

**Rigangower Landfill Extension,
West Dunbartonshire:
Archaeological Mitigation**

Data Structure Report



By Claire Williamson

issued 8th April 2015

on behalf of William Thompson & Son Ltd

RATHMELL 
ARCHAEOLOGY LTD

Quality Assurance

This report covers works which have been undertaken in keeping with the issued brief as modified by the agreed programme of works. The report has been prepared in keeping with the guidance of Rathmell Archaeology Limited on the preparation of reports. All works reported on within this document have been undertaken in keeping with the Chartered Institute for Archaeologists' Standards and Policy Statements and Code of Conduct.

Signed Claire Williamson Date8th April 2015.....

In keeping with the procedure of Rathmell Archaeology Limited this document and its findings have been reviewed and agreed by an appropriate colleague:

Checked Thomas Rees Date8th April 2015.....

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Introduction

1. This Data Structure Report has been prepared for William Thompson & Son Ltd, in support of the extension of Rigangower Landfill, West Dunbartonshire (centred on NGR: NS 438 752). These archaeological works were designed to mitigate any adverse impact on the archaeological remains within the development area.
2. The West of Scotland Archaeology Service, which advises West Dunbartonshire Council on archaeological matters, provided guidance on the structure of archaeological works appropriate on this site. Rathmell Archaeology Limited has been appointed to undertake the development and implementation of archaeological mitigation works.
3. The Written Scheme of Investigation (Matthews 2014) provided the detail of the works (archaeological monitoring, exclusion, excavation, post-excavation analyses and publication) for the mitigation pertaining to ground breaking within the development area and hence the direct physical impact on buried sediments.

Archaeological and Historical Background

4. A complete historic environment baseline was provided as an element of the Environmental Assessment provided by Rathmell Archaeology Ltd in 2013. This document provides details of the key historic environment assets within the development area and in the immediately surrounding landscape along with appropriate historic mapping. Please refer to this document for further information on the archaeological and historical background of the development area.
 - ❖ Rees, T. and Gordon, D., 2013, *Rigangower Landfill Extension, West Dunbartonshire: Appraisal*, Rathmell Archaeology Ltd
5. In summary, the key elements of the historic environment baseline which are pertinent to this programme of works were: the potential for subsurface remains of a former World War II heavy anti-aircraft battery to the immediate southwest of the existing landfill site; and the potential for previously unknown prehistoric remains as demonstrated by the known cup- and cup-and-ring-marked rocks to the south of the existing site.

Project Works

6. As identified by the Written Scheme of Investigation (Matthews 2014), only the southwest area was seen as being Archaeologically Sensitive (Figure 1).
7. The programme of works comprised the archaeological monitoring of groundbreaking works within the Archaeologically Sensitive Area (Figure 2). The monitoring works on-site took place from the 26th to the 31st March 2015.
8. As described in the Written Scheme of Investigation (Matthews 2014, *Monitoring*), the groundbreaking works were monitored until the upper surface of the underlying natural subsoil was exposed or the maximum working depth reached, unless otherwise agreed through discussion with the West of Scotland Archaeology Service. All groundbreaking works were carried out by a 360° tracked excavator using a smooth ditching bucket.
9. In the northern portion of the area, a large volume of infilled material was exposed which suggested that the area had been heavily disturbed. At this stage, the West of Scotland Archaeology Service carried out a site visit, and after discussion, agreed that the northern portion of the Sensitive Area could be excluded from the monitoring works and that the works should instead focus solely on the remaining southern portion.
10. In compliance with the Written Scheme of Investigation (Matthews 2014) any potential archaeological features were investigated and recorded. All works were conducted in accordance with the Chartered Institute for Archaeologists' Standards and Policy Statements and Code of Conduct and Historic Scotland Policy Statements.

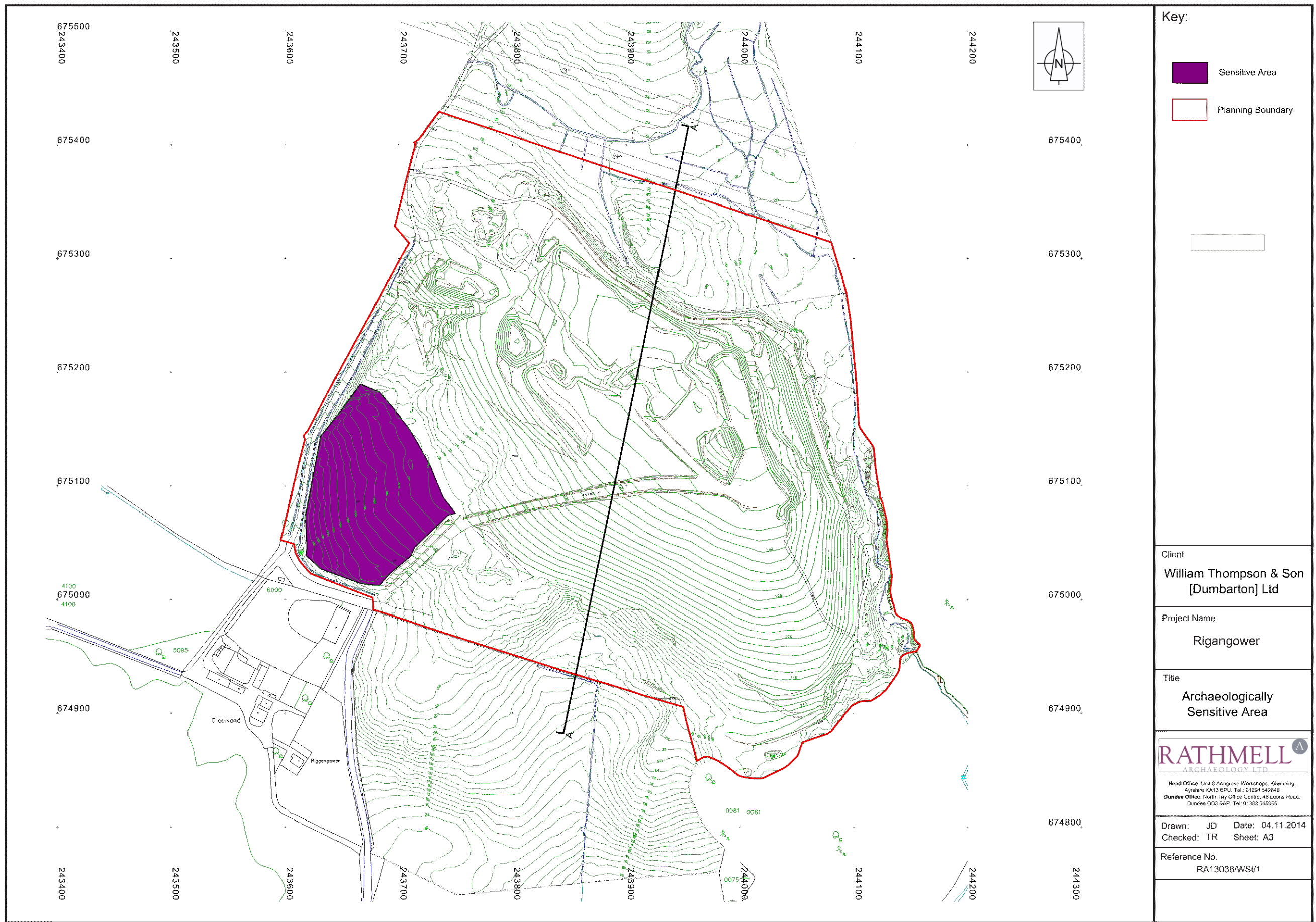


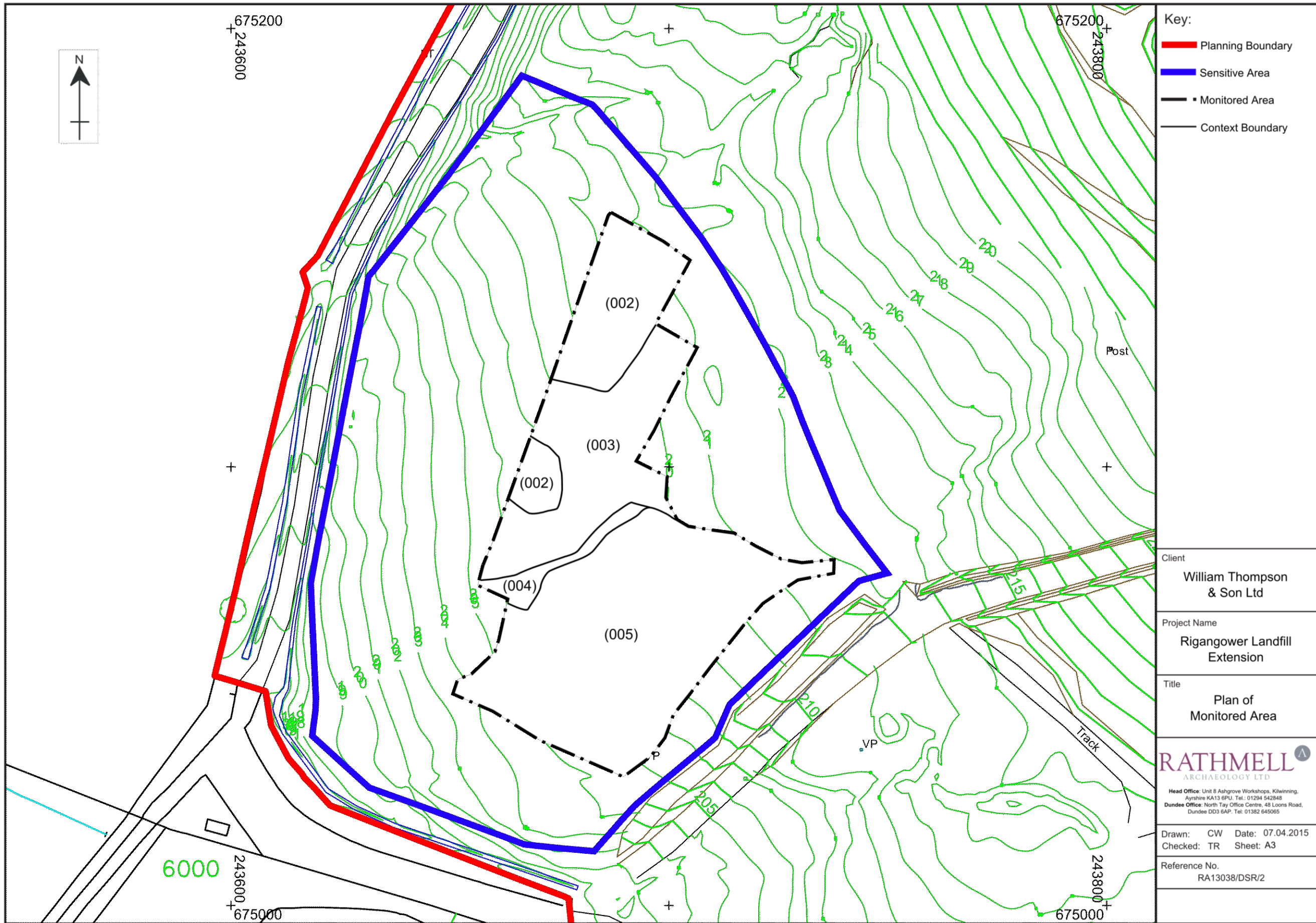
Figure 1: Plan showing Planning Boundary and outline of Archaeologically Sensitive Area (taken from Matthews 2014, Figure 1)

Findings

11. The Archaeologically Sensitive Area sat within a field with a sloping topography which was highest in the northeastern corner, and lowest in the southwest. It was bounded along the western, southern and eastern edges by tracks still in use by the estate. A disused overgrown settling pond was present at the northern edge. The area to be disturbed by the development did not extend across the full extent of the Sensitive Area, with large bunds planned along the western and southern ends where topsoil was to be deposited directly on top of the current ground surface.
12. After the halt to the monitoring works in the northern area, the resulting stripped area covered a roughly L-shaped piece of ground (Figure 2) measuring a maximum of approximately 115m north-north-east to south-south-west by 60m west-north-west to east-south-east, covering an area totalling 4,667m².
13. Prior to excavation, the entire area was covered by turf and topsoil (001) (Figure 3a) which comprised a moderately compacted mid-brown silty clay with frequent small stone/gravel inclusions. It ranged in depth from 200 to 700mm, being shallowest across the southern area and becoming deeper towards the north.
14. In the northwest corner, the topsoil directly overlay natural subsoil (002), which mainly covered an area measuring approximately 20m by 39m, although a smaller area further to the south-south-west was also revealed. (002) comprised a quite compact pale red sandy clay with frequent small to medium sized stone inclusions (Figure 3b).
15. Across the southern portion of the site, the topsoil directly overlay bedrock (004) and natural subsoil (005). Dark grey bedrock (004) (Figure 5a) was only exposed in the southwestern corner along the northwest edge of subsoil (005), measuring between 2 to 10m wide in extent. Subsoil (005) extended across the majority of the southern end covering an area measuring approximately 60m by 46m in extent. (005) consisted of a quite compact mottled pale red/yellow/orange sandy clay with frequent small to medium sized stone inclusions (Figure 5b).
16. Across the majority of the exposed northwestern area, where subsoil (002) was not present, the topsoil directly overlay deposit (003) (Figure 4a). (003) consisted of a compacted mid-grey silty clay with frequent small to medium sized stone inclusions, and frequent inclusions of concrete and brick. It covered an area measuring up to 58m north-north-east to south-south-west and 33m west-north-west to east-south-east, but its full extent was not fully revealed as it extended outwith the excavated area both to the west and east. It was excavated to a depth of 1.5 to 1.7m (Figure 4b) along 48m of its length, but its base was not revealed, with the deposit continuing deeper than the limit of excavation.
17. With the exception of deposit (003), no archaeological features were exposed across the entirety of the monitored area.

Artefacts

18. The only artefacts noted on-site were 20th century in date including bricks, concrete, wood and metal fragments which were present throughout topsoil (001) and frequently throughout deposit (003).



Key:

- Planning Boundary
- Sensitive Area
- Monitored Area
- Context Boundary

Client
William Thompson & Son Ltd

Project Name
Rigangower Landfill Extension

Title
Plan of Monitored Area

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Drawn: CW Date: 07.04.2015
Checked: TR Sheet: A3

Reference No.
RA13038/DSR/2

Figure 2: Plan of monitored area



Figure 3a: General shot of the northern area prior to the start of works, from the south-south-east



Figure 3b: Shot showing natural subsoil (002) from the north-north-east

Discussion

19. The excavation works failed to identify any significant archaeological features within the monitored area.
20. As already discussed in the Environmental Assessment (Rees & Gordon 2013), at least part of the area appeared to have been the site of a former World War II heavy anti-aircraft battery. Accounts of the area however had already stated that this battery had been demolished and the monitoring works indeed confirm this to be the case, at least within this portion of the area. No *in situ* remains of the battery were uncovered. Indeed the frequent inclusions of concrete and brick within deposit (003) suggests that these likely represent some of the demolished remains of the battery itself.
21. The nature and inclusions of deposit (003) suggests that it indicates an area of infill material. However, the depth of the deposit, which goes below 1.7m, compared with the level of the surrounding natural subsoil, which sits at a depth of 200 to 700mm, does suggest that the ground level has been previously reduced, at least across some areas, prior to the deposition of (003). The depth and extent would appear to be too large to only represent the area which would have been affected by the presence of the anti-aircraft battery. It is possible that the disturbance has been at some point after the battery went out of use, possibly during its demolition.
22. The only area which appeared to not have been affected by this disturbance was the southern portion. Unfortunately no archaeological features were present in this area, suggesting that although there is a high level of prehistoric activity in the surrounding area, represented by the rock art at Greenland and the nearby fort at Sheep Hill, this particular portion of the landscape did not retain comparable features.

Recommendations

23. The archaeological monitoring works failed to identify any significant archaeological features, and the only deposit revealed appeared to be the result of modern 20th century activity. Due to this, no further archaeological works are recommended as a direct consequence of these works and additional monitoring within the area already reduced is inappropriate.
24. Further, given the character of the sediments exposed by these works we recommend that no additional monitoring is appropriate in the wider Archaeologically Sensitive Area, outwith the ground already stripped.
25. The appropriateness and acceptability of our recommendations rest with West Dunbartonshire Council and their advisors, the West of Scotland Archaeology Service.

Conclusion

26. Archaeological monitoring works were carried out in support of the extension of Rigangower Landfill, West Dunbartonshire. The archaeological works were designed to mitigate any adverse impact on the archaeological remains within the development area.
27. The majority of the area showed evidence for previous disturbance by the presence of a large amount of infilled material containing frequent inclusions of brick and concrete. Some of this material is likely to be part of the demolished remains of the World War II anti-aircraft battery known to have occupied at least part of the area, and as such, the disturbance has occurred at some point after this period.
28. This material was the only archaeological feature encountered during the works and no significant archaeological features were revealed.



Figure 4a: Shot of deposit (003) from the north-north-east



Figure 4b: West-north-west facing section showing deposit (003)



Figure 5a: Shot showing bedrock (004) from the south-south-west



Figure 5b: Shot showing natural subsoil (005) from the northwest

Acknowledgements

29. The author would like to thank everyone at William Thompson & Son Ltd and Dalgleish Associates Ltd for giving us the opportunity to carry out these works and for all of their help on-site, particularly Andrew Thompson and Alastair, the General Manager. Thanks also go to Martin O'Hare at the West of Scotland Archaeology Service for his help and guidance throughout the project, and to Thomas Rees who edited this report.

References

- Matthews, A. 2014 *Rigangower Landfill Extension, West Dunbartonshire: Archaeological Mitigation, Written Scheme of Investigation*. Unpublished commercial report by Rathmell Archaeology Ltd
- Rees, T. and Gordon, D. 2013 *Rigangower Landfill Extension, West Dunbartonshire: Appraisal*, Unpublished commercial report by Rathmell Archaeology Ltd

Contact Details

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Appendix 1: Registers

Within this appendix are all registers pertaining to works on-site during the watching brief.

Context Register

Context	Area/ Trench	Type	Description	Interpretation
001		Deposit	Moderately compacted mid-brown silty clay with frequent small stone/gravel inclusions. Extends across whole of area. Ranges in depth from 200mm to 700mm. Shallower across the southern area.	Topsoil
002		Deposit	Quite compact pale red sandy clay with frequent small to medium sized stone inclusions. Present in NW area of site.	Natural subsoil
003		Deposit	Compacted mid-grey silty clay with frequent small to medium sized stone inclusions, and frequent inclusions of concrete and brick. Appeared as patchy along western edge and then extended across majority of northern area, measuring up to 48m in width and over 1.5-1.7m deep – full depth not revealed.	Modern 20 th century infill containing material which has likely come from the demolition of the WW2 gun emplacement
004		Deposit	Very compact dark grey bedrock revealed in southern area of site.	Bedrock
005		Deposit	Quite compact mottled pale red/yellow/orange sandy clay with frequent small to medium sized stone inclusions. Present across southern section of area, where bedrock (004) not exposed.	Natural subsoil

Photographic Register

Image	Digital	Description	From	Date
01	1218	General pre-excavation shot of area (northern corner)	SSE	26/03/15
02	1219	General pre-excavation shot of area (western corner)	ENE	26/03/15
03	1220	General pre-excavation shot of area (southern corner)	NNE	26/03/15
04	1221	General pre-excavation shot of area (eastern corner)	WNW	26/03/15

Image	Digital	Description	From	Date
05	1222	General pre-excitation shot of area (northeastern side)	SSW	26/03/15
06	1223	1 st stripped section – starting at western edge	SSW	26/03/15
07	1224	2 nd stripped section	SSW	26/03/15
08	1228	Working shot (3 rd section)	NW	26/03/15
09	1229	Shot showing subsoil (002), north corner	NNE	26/03/15
10	1230	Sample WNW facing section through topsoil (001)	WNW	26/03/15
11	1231	3 rd stripped section	SSW	26/03/15
12	1232	Shot of deposit (003) at south end	SSW	26/03/15
13	1233	Working shot	NW	26/03/15
14	1234	4 th stripped section	NNE	27/03/15
15	1235	Shot of (003) where it has been excavated deeper (6 th section)	NNE	27/03/15
16	1236	Sample of WNW facing section through (003) (>1.5-1.7m)	WNW	27/03/15
17	1237	Working shot	NW	27/03/15
18	1238	Shot of south end of 5 th stripped section showing bedrock (004)	SSW	27/03/15
19	1239	Shot of 6 th stripped section (deeper through (003))	S	27/03/15
20	1240	Shot of 6 th stripped section (deeper through (003))	NNE	27/03/15
21	1241	Shot showing subsoil (005) at south end	NE	30/03/15
22	1242	Working shot	NW	30/03/15
23	1243	General shot across subsoil (005) in south area	NW	30/03/15
24	1244	Sample SW facing section of topsoil (001) over (005)	SW	30/03/15
25	1245	General shot of southern area	SW	31/03/15
26	1246	General shot of southern area	NE	31/03/15
27	1247	Shot of area stripped along southern edge on 31/03/15	ESE	31/03/15
28	1248	General shot of southern area	SSW	31/03/15
29	1249	Northern edge of southern area	WNW	31/03/15

Appendix 2: Discovery & Excavation in Scotland

LOCAL AUTHORITY:	West Dunbartonshire
PROJECT TITLE/SITE NAME:	Rigangower Landfill Extension
PROJECT CODE:	RA13038
PARISH:	Old Kilpatrick
NAME OF CONTRIBUTOR:	Claire Williamson
NAME OF ORGANISATION:	Rathmell Archaeology Limited
TYPE(S) OF PROJECT:	Watching brief
NMRS NO(S):	NS47NW 24
SITE/MONUMENT TYPE(S):	Anti-aircraft battery (20 th century)
SIGNIFICANT FINDS:	None
NGR (2 letters, 8 or 10 figures)	NS 43693 75100
START DATE (this season)	26 th March 2015
END DATE (this season)	31 st March 2015
PREVIOUS WORK (incl. <i>DES</i> ref.)	None
MAIN (NARRATIVE) DESCRIPTION: (may include information from other fields)	<p>Archaeological monitoring works were carried out in support of the extension of Rigangower Landfill, West Dunbartonshire. The archaeological works were designed to mitigate any adverse impact on the archaeological remains within the development area.</p> <p>The majority of the area showed evidence for previous disturbance by the presence of a large amount of infilled material containing frequent inclusions of brick and concrete. Some of this material is likely to be part of the demolished remains of the World War II anti-aircraft battery known to have occupied at least part of the area, and as such, the disturbance has occurred at some point after this period.</p> <p>This material was the only archaeological feature encountered during the works and no significant archaeological features were revealed.</p>
PROPOSED FUTURE WORK:	None
CAPTION(S) FOR ILLUSTRS:	None
SPONSOR OR FUNDING BODY:	William Thompson & Son Ltd
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ARCHIVE LOCATION (intended/deposited)	Report to West of Scotland Archaeology Service and archive to RCAHMS Collections

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