

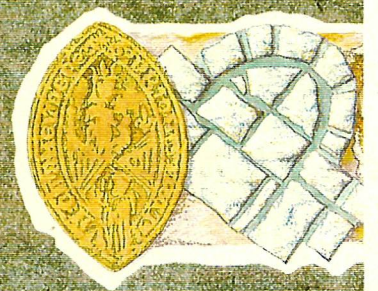
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S U A T

SCOTTISH  
URBAN  
ARCHAEOLOGICAL  
TRUST

AN ARCHAEOLOGICAL  
WATCHING BRIEF  
*at*  
THE MEADOWS  
BUSINESS PARK  
DORNOCH



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SCOTTISH URBAN ARCHAEOLOGICAL TRUST LTD

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AN ARCHAEOLOGICAL  
WATCHING BRIEF  
*at*  
THE MEADOWS  
BUSINESS PARK  
DORNOCH

**HIGHLAND COUNCIL**  
**Cultural and Leisure Services**  
**ARCHAEOLOGY SERVICE**

**Project brief for archaeological work  
commissioned by the Archaeology Service**

**THE MEADOWS BUSINESS PARK, DORNOCH**

**Archaeological Watching Brief**

**Background**

**Terms of Reference**

This brief is for a *minimum* standard of work; a higher standard may be offered and accepted.

This brief is for archaeological recording work at The Meadows, Dornoch occasioned by planning application no. SU/1995/112.

The project should be carried out by, or under the immediate direction of, a Member of the Institute of Field Archaeologists or an archaeologist of equivalent standing, to ensure that work is carried out to professional standards.

The area to be covered is the entire wayleave except where otherwise indicated.

**Objectives**

1. To record, to professional standards, any features and objects of archaeological importance that will be damaged or destroyed by this development.

**Method**

A watching brief will be conducted on site groundworks so that any finds or features of importance can be recorded to professional standards.

The archaeologist will need to work closely with those carrying out site works who will be requested to provide all necessary access and other arrangements

Where this is a watching brief for road, water, or sewerage proposals the specification includes drainage and other ancillary works as well as the carriageway itself.

**Monitoring**

1. The Highland Archaeologist will normally monitor projects to ensure that briefs are met.

2. Monitoring will normally be by unannounced site visit. Alternative or additional monitoring arrangements may be made in individual cases.

3. Prior notice of fieldwork starting dates, with contact names and local addresses, telephone numbers and directions and other arrangements for access must be given to the Highland Archaeologist.

4. Any unexpectedly significant or complex discoveries, or any other unexpected occurrences or conditions which might affect the agreed project work or its timetable or cost must be notified immediately to the Highland Archaeologist so that revised arrangements can be made.

Reasons given later for non-completion to brief given, agreed budget, or timetable will not normally be accepted if immediate notification has not taken place.

### Reporting

#### 1. Project report

At least FIVE copies of the project report must be produced.

- \* Two copies to be supplied to S. Sutherland, Area Property and Architectural Services Manager, The Highland Council, The Meadows, Dornoch.
- \* Two copies for the Highland Sites and Monuments Record, Old School, High Street, Clachnaharry, Inverness where it will be available for immediate consultation by the public.
- \* One copy to be deposited in the National Monuments Record for Scotland, John Sinclair House, 16 Bernard Terrace, Edinburgh EH8 9NX.

The report must be submitted to the Highland Archaeologist within 3 weeks of the completion of the work.

The report must include, as a minimum,

1. Location plan showing the project area and archaeological sites and features affected
2. Circumstances and objectives of this work, including a copy of this specification
3. Weather and other conditions affecting fieldwork
4. Plans, drawings and photographs of archaeological features noted
5. A full index to any records or other material generated by the project including its location
6. Details of any measures proposed to mitigate the impact of the application on the archaeological resource
7. A brief analysis of the project results drawing in comparative data as appropriate.
8. General comments and proposals for future archaeological projects arising from the carrying out of this project
9. Proposals for presentation of project results to the local community.

The completed report will be available for immediate public consultation for research purposes at the Highland Sites and Monuments Record.

2. Treasure Trove

Any report to the Queen's and Lord Treasurer's Remembrancer must be copied to the Highland Archaeologist.

3. Discovery and Excavation in Scotland

A brief summary of the results must be sent to the Council For Scottish Archaeology for inclusion in Discovery and Excavation in Scotland. The archaeologist is responsible for any charge made.

General

1. The archaeologist appointed must be of a professional standing acceptable to the Highland Archaeologist and must carry out the work according to the Code of Conduct, standards and guidelines of the Institute of Field Archaeologists.
2. The archaeologist is responsible for taking all necessary measures to conform with the Health and Safety at Work Acts and be covered by all necessary insurances.
3. The archaeologist must agree a timetable for the work with the client and the Highland Archaeologist
4. The archaeologist appointed will not comment to the press or other media without prior approval from the Highland Archaeologist
5. Proper provision must be made for prevailing weather conditions in northern Scotland
6. Failure to meet any part of the contract may result in non-payment for work undertaken. The Highland Archaeologist further reserves the right not to invite tenders for future work from contractors who fail to meet required standards.

John Wood  
May 1997

wbbrf.doc

## A WATCHING BRIEF

AT

### MEADOWS BUSINESS PARK, DORNOCH

#### abstract

A watching brief was commissioned by Highland Council Archaeology Service and carried out jointly by Resurgam! and the Scottish Urban Archaeological Trust in May 1997. The site lay to the south of the former Bishop's Palace (now Bishops Hotel) on the southern edge of the burgh of Dornoch. The watching brief involved monitoring ground works associated with the development of a new business park and was carried out between Monday 19th May and Tuesday 27th May 1997, to a specification prepared by Highland Council Archaeology Service. A range of features was recorded including possible buildings, ditched enclosures and evidence for metalworking all sealed below a deep deposit of medieval cultivation soil. Finds, some of which were recovered by a local metal detectorist, included large quantities of metal slag and burnt clay, medieval small finds such as buckles, horse fittings, coins, medieval and early medieval pottery, animal bone, shell and leather.

#### 1 Introduction

- 1.1 A watching brief was commissioned by Highland Council Archaeology Service and carried out jointly by Resurgam! and the Scottish Urban Archaeological Trust. The site lay to the south of the former Bishops Palace (now Bishops Hotel) on the southern edge of the burgh of Dornoch and just outside the area of archaeological interest as defined in *Historic Dornoch: The Archaeological Implications of Development* (Scottish Burgh Survey, Simpson & Stevenson, 1982) figures 1 & 2. The work involved monitoring ground works associated with the development of a new business park and was carried out over a period of 8 days between Monday 19th May and Tuesday 27th May 1997, to a specification prepared by Highland Council Archaeology Service.

#### 2 Site Location

- 2.1 The site lies on the south side of The Meadows, the road that runs parallel with, and to the south of, the main thoroughfare of the burgh, Castle Street figure 2. The former Bishop's Palace lies immediately to the north. The development area has been under grass since at least the First Edition OS map of the burgh and is also known as The Glebe. The former manse, now the Highland Council offices, stands at the south-west corner of the site, while on the east side stands a recently closed abattoir, now partly in use as a joinery and garage. On The Meadows frontage stands the newly built (but not yet opened) Dornoch Heritage Trust centre, with adjoining car park. To the south of the site, the low lying fields stretch uninterrupted to the Dornoch Firth.

### 3 Early History and Burgh Morphology

- 3.1 The first reference to settlement in Dornoch is contained in a writ by David I (1127 x 1153). Recorded in the Dunfermline Abbey register, it has led to the suggestion that monks from Dunfermline had established a cell in Dornoch. Alternatively, it could refer to an earlier community. Dornoch is traditionally associated with St Barr or St Finbarr and it has long been held that a community of culdee monks had established a cell there.
- 3.2 David's first bishop in Caithness was Andrew. A Scotsman who had been a Benedictine monk at Dunfermline, he was largely an absentee. His appointment by about 1147 is, however, seen as a deliberate policy of detaching this remote and partly Norse-speaking Scottish province from the Norse-ruled earldom of Orkney. It was not until the 13th century that the *see* was moved from Norse-dominated Halkirk to the more southerly church of Dornoch in the Gaelic-speaking part of the diocese. It was only with the establishment of the Scottish lines of earls of Caithness after 1231, and during the episcopate of Bishop Gilbert, that the church at Dornoch was built or rebuilt, and developed as the cathedral of the diocese. It was largely destroyed in a fire in 1570.
- 3.3 The Bishop's Palace, which stands to the south and directly opposite the cathedral, is basically late 15th-century in date with some mid 16th-century reconstruction. Extensive rebuilding and renovation was carried out in 1813 to achieve its present appearance. The palace is thought to have comprised three towers and formerly extended across what is now Castle Street towards the cathedral. Like the cathedral, it was largely destroyed in the fire of 1570. The palace of Bishop Gilbert, the builder of the cathedral, may have been on the same site.
- 3.4 Other than the cathedral and Bishop's Palace, little is known of medieval settlement here, and the town was not officially recognised as a burgh until it received its charter from Charles I in 1628. The principal thoroughfare of the town is Castle Street, leading onto The Square, but these are late additions to the town plan and date to the early nineteenth century. Many of the buildings in High Street, the original thoroughfare and market place in the medieval period, which runs east to west on the north side of the Cathedral, were demolished around this time. Prior to the present watching brief, no archaeological work had been carried out in the burgh.

### 4 The Development

- 4.1 The development, to be known as The Meadows Business Park, will provide the infrastructure for up to 10 new business units (planning application SU/1995/112). This comprised the cutting of a new access road from The Meadows leading into the site, essential services and landscaping figure 3.

### 5 Methodology

- 5.1 Top soil, and what was later identified as medieval cultivation soil, was stripped off by machine down to the natural sand sub-soil and dumped in the adjacent field to the south of the site. Many of the small finds were recovered from here by a local metal

detectorist, Mr Mike Gallon.

- 5.2 The watching brief concentrated on monitoring the top soil stripping of the access road, an area measuring approximately 70 m in length and varying in width from between 10 - 15 m at its narrowest point at the western end widening to c 30 m at the entrance from The Meadows **figure 3**. The main part of the site, where the business units will be sited, had already been stripped. Once the topsoil had been removed, the floor of the trench was shovel-scraped and inspected for features. Due to constraints on time, and working within the contractors' timetable, the site was divided into three parts of roughly twenty metres in length each, as work progressed from the west end of the site to the entrance off The Meadows. All features were planned at scale 1:50, related to OD and photographed. Slots were excavated through each feature to obtain sketch profiles, soil descriptions and finds, with information recorded on context sheets. Soil samples were taken from a number of features, including pit fills, ditch fills, possible hearths and from the cultivation soils sealing much of the site. Once a basic record had been made, as many features as possible were rapidly excavated to retrieve finds.
- 5.3 The weather was variable for the first two days, with wind and rain hampering shovel scraping and cleaning. Towards the end of the project, the hot weather dried out the site (sand) and made identifying stratigraphic relationships difficult.
- 5.4 The watching brief produced considerably more than was anticipated and only a brief summary of the results was possible within the confines of a standard watching brief report. The site archive - lists of contexts, plans, photographs, soil samples and finds - is summarised as a series of appendices at the end of this report.

## **6 The Results (figure 4)**

### **6.1 post-medieval ditch**

Virtually all the features recorded within the main trench appeared to have been sealed by a thick deposit of cultivation soils 02. One exception is ditch 27, which truncated a number of other features at the eastern of the main trench. The ditch was seen in the main North section where it measured c 3-4 m wide and had been cut to a depth of c 1.5 m. The west side of the ditch cut was visible in plan in the floor of the main trench and its possible north side was briefly exposed in plan close to the edge of The Meadows. As the ditch was cut through the cultivation soil, which appears to have gone out of use about the early to mid 17th century, the ditch may be Cromwellian or Jacobite in date. An oval pit 49 containing a worked bone awl had been cut through the ditch on the east side.

### **6.2 medieval cultivation soil**

A thick, homogeneous deposit of possible cultivation soil 02 was extensive across much of the site and varied in depth between 0.55 m and 0.75 m. A large assemblage of medieval and post-medieval finds was recovered from this feature, much of it by a local metal detectorist - see Finds index below. These included coins, brooches, buckles, a mirror case, pottery, slag and animal bone. The pottery assemblage



suggests a 13th to 14th century date for the earliest working of these soils, but with activity continuing through to the 17th century.

### 6.3 west end - metalworking debris, ditch and cut features

At the western end of the main trench, and sealed by the cultivation soil 02, the southern side of a curvilinear ditch 18 and a number of cut features 14, 16, 20 and 22 truncated an extensive deposit of disturbed natural sub-soil 23. Most importantly, layer 23 contained large quantities of slag and burnt clay. A *tuyere* was also recovered. This area lay within what appeared to be a hollow in the sand dunes, with a N-S aligned strip of reddened sand 28 (possibly the truncated remains of a bank which may have been used in the metalworking process itself). Virtually no slag was recovered from the area to the east of this bank other than from the fills of features, and, therefore, the bank may have defined a metalworking zone.

### 6.4 east end - possible building and enclosure, ditches and pits

Truncating the possible turf bank was a large ditched enclosure 25, of which the west and north sides were traced in plan. Internally, it measured c 18 m from east to west and terminated at what appeared to be the entrance to a contemporary circular, or round-ended, building at the east end of the enclosure. The entrance 52 comprised a hollow in which layers of flat stones had been laid. The north and south sides of the building survived (the rest lay outwith the trench or had been truncated) and was represented by two shallow, parallel ditches, the inner the foundation for the wall 42, the outer possibly a drip trench 44.

The building appears to have measured internally 5 m N-S. Possibly contemporary, was a rectangular pit 59 filled with slag, hammerscale and at least one iron object, partly truncated by a later ditch 57. A similar feature 39 was also discovered within the enclosure, at the west end. This again contained slag, hammerscale and at least two iron objects. Both 39 and the stone-flagged entrance to the building 52 had been sealed by an extensive layer 37 filling an E-W aligned hollow.

Other features include two intercutting ditches 34, aligned E-W, which had been truncated by the post-medieval ditch, and several pits, one of which, pit 32, contained burnt bone and coarse pottery. Pit 36 was 0.4 m deep, and contained large packing stones in the upper fill.

## 7 Discussion

7.1 The medieval cultivation soils, which largely seal the site and thus preserved the earlier levels, have accumulated over several centuries, and contain a large assemblage of finds which will undoubtedly shed light on medieval Dornoch a period of which so little is known.

7.2 More detailed post-excavation analysis would shed light on the function of the features identified and establish a chronological framework for activity on this site. Even at this stage, there appears to be solid evidence for metalworking, both production (slag and furnace fragments) and manufacturing (hammerscale and objects *in situ*), possibly

within defined working areas, and there is at least one building with an associated enclosure. This phase of activity is possibly early medieval in date and would complement the work at nearby Portmahomack.

## **8 Recommendations**

- 8.1 Many of the features recorded during this watching brief continue beyond the main access road into the site and should not be disturbed further as part of this development. Once the business park is occupied, however, further development here is likely. Any new proposals should, therefore, be monitored and an appropriate programme of archaeological evaluation arranged as early as possible in the development.
- 8.2 The results of this work were too complex to report within the confines of a standard watching brief. Important information, for example, is contained within the soil samples collected, some of which are known to contain early pottery, animal bone, small finds and charcoal for possible radio-carbon dating as well as paleo-environmental data. The small finds, the bulk of which were recovered by metal detector, are currently held by SUAT, Mike Gallon, Inverness Museum and the National Museums of Scotland. These should be reported on as one assemblage and studied within the context of this site. The metalworking debris is a rare and potentially extremely important find and should be studied by an appropriate specialist.
- 8.3 A funded programme of post-excavation analysis is therefore recommended, integrating the stratigraphic, artefactual and ecofactual evidence. The publication of the results is also recommended in either a national or regional journal.
- 8.4 The archaeological work attracted considerable interest amongst the local community and a talk in Dornoch could be arranged as part of the Highland Archaeology Week programme.

## **9 acknowledgements**

- 9.1 Resurgam! and SUAT would like to acknowledge the curatorial role of Highland Council Archaeology Services in managing this project. The authors would also like to thank the members of the Tain Archaeology Group and students on the Certificate of Practical Archaeology at Inverness for coming down to help on Bank Holiday weekend; the contractors, C Miller of Wick, for their help and assistance; Mike Gallon the metal detectorist and Robin Hanley, Inverness Museum, and Nick Holmes, National Museums of Scotland for comments on the finds.

## **The pottery D W Hall**

This watching brief produced 31 sherds of pottery. Twenty seven of these are of medieval date. The assemblage is dominated by a gritty version of East Coast Redware which may be a local product. There is a small group of Yorkshire ware which includes an unusual small vessel which may be a container for pigment or unguent. Apart from the four sherds of Victorian china and earthenware there is nothing that suggests a date of any later than the 13th or 14th centuries.

### **Recommendations**

As this is the first assemblage of medieval pottery from Dornoch it certainly deserves a full report. The presence of a gritty version of East Coast redware is important and extends the distribution of this Scottish tradition. It is known that further sherds of pottery exist in the soil samples and these need to be examined and reported on.

Pottery Table

Fabric Key

ECR = East Coast Redware

WG = White Gritty ware

Yorks = Yorkshire Ware

Unid = Unidentified

Context	ECR	WG	Yorks	Unid	Modern
U/S (Metal detected off bunds)	0	0	4	0	0
U/S (Car park area)	1	0	0	0	0
U/S (assorted finds from sewage)	7	1	0	0	2
U/S (West End)	1	0	0	0	0
U/S	2	1	0	0	2
U/S (Main Area)	1	1	0	0	0
2	3	0	2	1	0
6	0	0	0	1	0
-----					
	16	3	6	2	4

Total sherd count = 31 (234g)

## Index of finds A Cox

Artefacts recovered during the site investigation have been allocated Find Numbers (FN) and are listed below:

Key:

\* X-ray or conservation required for further study  
(this would also be desirable for other objects; the  
ones marked \* represent an approximate minimum)

US Unstratified

<u>FN</u>	<u>Context</u>	<u>Material</u>	<u>Description</u>
1	2	Iron	Strip with toothed edge (saw blade?)
2	2	Cu Alloy	Perforated strip
3*	56	Iron	Fragment
4	US	Clay	Daub fragments?
5	2	Leather	Fragment
6	US	Clay pipe	Stem fragment (decorated)
7	US	Clay pipe	Stem fragment
8*	US	Cu Alloy	Bell with suspension loop
9	US	Cu Alloy	Fitting fragment
10	US	Cu Alloy	Perforated disc (boss or button component)
11	US	Glass	Small sherd of vessel glass (early modern)
12	US	Cu Alloy	Circular button
13	US	Cu Alloy	Fragment of buckle with part of buckle plate
14	US	Cu Alloy	Circular button
15	US	Cu Alloy	Circular button
16	48	Bone/Antler	Probable pin beater fragment
17*	38	Iron	Object with a curved edge (possible blade)
18*	38	Iron	Nail with circular head
19*	37	Iron	Nail with circular head

20*	38	Iron	Nail with circular head
21*	2	Iron	Angled nail with circular head, through broad disc
22	US	Cu Alloy	Circular button [18th-19th century type]
23	US	US	Object with a loop and a pronged terminal
24*	US	Cu Alloy	Rectangular object with projection
25*	US	Cu Alloy	Lobate stud or boss [?Medieval type]
26	US	Cu Alloy	Openwork brooch (early modern)
27	US	Lead Alloy	Facetted, decorated (punched) sphere
28	19	Stone	Five small, irregular sandstone fragments
29	6	Stone	Two small sandstone fragments (one has a flat face)
30	21	Stone	Five small sandstone fragments (two have flat faces)
31*	43	Iron	Curved strip
32	26	Stone	Disc with one slightly convex surface
33*	US	Cu Alloy	Strap end with decoration on one face
34*	US	Cu Alloy	Angled rod, tapering to a point
35*	US	Cu Alloy	Mount or badge with possibly zoomorphic decoration
36*	US	Cu Alloy	?Strap end fragment

#### Coins

\*Cu Alloy Coin (Charles I)

\*Cu Alloy Coin (mis-struck)

\*Cu Alloy Coin

\*Cu Alloy Coin

Cu Alloy Coin (1913 George V penny)

\*Coin: Mary Lion

\*Francis & Mary Lion (x2)

\*James VI Hardheads (x3)

\*James IV Plack

Also see separate list of metal-detected finds handed in to Inverness Museum. We have a copy of this list and have highlighted entries indicating finds from this particular site (indicated by the grid references of their find-spots).

#### OTHER MATERIALS RECOVERED:

Burnt clay or daub was recovered from several contexts, often in association with the slag noted below. Small samples of charcoal were also recovered from a number of contexts.

Slag was recovered from the following contexts:

Context    Weight (g) (weights are approximate)

2	110
4	600
6	110
17	700
21	70
23	2200
26	900
33	200
41	30
45	2500
48	95
50	50
56	2000
58	420
US	600

Total:            10585

#### THE ARTEFACT ASSEMBLAGE - Recommendations

The assemblage recovered during the recent investigation of this site, along with previous finds in the area by metal detectorists, constitutes an **important** collection of medieval and later artefacts and forms a valuable body of evidence in our understanding of this site.

The assemblage is of high quality, including a number of rare and unusual artefact types such as the small, copper alloy bell (Find No 8), and merits further study and publication. It is also important that the integrity of the assemblage is ensured by its consideration in a single report rather than being dealt with in a piecemeal fashion.

### **Conservation**

Several artefacts listed above, particularly those of iron, would require x-ray examination and/or at least limited conservation treatment, in order to allow their form to be recognised and to permit more detailed study. Among the artefacts of copper alloy from the site, of which there are many in total, examples would also benefit from cleaning and limited conservation, in order that they may be more closely studied and more accurately illustrated. Many of the artefacts would appear to have the potential to be displayed, and professional cleaning or conservation would also assist this aim.

It is recommended that a selection of artefacts from the assemblage are submitted for x-ray examination, and that some are additionally put forward for cleaning and conservation treatment.

### **Further study**

It is recommended that the assemblage from this investigation, along with other recent finds from the site and its environs, is studied in depth and a report prepared for publication.

The report should include excavated/metal-detected artefacts from this investigation and recently metal-detected artefacts from the site and its immediate environs.

A total of 36 artefacts appear on the above list, and there are a further 25 from this site on the list of metal-detected artefacts provided by Robin Hanley of Inverness Museum.

In addition, there is a total of 19 coins which would be reported on by a coin specialist.

### **Illustration**

To accompany the above publication report, a selection of high quality illustrations of artefacts from the site should be prepared. Of the known artefacts from the site listed and highlighted here, the approximate number to be illustrated would be in the region of 50% of the assemblage.

### **THE METALWORKING DEBRIS**

The investigation produced evidence of fairly large-scale metalworking processes of uncertain (possibly early medieval) date. Given the limited state of our knowledge of metalworking in the Highlands, the recovered evidence merits detailed study in its own right and as a contribution to the analysis of features revealed during the site investigation.

The quantity of metalworking debris recovered is approximately 10.5 kg (see above).



It is recommended that the metalworking debris from the site should be assessed independently by a specialist in metalworking debris.

#### ENVIRONMENTAL SAMPLES

A number of environmental samples (listed separately) was recovered from the site. These should be assessed with regard to a detailed analysis of the palaeoenvironmental evidence.

## The animal remains C Smith

Remains of mammals, fish and marine mollusca were amongst the finds which were rescued from the site. The mammal remains were mainly those of domestic animals (cattle, sheep, pig, horse and dog) although one bone from a marine cetacean, a medium-sized whale, was also recovered. Table 1 shows the numbers of bones identified from each species. Sheep bones from a garden soil layer, Context 2, are omitted from the table, since they represent one almost complete, and one partial, skeleton.

The most common species found at the site was probably cattle (35 fragments), followed by sheep (12 fragments, excluding the two skeletons). Pigs and horses were not so numerous here as either sheep or cattle.

With the exception of some of the cattle bones from Context 2, most of the remains appear to be of the small size usually associated with the medieval period, or earlier. This is also confirmed by the evidence of marks on the bones caused by the butchery implements which were used at the site. These tools appear to have been either cleavers or axes, which were the implements most commonly used in fleshing from the Iron age until the early modern period. Saws were used only infrequently in butchery before this period. It is notable that saw cuts were observed on only one bone from the site, a cattle femur from Context 2, indicating a relatively modern date for this bone. Other bones from the same context had however, been chopped. The two sheep skeletons Context 2 were fairly robust and may also have been of relatively recent date. However, anatomical measurements should be made on the long bones in order to estimate the animals' stature and thus help confirm their date.

The most notable find of animal origin was the cetacean vertebra (Context 56). This had been chopped through the centrum in a dorso-ventral direction, and also showed evidence of hack marks both on the lateral aspect of the centrum and near the surviving neural spine. The species of whale from which this bone came has not yet been identified, but on size indications the animal was larger than a pilot whale but smaller than, say, a sperm whale. It probably represented a beached animal found on the shore of the Dornoch Firth. Whale meat, bones and other by-products were utilised by coastal dwellers in all parts of Scotland from the earliest times, and a stranding may have provided a welcome addition to the diet.

Other marine resources were also exploited: several fish bones were recovered, as well as shells of marine mollusc. The shells all came from edible species (periwinkle, buckie, cockle, mussel and common otter shell) and were therefore probably used as food, although there is a possibility they could also have been used as fishing bait.

### Further work

1. A number of soil samples were taken from the site during the excavation, and it was noted that these contained numerous bone fragments. A series of pits, which were also sampled, contained numerous burnt bone fragments. These bones will become available for study when the samples are sieved in order to retrieve botanical material (e.g. seeds and cereal grains). Because the original excavation of the site took place under hurried rescue circumstances, it is likely that small bones, such as those of birds and fish, were missed. Study of the sieved samples will help to redress this situation

and provide a more complete picture of the economy of the site, particularly if the fish bones are identified to species. In addition, the function of some of the features, such as the pits containing burnt bone, may be clarified.

2. The bones retrieved by hand, while identified to species, were not subjected to anatomical measurement. Full measurement is desirable, particularly in the case of the sheep skeletons, since knowledge of their stature will help clarify their date (medieval and Iron age sheep are much smaller than modern animals).
3. Some attempt should be made to assess the age of the animals at death, and to describe pathological conditions and butchery, in order to compare the results from this site with others of known date and similar geographical location.

**TABLE 1      NUMBERS OF ANIMAL BONES RECOVERED FROM THE SITE, BY SPECIES**

<b>Animal</b>	<b>Number of bones</b>
Cattle	35
Sheep	[2 partial skeletons]
Sheep/goat	12
Pig	3
Horse	3
Dog	1
Cetacean	1
Fish	7
Large ungulate	20
Small ungulate	6
Indeterminate mammal	79
<b>Total</b>	<b>167</b>

Note

The terms large ungulate and small ungulate are used to describe ribs and vertebrae of cattle and sheep size respectively.

## CONTEXT INDEX

<u>NO</u>	<u>DESCRIPTION</u>
01	Loosely compacted sandstone rubble, pebbles and mortar. Modern make-up for Heritage Centre car park.
02	Dark brown compact sandy loam with occ charcoal flecks, bone frags and shell flecks and frags. Cultivation soil extensive across much of development area. Medieval to c 17th C.
03	Moderately compact yellow sand with no visible inclusions, observed in main south section only. Wind-blown sand.
04	Pale brown sand with freq charc frags on surface; mod small-large slag frags. Buried turf line.
05	Very pale, golden brown compact sand with grey silty root lines. Extensive across site but varies in colour. Natural sand sub-soil, heavily iron panned.
06	Black compact sand with mod stones. Contained slag, charc, burnt clay and bone. Fill of linear cut 08.
07	Grey brown loosely compacted silty sand with large stones. Lower fill of 08.
08	Curvilinear cut at west end of main trench, with concave base. Cut through natural sand, contains 07 + 06. Cut for house ?
09	Grey brown sticky sandy silt with occ slag frag. Fill of cut 10.
10	Shallow, irregular cut feature with concave base. Contains 09.
11	Grey brown silty sand with dark grey silt lenses, possibly organic. Fill of linear cut 12.
12	Curvilinear cut filled with 11. Varies in width, c 0.9 m and depth, c 0.4 m and from flat base to concave base. Ditch.
13	Mixed dark grey fine sand with patches of mid brown sand, occ pebbles, shell frags, charc frags and flecks and animal bone. Fill of hearth 14.
14	Cut for small hearth, contains 13.
15	Grey brown sandy silt fill of linear cut 16.
16	Shallow linear cut filled with 15.
17	Brown sand with shell frags, pebbles, animal bone, slag. Lower fill has no inclusions other than occ charc fleck. Fill of curvilinear ditch/gully 18.
18	Cut for curvilinear ditch/gully, filled with 17. Width c. 0.35m, depth 0.2 m to 0.3 m. N terminal recorded in plan on north side of trench at west end.
19	Compact sandy silt with shell, slag and burnt clay. Fill of 20.
20	Curvilinear cut filled with 19. Severely truncated at north end.
21	Dark grey sandy silt fill of irregular cut/depression 22. Contained shell and burnt clay.
22	Irregular cut/depression containing fill 21.
23	Fine dull yellow sand extensive across west end of trench. shallow at N end, thickening at S end to 0.3m. Fills hollow in sand dunes, with significant quantity of slag.
24	Grey brown sand with shell, sandstone frags, stones, pebbles, charc, animal bone. Fill of curvilinear ditch 25.
25	Cut for curvilinear ditch, filled with 24. Ditch for enclosure around house at east end of trench ?.

- 26 Loose dark brown sand silt with cockle shells, slag. Fill of ditch 27.
- 27 Cut for curvilinear ditch, filled with 26. Also visible in main north section and in plan at entrance to site. Large enclosure, possibly post-medieval.
- 28 Reddish orange fine sand, cut by ditch 25 to east. Possible turf bank, aligned N-S.
- 29 Compact dark brown fine sand with occ large stones, burnt bone, small charc frags. Fill of small oval cut 30.
- 30 Small oval cut filled with 29. Diameter 0.4 m, depth 0.18m. Concave base. Small pit or post hole.
- 31 Dark grey to black compacted layer with coarse pottery, burnt clay and burnt bone. Fill of circular pit 32.
- 32 Shallow cut filled with 31. Pit.
- 33 Compact sand with pebbles, bone and slag. Fill of ditch 34.
- 34 Cut for possible ditch filled with 33. Concave base, sides at 45°.
- 35 Dark brown compact sand with charc flecks, and med to large stones in upper fill. Fill of post hole 36.
- 36 Cut for post-pit, filled with 35. Shallow gully on south side appears to be part of same cut. Vertical sides and flat base. Post-pit.
- 37 Extensive layer of grey brown sand filling E-W aligned hollow.
- 38 Compacted charcoal fill of 39, with slag, burnt clay, hammerscale and at least 2 iron objects.
- 39 Rectilinear cut with concave base, filled with 38. Possible anvil-base.
- 40 Lens of hammerscale around 39.
- 41 Compact sand and silt with pebbles and slag. Fill of ditch or construction slot 42.
- 42 Cut for ditch or construction slot, filled with 41. Vertical sides and flat base.
- 43 Organic fill of construction slot 44. Possibly rotted sill beam.
- 44 Possible construction cut for wall, containing 43. Vertical sides. Possibly associated with cut 42, comprising wall foundation and drip trench.
- 45 Yellow sand. Natural sub-soil.
- 46 Compact sand silt loam with animal bone, shell and charcoal. Fill of rubbish pit 47.
- 47 Cut for rubbish pit, filled with 46.
- 48 Sand and silt fill of pit 49. Lower fill comprised laminated bands of charcoal.
- 49 Cut for oval pit, filled with 48. Sloping sides and flat base.
- 50 Compact pale grey sand and silt with charcoal. Fill of post-hole 51.
- 51 Cut for oval shaped, shallow post-hole, filled with 50.
- 52 Arrangement of large flat stones, seemingly packed around central slab. pathway into house ?.
- 53 Fill between pathway stones 52, or trample. Cockles and slag present.
- 54 Compact redeposited yellow and white sand. Possibly fill of post-hole 55.
- 55 Post hole with post pad to support post, filled with 54.
- 56 Compact grey sand and silts with shells and slag. Fill of ditch/slot 57.
- 57 Cut for ditch, filled with 56. Vertical sides and flat base.
- 58 Charcoal fill of cut 59. Slag, hammerscale and iron objects present.
- 59 Rectangular cut containing 58. Possibly pit for anvil base.

SOIL SAMPLE INDEX

SAMPLE NO	CONTEXT NO	SAMPLE SIZE	DESCRIPTION
01	02	1 bin bag	garden soil
02	11	1 fertiliser	ditch fill
03	17	1 tub	ditch fill
04	28	1 finds bag	turf bank
05	38	2 tubs	charcoal
06	40	1 tub	hammerscale
		1 finds bag	
07	45	2 tubs	slag
08	53	1 bin bag	pathway
09	48	1 finds bag	charcoal
10	58	2 bin bags	charcoal/slag
		1 tub	
11	58	1 finds bag	hammerscale
12	31	4 tubs	pit fill
13	56	1 tub	ditch fill

## Plans and Sections

Location plan showing main site grid points in relation to heritage centre car park and road alignment at scale 1:100.

Base plan (5 x A3 sheets in total) of all the features recorded on the line of the main access road at scale 1:50, forming 3 x A3 sheets of permatrace, with overlays for the central and eastern sheets.

Main N section of road cutting at scale 1:10 (3 x A4 sheets).

Plan at scale 1:20 of cut 12 (2 x A4 sheets).

Plan of cut 8 (1 A4 sheet) at scale 1:10.

Plan at scale 1:20 of cut 10 with profile.

A4 sheet with profile of cut 8, and 2 profiles of cut 12, all at scale 1:10.

## Note

Profiles of all features were drawn as measured sketches on the back of relevant context sheets.

FIG 1

# Dornoch Regional Setting

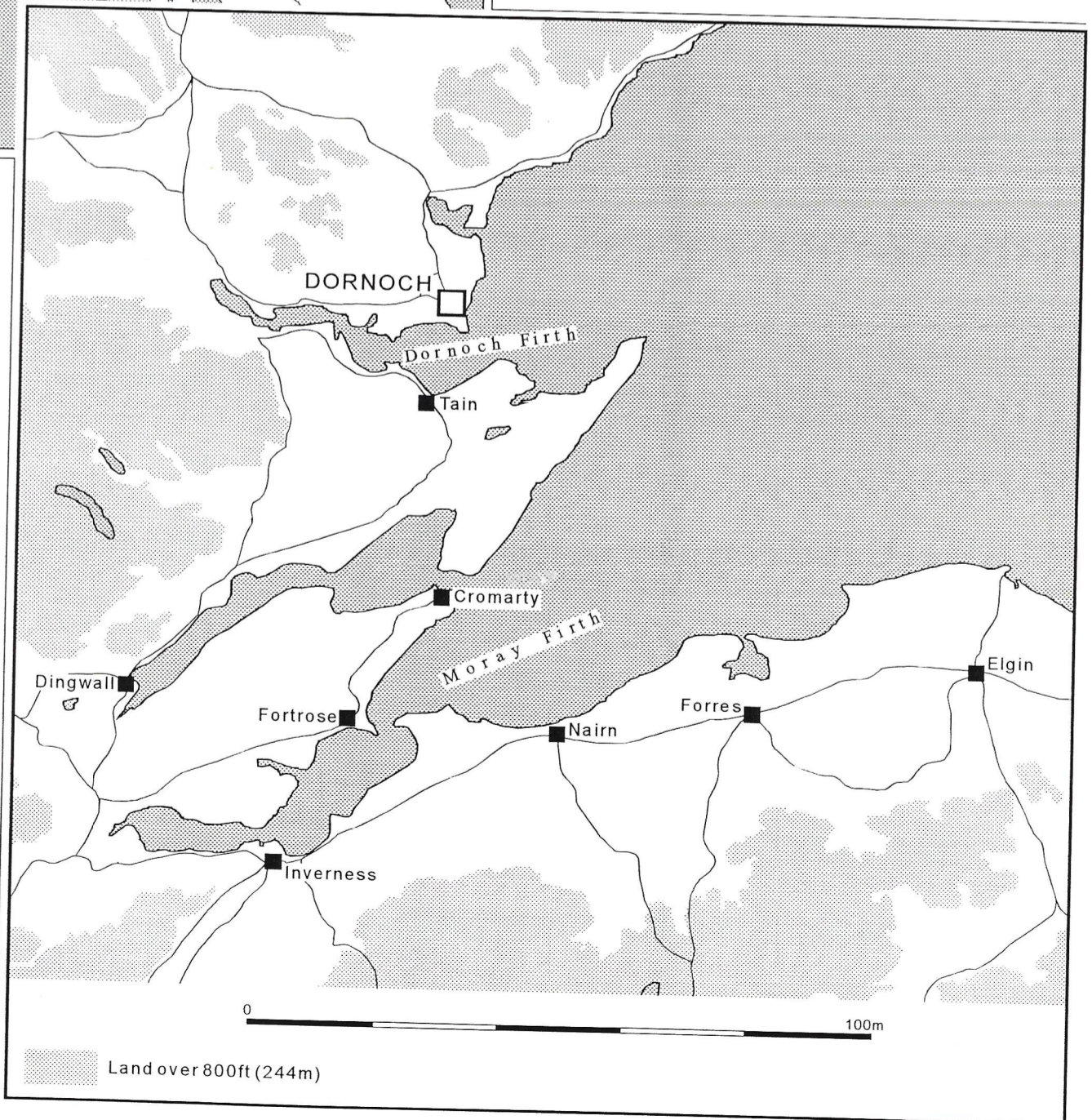
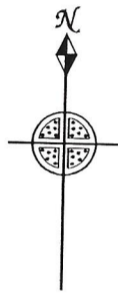
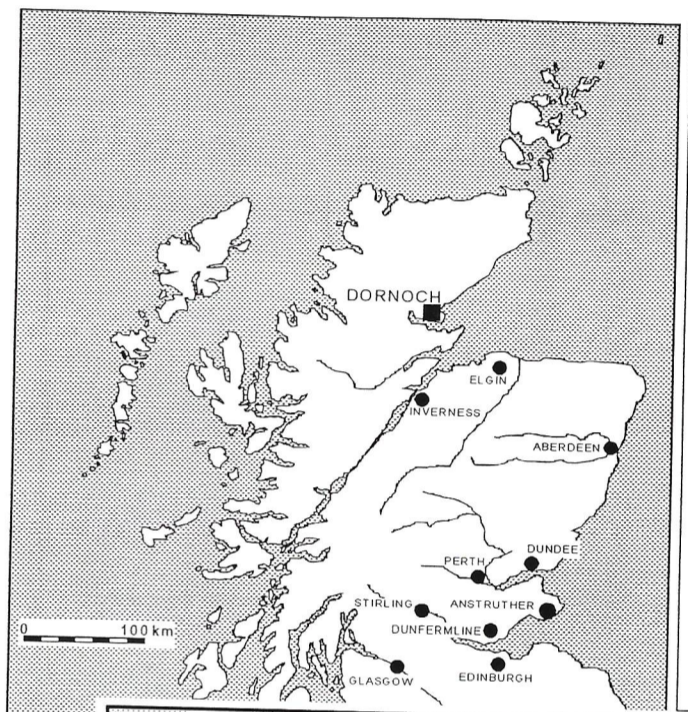




FIG 2

# Location of Development at The Meadows, Dornoch

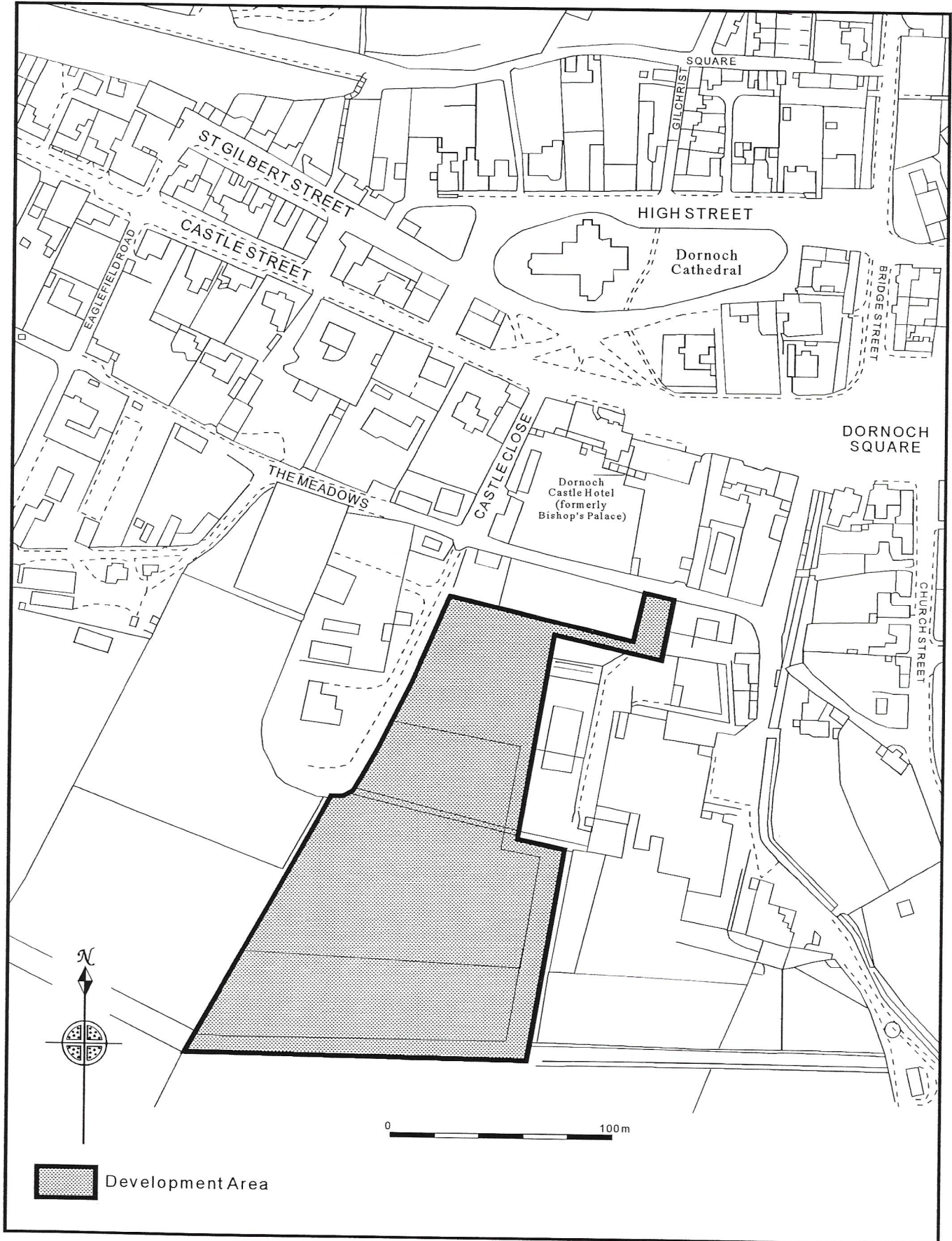


FIG 3

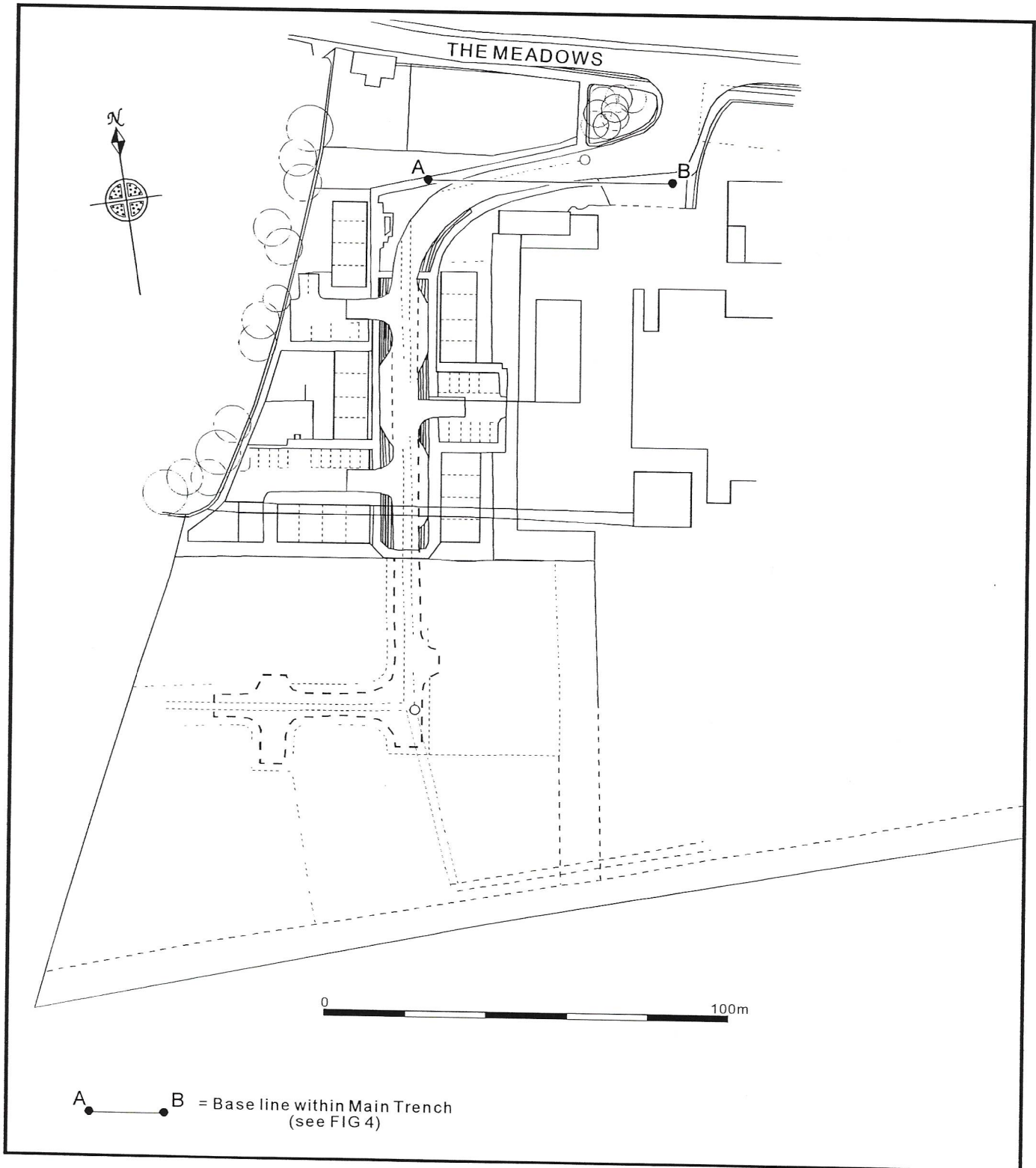


FIG 4

# Trench Plan

