

UCBE/01



UNION CANAL BOROUGHMUIR, EDINBURGH

ARCHAEOLOGICAL WATCHING BRIEF

commissioned by Mackenzie Construction Ltd

SMC Ref: 201601804

February 2017

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project info

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PARISH Edinburgh
LOCAL AUTHORITY Edinburgh City Council
OASIS REF. headland1-276563

project team

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 **HEADLAND**
ARCHAEOLOGY
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SCOTLAND

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PROJECT SUMMARY

An application for Scheduled Monument Consent (SMC) by Scottish Canals & Mackenzie Construction Ltd (the client), for construction of a piled wall and canal mooring along the Union Canal. The client has commissioned Headland Archaeology to agree a programme of archaeological work with Historic Environment Scotland consisting of the monitoring of vegetation removal works and the recording of the canal wall thus exposed.

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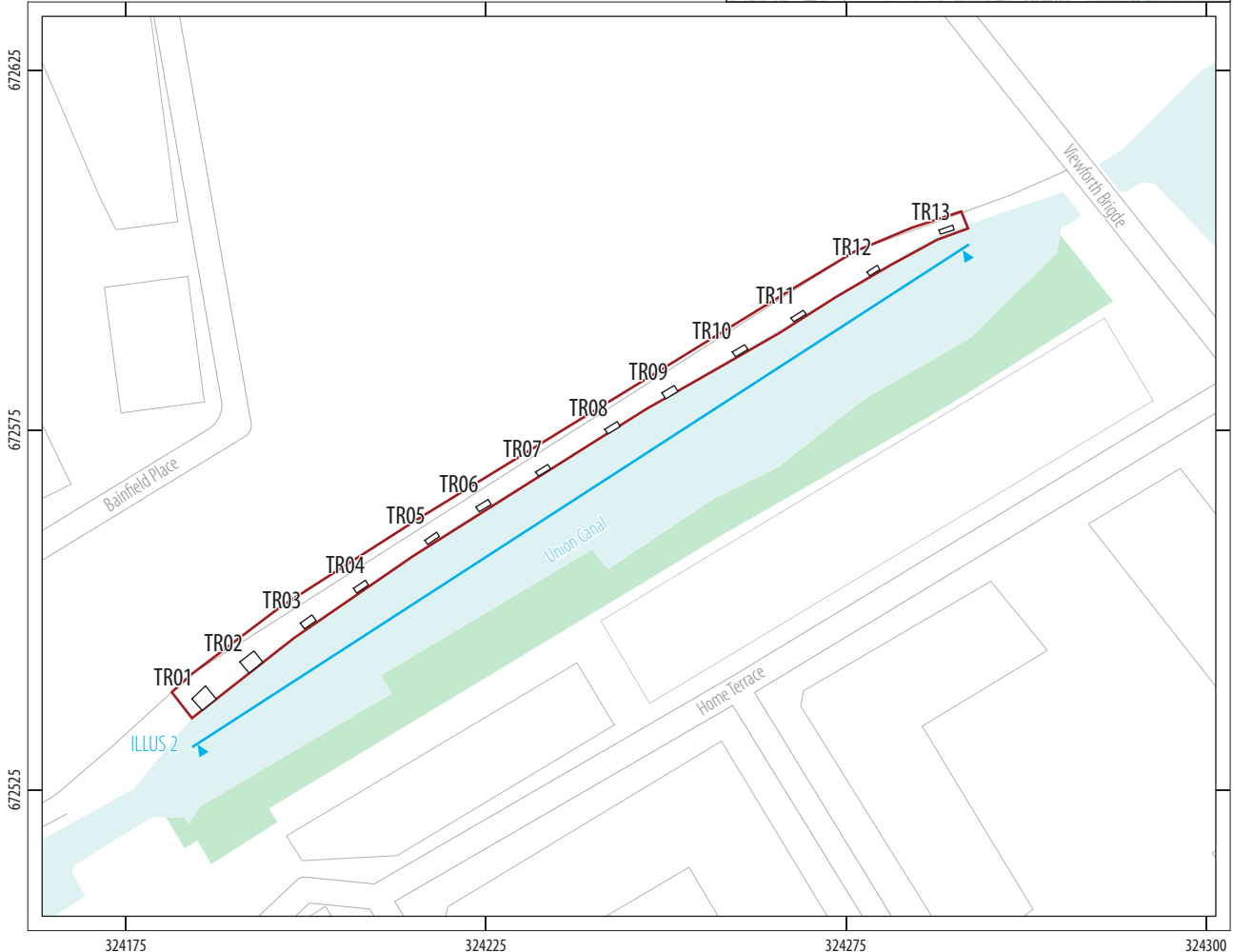
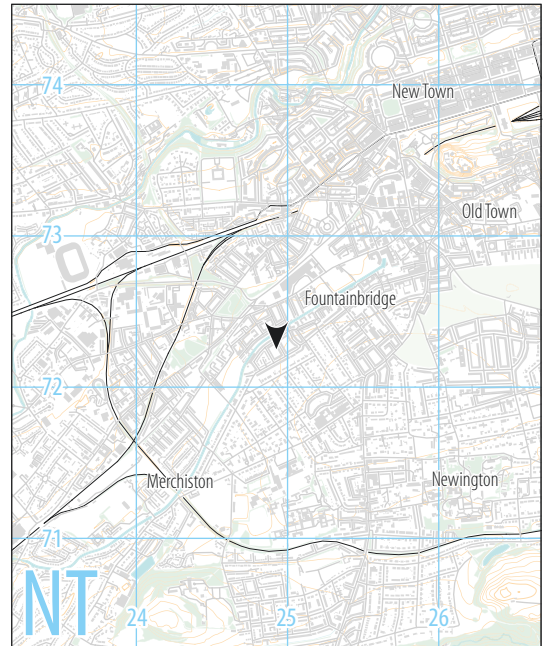
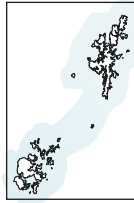
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UCBE/01
land SW of Viewforth Bridge
Fountainbridge
Edinburgh

0 200km
1:10,000,000 @ A4

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0 20m
1:1,000 @ A4

KEY
 development boundary
 trench location

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ILLUS 1 Site location

UNION CANAL BOROUGHMUIR, EDINBURGH

ARCHAEOLOGICAL WATCHING BRIEF

1 INTRODUCTION

An application for Scheduled Monument Consent (SMC) was submitted to Historic Environment Scotland, by Scottish Canals and Mackenzie Construction Ltd (the client) for construction of a piled wall and canal mooring along the Union Canal (SM 11097) at Bouroughmuir, Edinburgh.

As part of the requirement for scheduled monument consent an archaeological watching brief on vegetation clearance works was required.

The client commissioned Headland Archaeology to agree a programme of archaeological work with Historic Environment Scotland, who have issued the Scheduled Monument Consent, and to encapsulate that programme within a written scheme of investigation (WSI) setting out the proposed strategy for archaeological mitigation. The WSI was submitted and agreed in August 2016. This report details the results of archaeological monitoring during the removal of the vegetation along the specified stretch of the canal.

2 SITE LOCATION AND DESCRIPTION

The site is located between NT 24299 72606 and NT 24175 72530 and is part of the Union Canal. The development works will take place on the north side of the canal from the Viewforth Masonry Arch Bridge, 120m to the west.

The Union Canal is a Scheduled Monument (SM11097) and runs from Falkirk to Edinburgh. Constructed to bring minerals, such as coal to the capital, it opened in 1822 and utilised for commercial traffic until 1933. It was closed in 1965 before reopening in 2001 as part of the Millennium Link project.

The monument is of national importance as an important piece of Georgian civil engineering. Designed by noted Scots Engineer, Hugh Baird, and built 1818–23, its continuous watercourse was without need of a single lock, and was graced by three major aqueducts inspired by another great Scottish civil engineer, Thomas Telford.

The proposed location of the works lies on the north side of the Union Canal, west of the Viewforth Bridge. Historic mapping indicates that the line of the towpath is still in its original position.

In 2004, an archaeological investigation uncovered the stern of a 21m long wooden barge. The vessel was discovered on the south bank of the canal between the Leamington Lift Bridge and Viewforth Bridge. The remains represent the final berth of an early to mid-19th century canal barge or scow, a type of horse drawn vessel that was the main freight carrier of the time.

3 AIMS AND OBJECTIVES

In line with the WSI the main objectives of archaeological works were:

- › to record any archaeological remains affected by the development works and to report on the results of the works.

More specific aims of the monitoring include:

- › establishing the integrity and state of preservation of the canal wall that was exposed through the removal of vegetation, to ensure that archaeological information relating to the affected areas of the monument was recovered and recorded to a satisfactory standard.

4 METHODOLOGY

4.1 SITE WORKS

A set of 13 trial trenches were excavated on the 13th September 2016 to record the wall head fabric and its state of preservation. The visible parts of the wall were recorded on plan from the footpath and on section from the canal using a boat provided by the client.

The archaeological monitoring of the vegetation removal was carried out on 14th February 2017 and was carried out from the canal to obtain an extensive photographic record to be used as data for the production of an elevation out of a photogrammetrical process. However, as the access was by boat and being this pulled from the footpath, the lack of stability made the photographs not suitable for a complete photogrammetry of the stretch as a whole. Different sections of the exposed wall were created serving as base for the production of an elevation (Illus 2)

The monitored works ended when the northern canal wall was sufficiently exposed.

4.2 RECORDING

All recording followed ClfA Standards and Guidance for conducting archaeological watching briefs/monitoring. All contexts, small finds and environmental samples has been given unique numbers. All recording was undertaken on pro forma record cards. Digital photographs were taken.

The site plan will be accurately linked to the national grid and heights to AOD. Photogrammetry was carried out to allow scaled drawings to be produced.

5 RESULTS

The recording of the Union Canal wall was restricted to roughly 1–3 visible courses of stonework above the water line. Nonetheless, this was enough to differentiate the fabrics along the monitored stretch.

The 13 trenches monitored along the wall were approximately 2.00 x 2.00m each and just enough depth to expose the stone work of the canal wall removing around 0.10m of topsoil and vegetation [001] (Illus 3).

Although the wall seemed to be constructed following the same pattern of coursed rubble masonry. The wall head showed several differences in the way the stone blocks are arranged and some modern addenda. The latter consisted primarily of concrete poured on to consolidate the most worn out areas [002] and modern bricks to fill the gaps in the fabric [015] (Illus 4).

At the area closer to the Viewforth Masonry Arch Bridge the fabric is made of more rectangular sandstone blocks [014] with average dimensions of 0.80 x 0.40 x 0.40m (Illus 5).

The rest of the wall head presents a disparity of rough shaped stone blocks with sizes ranging from 0.08 x 0.30 x 0.30m to 0.30 x 0.25 x 0.30m. The layout of blocks varied with stretches of irregular blocks alternating with more regularly shaped stone blocks (tending to the rectangular) sitting on headers (Illus 6) and well coursed on stretchers (Illus 7). It is in this area of the wall where the topsoil reaches the maximum thickness over the fabric as the wall head has been lost almost entirely.

The wall head varies in height possibly due to the loss of stone blocks in several areas of the stretch and the degree of deterioration suffered by the fabric (Illus 9).

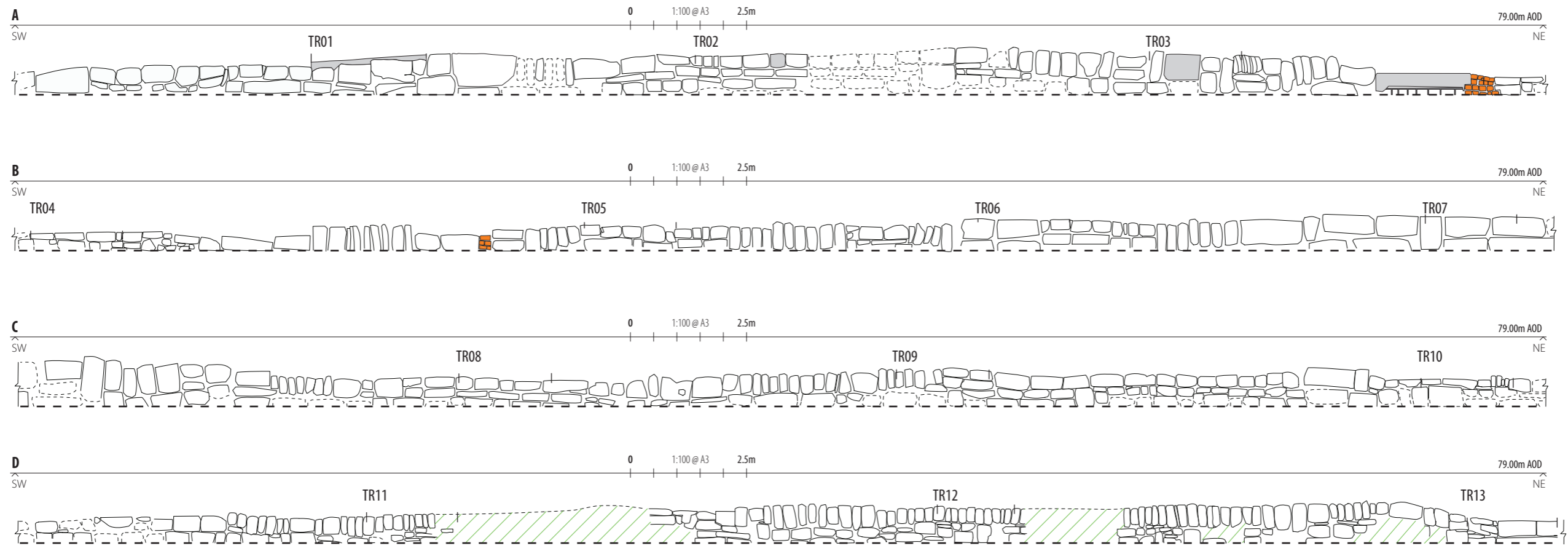
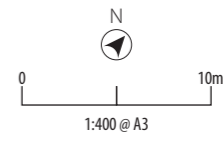
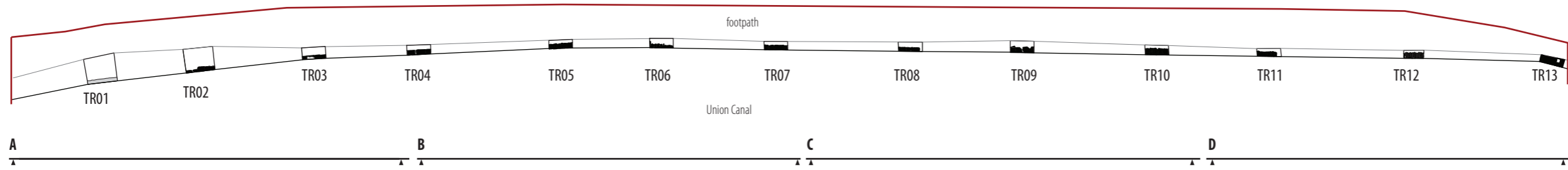
6 CONCLUSION

The archaeological watching brief carried out recorded the state of preservation of the Union Canal wall head exposed during the removal of vegetation. No features or deposits of archaeological interest were uncovered.

The wall head has been affected by the roots of vegetation. Vegetation which may have helped stabilised looser stone blocks whilst being covered by these plants and the top soil. In some parts of the monitored stretch the wall head seems to have lost sandstone blocks which has led to variations in the height of the wall along its exposed length.

7 REFERENCES

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- KEY
- concrete
 - brick
 - vegetation
 - unclear due to roots & mud
 - waterline

ILLUS 2 SE facing elevation of Union Canal wall



ILLUS 3 SW facing view of stone work layout exposed in plan on TR11 **ILLUS 4** NW view of modern concrete and brick repairs on the wall fabric **ILLUS 5** SW facing shot of regular sandstone blocks fabric on canal wall near the Viewforth Bridge **ILLUS 6** NW facing shot of irregular shaped sandstone blocks coursed on headers on wall head **ILLUS 7** Rectangular shaped sandstone blocks regularly coursed on stretchers on SW facing elevation of wall **ILLUS 8** NW facing shot of area of maximum depth of topsoil and vegetation over wall fabric **ILLUS 9** N facing shot of badly worn sandstone blocks on wall fabric

8 APPENDICES

APPENDIX 1 SITE REGISTERS

Appendix 1.1 Photographic register

Photo	Direction	Description
UCBE-01-001	SE	General view ofTR01
UCBE-01-002	SW	General view ofTR02
UCBE-01-003	SE	General view ofTR03
UCBE-01-004	S	General view ofTR04
UCBE-01-005	SE	General view ofTR01
UCBE-01-006	SW	General view ofTR05
UCBE-01-007	SW	General view ofTR05
UCBE-01-008	SE	General view ofTR05
UCBE-01-009	SE	General view ofTR05
UCBE-01-010	SE	General view ofTR06
UCBE-01-011	SE	General view ofTR06
UCBE-01-012	SW	General view ofTR07
UCBE-01-013	SW	General view ofTR07
UCBE-01-014	SW	General view ofTR08
UCBE-01-015	SW	General view ofTR08
UCBE-01-016	SW	General view ofTR08
UCBE-01-017	SE	General view ofTR08
UCBE-01-018	SE	General view ofTR09
UCBE-01-019	SE	General view ofTR09
UCBE-01-020	SW	General view ofTR09
UCBE-01-021	SE	General view ofTR10
UCBE-01-022	SE	General view ofTR10
UCBE-01-023	SE	General view ofTR10
UCBE-01-024	SW	General view ofTR11
UCBE-01-025	SE	General view ofTR11
UCBE-01-026	SE	General view ofTR11
UCBE-01-027	SW	General view ofTR14
UCBE-01-028	SE	General view ofTR14
UCBE-01-029	SE	General view ofTR14
UCBE-01-030	SE	Detail of stone work in TR14
UCBE-01-031	SW	Detail of stone work in TR14
UCBE-01-032	SE	General shot ofTR13
UCBE-01-033	SE	Details of masonry on TR12

Photo	Direction	Description
UCBE-01-034		Photogrammetry shots

Appendix 1.2 Context register

CONTEXT	TR	DESCRIPTION
001	—	Topsoil in all trenches
002	01	Concrete on TR01 over wall fabric
003	02	Stone work medium sized sandstone irregular 0.38 x 0.20 x 0.18 (max)/0.18 x 0.12 x 0.10 (min)
004	02	Stone work medium sized sandstone regular 0.50 x 0.40 x 0.30 (average)
005	02	Concrete block inserted on wall fabric
006	03	Stone work medium sized sandstone regular 0.50 x 0.40 x 0.30 (average)
007	03	Concrete poured in gap in fabric.
008	04	Stone work medium sized sandstone regular 0.50 x 0.40 x 0.30 (average)
009	05	Stone work medium sized sandstone
010	06	Stone work medium sized sandstone irregular 0.40 x 0.22 x 0.30 (max) 0.10 x 0.22 x 0.10 (min) coursed on headers
011	07	Stone work medium sized sandstone regular 0.50x0.40x0.30 (average)
012	08	Stone work medium sized sandstone regular 0.50x0.40x0.30 (average)
013	09	Stone work medium sized sandstone regular 0.50x0.40x0.30 (average)
014	10	Stone work medium sized sandstone irregular 0.150x0.22x0.30 (max) 0.04x0.22x0.10 (min) coursed on headers
015	11	Stone work medium sized sandstone irregular
016	12	Stone work medium sized sandstone irregular 0.40x0.22x0.30 (max) 0.10x0.22x0.10 (min) coursed on headers
017	13	Regular stone work (0.80-X0.40X0.30)
018		Modern brick fabric approximately located between the 30–45m of the monitored stretch

APPENDIX 2 DISCOVERY AND EXCAVATION IN SCOTLAND ENTRY

LOCAL AUTHORITY:	Edinburgh City Council
PROJECT TITLE/SITE NAME:	Union Canal Boroughmuir Edinburgh
PROJECT CODE:	UCBE/01
PARISH:	Edinburgh
NAME OF CONTRIBUTOR:	Edward Bailey
NAME OF ORGANISATION:	Headland Archaeology
TYPE(S) OF PROJECT:	Archaeological Watching Brief
NMRS NO(S):	SM11097
SITE/MONUMENT TYPE(S):	Canal
SIGNIFICANT FINDS:	None
NGR (2 letters, 8 or 10 figures)	NT 24242 72563
START DATE (this season)	13/09/2017
END DATE (this season)	14/02/2017
PREVIOUS WORK (incl.	None
MAIN (NARRATIVE) DESCRIPTION:	An application for Scheduled Monument Consent (SMC) by Scottish Canals & Mackenzie Construction Ltd (the client), for construction of a piled wall and canal mooring along the Union Canal. The client has commissioned Headland Archaeology to agree a programme of archaeological work with Historic Environment Scotland consisting in the monitoring of the vegetation removal works and the recording of the canal wall exposed
PROPOSED FUTURE WORK:	None
CAPTION(S) FOR ILLUSTRS:	
SPONSOR OR FUNDING BODY:	
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ARCHIVE LOCATION (intended/deposited)	HES



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