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Geophysical Survey

Royal Botanic Gardens Nursery, Edinburgh. North-East Corner Development.

Archaeological Evaluation

Report No. 3274

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**Royal Botanic Gardens Nursery, Edinburgh.
North-East Corner Development.**

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1. INTRODUCTION

1.1 General

This report presents the results of an archaeological evaluation undertaken by CFA Archaeology Ltd (CFA) in March 2015 within a development area in the north-east corner of the Royal Botanic Gardens, Edinburgh (NGR: NT 2456 7592, Fig. 1). The work was commissioned by Smith Scott Mullan Associates on behalf of their client the Royal Botanic Garden Edinburgh.

1.2 Background

Founded in 1670, the Royal Botanic Gardens are undertaking a development in the north-east corner of the site. The Masterplan includes the intention to develop highly efficient and strong glasshouses that aim to reduce energy consumption by between 35%-50%. It also includes improving toilets, disabled access, modernising labs and building education facilities for college and university students

A Written Scheme of Investigation (WSI) dated 17 November 2014 was produced by CFA. The WSI was designed to meet the requirements of the City of Edinburgh Council Archaeology Service (CECAS) and was approved by them prior to the evaluation.

The evaluation will be conducted in two phases. Phase 1, described in this report, covers Areas 1 and 2 (Fig. 1). The additional areas will be evaluated when they become available and will be reported on under a separate cover.

Historic mapping shows that the areas of the current fieldwork have been within what was called the Inverleith Nursery since the Ordnance Survey First Edition of 1853 (Fig. 9). These maps show a regular arrangement of rectangular plots, within which are depicted various alignments of what may be flower beds. Prior to this, the area formed part of the lands associated with Inverleith House built in the 1770's on the site of a medieval estate centre dating back to at least the early 12th century (John Lawson, pers comm).

1.3 Objectives

The objectives of the project were:

- To establish the presence/absence, extent, condition, character, quality and date of any archaeological features or deposits within the proposed development area through trial trenching evaluation
- To establish the vulnerability of any archaeological features to the proposed development
- To propose mitigation measures where appropriate to avoid, reduce or offset any predicted negative impacts on the archaeological resource.

2. WORKING METHODS

2.1 General

Work was conducted with regard to the relevant Chartered Institute for Archaeologists' (CIfA) Standards and Guidance.

2.2 Evaluation Strategy

A 10% trial trenching evaluation was required in the area of the development. This equated to an area of 165m² in Area 1 and 28m² in Area 2 (Fig. 1)

The area available for trial trenching in both locations was affected by on site constraints. In Area 1, much of the southern part of the area was occupied by the base of a polytunnel and associated drainage (Figs. 2-3). In Area 2, modern drains were present at the western end of the area.

Five trenches (Trenches 2-6), covering 175m², were excavated in Area 1 and one trench (Trench 1) covering 29m² was excavated in Area 2.

All trenches were excavated by machine under direct archaeological supervision to remove topsoil and other soil deposits down to subsoil or the first significant archaeological horizon, whichever was reached first.

Samples of features of archaeological interest were hand excavated in order to establish their likely date, nature, extent and condition.

All hand excavation and on-site recording was carried out according to standard CFA procedures, principally by drawing, by digital photography and by completing standard CFA record forms.

Trench locations were recorded using industry standard surveying equipment.

3. ARCHAEOLOGICAL RESULTS

3.1 General

Appendix 1 contains a tabulated summary of all the trenches. The remainder of the site records are described in Appendices 2-4.

Five trenches (Fig. 1) were excavated within Area 1 and one trench within Area 2.

No features of archaeological significance were identified. Three linear features probably related to the use of the area as a garden nursery were identified. These were cut by a network of drains. The drains contained a variety of different types of clay pipe, and some were rubble filled. They were presumably laid to drain the area at some point during the life of the Nursery.

3.2 Evaluation, Area 1

Trench 2 (27m x 1.8m, Fig. 4)

A linear feature (**201**) was partially exposed at the southern end of the trench. This was aligned roughly NW-SE and was also identified in Trenches, 5 and 6 (**505 & 601**). Its full width was not exposed but it was 0.16m deep.

A second linear feature, (**205**) (Fig. 5) was exposed at the northern end of the trench. This was aligned E-W and had a width of 1.4m with a depth of 0.15m.

At the northern end of the trench, a layer of dark soil (**003**) at the base of the topsoil profile contained frequent inclusions of coal and many sherds of broken plant pots. This was also recorded in Trench 6 but it appeared to be contained within a modern cut (from the site surface) at that location.

Trench 3 (18m x 1.8m)

A linear feature (**301**) was exposed. This was 2.4m wide and aligned roughly NW-SE and was also located in Trenches 4, 5 and 6 (**403, 505 & 611**).

Trench 4 (17m x 1.8m, Fig. 6)

A linear feature (**403**) (Fig. 7) was exposed. This was aligned roughly NW-SE and had a width of 2.3m with a depth of 0.15m. This was also located in Trenches 3, 5 and 6 (**301, 505 & 611**).

Trench 5 (17m x 1.8)

A NW-SE aligned linear feature (**501**) was partially exposed. This was also located in Trenches 2 and 6 (**201 & 601**).

Parallel to **501** a second NW-SE aligned linear feature (**505**) that was c. 1.7m wide was exposed. This was also located in Trenches 3, 4 and 6 (**301, 403 & 611**).

Trench 6 (18m x 1.8m)

A NW-SE aligned linear feature (**601**) was exposed. This was also located in Trenches 2 and 5 (**201 & 501**). It was c. 2m wide.

Parallel to **601** a second NW-SE aligned linear feature (**611**) that was c.1.9m wide by 0.18m deep was exposed. This was also located in Trenches 3, 4 and 5 (**301, 403 & 505**).

At the east end of the trench **601** was cut by a modern vertical sided feature (**613**) with a flat base. This was filled with dark soil containing frequent inclusions of coal and many sherds of broken plant pots (**003**).

A shallow pit (**605**) measuring 1.2m long x 0.8m wide was also identified. This was probably recent and cut the upper levels of a stone-filled drain (**603**).

3.3 Evaluation, Area 2

Trench 1 (16m x 1.8m, Fig 8)

No features were recorded.

4. CONCLUSIONS

Six trenches were excavated, with a total area of 204m².

Three shallow linear features were identified in Area 1, these are considered to be garden features related to the areas use as a nursery and are not considered to be features of archaeological significance. Other features included drains and more recent pits also associated with the use of the area as a garden nursery.

Based on the results of the evaluation CFA recommend no further work be undertaken. However, it is understood that the final decision rests with CECAS on behalf of the planning authority.

The project archive, comprising all CFA record sheets, maps and reports will be deposited with the Royal Commission on the Ancient and Historical Monuments of Scotland (RCAHMS) and copies of reports will be lodged with the City of Edinburgh Council Sites and Monuments Record.

A summary statement of the results from this project will be submitted for publication in *Discovery and Excavation in Scotland*. An online OASIS entry will also be completed.

APPENDIX 1: Summary of Evaluation Trenches

Trench No.	Size (m)	Trench Depth min / max	Features
1	16 x 1.8	0.1m / 0.2m	None
2	27 x 1.8	0.65m / 0.8mm	Two linear features. Field drain containing rubble
3	18 x 1.8	0.55m / 1.05m	One linear feature. Clay pipe field drain
4	17 x 1.8	0.6m / 0.9m	One linear feature. Clay pipe field drain with broken bricks in upper fill
5	17 x 1.8	0.7m / 1.1m	Two linear features. Clay pipe field drain with broken bricks in upper fill
6	18 x 1.8	0.7m / 1.2m	Two linear features, recent horticultural feature. Field drains containing rubble, recent pit

APPENDIX 2: Context Register

Context	Fill of	Trench	Description
001		All	General context for topsoil.
002		All	Subsoil. Mid yellow-grey silty sand. Wet.
003	613	2, 6	Dark grey-brown silty sand with frequent inclusions of orange gritty silty sand, charcoal, coal and broken plant pot
004		All	Natural subsoil. Varied across the site but mostly a soft, wet creamy yellow silty sand
005		2, 6	Dark yellow-grey silty sand with black silty lumps over 003 and under 001
201		2	Cut for linear feature
202	201	2	Yellow-grey-brown silty sand
203		2	Cut for drain.
204	203	2	Rubble fill of drain 203
205		2	Cut for linear feature
206	205	2	Yellow-grey-brown silty sand
301		3	Cut for linear feature
302	301	3	Dark yellow-grey-brown silty sand
303		3	Cut for field drain
304	303	3	Arch tile clay pipe and stones. Some broken bricks
401		4	Cut for linear feature
402	401	4	Dark yellow-grey-brown silty sand
403		4	Cut for drain
404	403	4	Arch tile clay pipe, fill of drain 403
501		5	Very truncated cut for linear feature
502	501	5	Yellow-grey-brown silty sand
503		5	Cut for drain
504	503	5	One piece clay pipe drain – fill of 503
505		5	Cut for furrow
506	505	5	Yellow-grey-brown silty sand
601		6	Cut for linear feature
602	601	6	Dark yellow-grey-brown silty sand
603		6	Cut for drain
604	603	6	Stone and rubble fill of drain 603
605		6	Cut for possible pit.
606	605	6	Dark grey silty sand and ash
607		6	Cut for drain.
608	607	6	Fill of drain 607
609		6	Cut for drain.
610	609	6	Rubble fill of drain 609

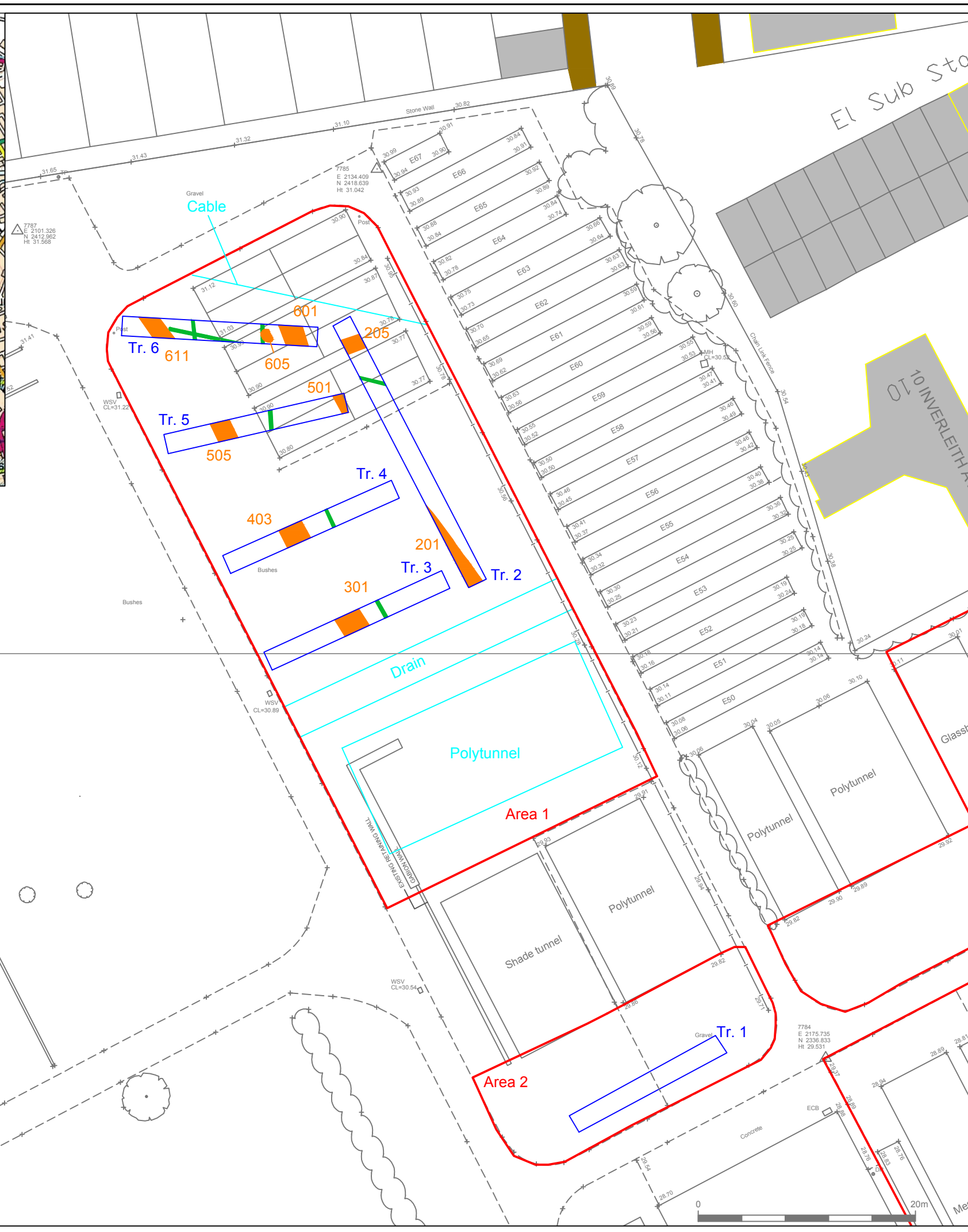
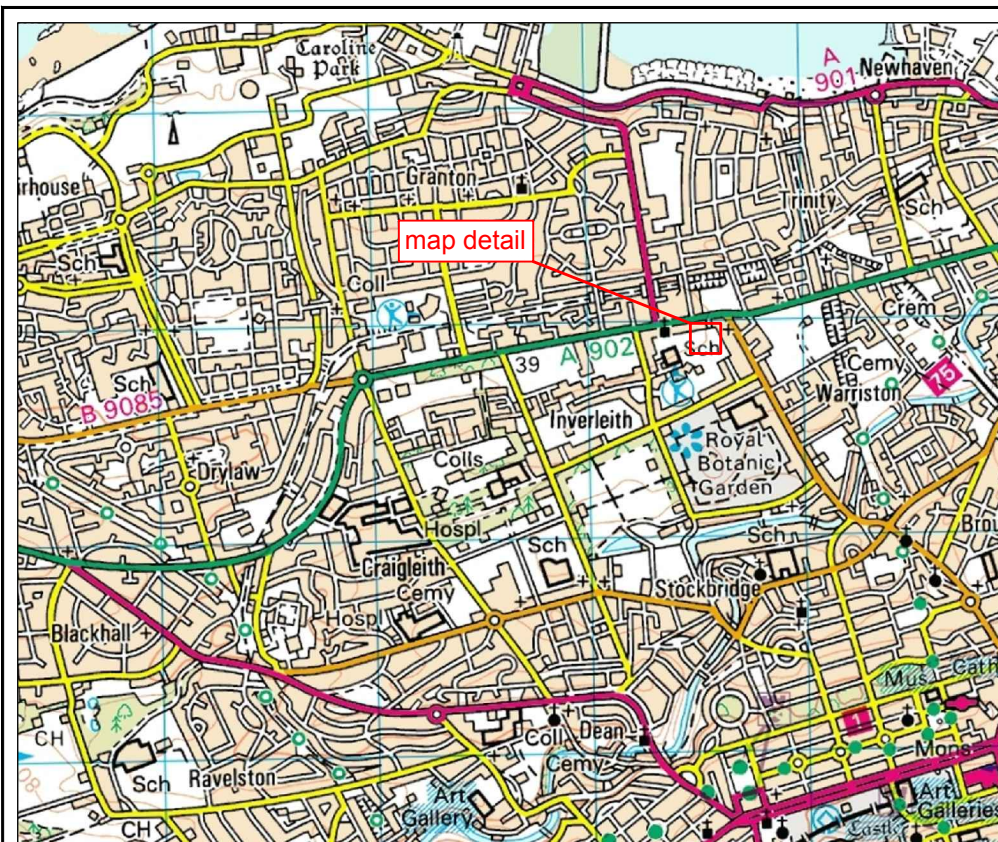
Context	Fill of	Trench	Description
611		6	Cut for linear feature
612	611	6	Dark yellow-grey-brown silty sand
613		6	Modern cut containing 003

APPENDIX 3: Photographic Register

Photo No.	Contexts/Description	Taken From	Conditions
1	Area 2 pre-ex	NE	Overcast
2	Area 2 pre-ex	SW	Overcast
3	Area 1 pre-ex,	SE	Overcast
4	Area 1 pre-ex	SE	Overcast
5-6	Area 1 southern part pre-ex	NE	Overcast
7-8	Area 1 showing new greenhouse	NE	Overcast
9	Area 2, Trench 1 post-ex	SW	Sunny
10	Area 1, Trench 2 post-ex	SE	Sun/Shade
11-12	Area 1, Trench 2 feature 201 partial section	NE	Sun/Shade
13	Area 1, Trench 2 drain 203	S	Sun/Shade
14	Area 1, Trench 2 ditch 205	SW	Sun/Shade
15	Area 1, Trench 6 post-ex	SE	Sun/Shade
16	Area 1, Trench 5 post-ex	E	Overcast
17	Area 1, Trench 4 post-ex	NE	Overcast
18-19	Area 1, Trench 3 post-ex	NE	Overcast
20-22	Panorama of Trenches 2-6		Overcast
23-24	Area 1, Trench 6, section through feature 601	S	Overcast
25-26	Area 1, Trench 5 trench section at E end	SW	Sunny
27	Area 1, Trench 4 drain and trench section	SE	Sunny
28-29	Area 1, Trench 4 feature 403 section	SE	Overcast
30	Area 1, Trench 2 backfilled	SE	Sunny
31	Area 1, Trench 6 backfilled	SE	Sunny

APPENDIX 4: Field Drawing Register

Drawing No.	Sheet No.	Description/Contexts	Section/Plan	Scale
1	1	Trench 2, plan	P	1:40
2	1	Trench 2, feature 201 section	S	1:20
3	1	Trench 2, feature 205 section	S	1:20
4	1	Trench 6, plan	P	1:40
5	1	Trench 6, feature 601 and modern cut feature 613 section	S	1:20
6	2	Trench5, plan	P	1:40
7	2	Trench 4, plan	P	1:40
8	2	Trench 4, feature 403 section	S	1:20
9	2	Trench 3, plan	P	1:40



Key:

- Archaeological Evaluation Areas
- Trenches
- Archaeological Features
- Drains



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Fig. No: **1** Report No: **3274**

Title:
Location map and trench plan

Project:
**Royal Botanic Gardens
 Nursery, Edinburgh,
 north-east corner
 development**

Client:
**Smith Scott Mullan Associates
 per Royal Botanic Garden
 Edinburgh**

Scale at A3:
1:400

Drawn by: **GC** Checked: **SW** Date: **08/04/2015**

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Fig. 2 - Area 2, pre-excitation view of the southern end



Fig. 3 - Area 1, pre-excitation view of the southern end



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Title:	Fig. 2 - 3	Report:	3274	Drawn:	GC	CKD:	SW	Date:	08/04/15
Client:	Smith Scott Mullan Associates <i>per</i> Royal Botanic Garden Edinburgh								
Project:	Royal Botanic Gardens Nursery, Edinburgh, north-east corner development								



Fig. 4 - Trench 2, general view from the south



Fig. 5 - Linear feature 205 section from the west



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Title:	Fig. 4 - 5	Report: 3274	Drawn: GC	CKD: SW	Date: 08/04/15
Client:	Smith Scott Mullan Associates <i>per</i> Royal Botanic Garden Edinburgh				
Project:	Royal Botanic Gardens Nursery, Edinburgh, north-east corner development				



Fig. 6 - Trench 4, general view from north-east



Fig. 7 - Linear feature 403 section from the south



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Title:	Fig. 6 - 7	Report: 3274	Drawn: GC	CKD: SW	Date: 08/04/15
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Project:	Royal Botanic Gardens Nursery, Edinburgh, north-east corner development				

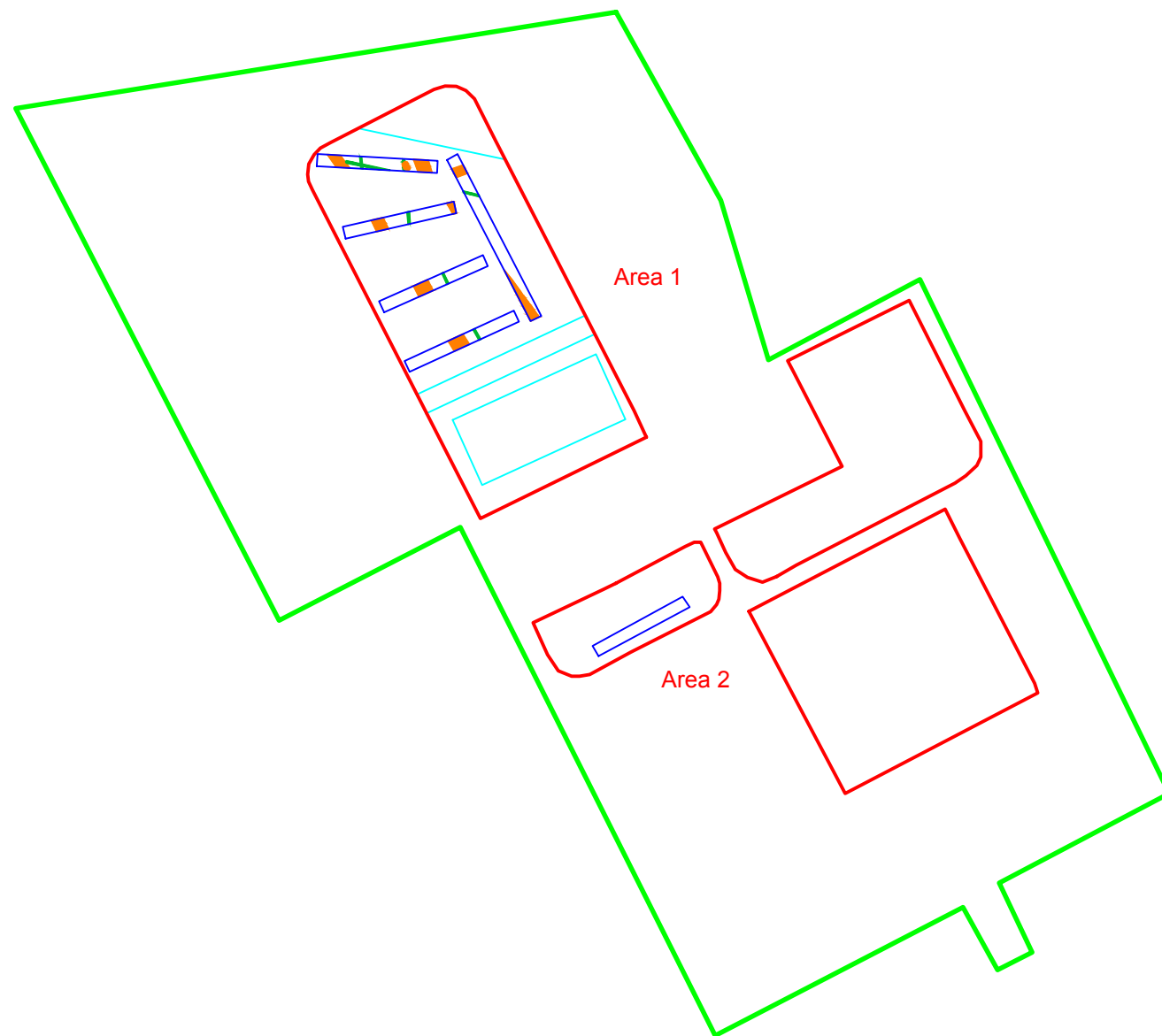


Fig. 8 - Trench 1 from the west



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Title:	Fig. 8	Report: 3274	Drawn: GC	CKD: SW	Date: 08/04/15
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Project:	Royal Botanic Gardens Nursery, Edinburgh, north-east corner development				



Key:

- Development boundary
- Evaluation areas
- Trenches



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Fig. No: **9** Report No: **3274**

Title:
**Evaluation area and trenches
 overlying Ordnance Survey,
 First Edition, 1853**

Project:
**Royal Botanic Gardens
 Nursery, Edinburgh,
 north-east corner
 development**

Client:
**Smith Scott Mullan
 Associates per Royal Botanic
 Garden Edinburgh**

Scale at A3:
1:1000

Drawn by: GC	Checked: SW	Date: 16/04/2015
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