland.

There are seven monuments positioned on the northern edge of the Esplanade of Edinburgh Castle (Burman with Ross 2009), while an eighth monument is sited in Princes Street Gardens to the north of the Esplanade (Ross 2008). Descriptions of the monuments are presented in a gazetteer in the Cultural Significance report (Burman with Ross 2009).

The Scottish Horse memorial takes the form of an Iona Cross of red Peterhead granite, with a claymore and lion rampant carved prominently on the front of the cross. It is set on a battered rock-cut granite plinth with bronze inscription panels. The total height of the monument is 26 feet, of which the cross measures 16 feet. The monument was erected in 1905 to commemorate the fallen of the Scottish Horse regiment during the South African War (1901-1902). The work was carried out by Stewart McGlashan & Son.

The monument is category C(s) Listed (HB number 48239), but forms part of the A listed group with the Esplanade and other monuments and falls within the parameters of Edinburgh Castle and Esplanade Scheduled Ancient Monument (SAM No. 90130).

A detailed assessment has been made of the condition of the Scottish Horse and presented within a Conservation Assessment Report (NBSC 2009).

1.3 Objectives

The objectives of the programme of archaeological works were:

- To monitor the dismantling and removal of the statue's base during the removal of the Scottish Horse from its location on the Castle Esplanade; and to excavate/record any archaeological features or deposits present.
- To make an appropriate record of the existing stonework and railings prior to their removal and to monitor their removal. In particular, the construction methods of the existing Esplanade wall was to be recorded where exposed during down-taking.
- To monitor all ground breaking works associated with the construction of the new abutment on the north side of the Esplanade wall; and to excavate/record any archaeological features or deposits present.
- To ensure that the archaeological works took account of the known archaeological potential of the Esplanade.

- To produce a report on the findings of the fieldwork, setting out the potential for any further work and dissemination of the results, as appropriate.

To ensure the objectives were met, a Watching Brief was maintained at key points during the works associated with removing the monument and construction of the abutment, as follows:

- During the disassembly of the monument's plinth and its removal from the Esplanade surface.
- During the removal of existing stonework from the north-facing Esplanade wall. A photographic survey was to be carried out of the existing stonework and railings on the north-facing Esplanade wall prior to their removal.
- During all ground breaking works associated with the construction of the new abutment foundation and concrete retaining wall.
- During diversion of public utility services and drains and any associated trial pits required.
- During the removal of existing stonework from the North Esplanade Wall.
- During all ground breaking works associated with the construction of the new abutment foundation and concrete retaining wall

2. WORKING METHODS

2.1 General

CFA Archaeology Ltd follows the Institute for Archaeologists' Code of Conduct, and Standards and Guidelines as appropriate.

2.2 Building Survey

A Level 1 Standing Building Survey (English Heritage 2006) was undertaken. The wall has been tied into a general panoramic photographic record of the wall so as to ensure the sections affected by future down-taking work can be seen within their former architectural context.

The photographic survey was made using a professional Nikon D100 Digital SLR to take high-resolution digital photographs of structures and specific architectural features. General architectural characteristics were recorded using standard building recording forms. The type of coping stones used, fabric detail and alterations in height were also recorded. A full list of the photographs taken can be found in Appendix 1.

2.3 Watching Brief

A watching brief was maintained during the dismantling and removal of the Scottish Horse Monument from the Esplanade in 2009-2010 and during work to dismantle the stone cladding of the North Esplanade Wall and construct the new concrete abutment for the Scottish Horse Monument in 2010-2011.

3. ARCHAEOLOGICAL RESULTS

3.1 Photographic Recording of the North Esplanade Wall

Figures 2 and 4 present photographic montages of the North Esplanade Wall together with a map showing the locations of the parts of the wall that were recorded. Fig. 3 shows in detail the part of the Wall which will be affected by dountaking.

The Wall is 90m long and increases from 1.8m high at the east end to 5.4m high at the west end. The elevation includes the existing bastion for the India Cross. At the western end of the Wall, below to the Afghan Needle, there were a number of cables fixed to and passing through the wall along with ducting and a junction box (Fig. 4).

The Wall is constructed of rock-faced sandstone blocks bonded with grey lime mortar. In parts the blocks are stained with iron-salts as a result of differential weathering. Some blocks have been stugged (a form of rough dressing with a masons chisel). The masonry has been laid in regular courses and includes blocks ranging in size from c.0.30m by 0.10m to c.0.50m by 0.15m. Near the terminus of the Wall, on the upper section, smaller blocks have been used in its construction. The bonding joints are generally uniform.

The Wall is topped with flat coping stones with spear-headed cast-iron railings on top.

The North Esplanade Wall is known to have been rebuilt in the mid-1960s, when concrete foundations were installed in Princes Street Gardens forming the Raker Supports (Ministry of Works 1966). Elements of these foundations were recorded during site investigation works in February 2008 (Suddaby & McKinney 2008).

The west-facing part of the North Esplanade Wall, below the Afghan Needle, appears not have been dismantled in the 1960s. The joint between the earlier Wall, which presumably dates from the 1750s, and the rebuilt Wall is visible at the corner between the Afghan Needle and the Remains of Ensign Ewart (Fig. 5); the earlier Wall is of slightly different construction: the blocks of sandstone are slightly less regular and less well coursed and the blocks are not as stained by mortar dissolution.

The west-facing portion of the North Esplanade Wall abuts, and post-dates, the external wall of the Moat Vault (Suddaby & Johnson 2010b).

3.2 Watching Brief (2009-2010)

The Scottish Horse Memorial of 1905 was dismantled on 18 January 2010 by employees of Nicolas Boyes Stone Conservation (NBSC) and Bernard Hunter Crane Hire. This work was monitored by archaeological personnel.

The cross and shaft were first removed by crane (Fig. 6). The external granite cladding at the base was then removed by a combination of hand and electrically powered tools, with the stones being numbered to allow accurate reassembly. The core of the monument's base was dismantled using electrical and hydraulic machinery.

Upright iron pins held the uppermost stone of the base (inscribed with the words 'Scottish Horse') in place. These rods were cemented into the upper part of the base.

The core of the base was a rectangular block made from modern frogged bricks cemented together. The cladding had been fitted to the exterior of this core.

The base of the monument had had very little impact on the surface of the Esplanade and there were no archaeological features or deposits exposed. The statue's base sat directly on the surface of the Esplanade, to a depth of no more than 0.15m. Beneath the base was a layer of hardcore and rubble, with the tarmac surface butting against the base.

Both the cross and the cladding stones were taken to a place of safe storage for conservation by NBSC.

3.3 Watching Brief (2010-2011)

The removal of the railings and the dountaking of a portion of the North Esplanade Wall (Fig. 3) revealed that the stonework formed the cladding for a concrete wall (Figs. 7-8) which retained the made ground forming the Esplanade. None of the made ground deposits were exposed. The concrete Raker foundations for this retaining wall were revealed (Fig. 7 below the yellow gas main).

Work on the new abutment required the excavation of new foundation trenches, which lay entirely within ground disturbed during the construction of the North Esplanade Wall in the 1960s.

No archaeological features or deposits were exposed.

4. CONCLUSION

A visual appraisal supported by a photographic record has been implemented to record the architectural character of the North Esplanade Wall's elevation.

A watching brief was maintained during the dismantling and removal of the Scottish Horse from the Esplanade in season 2009-2010. No features or deposits of archaeological interest were exposed.

Where down-taking work affected the North Esplanade Wall in season 2010-2011, the exposed section of the wall was recorded. The visible stonework was revealed to be a thin veneer concealing a concrete retaining wall.

The new abutment foundations lay within ground previously disturbed during the construction of the Raker foundations for the North Esplanade Wall in the 1960s. No features or deposits of archaeological interest were exposed.

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APPENDIX 1: Photographic Register

North Esplanade Wall Survey

Digital Shot	Description	From	Conditions
1052-1085	Wall section A-B, from east to west, overlapping continuous elevation	N	Overcast
1086-1092	Wall section B-C, from north to south-west, overlapping continuous elevation	NW	Overcast

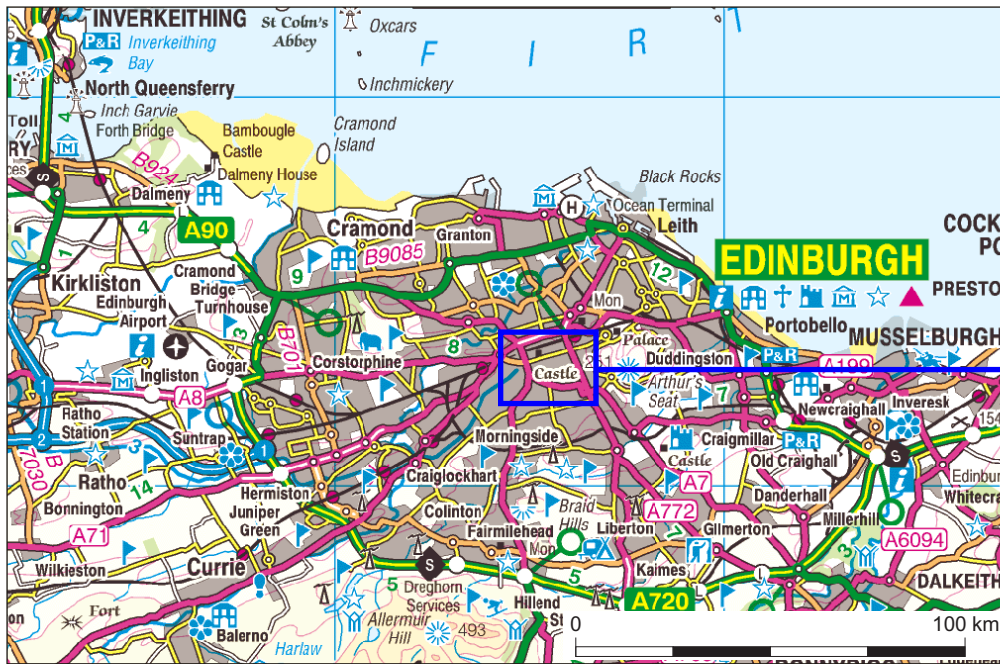
Scottish Horse Watching Brief

Digital Shot	Description	From	Conditions
1	Cross shaft being removed	S	Bright
2	Cross shaft being laid horizontal	S	Bright
3	Base being dismantled	S	Bright
4	Base stones being manoeuvred	S	Bright
5	Detail of iron pins in base	NE	Bright
6	Base being dismantled	S	Overcast
7	Cross section through base showing construction	W	Overcast
8	Cladding being removed from base	W	Overcast
9	General view of works	S	Overcast

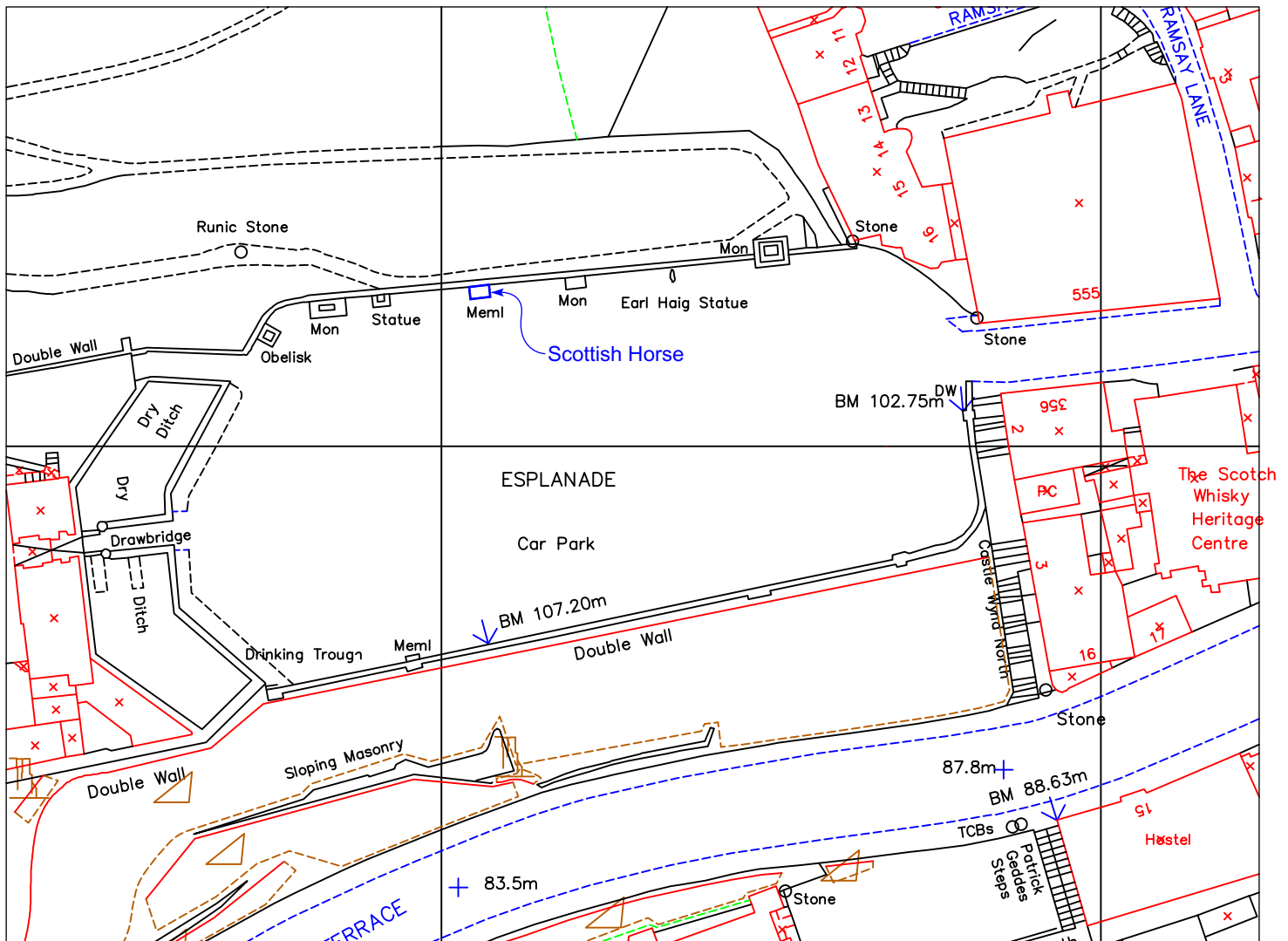
North Esplanade Wall Downtaking & Construction of new Abutment

Digital Shot	SLR	Description	From	Conditions
	Film 29			
1456-7	13-14	PSG. Raker beams (518) at E end exposed	S	Dull
1458-60	15-18	PSG. Raker beams (518) at E end exposed	E	Dull
1461		PSG. Raker beams (518) at E end exposed	NW	Dull
1462		PSG. Raker beams (518) at E end exposed	S	Dull
1463		PSG. Raker beams (518) at E end exposed showing the gas main below	W	Dull
1487-9		PSG. Working shots of the Raker beams	S	Overcast
	Film 30			
1502-7	7-10	PSG. Raker supports. Concrete base, no beams	S	Dull
1508-10	11-12	PSG. Raker supports. Concrete base, no beams	E	Dull
1511-3	13-14	PSG. Raker supports. Concrete base, no beams	W	Dull
1514-8	15-16	PSG. Gas main, concrete beam & NCB ROSLIN bricks, various views	N&E	Dull
1519		PSG. Metal shuttering around Raker beams	N	Dull
1520		PSG. Wood shuttering around Raker beams	W	Dull
1521-4		PSG. As 1502-7 in better light	S	Overcast
1530-1		PSG. Raker supports, details of shuttering		Overcast
1552-6		PSG. Concrete base exposed. No beams but probably part of the Raker supports	N, E, SW	Dull
1562-7		N Esplanade Wall, general views of downtaking 15/11/10. NCB Roslin & DEWAR bricks	Varied	Sun/Shade/Dull
1574-7		Bricks from the N Esplanade Wall		Sunny
1582-6		N Esplanade Wall, progress 16/11/10	Varied	Overcast
	Film 31			

Digital Shot	SLR	Description	From	Conditions
	Film 29			
1596		N Esplanade Wall, working shot	E	Overcast
1597-8		N Esplanade Wall, scaffolding removed 18/11/10	N	Overcast
1599	6-7	N Esplanade Wall, scaffolding removed 18/11/10	NNE	Overcast
1600-3	8-11	N Esplanade Wall, close-up on the section	E	Overcast
1629-30		PSG. Raker foundations cut by 1975 MERO stand foundations	SW&E	Overcast
1631-3	14-15	PSG. Raker foundations cut by 1975 MERO stand foundations.	S	Overcast
1706-7	7-8	PSG. Concrete/brick foundations at the base of the dismantled N Esp. Wall (new abutment area)	W	Dull
2044-7		ESP. Scottish Horse abutment (bastion) partly built	W	Hazy Sun
2190-2		PSG. Views of the new abutment at the start of construction	NE & N	Bright



Edinburgh Castle
Esplanade



Key:



Fig. No: 1

Revision: A

Client: Sir Robert McAlpine on behalf of Royal
Edinburgh Military Tattoo Ltd

Title: Location Map

Scale: 1:1000 @ A4

Project:

Edinburgh Castle Esplanade



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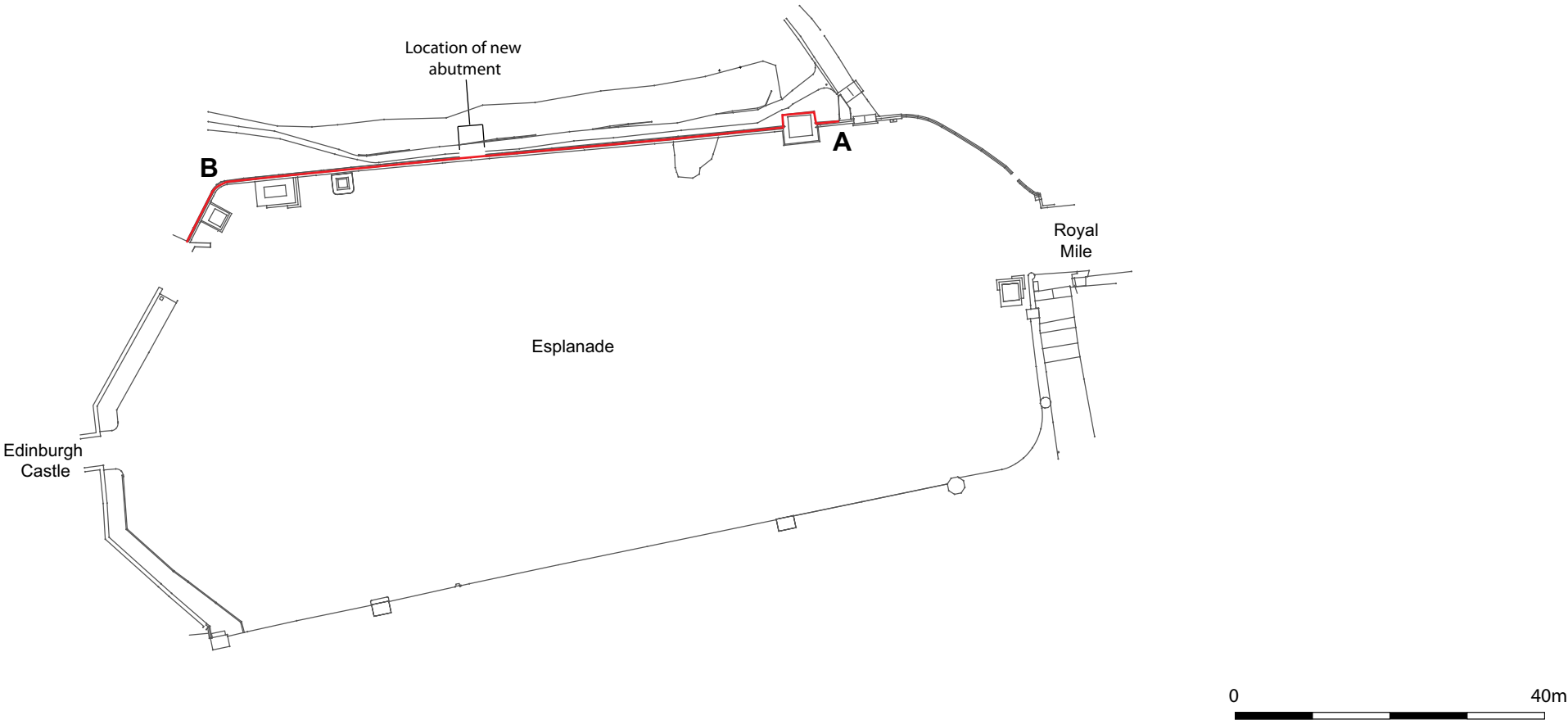
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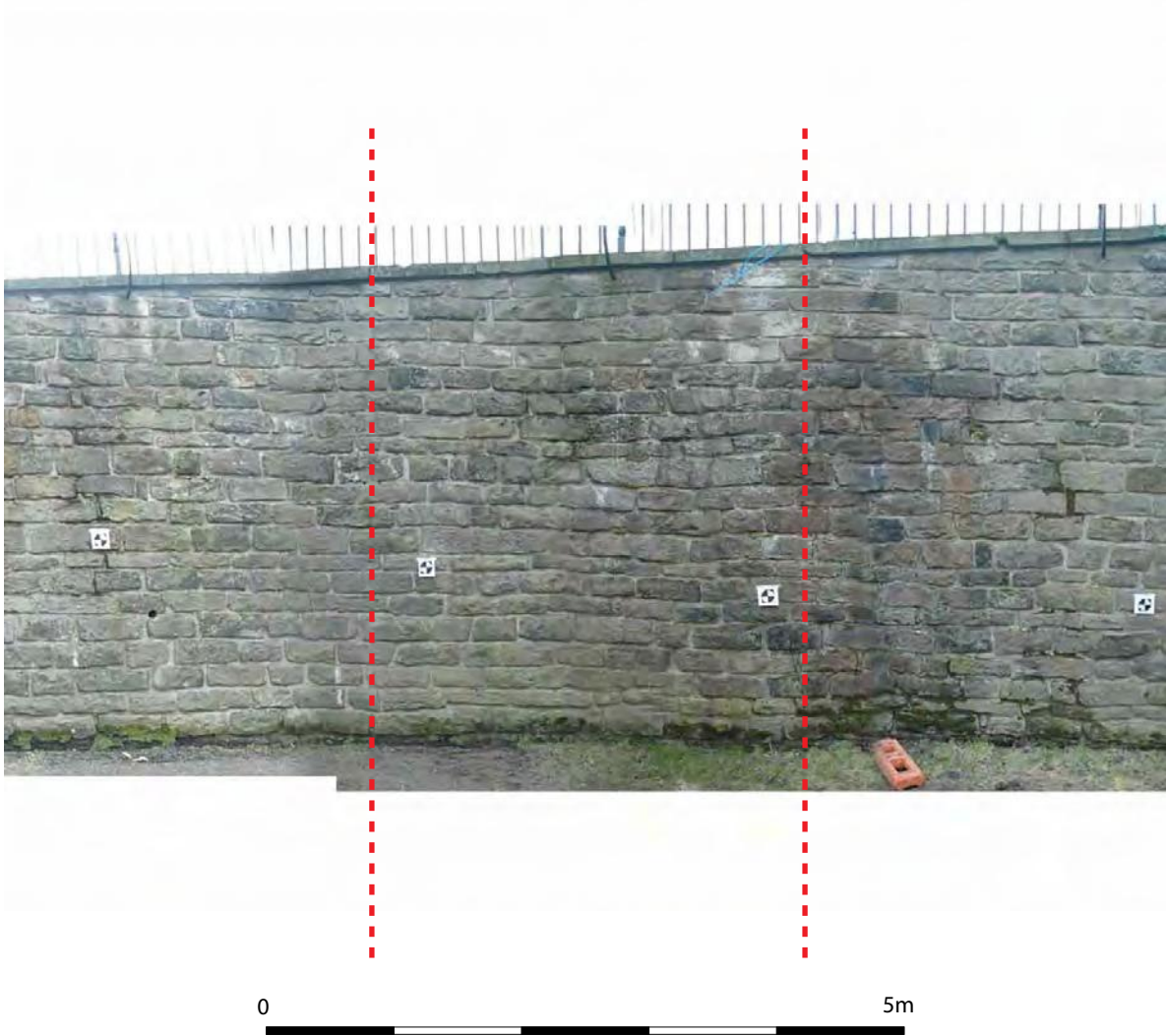
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Fig. No:	2	Revision:	A
Title: North-facing elevation of North Esplanade Wall			
Project: Edinburgh Castle Esplanade			
Scale: Plan 1:800 @ A3 Elevation 1:250 @ A3			
Client: Sir Robert McAlpine on behalf of Royal Edinburgh Military Tattoo Ltd			
Drawn by:	GC	Report No:	1780



Key:

Fig. No: 3 Revision: A Client: Sir Robert McAlpine on behalf of Royal Edinburgh Military Tattoo Ltd

Title: Portion of North Esplanade Wall to be affected by proposed works

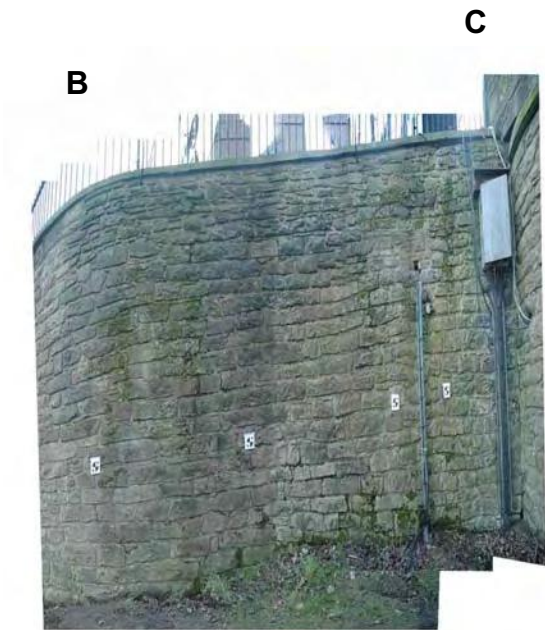
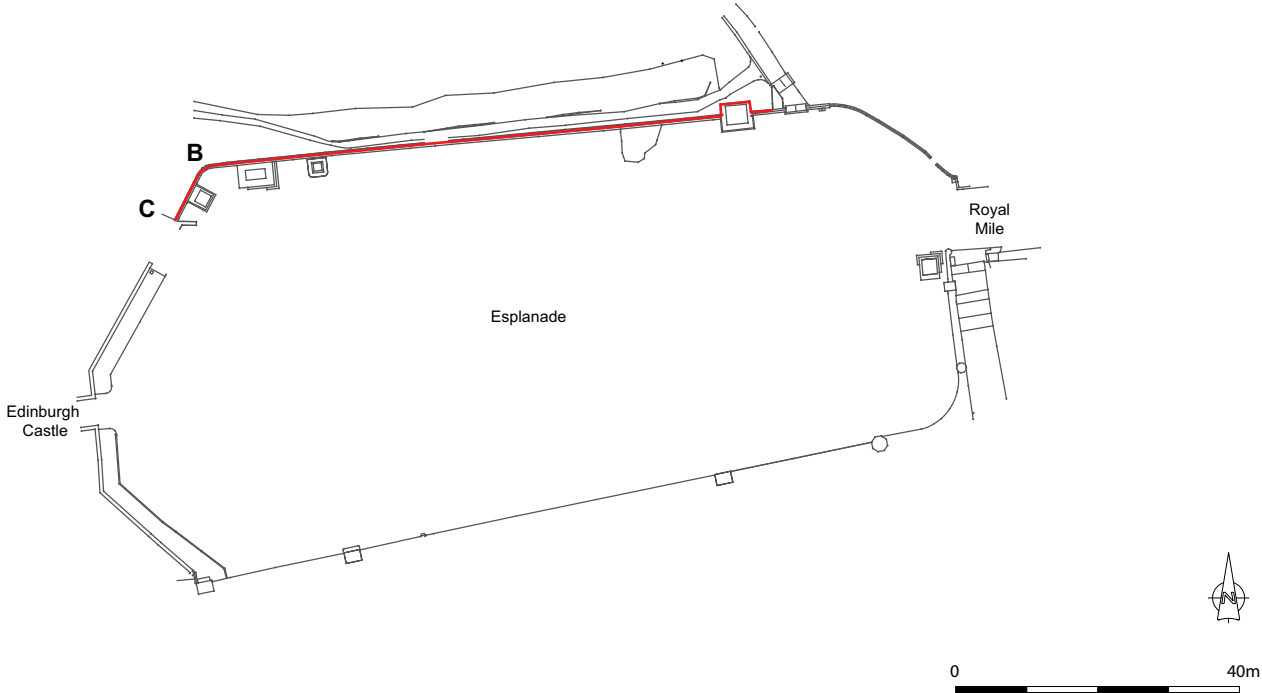
Project: Edinburgh Castle Esplanade

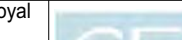
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	Title: West-facing elevation of North Esplanade Wall			
Scale:	Project: Edinburgh Castle Esplanade			Drawn by: GC
				Page No: Report No: 1780



Key:

Fig. No: 5 Revision: A Client: Sir Robert McAlpine on behalf of Royal Edinburgh Military Tattoo Ltd
Title: The joint between the original North Esplanade Wall (on the right hand side of the picture) and the portion of the Wall that was rebuilt in the 1960s. The ranging rod is at the location labeled 'B' on Figs 2 and 4

Scale:

Project: Edinburgh Castle Esplanade



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Key:

Fig. No: 6 Revision: A Client: Sir Robert McAlpine on behalf of Royal Edinburgh Military Tattoo Ltd

Title: The cross shaft being removed

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Scale:



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Fig. 7 - View from the north of the concrete wall exposed following the removal of the stone cladding. The concrete foundations are below



Fig. 8 - View from the east showing the stone cladding of the concrete wall


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Fig. 9 - General view from the west of the concrete structure of the new abutment



Fig. 10 - The stone cladding being replaced on the new abutment

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	Project:					
Scale:	Edinburgh Castle Esplanade					

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