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BELLWAY HOMES LTD (NORTH EAST)

FRONT STREET, DINNINGTON, NEWCASTLE UPON TYNE

POST EXCAVATION ASSESSMENT REPORT

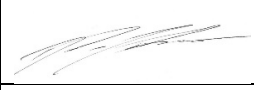
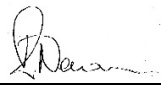

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FRONT STREET, DINNINGTON, NEWCASTLE UPON TYNE

POST EXCAVATION ASSESSMENT REPORT

November 2016

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SUMMARY

Wardell Armstrong Archaeology (WAA) was commissioned by Bellway Homes Limited (North East) to undertake an archaeological excavation on land at Front Street, Dinnington, Newcastle upon Tyne (centred on NGR NZ 2064 7343). This work was undertaken in advance of the proposed development of 71 dwellings at the site (Planning Application No. 2015/1673/01/DET). The work followed previous investigations by WAA within the proposed development area. These previous investigations showed that the central part of the site had been disturbed by open cast mining, but highlighted the potential survival of medieval activity, specifically within the eastern part of the study area. Recent archaeological work undertaken in 2012 also noted some prehistoric activity immediately to the east of the proposed development area, in the form of a small ditch containing a flint blade.

As a result of this archaeological potential, Jennifer Morrison, Tyne and Wear Archaeology Officer for Newcastle City Council requested a programme of archaeological investigation within the east part of the proposed development site in the form of a strip and record excavation. In addition, it was requested that two trenches (Trenches 1 and 2) excavated at the western extent of the site during a previous archaeological evaluation be re-excavated. This was required as the geophysical survey, on which the evaluation was based, was plotted inaccurately by 7.5m and therefore, the trenches partially missed the anomaly they were meant to target.

The archaeological strip and record excavation was undertaken over 40 days between the 16th May and the 11th July 2016 and covered an area of approximately 0.53 hectares. The archaeological investigation revealed two distinct phases of activity. The earliest features identified during the investigation were localised within the northwest portion of the site and comprised several penannular features associated with circular structures. Although no secure dating evidence has as yet been provided for this activity, the remains identified are similar to a number of Iron Age settlements within the northeast of England. Whilst this activity was characterised by structural evidence typical of Iron Age activity, Iron Age pottery was lacking. It is possible that the prehistoric remains were associated with several struck lithics, although this association remains tentative. Initial assessment of these lithics has suggested that they are typologically Early Neolithic, indicating that the site witnessed some activity during this period. Further assessment of the lithic artefacts

and the application of scientific dating techniques may provide a firm date for the prehistoric activity undertaken on site.

Archaeological remains of medieval date made up the majority of activity identified on site. It was clear that a number of developments had taken place across the site during this period, although attempting to group the archaeological features within any particular phase of activity proved difficult because of the broad dating of the ceramic evidence and the lack of stratigraphic relationships between many of the features. In general, the medieval activity appeared to largely comprise a number of divisional boundaries, possibly demarcating different areas of activity and/or different land holdings.

Of particular significance was the identification of three separate medieval kilns at the site. It appears that all three were used for the process of drying grain and more specifically, oats. The presence of three kilns utilised for the same purpose within the investigation area suggests that grain processing was a major part of the activities undertaken at the site during the medieval period.

ACKNOWLEDGEMENTS

Wardell Armstrong Archaeology (WAA) thank Bellway Homes Limited (North East) for commissioning the project, and for all assistance throughout the work. Wardell Armstrong Archaeology also thank Jennifer Morrison, Tyne and Wear Archaeology Officer for Newcastle City Council for her help and advice.

Many thanks are also due to Alan James for conducting the metal detecting survey and to Peter Kelly and Jimmy Barrass for their hard work during the project.

The archaeological excavations were undertaken by Sue Thompson, Ed Johnson, Charles Rickaby, Mark Lawson, Ruby Neale, Ron Brown, Kevin Horsley, Mike McElligott, Mark Potter, Jaime Levell, Steven Chetwynd and Adam Mager, under the supervision of David Jackson. The report was written by David Jackson and the drawings were produced by Adrian Bailey and Helen Phillips. The environmental assessment was undertaken by Don O'Meara, supplementary assessment and the report was written by Dr. Emma Tetlow the finds were assessed by Megan Stoakley and Sue Thompson. The report was edited by Richard Newman, Post-Excavation Manager for WAA. The project was managed by Frank Giocco, Technical Director for WAA.

1 INTRODUCTION

1.1 Circumstances of the Project

- 1.1.1 Wardell Armstrong Archaeology (WAA) were invited by Bellway Homes Limited (North East) to undertake a programme of archaeological investigation on land at Front Street, Dinnington, Newcastle upon Tyne (centred on NGR NZ 2064 7343; Figure 1), in advance of the proposed development of 71 dwellings at the site. This followed previous work which has highlighted the potential survival of both prehistoric and medieval remains at the site.
- 1.1.2 The potential for archaeological remains within the proposed development area led Jennifer Morrison, Tyne and Wear Archaeology Officer for Newcastle City Council to request a programme of archaeological investigation within the east part of the proposed development site in the form of a strip and record excavation. This is in accordance with paragraph 141 of the National Planning Policy Framework, Newcastle City Council Core Strategy Policies CS15, NV1 and UC14, and saved UDP policies C4.2 and C4.3. In addition, it was requested that two trenches (Trenches 1 and 2) excavated at the western extent of the site during a previous archaeological evaluation be re-excavated in their intended location. This was required as the geophysical survey, on which the evaluation was based, was plotted inaccurately by 7.5m and therefore, the trenches partially missed the anomaly they were meant to target.
- 1.1.3 This report outlines the excavation works undertaken, the subsequent programme of post-fieldwork assessment, and the results of this scheme of archaeological works.

2 METHODOLOGY

2.1 Introduction

2.1.1 Wardell Armstrong Archaeology were commissioned by Bellway Homes Limited (North East) to undertake an archaeological investigation of the study area, in advance of the development of 71 dwellings at the site (Planning Application No. 2015/1673/01/DET). A specification detailing the requirements of the archaeological work was produced by Jennifer Morrison (2016), Tyne and Wear Archaeology Officer for Newcastle City Council. The specification was adhered to in full and the work was consistent with the relevant standards and procedures of the Chartered Institute for Archaeologists (CIfA) and English Heritage Guidelines (MoRPHE 2006).

2.2 The Excavation

2.2.1 The archaeological work consisted of a strip and record excavation within the eastern half of the proposed development site, an area of some 0.53ha (Figure 2). The purpose of the excavation was to identify and investigate archaeological features, in order to establish the nature, character, function, degree of survival, date and duration, and date of final abandonment of those features (Morrison 2016, 4). In addition, it was requested that two trenches (Trenches 1 and 2) excavated at the western extent of the site during a previous archaeological evaluation be re-excavated in the correct location. This was required as the geophysical survey, on which the evaluation was based, was plotted inaccurately by 7.5m and therefore, the trenches partially missed the anomaly they were meant to target.

2.2.2 In summary, the main objectives of the excavation were:

- to establish the presence/absence, nature, extent and state of preservation of archaeological remains and to record these where observed;
- to establish the character of those features in terms of cuts, soil matrices and interfaces;
- to recover artefactual material, especially that useful for dating purposes;
- to recover palaeoenvironmental material where it survives in order to understand site and landscape formation processes;

2.2.3 Topsoil and subsoil were removed by mechanical excavator to the level of the first significant archaeological horizon under close archaeological supervision. The excavation areas were subsequently cleaned by hand and all features were

investigated and recorded according to the Wardell Armstrong Archaeology standard procedure as set out in the Excavation Manual (Giecco 2012).

- 2.2.4 The fieldwork programme was followed by an assessment of the data as set out in 3.4 of the CfA's Standards and Guidance for Archaeological Excavations (2014a).

2.3 The Archive

- 2.3.1 A full professional archive has been compiled in accordance with the specification, and according to the Archaeological Archives Forum recommendations (Brown 2011) and Management of Research Projects in the Historic Environment (MoRPHE 2006). The archive will be deposited within the Great North Museum, with copies of the report sent to the Tyne and Wear Historic Environment Record, available upon request. The archive can be accessed under the unique project identifier **WAA16, DNN-B, CP 11766**.
- 2.3.2 Wardell Armstrong Archaeology supports the **Online Access to the Index of Archaeological Investigations (OASIS)** project. This project aims to provide an on-line index and access to the extensive and expanding body of grey literature, created as a result of developer-funded archaeological work. As a result, details of the results of this project will be made available by Wardell Armstrong Archaeology as a part of this national project. The OASIS identifier for this project is **wardella2-265217**.

3 BACKGROUND

3.1 Location and Geological Context

3.1.1 The study area is located 100m north-east of the centre of Dinnington, north of Front Street, and 9km North of Newcastle city centre (NGR NZ 2064 7343; Figure 1). The site is bound by the White Swan Inn and a car park to the west, to the south by Front Street and to the north by paddock fields. To the east lies a disused yard, with an old quarry (now occupied by a modern dwelling; Figure 2). The land comprises mainly pasture.

3.1.2 The underlying geology of the site comprises Middle Coal Measures strata; an upper-carboniferous sedimentary rock formed 327 to 299 million years ago. This formation consists of subarkosic sandstones, with mudstones, siltstones and coal seams, which have been extensively quarried for coal, building, roofing and aggregate purposes (English Heritage 2012). The drift deposits consist of glacial till (BGS 2015).

3.2 Historical Context

3.2.1 **Introduction:** an archaeology and cultural heritage assessment has been prepared by Wardell Armstrong LLP, which sets out the archaeological and historical background of the site, a summary of which is provided below (Wooler 2015). This historical background is compiled mostly from secondary sources. It is intended only as a summary of historical developments around the study area. References to the Tyne and Wear Historic Environment Record (HER) are recorded where known.

3.2.2 **Prehistoric:** some prehistoric activity has been recorded in the vicinity of the site, in the form of dense scatters of worked flint found during archaeological field walking at Gardener's House, and a findspot of a gold earring of probable Bronze Age date located in 1861.

3.2.3 Recent archaeological work undertaken in 2012, noted some prehistoric activity immediately to the east at North Hill, Prestwick Road. An archaeological evaluation produced evidence for the period in the form of a small ditch containing a flint blade. An open-area excavation undertaken in 2007 at Fox Covert also identified a series of pit alignments which were dated to the late Bronze Age, and remained open until the Romano-British period.

3.2.4 **Romano-British:** evidence for this period is confined to one scheduled monument within a 1km radius of the study area, located at Gardener's House to the north of

the site. 1.6km to the south-west, Roman bronze artefacts have been uncovered during ploughing in 1890 although it is unclear if this relates to any settlement.

- 3.2.5 **Early Medieval:** surrounding local place names are thought to relate to this period, including Dinnington itself. Names such as 'Toft Hill' indicate a medieval steading and is thought to be suggestive of early settlement on the hill between Dinnington and Newcastle Airport. Work undertaken in 2007 (Muncaster 2007) identified an enclosure or boundary ditch feature, which was dated scientifically to the 10th century.
- 3.2.6 **Medieval:** the place name Dinnington is first documented in this period, as *Dunington* (1255), *Donigton* (1250) and *Donyngton* (1364). This is thought to mean 'farm of Dunna or of his sons'. Six taxpayers were recorded in 1296 with 10 being recorded in 1312 (Mawer 1920, 63).
- 3.2.7 A possible chapel and associated burial ground has been documented to have been found in 1820, in part of a field called 'Back Yards' or '*a field on the west side of the village*' (Parson and White 1828, 430) which on map evidence, is within the development area (OS 6"-1 mile 1864). Remains of a building, pillars, and several human skulls were said to have been unearthed (Lewis 1831, 46). It is unclear from the documented information however, if the site represented a medieval chapel and whether any remains associated with this feature remain because of later industrial activity.
- 3.2.8 There is archaeological and documentary evidence for medieval agricultural practices; including the right to dig up peat at 'merdesfen' (Mason) and ridge and furrow recorded to the west of Dinnington and off the main road. Ridge and furrow, indicative of medieval ploughing, is also present within aerial photography immediately north of the development site and to the north and north-east of the village. Excavations in 2012 unearthed two slots and a pit feature, on land immediately east of the development area (TWM Archaeology 2012). These were interpreted as representing the remains of a timber structure in the rear of a toft. A previous evaluation within the present study area also produced a small assemblage of medieval pottery, dating to the 12th – mid-13th century (Jackson 2015).
- 3.2.9 **Post-Medieval:** documentary evidence from sources such as Parish Registers, in the early 17th century refer to inhabitants of Dinnington. The main occupations seem to relate to agriculture and the Hearth tax records list 12 persons with properties large enough to assess, with a further 14 who were not assessed (Watson, 1996).

- 3.2.10 The first reference to mining is made in the early 18th century with 'Dinnington Colliery' referred to in 1715. This is thought to be located 'on the Brunswick road' where old workings were discovered in the 1940's. Coal boring is documented to have occurred at Dinnington Mill from 1720, which is located at the east end of Newcastle Airport runway. The development area is thought to have remained agricultural in character.
- 3.2.11 The 1st Edition OS map surveyed in 1858, clearly shows small enclosures fronting the road to the south of the fields known as 'Back Yards'. These resemble a line of tofts, though none have buildings within them. On the opposite side of the road were another series of even smaller enclosures.
- 3.2.12 **Modern:** late 19th century mapping indicates old quarries immediately to the east and north of the proposed development suggesting that by 1898 they had gone out of use. Allotments are also shown within a triangular area of land to the west of the site.
- 3.2.13 In 1945, the extraction of coal began at Mill Hill Farm through opencast working and proceeded to continue to surround the village at a succession of sites. Within the site boundary, opencast mining took place in 1947/48, with reinstatement of the site in 1949. A mining plan from this period shows the full extent of the excavation, which sits within the centre of the site and heads towards the north, extending slightly beyond the current field boundary. The east and west parts of the field were undisturbed by extensive mining activity.
- 3.2.14 An aerial photograph dating from 1945 shown on Google Earth shows the area as a field, with a trackway visible towards the west and orientated north-south. This trackway is possibly related to access for opencast mining which was taking place within land immediately to the south of Prestwick Road.

4 ARCHAEOLOGICAL EXCAVATION RESULTS

4.1 Introduction

- 4.1.1 The archaeological work was undertaken over 40 days between the 16th May and the 11th July 2016 and consisted of a strip and record excavation within the eastern half of the proposed development site, an area of some 0.53ha (Figure 2). In addition, two trenches (Trenches 1 and 2) excavated at the western extent of the site during a previous archaeological evaluation were re-excavated in the correct location (Figure 2).
- 4.1.2 Topsoil and subsoil were removed by mechanical excavator to the level of the first significant archaeological horizon under close archaeological supervision. The excavation areas were subsequently cleaned by hand and all features were investigated and recorded fully.
- 4.1.3 The natural substrate (**101**) largely comprised mixed boulder clays overlying sandstone bedrock, which was exposed as an elevated outcrop towards the eastern extent of the site. All archaeological remains were sealed by mid-greyish brown silty clay subsoil (**102**), which varied between 0.15m to 0.5m in depth. This was sealed by c.0.3m of dark greyish brown silty clay topsoil (**100**).
- 4.1.4 Although the main area of investigation was conducted as a single strip and record excavation, for the purpose of the report, the area has been separated into three zones (Zones 1-3; Figure 3) for ease of interpretation. These are not arbitrary distinctions however, as each zone appeared to represent either different levels of activity or different period activity.

4.2 Results

- 4.2.1 **Zone 1 (Figures 4-6):** Zone 1 comprised the northwest portion of the investigation area and measured approximately 1635m². The entire western edge of Zone 1 had been completely disturbed during 20th century quarrying activity. This area appeared to largely comprise activity of prehistoric date, with little or no surviving evidence of later activity. Given the level of medieval activity identified within the rest of the investigation boundary however, it is highly unlikely that this area remained unutilised during later periods.
- 4.2.2 The most intensive area of activity was located within the centre and southern end of Zone 1 and comprised a series of four penannular features, which probably represent the only surviving remains of circular structures. It is not clear however,

exactly which part of the structure these features would have formed, as they could represent either exterior drainage gullies or wall construction trenches. The general lack of associated post-holes and possible natural silting of the features suggests that the former is more likely, although the almost vertical sided, flat bottomed profile of several sections of these features suggests the latter interpretation is also plausible.

- 4.2.3 It appears that all four structures would have been of a similar design, comprising regular gullies/construction trenches with east facing entrances, although not all were of the same diameter. Not all of the structures would have been in use at the same time either, as three of the penannular features were inter-cutting one another. Structure 1 [155] was the earliest of the three and comprised an almost complete penannular feature (151/153) with an average width of 0.22m, a maximum depth of 0.16m and retaining a near-vertical sided profile with a flat base, which had been filled by homogenous deposit of greyish brown silty clay (152/154) (Plate 1). The feature (151/153) had an internal diameter of c.8.8m, enclosing an area of c.57m². Although the north-eastern most quarter of the feature did not survive, it is probable that an east facing entrance would have been located within this area. The remains of a single internal post-hole were identified within the northwest portion of Structure 1. The post-hole [158] measured 0.36m in diameter, 0.1m in depth and had been filled by a deposit of dark grey/black silt (159) with charcoal inclusions.
- 4.2.4 The western edge of Structure 1 had been cut by the northern terminus of a penannular feature associated with Structure 2 [156] (Plate 1). This second penannular feature (160/162/164/166) had an average width of 0.38m, an average depth of 0.2m and retained a steep-sided profile with a flat to concave base, which had been filled by a deposit of orange/grey silty clay (161/163/165/167). The feature became more substantial at its southern terminus [166], with a maximum width of 0.5m and a maximum depth of 0.26m. Although no post-holes associated with the terminus were identified, it was noted that the fill (167) of the terminus contained several large stones which may have been used as post-packing. The surface area of Structure 2 was very similar to Structure 1, having an internal diameter of c.8m and enclosing an area of c.53.6m². The penannular feature associated with Structure 2 had a clear east facing entrance which was marked by two well-formed termini separated by a distance of c.3m.
- 4.2.5 The southwestern edge of Structure 2 had been cut by a further penannular feature associated with Structure 3 [168]. This feature (169/171/173/175/179) had an average width of 0.45m, a maximum depth of 0.3m and retained a steep-sided

profile with a flat to concave base, which had been filled by a homogenous deposit of mottled grey silty clay (**170/172/174/176/180**). The surface area of Structure 3 was smaller than the two preceding structures, having an internal diameter of c.6.7m and enclosing an area of c.36.4m². Structure 3 retained an east facing entrance, which was formed by two termini separated by a distance of c.3.4m (Plates 2 & 3). The base of a single post-hole was noted immediately adjacent to, and slightly cutting the southern terminus [**175**] of the penannular feature [**168**], and possibly represents the only surviving evidence of structural remains associated with the entrance. The post-hole [**177**] measured 0.38m in diameter, 0.07m in depth and had been filled by a deposit of grey silty clay (**178**). The southern edge of Structure 3 had also cut an earlier linear ditch. The east to west aligned ditch (**181/183**) measured 0.4m-1.2m in width, c.0.15m in depth and retained an irregular profile which had been filled by a deposit of greyish brown silty clay (**182/184**) (Plate 4). The ditch (**181/183**) terminated at its western extent and extended eastward for over 17m, before becoming imperceptible. Although this ditch was clearly earlier than Structure 3, it is possible that the feature was associated with one or more of the other structures. Furthermore, the ditch could suggest that some of these structures were located within a larger enclosure, although very little further evidence for any such enclosure was noted (see below).

- 4.2.6 Located approximately 0.9m north of Structure 2, the remains of a fourth structure were revealed. This structure (Structure 4) comprised the eastern half of a further penannular feature, the entire western half being completely destroyed by later quarrying activity. Unfortunately, the southern section (**157/150**) of the feature survived as little more than a surface stain along most of its length. The northern section [**141**] however, was relatively well preserved, measuring c.0.45m in width and 0.26m in depth (Plate 5). This section [**141**] retained a steeply sloping profile with a flat to concave base, which had been filled by a 0.12m primary deposit of mid-brownish grey silty clay (**147**) and a secondary deposit of greyish brown silty clay (**142/143**). Structure 4 retained an east facing entrance formed by two termini, which were separated by a distance of c.2.7m. The structure measured c.7.4m in diameter, with a projected internal surface area of 44.5m². Whilst the other penannular features appeared to have silted up naturally, suggesting that they may have served as drainage gullies, the northern section [**141**] of Structure 4 differed as it not only contained two separate fills, but also contained large cobbles along its length suggesting that it may have been intentionally backfilled. The large amount of

cobbles, together with the more undulating nature of feature [141], suggests that it may have served as a construction trench for Structure 4.

- 4.2.7 The only other remains identified within Zone 1 were located within the northern extent of the area and comprised a linear ditch, which had been cut by the remains of a further possible circular structure (Structure 5). The west-northwest to east-southeast aligned ditch [145] extended from the southwest facing section of the area for approximately 11.6m, becoming imperceptible at its western extent. This feature [145] measured c.0.7m in width, c.0.3m in depth and retained a concave profile, which had been filled by a deposit of mottled orange/grey silty clay (146/149). It is possible that the feature [145] corresponds with the ditch (181/183) located approximately 38m further south, potentially forming the northern and southern boundaries of an enclosure. Whilst it seems probable that these potential boundary features were associated with one or more of the circular structures, they were both superseded by later structures. It is unclear however, whether this represents the complete reorganisation of space, or the piecemeal development of the area.
- 4.2.8 The ditch [145] had been cut towards its western extent by the remains of a further possible circular structure (Structure 5) (Plate 6). Structure 5 comprised the southern section of a probable penannular feature [139], which measured c.0.4m in width, c.0.2m in depth and retained a steep-sided profile with a concave base. The feature [139] had been filled by a homogenous deposit of dark orange/grey silty clay (140/144/148). Unlike the other circular structures, Structure 5 possibly had a west facing entrance as the western extent of the curvilinear feature [139] appeared to terminate at this point. It is unclear however, whether this would have been the only entrance as the eastern edge of Structure 5 was not present and the northern extent was beyond the limit of excavation. Based upon the limited remains of Structure 5, it is postulated that the structure would have had a diameter of c.5.6m and an internal area of c.26m². The much smaller size and potential west facing entrance of Structure 5, implies that it may have had a different function to the other circular structures identified on site.
- 4.2.9 **Zone 2 (Figures 7-10):** Zone 2 comprised the entire eastern half of the investigation area and measured approximately 2500m². The eastern half of Zone 2 was located on an elevated sandstone outcrop at a level of c.65m aOD, which reduced to c.61m aOD at the western extent of the area. The northern extent of Zone 2 had been disturbed during quarrying activity and a large palaeochannel was noted to extend

across the centre of the area in a southwest direction, following the base of the sandstone outcrop.

- 4.2.10 The archaeological features identified within this area belonged exclusively to the medieval period. These features appeared to represent mainly a system of back plot boundaries, with some evidence of small-scale crop processing located on top of the elevated outcrop to the east of the area and several larger boundary ditches possibly demarcating larger enclosed spaces to the west of the area. The most dominant feature within Zone 2 was a large north to south aligned boundary ditch, which extended across the entire western extent of the area and appeared to form a physical boundary between the activity within Zone 2 and the more intensive activity within Zone 3. The large boundary ditch (**187/217/218**) measured over 65m in length, extending beyond the northern and southern limits of excavation. The feature had an average width of 2m, a maximum depth of 0.52m and retained a gently sloping profile which had been filled by mottled brown/grey silty clay (**188/216/219/220**) (Plate 7). The southern exposed extent of the boundary ditch revealed evidence of modification in the form of a re-cut or additional ditch. This later re-cut/ditch [**222**] extended northwards from the southern extent of excavation for c.3.5, before becoming imperceptible at its northern extent. The feature measured 1.5m in width, 0.28m in depth and retained a concave profile, which had been filled by a deposit of dark brown/grey silty clay (**221**) with large cobble inclusions.
- 4.2.11 Several additional boundary ditches were situated immediately to the east of, and at right angles to the large north to south aligned boundary ditch (**187/217/218**), which appeared to form large enclosed spaces. The lack of any evidence for internal features within these areas suggests that they could have been utilised as stock enclosures, although the severity of vertical truncation within this part of the site was such that it is possible that all but the deepest features were destroyed. The northern extent of the large enclosure was formed by a slightly curving north-northwest to south-southeast aligned ditch, which measured c.22m in length. The ditch [**129**] measured c.0.8m in width, 0.22m in depth and retained a steep-sided profile with a flat base, which had been filled by a primary deposit of dark brown silty clay (**130**) and a secondary deposit of charcoal-rich silty clay (**128**). This feature appeared to terminate approximately 4m east of the large north to south aligned boundary ditch, suggesting that this may have formed an access point between two separate areas. The southern extent of the large enclosure was probably originally

marked by a short section of ditch, located approximately 22m south of the northern boundary ditch [129]. The southern boundary [212] extended eastward from the eastern edge of the large boundary (187/217/218) for c.6.2m and terminating at its eastern extent [209], possibly forming a further access point. The feature [212] measured c.0.8m in width, c.0.3m in depth and retained a concave profile, which had been filled by a deposit of brownish grey silty clay (208/213).

4.2.12 At some point, the southern boundary ditch [212] was replaced by a more substantial ditch (126/210), which extended on an east to west alignment between the large north to south ditch (187/217/218) and the palaeochannel further east. It is possible that this feature (126/210) continued eastwards for a further c.11m [205] beyond the palaeochannel, although the relationship between feature (126/210) and [205] was lost at this point. A possible contemporary ditch (206/215) was located approximately 5m south of ditch (126/210), positioned on a slightly different east to west alignment between the north to south ditch (187/217/218) and the palaeochannel. Both ditches (126/210 & 206/215) were very similar, measuring between 0.8m-1.2m in width, c.0.35m in depth and retaining steep-sided profiles with flat bases, which had been filled by deposits of greyish brown silty clay (127/211 & 207/214). The southernmost ditch (206/215) also partially cut the large boundary ditch (187/217/218), highlighting later modification in the area.

4.2.13 Several further boundary features were identified on top of the elevated outcrop, to the east of the palaeochannel. Unlike the boundary ditches to the west however, these boundary features were not nearly as substantial, suggesting that these features may have demarcated separate smaller back plots rather than the larger enclosed spaces noted further west. A total of five boundary features were noted within this area, although not all may have been contemporary as some were on slightly different alignments to others and the proximity of some of these features would have created insufficient enclosed spaces. In general, all of these features (113/115/193/195/197) were very similar, retaining rounded profiles with average widths of 0.4m and average depths 0.2m. Some of these narrow boundaries appear to have been a later addition to the area, as two of the features (113 & 193) cut earlier shallow pits (111 & 191) (Plate 8) and a third boundary (197/202) cut the larger boundary [205].

4.2.14 Of particular significance within this area was the discovery of a kiln, located between boundaries [195] and [197]. The kiln had been severely truncated, but enough of the feature survived to be able to identify it as probably being of a type

commonly referred to as a 'keyhole' kiln, due to its surface plan of a circular bowl, linear flue and external circular fire pit (Johnson *et al.* 2009), although the latter feature was not identified during the investigation. The kiln comprised a bowl-shaped foundation cut [131] dug into the natural substrate, which measured approximately 2.7m in diameter and survived to a depth of c.0.15m. The kiln bowl was packed around its periphery with tightly packed cobbles, which would have formed the lining of the kiln. The remains of the associated north to south aligned flue [133] were located at the northern edge of the kiln (Plate 9). The flue measured c.1.3m in length, 0.6m in width and 0.1m in depth, retaining a steep-sided profile with a flat base. The base of the bowl and the flue had been severely heat affected and the bowl contained a charcoal rich deposit (138) around its periphery, which had been sealed by a heat affected deposit of dark orange/brown sandy clay (132).

4.2.15 The kiln identified within this area was almost certainly used for drying oats. Although the deposits within the kiln only produced a small number of oats, a nearby pit produced grains which numbered in their thousands, strongly suggesting that this pit was associated the kiln. The pit [121] was located approximately 12m to the northeast of the kiln and measured c.3.2m in length, c.2m in width and 0.4m in depth. The irregular shaped pit retained a steep-sided profile with an undulating base, which had been filled by three separate deposits. These included a thin burnt material (125) at the base of the feature, which was sealed by a c.0.25m deposit of black charcoal-rich material (123). Both of these deposits contained numerous amounts of oat grains. The pit was finally filled by a c.0.1m deposit of light brown sandy clay (122). The pit had also been heavily disturbed by plough damage and a ceramic land drain (Plate 10).

4.2.16 A further feature identified which probably had some association with the kiln, or at least the destruction of the feature, was a further pit located approximately 6m to the west. This second pit (105/107) measured c.2m in diameter, 0.24m in depth and contained numerous amounts of daub with wattle impressions. This type of material has been identified at other kiln sites, where it has been proposed that it once formed part of an elaborate wicker and fired clay framework over the kiln (Jackson 2014, Jackson *et al.* 2015). The pit (105/107) had also been severely disturbed by a modern investigation trench [109].

4.2.17 **Zone 3 (Figures 11-13):** Zone 3 comprised the southwest corner of the investigation area and measured approximately 1222m². The entire western portion of Zone 3 had been significantly disturbed during mid-20th century quarrying activity. The

archaeological remains identified within this area almost exclusively belonged to the medieval period. Unlike the medieval activity identified within Zone 2 however, the activity identified within Zone 3 was much more intensive. The archaeological remains within this area also appeared to represent several different phases, although attempting to group the archaeological features within any particular phase of activity proved difficult due to the broad dating of the ceramic evidence and the lack of stratigraphic relationships between many of the features within the area.

- 4.2.18 It is likely that some of the earliest activity comprised a number of boundary ditches, as the intensive activity did not extend beyond the limits of the boundaries defining Zone 3. The eastern limit of the area was marked by the large north to south aligned ditch (**187/217/218**) which extended across the entire site, whilst the northern limit of the area was defined by a further substantial ditch. The northern boundary ditch (**230/243**) measured over 24m in length, although the western extent of the feature had been completely destroyed during later quarrying activity. The east to west aligned ditch, which terminated at its eastern extent [**262**], measured c.2.6m in width, c.0.4m in depth and retained a gently sloping profile with a flat base, which had been filled by a deposit of dark greyish brown silty clay (**229/244/261**). The northern boundary ditch appears to have undergone minor modification at some point, as the southern edge of the feature had been re-cut (**245/260**) (Plate 11).
- 4.2.19 It also appears that the area defined by these large boundary ditches had been further sub-divided. This sub-division was marked by a substantial north to south aligned ditch [**287**], which extended south from the northern boundary (**230/243**) for c.17.7m at which point it turned and extended westward for a further 10m, becoming imperceptible at its western extent [**269**]. The internal boundary ditch measured c.2.4m in width, c.0.6m in depth and retained an undulating profile with a rounded base, which had been filled by three separate deposits. These deposits comprised a 0.22m primary deposit of yellowish brown clay (**286**), a 0.1m secondary deposit of dark grey/black clayey silt (**285**) and a 0.2m deposit of dark greyish brown silty clay (**270/284**) (Plate 12). This feature produced the largest assemblage of pottery retrieved during the investigation. This assemblage largely comprised sherds of 13th-14th century date, although two sherds of 12th-13th century Red Gritty ware were also recovered from the feature. Also identified was a further north to south aligned linear feature [**247**] located approximately 2m east of ditch (**230/243**),

although it is likely that this feature represents the remains of a drainage gully given its less substantial dimensions and apparent naturally accumulated silty fill (**248**).

4.2.20 The most intensive area of activity identified within Zone 3 was located towards the southern extent of the area, with the activity apparently utilising an east to west aligned natural ridge, which measured approximately 16m in length and 6.5m in width. The earliest stratigraphic feature located on the ridge was an east to west aligned ditch, which measured c.9.2m in length, c.0.7m in width and retained a maximum depth of 0.38m. The ditch (**241/254/271/276**) retained a steep-sided profile with a flat base, which had been filled by a deposit of mottled brown silty clay (**242/255/272/277**) (Plate 13). A further ditch was noted approximately 3.6m to the south of, and parallel to ditch (**241/254/271/276**). The parallel ditch [**291**] measured over 6.4m in length, c.0.6m in width and c.0.2m in depth, and retained steep-sided profile with a rounded base which had been filled by a deposit of light brown silty clay (**292**). It is probable that both ditches demarcated the northern and southern limits of an area which measured 3.6m in width and over 9m in length.

4.2.21 It is possible that two further features were associated with the two boundary ditches, including a stone-filled pit immediately to the west of the enclosed area and the remains of a kiln. The stone-filled pit [**227**] measured c.2m in diameter, 0.24m in depth and retained a gently sloping profile which had been filled by a deposit of dark brown silty clay (**228**) with numerous angular stone fragments and cobbles (**249**). The exact purpose of this pit remains unclear, although it possibly acted as a soakaway at the western extent of the natural ridge. The remains of the kiln were located immediately to the east of the enclosed area, at the eastern extent of the natural ridge. The kiln comprised a bowl shaped cut [**231**], which measured c.2.5m in diameter and survived to a maximum depth of 0.19m. The sides of the bowl had been packed around the periphery with a deposit of clay and cobbles (**256**) and the base had been lined with a deposit of clay (**232**), which had been severely heat affected. The clay base (**232**) had been sealed by a c.0.05m deposit of greyish brown silty sand (**233**), which was further below a thin band of charcoal (**234**). This charcoal layer was below a 0.1m deposit of degraded yellow sandstone (**235/237**) and silty sand (**236**), which possibly represents the collapse or disuse of the feature (Plate 14). Unfortunately, no associated flue or fire pit were revealed during the investigation, although two potential stake-holes (**223 & 225**) were noted cutting through the base of the bowl, which may have had some association within the feature. The

environmental samples recovered from the kiln have suggested that the feature was used for drying grain

4.2.22 At some point there appears to have been a reorganisation of the area, as both the boundary ditch (**241/254/271/276**) and the kiln had been cut by an additional boundary feature. This later feature was a north to south aligned boundary ditch (**258/278**), which measured over 23m and cut both ditch (**241/254/271/276**) and the substantial boundary feature (**230/243**), which marked the northern limit of the area. The later ditch (**258/278**) measured c.0.65m in width, c.0.35m in depth and retained an irregular profile which had been filled by a deposit of mid-brown silty clay (**257/279**). This ditch appeared to turn east for a further c.3m, terminating at its eastern extent [**267**] and cutting the southern edge of the earlier kiln [**231**].

4.2.23 Also likely associated with this reorganisation was the development of a new kiln, located approximately 4.8m west of the disused kiln [**231**]. This later kiln was located within the centre of the natural ridge, overlying the earlier ditch (**241/254/271/276**) and comprised a bowl shaped cut [**250**], which measured c.3 in diameter and 0.24m in depth. The bowl of the feature had been packed around the periphery with large angular stones and large cobbles (**294**), although very few of these were in-situ. The eastern extent of the feature retained a primary fill of mid-reddish brown silty clay (**297**), which contained flecks of charcoal and measured 0.03m in depth. This was sealed by a secondary fill of dark grey silty clay (**251**), which contained a moderate amount of charcoal and measured 0.08m in depth. The secondary fill was below a number of large stones (**293**), which were similar to the kiln lining (**294**) and may represent the destruction/abandonment of the feature. The kiln was finally filled by a backfill deposit of mid-brown silty clay (Plate 15). No flue or fire-pit associated with the feature were observed, although the area had been severely disturbed by later land drainage. There were however, three stake-holes [**265**] located around the north-eastern periphery of the kiln which may have been associated with the feature. There was also a small rectangular pit [**289**] located to the southeast of the kiln and a post-hole [**295**] located to the southwest, which may have also had some association with the feature. The environmental analysis of samples taken from the kiln have established that this feature was also likely used for grain processing.

4.2.24 The final phase of development within the area of the natural ridge, appeared to be the construction of a small structure, which cut the north to south aligned boundary ditch (**258/278**). It is not clear however, whether the kiln [**250**] was in use at this time. The limited remains of the structure comprised two east to west aligned beam

slots, forming the northern [282] and southern [280] limits, as well as part of the eastern limit of the structure. No western end of the structure was identified. Together, the three beam slots formed an east to west aligned rectangular structure, which would have had an internal width of 2.4m and an internal length of over 3.3m. The beam slots measured c.0.3m in width, 0.12m in depth and retained steep-sided profiles with flat bases, which had been filled by deposits of dark greyish brown silty clay (281/283) (Plate 16). Also identified was a post-hole, which was located centrally between the northern and southern limits of the structure, and c.2.2m west of the eastern beam slot. The post-hole [238] measured 0.34m in diameter, 0.3m in depth and retained a steep-sided profile with a flat base, which had been filled by a 0.24m primary deposit of mid-yellowish brown silty clay (240) and a 0.06m secondary deposit of dark greyish brown clayey silt (239) (Plate 13). It is possible that this feature would have held the central timber support for the structure, although no further post-holes were identified.

4.2.25 The final feature identified within Zone 3 was a deposit of fragmented sandstone, located within the southeast corner of the area. The deposit of sandstone (288) measured c.4.8m in length, c.3.1m in width and may have formed part of a surface. This deposit appears to have been a later addition to the area, as a number of post-medieval artefacts were retrieved from both the sandstone and an overlying deposit of dark brown/black silty clay (136). Interestingly, this was the only feature identified to the south of the intensive activity on the natural ridge. This was surprising as this area of the excavation was closest to the street frontage, an area where an intensification in activity levels, especially domestic, might be expected. This area was however, much lower than the rest of the site, suggesting that it may have been intensively landscaped at some point. This lack of activity closer to the street frontage was confirmed during a recent watching brief undertaken by WAA, as part of the current programme of investigation. The watching brief monitored the excavation of an additional strip of land beyond the southern extent of the excavation area, which extended to the edge of the main road. The additional area of investigation was excavated to the level of the natural substrate, revealing 0.36m of modern waste below c.0.42m of topsoil. No archaeological remains were identified within this area.

4.3 Additional Trench Investigation

4.3.1 In addition to the main area of investigation, two trenches (Trenches 1 and 2) excavated at the western extent of the site during a previous archaeological

evaluation were re-excavated in the intended location (Figure 2). This was required because the geophysical survey, on which the evaluation was based, was laid out inaccurately on the ground by 7.5m and therefore, the trenches partially missed the anomaly they were meant to target.

- 4.3.2 Both trenches were extended by 6m further west and were excavated to a maximum depth of 0.7m. Both trenches revealed deposits of coarse rubble, industrial waste and concrete, which measured c.2.5m in width and appeared to be the cause of the geophysical anomaly previously identified. These deposits were probably laid down to form a substantial base for a trackway associated with the 20th century quarrying activity. The base for the trackway was sealed by c.0.4m of subsoil and c.0.2m of topsoil.

4.4 Discussion of the Archaeological Remains

- 4.4.1 The archaeological excavation revealed two distinct phases of activity, including an undated prehistoric component with more intensive medieval activity. The recovery of several struck flints, in part possibly associated with prehistoric structural remains, indicates that the site witnessed some pre-Iron Age activity, although no features clearly predating the Iron Age were observed. The earliest features identified during the investigation were localised within the northwest portion of the site and comprised several penannular features associated with circular structures. No secure dating evidence has as yet been provided for this activity, although the remains identified are similar to those found on a number of Iron Age settlements within the northeast of England (e.g. see Proctor 2009, 2012 and Churchill 2015). Penannular ditches indicating the positions of former round huts are not especially period distinctive however, and further study of the lithic artefacts and their relationship to these remains, and the application of scientific dating techniques is required. Similar settlements within the area could be quite extensive (e.g. Pegswood Moor, Newton Aycliffe, Faverdale), suggesting the remains identified during the present investigation may only have represented a small portion of a much larger settlement. It is likely however, that any further remains associated with this settlement have been severely disturbed during later quarrying activity.
- 4.4.2 The inter-cutting nature of three of the penannular features identified (Structures 1-3) indicates that only one or possibly two of the circular structures were utilised at any one time, with structures possibly being replaced within a similar location once they had fallen into disrepair. Structures 1-4 were significantly large enough to be

utilised for habitation, although Structure 3 was noticeably smaller than the others. Each of these structures also retained an east facing entrance. It has been suggested that this particular orientation was utilised to maximise the amount of light within such structures during the day (Proctor 2009, 16). Of particular note was the presence of an outlying structure (Structure 5), which was not only much smaller than the others identified, but may also have retained a west facing entrance rather than the east facing entrances observed within Structures 1-4. The potential significance of circular structures with west facing entrances has been discussed elsewhere (e.g. Parker-Pearson 1996, 1999) and will not be reiterated here. It is worth noting however, that a similar small structure with a west facing entrance (Structure 4) identified at Pegswood Moor was suggested as perhaps being utilised for storage or some form of craft activity, or possibly even having had a sacred function (Proctor 2009, 16). Whilst the exact purpose of Structure 5 remains unknown, its smaller size and different construction to the other four structures certainly suggests that it was utilised for a different function.

4.4.3 Archaeological remains of medieval date made up the majority of activity identified on site. It was clear that a number of developments had taken place across the site during this period, although attempting to group the archaeological features within any particular phase of activity proved difficult due to the broad dating of the ceramic evidence and the lack of stratigraphic relationships between many of the features. It did appear however, that the medieval features were separated into three distinct areas of activity. The central area of the site appeared to be defined by major boundaries enclosing large open spaces, whilst the eastern part of the site was largely comprised of less substantial boundary features, possibly representing the remains of separate back plots. The southwest corner of the site was different again, with a marked increase in activity within this area. Although domestic features were lacking, the quantity of pottery recovered from this area suggests that domestic activity was located nearby. In general however, little can be said about the majority of the medieval activity other than it appeared to largely comprise a large number of divisional boundaries, possibly demarcating different areas of activity and/or different land holdings. The boundaries noted in part correspond to those depicted on 19th century OS maps and strongly resemble tofts, the domestic area of a medieval property. To their rear would have been the remainder of the croft forming a back plot, as indicated by the field name 'Back Yards'. Aerial photographic evidence

shows that beyond the 'Back Yards' was ridge and furrow, indicative of medieval open field agriculture.

- 4.4.4 Of particular significance was the identification of three separate medieval kilns at the site. The best preserved of these kilns was located to the east of the site and is likely of a type commonly referred to as a 'keyhole' kiln, due to its surface plan of a circular bowl, linear flue and external circular fire pit (Johnson *et al.* 2009), although the latter feature was not identified during the investigation. Circumstantial evidence has also indicated that this kiln once comprised an elaborate wicker and fired clay covering. This particular type of kiln construction has been identified at a number of sites in Cumbria (Jackson 2014, Jackson *et al.* 2015). The kiln identified within this area was almost certainly used for the process of drying grain. Although the deposits within the kiln only produced a small number of oats, a nearby pit produced grains which numbered in their thousands, strongly suggesting that this pit was associated the kiln. What is unclear however, is why so much grain was deposited within this pit, as the quantity appeared to be far greater than that expected for the general cleaning out of the kiln and the environmental assessment did not find any evidence that the grain had been spoiled in any way (see Section 6 below).
- 4.4.5 The other two kilns were located within close proximity to each other towards the southwest corner of the site, although stratigraphic evidence highlighted that the two kilns would not have been in use at the same time. Unfortunately, neither kiln was as well preserved as the kiln further east and their construction remains largely unknown, other than they were likely lined with clay and cobbles. It is also possible that they may have been associated with some form of ephemeral wooden structures based on the presence of several stake-holes associated with each kiln and in the case of the later kiln, two potentially associated post-holes. The location of the kilns indicates that they would have been positioned within back plots, well away from any major structures fronting onto the road and reducing the risk of fire. In terms of use, it appears that both kilns were utilised for the drying of grain. This would indicate that the earlier kiln was replaced by a feature serving the same function during a reorganisation of space within the area, rather than representing a complete functional change. The presence of three kilns within the investigation area would also suggest that the process of drying grain was a major activity undertaken at the site.

5 FINDS ASSESSMENT

5.1 Introduction

5.1.1 A total of 796 artefacts, weighing 9743g, were recovered during archaeological works at Dinnington, Newcastle upon Tyne (Table 1). Eleven small finds were also recovered. The artefacts range from poor to good condition, with some evidence of post depositional damage.

5.1.2 All finds were dealt with according to the recommendations made by Watkinson & Neal (1998) and to the Chartered Institute for Archaeologists (CIfA) Standard & Guidance for the collection, documentation, conservation and research of archaeological materials (2014b). All artefacts have been assessed according to material type and conforming to the deposition guidelines recommended by Brown (2011) and the Great North Museum.

5.1.3 The material archive has been assessed for its local, regional and national potential and for its potential to contribute to the relevant research frameworks.

5.1.4 The finds assessment was compiled by Megan Stoakley, Sue Thompson and David Jackson.

Context	<E>	Material	Qty	Wgt(g)	Date	Comments
292		CBM	2	13	PM-Mod	
u/s		CBM	6	344	PM-Mod	
102		Ceramic	1	10	PM	RWE
102		Ceramic	5	108	Med	Rim sherds x 2
104		Ceramic	9	47	Med	Pale green glaze - same vessel
110		Ceramic	1	7	PM-Mod	Basalt ware teapot lid
112		Ceramic	7	129	Med	Base sherd x 2
114		Ceramic	4	68	Med	Glossy bright green glaze
116		Ceramic	2	6	Med	Pale green glaze x 1
127		Ceramic	3	27	Med	1 x base sherd. From <6>
136		Ceramic	5	60	PM	Red earthenware
136		Ceramic	2	57	Late med	Hard fabric. 1 x base. 1 x neck
188		Ceramic	7	13	Med	2 x sherds + crumbs
192		Ceramic	18	104	Med	Splashy glaze.
194		Ceramic	1	11	Med	1 x base sherd
207		Ceramic	13	97	Med	1 x rim sherd
211		Ceramic	4	18	Med	3 x reduced abraded sherds
220		Ceramic	13	54	Med	Fabrics include gritty and sandy wares
221		Ceramic	8	83	Med	Freq external sooting

228		Ceramic	14	107	Med	2 x rim sherds
233		Ceramic	5	45	Med	Reduced Greenware + misc
242		Ceramic	44	322	Med	Most sherds from same vessel
244		Ceramic	16	107	Med	Reduced Greenware + misc
251		Ceramic	6	114	Med	Strap handled jug
252		Ceramic	11	108	Med	Rim x 1. Base x 1
253		Ceramic	1	20	Med	Reduced. Coarse fabric
261		Ceramic	7	64	Med	Rim x 2. Base x 2
272		Ceramic	1	1	Med	External sooting
274		Ceramic	2	12	Med	Conjoining
279		Ceramic	2	4	Med	White
286		Ceramic	79	1923	Med	
292		Ceramic	1	6	Med	Sandy
284/285/286		Ceramic	53	602	Med	Mostly buff white ware fabrics
U/S		Ceramic	51	491	PM	Transfer Print, CRE, stoneware jar frag
U/S		Ceramic	303	2520	Med	Buff and reduced wares
102		Clay Pipe	1	18	PM	Bowl with spur & stem; 2.60mm; Oswald (1975, p51 Fig 7 type 7b-7c 1740-1770)
136		Clay Pipe	19	150	PM	13 undecorated stems: 3.20mm, 2.54mm, 2.46mm, 2.76mm, 3.41mm, 2.61mm, 2.43mm, 3.08mm, 2.76mm, 2.55m 2.28mm, 3.09mm, 2.48mm; bowls: 4 x Oswald 1975 type 2 1680-1700, 1 x type 5 1660-1690, 1 possible type 6 early 18th C (Oswald 1975 p49 Fig 6)
u/s		Clay Pipe	3	10	PM	".WCASTLE"; 1.64mm, 1.96mm, 1.70mm
u/s		Copper Alloy/Bronze	3	21	Mod	Bottle caps, 1 x fitting - metal-detecting finds
102		Daub	5	36	Med	
106		Daub	6	182	Med	
108		Daub	8	437	Med	
102		Fuel-ash	8	22	Med?	
102		Glass	1	4	PM	Blue glass fragment
136		Glass	3	17	PM	Early PM; bottle neck and 2 body shards
u/s		Glass	18	387	PM-Mod	Hoe's sauce bottle stopper, Codd bottle frags, 4 base frags, wine/beer bottle fragments
112		Iron	1	3	Med?	Scrap fragment
136		Iron	1	9	Late Med?	Scrap fragment
286		Iron	2	183	Med?	1 x lge nail, 1 x Fe conglomerate
U/S		Iron	6	519	Med-Mod	4 nails, 1 1/2 horseshoe, 1 x conglomerate with med pot
286	67	Lead	1	26	Med?	Strap fragment, bent in 3
TOTAL			793	9726		

Table 1: Quantification of finds

5.2 Lithics (David Jackson)

5.2.1 During the investigation, a total of four lithic artefacts were recovered from three separate deposits, including unstratified deposits. This small assemblage included three pieces classified as debitage, with a single piece probably representing an expedient tool. All qualitative variables were recorded macroscopically only.

5.2.2 The probable tool (SF# 6) has been produced on a thin flake of reddish brown flint. The distal end of the flake is missing. The piece displays either use-wear or roughly executed abrupt retouch along a section of its right lateral margin. The piece does not conform to any particular tool type and likely represents an expedient tool.

5.2.3 The remaining pieces within the assemblage are classified as debitage, including a small flake (SF# 4), a possible bladelet (SF# 3) and the distal end of a blade (SF# 7). All of the debitage has been produced on flint, including toffee coloured flint and heavily stained black flint. Small Find 4 also retains a small section of chalky cortex, indicating that some of the raw material was procured from a fresh outcrop.

5.2.4 In terms of dating, the most recognisably datable piece is the blade fragment (SF# 7). The production of blades is generally considered to be a key component of Early Neolithic stone-tool technology and whilst smaller bladelets such as Small Find 3 are generally produced during the preceding Mesolithic period, it is not uncommon for them to be a bi-product of blade manufacture. Therefore, it is possible that Small Find 3 also belongs to the Early Neolithic period. It must be noted however, that dating sites on the basis of two lithic artefacts which are characteristic of a certain period specific technology is inherently difficult, as all lithic technologies can inadvertently produce typologically distinctive bi-products regardless of period.

5.2.5 Of some note is that three of the four pieces were recovered very close to, or possibly in association with the penannular features identified on site. However, these features are possibly of a later date, suggesting that the lithic artefacts recovered on site may have been residual. Even so, the lithic artefacts did not show significant signs of damage or abrasion, suggesting that they have not moved far from their original place of deposition.

5.3 Ceramics

5.3.1 A total of 699 ceramic sherds, weighing 7345g, were recovered from 30 contexts (Table 1). The vast majority of the assemblage comprises medieval ceramics (641 sherds, 91.7%); the remainder comprises pottery of post-medieval date.

- 5.3.2 **Medieval (Sue Thompson):** A total of 641 sherds of medieval ceramics, weighing 6777g, were recovered from the archaeological investigations at Dinnington. A total of 338 sherds, weighing 4257g were recovered from 28 deposits, and a further 303 sherds, weighing 2520g were unstratified (Table 2). A further 63 sherds, weighing 160g were recovered from environmental samples (Table 3). The sherds are generally in good condition and display little evidence of post-depositional damage.
- 5.3.3 No complete profiles survive, although both **(242)** and **(286)** contain substantial amounts of conjoining sherds. Cross context joins have not been looked for. Vessel types include both jugs and jars, including a handled jar from **(286)**. One straight sided unstratified sherd may be part of a dripping dish (MPRG 1998). Decoration is sparse (Table 2) but consists of horizontal grooving and applied strips. Thumb prints are present on the base of handles and on a single base sherd. Almost 20% of sherds show signs of use in the form of sooting residues, almost exclusively on external surfaces, likely the result of domestic cooking practices.
- 5.3.4 The vast majority of the medieval pottery sherds recovered appear to be locally produced and of 13th- mid 14th century date. Over 75% of the assemblage is made up of the light firing wares (Buff and White wares) which are typical of the Newcastle area (Bown 1988, Ellison 1981). The earliest reduced green wares are of similar 13th – 14th century date (Vaughan *forthcoming*), while the small number of later reduced green wares with a finer fabric are 14th – 16th century, most of which are unstratified. Base sherds of a single Red Gritty ware vessel from context **(286)** may be slightly earlier in date (12th – 13th century). A single context **(114)** produced Scarborough ware jug sherds, the only obviously non local product noted (McCarthy and Brooks 1998). While most assemblages in Newcastle frequently contain regional and foreign ceramic fabrics, Dinnington would have been a much more rural settlement and therefore it is not surprising that the fabrics types seen are local.
- 5.3.5 Further analysis is warranted on the medieval ceramics, in which case diagnostic sherds should be drawn.

Context	Fabric	Date	Sherds	Wgt(g)	Glaze	Rim	Base	Body	Handle	Decoration	Sooting
102	Buff	13th-14th	5	108	2	2		2	1		
104	Buff	13th-14th	9	47	8			9			1
112	Buff	13th-14th	7	129	1		2	5			6
114	Reduced	13th-14th	1	11	1			1			
114	Scarborough ware	13th-14th	3	57	2			3		1	

116	Reduced	13th-14th	2	6	1			2			1
127	Buff	13th-14th	3	27			1	2			
136	Reduced	14th-16th	2	57	2		1	1			
188	Buff	13th-14th	7	18				2			
192	Buff	13th-14th	1	2	1			1			
192	Reduced	13th-14th	10	49	5			10			
192	White	13th-14th	7	53	7			7			
194	Buff	13th-14th	1	11			1				1
207	Buff	13th-14th	8	60				8			
207	Reduced	13th-14th	5	37		1		4			3
211	Buff	13th-14th	1	3				1			
211	Reduced	13th-14th	3	15				3			
220	Buff	13th-14th	5	20				5			
220	Misc	13th-14th	4	17	3			4			3
220	Reduced	13th-14th	4	17		1		3			
221	Buff	13th-14th	8	83			2	6			4
228	Buff	13th-14th	14	107	2	2	2	10			1
233	Misc	13th-14th	3	20	1			3		1	2
233	Reduced Greenware	13th-14th	2	25	2			2			
242	Buff	13th-14th	44	322		7		37			18
244	Buff	13th-14th	13	39	3			13			
244	Reduced greenware	13th-14th	2	57	2		2				1
244	White	13th-14th	1	11				1			
251	Oxidised	13th-14th	3	52		1		2			
251	Reduced	13th-14th	3	62			1	2			
252	Buff White	13th-14th	6	64	2		3	3			
252	Oxidised	13th-14th	5	44		1	1	4			2
253	Reduced	13th-14th	1	20	1			1			
261	Buff	13th-14th	6	57	2	2	2	2			1
261	Reduced greenware	13th-14th	1	7	1			1			
271	Buff	13th-14th	1	1				1			1
274	Buff	13th-14th	2	12				12			
279	Buff white	13th-14th	2	4				2			
286	Buff White	13th-	36	736	1	1	1	34	1	2	12

		14th									
286	Red Gritty	12th-13th	2	111			2				
286	Reduced greenware	13th-16th	20	713	18	2	4	14	2	1	2
286	Sandy oxidised	13th-14th	21	363	21	1	5	15		5	
292	Buff	13th-14th	1	6				1			
284/285/286	Buff	13th-14th	46	393	12	4	5	36	1	3	3
284/285/286	Reduced	13th-14th	2	37	1			2		1	1
284/285/286	White	13th-14th	5	172	1		2	2	1	3	8
U/S	Buff	13th-14th	249	2074	28	25	14	210	2	2	53
U/S	Reduced Greenware	13th-16th	54	446	25	2	4	48			4
Total			641	6782	156	52	55	537	8	19	128

Table 2: Medieval Ceramics

Context	Sample	Date	Sherds	Wgt(g)	Glaze	Rim	Base	Body	Handle	Sooting
192	36	13th-14th	1	1				1		
194	37	13th-14th	2	6	1			2		1
207	43	13th-14th	1	5				1		
211	41	13th-14th	2	15				2		
221	47	13th-14th	1	2				1		1
228	51	13th-14th	2	3	1			2		
230	49	13th-14th	1	1				1		
233	50	13th-14th	2	5				2		1
248	52	13th-14th	2	4				2		1
251	63	13th-14th	4	5				4		
252	64	13th-14th	4	39	1	1		2	1	
253	65	13th-14th	2	11				2		
286	67	13th-14th	7	62				7		2
297	69	13th-14th	1	1		1				
Total			32	160	3	2	0	29	1	6

Table 3: Medieval Ceramics Recovered from Environmental Samples

5.3.6 **Post-Medieval:** A total of 58 sherds of post-medieval pottery, weighing 568g, were recovered from four deposits (Table 1). The pottery is in good condition in the main, displaying little evidence of post-depositional damage.

5.3.7 Fabric groups comprise Buckley-type coarse red earthenware, several sherds of Transfer Print plus refined white earthenware, stoneware and Basalt ware. Vessel types comprise a teapot lid, fragments from large jars, plates plus cups and bowls.

5.3.8 The assemblage is of late 19th century to 20th century date.

5.3.9 No further analysis is necessary.

5.4 Clay Pipe

5.4.1 A total of 23 fragments of clay tobacco pipe, weighing 178g, were recovered from three deposits (Table 1). The fragments are in good condition, displaying little evidence of post-depositional damage.

5.4.2 A partial clay tobacco pipe stem and spurred bowl recovered from **(102)** comprises an Oswald Type 7b-7c pipe dated to 1740-1770 (Oswald 1975, 51 Figure 7).

5.4.3 Thirteen undecorated stem fragments were recovered from context **(136)** (Table 1). Measurements of the internal stem diameter were taken to provide a rough date (Table 4). The measurements range from 2.28mm to 3.41mm, providing an approximate date range of 1590 to 1750 (late 16th to mid-18th century).

Stem-Hole \emptyset (in/XX)	Conversion (mm) 1 inch = 25.4mm 1/64 (inch) = 0.4mm	Dates
9/64	9 x 0.4mm = 3.6	1590 – 1620
8/64	8 x 0.4mm = 3.2	1620 – 1650
7/64	7 x 0.4mm = 2.8	1650 – 1680
6/64	6 x 0.4mm = 2.4	1680 – 1720
5/64	5 x 0.4mm = 2	1720 – 1750
4/64	4 x 0.4mm = 1.6	1750 - 1800

Table 4: Binford's Pipestem Chronology (Kipfer 2008, 8)

5.4.4 Six bowl fragments were also recovered from context **(136)**. Four bowls comprise Oswald Type 2 pipes dating to 1680 to 1700 (Oswald 1975, 49 Figure 6), one bowl possibly comprises an Oswald Type 5 bowl dating to 1660 to 1690 (*ibid*) and one bowl possibly comprises a Type 6 bowl dating to the early 18th century (*ibid*).

5.4.5 The only stamped clay tobacco pipe was recovered from an unstratified deposit and comprises "...WCASTLE" ('NEWCASTLE'). Two plain pipe stems were also recovered unstratified and the internal stem diameters range from 1.64mm to 1.96mm, giving a rough date range of 1720 to 1800 (early 18th to 19th century).

5.4.6 As a whole, the clay tobacco pipe assemblage spans the late 16th to early 19th centuries.

5.4.7 No further analysis is warranted on the assemblage.

5.5 Ceramic Building Material (CBM) & Daub

5.5.1 Nineteen fragments of medieval daub / fired clay, weighing 655g, were recovered from three deposits (Table 1). The fragments are in moderate condition and are abraded and soft. Daub was also recovered from environmental samples <1> and <2>, weighing 456g and 1934g respectively. The artefacts comprise miscellaneous fragments in a soft, light to mid-orange fabric tempered with poorly sorted inclusions of flint and quartz. The inclusions are frequently distributed throughout the fragments and are angular, ranging in size from 3mm to 12mm.

5.5.2 Material of similar fabric and temper was recovered from a kiln feature excavated on land at Low Crosby, Cumbria (Jackson *et al* 2015, 38). Further analysis may be warranted on this assemblage, as it provides evidence of a kiln / firing activity either on the site and / or in its environs. Eight fragments of fuel-ash, weighing 22g, were recovered during the archaeological works but these were recovered from the subsoil deposit and may not be associated with the medieval daub.

5.5.3 Eight fragments of post-medieval to modern ceramic building material, weighing 357g, were recovered from two deposits (Table 1). The artefacts are in good condition. The artefacts comprise miscellaneous land drain, tile and brick fragments.

5.5.4 No further analysis is warranted on the latter.

5.6 Glass

5.6.1 A total of 22 shards of glass, weighing 408g, were recovered from three deposits (Table 1). The artefacts are in moderate to good condition.

5.6.2 The vast majority of this small assemblage comprises late post-medieval to modern bottle glass shards, including a complete Hoe's Sauce bottle stopper, several Codd bottle fragments as well as miscellaneous wine / beer bottle fragments.

5.6.3 Three shards of late medieval to early post-medieval bottle glass were recovered from context (136), comprising a partial bottle neck and two body shard fragments. Pottery of late medieval date was also recovered from this context.

5.6.4 No further analysis is warranted.

5.7 Metal

5.7.1 A total of 14 metal artefacts, weighing 761g, were recovered from four deposits (Table 1). The condition of the artefacts ranges from very poor to good; the iron artefacts in particular display heavy rust corrosion.

5.7.2 Iron artefacts of potentially medieval date comprise two scrap fragments, a large nail and a miscellaneous conglomerate. Iron artefacts of medieval to modern date comprise several nails, a partial horseshoe and a miscellaneous conglomerate with medieval pottery attached to it.

5.7.3 A misshapen miscellaneous lead strap fragment, weighing 26g, was recovered from sample <67> (286). It is of potentially medieval date.

5.7.4 Two modern bottle caps and a fitting, weighing 21g, were recovered from an unstratified deposit.

5.7.5 No further analysis is necessary on this assemblage.

5.8 Small Finds

5.8.1 Eleven small finds, weighing 2788g, were recovered during the archaeological investigation (Table 5). The artefacts are in largely good condition. The flint small finds have been discussed previously.

5.8.2 Small Finds **1** and **2** comprise a lead weight and a small lead roll of Roman to medieval date. Small Finds **5** and **8** comprise a partial stone spindle whorl and a partial sandstone rotary quern respectively. A general date of prehistoric to medieval has been attributed to both artefacts.

5.8.3 Small Finds **9** to **11** comprise an unfired lead musket ball, a copper alloy button and a partial cap badge. These finds are of post-medieval to modern date.

SF No	Context	Material	Qty	Wgt(g)	Date	Comments
1	u/s	Lead	1	38	RB - Med	Weight
2	u/s	Lead	1	14	RB - Med	Roll
3	142/147	Flint	1	2	Prehistoric	
4	182	Flint	1	1	Prehistoric	
5	u/s	Stone	1	20	Prehistoric - Med	Half a spindle
6	u/s	Flint	1	3	Prehistoric	Near [151]
7	u/s	Flint	1	5	Prehistoric	
8	286	Stone	1	2689	Prehistoric - Med	Rotary quern - half, sandstone
9	u/s	Lead	1	12	PM	Musket shot

10	u/s	Copper Alloy	1	3	PM-Mod	Button
11	u/s	Bronze	1	1	PM-Mod	Cap badge

Table 5: Quantification of Small Finds

5.9 Statement of Potential

5.9.1 The recovery of prehistoric to medieval artefacts is of archaeological significance on a local level; the recovery of prehistoric artefacts is also of significance on a regional scale due to the lack of stratigraphically secure prehistoric archaeological remains.

5.9.2 The finds were retained with the archive.

6 ENVIRONMENTAL ASSESSMENT

6.1 Introduction

6.1.1 A total of 69 samples were recovered from various features across the site in order to recover charred and mineralised plant remains and charcoal.

6.1.2 The samples were collected from a range of features which included linears, pits, postholes and potential drying kilns. Sample size varied from 10l to 40l or 100% of smaller features. The samples from each context were processed for charred and mineralised plant only.

6.1.3 The samples were processed using the standard method outlined by Historic England (2011). The material was washed through using a Sīrāf tank and sieved to 250µm. The heavy residue was sieved to 1mm. The samples were then sorted using a low binocular microscope at x10 and x20 magnification. The heavy residue fractions were sorted for ecofacts and artefacts by eye. The overall preservation of the material was variable sample by sample and within individual samples i.e. degraded material could often be found in the same sample as very well preserved.

6.1.4 The identification of the charred material present is provisional. As a result, the data presented here should be regarded as preliminary.

6.1.5 The nomenclature follows that of Stace (2010) for indigenous species and Zohary, Hopf and Weiss (2012).

6.1.6 The identification for this assessment was undertaken by Don O'Meara and Dr. Emma Tetlow and the report was written by Dr. Emma Tetlow.

6.2 Results

6.2.1 The discussion below presents the results of the charred and mineralised plant remains recovered from the 69 samples. Given the artefactual evidence, most of the deposits are likely to date to either the 13th or 14th century.

6.2.2 The charred assemblage is dominated by cereal taxa, largely *Avena* sp. (oats), and in the case of samples <7> and <41> *Hordeum* sp. and *Triticum* sp. The majority of the remaining herbaceous taxa are weeds associated with cereal crops or ruderals typical of open, waste ground. Relatively large numbers of Chenopodiaceae were also encountered, the significance of which will be discussed in greater detail below. The samples will be separated into a series of groups based on those which make a specific contribution to our knowledge of activity at the site and on relative

abundance and proportion of significant taxa and which provide over-arching comment on the surrounding environment

6.2.3 Samples <4>, <5>, <7>, <33>, <34>.

Samples <4>, <33> and <34> were recovered from context (123), the lower fill of a pit [121], and sample <7> was recovered from (128), a linear [129]. The assemblages from both contexts are extremely rich in charred *Avena* sp., sample <7> also contains relatively abundant quantities of *Hordeum* sp. and *Triticum* sp. and abundant fragments of hazelnut shell (*Corylus* sp.). Also abundant in samples <33> and <34> were quantities of charcoal <1cm and >1cm.

Whilst the quantities found in sample <5> are somewhat less abundant, the cereals found in this sample, particularly the abundance of *Avena* sp. reflect those in the wider group.

Abundant throughout the samples from Dinnington are the Chenopodiaceae (goosefoot, oraches), which is a common weed of cultivated ground and is also, in some cases edible.

6.2.4 Samples <50>, <63> - <65>, <69>

Two further drying kilns [231] and [250] have been identified in the south western section of the site. A single sample <50> was recovered from [231]. Whilst cereal grains were scant overall, this sample contained a substantial assemblage of charcoal.

Charred cereal is also relatively abundant in the samples <64> and <65> recovered from contexts associated with kiln [250]. Charred material from sample <63> is considerably more restricted and entirely absent from <69>.

6.2.5 <36>, <37>, <38>, <39>

The material from samples <36>, <37>, <38>, and <39>, all yielded a small but diverse assemblage of charred cereal which included the virtually ubiquitous *Avena* sp., but also *Hordeum* sp. and *Triticum* sp. and some Legumes. The remaining assemblage is similar to those of the wider environment outlined below (Section 6.2.7)

6.2.6 <35>, <52>, <59>, <66>, <67>, <68>

Initial assessment suggests that all samples in this group contain residual quantities of *Avena* sp. and in some cases, small amounts of *Triticum* sp. and *Hordeum* sp. Once

again, the species of the wider environment reflect those outlined below (Section 6.2.7).

6.2.7 Samples <1>, <2>, <3>, <6>, <8>, <9>, <11>, <18>, <19>, <20>, <22>, <24>, <26>, <29>, <30>, <31>, <32>, <40>, <41>, <42>, <44>, <46>, <47>, <51>, <53>, <56>, <57>, <61>, <62>.

Initial assessment suggests that all samples in this group contain residual quantities of *Avena* sp. The remaining species are largely typical of three distinct types of habitat:

Samples <1>, <11>, <18>, <19>, <20>, <22>, <24>, <26>, <29>, <30>, <44>, <46>, <47>, <53>, <59>, <61>, and <62>, contain species indicative of open, disturbed waste ground indicated by species such as *Polygonum* sp. (kontgrasses, including buckwheat), *Rumex* sp. (dock), and *Plantago* sp. (plantains).

Also present in samples <1>, <8>, <19>, <30>, <31>, <32>, <46>, <47>, <51>, <53>, and <57>, are small quantities of species associated with hedgerows such as *Sambucus nigra* (elderflower), *Rubus* sp. (bramble) and limited evidence of scrub woodland in the form of *Betula* sp. (birch). It should be noted that the latter can be transported considerable distances.

The final group <3>, <6>, <31>, <32>, <40>, <41>, <42>, <51>, <56>, and <57> contain species associated with low-growing, disturbed grassland which include *Stachys* sp. (mouse ears), *Galium* sp. (bedstraws) and *Vicia* sp. (vetches).

6.2.8 Samples <9>, <10>, <12>, <13>, <14>, <15>, <16>, <17>, <21>, <23>, <25>, <27>, <28>, <43>, <45>, <49>, <50>, <54>, <55>, <58>, <60>.

Cereals are almost entirely absent from this suite of samples, those which are present are indeterminate. Large numbers of *Polygonum* sp., and Chenopodiaceae are also present in relative abundance in the major of these samples. Indicators of the wider environment are equally limited, they are restricted to single specimens of *Polygonum* sp., *Taraxacum* sp. (dandelions), *Ranunculus* sp. (buttercups), and *Sambucus nigra*.

6.3 Discussion

6.3.1 Samples <4>, <5>, <7>, <33>, and <34> are all extremely rich and contain an abundance of charred seeds, both cultivars, weeds and other ruderals. Samples <4>, <5>, <7>, <33>, and <34>, appear to be some form of waste likely to be associated with a nearby drying kiln [131]. Why such a substantial quantity of charred cereal

was deposited in this pit is not clear. There is no apparent evidence that it was either spoilt by mould or damp, or of any infestation by granary pests such as insects.

- 6.3.2 Whilst the charred cereal grains recovered from sample <50> were scant overall, the sample contained a substantial assemblage of charcoal. Fragments >1cm and <1cm were present in some abundance and clearly indicate either the burning of charcoal or wood within kiln [231].
- 6.3.3 Charred cereal was limited in samples <64> and <65> recovered from contexts associated with kiln [250]. Charred material from sample <63> is considerably more restricted and entirely absent from sample <69>.
- 6.3.4 Similar smaller assemblages were also recovered from samples <35>-<39>, <50>, <59>, <63>, <67>, <69> and <68>, with residual evidence of processed cereals in samples. This would suggest that the deposition/formation of the majority of these deposits was quite likely to have been contemporaneous.
- 6.3.5 In contrast, the samples discussed in section 6.2.7 are considerably less rich and may suggest that the assemblage consists of material either blown or transported around the site or as a result of reworking. The remaining taxa in these assemblages are indicators of the wider environment and suggest three overlapping but distinct environments. The first group includes taxa of open, disturbed waste ground which reflects the species found directly within the area of activity. Such species are likely to have been found growing around the structures whilst they were in use and opportunistically exploiting areas of waste ground between the structures. Similarly, a number of species are associated with scrubby grassland which would have been found at the periphery of the activity area and also perhaps abutting the structures as they fell into disuse. The final suite are those of hedgerow and scrub woodland. Amongst the samples were birch seeds, which can be transported some distance. It is also not unfeasible to suggest that bramble and elderberry reflect the diet at the site.
- 6.3.6 The final suite of samples discussed in Section 6.2.8 is entirely restricted to indicators of the wider environment and reflect those discussed in Section 6.3.5
- 6.3.7 Nonetheless, this suite of samples also includes a number which are thought to date to an earlier, prehistoric phase of activity at the site. These include <10>, <12>, <13>, <14>, <15>, <16>, <17>, <21>, <23>, <25>, <27>, and <28>. The absence of charred cereal would certainly suggest a separate phase of activity and support the theory of a phase of earlier activity, pre-dating the cereal processing.

6.4 Statement of Potential

- 6.4.1 given the volume, content and location of recovery, samples <4>, <5>, <7>, <33>, <34>, <50>, <64> and <65> are of some significance and further full analysis is strongly recommended. This would optimistically elucidate the circumstances of their deposition.
- 6.4.2 The analysis of the charcoal from sample <50>, where size allows, would provide useful comment on the wood being used as fuel and the nature of the wider environment.
- 6.4.3 Further work is also recommended on <1>, <2>, <3>, <36>, <37>, <38>, <39>, <41>, <51>, <56>, <57>, <59>, <63>, <67>, and <68>. This will complement the work on samples <4>, <5>, <7>, <33>, <34>, <50>, <64> and <65>, and provide further comment on cereal processing at the site.
- 6.4.4 A programme of radiocarbon dating is also recommended, in order to determine the age of the features associated with samples <10>, <13>, <14>, <17>, <20>, <21>, and <23>. This suite of samples was recovered from features thought to be of prehistoric age and all contain fragments of charcoal substantial enough for radiocarbon dating. It is recommended that two radiocarbon dates are obtained from the most suitable fragments of charcoal recovered from these samples.
- 6.4.5 No further work is recommended on samples <6>, <8>, <9>, <11>, <12>, <15>, <16>, <18>, <19>, <22>, <24>, <25>, <27>, <28>, <29>, <30>, <31>, <32>, <35>, <40>, <42>, <43>, <44>, <45>, <46>, <47>, <49>, <52>, <53>, <54>, <55>, <58>, <59>, <60>, <61>, <62>, <66> and <69>.

7 CONCLUSIONS

- 7.1 The work undertaken at the site revealed two distinct phases of activity, including an undated prehistoric component with more intensive medieval activity. The earliest was a prehistoric phase characterised by structural evidence typical of Iron Age activity, but lacking Iron Age pottery. These remains were however, possibly associated with lithic artefacts seemingly of Neolithic date, although this remains a tentative identification. Although no secure dating evidence has as yet been provided for these structures, the remains identified are similar to those found on a number of Iron Age settlements within the northeast of England. Further work regarding the relationship between the lithic artefacts and the prehistoric remains, and the application of scientific dating techniques may provide a firmer date for the prehistoric activity at on site.
- 7.2 Archaeological remains of medieval date made up the majority of activity identified on site. It was clear that a number of developments had taken place across the site during this period, although attempting to group the archaeological features within any particular phase of activity proved difficult because of the broad dating of the ceramic evidence and the lack of stratigraphic relationships between many of the features. In general, the medieval activity appeared to comprise for the most part a number of divisional boundaries, possibly demarcating different crofts as well as the toft areas to the front of the crofts. It is notable that the southwestern corner of the investigation area, which was closest to the road and therefore closest to where the tofts would likely be situated, revealed an intensification in activity as well as producing the majority of medieval pottery. Structural remains within the area were lacking however, although it is possible that the hardstanding area found may be a floor surface. It is entirely possible that the buildings were archaeologically ephemeral, perhaps of timber frame and sill beam construction and thus vulnerable to removal during later site activity. Evidence for such timber construction was identified immediately to the east of the investigation area. Likely former tofts are shown on the 1st Edition OS 6" to 1 mile map surveyed in 1858, but by then all were empty of any buildings.
- 7.3 Of particular significance was the identification of three separate medieval kilns at the site. It appears that all three were used for the process of drying grain and more specifically, oats. The kilns were all situated in the back plots to the rear of the tofts. The presence of three kilns utilised for the same purpose within the investigation

area suggests that grain processing was a major part of the activities undertaken at the site during the medieval period. The drying of oats was a typical activity undertaken on medieval sites in the far north of England and in Scotland, and the present investigation has provided further crucial evidence for this process which was so important to the area.

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8.2 Website Sources

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APPENDIX 1: PHOTOGRAPHS



Plate 1: View north of Structure 2 terminus [156] cutting Structure 1 [151]



Plate 2: Southeast facing section of north terminus [171], Structure 3



Plate 3: Northeast facing section of south terminus [175], Structure 3



Plate 4: East facing section of boundary [183]



Plate 5: View northwest of penannular feature [141], Structure 4



Plate 6: East facing section showing Structure 5 [139] (right) and boundary [145]



Plate 7: South facing section of boundary [218]



Plate 8: North facing section of boundary [113] cutting pit [111]



Plate 9: View north-northeast of kiln [131] with remains of flue in background



Plate 10: View south-southwest of pit [121]



Plate 11: West facing section of boundary [243] and re-cut [245] (right)



Plate 12: South facing section of boundary [287]



Plate 13: East facing section showing boundary [241] and later post-hole [238] (left)



Plate 14: North facing section of kiln [231]



Plate 15: North facing section of kiln [250]



Plate 16: East facing section of beam slot [282]

APPENDIX 2: CONTEXT TABLE

Context Number	Context Type	Description	Above	Below
100	Deposit	Topsoil	102	-
101	Geological	Natural Substrate	-	Arch.
102	Deposit	Subsoil	Arch.	100
103	Natural	Tree Bowl	101	104
104	Fill	Fill of [103]	103	102
105	Cut	Shallow Pit	101	106
106	Fill	Fill of [105]	105	109
107	Cut	Same as [105]	101	108
108	Fill	Same as (106)	107	109
109	Cut	Modern Pit	106/108	110
110	Fill	Fill of [109]	109	100?
111	Cut	Square Pit	101	112
112	Fill	Fill of [111]	111	113
113	Cut	Narrow Boundary Ditch	112	114
114	Fill	Fill of [113]	113	102
115	Cut	Narrow Boundary Ditch	101	116
116	Fill	Fill of [115]	115	102
117	Cut	Possible Boundary Ditch	122	118
118	Fill	Fill of [117]	117	124
119	VOID	VOID	VOID	VOID
120	VOID	VOID	VOID	VOID
121	Cut	Waste Pit	101	125
122	Fill	Secondary Fill of [121]	123	117
123	Fill	Primary Fill of [121]	125	122
124	Cut/Fill	Cut and Fill of Land Drain	118	102
125	Deposit	Heat Affected Clay	121	123
126	Cut	Boundary Ditch	101	127
127	Fill	Fill of [126]	126	102
128	Fill	Secondary Fill of [129]	130	102
129	Cut	Possible Boundary Ditch	101	130
130	Fill	Primary Fill of [129]	129	128
131	Cut	Cut of Kiln	101	137
132	Fill	Fill of [131]	138	102
133	Cut	Flue associated with [131]	101	134
134	Fill	Fill of [133]	133	102
135	VOID	VOID	VOID	VOID
136	Deposit	Spread above Stones (288)	288	102
137	Deposit	Stone Lining of Kiln [131]	131	138
138	Deposit	Charcoal within Kiln [131]	137	132
139	Cut	Possible Roundhouse Gully	146	140/144/148
140	Fill	Fill of [139]	139	102
141	Cut	Northern Gully of Roundhouse# 4	101	143/147
142	Fill	Secondary Fill of [141]	147	102
143	Fill	Fill of [141]	141	102
144	Fill	Fill of [139]	139	102
145	Cut	Linear Ditch	101	146/149
146	Fill	Fill of [145]	145	139

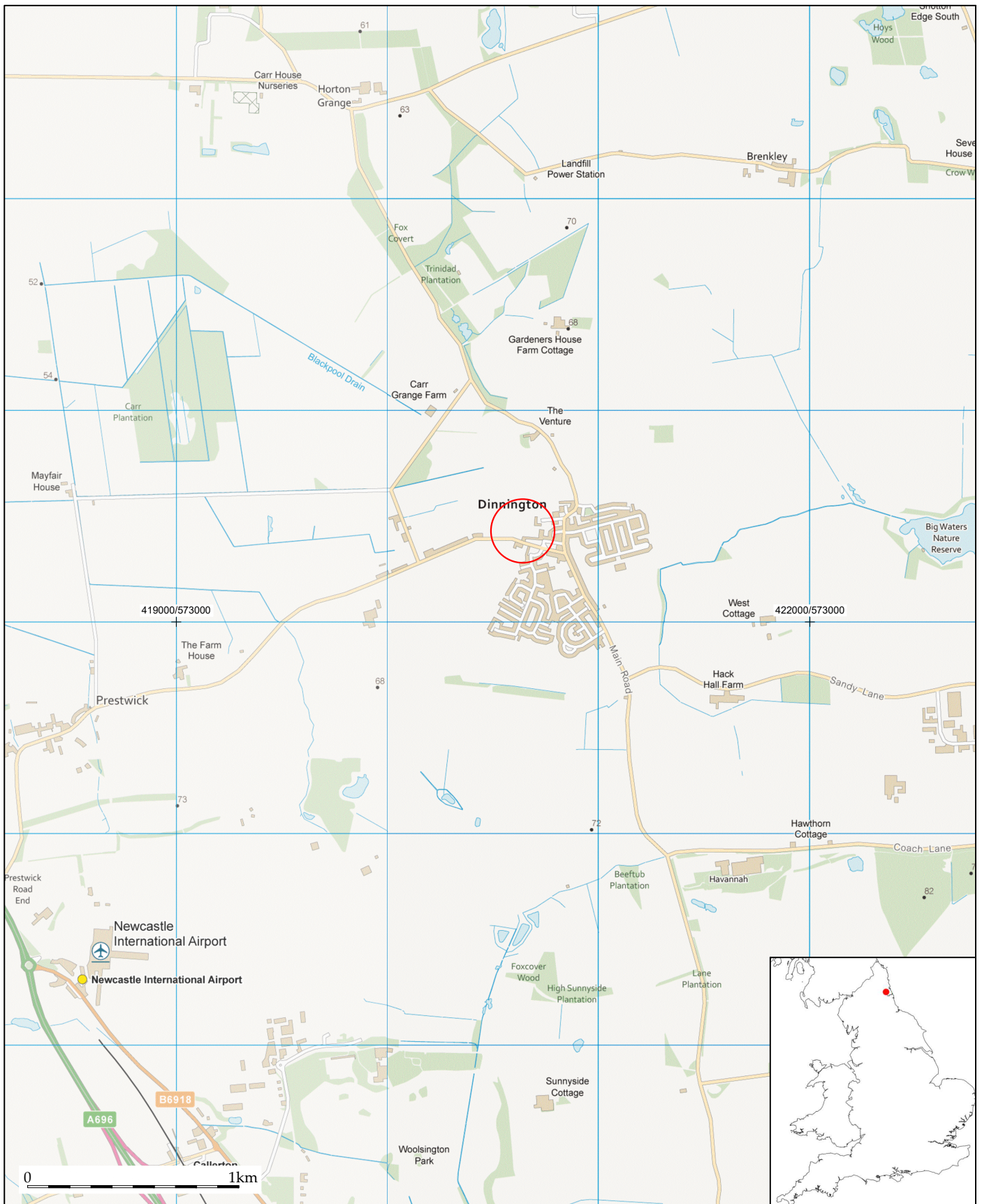
Context Number	Context Type	Description	Above	Below
147	Fill	Fill of [141]	141	142
148	Fill	Fill of [139]	139	102
149	Fill	Fill of [145]	145	102
150	Fill	Fill of [157]	157	102
151	Cut	Slot through Gully of Roundhouse# 1 [155]	101	152
152	Fill	Fill of [151]	151	156
153	Cut	Slot through Gully of Roundhouse# 1 [155]	101	154
154	Fill	Fill of [153]	153	102
155	Group No.	Group No. for Gully of Roundhouse# 1	101	152/154
156	Group No.	Group No. for Gully of Roundhouse# 2	155	161/163/165/167
157	Cut	Southern Gully of Roundhouse# 4	101	150
158	Cut	Cut of Post-hole	101	159
159	Fill	Fill of [158]	158	102
160	Cut	Slot through Gully of Roundhouse# 2 [156]	101	161
161	Fill	Fill of [160]	160	102
162	Cut	Slot through Gully of Roundhouse# 2 [156]	101	163
163	Fill	Fill of [162]	162	102
164	Cut	Slot through Gully of Roundhouse# 2 [156]	101	165
165	Fill	Fill of [164]	164	169
166	Cut	Southern Terminus of Gully# 2 [156]	101	167
167	Fill	Fill of [166]	166	102
168	Group No.	Group No. for Gully of Roundhouse# 3	156	170/172/174/176/180
169	Cut	Slot through Gully of Roundhouse# 3 [168]	165	170
170	Fill	Fill of [169]	169	102
171	Cut	Northern Terminus of Gully# 3 [168]	101	172
172	Fill	Fill of [171]	171	102
173	Cut	Slot through Gully of Roundhouse# 3 [168]	101	174
174	Fill	Fill of [173]	173	102
175	Cut	Southern Terminus of Gully# 3 [168]	101	176
176	Fill	Fill of [175]	175	102
177	Cut	Post-hole associated with Gully# 3 [168]	101	178
178	Fill	Fill of [177]	177	102
179	Cut	Slot through Gully of Roundhouse# 3 [168]	182	180
180	Fill	Fill of [179]	179	102
181	Cut	Shallow Linear Ditch	101	182
182	Fill	Fill of [181]	181	179
183	Cut	Same as [181]	101	184
184	Fill	Fill of [183]	183	102
185	Cut	Irregular Pit	101	186
186	Fill	Fill of [185]	185	102
187	Cut	Large N-S Aligned Boundary Ditch	101	188
188	Fill	Fill of [187]	187	102
189	Cut	Same as [185]	101	190
190	Fill	Same as (186)	189	102
191	Cut	Small Pit	101	192
192	Fill	Fill of [191]	191	193
193	Cut	Narrow Boundary Ditch	192	194
194	Fill	Fill of [193]	193	102
195	Cut	Probable Boundary Ditch	101	196
196	Fill	Fill of [195]	195	102
197	Cut	Narrow Boundary Ditch	101	198

Context Number	Context Type	Description	Above	Below
198	Fill	Fill of [197]	197	102
199	Cut	Same as [201]	101	200
200	Fill	Same as (202)	199	102
201	Fill	Fill of [202]	202	102
202	Cut	Narrow Boundary Ditch	203	201
203	Fill	Secondary Fill of [205]	204	202
204	Fill	Primary Fill of [205]	205	203
205	Cut	Boundary Ditch	101	204
206	Cut	Boundary Ditch	101	207
207	Fill	Fill of [206]	206	102
208	Fill	Fill of [209]	209	102
209	Cut	Terminus of [212]	101	208
210	Cut	Same as [126]	101	211
211	Fill	Fill of [210]	210	212
212	Cut	Boundary Ditch	211	213
213	Fill	Fill of [212]	212	102
214	Fill	Fill of [215]	215	102
215	Cut	Terminus of [206]	216	214
216	Fill	Fill of [217]	217	215
217	Cut	Slot through Boundary Ditch [187]	101	216
218	Cut	Southern part of Boundary Ditch [187]	101	219
219	Fill	Primary Fill of [218]	218	220
220	Fill	Secondary Fill of [218]	219	222
221	Fill	Fill of [222]	222	102
222	Cut	Possible Re-cut of Ditch [218]	220	221
223	Cut	Cut of Stake-hole	101?	224
224	Fill	Fill of [223]	223	232?
225	Cut	Cut of Stake-hole	101?	226
226	Fill	Fill of [225]	225	232?
227	Cut	Stone-filled Pit	101	228
228	Fill	Fill of [227]	227	249
229	Fill	Fill of [230]	230	102
230	Cut	Large Boundary Ditch	101	229
231	Cut	Possible Kiln	274	256
232	Deposit	Possible Clay Lining of [231]	256	233
233	Fill	Primary Fill of [231]	232	234
234	Fill	Charcoal Fill of [231]	233	235
235	Fill	Degraded Sandstone within [231]	234	236
236	Fill	Quaternary Fill of [231]	235	237
237	Fill	Upper Sandstone Fill of [231]	236	267
238	Cut	Post-hole cut through [241]	242	240
239	Fill	Secondary Fill of [238]	240	102
240	Fill	Primary Fill of [238]	238	239
241	Cut	E-W Aligned Ditch	101	242
242	Fill	Fill of [241]	241	238
243	Cut	Same as [230]	101	244
244	Fill	Fill of [243]	243	245
245	Cut	Later Boundary Ditch	244	246
246	Fill	Fill of [245]	245	102
247	Cut	Boundary Ditch	101	248
248	Fill	Fill of [247]	247	102

Context Number	Context Type	Description	Above	Below
249	Deposit	Stones within [227]	228	102
250	Cut	Cut of Kiln	255	294
251	Fill	Secondary Fill of [250]	297	253/293
252	Fill	Tertiary Fill of [250]	253/293	102
253	Deposit	Burnt Clay Deposit	251	252
254	Cut	Same as [241]	101	255
255	Fill	Fill of [254]	254	250
256	Deposit	Possible Stone Structure of Kiln [231]	231	232
257	Fill	Fill of [258]	258	102
258	Cut	Boundary Ditch	259	257
259	Fill	Fill of [260]	260	258
260	Cut	Eastern Terminus of [245]	261	259
261	Fill	Fill of [262]	262	260
262	Cut	Eastern Terminus of [230]	101	261
263	Cut	Possible Plough Furrow	101	264
264	Fill	Fill of [263]	263	102
265	Group No.	Stake-holes within [250]	101?	266
266	Fill	Fill of [265]	265	252
267	Cut	Shallow Ditch	237	268
268	Fill	Fill of [267]	267	102
269	Cut	Western End of [287]	101	270
270	Fill	Fill of [269]	269	102
271	Cut	Western Terminus of [241]	101	272
272	Fill	Fill of [271]	271	102
273	Natural?	Probable Large Natural Hollow	101	275
274	Fill	Secondary Fill of [273]	275	231
275	Fill	Primary Fill of [273]	273	274
276	Cut	Eastern Extent of [241]	101	277
277	Fill	Fill of [276]	276	278
278	Cut	Southern Extent of [258]	277	279
279	Fill	Fill of [278]	278	282
280	Cut	Southern Beam Slot	101	281
281	Fill	Fill of [280]	280	102
282	Cut	Northern Beam Slot	279	283
283	Fill	Fill of [282]	282	102
284	Fill	Tertiary Fill of [287]	285	102
285	Fill	Secondary Fill of [287]	286	284
286	Fill	Primary Fill of [287]	287	285
287	Cut	Corner of Large Boundary Ditch	101	286
288	Deposit	Firm Sandstone Deposit	-	136
289	Cut	Possible Sub-square Post-hole	101	290
290	Fill	Fill of [289]	289	102
291	Cut	Boundary Ditch	101	292
292	Fill	Fill of [291]	291	102
293	Deposit	Disturbed Remains of Kiln Structure	251	252
294	Deposit	Remains of Kiln Structure	250	297
295	Cut	Possible Post-hole	101	296
296	Fill	Fill of [295]	295	102
297	Fill	Primary Fill of [250]	294	251

Table 6: Context numbers issued during the excavation

APPENDIX 3: FIGURES






 <p>Wardell Armstrong Archaeology 2016</p>	<p>PROJECT: Front Street, Dinnington, Newcastle upon Tyne</p> <p>CLIENT: Bellway Homes Ltd (North East)</p> <p>SCALE: 1:25,000 at A4</p> <p>DRAWN BY: AB</p> <p>CHECKED BY: AB</p> <p>DATE: November 2016</p> <p>REPORT No: CP11766</p>	<p>KEY:</p>  Site location	 <p>Reproduced by permission of Ordnance Survey on behalf of The Controller of Her Majesty's Stationery Office. © Crown copyright. All rights reserved. Licence number 100019512</p>
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Figure 1: Site location.

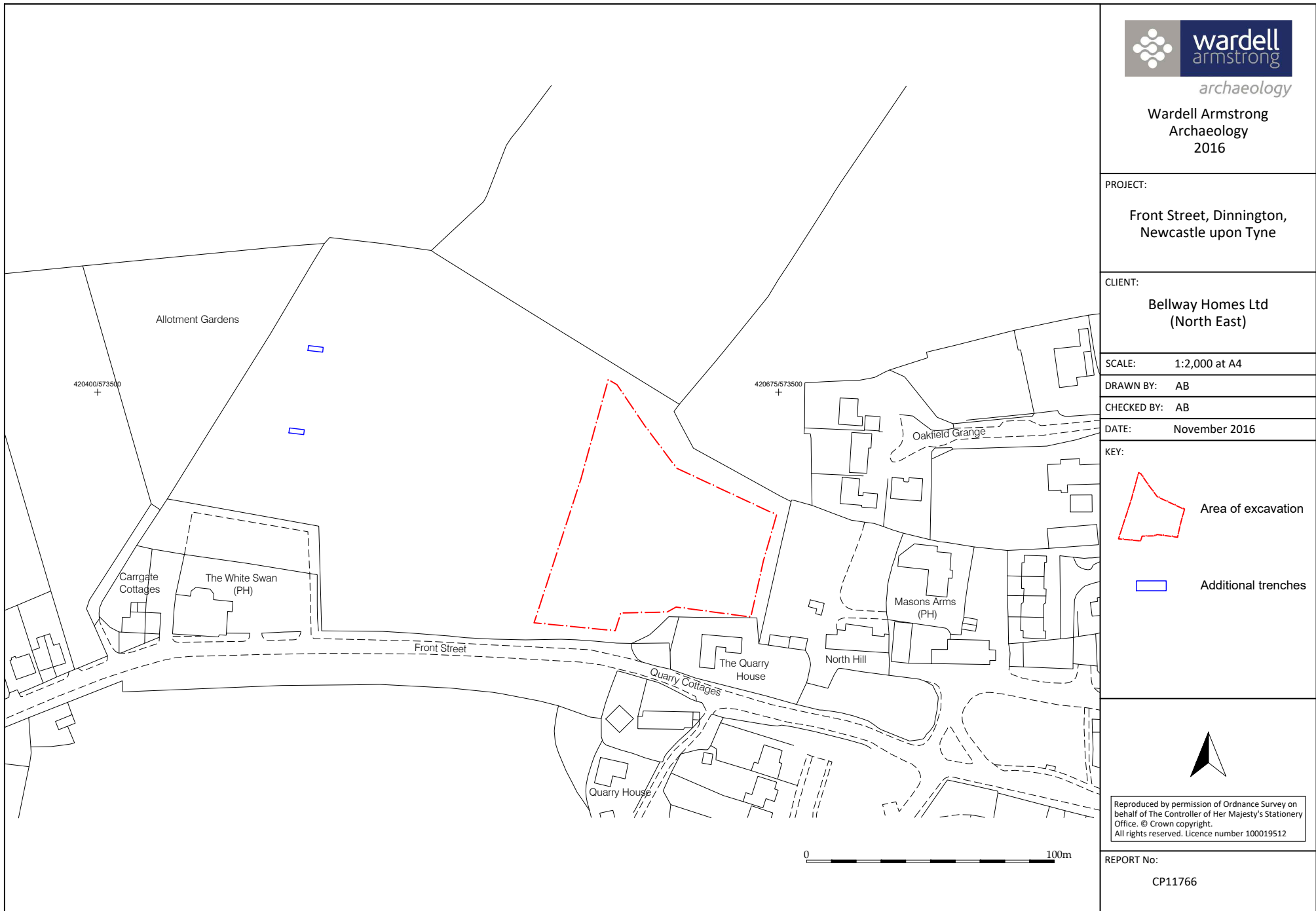


Figure 2: Detailed site location.

PROJECT:

Front Street, Dinnington,
Newcastle upon Tyne

CLIENT:

Bellway Homes
(North East)


SCALE: 1:400 at A3

DRAWN BY: AB/HP

CHECKED BY: AB

DATE: November 2016

KEY:

 Limit of excavation



REPORT No:

CP11766

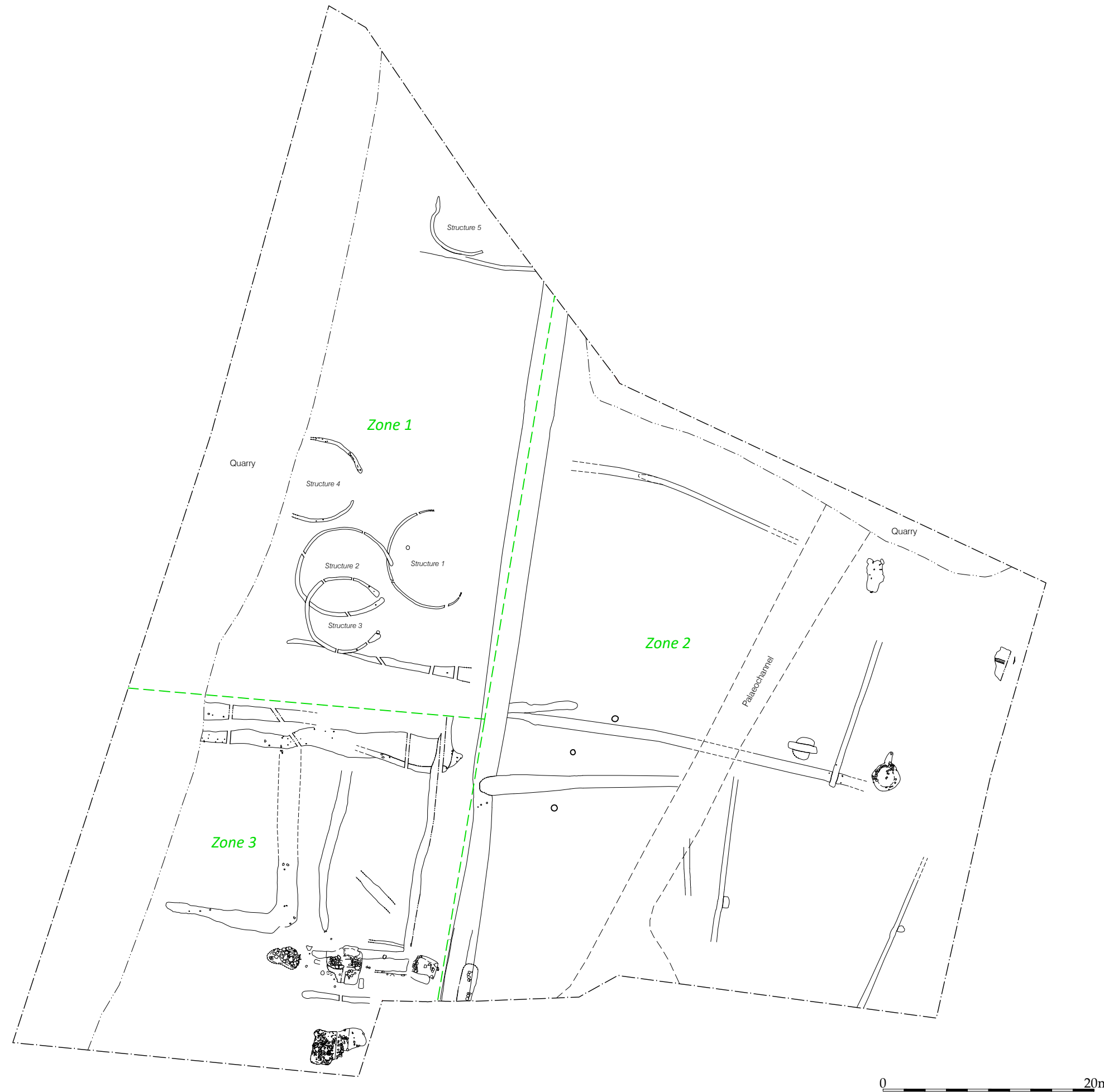
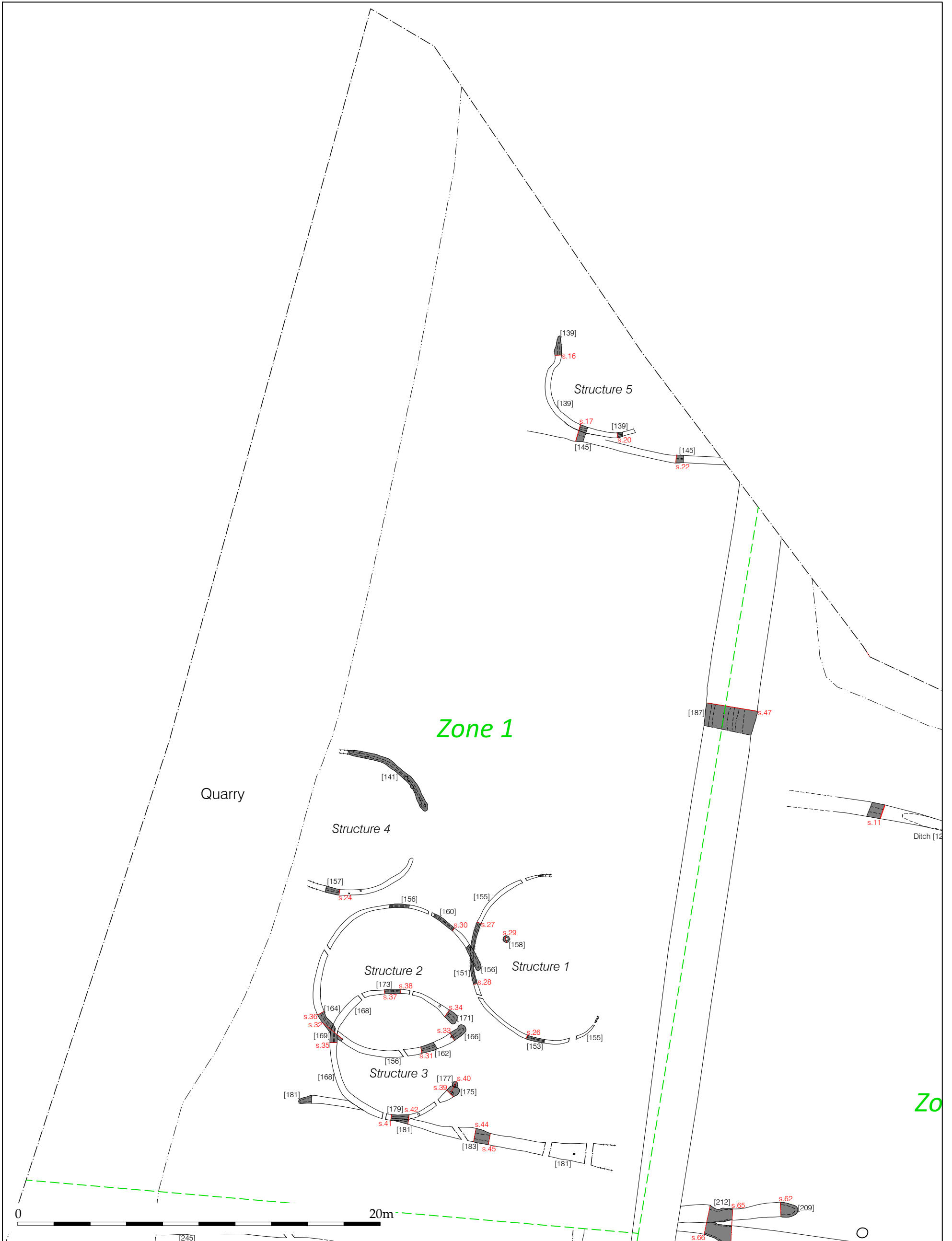


Figure 3: Site plan showing zones 1, 2 and 3.





 <p>Wardell Armstrong Archaeology 2016</p>	<p>PROJECT: Front Street, Dinnington, Newcastle upon Tyne</p> <p>CLIENT: Bellway Homes (North East)</p> <p>SCALE: 1:200 at A3</p> <p>DRAWN BY: AB/HP</p> <p>CHECKED BY: Initials</p> <p>DATE: November 2016</p> <p>REPORT No: CP11766</p>	<p>KEY:</p> <ul style="list-style-type: none"> (101) Context numbers Section location Limit of excavation Excavated portion of feature 	
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Figure 4: Plan; zone 1.

PROJECT:

Front Street, Dinnington,
Newcastle upon Tyne

CLIENT:

Bellway Homes (North East)



SCALE: 1:20 at A3

DRAWN BY: HP

CHECKED BY: AB

DATE: November 2016

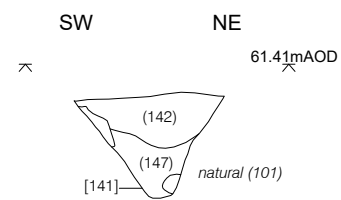
KEY:

- (101) Context number
-  Height mAOD
-  Limit of excavation

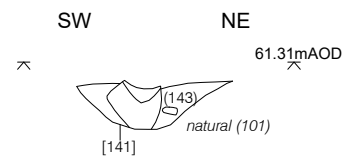


REPORT No:

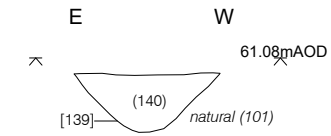
CP11766



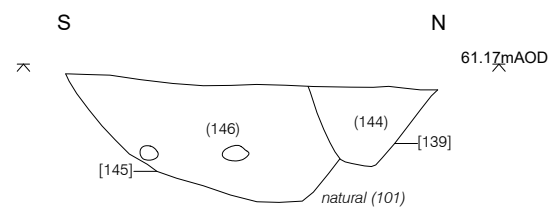
Section 13. South-east facing section
across Gully [141].



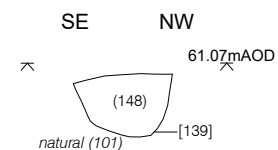
Section 14. South-east facing section
across Gully [141].



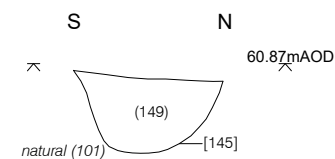
Section 16. North facing section
across Gully [139].



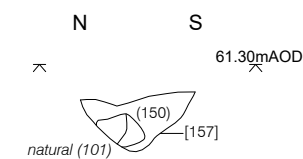
Section 17. East facing section across Gully
[139] and Ditch [145].



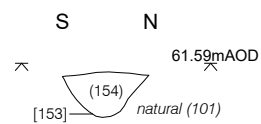
Section 20. North-east facing section
across Gully [139].



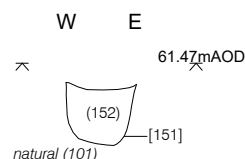
Section 22. East facing section
across Ditch [145].



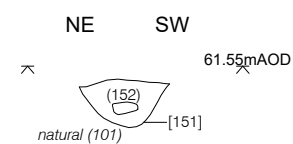
Section 24. West facing section
across Gully [157].



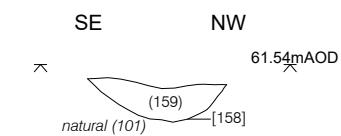
Section 26. East facing section
across Gully [153].



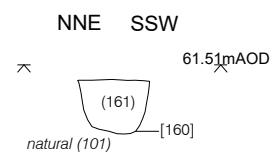
Section 27. South facing section
across Gully [151].



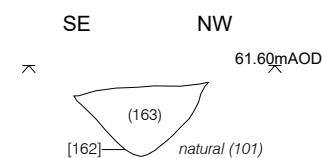
Section 28. North-west facing section
across Gully [151].



Section 29. North-east facing section
across Gully [158].



Section 30. WNW facing section
across Gully [160].



Section 31. North-east facing section
across Ditch [162].



Figure 5: Sections; Zone 1 (1).

PROJECT:
Front Street, Dinnington,
Newcastle upon Tyne

CLIENT:
Bellway Homes (North East)

SCALE: 1:20 at A3

DRAWN BY: HP

CHECKED BY: AB

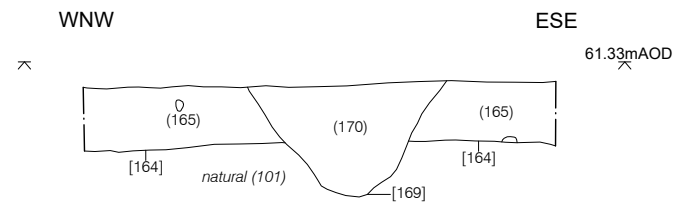
DATE: November 2016

KEY:

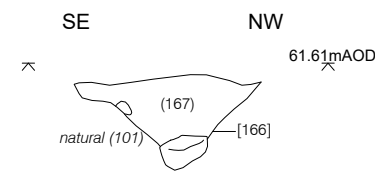
- (101) Context number
- Height mAOD
- Limit of excavation



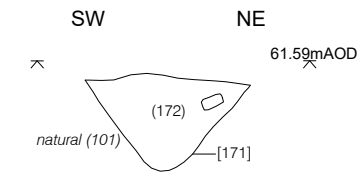
REPORT No:
CP11766



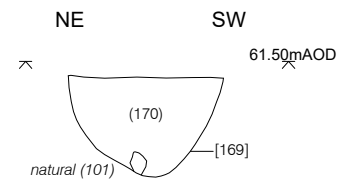
Section 32. SSW facing section across Gullies [164] and [165].



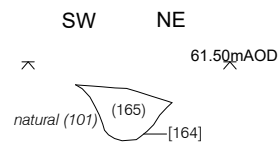
Section 33. North-east facing section across Gully [166].



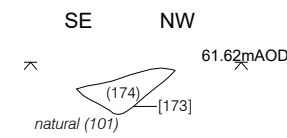
Section 34. South-east facing section across Gully [171].



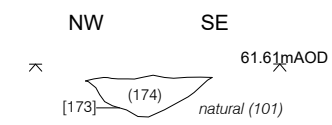
Section 35. North-west facing section across Gully [169].



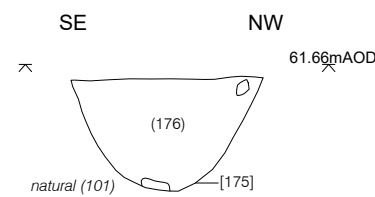
Section 36. South-east facing section across Gully [164].



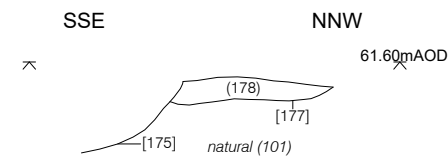
Section 37. North-east facing section across Gully [173].



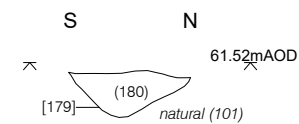
Section 38. South-west facing section across Gully [173].



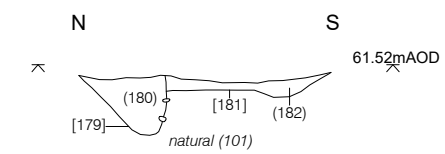
Section 39. North-east facing section across Gully [175].



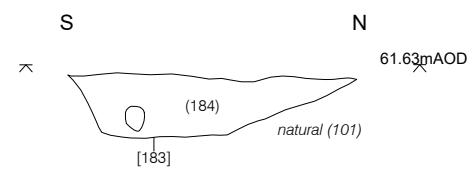
Section 40. ESE facing section across Posthole [177].



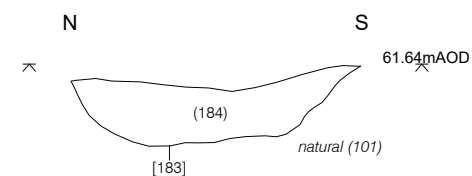
Section 41. East facing section across Gully [179].



Section 42. West facing section across Gully [179] and Ditch [181].



Section 44. East facing section across Ditch [183].



Section 45. West facing section across Ditch [183].



Figure 6: Sections; Zone 1 (2).

PROJECT:
Front Street, Dinnington,
Newcastle upon Tyne

CLIENT:
Bellway Homes
(North East)

SCALE: 1:200 at A3

DRAWN BY: AB/HP

CHECKED BY: AB

DATE: November 2016

KEY:

- (101) Context numbers
- Section location
- Limit of excavation
- Excavated portion of feature



REPORT No:
CP11766

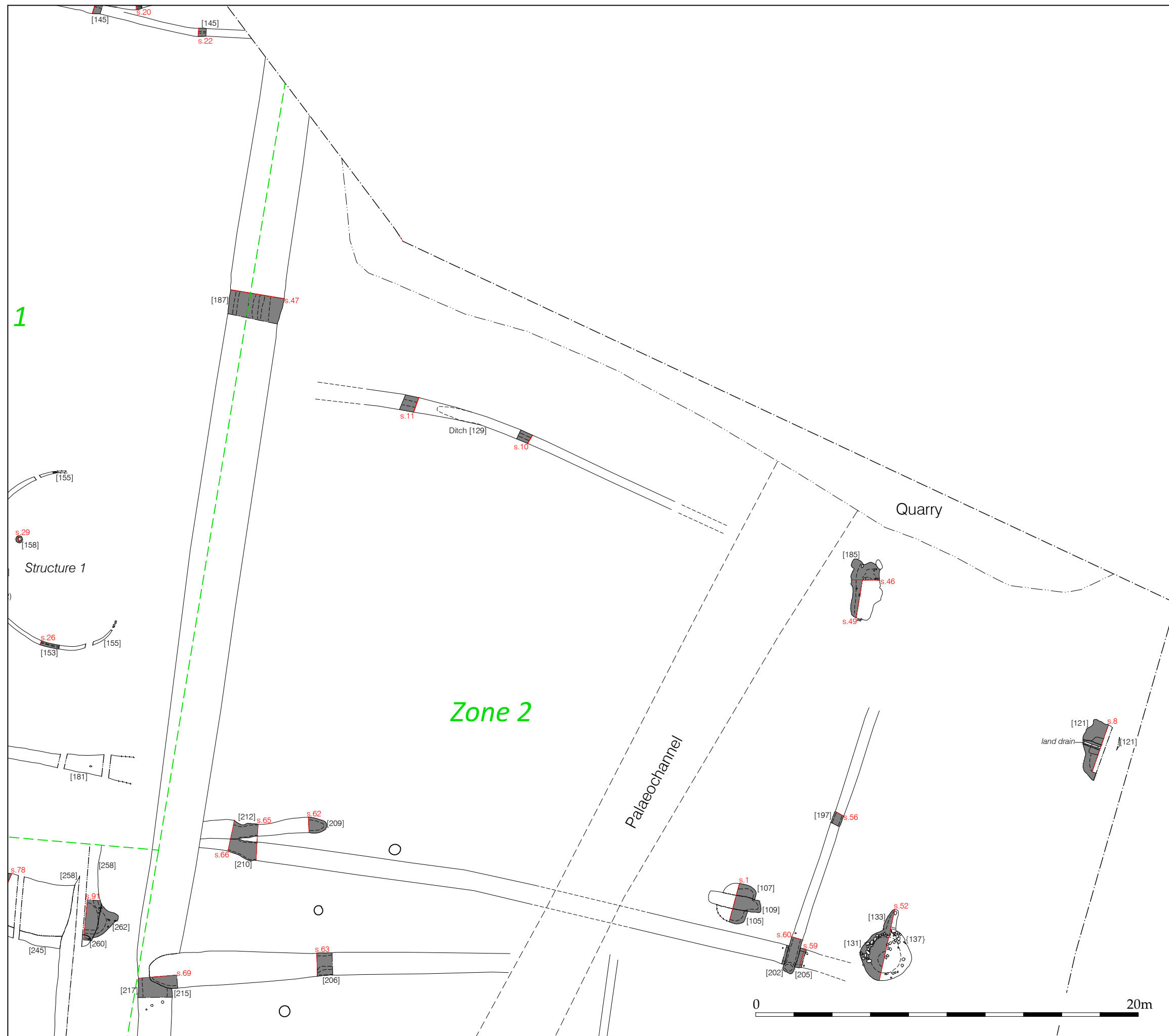
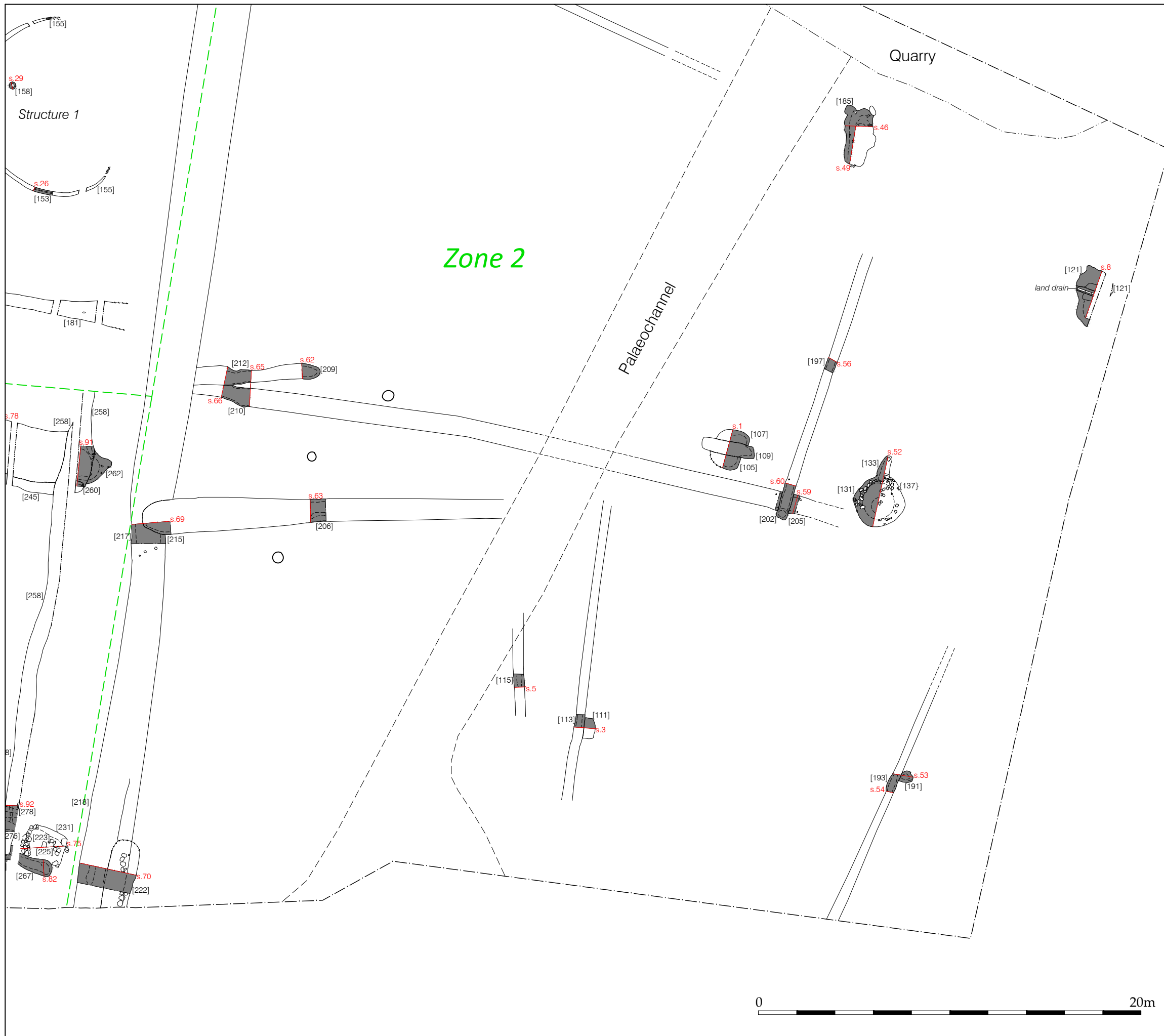


Figure 7: Plan; northern area of Zone 2.



PROJECT:
 Front Street, Dinnington,
 Newcastle upon Tyne

CLIENT:
 Bellway Homes
 (North East)

SCALE: 1:200 at A3

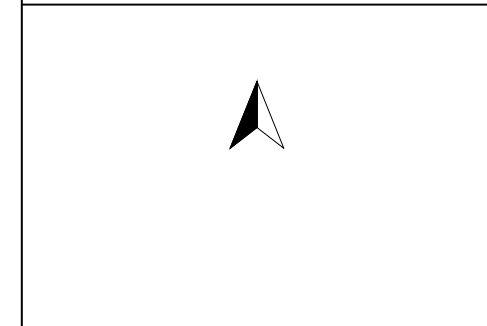
DRAWN BY: AB/HP

CHECKED BY: AB

DATE: November 2016

KEY:

- (101) Context numbers
- Section location
- Limit of excavation
- Excavated portion of feature



REPORT No:
 CP11766

Figure 8: Plan; southern area of Zone 2.

PROJECT:

Front Street, Dinnington,
Newcastle upon Tyne

CLIENT:

Bellway Homes (North East)

SCALE: 1:20 at A3

DRAWN BY: HP

CHECKED BY: AB

DATE: November 2016

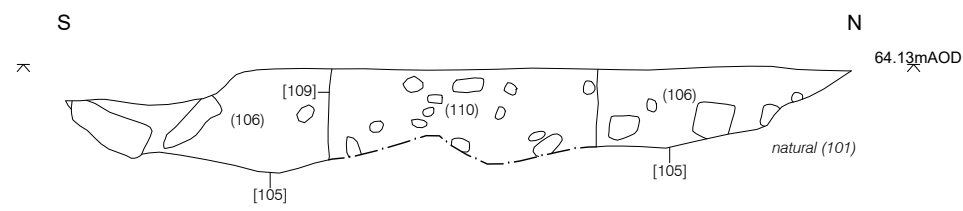
KEY:

- (101) Context number
- Height mAOD
- Limit of excavation

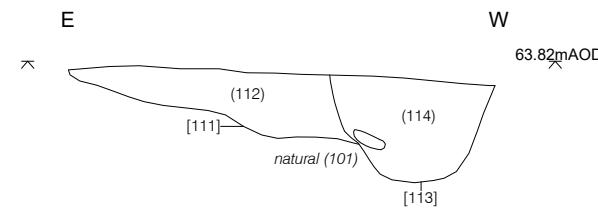


REPORT No:

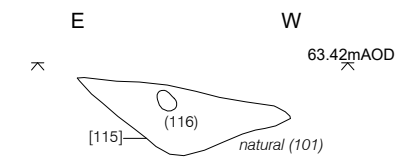
CP11766



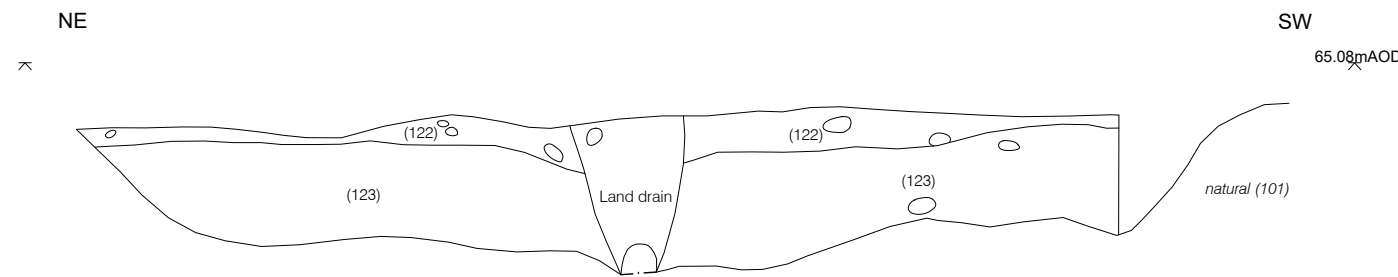
Section 1. East facing section across Pit [105] and Feature [109].



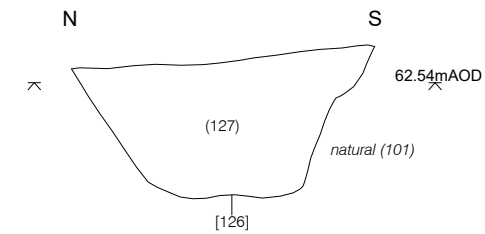
Section 3. North facing section across Ditch [111] and Pit [113].



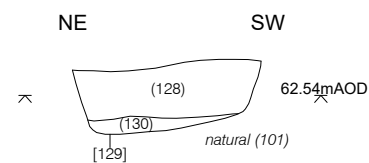
Section 5. North facing section across ditch [115].



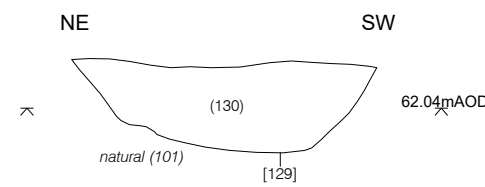
Section 8. North-west facing section across Pit [121].



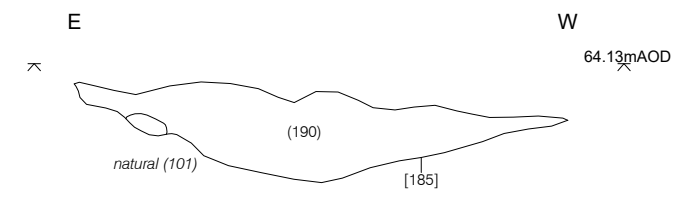
Section 9. West facing section across ditch [126].



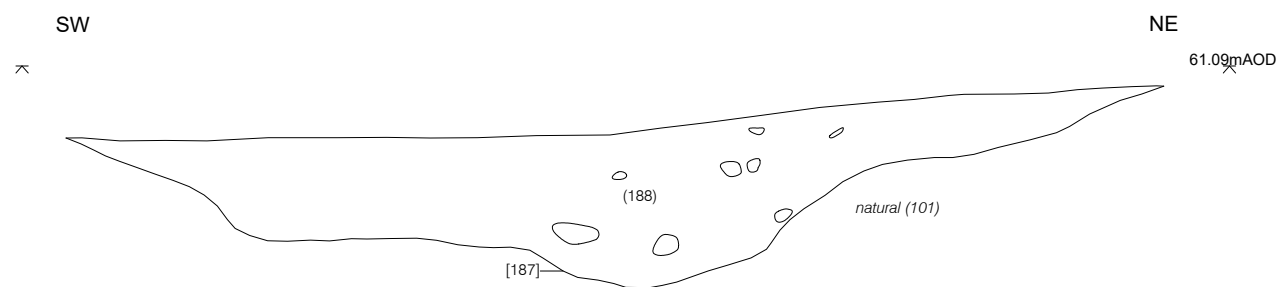
Section 10. North-west facing section across ditch [129].



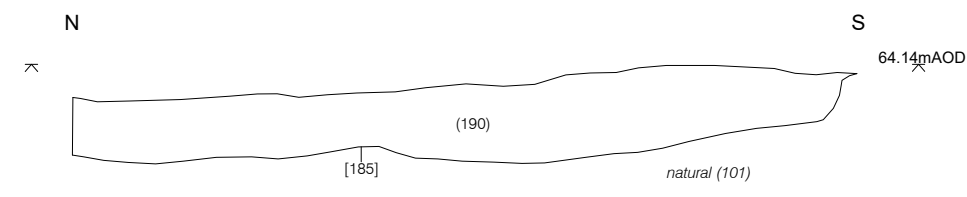
Section 11. North-west facing section across ditch [129].



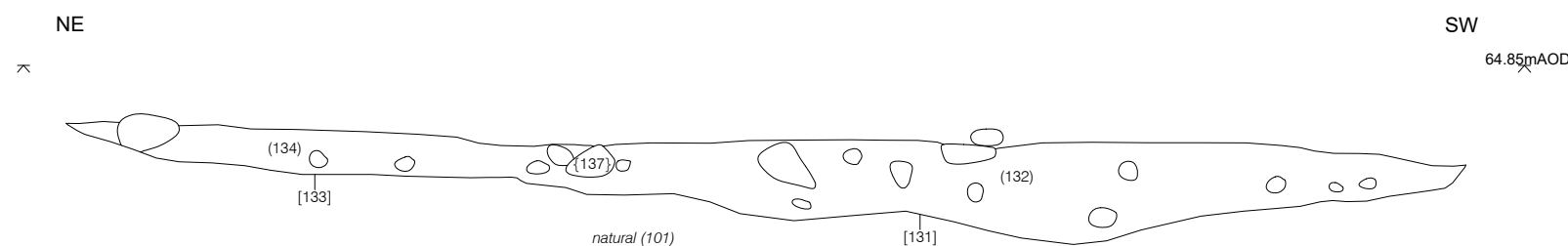
Section 46. North facing section across Pit [185].



Section 47. South-east facing section across Ditch [187].



Section 49. West facing section across Pit [185].



Section 52. North-west facing section across Kiln [131] and Flue [133].



Figure 9: Sections; Zone 2 (1).

PROJECT:
Front Street, Dinnington,
Newcastle upon Tyne

CLIENT:
Bellway Homes (North East)

SCALE: 1:20 at A3

DRAWN BY: HP

CHECKED BY: AB

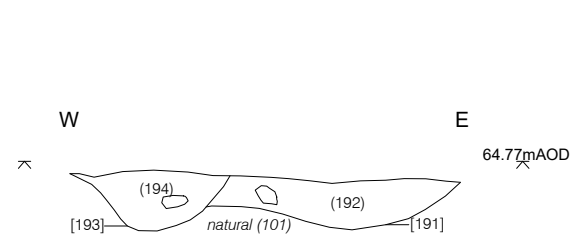
DATE: November 2016

KEY:

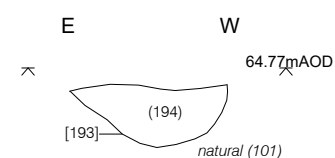
- (101) Context number
- Height mAOD
- Limit of excavation



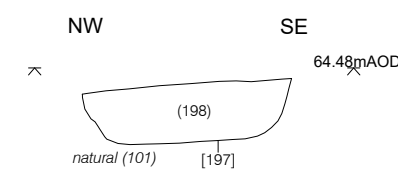
REPORT No:
CP11766



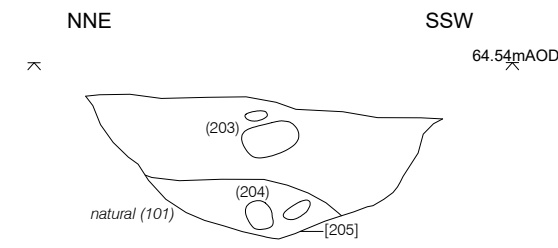
Section 53. South facing section across Pit [191] and Ditch [193].



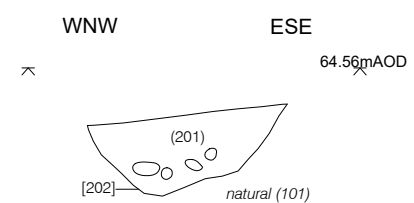
Section 54. North facing section across Ditch [193].



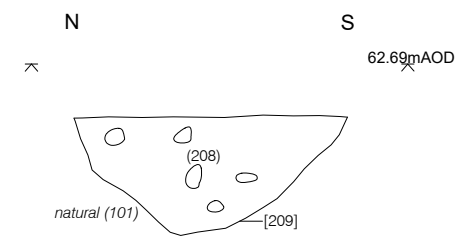
Section 56. South-west facing section across Ditch [197].



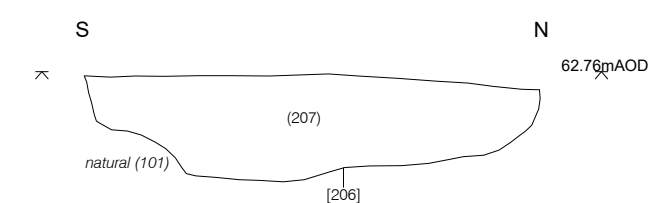
Section 59. WNW facing section across Ditch [205].



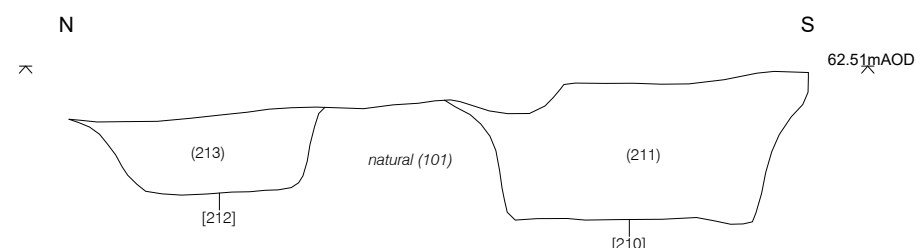
Section 60. SSW facing section across Ditch [201].



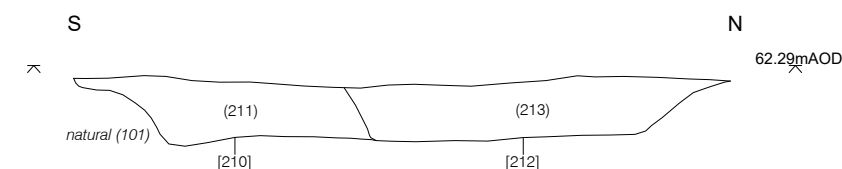
Section 62. West facing section across Ditch [209].



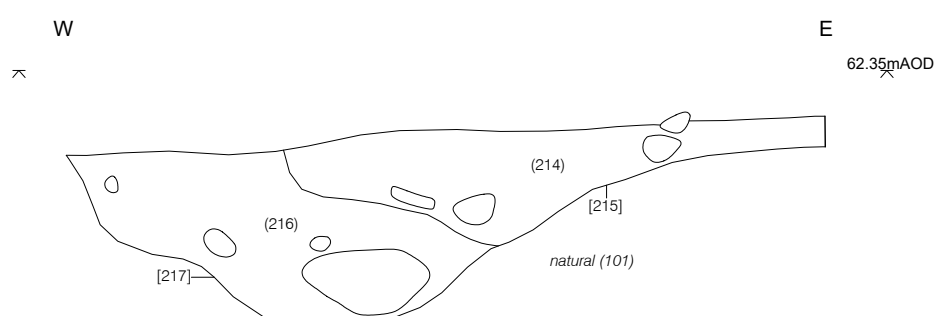
Section 63. East facing section across Ditch [206].



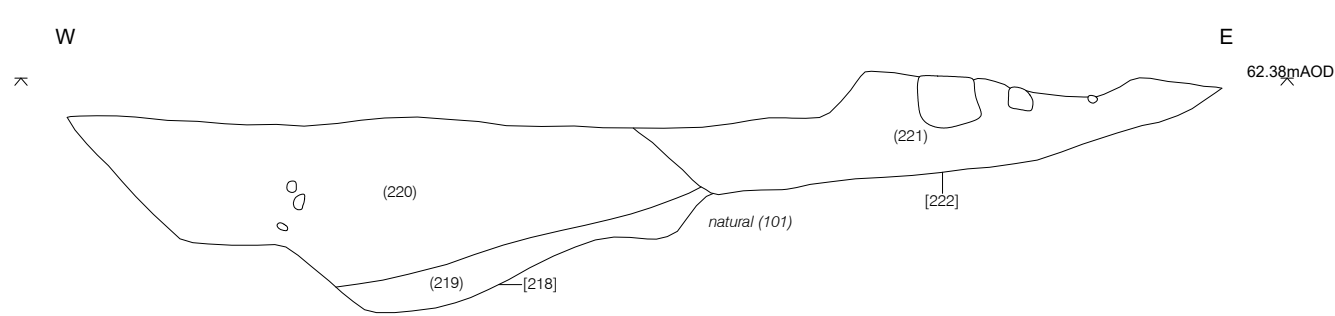
Section 65. East facing section across Ditches [210] and [212].



Section 66. East facing section across Ditches [210] and [212].



Section 69. South facing section across Ditch terminus [215] and Ditch [217].



Section 70. South facing section across Ditches [218] and [222].



Figure 10: Sections; Zone 2 (2).

PROJECT:

Front Street, Dinnington,
Newcastle upon Tyne

CLIENT:

Bellway Homes
(North East)





SCALE: 1:200 at A3

DRAWN BY: AB/HP

CHECKED BY: AB

DATE: November 2016

KEY:

-  Context numbers
-  Section location
-  Limit of excavation
-  Excavated portion of feature



REPORT No:

CP11766

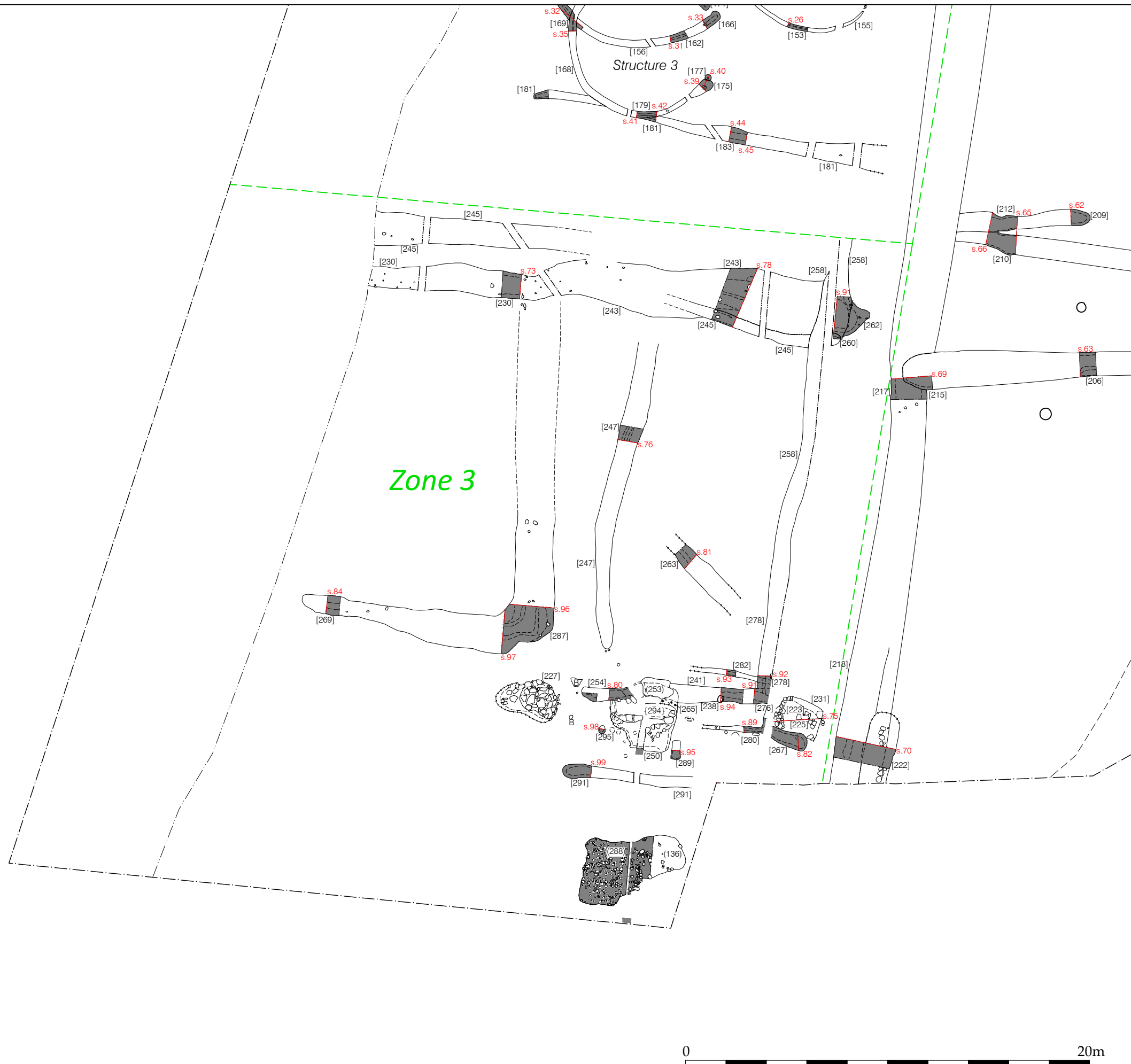


Figure 11: Plan; Zone 3.

PROJECT:

Front Street, Dinnington,
Newcastle upon Tyne

CLIENT:

Bellway Homes (North East)



SCALE: 1:20 at A3

DRAWN BY: HP

CHECKED BY: AB

DATE: November 2016

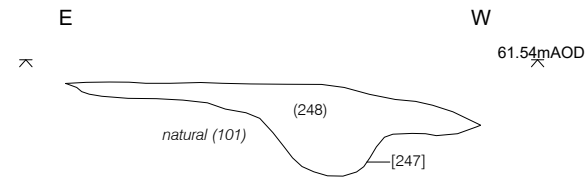
KEY:

- (101) Context number
-  Height mAOD
-  Limit of excavation

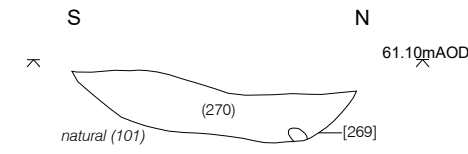


REPORT No:

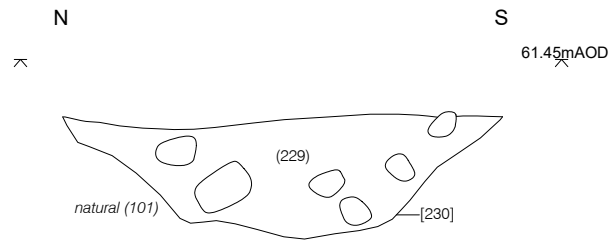
CP11766



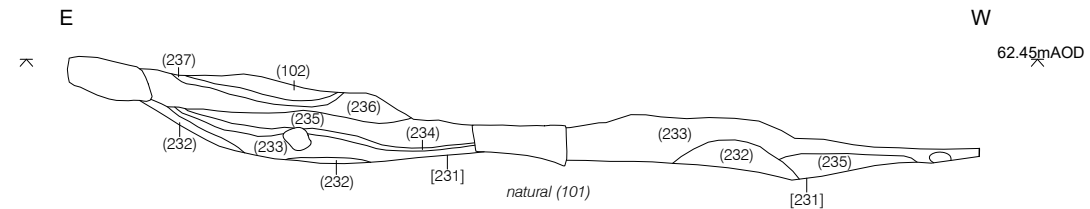
Section 76. North facing section across Ditch [247].



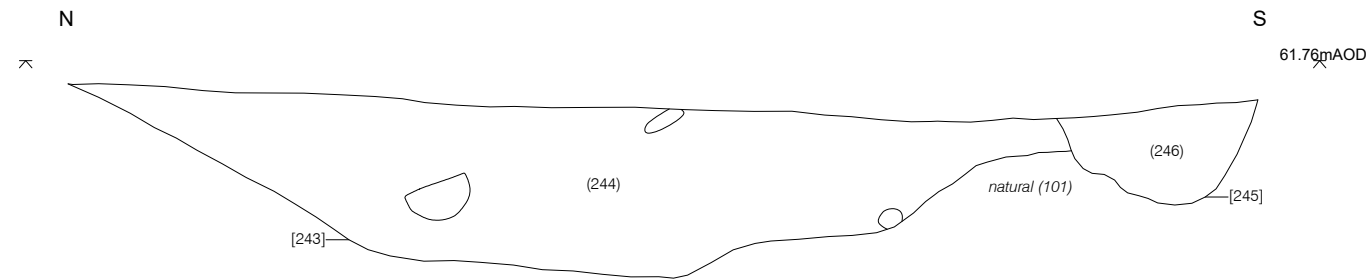
Section 84. East facing section across Ditch [269].



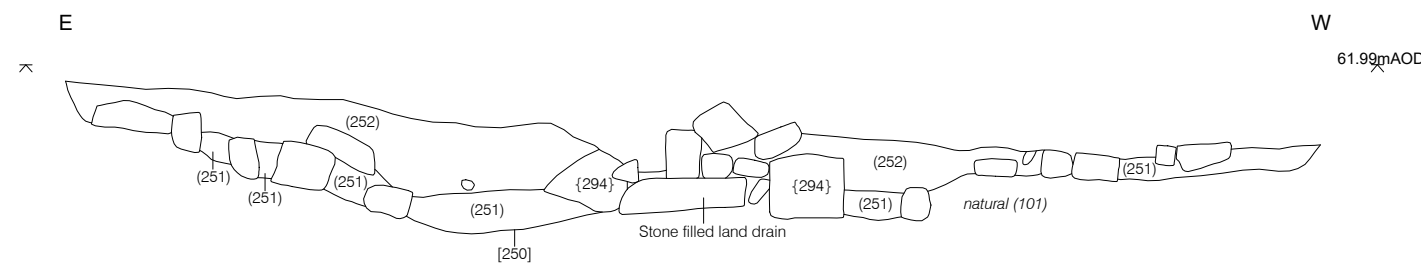
Section 73. West facing section across Ditch [230].



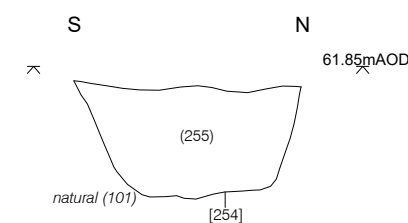
Section 75. North facing section across Pit [231].



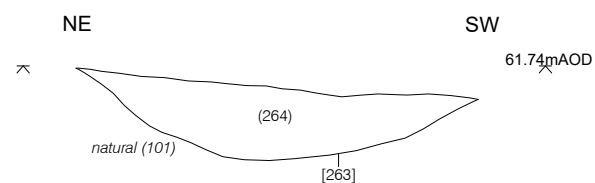
Section 78. West facing section across Ditches [243] and [245].



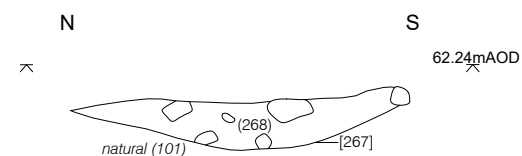
Section 79. North facing section across Kiln [250].



Section 80. East facing section across Ditch [254].



Section 81. North-west facing section across Ditch [263].



Section 82. West facing section across Ditch [267].



Figure 12: Sections; Zone 3 (1).

PROJECT:

Front Street, Dinnington,
Newcastle upon Tyne

CLIENT:

Bellway Homes (North East)

SCALE: 1:20 at A3

DRAWN BY: HP

CHECKED BY: AB

DATE: November 2016

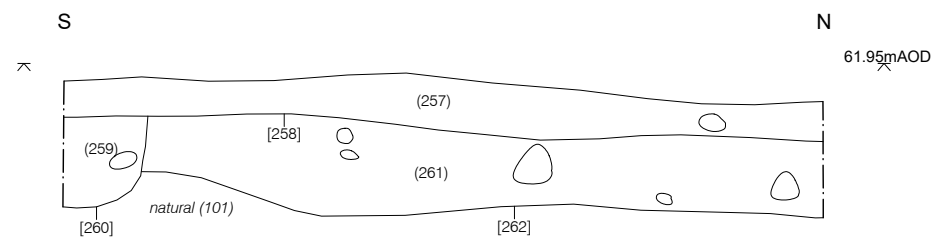
KEY:

- (101) Context number
- Height mAOD
- Limit of excavation

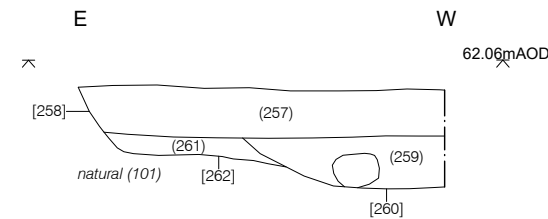


REPORT No:

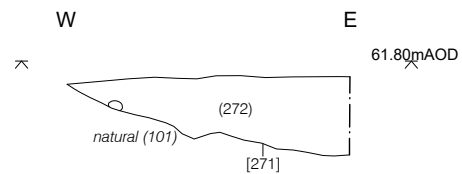
CP11766



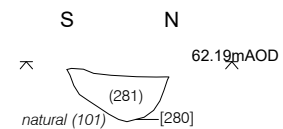
Section 85. East facing section across Ditches [258], [260] and [262].



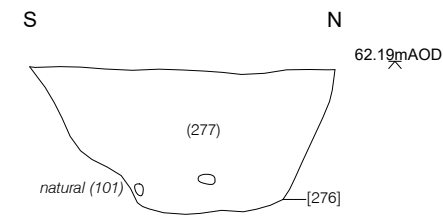
Section 86. North facing section across Ditches [258], [260] and [262].



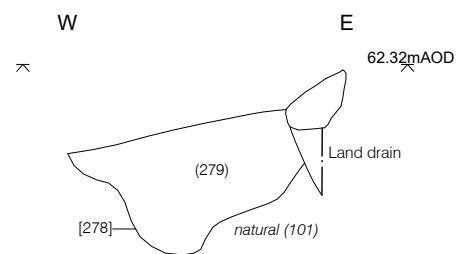
Section 87. South facing section across Ditch [271].



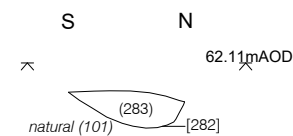
Section 89. East facing section across Ditch [280].



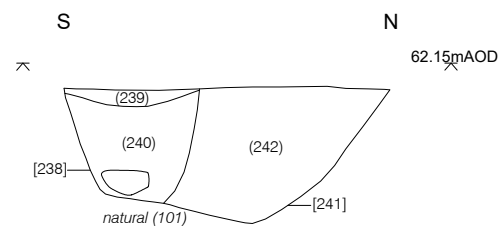
Section 91. East facing section across ditch [276].



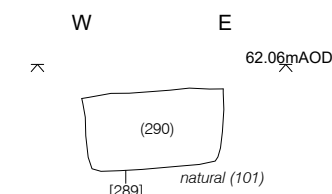
Section 92. South facing section across Ditch [278].



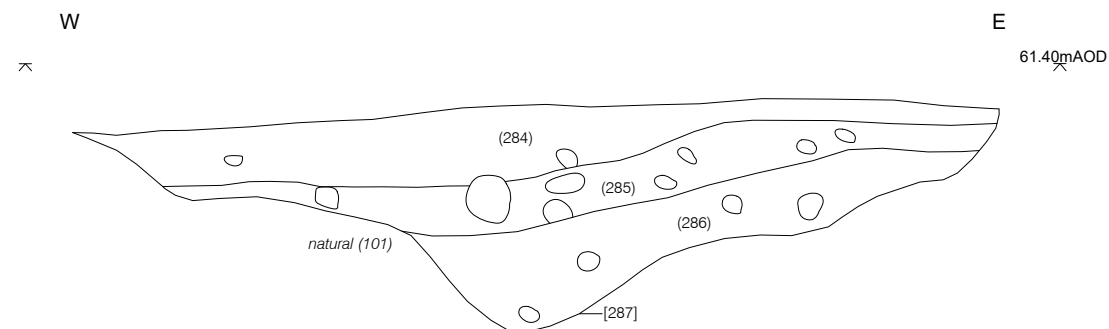
Section 93. East facing section across Ditch [282].



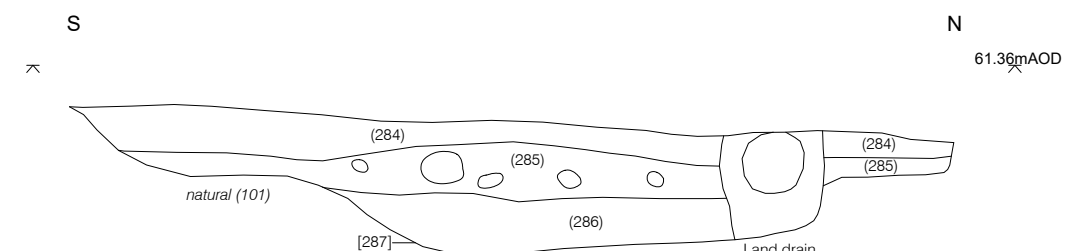
Section 94. East facing section across Posthole [238] and Ditch [241].



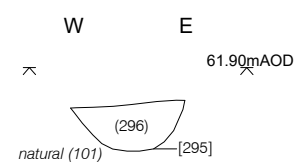
Section 95. South facing section across Pit [289].



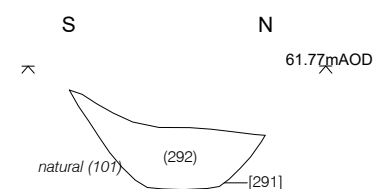
Section 96. South facing section across Ditch [287].



Section 97. East facing section across Ditch [287].



Section 98. South facing section across Posthole [295].



Section 99. East facing section across Ditch [291].



Figure 13: Sections; Zone 3 (2).

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Suite 2/3, Great Michael House
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LONDON
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NEWCASTLE UPON TYNE
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PENRYN
Tremough Innovation Centre
Tremough Campus
Penryn
Cornwall
TR10 9TA
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Chapelton
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Wardell Armstrong Archaeology:

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