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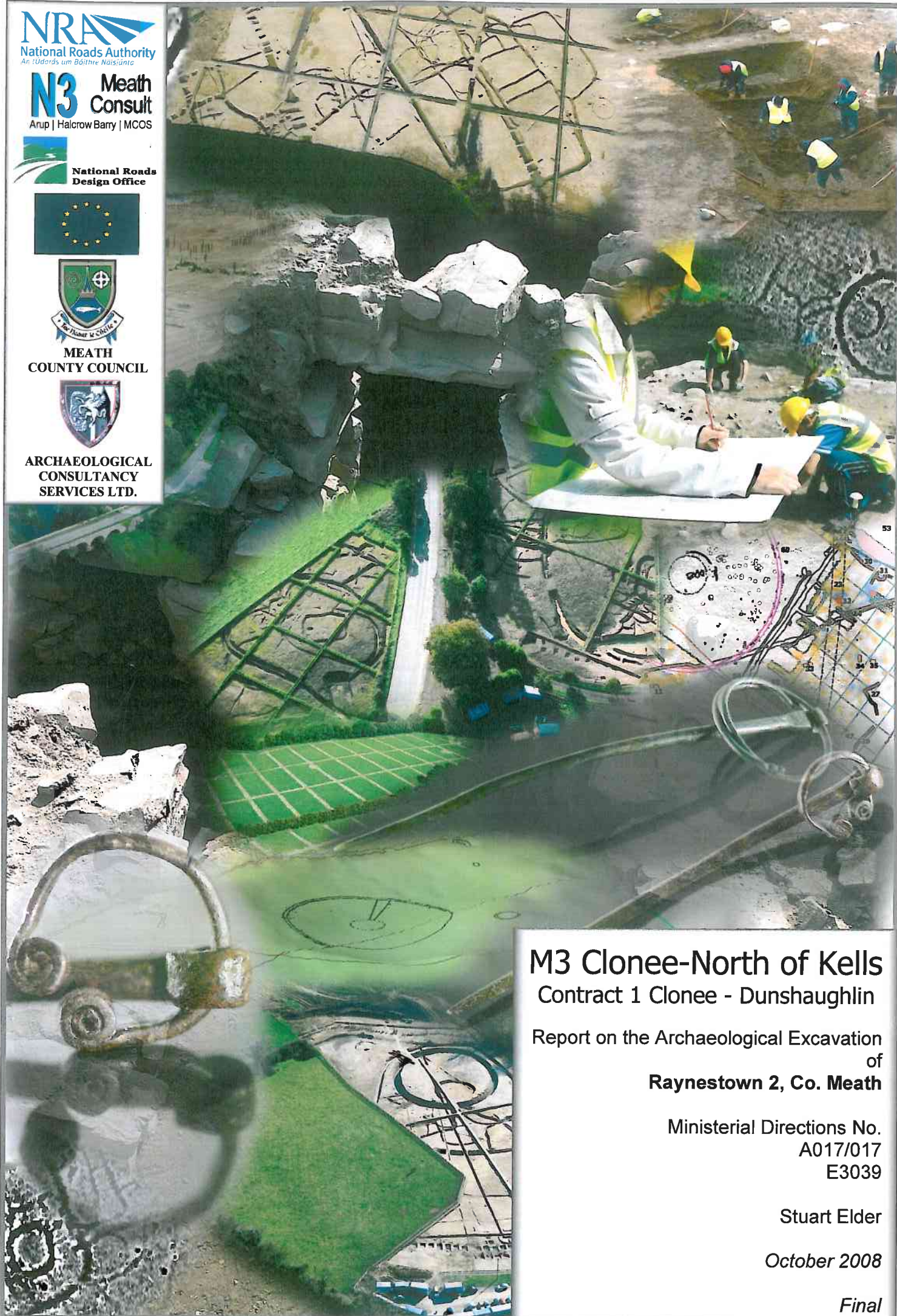
National Roads Design Office



MEATH COUNTY COUNCIL



ARCHAEOLOGICAL CONSULTANCY SERVICES LTD.



M3 Clonee-North of Kells Contract 1 Clonee - Dunshaughlin

Report on the Archaeological Excavation
of
Raynestown 2, Co. Meath

Ministerial Directions No.
A017/017
E3039

Stuart Elder

October 2008

Final

PROJECT DETAILS

Project	M3 Clonee–Kells Motorway
Site Name	Raynestown 2
Ministerial Direction Number	A017/017
Registration Number	E3039
Senior Archaeological Consultant	Donald Murphy
Site Director	Stuart Elder
Excavated	24 July – 10 August 2006
Client	Meath County Council, National Roads Design Office, Navan Enterprise Centre, Navan, County Meath
Townland	Raynestown
Parish	Rathbeggan
County	Meath
Nation Grid Reference	298224 248835
Chainage	8480–9020 and Raynestown re-alignment 500–660
Height m OD	90.58
Report Type	Final
Report Status	Submitted
Date of Report	October 2008
Report by	Stuart Elder

ACKNOWLEDGEMENTS

This report has been prepared by Archaeological Consultancy Services Ltd on behalf of Meath County Council National Roads Design Office (NRDO) and the National Roads Authority (NRA). The excavation was carried out under Ministerial Directions issued by the Department of the Environment, Heritage and Local Government (DOEHLG) in consultation with the National Museum of Ireland (NMI).

Consulting Engineers – N3 Meath Consult

Engineer – Peter Thorne and Thomas Meagher

Engineer’s Representative – Conor Wilkinson

Meath County Council, National Roads Design Office

Senior Engineer – John McGrath

Project Archaeologist – Mary Deevy

Project Liaison Officer – Ambrose Clarke

National Monuments, Department of the Environment, Heritage and Local Government

Archaeologist – Martin Reid

Irish Antiquities Division, National Museum of Ireland

Keeper – Nessa O’Connor

NON-TECHNICAL SUMMARY

This site at Raynestown 2 was excavated by Archaeological Consultancy Services Ltd (ACS) as part of the M3 Clonee–North of Kells Motorway Scheme on behalf of Meath County Council NRDO and the NRA. A series of 16 pits and five postholes, filled with charcoal-rich deposits and containing burnt and fire cracked stone, were revealed. Excavation showed that a few of the pit features were cut by others, and one pair was linked by a narrow channel, and used perhaps for some industrial-type function. Most of the pits were stratigraphically isolated and were either sub-circular or oval in shape, although one was rectangular. The site was once covered by a spread of charcoal-rich material containing fire-cracked stone (burnt mound material), but this appears to have been almost completely removed through the actions of modern agricultural practice.

A single flint flake and several cattle teeth were the only finds from the pit fills. The shortage of cultural material from similar sites is not uncommon. A radiocarbon date of 2300–2050 BC was derived from one of the pits, placing this site in the Early Bronze Age.

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1 INTRODUCTION

The site at Raynestown 2 was identified through geophysical anomalies (Bartlett-Clarke Consultancy) and investigated during advance testing carried out by Eamonn Cotter during March–April 2004 under licence number 04E0472 (Cotter 2004). Testing revealed the presence of a pit (0.80m x 0.75m x 0.08m) with frequent heat-shattered stones and charcoal fragments, a spread (c.0.45m diameter x 0.03m depth) of dark-grey, silty sand with some small stones and several linear features including field drains and cultivation furrows (ibid.). Full resolution of the site occurred in 2006 when these, and a number of other features, were uncovered and excavated (Figures 1–7).

1.1 Development

Meath County Council and the National Roads Authority are constructing 49km of two-lane, dual-carriageway motorway between Clonee and Kells and 10km of single carriageway from Kells to Carnross, north of Kells, along with additional road upgrades, realignments and associated ancillary works. For the purposes of the Environmental Impact Assessment and the subsequent archaeological investigations the scheme was subdivided into five separate sections as follows: Clonee to Dunshaughlin (Contract 1), Dunshaughlin–Navan (Contract 2), the Navan Bypass (Contract 3) Navan to Kells (Contract 4) and Kells to North of Kells (Contract 5). This section of the scheme (Contract 1) commences at the end of the existing Clonee Bypass, east of Dunboyne (NGR 303385 241281) and proceeds in a north western direction, finishing to the west of Dunshaughlin (NGR 295633 253070).

The archaeological components of the Environmental Impact Statement published in 2002 where carried out by Valerie J. Keeley Ltd (VJK) and Margaret Gowen and Co. Ltd (MGL) in 2000–2001. This included desk-based studies and field surveys of each section (VJK Sections 1 & 3 and MGL Sections 2, 4 & 5). Additionally on behalf of MGL geophysical survey was undertaken on the Dunshaughlin–Navan section and at Nugentstown on the Navan–Kells section by GSB Prospection (2000 & 2001). These studies carried out as part of the Environmental Impact Assessment were augmented by further geophysical survey conducted by Bartlett-Clark Consultancy on the remainder of the scheme (2002). Archaeological testing was completed by ACS and Irish Archaeological Consultancy Ltd (IAC) in 2004 (ACS Sections 1–3 and IAC Sections 4–5). Excavation of the sites identified during testing was conducted by ACS and IAC between 2005 and 2008 (ACS Sections 1–3 & 5 and IAC Section 4).

2 EXCAVATION

Excavation took place between 24 July and 10 August 2006 under Ministerial Direction Number A017/017 issued to Meath County Council NRDO. The work was carried out by Stuart Elder on behalf of ACS. The topsoil (F84: 0.40m maximum depth) consisted of a silty clay (peaty in some areas) and was removed by a machine equipped with a grading bucket. A light-orange, clay (shaly regolith in places) formed the subsoil (F82).

All archaeological features exposed were recorded and excavated by hand using the single context method. Each feature was assigned a context number. Where appropriate, samples were retrieved in an attempt to obtain evidence for the date and function of these features (Appendix 3). Unless otherwise stated, the features have been measured length-width-depth. All measurements are in metres. All finds were numbered according to the requirements of the National Museum of Ireland from 1 onwards consistent with licence and feature number. All radiocarbon dates are quoted in calibrated form to two sigma. For consistency, the uncalibrated radiocarbon dates were also calibrated using OxCal and these are shown in addition to the lab calibrations.

2.1 Results

During excavation 82 contexts were identified within the excavation area, all of which were of archaeological interest. Only the principal archaeological features of Raynestown 2 will be discussed within this report; full details of all these, and further, contexts are located in Appendix 1.

Pits

A total of 16 pits were observed (F7, F10, F16, F20, F26, F31, F34, F37, F39, F41, F43, F61, F67, F73, F80, and F81) (Figures 7–10, Plates 1, 3 and 5). The pits ranged in size from 0.52m length x 0.24m width (F54) up to 3.32m length x 2.02m width (F61) and 0.08–0.56m (F54 and F67, respectively) in depth, and varied greatly in profile. These were mostly oval or sub-oval in shape with one rectangular- (F20: north–south: 1.78m x 1.20m x 0.24m) and one sub-circular-shaped (F34: 0.80m x 0.80m x 0.14m; Plate 2) and contained up to six fills (F61: 3.32m x 2.02m x 0.32m), although most had one or two. The lower fills in these pits were silty or sandy and the upper fills generally contained substantial quantities of burnt stone and charcoal flecks. A bipolar flint flake (A017/017:57:1) was derived from the fill of pit F61 (Sternke; Appendix 5). Two cattle (*Bos taurus*) teeth were derived from fill F6 of pit F7 (Sloane; Appendix 7). Sub-oval, east–west pit F26 (1.76m x 1.6m x 0.33m) contained three fills; the primary of which, F25, was a sandy silt with pebbles and charcoal flecks and was covered with F24, a silty sand material with similar inclusions. Charcoal from F24 was

dominated by ash (*Fraxinus excelsior*) and alder (*Alnus glutinosa*), although hazel (*Corylus avellana*) and maloideae were also identified (ASUD; Appendix 6). A sample of the maloideae returned a radiocarbon date of 2300–2050 BC (Beta 241285; Oxcal: 2340–2040; Appendix 4), placing the pit in the Bronze Age.

Two of the pits (F20: 1.78m x 1.20m x 0.24m and F7: 1.50m x 1.14m x 0.56m) appear to have been joined by the insertion of a narrow, pebble-filled (F21) channel (F22: 1.32m x 0.77m x 0.20m) between them, which had a constriction in the central portion (Figures 7–9, Plate 4) (F21 also contained fire-cracked stone, disturbed material, and ash and alder charcoal (ASUD; Appendix 6)). F20 contained three fills consisting of charcoal flecks (F18 and F19) and pebbles (F17–F19) and F7 contained four silty fills (F23 and F4–F6), and the excavation of the second of which (F6) produced animal bones and teeth. There was no immediate evidence of oxidisation through in situ burning in any of these fills. F7 was cut to a lower level than the other, giving it the appearance of a cereal-drying kiln.

Other features

Five postholes (F48: 0.32m x 0.30m x 0.14m, F50: 0.38m diameter x 0.24m depth, F52: 0.44m x 0.30m x 0.22m, F54: 0.52m x 0.24m x 0.08m, and F63: 0.22m x 0.18m x 0.22m) and one stakehole (0.22m diameter x 0.22m depth) were identified (Figure 7). They formed no discernable forms or patterns. Each contained only one fill (F47, F49, F51, F53, F62, and F44) which was sterile.

A spread (F69: 2.00m x 0.86m x 0.05m) consisting of mid-grey, sandy silt was also observed, to the northwest of the pits.

2.2 Finds

The abovementioned single flint flake (A017/017:57:1) was the only artefact discovered at Raynestown 2.

3 DISCUSSION

Approximately 61 burnt mound sites were identified during the course of the archaeological investigations along the five contracts of the M3 Motorway, eight of those in the vicinity of Raynestown 2 (Bennetstown 1 (A017/003), Bennetstown 2 (A017/004), Bracetown 1 (A017/006), Drumree 1 (A017/027), Leshamstown 1 (A017/025), Knocks 1 (A017/022), Johnstown 2 (A017/020), and Roestown 4 (A017/024)).

3.1 Form and Function

It is generally accepted that burnt mound sites represent pyrolithic or ‘hot-stone’ activity, whereby rocks (usually limestone or sandstone) are heated on or by a fire, and immersed in a

water-filled pit or trough to boil the water. It is, however, the use or uses to which the boiling water is put, that is source of much debate; cooking remains the most obvious, but bathing, fulling cloth, tanning hide (Buckley 1990), brewing beer (Quinn & Moore 2007), and the recovery of animal fats (Monk 2007) have all been proposed over the years.

Nine pits formed the main cluster (Plates 1 & 5), and of these, three are interpreted as troughs, another two as possible troughs, and the remainder as pits. Elsewhere, two of seven features are interpreted as troughs, three as possible troughs, and the other two as pits. There was no evidence for lining in any of the troughs or potential troughs.

The comparative volumes were explored for each large feature, and the results are presented in Table 1 below.

For the purposes of comparison and interpretation, troughs are classified here as those having steeply sloping sides, and a depth greater than 0.30m generally, though pits with depths of less than this but which also have steeply sloping sides have been considered as possible troughs. Those features classified here as pits, as those which are generally shallower than the troughs, and which have more gently-sloping or 45° sides.

Raynestown 2						
Feature No.	Length (m)	Width (m)	Depth (m)	Volume (m ³)	Classification	Litres
F81	0.57	0.50	0.14	0.04	Pit	39.90
F34	0.80	0.80	0.14	0.09	Pit	89.60
F43	1.00	0.58	0.22	0.13	Pit	127.60
F37	1.14	0.92	0.20	0.21	Pit	209.76
F31	0.94	0.82	0.35	0.27	Trough	269.78
F10	1.28	1.15	0.20	0.29	Pit	294.40
F41	1.60	1.24	0.22	0.44	Possible trough	436.48
F16	1.84	0.82	0.30	0.45	Possible trough	452.64
F26	1.76	1.60	0.33	0.93	Pit	929.28
F39	1.70	1.56	0.38	1.01	Trough	1007.76
F80	1.96	1.80	0.36	1.27	Trough	1270.08
F73	2.14	1.42	0.44	1.34	Possible trough	1337.07
F67	2.02	1.66	0.56	1.88	Trough	1877.79
F61	3.32	2.02	0.32	2.15	Possible trough	2146.05

Table 1: Comparative volumes of troughs and pits at Raynestown 2

It can be seen from the table of results above that those features which fit into the definite trough category are in excess of 0.35m in depth. It is considered by the author that, depending

on the overall size of the feature, a depth of anything less than 0.30m may result in an overflow of the water, once a sufficient number of rocks are added to achieve and sustain boiling point.

One pair of pits (F7 and F20) were connected by a narrow channel, and may represent a cereal-drying kiln, though no evidence of charred grains were recovered from the fills either during excavation, or from the processing of soil samples.

The most prominent deposits within each of the pits (heat-affected stones and charcoal) were consistent with burnt mound activity and many may represent troughs. The lack of finds and the occurrence of animal bone (16 bone fragments and 10 tooth fragments) are also typical of burnt mound sites; however, it is uncommon to find so many pit/trough features at a single site of this type. Seven pits/troughs were excavated on a burnt mound site at Graigueshoneen, Co. Waterford (Tierney 2002), and varied in size from 0.90m to 2.12m long up to 0.36m deep but this is the only known / published site where numbers are even approximate to those discovered at Raynestown 2.

The scale and number of the pits suggest that the site at Raynestown 2 was multi-functional and perhaps represents a more stable or regularly used area of burnt mound activity than other burnt mound sites on the M3 Project. It is likely that a Bronze Age settlement could be positioned in the locale, somewhere outside the roadtake. The relationship between the pits and the postholes could not be stratigraphically determined.

A small stream was located c. 300m northwest of the site which may have provided the water source for the activity.

3.2 Date and Sequence

Thirteen samples yielded 1–5 grams of charcoal, but a 20g sample from deposit F24 in pit F26 was chosen for dating purposes, and returned a date of 2300–2050 BC (Beta 241285; Oxcal: 2340–2040 BC; Appendix 4), placing this site within the typical confines of the Bronze Age (Brindley & Lanting 1990, 55–6). As the majority of the features were separate from one another, it is not possible to determine the sequence of events, except to say that as the pits and troughs were closely spaced, it is doubtful that they were all in contemporary use.

4 CONCLUSIONS

Raynestown 2 (A017/017), excavated 24 July – 10 August 2006 by Stuart Elder (ACS) as part of the M3 Clonee–North of Kells Motorway Scheme on behalf of Meath County Council

NRDO and the NRA represents the site of pyrolithic ('hot-stone') activity, probably associated with cooking and other domestic/semi-industrial uses, and that the associated mound of accumulated waste material (burnt mound) has been long-since removed by agricultural activity. A radiocarbon date of 2300–2050 BC from one of the pits places this site firmly within the Early Bronze Age.

5 REFERENCES

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Signed:



Stuart Elder
October 2008

APPENDIX 1 Context Details

No	Type	Fill of/ Filled with	Strat above	Strat below	Description	Interpretation	Group	Artefacts	Animal bone	Cremated bone	Samples
1-3					used previously during Topsoil Assessment	sod					
4	fill	7	5	84	friable, compact, light-brownish-grey, sandy silt. 1.35m east-west x 0.75m north-south x 0.10m	top fill of pit 7					
5	fill	7	6	4	firm, brownish-mid-grey silt. 1.30m east-west x 0.74m north-south x 0.12m	fill of pit 7					#9 soil
6	fill	7	23	5	firm, dark-grey, clayey silt. 1.20m east-west x 0.82m x 0.15m	fill of pit 7			yes		#2 soil
7	cut	4-6, 23	82	23	sub-oval, northwest-southeast cut (1.50m x 1.14m x 0.56m) with a gradual break of slope (imperceptible in the northwest), steep sides and an imperceptible break of slope leading to an oval, concave base. Cuts channel 22	pit/trough					
8	fill	10	9	84	friable, compact, dark-grey sand with frequent sub-angular, burnt pebbles and charcoal flecks. 1.24m x 1.16m x 0.10m	top fill of pit 10					#6 soil
9	fill	10	10	8	firm, mid-grey, sandy silt with occasional, small, sub-angular pebbles. 0.92m northwest-southeast x 0.45m northeast-southwest x 0.06m	primary fill of pit 10					#8 soil
10	cut	8, 9	63, 82	9	sub-oval, northeast-southwest cut (1.28m x 1.16m x 0.20m) with a gradual break of slope (imperceptible in the northwest), gentle, concave sides and a gradual break of slope leading to a concave base. Cuts 63	pit					
11	fill	39	13	84	friable, brownish-grey sand with occasional small, sub-rounded and sub-angular pebbles. 1.32m north-south x 1.26m east-west x 0.18m	top fill of pit 39					#14 soil

No	Type	Fill of/ Filled with	Strat above	Strat below	Description	Interpretation	Group	Artefacts	Animal bone	Cremated bone	Samples
12	fill	39	38	84	friable, mid-grey sand with frequent sub-angular and sub-rounded pebbles and stones and charcoal flecks. 0.90m north-south x 0.50m east-west x 0.08m	fill of pit 39					#24 soil
13	fill	39	38	11	firm, dark-grey, sandy silt with moderate sub-rounded, sub-angular pebbles and charcoal flecks. 1.44m north-south x 1.36m east-west x 0.20m	fill of pit 39					#32 soil
14	fill	16	15	84	friable, compact, dark-grey sand with occasional sub-angular burnt pebbles and charcoal flecks. 1.52m northeast-southwest x 0.66m northwest-southeast x 0.07m	top fill of pit 16					#1 soil
15	fill	16	16	14	firm, mid-grey, sandy silt with occasional small, sub-angular pebbles and decayed stones. 1.80m northeast-southwest x 0.92m northwest-southeast x 0.11m	primary fill of pit 16			yes		#5 soil
16	cut	14, 15	82	15	sub-oval, north-south cut (1.84m x 0.82m x 0.30m) with a gradual-imperceptible break of slope, moderately steep sides and an imperceptible break of slope leading to a concave base	pit					
17	fill	20	18	84	friable, compact, brownish-grey sand with occasional small, sub-angular pebbles. 1.46m x 0.92m x 0.05m	top fill of pit 20					#17 soil
18	fill	20	19	17	firm, dark-grey, silty sand with moderate sub-angular pebbles and charcoal flecks. 1.62m x 1.06m x 0.16m	fill of pit 20					#29 soil
19	fill	20	20	18	firm, mid-grey, sandy silt with frequent sub-angular pebbles and charcoal flecks. 1.56m x 1.02m x 0.11m	primary fill of cut 20					#23 soil

No	Type	Fill of/ Filled with	Strat above	Strat below	Description	Interpretation	Group	Artefacts	Animal bone	Cremated bone	Samples
20	cut	17-19	82	19	rectangular, north-south cut (1.78m x 1.20m x 0.24m) with rounded corners and a gradual-sharp break of slope, steep, concave sides and an imperceptible break of slope leading to a flat base. Cuts 22, 67	pit/trough					
21	fill	22	22	84	friable, compact, dark-grey, silty sand with frequent sub-angular, sub-rounded, angular pebbles and stones. 0.52m x 0.30m x 0.14m	fill of channel 22					#18, #30 soil
22	cut	21	82	21	linear, northeast-southwest cut (1.32m x 0.77m x 0.20m) with a sharp-gradual break of slope, moderately steep sides and an imperceptible break of slope leading to a concave base. Cut by 20, 07	channel- chimney, possible part of hearth					
23	fill	7	7	6	moderately compact, grey, clayey silt. 1.20m east-west x 0.75m north-south x 0.16m	primary fill of pit 7					#3 soil
24	fill	26	25	46	loose, dark-grey, silty sand with moderate sub-angular burnt pebbles and charcoal flecks. 1.62m northwest-southeast x 1.30m northeast-southwest x 0.24m	fill of pit 26					#4 soil
25	fill	26	26	24	firm, mid-grey, sandy silt with occasional small, sub-angular pebbles and charcoal flecks. 1.38m northwest-southeast x 1.16m northeast-southwest x 0.06m	bottom fill of pit 26					#31 soil
26	cut	24, 25, 46	82	25	sub-oval, east-west cut (1.76m x 1.60m x 0.33m) with a gradual break of slope (imperceptible in southwest), moderately sloping sides and an imperceptible break of slope leading to a concave base	pit/trough					

No	Type	Fill of/ Filled with	Strat above	Strat below	Description	Interpretation	Group	Artefacts	Animal bone	Cremated bone	Samples
27	fill	31	28	84	friable, brownish-grey sand with moderate small, sub-angular pebbles. 0.60m north-south x 0.52m east-west x 0.02m	top fill of pit 31					
28	fill	31	29	27	loose, mid-grey sand with moderate small, sub-angular burnt pebbles and occasional charcoal flecks. 0.74m x 0.68m x 0.07m	middle fill of pit 31					#10 soil
29	fill	31	30	28	dark-grey, clayey sand with frequent small, sub-angular burnt pebbles and charcoal flecks. 0.92m northeast-southwest x 0.74m northwest-southeast x 0.13m	fill of pit 31					#11 soil
30	fill	31	31	29	soft, compact, mid-grey, sandy silt with occasional small, sub-angular pebbles. 0.78m northeast-southwest x 0.72m northwest-southeast x 0.12m	primary fill of pit 31					#25 soil
31	cut	27-30	80	30	sub-oval, northeast-southwest cut (0.94m x 0.82m x 0.35m) with a sharp-gradual break of slope, steeply sloping sides and an imperceptible break of slope leading to a concave, uneven base. Cuts 80	pit/trough					
32	fill	34	33	37	friable, dark-grey sand with moderate small, sub-angular and sub-rounded pebbles and charcoal flecks. 0.78m northeast-southwest x 0.60m northwest-southeast x 0.06m	fill of pit 34					#22 soil
33	fill	34	34	32	firm, mid-grey, sandy silt with occasional small, sub-angular and sub-rounded pebbles. 0.90m northeast-southwest x 0.80m northwest-southeast x 0.10m	primary fill of pit 34					#20 soil

No	Type	Fill of/ Filled with	Strat above	Strat below	Description	Interpretation	Group	Artefacts	Animal bone	Cremated bone	Samples
34	cut	32, 33	55-59, 80	33	sub-circular cut (0.80m north-south x 0.80m east-west x 0.14m) with a gradual-sharp break of slope at the top, moderately sloping sides and an imperceptible break of slope leading to a concave base. Cut by 37. Cuts 61, 80	pit/trough					
35	fill	37	36	84	friable, dark-grey sand with moderate sub-angular and sub-rounded, angular pebbles, decayed stones, and charcoal flecks. 1.04m x 0.90m x 0.13m	top fill of pit 37					#19 soil
36	fill	37	37	35	firm, mid-grey, sandy silt with occasional sub-angular, small pebbles. 0.86m x 0.88m x 0.05m	primary fill of pit 37					#21 soil
37	cut	35, 36	32	36	sub-oval, northwest-southeast cut (1.14m x 0.92m x 0.20m) with a varying break of slope, moderate, concave sides and an imperceptible break of slope leading to an uneven base. Cuts 34	pit					
38	fill	39	39	12, 13	firm, mid-grey, sandy silt with occasional sub-angular pebbles and charcoal flecks. 1.42m north-south x 1.32m east-west x 0.21m	primary fill of pit 39					#16 soil
39	cut	11-13, 38	82	38	sub-oval, northwest-southeast cut (1.70m x 1.56m x 0.38m) with a sharp-gradual break of slope, moderate, concave sides and an imperceptible break of slope leading to a concave base	pit/trough					
40	fill	41	41	84	soft, compact, greyish-brown, clayey silt with occasional sub-rounded, sub-angular and angular pebbles. 1.44m x 1.32m x 0.20m	fill of pit 41					#28 soil
41	cut	40	82	40	sub-oval, north-south cut (1.60m x 1.24m x 0.22m) with a varying break of slope, moderate, concave sides and an imperceptible break of slope leading to a rounded, concave base	pit					

No	Type	Fill of/ Filled with	Strat above	Strat below	Description	Interpretation	Group	Artefacts	Animal bone	Cremated bone	Samples
42	fill	43	43	84	firm, dark-grey silt with occasional sub-rounded pebbles and stones (0.10m-0.20m). 0.88m northeast-southwest x 0.60m northwest-southeast x 0.15m	fill of pit 43					#27 soil
43	cut	42	82	42	sub-oval, east-west cut (1.00m x 0.58m x 0.22m) with a gradual-imperceptible break of slope, gently to steeply sloping sides and an imperceptible break of slope leading to a concave, uneven base	pit					
44	fill	45	45	84	firm, dark-grey, clayey silt with occasional sub-rounded pebbles. 0.22m diameter x 0.11m depth	fill of stakehole 45					#33 soil
45	cut	44	82	44	circular cut (0.22m diameter x 0.22m depth) with a sharp break of slope (gradual in the east), moderate-steeply sloping sides leading to a pointed, southwest-inclined base	stakehole					
46	fill	26	24	84	friable, brownish-grey sand with occasional sub-angular, small pebbles. 1.00m northwest-southeast x 0.72m northeast-southwest x 0.02m	top fill of pit 26					#7 soil
47	fill	48	48	84	friable, mid-grey, clayey sand with occasional small, sub-rounded pebbles. 0.32m x 0.30m x 0.08m	fill of posthole 48					#12 soil
48	cut	47	82	47	sub-circular, northeast-southwest cut (0.32m x 0.30m x 0.14m) with a sharp break of slope (imperceptible in west), steep sides and an imperceptible break of slope leading to a flat base	posthole					
49	fill	50	50	84	friable, mid-grey, clayey sand with occasional small, sub-rounded pebbles. 0.36m diameter x 0.24m depth	fill of posthole 50					#13 soil

No	Type	Fill of/ Filled with	Strat above	Strat below	Description	Interpretation	Group	Artefacts	Animal bone	Cremated bone	Samples
50	cut	49	82	49	sub-circular cut (0.38m diameter x 0.24m depth) with a sharp break of slope, steeply sloping sides (80°) and an imperceptible break of slope leading to a flat base	posthole					
51	fill	52	52	84	friable, mid-grey, clayey sand with occasional small, sub-rounded pebbles. 0.44m x 0.24m x 0.18m	fill of posthole 52					#15 soil
52	cut	51	82	51	sub-oval, northwest-southeast cut (0.44m x 0.30m x 0.22m) with a sharp break of slope (gradual in northwest), steep sides and an imperceptible break of slope leading to a concave base	posthole					
53	fill	54	54	84	firm, mid-grey, sandy silt with occasional small, sub-rounded pebbles. 0.48m x 0.28m x 0.08m	fill of posthole 54					
54	cut	53	82	53	oval, east-west cut (0.52m x 0.24m x 0.08m) with a gradual break of slope, concave sides and an imperceptible break of slope leading to a concave and uneven base	posthole					
55	fill	61	57, 58	34	friable, brownish-grey sand with occasional small, sub-angular, sub-rounded pebbles. 1.42m x 0.21m x 0.02m	top fill of trough 61					
56	fill	61	58, 59	34	friable, brownish-grey, silty sand with occasional small, sub-rounded, sub-angular pebbles and burnt sandstone. 3.30m northwest-southeast x 0.32m northeast-southwest x 0.03m	top fill of trough 61					#26 soil
57	fill	61	60	34, 55	firm, dark-grey sand with frequent sub-rounded and sub-angular pebbles, burnt sandstone and charcoal flecks. 3.28m x 0.42m x 0.16m	fill of trough 61		flint			#35, #37 soil, charcoal
58	fill	61	60	34, 55, 56	firm, light-yellowish-brownish-grey, clayey silt with occasional sub-rounded and sub-angular pebbles. 3.28m x 1.52m x 0.16m	possible re-deposit in trough 61					

No	Type	Fill of/ Filled with	Strat above	Strat below	Description	Interpretation	Group	Artefacts	Animal bone	Cremated bone	Samples
59	fill	61	60	56, 34	firm, dark-grey, sandy silt with frequent small, sub-rounded, sub-angular pebbles and decayed stones,. 2.85m x 0.66m x 0.26m	fill of trough 61					#34 soil
60	fill	61	61	57-59	firm, mid-grey (brown mottled), sandy silt with occasional small, sub-rounded pebbles and frequent charcoal flecks. 3.30m x 1.88m x 0.16m	primary fill of trough 61					#38 soil
61	cut	55-60	82	60	sub-oval, north-south cut (3.32m x 2.02m x 0.32m) with a sharp-gradual break of slope, concave sides and an imperceptible break of slope leading to a concave, uneven base. Cut by 34	possible trough					
62	fill	63	63	84	loose, mid-grey, sandy silt. 0.22m x 0.18m x 0.22m	top fill of posthole 63					
63	cut	62	82	62	sub-oval, northeast-southwest cut (0.22m x 0.18m x 0.22m) with a sharp break of slope (gradual in the southeast), steep, vertical sides and a gradual break of slope leading to uneven base. Cut by 10	posthole					
64	fill	67	75	84, 65	firm, brownish-grey, sandy silt with occasional small, sub-rounded pebbles. 1.32m x 0.90m x 0.24m	fill of pit 67					
65	fill	67	64	84, 74	firm, dark-grey, sandy silt with moderate sub-angular, sub-rounded, small pebbles and charcoal flecks. 1.90m x 1.66m x 0.26m	fill of pit 67					#39 soil
66	fill	81	68	67	firm, mid-grey silt with occasional sub-rounded, sub-angular pebbles. 0.80m x 0.52m x 0.08m	fill of pit 81					#40 soil
67	cut	64, 65, 74-76	82	76	oval, north-south cut (2.02m x 1.66m x 0.56m) with a sharp break of slope (gradual in the southwest), steep sides and an imperceptible break of slope leading to uneven base. Cut by 20. Cuts 81	pit/trough					
68	fill	81	81	66	firm, light-grey silt with occasional small pebbles. 0.78m x 0.48m x 0.10m	primary fill of pit 81					

No	Type	Fill of/ Filled with	Strat above	Strat below	Description	Interpretation	Group	Artefacts	Animal bone	Cremated bone	Samples
69	spread	N/A	82	84	firm, mid-grey, sandy silt with occasional sub-angular and sub-rounded pebbles and stones. 2.00m northwest-southeast x 0.86m northeast-southwest x 0.05m	spread					
70	fill	73	73	84	loose, dark-brownish-grey, clayey silt with occasional sub-rounded, rounded, small stones and pebbles. 1.14m x 1.40m x 0.46m	fill of pit 73					#42 soil
71	fill	73	73	84	firm, mid-grey, sandy silt with occasional stones (0.20m). 0.57m x 1.20m x 0.20m	fill of pit 73					#43 soil
72	fill	73	73	84	firm, mid-grey, sandy silt with moderate sub-angular, sub-rounded pebbles and decayed stones. 0.64m x 1.18m x 0.40m	fill of pit 73					#44 soil
73	cut	70- 72	82	70, 71, 72	sub-oval, east-west cut (2.14m x 1.42m x 0.44m) with a sharp-imperceptible break of slope, steep, concave sides and an imperceptible break of slope leading to uneven base	pit					
74	fill	67	65	84	friable, compact, brownish-grey sand with occasional small pebbles. 0.76m x 0.74m x 0.03m	top fill of trough 67					
75	fill	67	76	64	soft, compact, mid-grey, sandy silt with occasional sub-angular, sub-rounded pebbles and charcoal flecks. 1.00m x 0.98m x 0.21m	middle fill of trough 67					#45 charcoal, #46 soil
76	fill	67, 80	67, 77, 78	84, 75, 79	firm, brownish-yellowish-grey, clayey silt with occasional small, sub-angular and sub-rounded pebbles. 1.80m north-south x 1.50m east-west x 0.16m	fill of trough 67, also fill of trough 80					#47 soil
77	fill	80	78	84, 76	firm, dark-grey, sandy silt with moderate sub-angular, sub-rounded, small pebbles and stones and charcoal flecks. 1.80m north-south x 0.20m east-west x 0.12m	fill of trough 80					

No	Type	Fill of/ Filled with	Strat above	Strat below	Description	Interpretation	Group	Artefacts	Animal bone	Cremated bone	Samples
78	fill	80	80	84, 76, 77	firm, mid-grey silt with occasional sub-rounded, small, pebbles and charcoal flecks. 1.80m x 0.60m x 0.16m	fill of trough 80					#36 charcoal
79	fill	80	76	84	friable, compact, brownish-grey, sandy silt with occasional small, sub-angular and sub-rounded pebbles. 1.72m north-south x 0.19m east-west x 0.03m	fill of trough 80					
80	cut	76-79	82	78	sub-oval, east-west cut (1.96m x 1.80m x 0.36m) with a gradual break of slope, moderate, concave sides and an imperceptible break of slope leading to uneven base. Cut by 61, 31	pit/trough					
81	cut	66, 68	82	68	sub-oval, northwest-southeast cut (0.57m x 0.50m x 0.14m) with an imperceptible-gradual break of slope, concave sides and an imperceptible break of slope leading to a flat base. Cut by 67	pit					
82	subsoil	N/A	N/A	84, 85	light orange clay	subsoil					
83	deposit	N/A	84	N/A		sod					
84	topsoil	N/A	82	83	silty clay (peaty in places). 0.40m maximum depth	topsoil					
85	deposit	N/A	N/A	84		cleaning deposit					

APPENDIX 2 *Finds List*

Finds No	Description
A017/017:57:1	Struck flake

APPENDIX 3 Sample List

Sample No	Context No	Results
1	14	45g charcoal flecks in residue
2	6	<1g charcoal flecks
3	23	nothing
4	24	20g charcoal flecks in residue
5	15	3g charcoal in flot
6	8	3g charcoal in residue
7	46	nothing
8	9	charcoal in flot
9	5	charcoal in flot
10	28	1g charcoal in flot
11	29	5g charcoal in flot
12	47	nothing
13	49	nothing
14	11	charcoal in flot
15	51	nothing
16	38	charcoal in flot
17	17	charcoal in flot
18	21	snail shells
19	35	charcoal in flot
20	33	nothing
21	36	2g charcoal in flot
22	32	2g charcoal in flot
23	19	nothing
24	12	2g charcoal in flot
25	30	nothing
26	56	nothing
28	40	nothing
29	18	charcoal in flot
30	21	charcoal in flot
31	25	1g charcoal in flot
32	13	charcoal in flot
33	44	nothing
34	59	charcoal in flot
35	57	2g charcoal in flot
36	78	87g charcoal
37	57	nothing
38	60	nothing
39	65	5g charcoal in flot
40	66	nothing
42	70	nothing
43	71	nothing
44	72	nothing
45	75	8g charcoal
46	75	charcoal in flot
47	76	nothing

APPENDIX 4 Radiocarbon Dates

Context	Sample No	Material	Species id/	Lab	Lab Code	Date Type	Date	Conventional Date (BP)	¹³ C/ ¹² C Ratio ‰	OxCal Date
24: fill of pit	4	Charcoal	Maloideae (62mg)	Beta	241285	AMS (Std)	2280–2240 BC and 2240–2140 BC one sigma 2300–2130 BC and 2090–2050 BC two sigma	3780 +/- 40	-23.6	2343-2041 BC

APPENDIX 5 Lithics Report: Farina Sternke

Lithics Finds Report for E3039 Raynestown 2, Co. Meath

M3 Road Scheme

Farina Sternke

MA, PhD

Introduction

One lithic find from the archaeological investigations of a prehistoric site at Raynestown 2, Co. Meath was presented for analysis (Table 1). The find is associated with the remains of a possible *fulacht fiadh* and associated structures.

Find No.	Context	Material	Type	Cortex	Condition	Length (mm)	Width (mm)	Thickn. (mm)	Complete	Retouch
A017/017:57:1	57	Flint	Flake	No	Patinated	25	14	5	Yes	No

Table 1 Composition of the Lithic Assemblage from Raynestown 2 (E3039)

Methodology

All lithic artefacts are examined visually and catalogued using Microsoft Excel. The following details are recorded for each artefact which measures at least 2 cm in length or width: context information, raw material type, artefact type, the presence of cortex, artefact condition, length, with and thickness measurements, fragmentation and the type of retouch (where applicable). The technological criteria recorded are based on the terminology and technology presented in Inizan *et al.* 1999. The general typological and morphological classifications are based on Woodman *et al.* 2006. Struck lithics smaller than 2 cm are classed as debitage and not analysed further. The same is done with natural chunks.

Quantification

The lithic is a worked flint.

Provenance

The lithic was recovered from the fill of a pit.

Condition:

The lithic survives in patinated, complete condition and does not bear the remnants of cortex.

Technology/Morphology:

The artefact is a bipolar flake which was produced on a nodule of beach pebble flint and measures 25 mm long, 14 mm wide and 5 mm thick.

Dating:

The assemblage from Raynestown 2 is typologically undiagnostic. The small size of the assemblage and its technological characteristics would suggest a dating to the Bronze Age (Woodman 2006; Woodman *et al.* 2006).

Conservation

Lithics do not require specific conservation, but should be stored in a dry, stable environment. Preferably, each lithic should be bagged separately and contact with other lithics should be avoided, so as to prevent damage and breakage, in particular edge damage which could later be misinterpreted as retouch. Larger and heavier items are best kept in individual boxes to avoid crushing of smaller assemblage pieces.

Conclusion

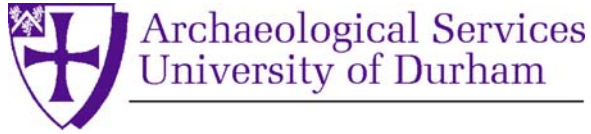
The lithic find from the archaeological investigation at Raynestown 2, Co. Meath is a bipolar flint flake. It is typologically undiagnostic, but most likely dates to the Bronze Age and may be directly linked to activities related to the use of the *fulacht fiadh*.

This site makes a minor contribution to the evidence for Bronze Age settlement in Co. Meath.

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APPENDIX 6 *Environmental Report*



Raynestown 2, M3 Motorway Project, Co Meath, Ireland

plant macrofossil, charcoal and mollusc analysis

on behalf of

Archaeological Consultancy Services Ltd Report 1942

August 2008

Archaeological Services

Durham University

South Road

Durham DH1 3LE

Tel: 0191 334 1121

Fax: 0191 334 1126

archaeological.services@durham.ac.uk

www.durham.ac.uk/archaeological.services

Raynestown 2, M3 Motorway Project,

Co Meath, Ireland

plant macrofossil, charcoal and mollusc analysis

Report 1942

August 2008

Archaeological Services Durham University

on behalf of

Archaeological Consultancy Services Ltd

Unit 21 Boyne Business Park, Greenhills, Drogheda, Co. Louth, Ireland

1. Summary

The project

- 1.1 An excavation of a probable burnt mound was undertaken by Archaeological Consultancy Services Ltd at Raynestown 2, Co Meath, Ireland. This report presents the results of plant macrofossil, charcoal and mollusc analysis of the fills of a linear feature and a pit.

Results

- 1.2 The charcoal in both contexts was dominated by ash and alder, with lesser frequencies of hazel and Maloideae in context (24). Charred seeds were absent from the samples.
- 1.3 The mollusc remains were too few to be of any real interpretative value.

2. Project background

Location and background

- 2.1 An excavation was undertaken by Archaeological Consultancy Services Ltd at Raynestown 2, Co Meath, Ireland (NGR 298224 248835). In total, 16 pits, 5 postholes, and one stakehole were recorded. Although there was no obvious spread of burnt mound material, it is thought that such a feature did originally exist in the easternmost part of the site. The topsoil was very shallow, and plough marks were evident across the site, suggesting that this activity had removed much of the mound in recent times. Charcoal was present in the pits and postholes, and other artefacts included a single flint flake, 16 animal bone fragments, and 10 animal tooth fragments. A possible grain-dryer was also identified on the site. This report presents the results of plant macrofossil, charcoal and mollusc analysis of the fills of a linear feature and a pit.

Objective

- 2.2 The objective was to analyse the plant macrofossils, charcoal and molluscs from the site, in order to provide information about the diet, land use and local environment.

Dates

- 2.3 Samples were received by Archaeological Services Durham University in November 2007. Analysis and report preparation was conducted between November 2007 – August 2008.

Personnel

- 2.4 Sample processing was undertaken by Archaeological Consultancy Services Ltd. Plant macrofossil and charcoal identifications were carried out by Dr Charlotte O'Brien and Mr Lorne Elliott. Mollusc analysis was by Mr John Carrott. Residues were sorted by Mr Lorne Elliott.

Archive

- 2.5 The licence number is A017/017 (E0427). The charcoal, flots and mollusc samples are currently held at the Environmental Laboratory at Archaeological Services Durham University awaiting collection or return.

3. Plant macrofossil and charcoal analysis

Methods

- 3.1 The residues were examined for plant remains, shells, bones, pottery sherds and metalworking debris. The dry flots were scanned at up to x60 magnification using a Leica MZ6 stereomicroscope for charred and waterlogged plant remains. Identification of these was undertaken by comparison with modern reference material

held in the Environmental Laboratory at Archaeological Services Durham University. Plant taxonomic nomenclature follows Stace (1997).

- 3.2 Charcoal was collected from the residues and flots and added to pre-sorted material. Following Boardman (1995), identifications were made on all fragments >4mm. The transverse, radial and tangential sections were examined at up to x600 magnification using a Leica DMLM microscope. Identifications were assisted by the descriptions of Hather (2000), and modern reference material held in the Environmental Laboratory at Archaeological Services Durham University. The different species were weighed separately. A single entity of Maloideae charcoal, weighing 32mg, was provided for radiocarbon dating.

Results

- 3.3 Charcoal was present in the residues and flots of both contexts, and the residue of context (21) contained a few possible fire-cracked stones. Insect fragments, roots and a few uncharred seeds were recorded, but the non-waterlogged nature of the samples suggests these are later intrusive material. This interpretation is corroborated by the presence of a cypress (*Chamaecyparis* sp) fruit; these North American trees were not introduced to the British Isles until the 1500s, and therefore the fruit is likely to derive from an ornamental tree growing near the site in recent times. Ash and alder dominated the charcoal assemblages from both contexts, with lesser frequencies of hazel and Maloideae (Hawthorn, whitebeams, apple and pear) present in context (24). Charred plant macrofossils were absent from both contexts. The proportions of identified charcoal are present in Figure 3.1. The results of the environmental analysis are listed in Table 3.1.

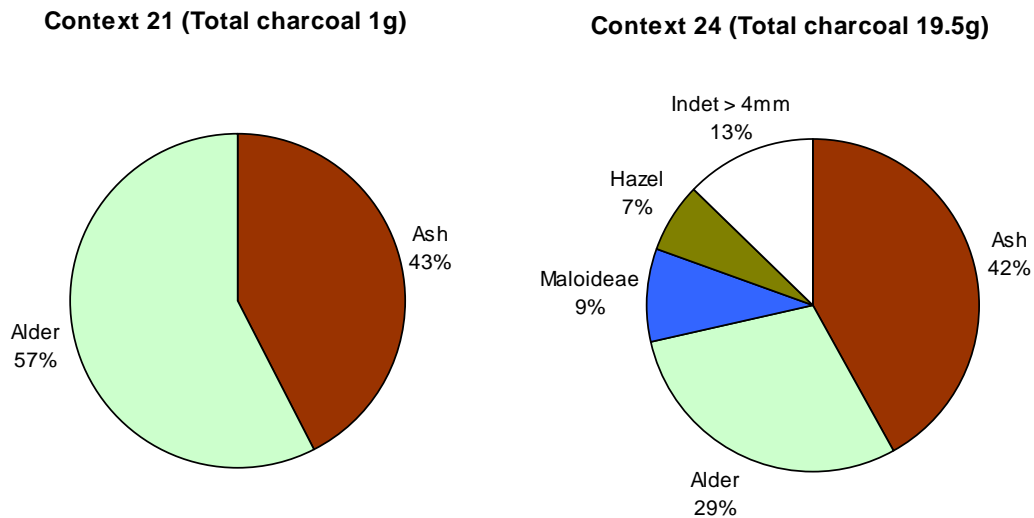


Figure 3.1: Proportions of identifiable charcoal from Raynestown 2

Discussion

- 3.4 If the wood was collected locally, the results of the charcoal analysis suggest that the local landscape included ash woodland, with hazel and Maloideae growing as shrubs/small trees in the understorey layer or by the woodland margins. Alder made up a significant proportion of the charcoal in both contexts, and this species would have grown in areas of wetland, such as along riverbanks or in a carr.

Table 3.1: Plant macrofossils and charcoal from Raynestown 2

Context	21	24
Sample	18, 30	4
Feature	Linear	Pit
<i>Material available for radiocarbon dating</i>	✓	✓
<i>Volume of flot (ml)</i>	19	60
<i>Residue matrix (relative abundance)</i>		
Charcoal	1	2
Cracked/angular stones	2	-
<i>Flot matrix (relative abundance)</i>		
Charcoal	2	3
Insect	1	1
Mollusca shell	1	-
Roots (modern)	2	1
<i>Charcoal (mg/number of fragments)</i>		
Total charcoal analysed (mg)	493	1938
Number of identifiable fragments >4mm	22	28
<i>Fraxinus excelsior</i> (Ash)	814 (20F)	210 (3F)
<i>Alnus glutinosa</i> (Alder)	567 (13F)	283 (6F)
Maloideae (Hawthorn, Whitebeams, Apple, Pear)	178 (6F)	-
<i>Corylus avellana</i> (Hazel)	129 (2F)	-
Unidentified >4mm fraction	250 (4F)	-
Unidentified <4mm fraction	502	17276
<i>Uncharred remains (relative abundance)</i>		
(t) <i>Chamaecyparis</i> sp (Cypress) fruit	1	-
(w) <i>Carex</i> spp (Sedges) trigonous nutlet	1	-
(x) <i>Ranunculus</i> subgenus <i>Ranunculus</i> (Buttercup) achene	1	-

[w-wetland; t-trees/woodland; x-wide niche]. F = number of charcoal fragments

Relative abundance is based on a scale from 1 (lowest) to 5 (highest).

- 3.5 It has been suggested that a burnt mound existed on the site, and therefore the charcoal may represent fuel used to heat stones for cooking or other activities. The predominance of ash, alder and hazel is broadly in line with the results of a recent study of charcoal from Bronze Age sites in central and western Ireland, which has provided evidence that alder, ash, hazel and oak were the main trees selected for fuel on burnt mound sites (Grogan *et al* 2007). It has been suggested that this choice of fuel reflects the marginal situation of most burnt mounds, between wet and dryland areas (*ibid.*). Other burnt mound sites along the M3 corridor have revealed similar charcoal assemblages to that of Raynestown 2, for example, ash and alder were also the main charcoal taxa identified at Roestown 1 (Archaeological Services 2008).

4. Mollusc analysis

Methods

- 4.1 Molluscs were collected from the flot of context (21). The remains were identified as closely as possible with reference to published works (main sources Cameron 2003, Cameron & Redfern 1976, Ellis 1969, Kerney 1999, Kerney & Cameron 1979). The quantity of remains was so small that minimum numbers of individuals could be readily determined and counts were recorded (based on numbers of shell apices). Nomenclature follows Kerney (1999).

Results and interpretation

- 4.2 A very small number (~10) of land snail shell fragments were recovered from this sample most of which were not identifiable. The few remains that were identifiable, at least in part, comprised single fragments of *Discus rotundatus* (Müller), ?*Punctum pygmaeum* (Draparnaud) and *Vertigo* sp. (but shell dextral so not *V. pusilla* Müller or *V. angustior* Jeffreys) and there was one other unidentified land snail apex fragment of another species.

Discussion

- 4.3 The remains were too few to be of any real interpretative value, although they perhaps hint at leaf litter under woodland/scrub/hedgerow.

5. Sources

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APPENDIX 7 Faunal Report: Rachel Sloane

1. Introduction

This report details the results of analysis of mammalian bone remains retrieved during archaeological excavation at the site of Raynestown 2, County Meath. Resolution phase archaeological works took place from 24th July to 10th August 2006 in advance of the proposed M3 Clonee to North of Kells Road Scheme (Vicky Ginn and Stuart Elder pers. comm.). The archaeological features revealed comprised 16 pits, five postholes and one stakehole (*Ibid*). Two of the pits had been connected through the insertion of a narrow channel between them. This was interpreted as possible evidence for some form of drying kiln (*Ibid*). While a burnt mound spread was not revealed, it is believed that one did exist to the easternmost area of the excavated site and may currently be situated beyond the roadtake area (*Ibid*). Recent agricultural activity had removed much of the topsoil and clearly indicated removal of the mound material (*Ibid*). The scale as well as the complex nature of the archaeological features indicates a site that was of wider use than just cooking activity (*Ibid*). A more stable domestic and semi-industrial use is suggested, and it is believed that a settlement site must be located in proximity (*Ibid*). At the time of writing this report an archaeological excavation report was not yet available.

2. Methodology

The methodology adopted for analysis of this collection is based on that used for Knowth by McCormick and Murray (2007). A detailed description of the applied methodology has been outlined by the current author in the analysis report for Roestown 2 mammalian bone remains, recovered from archaeological excavation carried out as part of the M3 Clonee-North of Kells Road Scheme. The quantification method applied is a modified version of that used by Albarella and Davis (1996). It entails a selective approach which, rather than counting every fragment of bone, results in the production of NISP values i.e. number of identifiable specimens. The method involves examination of all faunal bone remains but specimens found to be of low-grade information value are not recorded. Consequently the recording of a narrower range of clearly defined bone elements is ensured. Selected elements are recorded provided at least 50% of the diagnostic zone survives. This procedure avoids multiple counting of very fragmented elements (*Ibid*). The MNI i.e. minimum number of individuals was calculated for all species. This estimates the minimum number of animals that the recorded faunal remains could have come from (Chaplin 1971, 70). It is calculated through dividing the recorded value of each element for a species by its frequency in the skeleton. The resulting highest value is the MNI for that particular species. While both sides and proximal or distal were taken into account for MNI calculations, ageing data was not.

3. Results of Analysis

3.1 Summary of Findings

Following thorough inspection of the animal bone remains from Raynestown 2 a total of only six specimens were suitable for recording. The two species of cattle (*Bos taurus*) and pig (*Sus sp.*) were represented by this minute collection and the range of elements present is illustrated in Table 1. They had been retrieved from F6 (secondary fill of oval pit F7) and F175 (no feature description given). The partial remains of a cattle skull with its right horncore in tact and the base of its left horncore surviving was also recorded. The excavator’s notes referred to this specimen as “From inside inner enclosure on surface, feature number not assigned”.

Element	Species	No. of specimens	Feature
Loose tooth (Maxillary molar)	Cattle	2	F6
Loose tooth (Maxillary P3)	Pig	1	F175
Loose tooth (Maxillary M3)	Pig	1	F175
Tibia	Pig	1	F175
Horncore	Cattle	¹ 1	None assigned

Table 1: Number of identifiable specimens by element and species.

3.2 Ageing Data

In analysing mammalian bone remains, two ageing methods are used. These include recording the state of tooth eruption and wear, which is recognised as the more reliable ageing method. In general, tooth eruption and wear is recorded for cattle, sheep/goat and pig teeth wherever the occlusal surface of the mandibular dP4 (deciduous fourth premolar), P4 (fourth premolar), M1/2 (first or second molar) or M3 (third molar) survives. In the case of loose mandibular M3s, as this is the innermost tooth, a mandible wear stage (MWS) can be assigned thereby facilitating estimation of a minimum age range for the animal represented. Similarly, for mandible specimens with teeth remaining in situ, if the innermost tooth is present a MWS may also be assigned. The more problematic ageing method (Watson 1978, 97-101) entails recording state of epiphyseal fusion for appropriate elements. It involves examining the rate of development the metaphysis or epiphysis has reached. The metaphysis

¹ While the right horncore is in tact and the base of the left horncore survives in situ this specimen is counted as 1 rather than 2 as it consists of the partial remains of a cattle skull but the recordable zones of the skull are not present, therefore it is recorded as horncore and obviously belongs to the one animal.

is the growing end of the shaft of a developing long bone while the epiphysis is a part of a bone that develops from a separate ossification centre but later fuses with the bone (Davis 1987, 16).

3.2.1 Epiphyseal Fusion

As no mandibular teeth were present amongst the Raynestown 2 assemblage ageing data was only applicable using the epiphyseal fusion method. Observation of state of epiphyseal fusion was relevant to one specimen, the distal pig tibia from F175. This element was recorded as ‘fusing’ and assignment of state of epiphyseal fusion followed Reitz and Wing (1999, 76). Table 2 shows that the animal represented by this element must have reached a minimum age of 24 months before death (*Ibid*).

PIG	Age in months
Middle Fusing tibia d.	24

Table 2: F175 fused (fused and fusing) pig specimen present, classified as middle fusing after Reitz and Wing (1999, 76).

3.3 Metrical Data

Metrical data was recorded where possible for this collection but it was extremely limited. As no greatest length (GL) or greatest lateral length (GLI) measurements (von den Driesch 1976, 77) were recorded, calculation of any estimated shoulder height was not relevant.

3.4 Sex Determination

Determination of sex was not applicable to any of the recorded material.

3.5 Butchery/Gnawing/Burning/Pathology/Injury

No evidence for butchery, gnawing, burning, pathology, injury or developmental defect was observed for the Raynestown 2 material. The partial remains of the cattle skull was examined particularly thoroughly but no cut marks were present adjacent to the horncore bases. Consequently, no evidence for removal of the horn sheath for craftwork or skinning in relation to leather working was found. All specimens were classified as being in a good state of preservation.

4. Conclusion

The minute nature of the mammalian bone remains collection from this site means that zooarchaeological data and interpretation is extremely restricted. Cattle and pig are the only two species represented. Ageing data was recorded in one case where the state of fusion for a

distal pig tibia indicated an animal that had lived to reach an age of at least 24 months (Reitz and Wing 1999, 76). This was the most significant interpretation it was possible to conclude.

5. Recommendations

As all six specimens discussed here were identified to species and element, it is recommended that they be stored in a National Museum approved low-acid box (as used by ACS Ltd.) and be left ready for transfer to NMI along with the other significant mammalian bone remains retrieved from archaeological excavation along the route of the M3 Clonee to North of Kells Road Scheme.

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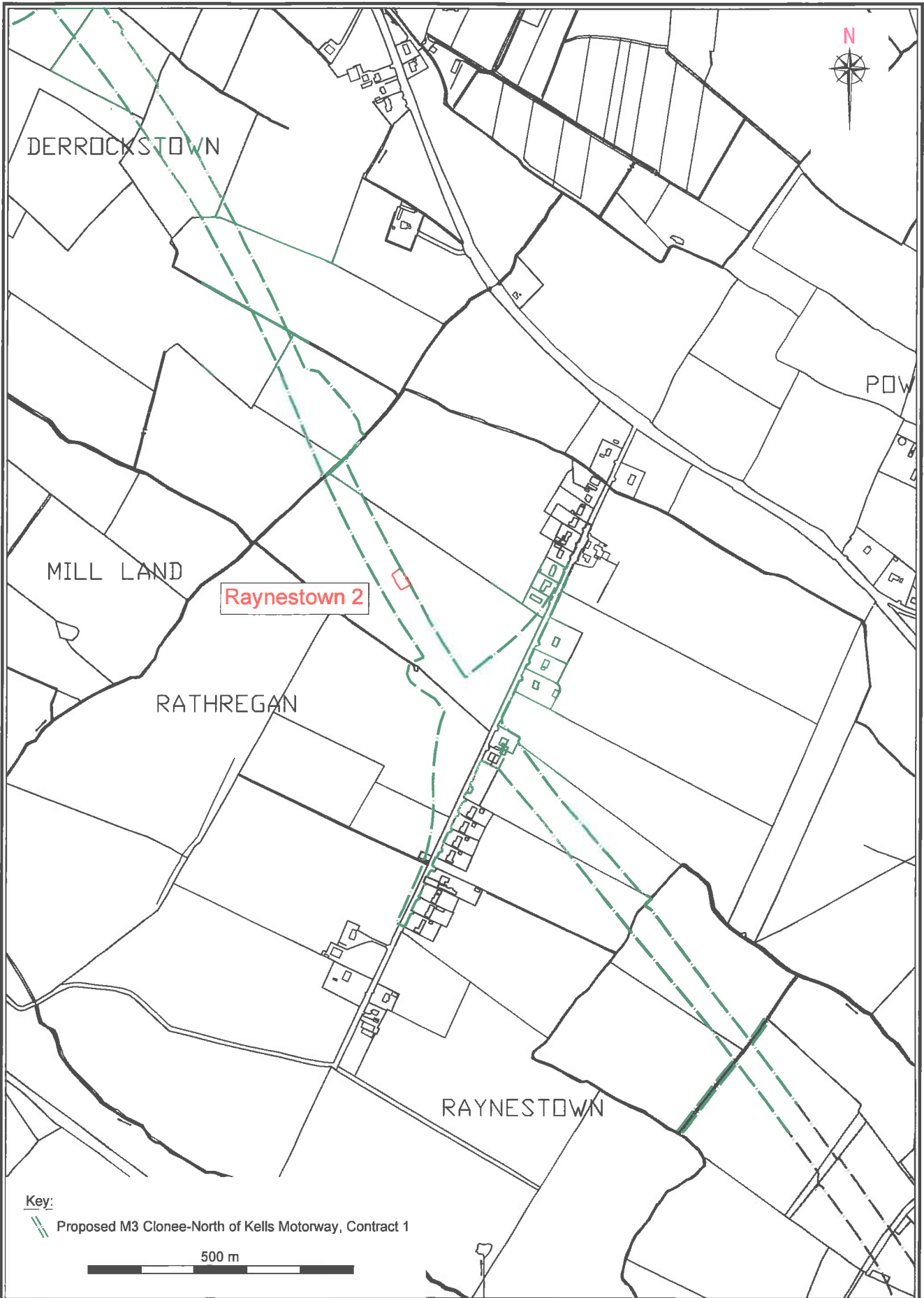
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	Client: Meath County Council	Origin: OSi Discovery Series
		Drawing no.: 04_01_C2697i

Figure 1: Location of Raynestown 2

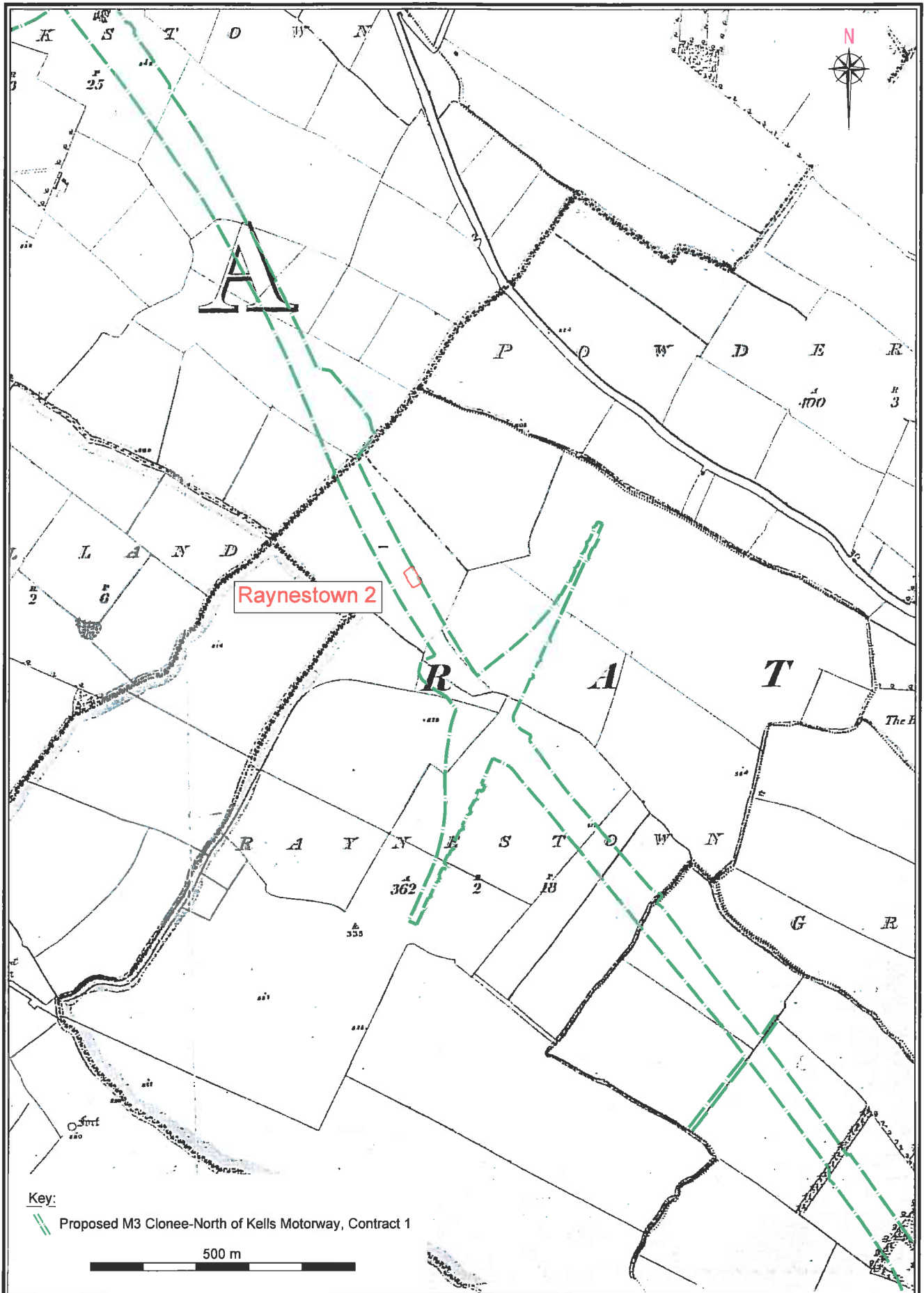


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Figure 2: Location of Raynestown 2 on current OS background

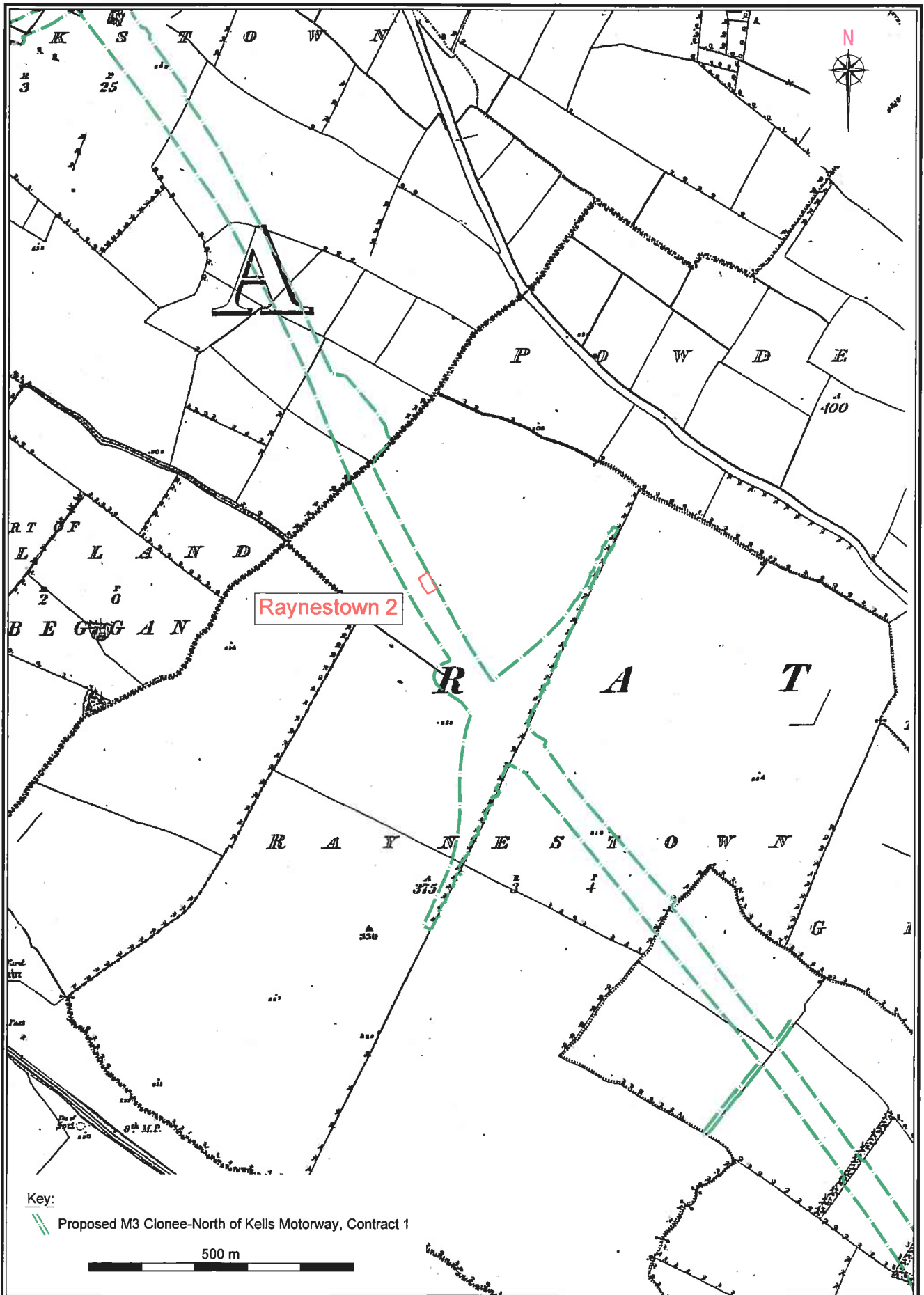


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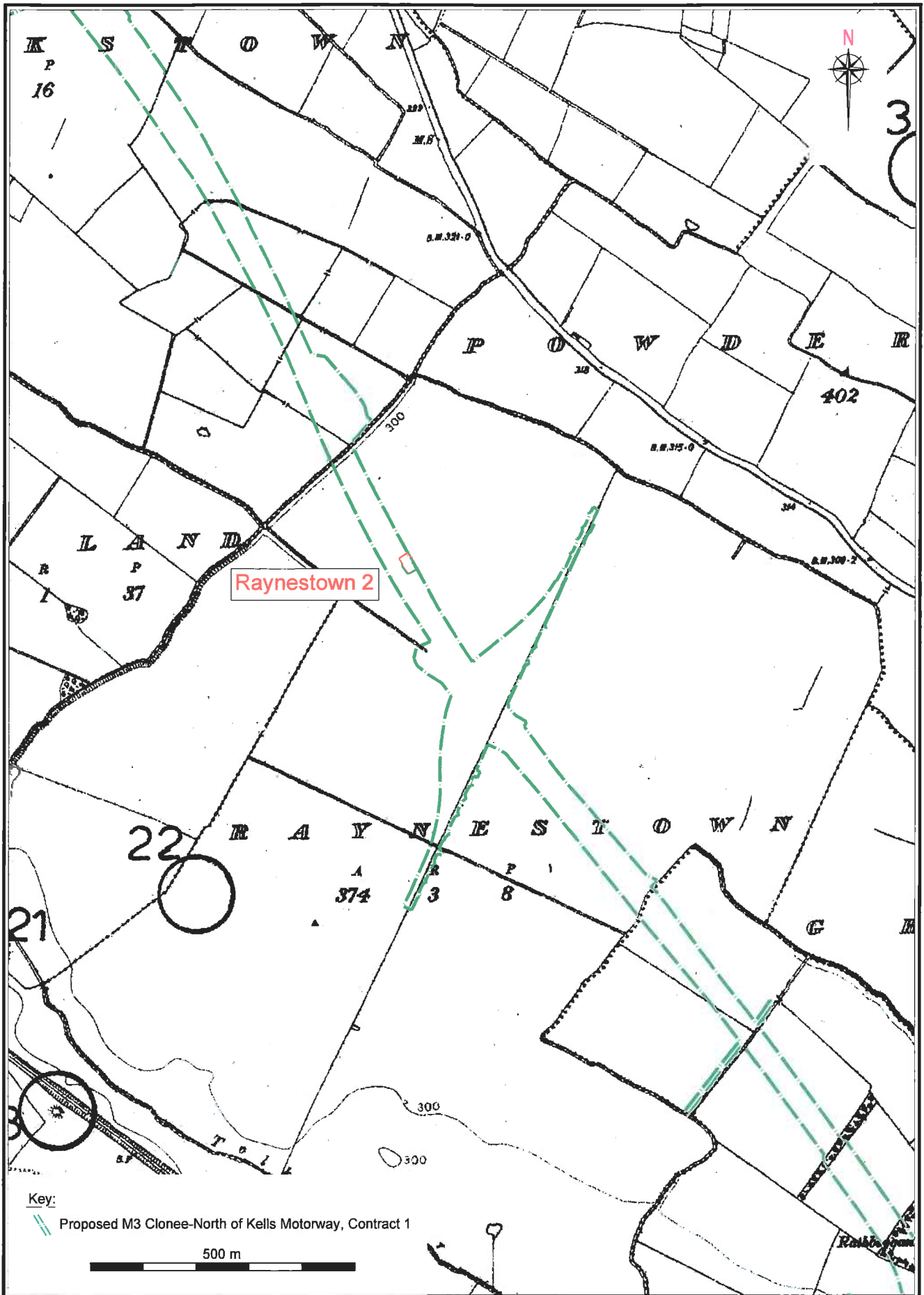
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 Date: Jun '08
 Origin: OSi (1836)
 Drawing no.: 04_01_C2699i

Figure 3: Raynestown 2, extract from 1st edition OS map, Meath sheet 44



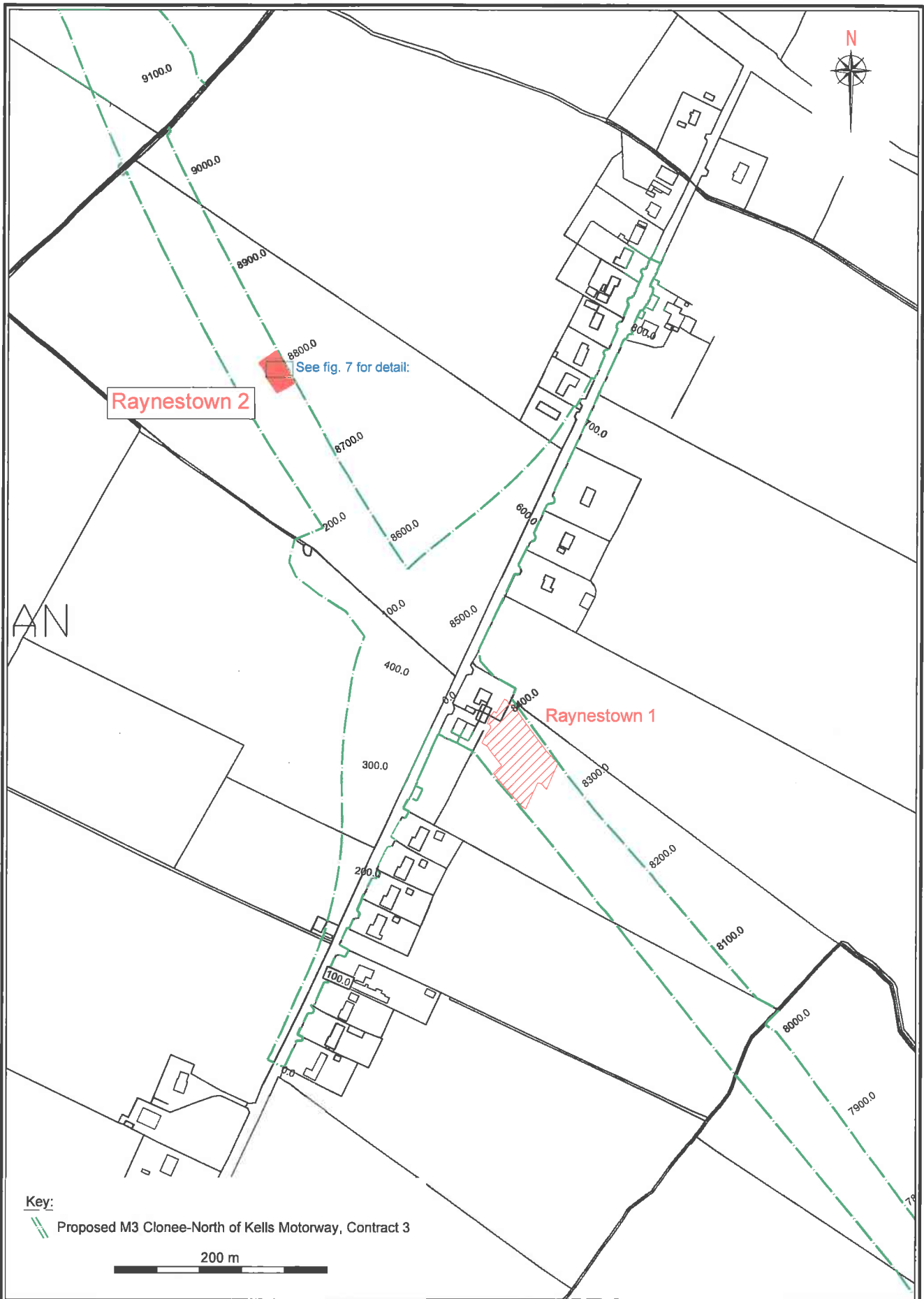
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	Client: Meath County Council	Origin: OSi (1883)
		Drawing no.: 04_01_C2700i

Figure 4: Raynestown 2, extract from 2nd edition OS map, Meath sheet 44



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	Issued for: Excavation Report	Date: Jun '08
	Client: Meath County Council	Origin: OSi (1909)
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Figure 5: Raynestown 2, extract from 3rd edition OS map, Meath sheet 44

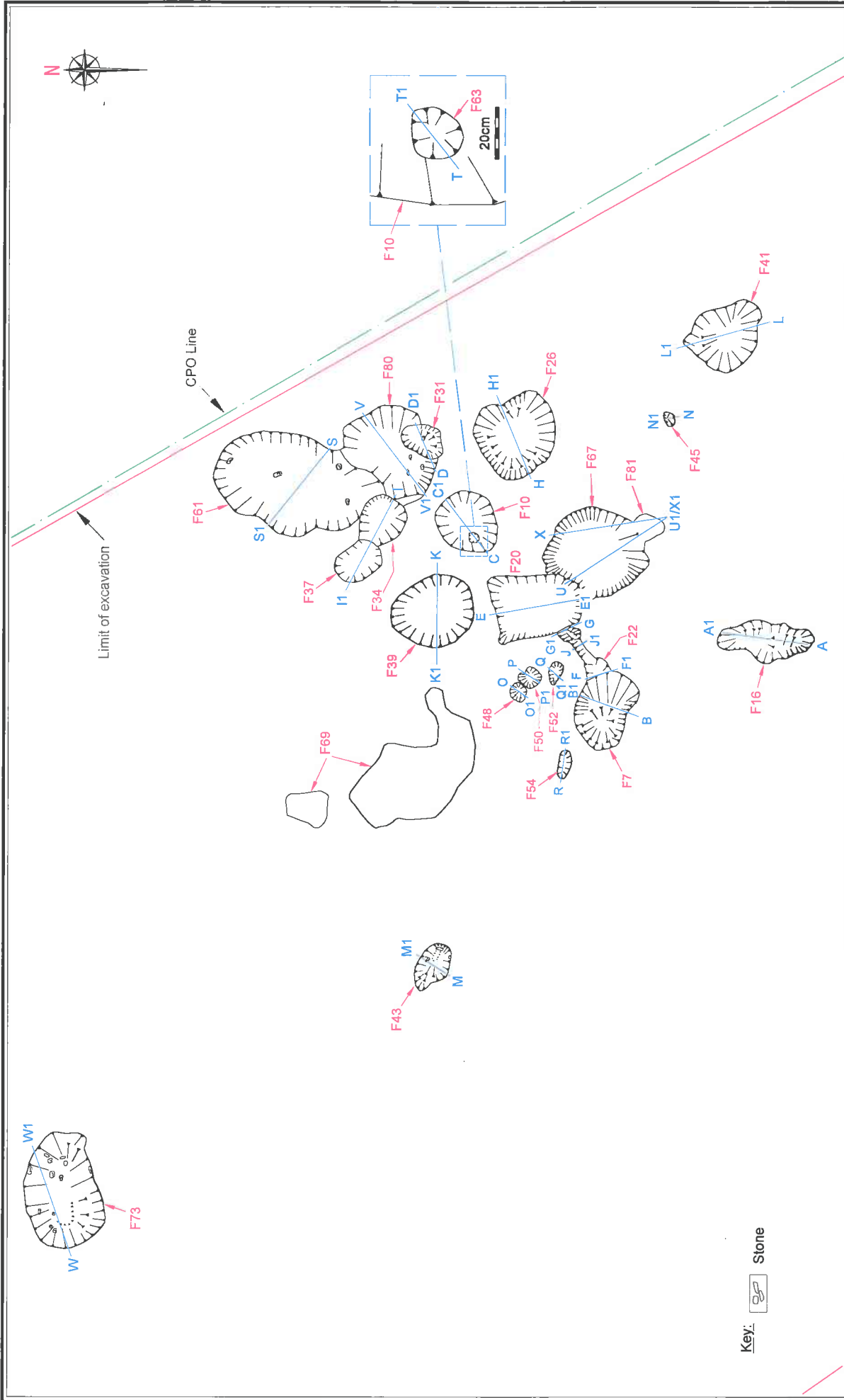


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Site: M3 Clonee-North of Kells PPP Scheme Contract 1, Raynestown 2
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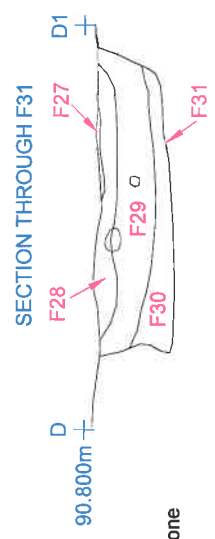
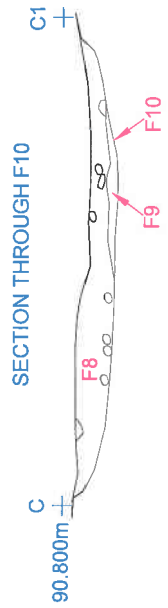
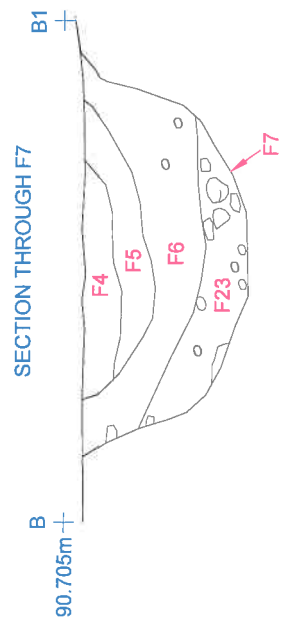
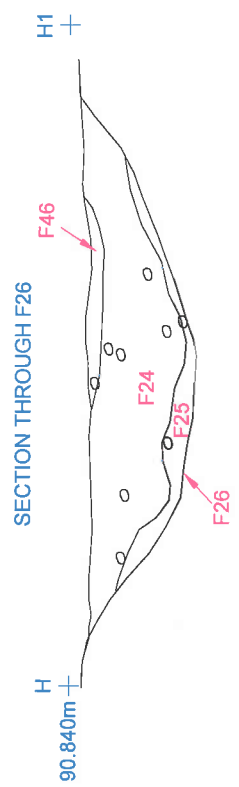
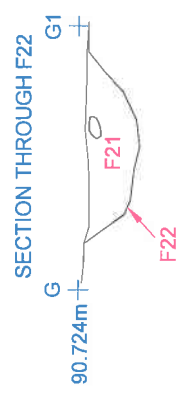
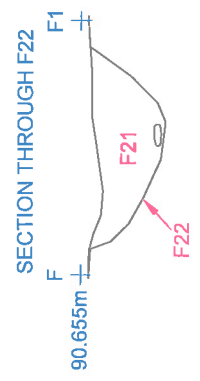
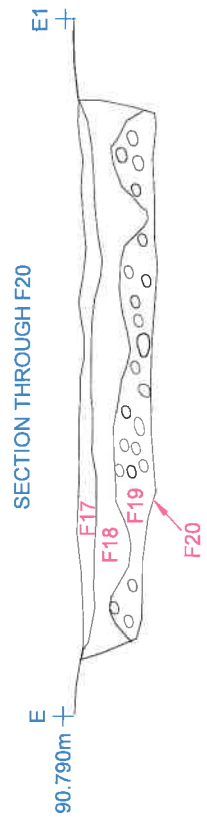
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Figure 6: Detailed location of Raynestown 2



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Figure 7: Plan of features



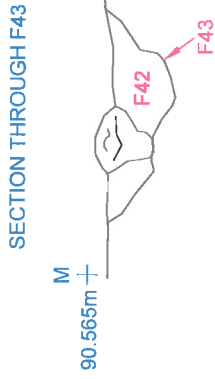
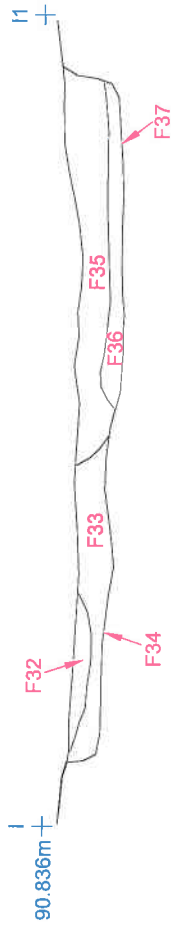
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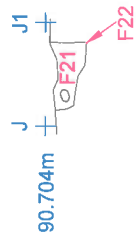
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Figure 8: Sections of Raynewstown 2

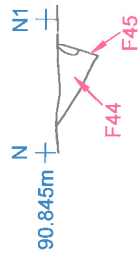
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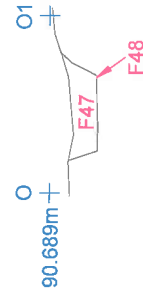
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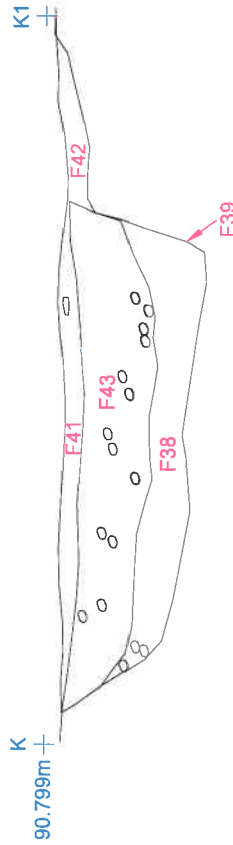
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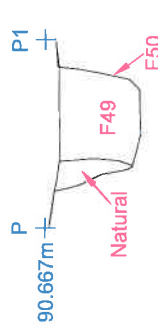
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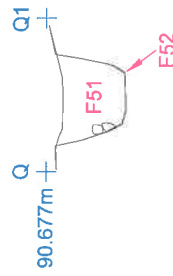
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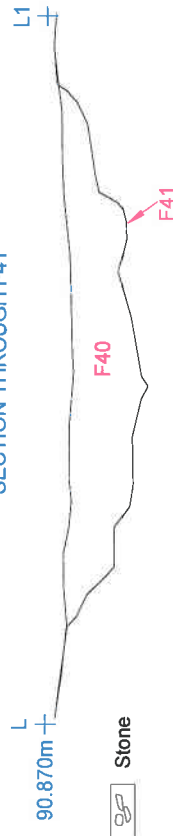
SECTION THROUGH F50



SECTION THROUGH F52



SECTION THROUGH F41



Key:  Stone

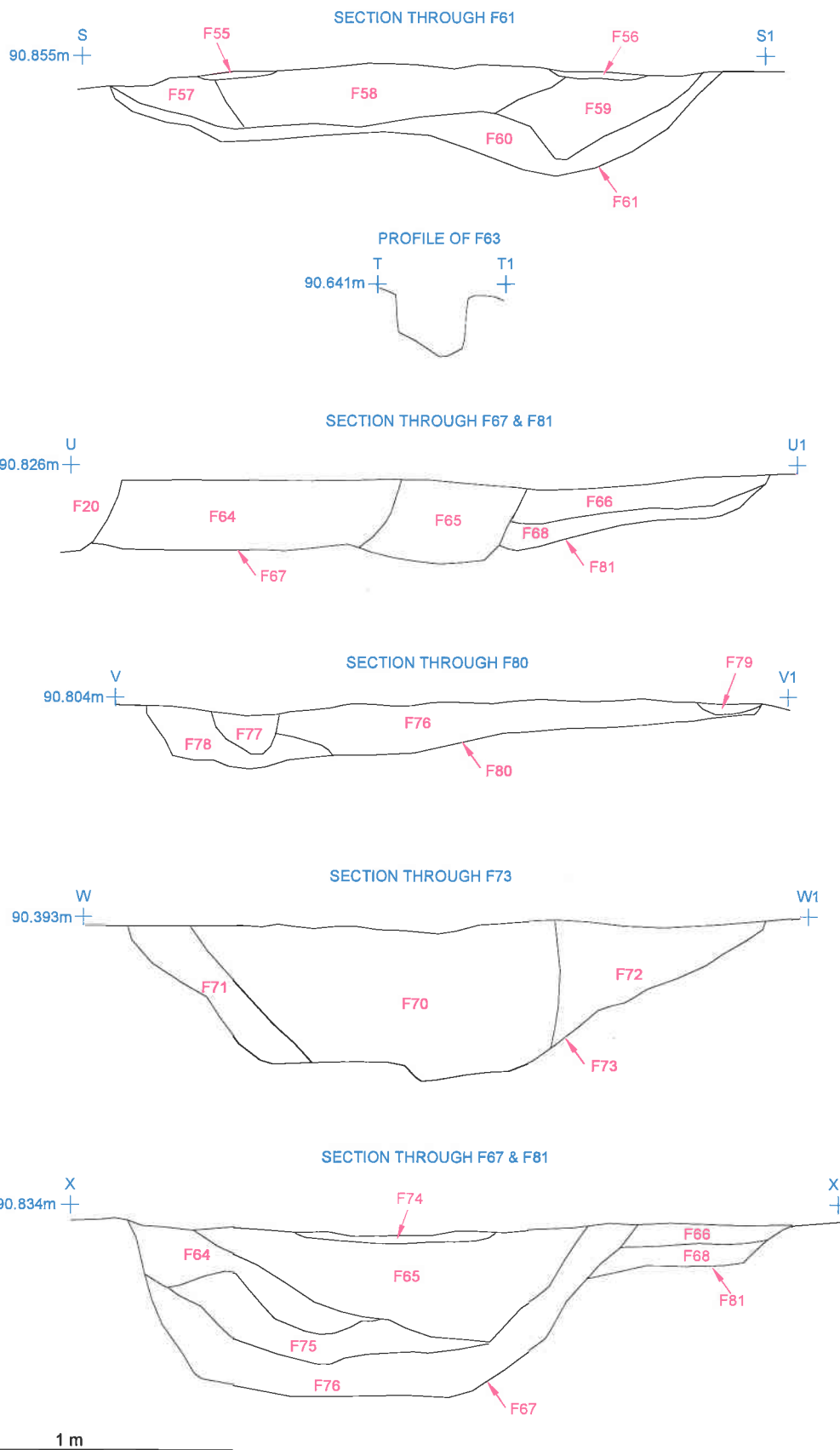


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Figure 9: Sections of Raynewtown 2



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Figure 10: Sections & profile of Raynestown 2



Plate 1: Main pit cluster pre-excitation (04_01_Raynestown 2_CP01_28)



Plate 2: Intercutting pits F34 & F37 (04_01_Raynestown 2_CP02_27)



Plate 3: Pit F39 (04_01_Raynestown 2_CP02_28)



Plate 4: Possible drying kiln F7 & F22 (04_01_Raynestown 2_CP03_29)



Plate 5: Main pit cluster post-excavation (04_01_Raynestown 2_CP05_28)