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Raw Holdings, East Calder Archaeological Trial Trench Evaluation Data Structure Report Project 4390

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Raw Holdings, East Calder
Archaeological Trial Trench Evaluation
Data Structure Report

On behalf of: Persimmon Homes

NGR: NT 09164 67955

Project Number: 4390

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*This document has been prepared in accordance
with GUARD Archaeology Limited standard operating procedures.*

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Figure 1:
Site location.

0 200 m

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Executive Summary

- 1.1 An archaeological trial trench evaluation was carried out in three fields at Raw Holdings, East Calder, West Lothian. Numerous field drains were encountered along with remnants of rig and furrow cultivation. A curvilinear feature and two linear features possibly associated with drainage were also uncovered. Three mounds identified during an earlier walk-over survey were found to be heaps of topsoil. In the south-west corner of the site spreads of brick and rubble were found and may represent remnants of demolished structures associated with a former market garden known to have occupied this part of the site. No evidence of the possible post-medieval settlement of Wheatlands was uncovered and no artefacts were recovered from any of the features excavated during the course of the work.

Introduction

- 2.1 This data structure report sets out the results for the archaeological evaluation carried out in advance of the construction of housing and associated infrastructure at Raw Holdings, East Calder, West Lothian and was undertaken in accordance with the relevant archaeology guidance specified by West of Scotland Archaeology Service (WoSAS) who advise West Lothian Council (Planning references 0609/FUL/15).

Site Location

- 3.1 The proposed development site is located to the west of East Calder in West Lothian on the south side of the B7015 (centred on NT09164 67955). The site is bounded by Main Street and St Paul's RC Primary School to the north, Mansfield road to the south, the former quarries at Raw Farm to the east and a cycle track and playing fields to the west. A track and the route of the dismantled Camps Branch railway run north to south across the development site. The development area is currently covered in open pasture some of which is under cultivation and will form the nucleus of a new housing estate and associated roads and infrastructure. (Figure 1).

Archaeological Background

- 4.1 A desk-based assessment and walk-over survey was carried out in June 2015 (Roy & Oleksy) this identified five known heritage assets within the proposed development area. These included the possible post-medieval settlement of Wheatland and the nineteenth century Camps Branch railway (Sites 37 & 45). Three grass covered mounds (Sites 49-51) were identified in the northwest corner of the site and may be associated with Wheatlands settlement that is depicted on Roy's map (1752 -55). The presence of prehistoric, Roman and later remains in the vicinity of the development, and of recorded post-medieval settlements in the area surrounding the proposed development, demonstrated a high potential for the survival of unknown subsurface archaeological remains.
- 4.2 Sites identified from the desk-based assessment and walk-over survey within the development site:
- 37 Possible location of Wheatland settlement shown on Roys survey of 1752-55
 - 45 Camp Branch Railway that closed in 1960 and was dismantled by 1966
 - 49 Grass covered mound orientated north/south and measuring 12 m x 2 m and being about 1 m in height.
 - 50 Grass covered mound, generally linear in shape and orientated east/west. The mound measures 14 m long x 2.5 m wide.
 - 51 Grass covered oval mound generally orientated east/west. The mound measures c 16.5 m long by 7 m wide

Aims and Objectives and Scope

5.1 The aim of the archaeological evaluation was to identify:

- the presence or absence of as yet unknown archaeological features within the proposed development area;
- to ensure that any surviving archaeological remains, encountered during the evaluation, were recorded to an appropriate level.

5.2 The objectives were therefore to:

- Conduct an 8% (6880 m²) archaeological evaluation of the 86,000 m² area of the proposed development site to establish the presence or absence of any archaeological remains and their character, date and extent if surviving;
- Submit a report to data structure level for approval to WoSAS, on completion of the archaeological fieldwork, which includes an outline of the scope of any further excavation works should any significant archaeology be encountered.

5.3 The scope of the archaeological works will establish:

- that if the archaeological evaluation encounters no significant archaeological remains, no further archaeological fieldwork will be required for this development.

Fieldwork Methodology

6.1 Both the fieldwork and report were carried out following the Chartered Institute for Archaeologists (CIfA) guidance and standards of which GUARD Archaeology Limited is a Registered Organisation.

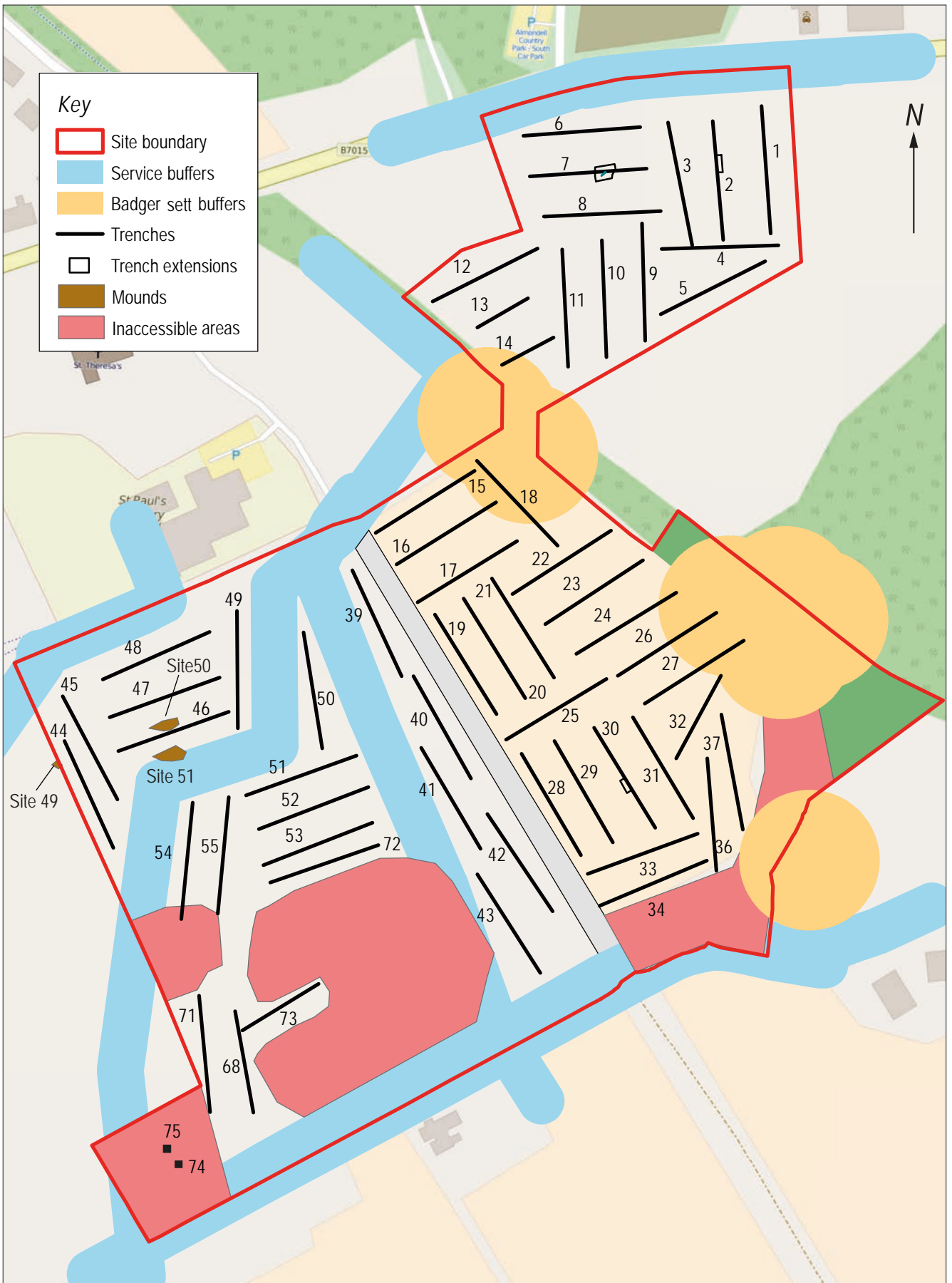
6.2 The proposed development area was photographed and a brief written description made prior to the commencement of all ground-breaking works.

6.3 The evaluation was originally to comprise 69 trenches but due to the presence of service pipes the whole area was not accessible. Once on site more information was provided by the client concerning a number of badger setts in the immediate vicinity and an area with thickets of hawthorn with nesting birds was not accessible. As a result 16 trenches could not be fully excavated. Following discussions with WOSAS some trenches were shortened and some trenches were extended to allow features identified during the trenching to be fully investigated (Figure 2). The final area investigated amounted to 5,777 m² or 6.7% of the total accessible area.

6.4 All trenches were excavated using a back-acting machine equipped with a c. 2m wide flat-bladed (toothless) ditching bucket and were excavated under the supervision of the GUARD Project Archaeologist.

6.5 The topsoil at each trench location was removed in spits to the first archaeological horizon or, where none was found, to the natural subsoil. A sample of archaeological features encountered were hand cleaned to determine their character and extent.

6.6 All significant archaeological features encountered were recorded. Negative-cut features were sample excavated in order to determine their significance, date and function. A full record of excavated features was made using pro forma sheets, drawings and photographs. All archaeological features were photographed and drawn at an appropriate scale and the trenches accurately located with the National Grid.



Key

- Site boundary
- Service buffers
- Badger sett buffers
- Trenches
- Trench extensions
- Mounds
- Inaccessible areas

GUARD ARCHAEOLOGY *Figure 2: Site plan showing location of features on revised trench layout plan* 0 100 m

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Results

7.1 The summary of the results is outlined below and should be read in conjunction with the fuller context descriptions in Appendix B. The full details of the results can be found in Appendices A-E and are illustrated in Figures 2-4.

7.2 Drains and Linear Features

7.2.1 Rubble field drains and occasionally ceramic drains were found in the majority of the trenches excavated in all of the fields subject to the evaluation. The rubble drains varied in form from narrow trenches *circa* 0.25 m wide filled with coal waste and shale fragments to trenches 0.42 m wide filled with a mixture of graded sub-angular and sub-rounded stones.



Plate 1: Rubble drain cut by tile drain trench.



Plate 2: Stone filled rubble drain.

7.2.2 An area of fine grey sub-soil (gley, 200) possibly the result of flooding or standing water was visible in trenches 1, 2 and 3 in the north field. This was aligned north-west to south-east and measured 9 m wide. Two linear features 202 and 204 (Figure 1 and 2) were visible on the north side of this area in trench 2. Both of these were aligned north-west to south-east and ran almost parallel to one another and were 1.5 m apart. A slot was excavated across 202 (Figure 3) which measured 0.92 m wide and was excavated to a depth of 0.28 m. The feature contained a fill (201) of grey/brown silty sand with occasional small stones with charcoal flecks towards the base of the fill along with cobbles and small stones that formed the rubble drain. This was unusual in so far that the stones were placed low in the trench below the top of the natural subsoil horizon (002) as the majority of rubble drains encountered across the site were visible level with the top of the natural subsoil 002. The parallel linear feature (204) had fragments of brick embedded in the surface of its fill (203) and was not excavated. In trench 48 in the west field, two further parallel rubble drains were uncovered.

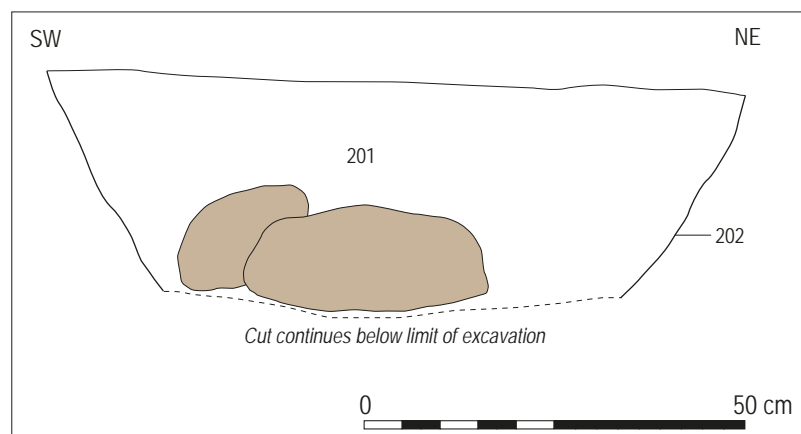


Figure 3: South-east facing section through linear cut 202 in Trench 2.



Plate 3: General view of linear cut 202 in trench 2, from the south-east.



Plate 4: Detail of the top of the stone fill in linear cut 202, from the south-east.

7.3 Curvilinear trench

7.3.1 A curvilinear feature (701) was recorded in trench 7 in the north field and the trench was extended to reveal the full extent of the feature which was aligned north-east to south-west. The feature measured 4.48 m long and was up to 0.42 m wide and up to 0.18 m deep. (Figure 3 and 4). Three slots were excavated across the feature, all had a similar fill of mottled pale grey, pale brown and orange sand with occasional small sub-rounded stones (700) No artefacts were recovered from the fill.

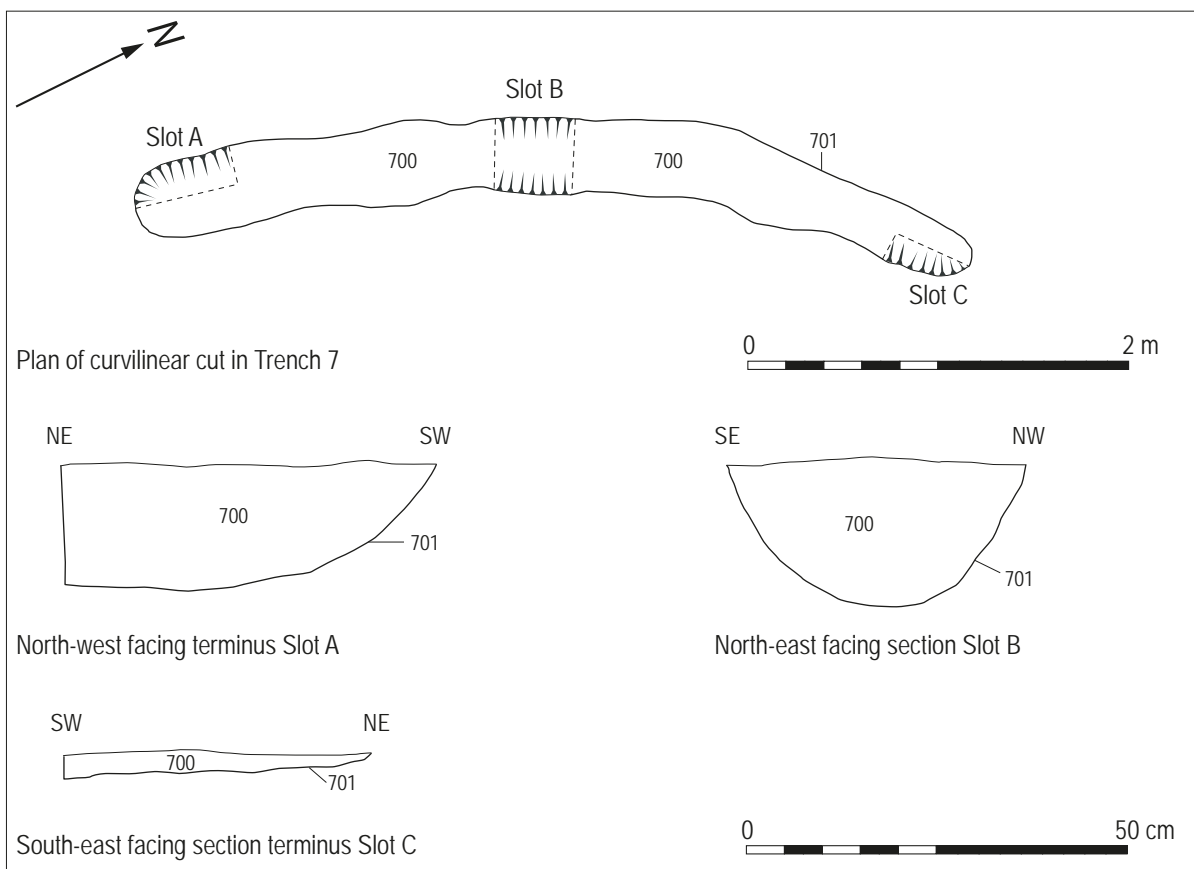


Figure 4: Plan and sections curvilinear cut 701 in Trench 7.



Plate 5: Post-excavation view of curvilinear feature 701 in trench 7, from the south-west.



Plate 6: North-east facing section through curvilinear feature 701 in trench 7, from the north-east.

7.4 Possible Coal Mining Debris

7.4.1 In trenches 6, 7, 12 and 13 in the north field a deep and extensive layer of coal, shale and mudstone fragments was visible. This was excavated by machine to a depth of 1.6 m but the full depth was not uncovered. It is unclear where this material derives from, possibly dumped coal mining debris or possibly material excavated during the construction of the nearby Camps Branch railway line cutting which runs parallel to part of the western boundary of the north field.



Plate 7: Coal and shale debris visible in trenches 6, 7, 12 and 13 at the west side of the north field, from the east.



Plate 8: Rig and furrow cultivation remains in trench 32, from the south-west.

7.5 Rig and Furrow Cultivation

7.5.1 The remains of irregularly spaced rig and furrow cultivation (3201, Figure 2) were visible in trenches 10 and 11 in the north field and were particularly prevalent towards the south end of the east field in trenches 16, 33, 34, 36 and 37,. The furrows were aligned north-north-west to south-south-east and measured 2.3 m-2.5 m wide and were spaced 8 m-8.5 m apart. A slot was excavated through the centre of one of the furrows which was found to be 0.14 m deep. The fill (3200) comprised a mid-orange/brown silty sand with frequent inclusions of small sub-angular and sub-rounded stones. No artefacts were recovered from the furrow.

7.5.2 A concentration of stones (3000) was uncovered in trench 30 (Figure 2) but excavation revealed that the two larger stones were degraded erratic boulders within the natural till 002.

7.5.3 Two small pits were uncovered in trench 73 at the south end of the east field. One contained animal bones that were visible on the surface of the fill. Mr. J. McGill who lives at No.27 Raw Holding, East Calder told the director that the east field was formerly divided up into a number of small holdings, one of which was a market garden and another used for keeping pigs etc, etc. It is possible the pit containing animal bones may represent a small animal burial possibly that of a piglet, lamb or small dog, neither of the pits were investigated further.



Plate 9: Stone feature 3000 in trench 30, from the east.



Plate 10: Two small pits visible in trench 73, the white arrows indicate the position of animal bone within the easternmost pit fill, from the south-west.

7.6 Sites Identified from the Walk-over survey

7.6.1 The desk-based assessment and walk-over survey identified three sites 49, 50 and 51 which were located towards the north-west corner of the proposed development area. These were investigated and were found to be grassed over mounds of topsoil of probable recent date.



Plate 11: East facing section through Site 49.



Plate 12: South-west facing section through Site 50, from the west.

7.7 Additional Trial Trenches

7.7.1 Two hand excavated trenches (trenches 74 and 75) each measuring 1 m square were excavated in a small enclosed paddock that contained ewes with lambs in the south-west corner of the development area. The trenches targeted a series of topographical anomalies possibly associated with building remains. Removal of the turf revealed in both trenches building debris consisting of sandstone rubble, bricks, plastic sheeting along with occasional slate, concrete fragments and rusty iron. The material found here is likely to represent the remains of demolished structures associated with a market garden that according to local resident Mr. J McGill once occupied this part of the site.



Plate 13: Trench 74 excavated in the paddock area in the south-west corner of the development area, from the west.



Plate 14: Trench 75 excavated in the paddock area in the south-west corner of the development area, from the north.

Discussion and Conclusion

- 8.1 The archaeological evaluation has determined that the majority of features encountered were associated with land improvement in the form of drainage in conjunction with agricultural use of the land and are not regarded as significant to warrant further study. The curvilinear feature identified in the north field may be geological or derive from bio-turbation rather than being anthropogenic in origin. No evidence for the possible post-medieval settlement of Wheatlands was discovered or any artefacts that may have been associated with it. Therefore, it is recommended that no further archaeological work is required.
- 8.2 GUARD Archaeology Ltd would stress that these recommendations are intended for guidance only and the final decisions on the nature and extent of any further archaeological work rest with the planning authority.
- 8.3 A summary of the project results will be submitted to *Discovery and Excavation in Scotland*. A copy of this is included in Appendix F. The archive for the project, including a copy of the report, will be submitted to the National Monuments Records for Scotland within six months of the completion of all fieldwork.
- 8.4 The online OASIS form at <http://ads.ahds.ac.uk/project/oasis/> for this project (OASIS Reference: guardarc1-249769) will be completed within 3 months. Once the Data Structure Report has become a public document by submission to or incorporation into the SMR, the WOSAS Archaeologist will validate the OASIS form thus placing the information into the public domain on the OASIS website.

Acknowledgements

- 9.1 GUARD Archaeology Ltd would like to thank Persimmon Homes and Martin O'Hare of WOSAS for their assistance. Plant and driver were supplied by Foster Plant. Technical support was from Aileen Maule. The project was directed by Alan Hunter Blair and managed for GUARD by Bob Will.

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Section 2: Appendices



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Appendices

Appendix A: Trench Details

Tr No	Length (m)	Width (m)	Depth (m)	Topsoil/Overburden	Subsoil	Details
1	54.8	2	0.34	001	002	Rubble drain
2	50.6	2	0.38	001	002	200 Gleyed deposit, 202 Linear cut and 204 Linear cut
3	52.7	2	up to 0.58	001	002	Gleyed area 200 and rubble drains
4	50	2	up to 0.58	001	002	-
5	50	2	0.54	001	002	-
6	50	2	0.4	001	002	Infill deposit
7	50	2	up to 0.6	001	002	Linear cut 701 and Infill deposit
8	50	2	up to 0.7	001	002	-
9	50	2	0.32	001	002	-
10	50	2	0.38	001	002	Possible rig and furrow remnants aligned ENE-WSW
11	50	2	0.42	001	002	Possible rig and furrow remnants aligned ENE-WSW
12	50	2	0.32	001	002	Infill deposit
13	25	2	0.42	001	002	Infill deposit
14	25	2	0.48	001	002	-
15	50	2	0.65	001	002	1500 Red blaes and rotting timber posts. Rubble and tile drains
16	50	2	0.43	001	002	Possible rig and furrow remnant and tile and rubble drains
17	50	2	0.48	001	002	Rubble and tile drains
18	50	2	0.66	001	002	Rubble drain
19	50	2	0.4	001	002	Rubble drains
20	50	2	0.42	001	002	Rubble and tile drains
21	50	2	0.38	001	002	Field drains
22	50	2	0.4	001	002	Field drains
23	50	2	0.35	001	002	Rubble drain
24	50	2	0.38	001	002	Field drains
25	50	2	0.48	001	002	Rubble drains
26	50	2	0.38	001	002	Field drain
27	50	2	0.4	001	002	Rubble drain
28	50	2	0.55	001	002	Rubble drains
29	50	2	0.43	001	002	Rubble drain
30	50	2	0.42	001	002	Stone feature 3000
31	50	2	0.38	001	002	Rubble drains
32	50	2	0.34	001	002	3200 Rig and furrow
33	50	2	0.52	001	002	Rig and furrow
34	50	2	0.4	001	002	Rig and furrow
35	-	-	-	-	-	Not excavated
36	50	2	0.4	001	002	Rig and furrow and rubble drains
37	50	2	0.42	001	002	Rig and furrow and rubble drains
38						Not excavated
39	50	2	0.22-0.48	001	002	Field drain

Tr No	Length (m)	Width (m)	Depth (m)	Topsoil/ Overburden	Subsoil	Details
40	50	2	0.39	001	002	Rubble drain
41	50	2	0.38-0.68	001	002	Rubble drain
42	50	2	0.23-0.42	001	002	-
43	50	2	0.68	001	002	Tile and rubble drains, site investigation test-pit
44	50	2	0.52	001	002	Site investigation test-pit and field drain
45	50	2	0.64	001	002	-
46	50	2	0.34	001	002	-
47	50	2	0.68	001	002	Rubble drain
48	50	2	0.64	001	002	Field drains
49	50	2	0.33	001	002	Redeposited clay and field drains
50	50	2	0.32	001	002	-
51	50	2	0.32	001	002	-
52	50	2	0.54	001	002	-
53	50	2	0.35	001	002	-
54	50	2	0.38	001	002	Rubble drain
55	50	2	0.34	001	002	-
56	-	-	-	-	-	Not excavated
57	-	-	-	-	-	Not excavated
58	-	-	-	-	-	Not excavated
59	-	-	-	-	-	Not excavated
60	-	-	-	-	-	Not excavated
61	-	-	-	-	-	Not excavated
62	-	-	-	-	-	Not excavated
63	-	-	-	-	-	Not excavated
64	-	-	-	-	-	Not excavated
65	-	-	-	-	-	Not excavated
66	-	-	-	-	-	Not excavated
67	-	-	-	-	-	Not excavated
68	50	2	0.38	001	002	Site investigation test-pit and tile drain
69	-	-	-	-	-	Not excavated
70	-	-	-	-	-	Not excavated
71	50	2	0.35	001	002	Area of hardstanding, rubble and tile drains
72	50	2	0.38	001	002	-
73	50	2	0.38	001	002	Red blaes path 2 possible animal burials.
74	1.04	0.86	0.06	001	Building debris sandstone rubble, frogged but unstamped bricks and brick fragment, modern glass fragments and a rusty iron bar	-
75	1	1	0.02-0.07	1	Building debris, sandstone rubble, plastic sheeting, occasional slate fragments and rusty iron objects.	-

Appendix B: List of Contexts

Context No.	Area	Description	Interpretation
001	Site	Deposit: A moist, loose dark grey silty sand with occasional small sub-rounded and sub-angular stones 60 mm< and very occasional modern ceramic not retained. Average depth 0.38 m	Topsoil

Context No.	Area	Description	Interpretation
002	Site	Deposit: Orange sandy clay, stony sandy clay, stony gravelly clay with occasional boulders and occasional outcrops of weathered bedrock.	Natural geology
003	Site	Deposit: A moist, firm mid-brown silty sand with occasional small sub-rounded and sub-angular stones 40 mm< occasional large boulders protruding through this layer from natural 002 below. Average depth 0.38 m	Subsoil visible in some of the trenches.
200	Trench 2	Deposit: A moist, soft pale grey/brown silty sand with occasional small sub-angular stones and occasional rounded cobbles 220 mm x 180 mm x 160 mm<. Measured 9.1 m wide in trench 2 and was visible in trenches 1, 2 and 3 aligned NW-SE. Cut by rubble drains in trench 3	Gleyed area probably formed by standing water where water pooled in a poorly drained part of the field.
201	Trench 2	Fill: A moist, firm mid-grey/brown with orange mottling silty sand with occasional small stones 40 mm< towards the top of the layer with frequent stones including large sub-rounded cobbles and small stones towards the base of the layer, and occasional charcoal flecks. Excavated to a depth of 0.28 m	Fill of linear cut 202
202	Trench 2	Cut: Linear in plan, aligned NW-SE. Sharp break of slope at top to steep sides, base undetermined not fully excavated. Measured 4.8 m long by 0.92 m wide and excavated top a depth of 0.28 m deep.	Linear cut probably associated with drainage.
203	Trench 2	Fill of unexcavated cut 204 an unfroged brick fragment was visible on top of the fill.	-
204	Trench 2	Unexcavated linear cut	-
700	Trench 7	Fill: A moist, firm mottled pale grey, pale brown and orange sand with very occasional small sub-rounded stones. Measured up to 0.18 m deep	Fill of curvilinear cut 701
701	Trench 7	Cut: Curvilinear in plan, aligned NE-SW. Sharp break of slope at top to short steep slightly concave sides which break gradually to form a rounded base. Measured 4.48 m long by up to 0.42 m wide by up to 0.18 m deep.	Curvilinear cut. Function or period uncertain possibly geological in origin.
3000	Trench 30	Structure: A cluster of stones comprised of two degraded erratic boulders within the natural till 002	Natural geology
3200	Trench 32	Fill: A moist, firm mid-orange/brown silty sand with frequent inclusions of small sub-angular and sub-rounded stones 85 mm<. Measured 0.14 m deep	Fill of rig and furrow cultivation cut 3201
3201	Trench 32	Cut: Linear in plan, aligned NNW-SSE. A sondage 0.5 m by 0.5 m was cut into the centre of thre furrow to a depth of 0.14 m deep.	Cut of rig and furrow cultivation mark one of a number of broad rig cultivation marks visible across parts of the site but particularly prevalent over the southern end of the east field.

Appendix C: List of Samples

Sample No.	Area	Context No.	Size	Reason for Sampling				Application/Comments
				Pot	Bone	Lithics	Botanics	
1	TR 7	700	5 L					Flotation, fill of curvilinear cut 701
2	TR 2	201	5 L					CV Fill of linear cut 202
3	TR 32	3200	5 L					Flotation routine look sterile

Appendix D: List of Drawings

Drawing No.	Area	Sheet No.	Subject	Scale
1	TR 7	1	Plan of curvilinear cut 701	1:20
2	TR 7	1	Sections through slots A, B and C across curvilinear cut 701	1:10
3	TR 2	1	Plan of gleyed area 200 and linear cuts 202 and 204 in trench 2	1:20
4	TR 2	1	SE facing section through linear cut 201	1:10

Appendix E: List of Photographs

Film No.	001		
Frame	Area	Subject	Taken from
1	-	Registration	-
2	North Field	General view of north field	NE
3	North Field	Trench 1	S
4	North Field	Trench 2	N
5	North Field	Linear cuts 201 and 203 in trench 2	SE
6	North Field	Rubble drains Trench 3 at the north end of gleyed deposit 200	N
7	North Field	Trench 3	S
8	North Field	Trench 4	E
9	North Field	Trench 5	W
10	North Field	Deposit 600 in trench 6	E
11	North Field	Trench 6	E
12	North Field	Linear cut 701 in trench 7	NE
13	North Field	Deposit 702 the west end of trench 7	W
14	North Field	Trench 8	E
15	North Field	Linear cut 701 NE facing section	NE
16	North Field	Trench 9	N
17	North Field	Trench 10	N
18	North Field	Trench 11	N
19	North Field	Trench 12	NE
20	North Field	Trench 13	NE
21	North Field	Trench 14	NE
22	East Field	Red blaes deposit Trench 15	SW
23	East Field	Trench 15	NE
24	East Field	Rubble and tile drain trench 15	SW
25	East Field	Trench 16	SW
26	East Field	Trench 17	NE
27	East Field	Trench 18	SW
28	East Field	Rubble drain trench 19	NW
29	East Field	Trench 19	SE
30	East Field	Plough marks in trench 20	NW
31	East Field	Trench 21	SE
32	East Field	Trench 22	NE
Film No.	002		
Frame	Area	Subject	Taken from
1	-	Registration	-
2	East Field	Trench 23	SW
3	East Field	Trench 24	NE
4	East Field	Trench 25	NE
5	East Field	Trench 26	NE
6	East Field	Trench 27	NE
7	East Field	Trench 28	SE
8	East Field	Trench 29	SE
9	East Field	Trench 30	SE
10	East Field	Trench 31	SE
11	East Field	Trench 22 after extending to 50 m	NE
12	East Field	Trench 23 after extending to 50 m	NE
13	East Field	Trench 24 after extending to 40 m	NE
14	East Field	Rig and furrow cultivation remnant 3200 in trench 32	NE
15	East Field	Field drains and rig and furrow remnant in trench 33	ESE
16	East Field	Trench 33	ENE
17	East Field	Trench 34	ENE
18	East Field	Trench 35 position of unexcavated trench	E

Frame	Area	Subject	Taken from
19	East Field	Trench 36	NW
20	East Field	Rig and furrow cultivation marks trench 37	S
21	East Field	Setting out trench 38 which ultimately was not excavated due to the presence of a badger sett	NW
22	East Field	Badger sett adjacent to trench 38	NW
23	East Field	Badger exclusion zone along the east edge of the east field	S
24	West field	Trench 39	NW
25	West field	Trench 40	SE
26	West field	Trench 41	SE
27	West field	Trench 42 weathered bedrock	SE
28	West field	Trench 43	SE
29	West field	Profile of topsoil 001 and subsoil 003 horizons	E
30	West field	Section through mound Site 49	E
31	West field	Section through mound Site 51	W
32	West field	Trench 44	SE
33	West field	Trench 45	NW
34	West field	General view showing proximity of trenches to recreation area.	E
35	West field	General view showing proximity of trenches to recreation area.	E
36	West field	Trench 48	SW
37	West field	Unexcavated cut at the NE end of trench 48	NW
38	West field	Unexcavated cut at the NE end of trench 48	NW
39	West field	Trench 47	SW
40	West field	Section through mound Site 50	ESE
41	West field	Trench 46	NE
Film No.	003		
Frame	Area	Subject	Taken from
1	-	Registration	-
2	West field	Redeposited clay in trench 49	NW
3	West field	Trench 49	S
4	West field	Trench 50	S
5	West field	Trench 51	SW
6	West field	Hawthorn thicket with nesting birds excluded from the evaluation area.	N
7	East Field	General view of east field after trenching	W
8	West field	Railway cutting west edge of north field	W
9	West field	Trench 52	NE
10	West field	Site investigation test-pit in trench 53	NE
11	West field	Trench 72	NE
12	West field	Trench 55	S
13	West field	Trench 54	N
14	West field	Trench 71 and paddock area excluded from the evaluation	NE
15	West field	Type 1 hard standing at the S end of trench 71	N
16	West field	Trench 68	NW
17	West field	Trench 68 and 71 and paddock area excluded from the evaluation	NE
18	West field	Blaes deposit in trench 73	SW
19	West field	Trench 73	NE
20	North field	Curvilinear cut 701	SW
21	North field	Curvilinear cut 701	SW
22	North field	SW facing section through curvilinear cut 701	SW
23	North field	NE terminus curvilinear cut 701	SE
24	North field	Terminus at the SW end of curvilinear cut 701	SW
25	North field	NW facing section terminus at the SW end of curvilinear cut 701	NW
26	North field	Post excavation view of curvilinear cut 701	SE
27	North field	Post excavation view of curvilinear cut 701	NE
28	North field	Post excavation view of curvilinear cut 701	SW
29	West field	Pits in trench 73 white arrows indicated position of animal bones	SW

Frame	Area	Subject	Taken from
30	North field	Possible pit in trench 54	E
31	North field	Linear cut 202 in trench 2 pre-excavation	ESE
32	North field	Gleyed deposit 200 in trench 2	S
33	North field	Gleyed area and rubble drains in trench 3	SE
34	North field	Cut 202 in trench 2 during excavation	SE
35	North field	Cut 202 SE facing section	SE
36	North field	Cut 202 SE facing section	SE
Film No.	004		
Frame	Area	Subject	Taken from
1	-	Registration	-
2	East field	Stone feature 3000 pre-excavation	S
3	East field	Stone feature 3000 post-excavation	NE
4	East field	Stone feature 3000 post-excavation	NE
5	East field	Rig and furrow cultivation remnant 3200 in trench 32	SW
6	East field	Sondage into rig and furrow cultivation remnant 3200	SW
7	West field	Pit of geological origin in trench 54	W
8	West field	General view of paddock area	N
9	West field	General view of paddock area	NE
10	West field	Trench 74 after deturfing	NE
11	West field	Trench 74 after deturfing	E
12	West field	Trench 74 post-excavation	W
13	West field	Trench 74 post-excavation	W
14	West field	Trenches 74 and 75 in the paddock area	NW
15	West field	Trench 75 post-excavation	N
16	West field	Trench 75 post-excavation	N

Appendix F: Discovery and Excavation Scotland Entry

LOCAL AUTHORITY:	West Lothian
PROJECT TITLE/SITE NAME:	Raw Holdings, East Calder
PROJECT CODE:	4390
PARISH:	Kirknewton
NAME OF CONTRIBUTOR(S):	Alan Hunter Blair
NAME OF ORGANISATION:	GUARD Archaeology Ltd
TYPE(S) OF PROJECT:	Trial Trench Evaluation
NMRS NO(S):	---
SITE/MONUMENT TYPE(S):	---
SIGNIFICANT FINDS:	---
NGR (2 letters, 6 figures)	NT 09164 67955
START DATE (this season)	12 th April 2016
END DATE (this season)	25 th April 2016
PREVIOUS WORK (incl. <i>DES</i> ref.)	N/A
MAIN (NARRATIVE) DESCRIPTION: (May include information from other fields)	<p>An archaeological trial trench evaluation consisting of 57 trenches was carried out in three fields at Raw Holdings, East Calder, West Lothian. Originally 73 trenches equivalent to 8% of the 86,000 m2 site but some areas were not accessible due to the presence of badger setts and nesting birds. Numerous tile and rubble field drains were encountered and remnants of rig and furrow cultivation. A curvilinear feature and two linear features associated with drainage and a deep infill layer consisting of coal and shale possibly deriving from the construction of the nearby nineteenth century Camps Branch railway line were recorded in the north field.</p> <p>Further drains were identified in the west field. Three mounds identified during a walk-over survey located towards the north-western edge of the field were found to be heaps of topsoil of probable recent date. In the south-west corner of the site spreads of brick and rubble were found and may represent remnants of demolished structures associated with a former market garden known to have occupied this part of the site. No artefacts were recovered from any of the features excavated during the course of the work.</p>
PROPOSED FUTURE WORK:	---
SPONSOR OR FUNDING BODY:	Persimmon Homes
CAPTION(S) FOR ILLUSTRS:	---
ADDRESS OF MAIN CONTRIBUTOR:	52 Elderpark Workspace, 100 Elderpark Street, Glasgow G51 3TR
EMAIL ADDRESS:	bob.will@guard-archaeology.co.uk
ARCHIVE LOCATION (intended/deposited)	Archive to be deposited in NMRS.

Appendix G: Written Scheme of Investigation

RAW HOLDINGS, EAST CALDER

WRITTEN SCHEME OF INVESTIGATION

PROJECT 4390



Executive Summary

- 1.1 This Written Scheme of Investigation forms the archaeological method statement for the evaluation of the area proposed for the construction of new houses and associated infrastructure at Raw Holdings, East Calder, West Lothian (Figure 1) (Planning reference 0609/FUL/15). This document will require to be approved by the West of Scotland Archaeology Service (WoSAS) prior to the commencement of archaeological fieldwork.

Introduction

- 2.1 This Written Scheme of Investigation (WSI) sets out the methodology for the archaeological mitigation works required in support of the erection of new dwellings and associated infrastructure at Raw Holdings, East Calder, West Lothian in accordance with the relevant archaeology guidance specified by WoSAS (Planning references 0609/FUL/15). An 8% archaeological evaluation will be undertaken to establish the presence, extent and nature of any significant archaeological remains. Should significant remains be identified and it is not possible to preserve them *in situ* a further requirement for archaeological works to ensure their preservation through record is likely to be required.
- 2.2 This WSI outlines the programme of archaeological works that may be needed to mitigate the effects of the proposed development. It details the methodology to be employed in implementing the Stage 1 archaeological works. The mitigation methodology to be employed during Stage 2 excavation and Stage 3 post excavation analysis and publication, will be specified in *addenda* to this document. These *addenda*, if required, will be submitted for the approval of WoSAS, prior to the commencement of any archaeological work. All phases of work will be funded by the developer as required by the Planning Authority.

Site Location

- 3.1 The proposed development site is located to the west of East Calder on the south side of the B7015 (centred on NT09164 67955). The site is bounded by Main Street and St Paul's RC Primary School to the north, Mansfield road to the south, the former quarries at Raw Farm to the east and a cycle track and playing fields to the west. A track and the route of the dismantled Camps Branch railway run north/south across the development site. The development area is currently covered in open pasture some of which is under cultivation and will form the nucleus of a new housing estate and associated roads and infrastructure.

Archaeological Background

- 4.1 A desk-based assessment and walk-over survey was carried out in June 2015 (Roy & Oleksy) and identified five known heritage assets within the proposed development area. These include the possible post-medieval settlement of Wheatland and the nineteenth century Camps Branch railway (Sites 37 & 45). Three grass covered mounds (Sites 49-51) were identified in the northwest corner of the site and may be associated with Wheatlands settlement. The presence of prehistoric, Roman and later remains in the vicinity of the development, and of recorded post-medieval settlements in the area surrounding the proposed development, demonstrates a high potential for the survival of as yet unknown subsurface archaeological remains.
- 4.2 Sites identified from the desk-based assessment and walk-over survey within the development site
- 37 Possible location of Wheatland settlement shown on Roys survey of 1752-55
 - 45 Camp Branch Railway that closed in 1960 and was dismantled by 1966
 - 49 Grass covered mound orientate north/south and measuring 12 m x 2 m and being about 1 m in height.
 - 50 Grass covered mound, generally linear in shape and orientate east/west. The mound measures 14 m long x 2.5 m wide.

- 51 Grass covered oval mound generally orientated east/west. The mound measures c 16.5 m long by 7 m wide

Aims, Objectives and Scope

- 5.1 The aim of the archaeological evaluation is to identify:
- the presence or absence of as yet unknown archaeological features within the proposed development area;
 - to ensure that any surviving archaeological remains, encountered during the evaluation, are recorded to an appropriate level.
- 5.2 The objectives are therefore to:
- Conduct an 8% (6880 m²) archaeological evaluation of the 86,000 m² area of the proposed development site to establish the presence or absence of any archaeological remains and their character, date and extent if surviving;
 - Submit a report to data structure level for approval to WoSAS, on completion of the archaeological fieldwork, which includes an outline of the scope of any further excavation works should any significant archaeology be encountered.
- 5.3 The scope of the archaeological works will establish:
- that if the archaeological evaluation encounters no significant archaeological remains, no further archaeological fieldwork will be required for this development.

Fieldwork Methodology

Archaeological Evaluation

- 6.1 A series of 69 evaluation trenches (Figure 1) (67 trenches each 50 m in length and measuring 2 m wide and two trenches 25 m long and 2 m wide) will be excavated using a back-acting machine under constant supervision of a GUARD Archaeologist. The trenches will be evenly spaced across the development site but will target sites identified from the desk-based assessment where possible. Two of the sites lie within a buffer zone round service pipes so it may not be possible to fully investigate these sites.
- 6.5 The topsoil or overburden at each trench location will be removed in spits to the first archaeological horizon or, where none was found, to the natural subsoil. Any archaeological features encountered will be cleaned by hand by the on-site Archaeologist to determine their character and extent.
- 6.6 Any significant archaeological features encountered will be dealt with by the on-site Archaeologist. Should negative-cut features be encountered, a representative sample will be 25-50% excavated in order to determine their significance, date and function. A full record of excavated features will be made using a single context recording system using pro forma sheets, drawings and photographs. All archaeological features will be photographed and recorded at an appropriate scale. Sections will be drawn at 1:10, and plans at 1:20. All test pits will be accurately surveyed using a sub-metre GPS and located within the National Grid.
- 6.7 All archaeological finds will be dealt with by the on-site Archaeologist. Finds and animal bone will be collected as bulk samples by context. Significant small finds will be three dimensionally located prior to collection. All finds will be processed to MAP2 type standards and subject to appropriate specialist assessment. If necessary, conservation of finds will be appraised to allow for specialist study.
- 6.8 All excavated feature fills and horizons will be sampled as appropriate, using bulk soil samples, for palaeo-environmental evidence.
- 6.9 A representative section will be recorded denoting depth of topsoil, any stratigraphy present and the nature of the soil. This information will be logged in the day book together with a sketch drawn to scale and a photographic record of deposits.
- 6.10 Should human remains be revealed by the excavation, the local police, the client and WoSAS will be

informed immediately. Any human remains will be accurately recorded, but left *in situ*, pending the agreement of the police, the client and WoSAS on an appropriate mitigation strategy.

- 6.11 Should significant archaeological remains be encountered within any of the trenches proposed, the area of investigation may be expanded, in consultation with the client and WoSAS, with the aim of defining the full extent of the archaeological features.
- 6.12 WoSAS will be the final judge of significance regarding any findings and may well insist on full excavation for any features to be destroyed by the proposals.
- 6.12 Should significant archaeological remains be encountered by the evaluation, requiring more than the 8% evaluation outlined above, the remains will be largely left *in situ* pending the agreement of the client and WoSAS on a WSI addenda for an appropriate scope of excavation (Stage 2) and Post-excavation design including scope of finds analysis, conservation & publication (Stage 3).
- 6.13 On completion of the recording of the evaluation trenches, the backfilling will be undertaken by a back-acting machine. No specialist backfilling is proposed.
- 6.14 All work will be conducted in line with the standards and guidance of the Chartered Institute for Archaeologists (CIfA).

Report Preparation and Contents

- 7.1 A report detailing the results of the archaeological fieldwork will be submitted to the client within two weeks of completion of fieldwork and, subject to client approval, then submitted to WoSAS. The report will take the form of a Data Structure Report and will contain an analysis of the results of the evaluation. The report will include a full descriptive text that will characterise the date and extent of any archaeological deposits. It will also include plans at an appropriate scale showing the area subjected to ground-breaking works, evaluation trenches, archaeological features and archiving lists of all finds, samples, field drawings and photographs.
- 7.2 If appropriate, the report will also include an addendum to this WSI for further archaeological fieldwork, should significant archaeology have been encountered.
- 7.3 The report will include the following:
 - executive summary;
 - a site location plan to at least 1:10,000 scale with at least an 8 figure central grid reference;
 - OASIS reference number; unique site code;
 - Planning application number;
 - contractor's details including date work carried out;
 - nature and extent of the proposed development, including developer/client details;
 - description of the site history, location and geology;
 - a site plan to a suitable scale and tied into the national grid so that features can be correctly orientated;
 - discussion of the results of field work;
 - context & feature descriptions;
 - features, number and class of artefacts, spot dating & scientific dating of significant finds presented in tabular format;
 - plans and section drawings of the features drawn at a suitable scale;
 - initial assessment of relevant finds/samples if appropriate;
 - recommendations regarding the need for, and scope of, any further archaeological work such as excavation (Stage 2) and Post-excavation finds analysis, conservation & publication (Stage 3);
 - bibliography.

- 7.4 At least two copies of the report will be prepared for the client and a further digital PDF copy sent to WoSAS.
- 7.5 WoSAS state that any DSR is to be submitted within 4 weeks of fieldwork completion, any PERD within 3 months of agreement to the DSR and any final publication within a year of agreement to the PERD.
- 7.6 The report will be presented in an ordered state and contained within a protective cover/sleeve or bound in some fashion. The report will be page numbered and supplemented with section numbering for ease of reference.

Copyright

- 8.1 Unless otherwise agreed copyright for any report resulting from the archaeological work undertaken as part of the project will be deemed the intellectual property of GUARD Archaeology Ltd.

Publication

- 9.1 A summary of the project results will be submitted to *Discovery and Excavation in Scotland*. In the event of minor archaeological remains being encountered during the archaeological fieldwork, it is proposed that a comprehensive report submitted to *Discovery and Excavation in Scotland*, will form the final publication of the site. A copy of this will be included in the Data Structure Report.

Archive

- 10.1 The archive for the project, including a copy of the report, will be submitted to the National Monuments Records for Scotland within three months of completion of all relevant work.
- 10.2 The online OASIS form at <http://ads.ahds.ac.uk/project/oasis/> will be completed within 3 months of completion of the work. Once the Data Structure Report has become a public document by submission to or incorporation into the SMR, WoSAS will validate the OASIS form thus placing the information into the public domain on the OASIS website.

Finds Disposal

- 11.1 The arrangement for the final disposal of any finds made in connection with the archaeological work, will be deposited in keeping with Scottish legal requirements as set out in the Treasure Trove Code of Practice published by the Scottish Government in December 2008. The laws relating to Treasure Trove and *Bona Vacantia* in Scotland apply to all finds where the original owner cannot be identified. This includes all material recovered during archaeological fieldwork. Accordingly, all assemblages recovered from archaeological fieldwork are claimed automatically by the Crown and must be reported to the Scottish Archaeological Finds Allocation Panel through its secretariat, the Treasure Trove Unit. In the event of the discovery of small finds, a filled-out copy of the form "Declaration of an Archaeological Assemblage from Fieldwork" and two copies of the pertinent Data Structure Report will be submitted to the Panel at the conclusion of the fieldwork. The Panel will then be responsible for recommending to the Queen's and Lord Treasurer's Remembrancer which museum should be allocated the finds. All artefacts will be temporarily stored by GUARD until a decision has been made by the panel.

Personnel and Liaison

- 12.1 The GUARD team will comprise the following qualified and experienced GUARD archaeologists:
 - Project Manager: Bob Will
 - Project Director (on-site Archaeologists): Alan Hunter-Blair
 - Finds and Environmental Support and Conservation: Aileen Maule

- Illustrator: Gillian McSwan

12.2 The GUARD Project Manager, will be the point of contact for the archaeological works. A full CV for individuals concerned can be made available on request.

Monitoring

13.1 The proposed start date for the archaeological fieldwork is Tuesday 12 April 2016 and will be confirmed on approval of this WSI. WoSAS will be informed of the site mobile phone number prior to the start date so that monitoring visits can be arranged. It is estimated that the evaluation will take 10 - 11 days to complete, including backfilling, with minimal findings.

Health & Safety and Insurance

- 14.1 GUARD Archaeology Ltd adheres to the guidelines and standards prescribed for archaeological fieldwork set down in the Institute for Archaeologists approved Health and Safety in Field Archaeology document, prepared under the aegis of the Standing Conference of Archaeological Unit Managers (SCAUM). It is standard GUARD policy, prior to any fieldwork project commencing, to conduct a risk assessment and to prepare a project safety plan, the prescriptions of which will be strictly followed for the duration of all archaeological fieldwork. Copies of the resultant project safety plan and of GUARD's Fieldwork Safety Policy Statement may be viewed upon request.
- 14.2 GUARD Archaeology Ltd also possesses all necessary insurance cover, proofs of which may be supplied upon request.

Bibliography

Roy M and Olesky V 2015 'Raw Holdings, East Calder, West Lothian Desk Based Assessment' AOC Archaeology Ltd internal report 23117

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