Intended for
Balfour Beatty Construction Limited

Project no.
61020180

Date
13 March 2013

ORMISTON VENTURE ACADEMY, GORLESTON, NORFOLK

REPORT ON AN ARCHAEOLOGICAL WATCHING BRIEF

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Revision History

Revision	Date	Purpose / Status	Document Ref.	Comments
-	13.3.13	For issue	20180/CHA/R03	

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1. INTRODUCTION

During 2012 and 2013 an archaeological watching brief was carried out on development works at Ormiston Venture Academy (OVA), a secondary school located in South Gorleston, Norfolk. The work was undertaken by Heather Wallis on behalf of Ramboll, who were acting for Balfour Beatty Construction Limited.

The work was undertaken in accordance with a Written Scheme of Investigation prepared by Ramboll (report 61020180/CHA/R02A) which in turn conformed to the requirements of a Brief for the Archaeological Monitoring of Works under Archaeological Supervision and Control issued by Norfolk Historic Environment Service (NHES, reference CNF44248 13/7/12). NHES are the archaeological advisors to the local authority, Great Yarmouth Borough Council. The archaeological work was undertaken to fulfil the requirements of Planning Condition 10 of planning permission 06/12/0216/F.

Between July 2012 and January 2013 eighteen visits were made to the site to monitor areas of topsoil strip, demolition and construction works.

2. SITE LOCATION AND DESCRIPTION

The site (National Grid Reference TG 5125 0330, Fig. 1) is located in south-eastern Norfolk between the town of Gorleston-on-Sea and the village of Bradwell. It lies within the parish of Bradwell which forms part of the district of Great Yarmouth. Modern development has infilled the areas between Bradwell and Gorleston which, together with Great Yarmouth on the opposite side of the River Bure, now form a sizeable urban area. OVA sits on the south-western edge of this urban zone.

The school buildings prior to development lay in the north-east part of a triangular plot fronting onto Oriel Avenue to the east. The remainder of the plot is occupied by hard courts and playing fields. To the north, the plot borders on Great Yarmouth Crematorium, whilst a bridleway, Jews Lane, runs along the western boundary. To the north-west, east and south-east lie post-war housing estates and to the south-west open fields. Oriel Avenue forms the parish boundary between the modern parishes of Bradwell and Great Yarmouth (formally the parish of Gorleston).

The school itself comprises a number of different elements, built at various times from the 1960s through to the early 21st century. The current work replaces some of the most elderly of these buildings.

3. THE DEVELOPMENT

The development (Figure 2) comprises remodelling of the existing school complex by demolition of the north-eastern and central wings of the school building and construction of a new north-eastern wing connected to the retained elements. Car-parking and landscaping provisions will also be reconfigured.

The works which were monitored were undertaken in four phases:

- Remodelling of the existing car-park and bus drop off area (Archaeological Area 1);
- Demolition of the existing north-eastern wing (Archaeological Area 2);
- Groundworks associated with the construction of the new north-eastern wing (Archaeological Area 3); and
- Excavation of new soakaway to the north-east of the new wing (Archaeological Area 4).

4. GEOLOGY AND TOPOGRAPHY

4.1. Geology

The underlying solid geology of the area is of chalk overlain by a mix of sands and gravels known as Norwich Crag. Above these the superficial geology is of Happisburg Glacigenic Formation (British Geological Survey). This till is predominantly sandy with flint, gravel, silts and clays. These soils can be classified as rich loams which are easily farmed.

4.2. Modern Typography

The site straddles the 10m contour, a moderately high spot in the context of the surrounding landscape with the marshes of the Norfolk Broads just 2.5km to the north-west lying at 0m OD. The North Sea lies just 1.6km to the east and the centre of Great Yarmouth c. 3.5km to the north. The gently undulating natural topography of the local area can be seen to the west of the site, although 20th-century housing to the east has produced a rather flat landscape.

4.3. Ancient Typography

Of significance to the human occupation of this area is the ancient topography which differed considerably from that we see today. During the prehistoric and Roman periods a large portion of the land c.2km to the north of the development area and beyond was under water, forming what is known as the Great Estuary. The development site therefore formed part of an area of 'high' ground to the south of the Great Estuary known as Lothingland. A similar area was also present to the north of the Great Estuary, and was known as the Isle of Flegg. Both of these areas had similar soils and topography and the free draining fertile soils were tempting to early settlers. (Williamson 2005).

Within Lothingland a significant feature of the Roman landscape was the fort at Burgh Castle (c.3.5km west of the present site). This, together with Caister fort to the north of the Great Estuary were built as part of the Late Roman Saxon Shore defences.

During the post-Roman period a sand bar started to form across the mouth of the estuary which led to the deposition of silts and the formation of the flat landscapes of Halvergate Marshes. It is upon this spit that the town of Yarmouth was established and the modern topography of the area developed.

5. ARCHAEOLOGICAL BACKGROUND

An archaeological desk-based assessment of the site was undertaken in 2012 (Ramboll 2012) and should be referred to for full details of the archaeological and historical background to the site. Preparation of the desk-based assessment included a search of the Norfolk Historic Environment Record and a review of the cartographic evidence. A brief resume is included here.

The fertile and easily worked loamy soils of this part of Norfolk lent themselves to early occupation. That this was the case is evidenced by finds of flint tools dating from both the Mesolithic and Neolithic periods (c.10,000BC to c.2,000BC). The evidence of Bronze Age activity (c.2,000 to c.700BC) in the area takes the form of round barrows together with occasional metalwork. Thi has included the discovery of two astounding hoards of bronze artefacts from nearby.

Recent study of aerial photographs by the National Mapping Programme has transformed our understanding of the occupation of this part of Norfolk. This has revealed a landscape of extensive Iron Age to Roman (c.700BC to c. AD450) field systems. The majority of these features take the form of ditched field boundaries, trackways and enclosures (Albone, Massey and Tremlett 2007). One field boundary ditch of this date has been plotted on the Ormiston Venture Academy site, indicating that this area was clearly paer of this landscape.

During the Saxon period (c. AD450 to AD1066) the landscape dramatically changed as the Great Estuary silted up and the settlement of Yarmouth developed on the newly formed sand spit. Few finds of this date have been made in the local area but it is likely that Saxon settlement within this part of Norfolk lies masked under the modern villages and towns.

It is unclear when the nearby village of Bradwell became established. It is not mentioned in the Domesday Book of 1086 but it has been suggested as one of the landholdings included under neighbouring Browston (Penn 2008). St Nicholas' Church at Bradwell has a Norman round tower (Pevsner 1991), inferring settlement must have been well established by then.

During the medieval and post-medieval periods the site continued to lie in the heart of rural Norfolk, although the nearby town of Great Yarmouth grew to be a centre for international trade. The site remained as part of an agricultural and rural landscape until the southern expansion of Gorleston in the 1950s prompted the building of the school and its adjacent housing estate in the 1960s.

6. AIMS OF THE WATCHING BRIEF

The overall aim of the archaeological mitigation strategy set out in the WSI was to assess the extent and significance of any surviving archaeological features and deposits within the site that may have been impacted on by the development.

Within methodological constraints, the objectives were to explain chronological, spatial or functional relationships between any archaeological remains that were identified during the course of the archaeological fieldwork.

The general aims of the archaeological watching brief were:

• to establish the presence/absence of archaeological remains within the site area;

• to determine the extent, condition, nature, character, quality and date of any archaeological remains present;

• to establish the significance of the archaeological remains;

• to establish the ecofactual and environmental potential of archaeological deposits and features;

• to assess the nature and extent of any existing disturbance on the site and comment on the potential for archaeological deposits to survive across the site of the proposed works; and

• to make available the results of the investigation through written dissemination (such as a grey literature report and summary in the local archaeological journal).

7. METHODOLOGY

The archaeological work was undertaken to the standard and guidance set out in the Institute for Archaeologists' Standard and Guidance for Watching Brief (2008) and Standards for Field Archaeology in the East of England (Gurney 2003), as adopted by the Association of Local Government Archaeological Officers for the East of England Region and published as East Anglian Archaeology Occasional Paper 14.

All archaeological features were planned and levelled to Ordnance Datum and their location recorded within the Ordnance Survey National Grid system by the contractor's survey team. Pro-forma recording forms based on a single-context recording system were used throughout. The recording forms were supplemented with section/plan drawings at scales of 1:10, 1:20 and 1:50 as appropriate. All features were recorded in both plan and section. A site diary and site notes also record each visit made to the site and are to be included in the site archive.

A full photographic record of the monitored areas was compiled using 35mm format black and white film, colour slide, and digital imagery. A written record was kept of each shot.

Prior to the works commencing an OASIS record for the works was initiated. This has been updated to reflect the results of this watching brief. An Event Number (ENF129459) was obtained from NHES and an Accession Number has been requested from Norfolk Museums and Archaeology Service.

Eighteen visits were made to the site over a 7 month period (July 2012 to January 2013). These visits monitored the ground disturbance associated with the construction of a new car park, the demolition of buildings and the construction of the new building and soakaway. NHES were kept informed of progress and preliminary results.

8. RESULTS

8.1. Area 1: Carpark

Work started with monitoring of soil stripping for a new car-parking area (Fig. 3) to the south-east of the school buildings. This area was reduced to a formation level of 11.10m. In order to achieve this c.0.5m of material was removed from the eastern end of the site while at the western end of the site c.0.2m of soil was removed. Within the footprint of the car park localised areas, which were to form the new parking bays, were reduced by a further 0.15m or 0.25m. Monitoring of the northern part of the new car park was not undertaken as this area was last remodelled less than 10 years ago and the reduced levels would not have extended into previously undisturbed ground.

All groundworks were undertaken by machine and were constantly monitored. Material was removed in spits and metal detected. The final level was also detected.

Clean natural soils were only revealed at the south-eastern part of the site (Figure 3, Plate 2). This indicated that the eastern part of the site was once close to the top of a natural rise with the ground sloping down to the west; the present, largely level, landscape having been created during the urbanisation of the area.

One archaeological feature (Pit 06) and two geological features were noted to have cut the natural sand. The elongated pit (Figs 3 and 5, Plate 1), which measured 2.4m x 0.8m in plan, was only 0.08m deep. It contained a single distinctive fill of light orange brown silty sand with occasional small and medium sized flints. No finds were recovered from it, but the nature of the fill suggests a prehistoric date.

Above the orange and yellow coloured natural sand (context 04) lay a subsoil (contexts 02 and 03, Fig. 5 Section 1, Plate 2). The lowest part of this deposit was a pale a browny orange silty sand with no inclusions (03) above which lay a browny orange silty sand with occasional small flint (02). These materials formed the naturally accumulating subsoil. At the eastern end of the site this was c. 0.4m deep, but had been truncated by modern levelling of the site. Towards the western end of the site, topsoil was removed to formation level, revealing the upper surface of the subsoil. No features were visible within the subsoil.

A strip along the northern edge of the site of c.15m width had previously been disturbed and levelled to c.11.10m. Geotextile and crushed concrete had then been laid to form a sub-base for the site compound ued during the construction of the adjacent Sports Hall.

Metal detecting and observation of the site revealed few finds. Those recovered consisted of small fragments of china, glass, lead, a shot gun cartridge, a stud and a penny dating to 1981. All finds were modern and have been discarded.

8.2. Area 2: Demolition

The northern section of the school was demolished (Fig. 4). In order to assess whether or not the site had been truncated by the construction of the original building a small sondage (c. 0.4 x 0.4m) was hand excavated on the northern edge of this area (not illustrated). This revealed natural sand at a depth of c.0.45m. Above the sand lay c.0.25m of browny orange silty sand which formed a subsoil. This was sealed by c.0.2m of a grey brown sandy silty with many inclusions of ceramic building material and chalk. This represented a soil deposited during the construction of the original north-eastern wing of the school. The survival of a subsoil above the

natural indicated that any archaeological features were likely to have survived below the previous school building.

Following the demolition of all above-ground elements of the school, monitoring of the removal of the ground slab and the building foundations was undertaken. Care was not taken not to unnecessarily disturb possible archaeological remains during this process. The preferred method of raking through the whole area to a depth of c.1m was abandoned and footings were instead chased using a narrow, toothed bucket (Plate 3). Disturbance to in situ soil deposits was thereby minimised.

The sections of the footing trenches were observed during the demolition process but no archaeological features were noted. Although it is possible that site conditions would have obscured any small, isolated features such as pits and post-holes which may have been present larger and linear features would have been observable if they had been present. The edge of one such square cut modern feature was noted.

Finds from this phase of monitoring were few and modern with one exception, a flint flake of probable Neolithic or Bronze Age date. This came from an unstratified deposit. Metal detecting was not successfully undertaken during the demolition phase due the quantity of modern metals across the site.

8.3. Area 3: New Build

Initial works associated with the construction of the new north-eastern school block involved the levelling of the site, reducing the level in the northern part of the area and raising the level to the south (cut and fill) (Fig. 4). The removal of the topsoil and subsoil in the area of 'cut' was constantly monitored. These deposits were removed by machine with a flat bladed bucket to the top of the natural subsoil. Assessment for the presence of archaeological features was made at this point and any possible features investigated. Further machine excavation was then undertaken to formation level.

One archaeological feature (Pit 12), one geological feature and one area of disturbance from tree roots were identified. The pit (Figs 4 and 5, Plate 4) was oval in shape and measured 1.4m x 0.75m in plan with a slightly concave base. It had a single fill of mid to light brown coarse silty sand with occasional small flints. No finds were present. Two modern Tarmac paths were also revealed below the modern landscaping and represented the remains of an earlier configuration of the paths and walkways within the school grounds. The bedding layers of crushed concrete for these paths had been dug into the natural sand.

Also monitored was the excavation of a test pit dug by the contractors. This was excavated by machine to a depth of 3m and illustrated the soft and highly laminated nature of the natural sands (Plate 5).

In the southern part of the site, where the ground level was to be raised, topsoil and Tarmac were removed by machine. Two small sondages and one narrow trench were excavated to assess the depth of the subsoil in this area (Figs 4 and 6). The small sondages measured 0.4m x 0.4m and were hand dug, while the trench measured 2.0m x 0.5m and was machine excavated. These interventions indicated that the natural topography was once of a gentle slope down towards the south and west, as the level of the natural sands dipped by almost 0.5m across a 6.5m length, from 11.11m in the north to 10.68m in the south. The subsoils here (contexts 14, 15, 16, 18, 19 and 20) were similar to those recorded in other areas of the site, being an orangey brown sandy silt. They differed in that they appeared slightly darker in hue than elsewhere, perhaps the result

of lying in a slight hollow within the naturally sloping and dipping landscape. After recording, these sondages were backfilled and the area raised to the necessary construction level with the deposition of soils and crushed concrete.

The footings for the new school building were excavated through this raised ground level and into the underlying natural sands (Plate 6). These trenches were monitored in localised areas, observation being targeted in the areas where aerial photographs indicated the possible presence of a ditch. Access into the trenches was not possible due to Health and Safety restrictions, but the anticipated ditch was not observeed in the sections of the machined trenches.

No finds were recovered during this phase of works.

8.4. Area 4: Soakaway

A new soakaway was excavated to the north of the site, partly within the footprint of the demolished building. This measured 17.4m x 10m and was excavated to a depth of 3m. Soils were excavated by machine with a flat bladed ditching bucket under archaeological supervision. No features were revealed at the interface between the subsoil and the natural sand. No finds were recovered.

It should be noted that no soils were removed from the site during any of the above works. Excess material arising from the construction works was removed to the west side of the school to be incorporated in a remodelling of the landscape adjacent to the buildings.

9. DISCUSSION

The desk-based assessment of the site had indicated that the site had good potential for the discovery of archaeological deposits. This was particularly so for the Bronze Age, Iron Age, medieval and post-medieval periods, this potential being based on the discovery of nearby finds and the study of aerial photographs. In particular, one ditch of probable Iron Age date was seen on aerial photographs to cross the site of the new north-eastern wing of the school. However, despite archaeological monitoring, this feature was not identified during the course of the development works.

Two small pits (which would not have shown up on aerial photographs) were recorded. These were isolated features to the south of the school (Area 1) and to the north (Area 3). Although they didn't contain any finds the leached nature of their fills suggest that they dated from the prehistoric period. The only find of any age from the site was a flint flake of probable Late Neolithic or Bronze Age date. Although unstratified this also suggests a presence in the area during the prehistoric period.

Information relating to the natural topography of the area can be deduced from consideration of the height of the natural sands. The present landscape is one of ground artificially levelled in order to accommodate the school buildings (both old and new), the previous topography being of a gentle slope with a high point to the north-east undulating downwards towards the south and west.

10. CONCLUSION

It may be concluded from this work that, although this site lies within a known prehistoric landscape, it was never an area of settlement. The scarcity of both archaeological features and finds suggest that this location was one which had always been part of an agricultural landscape.

11. ACKNOWLEDGEMENTS

Thanks are expressed to Sarah Bates for reporting on the worked flint. Liaison with the client and local authority, and report editing, was undertaken by Andy Shelley. Thanks are also extended to Balfour Beatty Construction Limited.

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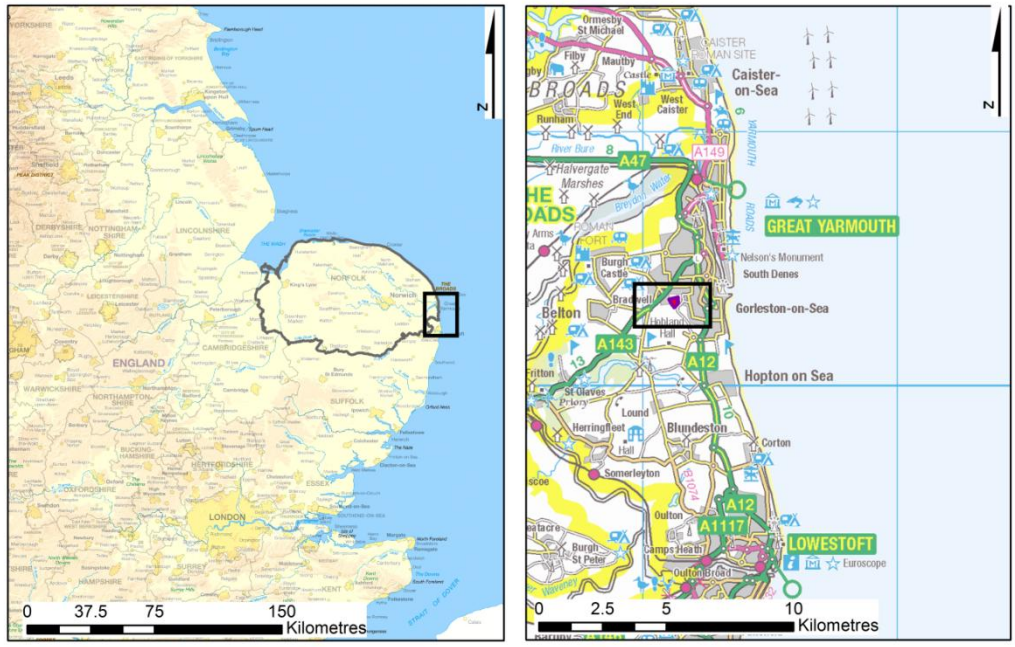
Appendix 1: Context List

Context No.	Type	Area	Description	Period
01	D	1	Topsoil	Modern
02	D	1	Subsoil	?Medieval to post-medieval
03	D	1	Subsoil	?Prehistoric to Roman
04	D	1	Natural	-
05	D	1	Fill of 06	?Prehistoric
06	C	1	Pit	?Prehistoric
07	D	1	Fill of 09	-
08	D	1	Fill of 09	-
09	C	2	Natural feature	-
10	D	3	Unstratified finds	-
11	D	3	Fill of 12	?Prehistoric
12	C	3	Pit	?Prehistoric
13	D	3	Makeup	Modern
14	D	3	Subsoil	?Medieval to post-medieval
15	D	3	Subsoil	?Prehistoric to medieval
16	D	3	Subsoil	?Prehistoric to Roman
17	D	3	Natural	-
18	D	3	Subsoil	?Medieval to post-medieval
19	D	3	Subsoil	?Prehistoric to medieval
20	D	3	Subsoil	?Prehistoric to Roman



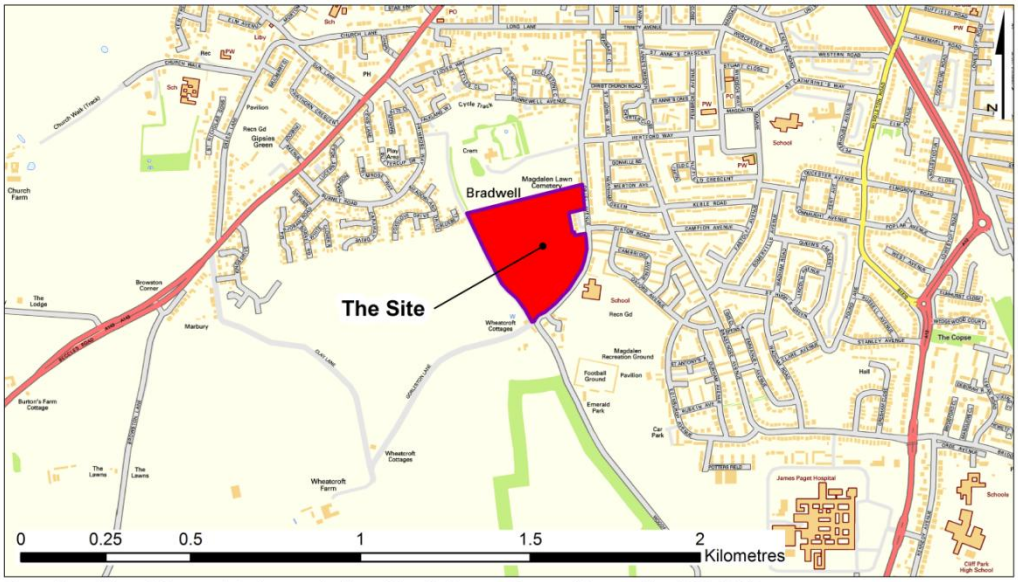


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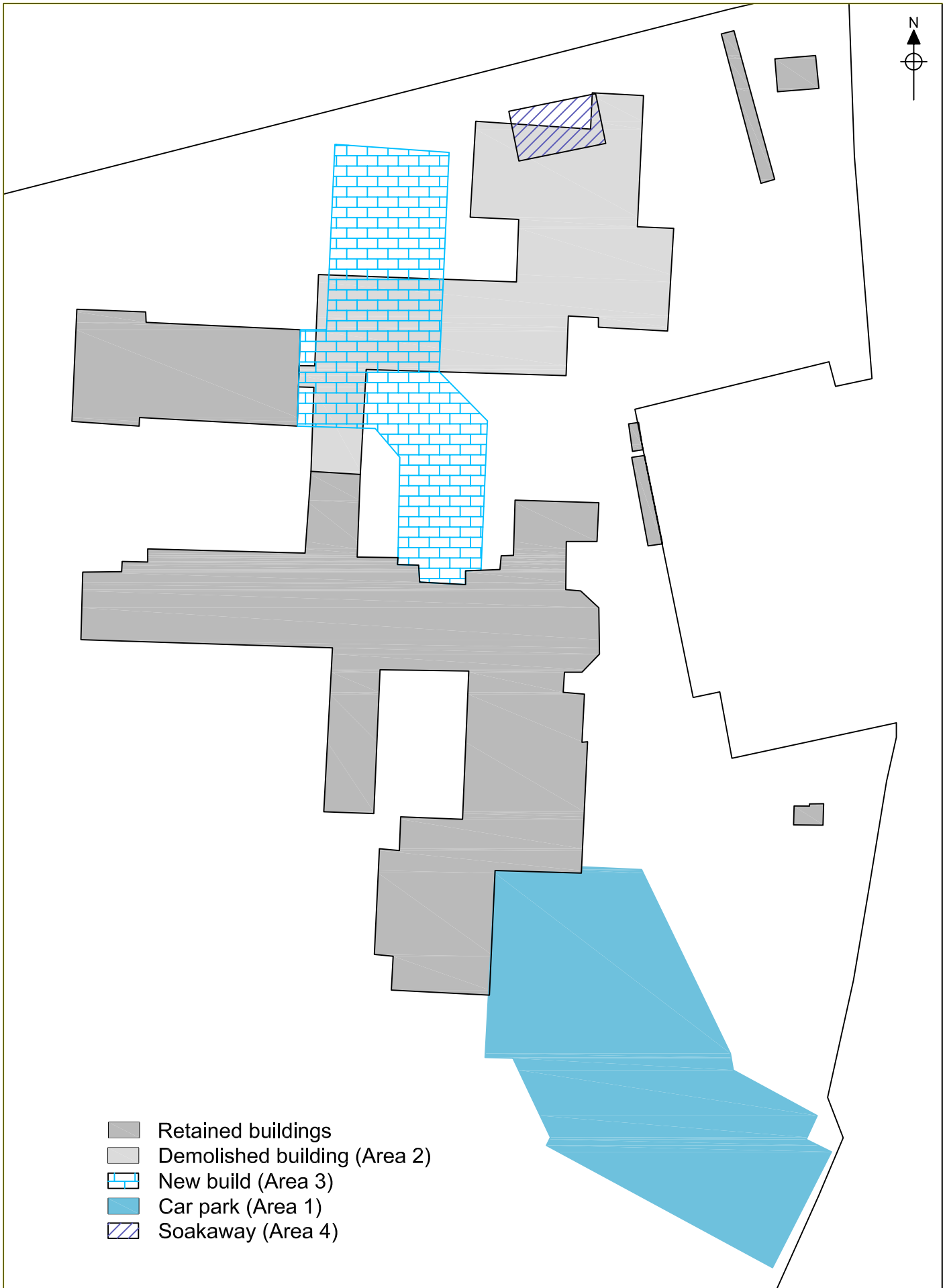
Figure 1



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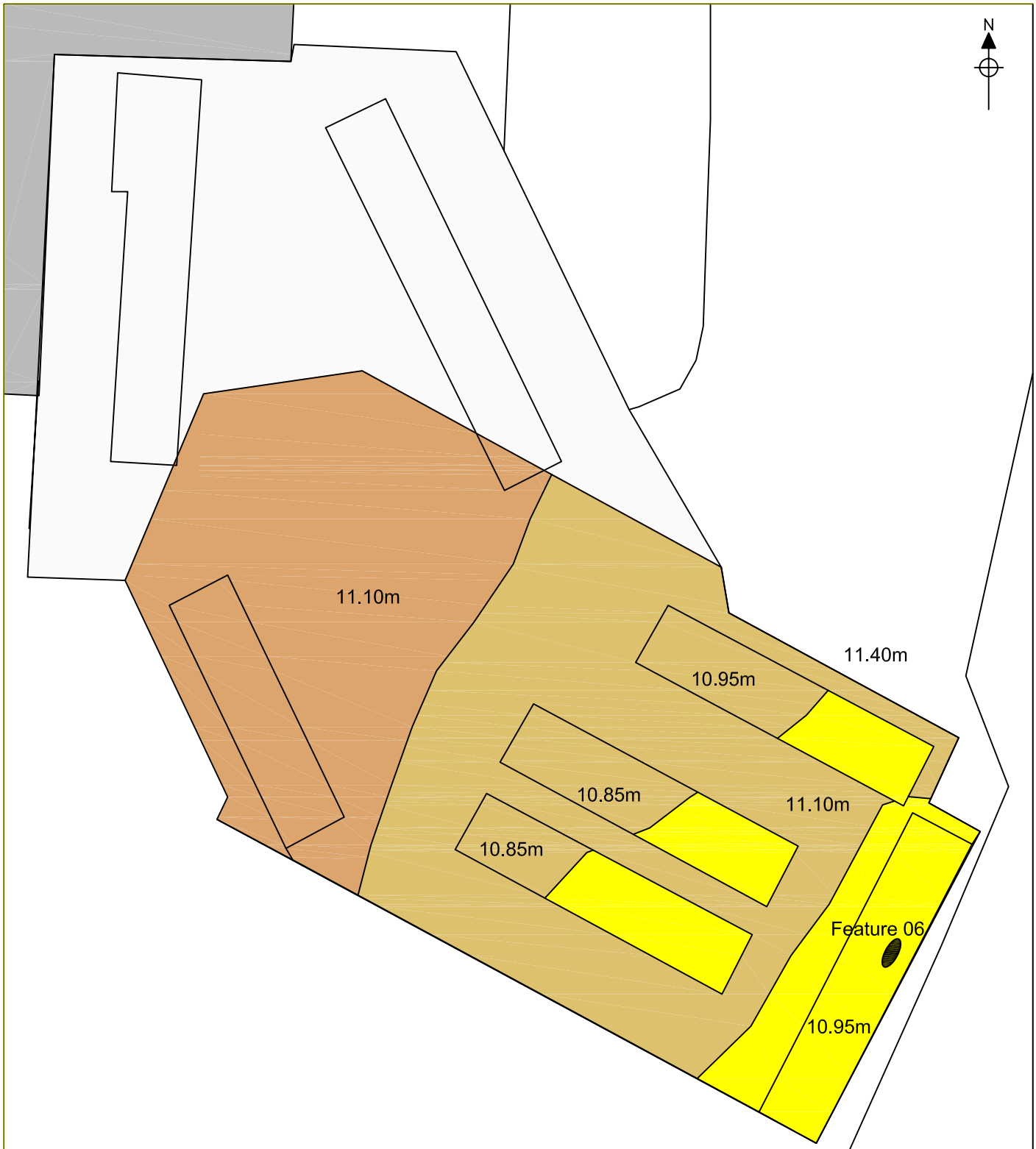
Project: VENTURE ACADEMY GORLESTON, NORFOLK	scale (at A4): 1:1000	date: 24/01/13	drawn: HW
Drg. Title: MONITORED AREAS	drg. no.: FIGURE 2		rev.: 0



Natural
Subsoil
Topsoil and modern deposits
Area not monitored (21st-century landscaping)

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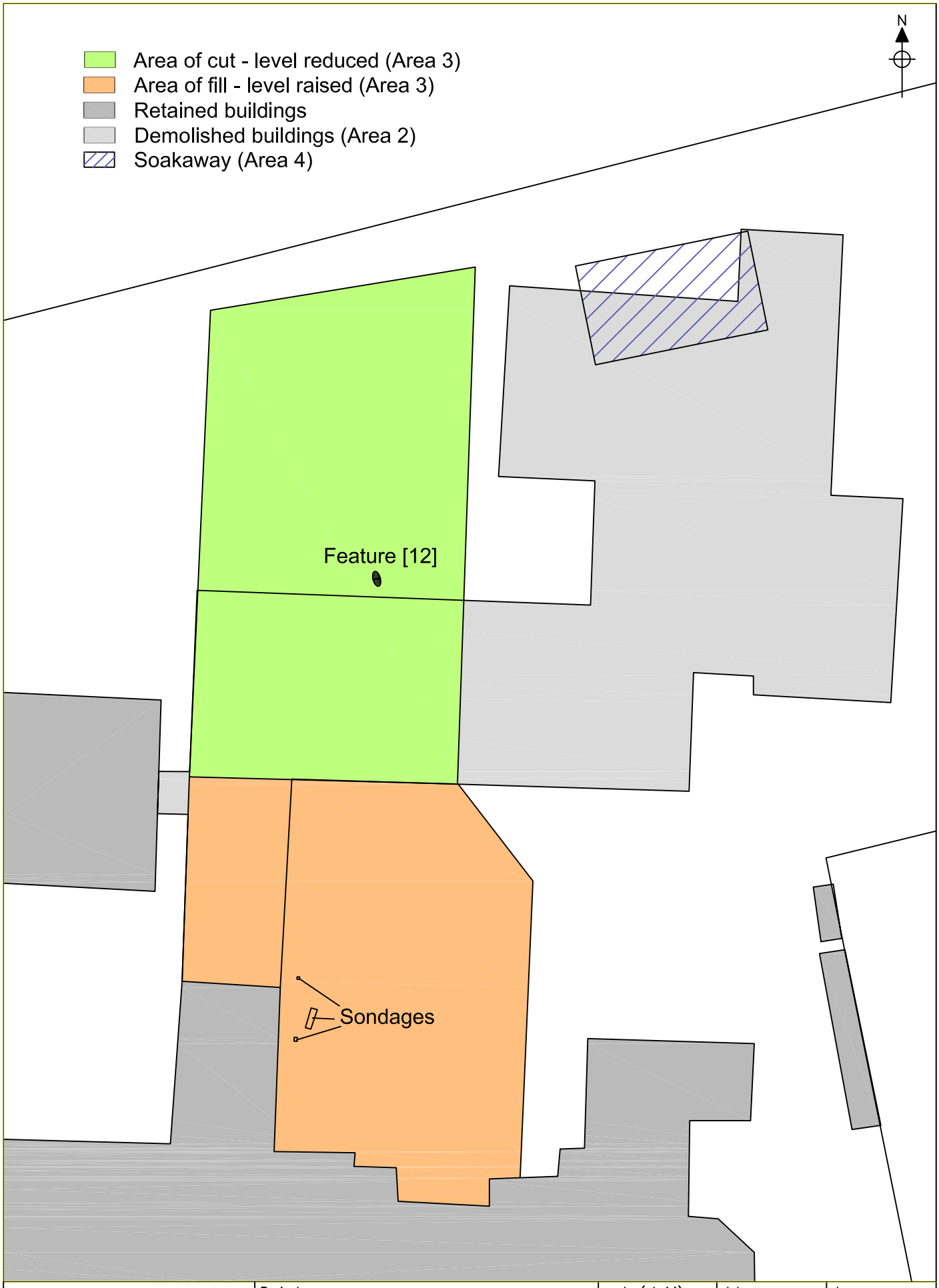
Project: VENTURE ACADEMY GORLESTON, NORFOLK	scale (at A4): 1:400	date: 29/01/13	drawn: HW
Drg. Title: AREA 1: CAR PARK. Soils revealed at formation level.	drg. no.: FIGURE 3		rev.: 0



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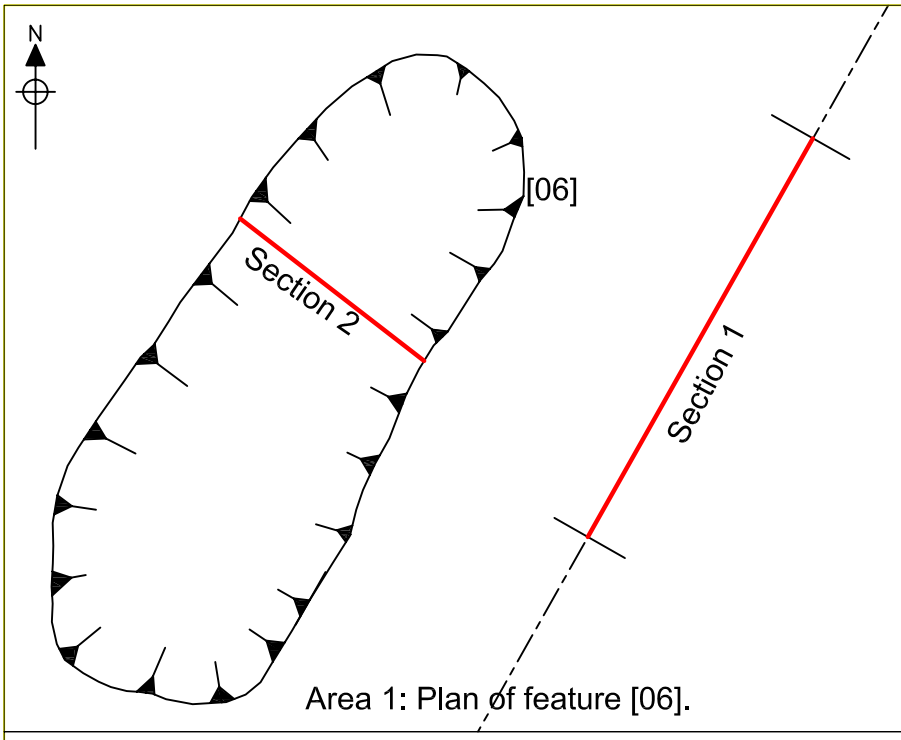
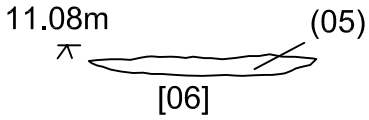
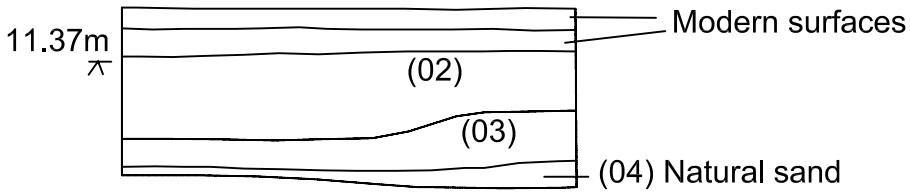
Project: VENTURE ACADEMY GORLESTON, NORFOLK	scale (at A4): 1:500	date: 30/01/13	drawn: HW
Drg. Title: AREAS 2, 3 AND 4	drg. no.: FIGURE 4		rev.: 0



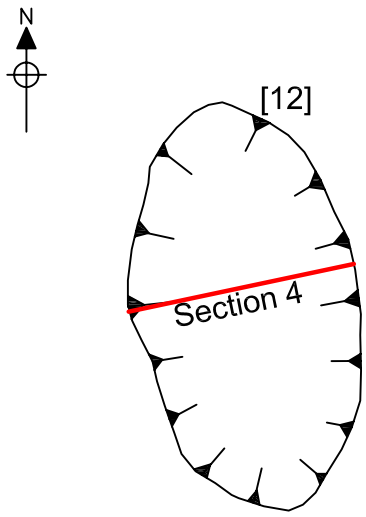
Area 1: Plan of feature [06].



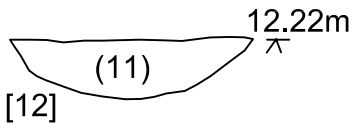
Area A: Section 2.
North east facing.



Area 1: Section1. North west facing.



Area 3: Plan of feature [12].



Area 3: Section 4. North facing.

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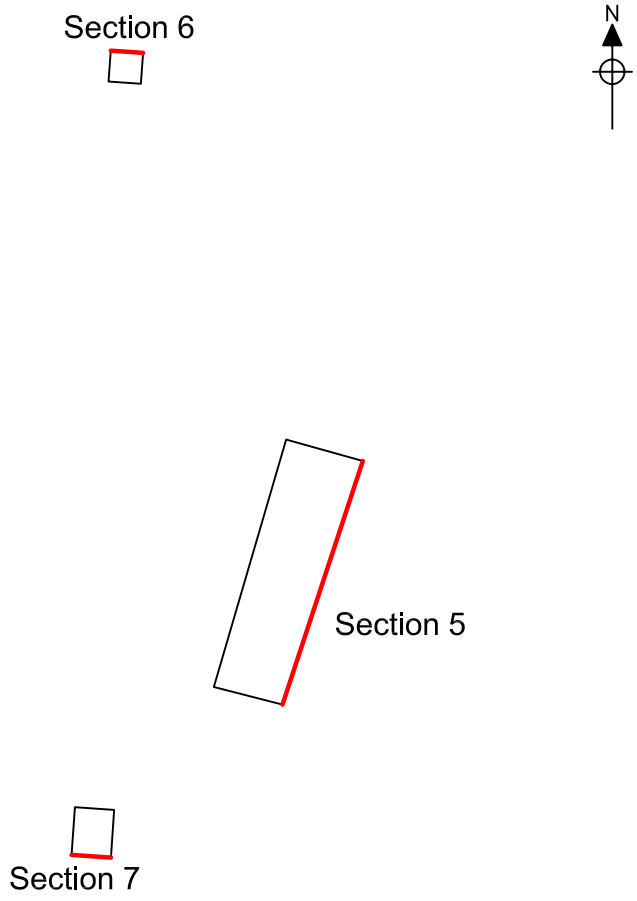
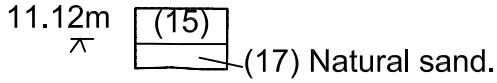
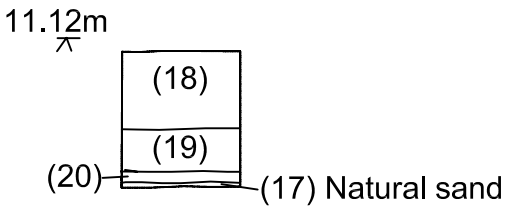
Drg. Title	drg. no.	rev.
PLANS AND SECTIONS	FIGURE 5	0



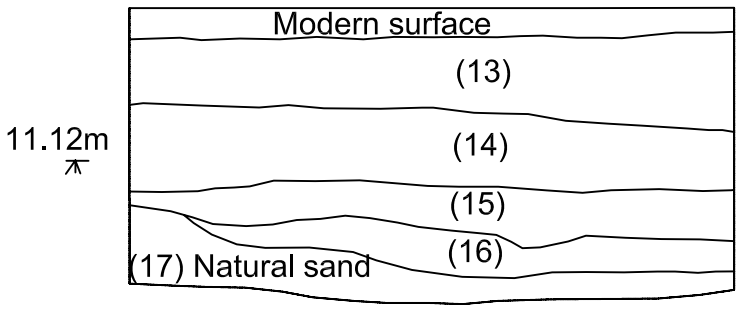
Plan Area 3. Location of sondage sectiions.
Scale 1:60



Area 3. Section 6.
South facing.



Area 3. Section 7.
North facing



Area 3. Section 5.
North west facing.

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VENTURE ACADEMY GORLESTON, NORFOLK	1:25	31/01/13	HW

Drg. Title	drg. no.	rev.
PLANS AND SECTIONS	FIGURE 6	0

Plate 1. Area 1. Feature [06] and Section 1. Looking east.

Plate 2. Area 1. Excavation of car-parking bay through subsoil into natural sand. Looking west.

Plate 3. Area 2. Grubbing out of footings. Looking south.

Plate 4. Area 3. Feature [12]. Looking south.

Plate 5. Laminated natural sands in test pit. Looking south.

Plate 6. Area 3. Excavation of footings trench. Looking north.