

**An Archaeological 'Watching Brief' at
Hightown Sea Defences, Hightown,
Sefton, Merseyside.
Site Code 126**



Prepared for Capita Symonds and Sefton Council

By Dr M. Adams and C. Ahmad

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**National Museums Liverpool Field Archaeology Unit,
Dock Traffic Office,
Albert Dock,
Liverpool
L3 4AX
Tel: 0151 478 4260**

**Mark.Adams@liverpoolmuseums.org.uk
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An Archaeological ‘Watching Brief’ at Hightown Sea Defences, Hightown, Sefton, Merseyside. Final Report

1. Introduction

- 1.1 This document is the final report on an archaeological watching brief conducted during the construction of improved sea defences at the Blundellsands Sailing Club, Hightown, Sefton, Merseyside. The project was undertaken on behalf of Capita Symonds, acting on behalf of Sefton Council (hereafter the Client).
- 1.2 The aim of the watching brief was to provide information on the presence/absence, location and characteristics of archaeological remains at the site. This included the monitoring of the main contractor’s excavations across the site in order to allow archaeological deposits to be excavated and recorded as required.

2. The Site

- 2.1 The site is located c. 200 m to the west of the village of Hightown on the eastern bank of the mouth of the River Alt, the NGR at the site centre is SD 2965 0290 (Fig. 1). At this point the Alt is tidal and the topography consists of a mix of tidal mud flats, beach sand and exposures of peat with sand dunes to landward. The existing defences were constructed in concrete in the late 1960s or early 1970s and were in a state of decay.

3. Solid and Drift Geology, and Soils

- 3.1 The solid geology in this part of Merseyside consists of Permo-Triassic Pebble Beds overlain by deposits of glacial drift and on the foreshore these include deposits of Downholland Silt.
- 3.2 The foreshore area retains no soil in the conventional sense, though the submerged forest lies within a bed of peat c. 0.20 - 0.50 m thick. Deposits of peat clearly extended beneath the existing defences at the Blundellsands Sailing Club and it was considered that their renewal had the potential to further disturb the peat.

4. Archaeological and Historical Background

- 4.1 Although there is little direct evidence for settlement in the study area during the Prehistoric or Romano-British periods, there is a range of palaeo-environmental evidence and stray finds from the foreshore which suggests that there is considerable potential for deposits dating to these periods. This potential is further highlighted by the exposure of a suite of human and animal footprints at Formby Point to the north and by a prehistoric trackway excavated to the south of the study area. During the preparation of this report further trails of human footprints, provisionally dated to the Mesolithic, were found on the foreshore c. 2 km to the south.
- 4.2 Within the study area deposits of peat relating to a ‘submerged forest’ exposed on the foreshore are of particular significance for the Prehistoric period. Test-pits excavated in advance of Construction (Adams 2010) found that substantial deposits of peat survived in the immediate area to west of the sea defences. At c. 0.50 m thick they were approximately twice the depth of the beach exposure to the west, probably because of the presence of a protective blanket of sand in this area which has protected them from erosion

- 4.3 One of the test-pits (Test-Pit 2) found no evidence of peat deposits and it was suggested that this was because the peat was never very thick at this location and that the northern and southern beds were separate deposits.
- 4.4 The test-pits demonstrated that substantial deposits of peat survive in the area affected by the new sea defences and that there was likely to be an impact upon the peat during construction. A greater thickness of peat appeared to be present immediately below the defences, where it is protected from erosion by deposits of sand, than in areas to the east where the peat is exposed to the sea.
- 4.5 The discovery of two Roman coins about 500 m north of the site c. 10 – 15 years ago (reported in Adams 2010) form an interesting addition to the corpus of Roman finds from the area. It is possible that they are modern losses or derive from the demolition rubble deposited to the south, which originated from central Liverpool. Alternatively they may have eroded from deposits elsewhere along the coast such as the Roman site at Meols on the Wirral (Philpott 2004). However, although worn and corroded it is more likely that they were found close to their original site of deposition and as such provide valuable evidence for Roman activity in the area. Roman coins are relatively rare on rural Roman sites in North-West England and the presence of two coins as casual finds from a relatively restricted area suggests the presence of a significant settlement or other activity in the area.
- 4.6 Other Roman finds have been reported from this section of coast but none have accurate findspots and can only be assigned to the coast between Formby and Crosby.
- 4.7 There is very little evidence for post-Roman settlement, though this should be viewed against the regional context in which evidence for this period is generally sparse and poorly understood. There appears to have been a period of coastal instability during the medieval and post-medieval periods, though it is not yet presently clear whether or not this acted to discourage settlement or whether it resulted in the burial or destruction of evidence of activity at this time. There is some evidence for the site of a former village at Altmouth though this is disputed.
- 4.8 From the 16th century there is documentary evidence for attempts to stabilise the dunes by planting marram grass and there is an increasing range and quantity of evidence for land-use in the area with rabbit warrens being established within the Formby dunes by at least 1667 and extending along the coast through the period.
- 4.9 Hightown only began to develop as a significant settlement in the late 19th century, until then the study area is shown on mapping as an area of dunes and rabbit warrens, the closest settlement being at Alt Grange to the north.

5. Legislation

- 5.1 Archaeological sites may be protected by a range of legislation, the following summarises that most relevant to the present study.
- 5.2 The Ancient Monuments and Archaeological Areas Act (1979) Provides statutory protection for sites of national importance as scheduled by Secretary of State upon advice from the Department for Culture, Media and Sport (DCMS) as advised by English Heritage. This Act, building on legislation dating back to 1882, provides for nationally important archaeological sites to be statutorily protected as Scheduled Ancient Monuments. There are currently around 19,000 entries in the Schedule, covering 35,000 sites ranging from prehistoric standing stones and burial mounds to Roman forts and medieval villages, and include some more recent structures such as collieries and wartime pill-boxes. The scheduling of a monument means that permission - 'scheduled monument consent' - is required for works to that monument.
- 5.3 National Heritage Act (2002) This extended English Heritage's responsibility for marine archaeology including ancient monuments in, on or under the seabed within a 12 mile boundary around England. Other areas of legislation which may cover marine sites are

The Protection of Wrecks Act (1973), The Merchant Shipping Act (1995), The Ancient Monuments and Archaeological Areas Act (1979), The Protection of Military Remains Act (1986).

- 5.4 However, the vast majority of archaeological sites have no formal statutory protection and are dealt with through Planning Process.
- 5.5 Planning Policy Guidelines (PPG) 15 and 16 Archaeology & Planning 1990 and Planning Policy Guideline (PPG) 15 Planning & the Historic Environment 1994 have recently been replaced by Planning Policy Statement (PPS) 5 which has integrated the approach to archaeological sites, historic buildings and other features which are now collectively defined as Heritage Assets.
- 5.6 Archaeological Remains are a finite, non-renewable and fragile resource and for those remains identified as being of national importance, there is a presumption of preservation in situ. However, where archaeological remains are discovered options available include 'preservation through record' through detailed excavation of a site. For sites of lesser importance, a watching brief during the construction period or investigation and recording in the course of permitted operations on site may be required. Reconciliation between the needs of development and those of archaeology are best achieved if plans are discussed at an early stage. When permitting damaging development, a planning authority should ensure that adequate provision has been made for the archaeology of the site, either through voluntary agreement or by condition on permission of planning approval.
- 5.7 There are no statutorily protected archaeological sites within the study area, although it is protected as a Site of Special Scientific Interest.

6. Aims and Objectives

6.1 The aims of the watching brief were:

- To provide information on the presence/absence, location and characteristics of archaeological remains at the site.

6.2 The specific objectives of the site works were:

- Monitor the removal of sand, peat and clay deposits across the site in order to allow archaeological deposits to be excavated and recorded as required.
- To recover all artefacts and, where necessary, palaeo-environmental samples from deposits of potential significance.
- To analyse the site records, artefacts and ecofacts to produce a report on the archaeology of the site.
- To submit an ordered archive to a suitable local repository.

7. Methodology

- 7.1 The detailed methodology is described in the project design (Appendix A) though a summary is given below.
- 7.2 The watching brief took place over a total of 20 consecutive days, 24 October - 17 November 2011, and was monitored by Clare Ahmad and Mark Adams.
- 7.3 Work consisted of breaking out the existing concrete sea defences (Fig. 2) in approximately 16 metre sections, beginning at the northern end. A continuous trench, c. 80 m in length, was then machine excavated in sections of similar length and filled with concrete before excavating the next section of trench to the south. The upper levels of

the trench were excavated with a toothless bucket, 1.80 m wide, to a depth of c. 0.50 – 0.60 m. A narrower trench 0.70 m wide was then excavated at the base to the bottom of the peat. The trench was generally c. 1.10 – 1.50 m deep in total, measured from beach level but in certain parts the ground levels were reduced prior to excavation to the interface between upper grey sand and lower peat layers. The excavated area covered the area shown in Fig. 2.

- 7.4 An 18.5 m eastern return was excavated at far southern end thereby creating a curved 'L' shape for the new sea defences.
- 7.5 The slot trench was then filled with concrete in preparation for pouring an upper concrete toe beam, forming the base to the sloped concrete slab for the replaced sea defence wall.
- 7.6 A 3.50 – 4 m wide area behind the toe beam was also excavated along the length of the new defences which also involved the removal of peat deposits.
- 7.7 Stratigraphic profiles were photographed, sketched, measured and recorded in the site notebook. However, because of the need to excavate and fill the trenches rapidly it was not possible to produce accurate measured drawings.
- 7.8 The first week of excavation was carried out during Spring tides where at high tide the trench and excavation area became flooded on a daily basis and at overnight.
- 7.9 'Grab' samples from the peat layer were taken for pollen analysis at the locations given in Fig. 2 (See also Plates). Due to time and safety constraints it was not always possible to take the samples at regular measured intervals. The approximate locations for samples taken were recorded in the site notebook. The samples were taken using a trowel shrouded in a fresh plastic bag. The depths recorded on bags were measured from the top of the peat deposits. The samples have been delivered to Prof. Ann Worsley, Geography Dept., Edge Hill University College, Ormskirk, Lancashire. The results of any analysis will be reported separately.
- 7.10 Spoilheaps were scanned regularly for possible finds and artefacts; none were recovered.

8. Results

- 8.1 The deposits are described from north to south in the order in which the trench was excavated. All distance measurements are taken from the northern end of the new defences.
- 8.2 In general the trench profile at the northern end consisted of c. 0.1-0.2 m of modern beach sand containing a moderate amount of brick and rubble over a layer of blue-grey silty sand, c. 0.30 m thick, overlying a 0.50 – 0.55 m thick deposit of peat. The peat sealed a lower deposit of soft blue-grey clay, 0.50 – 0.60 m thick (Plates 1, 2 and 3). When first exposed the peat layers were very compact dark reddish brown fibrous deposits with a high content of decayed organic matter consisting of roots, bark, twigs and fragments of wood. The peat oxidised to black within a minute of exposure making it difficult to observe any significant stratification (Plate 4). Water seepage through the trench sides also made monitoring difficult at times especially around high tides.
- 8.3 A thin upper peat deposit, c. 0.10 - 0.12 m thick, was observed at the far northern end of the trench overlying a thicker brown/black sand deposit (Plate 5). This section of the trench was not fully excavated due to the rapid ingress of water which made it difficult to establish the full extent of the deposit. At 7.00 m to the south, the thin peat layer was no longer present.
- 8.4 At around 30 – 32 m along the trench the peat layer began to rise towards ground level, thinning out from 0.20 - 0.15 m and overlying dark and light grey sand deposits, c. 0.70 m thick. At around this point the lower blue clay layer also thinned to c. 0.25 m thick sealing an unstable bluish grey silty sand layer, 0.25 m thick (Plate 6). The lower deposits remained consistent through out the remaining sections.

- 8.5 A large tree trunk c. 3.80 m in length was excavated at c. 42 metres from behind the toe beam, around mid-way across the excavated area. It was lying east – west and was c. 0.30 m in diameter at the base (Plate 7).
- 8.6 At c. 40 m the peat started to become significantly thinner as the blue/grey clay and sands rose up. A burnt tree stump was noted within the thin peat layer amid a mass of roots (Plate 8). The roots around this area were tentatively identified as Alder and were slightly spongy (Plate 9).
- 8.7 At c. 57 m the depth of the peat began to increase but was varied between 0.20 – 0.60 m in thickness, becoming nearly 1 m thick to the rear of the southern end of the defences (Plates 10 and 11).
- 8.8 The thickness of the peat varied little along the east-west axis (Plates 12-16), probably reflecting the accumulation of the peat to either side of the sand ridge.
- 8.9 The return at the southern end was excavated through peat which maintained a uniform thickness of c. 0.80 m.
- 8.10 It was noted that the peat at the southern end appeared to contain more tree trunks, substantial fragments of wood, roots and twigs in a consistent east – west alignment than in the northern area where the peat was increasingly more fibrous. The lower clay layer also appeared to undulate more in this end causing the peat to accumulate over a series of east – west aligned sand/ clay ridges.

9. Conclusions

- 9.1 In general terms the watching brief has confirmed the conclusions of the test-pits, i.e. that the peat deposits at Hightown appear to have accumulated into two discrete basins separated by a narrow ridge of silty sand running broadly north-west to south-east. The ridge is approximately 20 m wide and c. 0.5 m higher than the surrounding silts and clays (Fig. 3).
- 9.2 The deposits of peat to the north of this ridge are different in character to those to the south. Those to the northern are finer and more fibrous in consistency than those to the south which contained more substantial wood fragments including in situ tree stumps.

10. Bibliography

- Adams M. 2009 *An Archaeological Assessment of the Hightown Dunes Dune Restoration Works Proposals*. Unpublished NMLFAU Report for Sefton MBC.
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Collections

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Society of Museum Archaeologists, 1993. *Selection, Retention and Dispersal of Archaeological Collections*

Society of Museum Archaeologists, 1995. *Towards an Accessible Archaeological Archive*

United Kingdom Institute for Conservation, 1990. *Guidelines for the Preparation of Excavation Archives for Long-term Storage*

United Kingdom Institute for Conservation, 1998. *First Aid for Finds.*

11. Figures



Fig. 1. Site location. Not to scale.

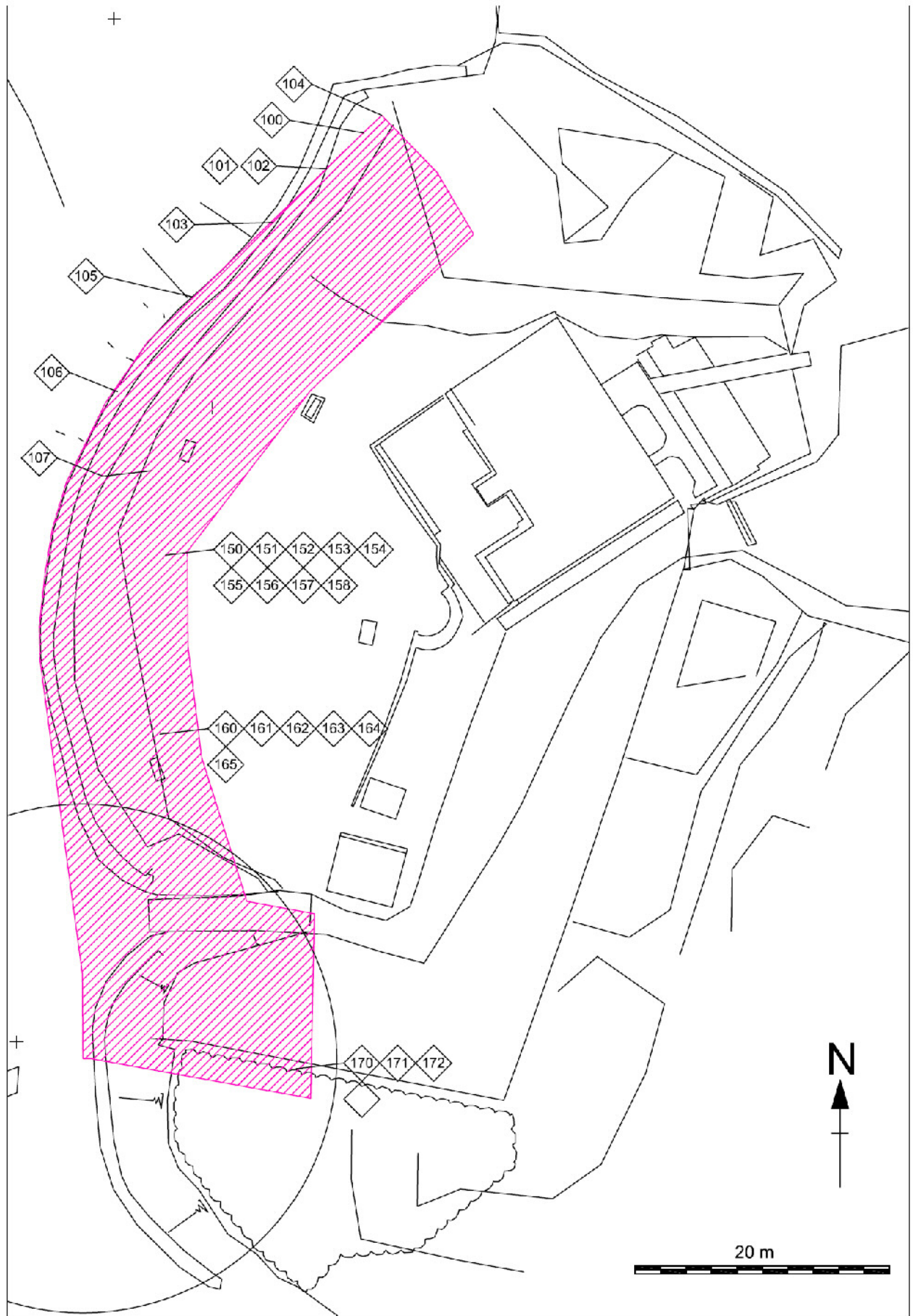


Fig. 2. Location of excavated area and samples in relation to the old sea defences.

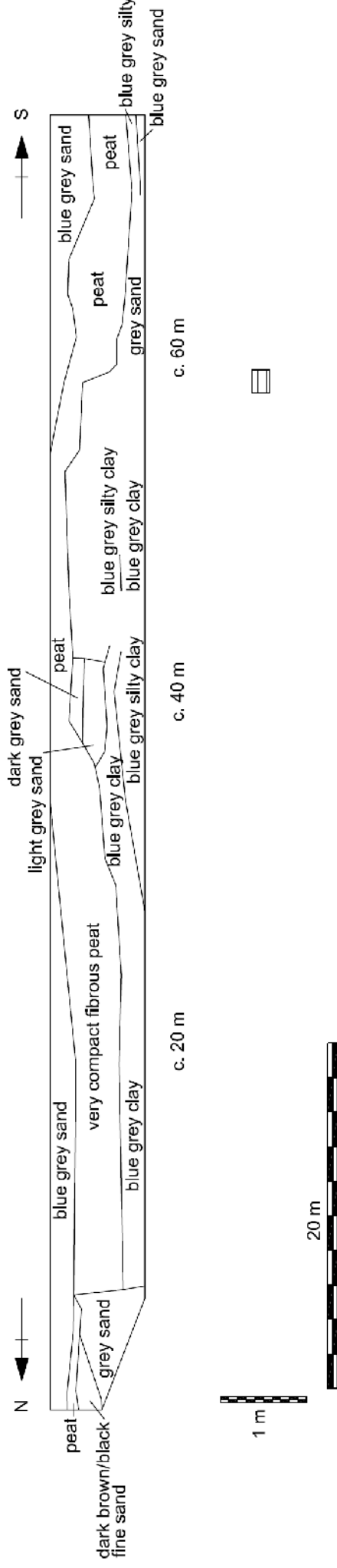


Fig. 3. Sketch of west-facing trench profile during Watching Brief. Note that the vertical scale has been exaggerated x5.

12. Plates



Plate 1. East-facing trench section at far northern end. From the east.



Plate 2. East-facing trench section at northern end. From the east.



Plate 3. West-facing section at c. 20 m south of northern end. From the west.



Plate 4. Machine excavating through peat, when initially exposed observed as a very compact dark reddish brown fibrous deposit before rapidly oxidising to black. From the north-west.



Plate 5. East-facing section through bluish/grey sand and a thin underlying peat layer over brown sand, at c. 4 m from far northern end. From the east.



Plate 6. West facing trench profile at c. 36 m showing rising clay and sand layers below thinner layer of peat. Water seepage at base of trench caused by a layer of blue sand below thinning layer of clay. From the west.



Plate 7. Tree trunk (c. 3.80 m in length) machine excavated from peat layer at approximately 42 metres south of northern end.



Plate 8. Burnt tree stump noted in peat towards southern end, amid mass of roots. From the west.



Plate 9. North-facing profile showing deposits behind toe beam including possible alder roots from peat observed within underlying sand layer. From the north.



Plate 10. Along east-facing trench profile just prior to section across line of ramp to old sea defences. From the north.



Plate 11. East-facing trench profile at approximately 6 – 7 m into section across line of ramp to old sea defences, showing sharp fall of peat layer mid-way. From the south-east.



Plate 12. North facing profile through area behind toe beam at c.12 metres south. From the north.



Plate 13. North facing profile through area behind concrete toe beam at c.20 metres south. From the north.



Plate 14. North facing profile through area behind toe beam at c. 36 metres showing underlying sand deposits below peat layer. From the north.



Plate 15. East-facing trench profile at southern end. From the north-east.



Plate 16. North-facing trench profile for eastern return. From the north-west.



Plate 17. Samples 150-158.

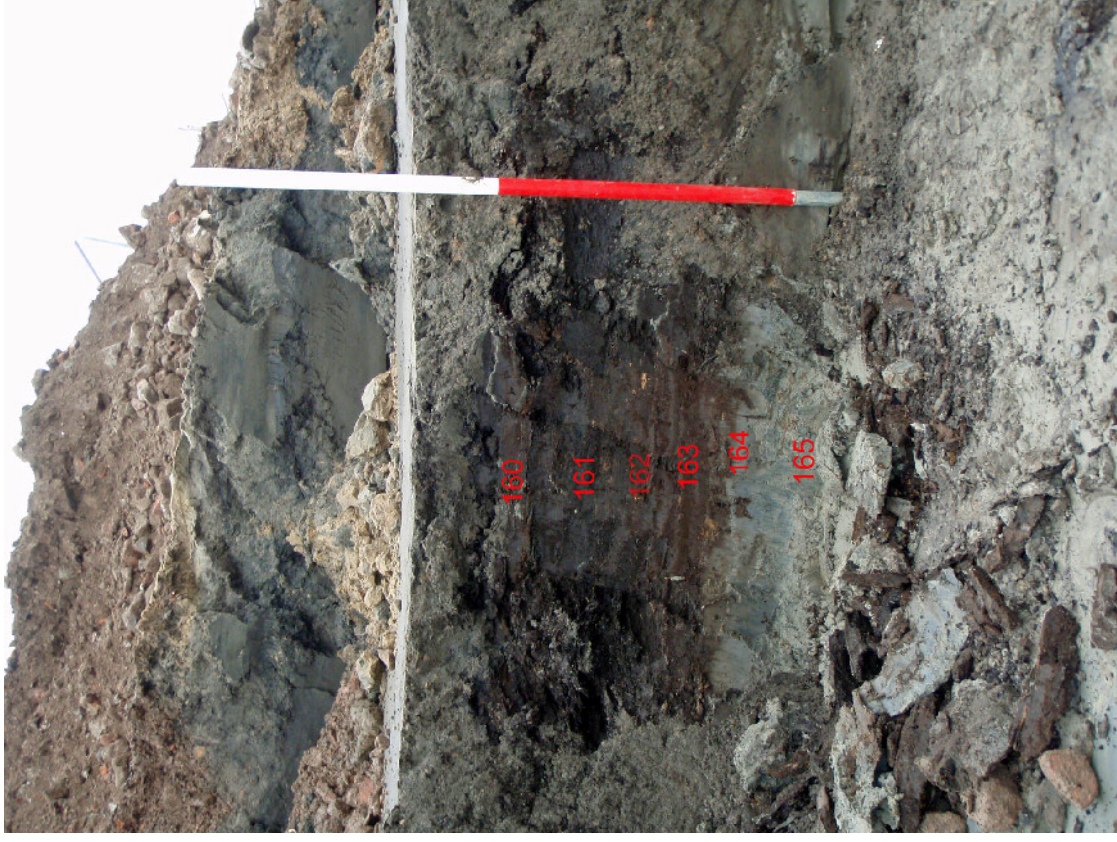


Plate 18. Sample 160 -165.

18. Archive Listing

The archive consists of digital and paper copies of this report and the project design and is held at National Museums Liverpool Field Archaeology Unit.

All samples for pollen analysis were sent to Prof. A. Worsley, Dept. Geography, Edgehill University College, Ormskirk, Lancs.

The photographic archive is listed below.

126 Hightown Photographic Catalogue							
CAT	FILM	SITE AREA	DESCRIPTION	DIR	NOTES	TAKEN BY	DATE
1	DIGITAL	126 I	Excavating TP1	SE		Mark Adams	19/07/2010
2	DIGITAL	126 I	Excavating TP1	S		Mark Adams	19/07/2010
3	DIGITAL	126 I	Excavating TP1	S		Mark Adams	19/07/2010
4	DIGITAL	126 I	Peat exposed in top of TP1	W		Mark Adams	19/07/2010
5	DIGITAL	126	Prehistoric trackway to south	W		Mark Adams	19/07/2010
6	DIGITAL	126	Prehistoric trackway to south	S		Mark Adams	19/07/2010
7	DIGITAL	126	Prehistoric trackway to south	S		Mark Adams	19/07/2010

126 Hightown Photographic Catalogue							
CAT	FILM	SITE AREA	DESCRIPTION	DIR	NOTES	TAKEN BY	DATE
						Adams	
8	DIGITAL	126	Prehistoric trackway to south	E		Mark Adams	19/07/2010
9	DIGITAL	126	Prehistoric trackway to south	E		Mark Adams	19/07/2010
10	DIGITAL	126	Prehistoric trackway to south	S		Mark Adams	19/07/2010
11	DIGITAL	126 I	East facing section through peat	E		Mark Adams	19/07/2010
12	DIGITAL	126 I	East facing section through peat	E		Mark Adams	19/07/2010
13	DIGITAL	126 I	East facing section through peat	E		Mark Adams	19/07/2010
14	DIGITAL	126 I	East facing section through peat	E		Mark Adams	19/07/2010
15	DIGITAL	126 I	West facing section through peat	W		Mark Adams	19/07/2010
16	DIGITAL	126 I	West facing section through peat	W		Mark Adams	19/07/2010
17	DIGITAL	126 II	Exposure of grey sands and peat	W		Mark Adams	20/07/2010
18	DIGITAL	126 II	West facing section through grey sands and peat	W		Mark Adams	20/07/2010
19	DIGITAL	126 II	West facing section through grey sands and peat	W		Mark Adams	20/07/2010
20	DIGITAL	126 II	West facing section through grey sands and peat	W		Mark Adams	20/07/2010
21	DIGITAL	126	Excavating TP 3 and 4			Mark Adams	20/07/2010

126 Hightown Photographic Catalogue

CAT	FILM	SITE AREA	DESCRIPTION	DIR	NOTES	TAKEN BY	DATE
22	DIGITAL	126	Excavating TP 3 and 4			Mark Adams	20/07/2010
23	DIGITAL	126 III	South facing section through peat	S		Mark Adams	20/07/2010
24	DIGITAL	126 III	South facing section through peat	S		Mark Adams	20/07/2010
25	DIGITAL	126 III	South facing section through peat	S		Mark Adams	20/07/2010
26	DIGITAL	126 IV	East facing section through peat	E		Mark Adams	20/07/2010
27	DIGITAL	126 IV	East facing section through peat	E		Mark Adams	20/07/2010
28	DIGITAL	126 V	West facing section through peat	W		Mark Adams	21/07/2010
29	DIGITAL	126 V	West facing section through peat	W		Mark Adams	21/07/2010
30	DIGITAL	126 V	West facing section through peat	W		Mark Adams	21/07/2010
31	DIGITAL	126 V	West facing section through peat	W		Mark Adams	21/07/2010
32	DIGITAL	126 V	West facing section through peat	W		Mark Adams	21/07/2010
33	DIGITAL	126	Prehistoric trackway to south	S		Mark Adams	21/07/2010
34	DIGITAL	126	Prehistoric trackway to south	S		Mark Adams	21/07/2010
35	DIGITAL	126	Prehistoric trackway to south	S		Mark Adams	21/07/2010
36	DIGITAL	126 WB	Original sea defence walls, northern end, before removal	NE		Mark	25/10/2011

126 Hightown Photographic Catalogue

CAT	FILM	SITE AREA	DESCRIPTION	DIR	NOTES	TAKEN BY	DATE
						Adams	
37	DIGITAL	126 WB	Original sea defence walls, northern end, before removal	N		Mark Adams	25/10/2011
38	DIGITAL	126 WB	Original sea defence walls, northern end, before removal	N		Mark Adams	25/10/2011
39	DIGITAL	126 WB	Original sea defence walls, northern end, before removal	N		Mark Adams	25/10/2011
40	DIGITAL	126 WB	Original sea defence walls, northern end, before removal	NE		Mark Adams	25/10/2011
41	DIGITAL	126 WB	Original sea defence walls, northern end, before removal	NE		Mark Adams	25/10/2011
42	DIGITAL	126 WB	Rubble and sand behind original sea defence walls, northern end	NE		Mark Adams	25/10/2011
43	DIGITAL	126 WB	Original sea defence walls, northern end, before removal	N		Mark Adams	25/10/2011
44	DIGITAL	126 WB	Original sea defence walls, mid-section and southern end, before removal	N		Mark Adams	25/10/2011
45	DIGITAL	126 WB	Original sea defence walls, northern end, before removal	W		Mark Adams	25/10/2011
46	DIGITAL	126 WB	Initial machining at far northern end of original sea defence wall	NE		Mark Adams	25/10/2011
47	DIGITAL	126 WB	Initial machining at far northern end of original sea defence wall	NE		Mark Adams	25/10/2011
48	DIGITAL	126 WB	Site after the removal of initial c.20 metre stretch of original sea defence wall at far northern end	NE		Mark Adams	25/10/2011
49	DIGITAL	126 WB	Site after the removal of initial c.20 metre stretch of original sea defence wall at far northern end	NE		Mark Adams	25/10/2011
50	DIGITAL	126 WB	Site after the removal of initial c.20 metre stretch of original sea defence wall at far northern end, showing machine trampled peat disturbed after the removal of concrete	NE		Mark Adams	25/10/2011

126 Hightown Photographic Catalogue

CAT	FILM	SITE AREA	DESCRIPTION	DIR	NOTES	TAKEN BY	DATE
			blocks				
51	DIGITAL	126 WB	Site after the removal of initial c.20 metre stretch of original sea defence wall at far northern end, showing machine trampled peat disturbed after the removal of concrete blocks	NE		Clare Ahmad	25/10/2011
52	DIGITAL	126 WB	Site after the removal of initial c.20 metre stretch of original sea defence wall at far northern end, showing machine trampled peat disturbed after the removal of concrete blocks	NE		Clare Ahmad	25/10/2011
53	DIGITAL	126 WB	Site after the removal of initial c.20 metre stretch of original sea defence wall at far northern end	NE		Clare Ahmad	25/10/2011
54	DIGITAL	126 WB	Dumper off-loading sand on machine ramp	W		Clare Ahmad	25/10/2011
55	DIGITAL	126 WB	Dumper off-loading sand on machine ramp	W		Clare Ahmad	25/10/2011
56	DIGITAL	126 WB	Site after the removal of initial c.20 metre stretch of original sea defence wall at far northern end, showing underlying bluish/grey sand below beach sand/machine trample	NE		Clare Ahmad	26/10/2011
57	DIGITAL	126 WB	Site after the removal of initial c.20 metre stretch of original sea defence wall at far northern end, showing underlying bluish/grey sand below beach sand/machine trample	NE		Clare Ahmad	26/10/2011
58	DIGITAL	126 WB	Shot showing underlying bluish/grey sand below beach sand/machine trample	NE		Clare Ahmad	26/10/2011
59	DIGITAL	126 WB	Initial slot trench through bluish/grey sand and thin, underlying peat layer	NE		Clare Ahmad	26/10/2011
60	DIGITAL	126 WB	Initial slot trench through bluish/grey sand and thin, underlying peat layer	NE	blurred image	Clare Ahmad	26/10/2011
61	DIGITAL	126 WB	West facing section through bluish/grey sand and a thin underlying peat over brown sand, c. 0.50 - 0.60m depth, at c.4 metre from far northern end	W		Clare Ahmad	26/10/2011
62	DIGITAL	126 WB	West facing section through bluish/grey sand and a thin underlying peat over brown sand, c. 0.50 - 0.60m depth, at c.4 metre from far northern end	W		Clare Ahmad	26/10/2011
63	DIGITAL	126 WB	East facing section through bluish/grey sand and a thin underlying peat over brown sand, c. 0.50 - 0.60m depth, at c.4 metre from far northern end	E		Clare Ahmad	26/10/2011

126 Hightown Photographic Catalogue

CAT	FILM	SITE AREA	DESCRIPTION	DIR	NOTES	TAKEN BY	DATE
64	DIGITAL	126 WB	East facing section through bluish/grey sand and a thin underlying peat over brown sand, c. 0.50 - 0.60m depth, at c.4 metre from far northern end	E		Clare Ahmad	26/10/2011
65	DIGITAL	126 WB	Shot along initial slot trench through bluish/grey sand and thin, underlying peat layer	N		Clare Ahmad	26/10/2011
66	DIGITAL	126 WB	Shot along initial slot trench through bluish/grey sand and thin, underlying peat layer	N		Clare Ahmad	26/10/2011
67	DIGITAL	126 WB	Shot along initial slot trench through bluish/grey sand and thin, underlying peat layer	N		Clare Ahmad	26/10/2011
68	DIGITAL	126 WB	Shot along initial slot trench through bluish/grey sand and thin, underlying peat layer	N		Clare Ahmad	26/10/2011
69	DIGITAL	126 WB	East facing section through bluish/grey sand and a thin underlying peat over brown sand, c. 0.50 - 0.60m depth, at c.4 metre from far northern end	E		Clare Ahmad	26/10/2011
70	DIGITAL	126 WB	East facing section through bluish/grey sand and a thin underlying peat over brown sand, c. 0.50 - 0.60m depth, at c.4 metre from far northern end	E		Clare Ahmad	26/10/2011
71	DIGITAL	126 WB	East facing section through bluish/grey sand and a thin underlying peat over brown sand, c. 0.50 - 0.60m depth, at c.4 metre from far northern end	E		Clare Ahmad	26/10/2011
72	DIGITAL	126 WB	Excavation of rapid test pit to determine foundation levels before tide came in, over 1.00 metre deep	NE		Clare Ahmad	26/10/2011
73	DIGITAL	126 WB	Excavation of rapid test pit to determine foundation levels before tide came in, over 1.00 metre deep	NE		Clare Ahmad	26/10/2011
74	DIGITAL	126 WB	Excavation of rapid test pit to determine foundation levels before tide came in, over 1.00 metre deep, through lower, thicker peat layer and underlying blue clay	NE		Clare Ahmad	26/10/2011
75	DIGITAL	126 WB	Excavation of rapid test pit to determine foundation levels before tide came in, over 1.00 metre deep, through lower, thicker peat layer and underlying blue clay	NE		Clare Ahmad	26/10/2011
76	DIGITAL	126 WB	Incoming tide floods excavation area	NE		Clare Ahmad	26/10/2011
77	DIGITAL	126 WB	Incoming tide floods excavation area	NE		Clare Ahmad	26/10/2011
78	DIGITAL	126 WB	Incoming tide over Formby Bank	E		Clare	26/10/2011

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CAT	FILM	SITE AREA	DESCRIPTION	DIR	NOTES	TAKEN BY	DATE
79	DIGITAL	126 WB	Incoming tide over Formby Bank	S		Clare Ahmad	26/10/2011
80	DIGITAL	126 WB	Incoming tide floods excavation area	N		Clare Ahmad	26/10/2011
81	DIGITAL	126 WB	Incoming tide floods excavation area	N		Clare Ahmad	26/10/2011
82	DIGITAL	126 WB	Excavation area after high tide	NE		Clare Ahmad	26/10/2011
83	DIGITAL	126 WB	Excavation area after high tide, pumping water out of trench	NE		Clare Ahmad	26/10/2011
84	DIGITAL	126 WB	Excavation area after high tide	SW		Clare Ahmad	26/10/2011
85	DIGITAL	126 WB	Excavation area after high tide	SW		Clare Ahmad	26/10/2011
86	DIGITAL	126 WB	Excavation area after high tide	SW		Clare Ahmad	26/10/2011
87	DIGITAL	126 WB	Excavation area after high tide	SW		Clare Ahmad	26/10/2011
88	DIGITAL	126 WB	Excavation area after high tide, pumping water out of trench	NE		Clare Ahmad	26/10/2011
89	DIGITAL	126 WB	Trench after tide water pumped out	E		Clare Ahmad	26/10/2011
90	DIGITAL	126 WB	Trench after tide water pumped out, towards southern end of initial stretch, east facing section	E		Clare Ahmad	26/10/2011
91	DIGITAL	126 WB	Trench after tide water pumped out, towards southern end of initial stretch, east facing section	E		Clare Ahmad	26/10/2011
92	DIGITAL	126 WB	Trench after tide water pumped out, at southern end of initial stretch	NE		Clare Ahmad	26/10/2011

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CAT	FILM	SITE AREA	DESCRIPTION	DIR	NOTES	TAKEN BY	DATE
93	DIGITAL	126 WB	Machining of trench recommences	E		Clare Ahmad	26/10/2011
94	DIGITAL	126 WB	East facing section at southern end of initial stretch, c.1.50 - 1.60m depth, showing thick peat and underlying blue clay layers	E		Clare Ahmad	26/10/2011
95	DIGITAL	126 WB	Checking trench depth at southern end of initial stretch, showing thick peat and underlying blue clay layers	E		Clare Ahmad	26/10/2011
96	DIGITAL	126 WB	Checking trench depth at southern end of initial stretch, showing thick peat and underlying blue clay layers	SE		Clare Ahmad	26/10/2011
97	DIGITAL	126 WB	Checking trench depth at southern end of initial stretch, showing thick peat and underlying blue clay layers	SE		Clare Ahmad	26/10/2011
98	DIGITAL	126 WB	Northern end of initial stretch of trench showing narrower slot trench through blue clay layer within wider trench	SE		Clare Ahmad	26/10/2011
99	DIGITAL	126 WB	Machining continuing to northern end of trench showing narrower slot trench through blue clay layer within wider stepped trench	SW		Clare Ahmad	26/10/2011
100	DIGITAL	126 WB	Machining continuing to northern end of trench showing narrower slot trench through blue clay layer within wider stepped trench	SW		Clare Ahmad	26/10/2011
101	DIGITAL	126 WB	Machining continuing to northern end of trench showing narrower slot trench through blue clay layer within wider stepped trench, checking level of trench 'shelf'	SW		Clare Ahmad	26/10/2011
102	DIGITAL	126 WB	East facing section through stepped trench showing thick peat and underlying blue clay layers, c.1.50 - 1.60m depth	E		Clare Ahmad	26/10/2011
103	DIGITAL	126 WB	East facing section through stepped trench showing thick peat and underlying blue clay layers, c.1.50 - 1.60m depth	E		Clare Ahmad	26/10/2011
104	DIGITAL	126 WB	East facing section through stepped trench showing thick peat and underlying blue clay layers, c.1.50 - 1.60m depth	E		Clare Ahmad	26/10/2011
105	DIGITAL	126 WB	East facing section through stepped trench showing thick peat and underlying blue clay layers, c.1.50 - 1.60m depth, at southern end of initial stretch	NE		Clare Ahmad	26/10/2011
106	DIGITAL	126 WB	Machining continuing to northern end of trench showing narrower slot trench through blue clay layer within wider stepped trench, checking level of trench 'shelf'	SW		Clare Ahmad	26/10/2011
107	DIGITAL	126 WB	West facing section through stepped trench showing thick peat layer	W		Clare	26/10/2011

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CAT	FILM	SITE AREA	DESCRIPTION	DIR	NOTES	TAKEN BY	DATE
						Ahmad	
108	DIGITAL	126 WB	West facing section through stepped trench showing thick peat and underlying blue clay layers, c.1.50 - 1.60m depth	W		Clare Ahmad	26/10/2011
109	DIGITAL	126 WB	Preparing the initial stretch of trench for concrete pour	N		Clare Ahmad	26/10/2011
110	DIGITAL	126 WB	Preparing the initial stretch of trench for concrete pour	NE		Clare Ahmad	26/10/2011
111	DIGITAL	126 WB	East facing section through stepped trench showing thick peat and underlying blue clay layers, c.1.50 - 1.60m depth, at northern end of initial stretch	E		Clare Ahmad	26/10/2011
112	DIGITAL	126 WB	Bailing out the trench after previous night tide	NE		Clare Ahmad	27/10/2011
113	DIGITAL	126 WB	Bailing out the trench after previous night tide	NE		Clare Ahmad	27/10/2011
114	DIGITAL	126 WB	Far northern end of trench after previous night tide	S		Clare Ahmad	27/10/2011
115	DIGITAL	126 WB	Bailing out the trench after previous night tide in order to expose set concrete	NE		Clare Ahmad	27/10/2011
116	DIGITAL	126 WB	Far northern end of trench after previous night tide	S		Clare Ahmad	27/10/2011
117	DIGITAL	126 WB	***VOID*** accidental shot	NE		Clare Ahmad	27/10/2011
118	DIGITAL	126 WB	Bailing out the trench after previous night tide in order to expose set concrete			Clare Ahmad	27/10/2011
119	DIGITAL	126 WB	Machining 4 metre extension to northern end, initially with wider ditching bucket	SE		Clare Ahmad	27/10/2011
120	DIGITAL	126 WB	Machining 4 metre extension to northern end, initially with wider ditching bucket - wooden concrete stopper marks northern end of initial concrete section	SE		Clare Ahmad	27/10/2011
121	DIGITAL	126 WB	Machining 4 metre extension to northern end, using narrower toothed bucket for deeper slot trench	S		Clare Ahmad	27/10/2011

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CAT	FILM	SITE AREA	DESCRIPTION	DIR	NOTES	TAKEN BY	DATE
122	DIGITAL	126 WB	Disturbed reddish brown peat layer before oxidised black, below bluish/grey sand	SE		Clare Ahmad	27/10/2011
123	DIGITAL	126 WB	East facing stepped section at far northern end of 4 metre trench extension, showing unstable trench edges	E		Clare Ahmad	27/10/2011
124	DIGITAL	126 WB	Working shot within 4 metre trench extension at far northern end, showing initial stretch of set concrete in section	NE		Clare Ahmad	27/10/2011
125	DIGITAL	126 WB	East facing stepped section at far northern end of 4 metre trench extension	E		Clare Ahmad	27/10/2011
126	DIGITAL	126 WB	East facing stepped section at far northern end of 4 metre trench extension	E		Clare Ahmad	27/10/2011
127	DIGITAL	126 WB	West facing stepped section at far northern end of 4 metre trench extension, showing unstable trench edges	W		Clare Ahmad	27/10/2011
128	DIGITAL	126 WB	West facing stepped section at far northern end of 4 metre trench extension, showing unstable trench edges	W		Clare Ahmad	27/10/2011
129	DIGITAL	126 WB	West facing stepped section at far northern end of 4 metre trench extension, showing unstable trench edges	N		Clare Ahmad	27/10/2011
130	DIGITAL	126 WB	Shot within 4 metre stepped trench extension at far northern end, showing initial stretch of set concrete in section	N		Clare Ahmad	27/10/2011
131	DIGITAL	126 WB	Preparing trench extension for concrete pour as tide begins to come in!	NE		Clare Ahmad	27/10/2011
132	DIGITAL	126 WB	Preparing trench extension for concrete pour as tide begins to come in!	NE		Clare Ahmad	27/10/2011
133	DIGITAL	126 WB	Preparing trench extension for concrete pour as tide begins to come in!	NE		Clare Ahmad	27/10/2011
134	DIGITAL	126 WB	Trench extension after concrete pour as tide begins to break through again	NE		Clare Ahmad	27/10/2011
135	DIGITAL	126 WB	Trench extension after concrete pour as tide begins to break through again	NE		Clare Ahmad	27/10/2011
136	DIGITAL	126 WB	Trench before commencing on second stretch showing concrete beam in situ within first	NE		Clare	31/10/2011

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CAT	FILM	SITE AREA	DESCRIPTION	DIR	NOTES	TAKEN BY	DATE
			12 metre stretch			Ahmad	
137	DIGITAL	126 WB	Working shot showing ground clearance before excavation of second stretch of trench	E		Clare Ahmad	31/10/2011
138	DIGITAL	126 WB	Initial excavation of inner slot trench through peat layer, shown as a reddish brown layer before oxidising into black, over 1.00 metre depth	NE		Clare Ahmad	31/10/2011
139	DIGITAL	126 WB	Initial excavation of inner slot trench through peat layer, shown as a reddish brown layer before oxidising into black, over 1.00 metre depth	NE		Clare Ahmad	31/10/2011
140	DIGITAL	126 WB	Excavation of inner slot trench through peat layer and lower blue clay layer	NE		Clare Ahmad	31/10/2011
141	DIGITAL	126 WB	West facing section at c.20 metres south of far northern end	W		Clare Ahmad	31/10/2011
142	DIGITAL	126 WB	West facing section at c.20 metres south of far northern end	W		Clare Ahmad	31/10/2011
143	DIGITAL	126 WB	View of initial trench with in situ concrete beam	SW		Clare Ahmad	31/10/2011
144	DIGITAL	126 WB	View along west facing section of second stretch of trench, at c.20 metres south of far northern end	NW		Clare Ahmad	31/10/2011
145	DIGITAL	126 WB	View looking down second stretch of trench before concrete pour, showing stepped sides through peat layer	N		Clare Ahmad	31/10/2011
146	DIGITAL	126 WB	West facing section at c.20 metres south of far northern end	W		Clare Ahmad	31/10/2011
147	DIGITAL	126 WB	West facing section at c.20 metres south of far northern end	W		Clare Ahmad	31/10/2011
148	DIGITAL	126 WB	Initial excavation of inner slot trench through peat layer, shown as a reddish brown layer before oxidising into black, over 1.00 metre depth	NW		Clare Ahmad	31/10/2011
149	DIGITAL	126 WB	View of trench showing narrow inner slot trench through peat layer and lower blue clay	NW		Clare Ahmad	31/10/2011
150	DIGITAL	126 WB	View of trench showing narrow inner slot trench through peat layer and lower blue clay	NW		Clare Ahmad	31/10/2011

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CAT	FILM	SITE AREA	DESCRIPTION	DIR	NOTES	TAKEN BY	DATE
151	DIGITAL	126 WB	Preparing the trench for concrete pour after trench excavated	N		Clare Ahmad	31/10/2011
152	DIGITAL	126 WB	Preparing the trench for concrete pour after trench excavated	N		Clare Ahmad	31/10/2011
153	DIGITAL	126 WB	West facing section at c.22 metres south of far northern end	W		Clare Ahmad	31/10/2011
154	DIGITAL	126 WB	West facing section at c.22 metres south of far northern end	W		Clare Ahmad	31/10/2011
155	DIGITAL	126 WB	Trench after concrete pour	N		Clare Ahmad	31/10/2011
156	DIGITAL	126 WB	Trench after concrete pour, levelling out	N		Clare Ahmad	31/10/2011
157	DIGITAL	126 WB	Trench after concrete pour, levelling out	SW		Clare Ahmad	31/10/2011
158	DIGITAL	126 WB	End of second stretch of trench, excavated onto peat layer	SW		Clare Ahmad	31/10/2011
159	DIGITAL	126 WB	General working shot	N		Clare Ahmad	01/11/2011
160	DIGITAL	126 WB	General working shot	N		Clare Ahmad	01/11/2011
161	DIGITAL	126 WB	Next trench section ready for excavation, 22+ metres south of far northern end	N		Clare Ahmad	01/11/2011
162	DIGITAL	126 WB	General working shot	N	blurred image	Clare Ahmad	01/11/2011
163	DIGITAL	126 WB	West facing trench profile at c.30 metres south of far northern end	W		Clare Ahmad	01/11/2011
164	DIGITAL	126 WB	West facing trench profile at c.30 metres south of far northern end	W	blurred image	Clare Ahmad	01/11/2011
165	DIGITAL	126 WB	East facing trench profile at c.30 metres south of far northern end	E		Clare	01/11/2011

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CAT	FILM	SITE AREA	DESCRIPTION	DIR	NOTES	TAKEN BY	DATE
						Ahmad	
166	DIGITAL	126 WB	East facing trench profile at c.30 metres south of far northern end	E	blurred image	Clare Ahmad	01/11/2011
167	DIGITAL	126 WB	East facing trench profile at c.36 metres south of far northern end	E		Clare Ahmad	01/11/2011
168	DIGITAL	126 WB	East facing trench profile at c.36 metres south of far northern end	E		Clare Ahmad	01/11/2011
169	DIGITAL	126 WB	East facing trench profile at c.36 metres south of far northern end - detail shot	E		Clare Ahmad	01/11/2011
170	DIGITAL	126 WB	Stepped trench for toe beam excavated to c.36 metres south of far northern end	NE		Clare Ahmad	01/11/2011
171	DIGITAL	126 WB	Stepped trench for toe beam excavated to c.36 metres south of far northern end	NE		Clare Ahmad	01/11/2011
172	DIGITAL	126 WB	Stepped trench for toe beam excavated to c.36 metres south of far northern end	NE		Clare Ahmad	01/11/2011
173	DIGITAL	126 WB	East facing trench profile at c.32 metres south of far northern end			Clare Ahmad	01/11/2011
174	DIGITAL	126 WB	Initial 3.50 metre wide clearance at far northern end, behind toe beam	N		Clare Ahmad	01/11/2011
175	DIGITAL	126 WB	Initial 3.50 metre wide clearance at far northern end, behind toe beam	N		Clare Ahmad	01/11/2011
176	DIGITAL	126 WB	Initial 3.50 metre wide clearance at far northern end, behind toe beam	W		Clare Ahmad	01/11/2011
177	DIGITAL	126 WB	South facing profile at far northern end behind toe beam showing exposed sand, peat and clay layers	SW		Clare Ahmad	01/11/2011
178	DIGITAL	126 WB	South facing profile at far northern end behind toe beam showing exposed sand, peat and clay layers	SW		Clare Ahmad	01/11/2011
179	DIGITAL	126 WB	South facing profile at far northern end behind toe beam showing exposed sand, peat and clay layers	SW		Clare Ahmad	01/11/2011

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CAT	FILM	SITE AREA	DESCRIPTION	DIR	NOTES	TAKEN BY	DATE
180	DIGITAL	126 WB	North facing profile at c.6 metres behind toe beam showing exposed sand, peat and clay layers	N		Clare Ahmad	01/11/2011
181	DIGITAL	126 WB	North facing profile at c.6 metres behind toe beam showing exposed sand, peat and clay layers	N		Clare Ahmad	01/11/2011
182	DIGITAL	126 WB	Continued excavation at northern end, behind concrete toe beam	NE		Clare Ahmad	02/11/2011
183	DIGITAL	126 WB	Continued excavation at northern end, behind concrete toe beam	NE		Clare Ahmad	02/11/2011
184	DIGITAL	126 WB	Continued excavation at northern end, behind concrete toe beam, showing thick layer of bluish grey sand over peat	NE		Clare Ahmad	02/11/2011
185	DIGITAL	126 WB	North facing profile through area behind concrete toe beam at c.12 metres south showing exposed sand, peat and clay layers	NE		Clare Ahmad	02/11/2011
186	DIGITAL	126 WB	North facing profile through area behind concrete toe beam at c.12 metres south showing exposed sand, peat and clay layers	NE		Clare Ahmad	02/11/2011
187	DIGITAL	126 WB	North facing profile through area behind concrete toe beam at c.12 metres south showing exposed sand, peat and clay layers	NE		Clare Ahmad	02/11/2011
188	DIGITAL	126 WB	North facing profile through area behind concrete toe beam at c.12 metres south showing exposed sand, peat and clay layers	NE		Clare Ahmad	02/11/2011
189	DIGITAL	126 WB	Working shot over excavation area looking southwards	NE		Clare Ahmad	02/11/2011
190	DIGITAL	126 WB	Working shot over excavation area looking southwards	NE		Clare Ahmad	02/11/2011
191	DIGITAL	126 WB	Continued excavation through peat layer at northern end, behind concrete toe beam	SE		Clare Ahmad	02/11/2011
192	DIGITAL	126 WB	Continued excavation through peat layer at northern end, behind concrete toe beam	S		Clare Ahmad	02/11/2011
193	DIGITAL	126 WB	Continued excavation through peat layer at northern end, behind concrete toe beam	NE		Clare Ahmad	02/11/2011
194	DIGITAL	126 WB	Shot showing exposed patches of blue clay below the peat layer	SW		Clare	02/11/2011

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CAT	FILM	SITE AREA	DESCRIPTION	DIR	NOTES	TAKEN BY	DATE
195	DIGITAL	126 WB	Working shot of initially excavated area covered in protective carpet before backfilling	SE		Ahmad	02/11/2011
196	DIGITAL	126 WB	Excavation through deposits at last 4 metres of initial 36 metre stretch	N		Clare Ahmad	02/11/2011
197	DIGITAL	126 WB	Excavation through deposits at last 4 metres of initial 36 metre stretch	N		Clare Ahmad	02/11/2011
198	DIGITAL	126 WB	Excavation through deposits at last 4 metres of initial 36 metre stretch	N		Clare Ahmad	02/11/2011
199	DIGITAL	126 WB	Working shot of machine excavating west facing section showing rising peat layer, at last 4 metres of initial 36 metre stretch	W		Clare Ahmad	02/11/2011
200	DIGITAL	126 WB	Working shot of machine excavating west facing section showing rising peat layer, at last 4 metres of initial 36 metre stretch	W		Clare Ahmad	02/11/2011
201	DIGITAL	126 WB	West facing trench profile at c.36 metres showing rising clay and sand layers below thinner layer of peat	W		Clare Ahmad	02/11/2011
202	DIGITAL	126 WB	West facing trench profile at c.36 metres showing rising clay and sand layers below thinner layer of peat	W		Clare Ahmad	02/11/2011
203	DIGITAL	126 WB	West facing trench profile at c.36 metres showing rising clay and sand layers below thinner layer of peat	W		Clare Ahmad	02/11/2011
204	DIGITAL	126 WB	West facing trench profile at c.36 metres showing rising clay and sand layers below thinner layer of peat - water seepage at base of trench caused by layer of blue sand below thinner layer of clay	W		Clare Ahmad	02/11/2011
205	DIGITAL	126 WB	Trench profile at c.32 - 36 metres showing rising clay and sand layers below thinner layer of peat - water seepage at base of trench caused by layer of blue sand below thinner layer of clay	NW		Clare Ahmad	02/11/2011
206	DIGITAL	126 WB	Trench profile at c.32 - 36 metres showing rising clay and sand layers below thinner layer of peat - water seepage at base of trench caused by layer of blue sand below thinner layer of clay	NW		Clare Ahmad	02/11/2011
207	DIGITAL	126 WB	Profile through area behind concrete toe beam at c.20 metres south showing exposed sand, peat and clay layers	NE		Clare Ahmad	03/11/2011

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CAT	FILM	SITE AREA	DESCRIPTION	DIR	NOTES	TAKEN BY	DATE
208	DIGITAL	126 WB	Cleaned, stepped north facing profile through area behind concrete toe beam at c.20 metres south showing exposed sand, peat and clay layers	NE		Clare Ahmad	03/11/2011
209	DIGITAL	126 WB	Cleaned, stepped north facing profile through area behind concrete toe beam at c.20 metres south showing exposed sand, peat and clay layers	N		Clare Ahmad	03/11/2011
210	DIGITAL	126 WB	Cleaned, stepped north facing profile through area behind concrete toe beam at c.20 metres south showing exposed sand, peat and clay layers	NE		Clare Ahmad	03/11/2011
211	DIGITAL	126 WB	Cleaned, stepped north facing profile through area behind concrete toe beam at c.20 metres south showing exposed sand, peat and clay layers	NE		Clare Ahmad	03/11/2011
212	DIGITAL	126 WB	Cleaned, stepped north facing profile through area behind concrete toe beam at c.20 metres south showing exposed sand, peat and clay layers - detail shot	NE		Clare Ahmad	03/11/2011
213	DIGITAL	126 WB	View of excavated area so far showing new concrete toe beam in situ	SW		Clare Ahmad	03/11/2011
214	DIGITAL	126 WB	View looking northwards along coastline	S		Clare Ahmad	03/11/2011
215	DIGITAL	126 WB	View of excavated area so far showing new concrete toe beam in situ	S		Clare Ahmad	03/11/2011
216	DIGITAL	126 WB	Working shot showing removal of peat layer as excavated behind tow beam at c.22 metres	NE		Clare Ahmad	03/11/2011
217	DIGITAL	126 WB	Working shot showing removal of peat layer as excavated behind tow beam at c.22 metres	NE		Clare Ahmad	03/11/2011
218	DIGITAL	126 WB	Profile through area behind toe beam at c.26 metres showing exposed sand, peat and clay layers	NE		Clare Ahmad	03/11/2011
219	DIGITAL	126 WB	Profile through area behind toe beam at c.26 metres showing exposed sand, peat and clay layers	NE		Clare Ahmad	03/11/2011
220	DIGITAL	126 WB	Profile through area behind toe beam at c.26 metres showing exposed sand, peat and clay layers	NE		Clare Ahmad	03/11/2011
221	DIGITAL	126 WB	Area behind concrete toe beam before removal (at c.20 - 36 metres south along toe beam), showing peat layer in profile below rubble made-up layer and sand deposit	N		Clare Ahmad	04/11/2011
222	DIGITAL	126 WB	Area behind concrete toe beam before removal (at c.20 - 36 metres south along toe	N		Clare	04/11/2011

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CAT	FILM	SITE AREA	DESCRIPTION	DIR	NOTES	TAKEN BY	DATE
			beam), showing peat layer in profile below rubble made-up layer and sand deposit			Ahmad	
223	DIGITAL	126 WB	Initial excavated area behind toe beam now backfilled and slope compacted in preparation for overlying concrete slab	SW		Clare Ahmad	04/11/2011
224	DIGITAL	126 WB	Area behind concrete toe beam before removal in background, foreground shows compacted slope after backfilling	N		Clare Ahmad	04/11/2011
225	DIGITAL	126 WB	Area behind concrete toe beam after the removal of rubble and sand deposits onto top of peat layer (at c. 20 - 36 metres south along toe beam)	NE		Clare Ahmad	04/11/2011
226	DIGITAL	126 WB	Working shot showing removal of peat layer as excavated behind tow beam	NE		Clare Ahmad	04/11/2011
227	DIGITAL	126 WB	At c.32 metres south along toe beam showing change from underlying blue clay, below peat, to a sandier, light grey deposit (pre-dating peat)	N		Clare Ahmad	04/11/2011
228	DIGITAL	126 WB	North facing profile through area behind toe beam at c.36 metres showing underlying sand deposits below peat layer	NE		Clare Ahmad	04/11/2011
229	DIGITAL	126 WB	North facing profile through area behind toe beam at c.36 metres showing underlying sand deposits below peat layer	NE		Clare Ahmad	04/11/2011
230	DIGITAL	126 WB	North facing profile through area behind toe beam at c.36 metres showing underlying sand deposits below peat layer	NE		Clare Ahmad	04/11/2011
231	DIGITAL	126 WB	North facing profile through area behind toe beam at c.36 metres showing underlying sand deposits below peat layer - detail shot	NE		Clare Ahmad	04/11/2011
232	DIGITAL	126 WB	North facing profile through area behind toe beam at c.36 metres showing underlying sand deposits below peat layer	N		Clare Ahmad	04/11/2011
233	DIGITAL	126 WB	North facing profile through area behind toe beam at c.36 metres showing underlying sand deposits below peat layer	NE		Clare Ahmad	04/11/2011
234	DIGITAL	126 WB	General view of toe beam and concrete slab over slope up to c.36 metres	N		Clare Ahmad	07/11/2011
235	DIGITAL	126 WB	Machine clearance behind original sea defence wall at 36+ metres south in preparation for next stretch	N		Clare Ahmad	07/11/2011
236	DIGITAL	126 WB	Clearance of deposits overlying peat showing in situ tree trunk within peat layer	N		Clare Ahmad	07/11/2011

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CAT	FILM	SITE AREA	DESCRIPTION	DIR	NOTES	TAKEN BY	DATE
237	DIGITAL	126 WB	Machine excavation of tree trunk within peat layer at c.42 metres south of north end	N		Clare Ahmad	07/11/2011
238	DIGITAL	126 WB	Tree trunk from peat layer at c.42 metres south of north end (c.3.80 m in length)			Clare Ahmad	07/11/2011
239	DIGITAL	126 WB	Tree trunk from peat layer at c.42 metres south of north end (c.3.80 m in length)			Clare Ahmad	07/11/2011
240	DIGITAL	126 WB	Working shot showing next excavated section, mid-way along heading southwards	NE		Mark Adams	07/11/2011
241	DIGITAL	126 WB	Working shot showing next excavated section, mid-way along heading southwards	NE		Mark Adams	07/11/2011
242	DIGITAL	126 WB	Working shot showing next excavated section, mid-way along heading southwards	NE		Mark Adams	07/11/2011
243	DIGITAL	126 WB	West facing trench section, mid-way along heading southwards	SW		Mark Adams	07/11/2011
244	DIGITAL	126 WB	Working shot showing next excavated section, mid-way along heading southwards	N		Mark Adams	07/11/2011
245	DIGITAL	126 WB	Working shot showing next excavated section, mid-way along heading southwards	N		Mark Adams	07/11/2011
246	DIGITAL	126 WB	Working shot showing next excavated section, mid-way along heading southwards	N		Mark Adams	07/11/2011
247	DIGITAL	126 WB	Working shot showing next excavated section, mid-way along heading southwards	NE		Mark Adams	07/11/2011
248	DIGITAL	126 WB	Working shot showing next excavated section, mid-way along heading southwards	E		Mark Adams	08/11/2011
249	DIGITAL	126 WB	Working shot showing next excavated section, mid-way along heading southwards	NE		Mark Adams	08/11/2011
250	DIGITAL	126 WB	Working shot showing next excavated section, mid-way along heading southwards	SW		Mark Adams	08/11/2011
251	DIGITAL	126 WB	Working shot showing next excavated section, mid-way along heading southwards	SW		Mark Adams	08/11/2011

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CAT	FILM	SITE AREA	DESCRIPTION	DIR	NOTES	TAKEN BY	DATE
						Adams	
252	DIGITAL	126 WB	Working shot showing next excavated section, mid-way along heading southwards	SW		Mark Adams	08/11/2011
253	DIGITAL	126 WB	Working shot showing next excavated section, mid-way along heading southwards	SW		Mark Adams	08/11/2011
254	DIGITAL	126 WB	Working shot showing machine excavate through peat deposit	NW		Mark Adams	08/11/2011
255	DIGITAL	126 WB	Working shot showing machine excavate through peat deposit	NW		Mark Adams	08/11/2011
256	DIGITAL	126 WB	Working shot showing machine excavate through peat deposit	NW		Mark Adams	08/11/2011
257	DIGITAL	126 WB	Working shot showing machine excavate through peat deposit	NW		Mark Adams	08/11/2011
258	DIGITAL	126 WB	Working shot showing machine excavate through peat deposit	NW		Mark Adams	08/11/2011
259	DIGITAL	126 WB	Working shot showing machine excavate through peat deposit	W		Mark Adams	08/11/2011
260	DIGITAL	126 WB	Working shot showing machine excavate inner slot trench through lower soft, blue clay deposit	N		Mark Adams	08/11/2011
261	DIGITAL	126 WB	West facing trench section through peat and blue clay layers	W		Mark Adams	08/11/2011
262	DIGITAL	126 WB	West facing trench section through peat and blue clay layers	N		Mark Adams	08/11/2011
263	DIGITAL	126 WB	West facing trench section through peat and blue clay layers	W		Mark Adams	08/11/2011
264	DIGITAL	126 WB	West facing trench section through peat and blue clay layers	NW		Mark Adams	08/11/2011
265	DIGITAL	126 WB	Working shot showing machine excavate through peat deposit near to ramp of original sea defences	NW		Mark Adams	08/11/2011

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CAT	FILM	SITE AREA	DESCRIPTION	DIR	NOTES	TAKEN BY	DATE
266	DIGITAL	126 WB	Working shot showing machine excavate through peat deposit near to ramp of original sea defences	NW		Mark Adams	08/11/2011
267	DIGITAL	126 WB	Working shot showing machine excavate through peat deposit near to ramp of original sea defences	NW		Mark Adams	08/11/2011
268	DIGITAL	126 WB	Working shot showing machine excavate through peat and clay deposits near to ramp of original sea defences	W		Mark Adams	08/11/2011
269	DIGITAL	126 WB	West facing trench section near to ramp of original sea defences - from a distance	W		Mark Adams	08/11/2011
270	DIGITAL	126 WB	West facing trench section near to ramp of original sea defences - from a distance	W		Mark Adams	08/11/2011
271	DIGITAL	126 WB	Working shot showing machine excavate through peat and clay deposits near to ramp of original sea defences	NW		Mark Adams	08/11/2011
272	DIGITAL	126 WB	Working shot showing machine excavate through peat and clay deposits near to ramp of original sea defences	NW		Mark Adams	08/11/2011
273	DIGITAL	126 WB	Looking northwards over to work being done on the reinforcement of sand dunes, north of site	S		Mark Adams	08/11/2011
274	DIGITAL	126 WB	Looking northwards over to work being done on the reinforcement of sand dunes, north of site	S		Mark Adams	08/11/2011
275	DIGITAL	126 WB	Looking southwards over to sand dunes past the line of the original sea defences	N		Mark Adams	08/11/2011
276	DIGITAL	126 WB	Working shot showing next excavated section, southern end	SE		Mark Adams	08/11/2011
277	DIGITAL	126 WB	Working shot showing next excavated section, southern end	SE		Mark Adams	08/11/2011
278	DIGITAL	126 WB	Working shot showing next excavated section, southern end	E		Mark Adams	08/11/2011
279	DIGITAL	126 WB	Working shot showing next excavated section, southern end	NE		Mark Adams	08/11/2011
280	DIGITAL	126 WB	Profile through peat at southern end, view looking south-east	N		Mark Adams	08/11/2011

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CAT	FILM	SITE AREA	DESCRIPTION	DIR	NOTES	TAKEN BY	DATE
						Adams	
281	DIGITAL	126 WB	Profile through peat at southern end, view looking south-east	NE		Mark Adams	08/11/2011
282	DIGITAL	126 WB	Profile through peat at southern end, view looking east	W		Mark Adams	08/11/2011
283	DIGITAL	126 WB	Excavation of return at northern end of new defences, view looking north			Mark Adams	08/11/2011
284	DIGITAL	126 WB	Excavation of return at northern end of new defences, view looking north			Mark Adams	08/11/2011
285	DIGITAL	126 WB	Excavation of return at northern end of new defences, view looking north			Mark Adams	08/11/2011
286	DIGITAL	126 WB	Excavation of peat layer behind toe beam trench at 36+ metres south, onto underlying soft blue clay - blurred image	W		Mark Adams	08/11/2011
287	DIGITAL	126 WB	Excavation of peat layer behind toe beam trench at 36+ metres south, onto underlying soft blue clay	W		Mark Adams	08/11/2011
288	DIGITAL	126 WB	Notebook page			Mark Adams	09/11/2011
289	DIGITAL	126 WB	Preparation of section across line of ramp to old sea defences	NE		Mark Adams	09/11/2011
290	DIGITAL	126 WB	Working shot of machine excavating deposits for toe beam trench across line of ramp to old sea defences	NE		Mark Adams	09/11/2011
291	DIGITAL	126 WB	Working shot of machine excavating deposits for toe beam trench across line of ramp to old sea defences	NE		Mark Adams	09/11/2011
292	DIGITAL	126 WB	Working shot of machine excavating deposits for toe beam trench across line of ramp to old sea defences	NE		Mark Adams	09/11/2011
293	DIGITAL	126 WB	Working shot of machine excavating deposits for toe beam trench across line of ramp to old sea defences	E		Mark Adams	09/11/2011
294	DIGITAL	126 WB	Notebook page			Mark Adams	09/11/2011

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CAT	FILM	SITE AREA	DESCRIPTION	DIR	NOTES	TAKEN BY	DATE
295	DIGITAL	126 WB	Around 6 - 7 metres into section, peat suddenly begins to thin as blue/grey clay and sands rise up, burnt tree stump noted in peat to south, amid mass of roots	W		Mark Adams	09/11/2011
296	DIGITAL	126 WB	Around 6 - 7 metres into section, peat suddenly begins to thin as blue/grey clay and sands rise up, burnt tree stump noted in peat to south, amid mass of roots	W		Mark Adams	09/11/2011
297	DIGITAL	126 WB	General shot showing the location of burnt tree stump in relation to section across line of ramp to old sea defences	W		Mark Adams	09/11/2011
298	DIGITAL	126 WB	Around 6 - 7 metres into section, peat suddenly begins to thin as blue/grey clay and sands rise up, burnt tree stump noted in peat to south, amid mass of roots	N		Mark Adams	09/11/2011
299	DIGITAL	126 WB	Around 6 - 7 metres into section, peat suddenly begins to thin as blue/grey clay and sands rise up, burnt tree stump noted in peat to south, amid mass of roots	PLAN		Mark Adams	09/11/2011
300	DIGITAL	126 WB	Around 6 - 7 metres into section, peat suddenly begins to thin as blue/grey clay and sands rise up, burnt tree stump noted in peat to south, amid mass of roots	SE		Mark Adams	09/11/2011
301	DIGITAL	126 WB	Around 6 - 7 metres into section, peat suddenly begins to thin as blue/grey clay and sands rise up, burnt tree stump noted in peat to south, amid mass of roots	SE		Mark Adams	09/11/2011
302	DIGITAL	126 WB	Around 6 - 7 metres into section, peat suddenly begins to thin as blue/grey clay and sands rise up, burnt tree stump noted in peat to south, amid mass of roots	NE		Mark Adams	09/11/2011
303	DIGITAL	126 WB	Around 6 - 7 metres into section, peat suddenly begins to thin as blue/grey clay and sands rise up, burnt tree stump noted in peat to south, amid mass of roots - detail shot	PLAN		Mark Adams	09/11/2011
304	DIGITAL	126 WB	West facing trench profile at around 6 - 7 metres into section across line of ramp to old sea defences	W		Mark Adams	09/11/2011
305	DIGITAL	126 WB	Working shot of machine excavating through soft blue clay layer below peat within thinner slot trench	NW		Mark Adams	09/11/2011
306	DIGITAL	126 WB	Working shot of machine having excavated through rising blue clay and sand layers below peat, within thinner slot trench	NW		Mark Adams	09/11/2011
307	DIGITAL	126 WB	Working shot of machine having excavated through rising blue clay and sand layers below peat, within thinner slot trench	S		Mark Adams	09/11/2011
308	DIGITAL	126 WB	East facing trench profile at around 6 - 7 metres into section across line of ramp to old sea defences	SE		Mark Adams	09/11/2011
309	DIGITAL	126 WB	East facing trench profile at around 6 - 7 metres into section across line of ramp to old sea defences	SE		Mark Adams	09/11/2011

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CAT	FILM	SITE AREA	DESCRIPTION	DIR	NOTES	TAKEN BY	DATE
			sea defences			Adams	
310	DIGITAL	126 WB	East facing trench profile at around 6 - 7 metres into section across line of ramp to old sea defences	S		Mark Adams	09/11/2011
311	DIGITAL	126 WB	East facing trench profile at around 6 - 7 metres into section across line of ramp to old sea defences	SE		Mark Adams	09/11/2011
312	DIGITAL	126 WB	Looking westwards over to Formby Bank	E		Mark Adams	09/11/2011
313	DIGITAL	126 WB	Working shot of machine excavating behind toe beam	S		Mark Adams	09/11/2011
314	DIGITAL	126 WB	Working shot of machine excavating behind toe beam	S		Mark Adams	09/11/2011
315	DIGITAL	126 WB	Profile through north-facing deposits behind toe beam showing possible alder roots from peat within underlying sand layer	N		Mark Adams	10/11/2011
316	DIGITAL	126 WB	Notebook page			Mark Adams	10/11/2011
317	DIGITAL	126 WB	Profile through north-facing deposits behind toe beam showing possible alder roots from peat within underlying sand layer	N		Mark Adams	10/11/2011
318	DIGITAL	126 WB	Area behind toe beam as shown in previous shot	NW		Mark Adams	10/11/2011
319	DIGITAL	126 WB	North-facing profile showing deposits behind toe beam including possible alder roots from peat observed within underlying sand layer	N		Mark Adams	10/11/2011
320	DIGITAL	126 WB	North-facing profile showing deposits behind toe beam including possible alder roots from peat observed within underlying sand layer	NW		Mark Adams	10/11/2011
321	DIGITAL	126 WB	Notebook page			Mark Adams	10/11/2011
322	DIGITAL	126 WB	Cleaned west-facing section 5 metres being toe beam showing possible alder roots from peat within underlying sand, ready for sampling	W		Mark Adams	10/11/2011
323	DIGITAL	126 WB	Cleaned west-facing section 5 metres being toe beam showing possible alder roots from peat within underlying sand, ready for sampling	W		Mark Adams	10/11/2011

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CAT	FILM	SITE AREA	DESCRIPTION	DIR	NOTES	TAKEN BY	DATE
324	DIGITAL	126 WB	Cleaned west-facing section 5 metres being toe beam showing possible alder roots from peat within underlying sand, ready for sampling	W		Mark Adams	10/11/2011
325	DIGITAL	126 WB	Cleaned west-facing section 5 metres being toe beam showing possible alder roots from peat within underlying sand, ready for sampling - blurred image	W		Mark Adams	10/11/2011
326	DIGITAL	126 WB	Cleaned west-facing section 5 metres being toe beam showing possible alder roots from peat within underlying sand, ready for sampling - blurred image	NW		Mark Adams	10/11/2011
327	DIGITAL	126 WB	Profile through north-facing deposits behind toe beam	NW		Mark Adams	10/11/2011
328	DIGITAL	126 WB	Profile through north-facing deposits behind toe beam	NW		Mark Adams	10/11/2011
329	DIGITAL	126 WB	Profile through north-facing deposits behind toe beam	NW		Mark Adams	10/11/2011
330	DIGITAL	126 WB	Profile through north-facing deposits behind toe beam	N		Mark Adams	10/11/2011
331	DIGITAL	126 WB	Notebook page			Mark Adams	10/11/2011
332	DIGITAL	126 WB	Profile through north-facing deposits behind toe beam showing substrate as clay	NW		Mark Adams	10/11/2011
333	DIGITAL	126 WB	Notebook page			Mark Adams	10/11/2011
334	DIGITAL	126 WB	East-facing trench profile at southern end of sea defences, showing peat deposit	E		Mark Adams	10/11/2011
335	DIGITAL	126 WB	Work in progress - east facing upper trench section	NE		Mark Adams	10/11/2011
336	DIGITAL	126 WB	West facing trench section showing underlying soft blue clay below peat and upper sand layers	W		Mark Adams	10/11/2011
337	DIGITAL	126 WB	East facing trench section at southern end of new defences	NE		Mark Adams	10/11/2011
338	DIGITAL	126 WB	East facing trench section -at southern end of new defences	NE		Mark Adams	10/11/2011

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CAT	FILM	SITE AREA	DESCRIPTION	DIR	NOTES	TAKEN BY	DATE
						Adams	
339	DIGITAL	126 WB	East facing trench section at southern end of new defences	E		Mark Adams	10/11/2011
340	DIGITAL	126 WB	Working shot of machine excavating behind toe beam - slightly blurred image	S		Mark Adams	11/11/2011
341	DIGITAL	126 WB	Working shot of machine excavating behind toe beam, showing peat and lower blue clay deposits - slightly blurred image	S		Mark Adams	11/11/2011
342	DIGITAL	126 WB	Working shot of machine excavating behind toe beam - slightly blurred image	SE		Mark Adams	11/11/2011
343	DIGITAL	126 WB	Working shot of machine excavating behind toe beam - slightly blurred image	SW		Mark Adams	11/11/2011
344	DIGITAL	126 WB	Notebook page			Mark Adams	11/11/2011
345	DIGITAL	126 WB	West facing profile of peat layer behind toe beam near to southern end of trench	W		Mark Adams	11/11/2011
346	DIGITAL	126 WB	West facing profile of peat layer behind toe beam near to southern end of trench	W		Mark Adams	11/11/2011
347	DIGITAL	126 WB	Notebook page			Mark Adams	14/11/2011
348	DIGITAL	126 WB	Working shot of machine excavating strip to east of trench to allow the removal of shuttering - taking off grey sands and top 200mm of peat	SE		Mark Adams	14/11/2011
349	DIGITAL	126 WB	Working shot of machine excavating strip to east of trench to allow the removal of shuttering - taking off grey sands and top 200mm of peat	SE		Mark Adams	14/11/2011
350	DIGITAL	126 WB	Strip to east of trench to allow the removal of shuttering - taking off grey sands and top 200mm of peat	SE		Mark Adams	14/11/2011
351	DIGITAL	126 WB	Strip to east of trench to allow the removal of shuttering - taking off grey sands and top 200mm of peat	SE		Mark Adams	14/11/2011
352	DIGITAL	126 WB	View towards southern end of toe beam and partially excavated area behind, to the east	NE		Mark Adams	14/11/2011

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CAT	FILM	SITE AREA	DESCRIPTION	DIR	NOTES	TAKEN BY	DATE
353	DIGITAL	126 WB	View towards southern end of toe beam and partially excavated area behind, to the east	NE		Mark Adams	14/11/2011
354	DIGITAL	126 WB	Working shot of machine excavating strip to east of trench	NE		Mark Adams	14/11/2011
355	DIGITAL	126 WB	Working shot of machine excavating strip to east of trench showing profile of sand, peat and clay deposits	NE		Mark Adams	14/11/2011
356	DIGITAL	126 WB	Working shot of machine excavating strip to east of trench showing profile of sand, peat and clay deposits	NE		Mark Adams	14/11/2011
357	DIGITAL	126 WB	Strip to east of trench showing profile of sand, peat and clay deposits	NE		Mark Adams	14/11/2011
358	DIGITAL	126 WB	Notebook page			Mark Adams	15/11/2011
359	DIGITAL	126 WB	Southern end of toe beam, showing excavation of area for eastern return	SW		Mark Adams	15/11/2011
360	DIGITAL	126 WB	Southern end of toe beam, showing excavation of area for eastern return	W		Mark Adams	15/11/2011
361	DIGITAL	126 WB	Working shot of dumper wagons carrying sand to reinforce dunes north of the site	S		Mark Adams	15/11/2011
362	DIGITAL	126 WB	Working shot of dumper wagons carrying sand to reinforce dunes north of the site	S		Mark Adams	15/11/2011
363	DIGITAL	126 WB	Working shot of dumper wagons carrying sand to reinforce dunes north of the site	S		Mark Adams	15/11/2011
364	DIGITAL	126 WB	Machine excavating trench for eastern return at far southern end of sea defences	N		Mark Adams	15/11/2011
365	DIGITAL	126 WB	North facing trench profile for eastern return of sea defences, at far southern end	NE		Mark Adams	15/11/2011
366	DIGITAL	126 WB	North facing trench profile for eastern return of sea defences, at far southern end	NE		Mark Adams	15/11/2011
367	DIGITAL	126 WB	Machine excavating trench for eastern return at far southern end of sea defences	NW		Mark Adams	15/11/2011

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CAT	FILM	SITE AREA	DESCRIPTION	DIR	NOTES	TAKEN BY	DATE
						Adams	
368	DIGITAL	126 WB	Machine excavating trench for eastern return at far southern end of sea defences	NW		Mark Adams	15/11/2011
369	DIGITAL	126 WB	North facing profile for eastern return of sea defences	NW		Mark Adams	15/11/2011
370	DIGITAL	126 WB	North facing profile for eastern return of sea defences showing sand and peat deposits	NW		Mark Adams	15/11/2011
371	DIGITAL	126 WB	North facing profile for eastern return of sea defences showing sand and peat deposits	NW		Mark Adams	15/11/2011
372	DIGITAL	126 WB	North facing profile for eastern return of sea defences showing sand and peat deposits - detail shot	NW		Mark Adams	15/11/2011
373	DIGITAL	126 WB	Stepped trench for southern east return of sea defences	W		Mark Adams	15/11/2011
374	DIGITAL	126 WB	Peat at eastern end of eastern return.			Mark Adams	16/11/2011
375	DIGITAL	126 WB	Notebook page			Mark Adams	16/11/2011
376	DIGITAL	126 WB	Location of Samples 170-172 at eastern end of southern return			Mark Adams	16/11/2011
377	DIGITAL	126 WB	Location of Samples 170-172 at eastern end of southern return			Mark Adams	16/11/2011
378	DIGITAL	126 WB	Polygonal sand wedges into upper surface of peat at southern end of defences.			Mark Adams	17/11/2011
379	DIGITAL	126 WB	Polygonal sand wedges into upper surface of peat at southern end of defences.			Mark Adams	17/11/2011
380	DIGITAL	126 WB	Polygonal sand wedges into upper surface of peat at southern end of defences.			Mark Adams	17/11/2011
381	DIGITAL	126 WB	South facing profile of area behind trench for eastern return	S		Mark Adams	17/11/2011

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CAT	FILM	SITE AREA	DESCRIPTION	DIR	NOTES	TAKEN BY	DATE
382	DIGITAL	126 WB	South facing profile of area behind trench for eastern return	SW		Mark Adams	17/11/2011
383	DIGITAL	126 WB	South facing profile of area behind trench for eastern return - detail shot	S		Mark Adams	17/11/2011
384	DIGITAL	126 WB	South facing section, eastern return at southern end			Mark Adams	17/11/2011
385	DIGITAL	126 WB	West facing section showing deposits in area behind toe beam at eastern return of sea defences, far southern end - detail shot	W		Mark Adams	17/11/2011
386	DIGITAL	126 WB	West facing section showing deposits in area behind toe beam at eastern return of sea defences, far southern end	W		Mark Adams	17/11/2011
387	DIGITAL	126 WB	West facing section showing deposits in area behind toe beam at eastern return of sea defences, far southern end	W		Mark Adams	17/11/2011
388	DIGITAL	126 WB	Work in progress at eastern return of sea defences, far southern end	SW		Mark Adams	17/11/2011
389	DIGITAL	126 WB	View looking northwards along line of sea defences	S		Mark Adams	17/11/2011

Sample Register

SAM NO	SUB SAM NO	SITE	TRENCH	LAYER	LTRS	BGS	TAKEN BY
1		126		***For Watching Brief samples see from sample number 100***			
100		126	WB	from upper, thin peat layer at c. 2 metres south along trench (eastern side of trench)	<0.25	1	Clare Ahmad
101		126	WB	from base of lower peat layer, c. 6 metres south along trench within rapidly dug test pit (taken from machine bucket as too dangerous to enter trench)	<0.25	1	Clare Ahmad

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SAM NO	SUB SAM NO	SITE TRENCH	LAYER	LTRS	BGS	TAKEN BY
102		126 WB	from upper section of lower peat layer, c. 6 metres south along trench within rapidly dug test pit (taken from machine bucket as too dangerous to enter trench)	<0.25	1	Clare Ahmad
103	103.1, 103.2, 103.3	126 WB	from base, mid and upper section of thick, lower peat layer, c. 12 metres south along trench (western side of trench)	<0.25	3	Clare Ahmad
104		126 WB	from upper 10 cms of lower peat layer at far northern end of trench, eastern side	<0.25	1	Clare Ahmad
105	105.1, 105.2, 105.3	126 WB	from base, mid and upper section of thick, lower peat layer, c. 20 metres south along trench (eastern side of trench)	<0.25	3	Clare Ahmad
106	106.1, 106.2, 106.3	126 WB	from base, mid and upper section of thick, lower peat layer, c. 30 metres south along trench (eastern side of trench)	<0.25	3	Clare Ahmad
107	107.1, 107.2, 107.3	126 WB	from base, mid and upper section of thick, lower peat layer, c. 36 metres south along and 2.00 m behind concrete toe beam (eastern side of trench)	<0.25	3	Clare Ahmad
108		126 WB	Charcoal from tree stump	0.50	1	Mark Adams
109		126	Number not used			
110		126	Number not used			
111		126	Number not used			
112		126	Number not used			
113		126	Number not used			
114		126	Number not used			
115		126	Number not used			
116		126	Number not used			
117		126	Number not used			

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SAM	SUB SAM NO	SITE TRENCH	LAYER	LTRS	BGS	TAKEN BY
118		126	Number not used			
119		126	Number not used			
120		126	Number not used			
121		126	Number not used			
122		126	Number not used			
123		126	Number not used			
124		126	Number not used			
125		126	Number not used			
126		126	Number not used			
127		126	Number not used			
128		126	Number not used			
129		126	Number not used			
130		126	Number not used			
131		126	Number not used			
132		126	Number not used			
133		126	Number not used			
134		126	Number not used			
135		126	Number not used			
136		126	Number not used			
137		126	Number not used			
138		126	Number not used			
139		126	Number not used			
140		126	Number not used			

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SAM NO	SUB SAM NO	SITE	TRENCH	LAYER	LTRS	BGS	TAKEN BY
141		126		Number not used			
142		126		Number not used			
143		126		Number not used			
144		126		Number not used			
145		126		Number not used			
146		126		Number not used			
147		126		Number not used			
148		126		Number not used			
149		126		Number not used			
150		126	WB	Peat layer 0 - 10cm			Mark Adams
151		126	WB	Grey sand 20 - 35cm			Mark Adams
152		126	WB	Peat layer 35 - 45cm			Mark Adams
153		126	WB	Peat layer 50 - 60cm			Mark Adams
154		126	WB	Peat layer 60 - 70cm			Mark Adams
155		126	WB	Peat layer 70 - 80cm			Mark Adams
156		126	WB	Peat layer 80 - 90cm			Mark Adams
157		126	WB	Peat layer 0.90 - 1.00m			Mark Adams
158		126	WB	Peat layer 1.00 - 1.10m			Mark Adams
159		126		Number not used			
160		126	WB	Peat layer 0 - 10cm			Mark Adams
161		126	WB	Peat layer 10 - 20cm			Mark Adams
162		126	WB	Peat layer 20 - 30cm			Mark Adams
163		126	WB	Peat layer 30 - 40cm			Mark Adams

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SAM NO	SUB SAM NO	SITE TRENCH	LAYER	LTRS	BGS	TAKEN BY
164		126 WB	Clay			Mark Adams
165		126 WB	Sands			Mark Adams
166		126	Number not used			
167		126	Number not used			
168		126	Number not used			
169		126	Number not used			
170		126 WB	Top of peat layer			Mark Adams
171		126 WB	Middle of peat layer			Mark Adams
172		126 WB	Base of peat layer			Mark Adams

Appendix A: Project Design

**Project Design for an Archaeological
'Watching Brief' at Hightown Sea
Defences, Hightown, Sefton,
Merseyside.**

*Prepared for Merseyside Environmental Advisory Service
First Floor, Merton House
Stanley Road
Bootle
Merseyside L20 3DL*

By Dr M. Adams

August 2011

**National Museums Liverpool Field Archaeology Unit,
Dock Traffic Office,
Albert Dock,
Liverpool
L3 4AX
Tel: 0151 478 4260**

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Project Design for Archaeological 'Watching Brief' at Hightown Sea Defences, Hightown, Sefton, Merseyside.

1. Introduction

- 1.3 This document is a project design or method statement for an archaeological watching brief on behalf of Merseyside Environmental Advisory Service (hereafter the Client) at Hightown Sea Defences, Hightown, Sefton, Merseyside. It is valid for a period of six months from 17 August.
- 1.4 It primarily relates to land around the Blundellsands Sea Defences centred NGR SD 296 029, to the west of Hightown (Fig. 1). The site is part of an area of historic and archaeological interest, lying over deposits of peat dating to the Neolithic period. Occasional chance finds of Prehistoric and Roman artefacts have also been made in the area.
- 1.5 The solid geology in this part of Merseyside consists of Permo-Triassic Pebble Beds overlain by deposits of glacial drift and on the foreshore these include deposits of Downholland Silt.
- 1.6 The foreshore area retains no soil in the conventional sense, though the 'submerged forest' lies within a bed of peat c. 0.2-0.5 m thick.

2. Previous Archaeological Investigations

- 2.2 Although there is little direct evidence for settlement in the area study area during the Prehistoric or Romano-British periods, there is a range of palaeo-environmental evidence and stray finds from the foreshore which suggest that there is considerable potential for deposits dating to these periods. This potential is further highlighted by the exposure of a suite of human and animal footprints to the north at Formby Point and a prehistoric trackway excavated to the immediate south of the study area. Within the study area deposits of peat relating to a 'submerged forest' are of particular significance for the Prehistoric period.
- 2.3 There is very little evidence for post-Roman settlement, though this should be viewed against the regional context in which evidence for this period is generally sparse and poorly understood. There appears to have been a period of coastal instability during the medieval and post-medieval periods, though it is not yet presently clear whether or not this acted to discourage settlement or buried or destroyed evidence of activity at this time. There is some evidence for the site of a former village at Altmouth though this is disputed.
- 2.4 From the 16th century there is documentary evidence for attempts to stabilise the dunes by planting marram grass and there is an increasing range and quantity of evidence for land-use in the area with rabbit warrens being established within the Formby dunes by at least 1667 and extending along the coast through the period.
- 2.5 Hightown only began to develop as a significant settlement in the late 19th century, until then the study area is shown on mapping as an area of dunes and rabbit warrens, the closest settlement being at Alt Grange to the north.

3. Aims and Objectives

3.1 The aims of the project are:

- To provide information on the presence/absence, location and characteristics of archaeological remains at the site.

3.2 The specific objectives of the site works are:

- Monitor the removal of top soil and sub-soil across the site in order to allow archaeological deposits to be excavated and recorded as required.
- To recover all artefacts and, where necessary, palaeo-environmental samples from deposits of potential significance.
- To analyse the site records, artefacts and ecofacts to produce a report on the archaeology of the site.
- To submit an ordered archive to a suitable local repository.

4. Location of Project

4.1 The watching brief will be confined to the extents of the proposed development as discussed with the client and their representatives.

4.2 The area identified as containing potentially significant archaeological deposits is highlighted on Fig. 1.

4.3 The project will seek to excavate and record deposits of peat dating to the Neolithic period.

5. Methodology

8.1 All work will be carried out by appropriately qualified archaeologists in accordance with the Standard and Guidance for Archaeological Evaluations produced by the Institute of Field Archaeologists (2008) and with the IFA Code of Conduct. Provision will also be made for volunteer involvement in the project. Volunteers will principally be drawn from members of the Merseyside Archaeology Society.

8.2 The duration of site works will be determined by the client.

8.3 NMLFAU will conform to the Client's arrangements for notification of entering and leaving the site. If desired by the Client, organised tours of the works can be arranged for interested parties.

8.4 The site grid for the survey will be tied in to OS datum.

8.5 All excavation by machine in the area covered by the watching brief is to use a toothless 'ditching bucket' unless ground conditions dictate that a toothed bucket is essential. Although the plant will be operated by an appropriately qualified operator supplied by the client's main contractor, all work covered by the watching brief will take place under the direct supervision of an archaeologist familiar with machine excavation.

8.6 All archaeological deposits/features identified will be hand excavated in an archaeologically controlled and stratigraphic manner sufficient to meet the aims and objectives of the investigation.

8.7 The principal aim of the watching brief is to recover palaeo-environmental samples from the peat deposits and to monitor for the presence of artefacts. Sufficient of any

archaeological deposits/features will be examined to recover evidence of date, condition and function. A minimum sample of 50% of archaeological features will be examined by excavation. Features such as post-holes, pits and slots will be half-sectioned and there will be excavation of segments across linear features such as ditches and gullies covering no less than 25% of the feature as exposed in the trench.

- 8.8 Where possible and appropriate excavated deposits will be scanned with a metal detector operated by a suitably qualified operator.
- 8.9 A full written, drawn and photographic record will be made of all archaeological features using NMLFAU's system of proforma context sheets. Hand drawn plans and sections of features will be produced at an appropriate scale (normally 1:20 for plans and 1:10 for sections). Drawings will include spot heights relative to Ordnance Datum in metres, correct to two decimal places. Site drawings will be tied into Ordnance Survey mapping of the area using a total station.
- 8.10 Digital and monochrome negative photographs will be taken at a minimum format of 35mm as required. In addition to records of archaeological features, a number of general site photographs will also be taken to give an overview of the site and the scope of the works taking place.
- 8.11 All non-modern artefacts will be retained. If appropriate all 'small finds' will be recorded three dimensionally. Bulk finds will be collected by context. Finds will be treated in accordance with the English Heritage guidance document 'A strategy for the care and investigation of finds' (1995) and stored in controlled conditions where appropriate. All artefacts will be retained, cleaned, labelled and stored as detailed in the guidelines of the IFA. Conservation, if required, will be undertaken by approved conservators. United Kingdom Institute for Conservation (UKIC) guidelines will apply (UKIC 1998). All ferrous objects and a selection of non-ferrous objects (including all coins) will be x-rayed.
- 8.12 The site has some potential for the presence of substantial timber artefacts such as water craft or trackways similar to that excavated to the south (Cowell pers. comm.). However, although the potential is probably relatively low it is impossible to assess accurately as little excavation has occurred regionally on deposits of this nature.
- 8.13 In the first instance proven or suspected artefacts of this type will be covered with a protective layer of polythene sheeting and reburied to prevent further deterioration pending the provision of specialist advice.
- 8.14 If such items are found it is likely that they will require lifting and transport to an appropriate secure storage area where they can be stored in a suitable environment.
- 8.15 It is likely that deposits with significant Palaeo-environmental potential (e.g. waterlogged deposits displaying good organic preservation and deeply stratified deposits) will be encountered and an appropriate soil sampling strategy will be implemented in accordance with Centre for Archaeology Guidelines (English Heritage 2002).
- 8.16 These may comprise bulk sediment samples of up to 20 litres, to a maximum of twenty-five samples in the first instance. In addition monolith or column samples may be taken by the palaeo-environmental advisor from appropriate sections.
- 8.17 Samples (other than monoliths) will be from individual contexts. Thick contexts will be sampled in spits of 5–10cm. The samples will come from cleaned surfaces, be collected with clean tools, and be placed in clean containers.
- 8.18 All samples will be adequately recorded and labelled. With a register of all samples maintained. Sample record sheets will provide information on sample type, reason for sampling, size, context and sample numbers, spatial location, date of sampling, and context description and interpretation (eg grey-brown silt, primary pit fill, ?Late Roman). The approximate percentage of the context sampled will be recorded where known.
- 8.19 Labels will be plastic or plasticised labels marked with permanent markers. Samples in poly bags will be double-bagged, and labels placed inside both bags and on the

outside of the outer bags. Bags should be tied securely with synthetic string. Specialist samples with an orientation, such as cores, monoliths and Kubierna boxes will have the top and bottom marked and the depth within the sequence of the deposit recorded; overlapping samples will have their relationship recorded. The position of samples will be marked on all relevant site plans and section drawings.

- 8.20 The Client will be notified by NMLFAU immediately significant/extensive archaeology is uncovered.
- 8.21 Should articulated human remains be discovered during the course of the excavations the remains will be covered and protected and left in situ in the first instance. The removal of human remains will only take place in accordance with the appropriate Home Office and Environmental Health regulations and the Burial Act 1857 and Disused Burial Grounds (Amendment) Act, 1981.
- 8.22 All excavation will be undertaken with a view to avoid damaging any archaeological deposits or features, which appear worthy of preservation *in situ* or subject to the more detailed investigation.
- 8.23 Any artefacts which are recovered that fall within the scope of the Treasure Act 1997 will be reported to H. M. Coroner. Where removal cannot take place on the same working day as discovery, suitable security will be taken to protect the finds from theft.
- 8.24 The safety of the excavations will be reviewed daily, and the methodology may be modified to ensure it is a safe place to work.
- 8.25 It is presumed that temporary office, welfare and storage space will be made available by the client.
- 8.26 Any variations to the archaeological programme will only be undertaken after consultation with, and the approval of the Client. Any variations will be fully recorded and circulated to parties beforehand (unless health and safety requirements demand immediate variation).
- 8.27 Staffing will consist of the following:

Job Title	Name	Principal Duties
Project Officer	M. Adams	<p>Overall decisions on excavation strategy and tactics.</p> <p>To make detailed records of work carried out during excavation following established procedures and systems.</p> <p>Site photography.</p> <p>Keeping timesheets, personnel records and records of expenditure.</p> <p>Preparation of site matrices and context groupings.</p> <p>Preparation of site archive.</p> <p>Preparation of final versions of digitised site plans and sections on AutoCAD.</p> <p>Production of reports.</p> <p>Liaison with English Heritage, County Archaeological Curator, client and specialists.</p>
Site Supervisor	C. Ahmad	<p>Day-to-day decisions on excavation strategy and tactics.</p> <p>To make detailed records of work carried out during excavation following established procedures and systems.</p>

		<p>Site photography.</p> <p>Assisting the Project Officer as required.</p>
<p>Site Assistants (up to x 2)</p>	TBC	<p>To carry out the day to day excavation of deposits under the supervision of the Project Officer or Site Supervisor.</p> <p>To carry out recording of finds as required.</p> <p>To produce accurate plans and section drawings as required.</p> <p>To assist the Project Officer or Site Supervisor in recording as required.</p> <p>To assist in the supervision of volunteers.</p> <p>Site photography.</p>

6. Reporting

6.1 According to standard procedure, excavation will be followed by a period of post-excavation processing. This will involve the cataloguing and analysis of any finds, samples and the preparation of the archive for the site report and with the view to final deposition in the event of no further investigation being required.

6.2 After the completion of the fieldwork a formal report will be prepared. The report will contain the following elements:-

- A non-technical summary.
- A table of contents.
- An introduction with acknowledgements, including a list of all those involved in the project and the location and description of the evaluation area.
- A statement of the project aims.
- An account of the project methodology undertaken, with an assessment of the same.
- A brief summary of the archaeological/historical background of the area, indicating past and present land use, accompanied by relevant maps.
- A description of the archaeological works, including any archaeologically significant features/deposits or potential features/deposits identified within the site.
- A discussion of the location, nature, extent, date, quality, condition and significance of any archaeological deposits/features uncovered.
- Digital colour images of work in progress and significant features.
- Plans and section drawings at appropriate scales.
- Other maps, plans, drawings and photographs as appropriate.
- A description of the other finds and palaeoenvironmental samples collected including an exposition of the methodologies employed with a statement on the presence or absence of material and an assessment of preservation. An interpretation of the finds including reference to any unusual or important features of the assemblage will also be included. Specialist reports will be included of all important groups of finds, materials and samples as necessary.

- An interpretation of the results with a statement of the significance of any identified archaeological features/sites.
- A bibliography of sources consulted.
- An index to the project archive and a statement of its location/proposed repository.

6.3 The report will be produced by M. Adams with a section on palaeo-environmental evidence by A. Worsley. Reports on other aspects of the archive will be produced by appropriately qualified specialists appointed as required.

6.4 The report will include assessments of any artefacts and environmental samples collected during the site works. All artefacts considered vulnerable will be assessed by a specialist conservator with a view to identifying any long-term storage issues.

6.5 It is anticipated that the following classes of material will be encountered and will require assessment. Estimates of quantity are of a very general nature and for indicative purposes only. Provided the archive can be accessioned by NML, Conservation will be undertaken by NML Conservation Labs as acquisitions for which no charge will be made. However, large timber or other organic items may require external specialist conservation advice for which a separate charge will be made on a case by case basis.

Material Type	Likely Nature and Quantity	Likely Conservation Requirements
Post-Medieval Ceramics	None anticipated.	None
Post Medieval Building Material	None anticipated.	None
Timber and other organic remains	Uncertain	Provision is to be made for the stabilisation of any organic material. To be determined on a case by case basis following advice from NML Conservation Labs and other specialist advice as appropriate.
Fired clay (Daub)	None anticipated.	None
Medieval Ceramics	None anticipated.	None
Animal Bone	None anticipated.	Bone preservation is generally very poor in the peat soils found in this area and it unlikely that significant material survives in these deposits. Bone may survive in the clays below but is unlikely to require conservation.
Human Remains	None anticipated on this project	None
Ferrous (Iron) Metalwork	None anticipated.	Very likely to require stabilisation.
Non-Ferrous Metalwork	None anticipated.	Very likely to require stabilisation.
Wood, Leather and other organics	Uncertain	Provision is to be made for the stabilisation of any organic material. To be determined on a case by case basis following advice from NML Conservation

		Labs.
Industrial Waste	None anticipated on this project	None

6.6 The following specialists will be consulted as appropriate with regard to the production of assessment reports.

Material Type	Specialist
Medieval & Post-Medieval Ceramics	J. Speakman (NMLFAU)
Animal Bone	None anticipated on this project (bone survival on local soils is very poor)
Human Remains	None anticipated on this project
Palaeo-environmental evidence	Annie Worsley, Edge Hill College
Fired Clay (Daub)	NA
Ferrous (Iron) and Non-Ferrous Metalwork	NA
Worked Stone	NA
Industrial Waste	NA

6.7 A suitably qualified specialist palaeoenvironmental contractor (Prof. Annie Worsley, Edge Hill College, Ormskirk) will be used to analyse any palaeoenvironmental samples considered of potential in accordance with industry standard procedures.

6.8 Appropriate allowance will be made within the budget for the provision of up to ten radiocarbon dates.

6.9 NMLFAU will take into account any observations on the content of the draft report made by the Client and the archaeological advisor to Sefton Council before the final version is issued.

6.10 Bound paper copies of the report and digital copies in PDF format will be provided to the Client, the Archaeological Advisor for Sefton. A further copy will be sent to the regional Science Advisor for English Heritage.

10. Publication

10.1 Provision will be made for the publication of the results in an appropriate archaeological journal, if of regional or national significance. This may incur additional costs.

10.2 A summary of findings will be submitted to the regional Council for British Archaeology group, CBA North West (c/o Dr. M. Nevell, UMAU, University of Manchester, Oxford Road, Manchester, M13 9PL who will provide a pro-forma sheet).

11. Archive Preparation and Deposition

11.1 The archive of finds and records generated during the fieldwork will be kept secure at all stages of the project. All records and materials produced will be quantified, ordered, indexed and internally consistent.

11.2 NMLFAU shall, prior to the start of fieldwork, liaise with the appropriate museum to obtain agreement in principle to accept the archive for long term storage and curation. NMLFAU will be responsible for identifying any specific requirements or policies of the museum in respect of the archive and for adhering to those requirements.

- 11.3 The archive will be deposited within six months of the completion of the site works, with the agreement of the Clients.

12. Monitoring

- 12.1 NMLFAU will liaise the Development Control Archaeologist for Sefton Council to inform them of the commencement of site works and to offer them with the opportunity to visit and monitor the work in progress.

13. Copyright

- 13.1 Copyright in all reports and documentation/images produced as part of this project to reside with National Museums Liverpool who retain the right to be identified as the author/originator of the material. This applies to all archaeological aspects of the project.
- 13.2 The results of the archaeological work will be submitted to the clients, English Heritage and Merseyside Historic Environment Record by NMLFAU and will ultimately be made available for public access.

14. Insurances and Health and Safety

- 14.1 NMLFAU is covered by public and professional indemnity insurance.
- 14.2 NMLFAU has its own Health and Safety policy compiled using national guidelines and which conform to all relevant Health and Safety legislation. A copy of the Health and Safety policy may be submitted to the client in advance of fieldwork.
- 14.3 NMLFAU will undertake a risk assessment detailing project specific Health and Safety requirements.
- 14.4 The risk assessment will be submitted to the client in advance of commencement of site work. Health and Safety will take priority over archaeological issues.
- 14.5 The following general comments apply.
- 14.6 The Client will provide the archaeological contractor with any information available regarding hazardous contaminants present in the surface materials and sub-surface strata at the site. Appropriate measures will then be taken by the fieldwork contractor to ensure the health and safety of its staff who may come into contact with such contaminants. Measures may include on-site adaptation of the methodology.
- 14.7 A plan of all services and hazards should be provided by the Client. Before any excavations are started, a scan using a Cable Avoidance Tool will be undertaken by the archaeologists on site, and anomalies clearly marked and their location indicated. There will be no excavation of live cables.
- 14.8 All necessary protective clothing and equipment will be used. The archaeologists on site will wear hard hats, reflective jackets and protective footwear at all times.
- 14.9 No personnel are to work in deep unsupported excavations. Trench sides will be constantly assessed for stability and will be stepped, battered back or shored when there is risk of collapse.
- 14.10 A First Aider, First-Aid kit and Accident Book will be on site at all times.

15. Bibliography

English Heritage 2002 *Environmental Archaeology. A guide to the theory and practice of methods, from sampling and recovery to post-excavation.* Centre for Archaeology Guidelines

English Heritage 2009. *Management of Research Projects in the Historic Environment. The MoRPHE Project Managers' Guide (version 1.1)*

Institute For Archaeologists 2008a *Standard And Guidance for archaeological field evaluation*

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Society of Museum Archaeologists, 1993. *Selection, Retention and Dispersal of Archaeological Collections*

Society of Museum Archaeologists, 1995. *Towards an Accessible Archaeological Archive*

United Kingdom Institute for Conservation, 1990. *Guidelines for the Preparation of Excavation Archives for Long-term Storage*

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16. Figures.

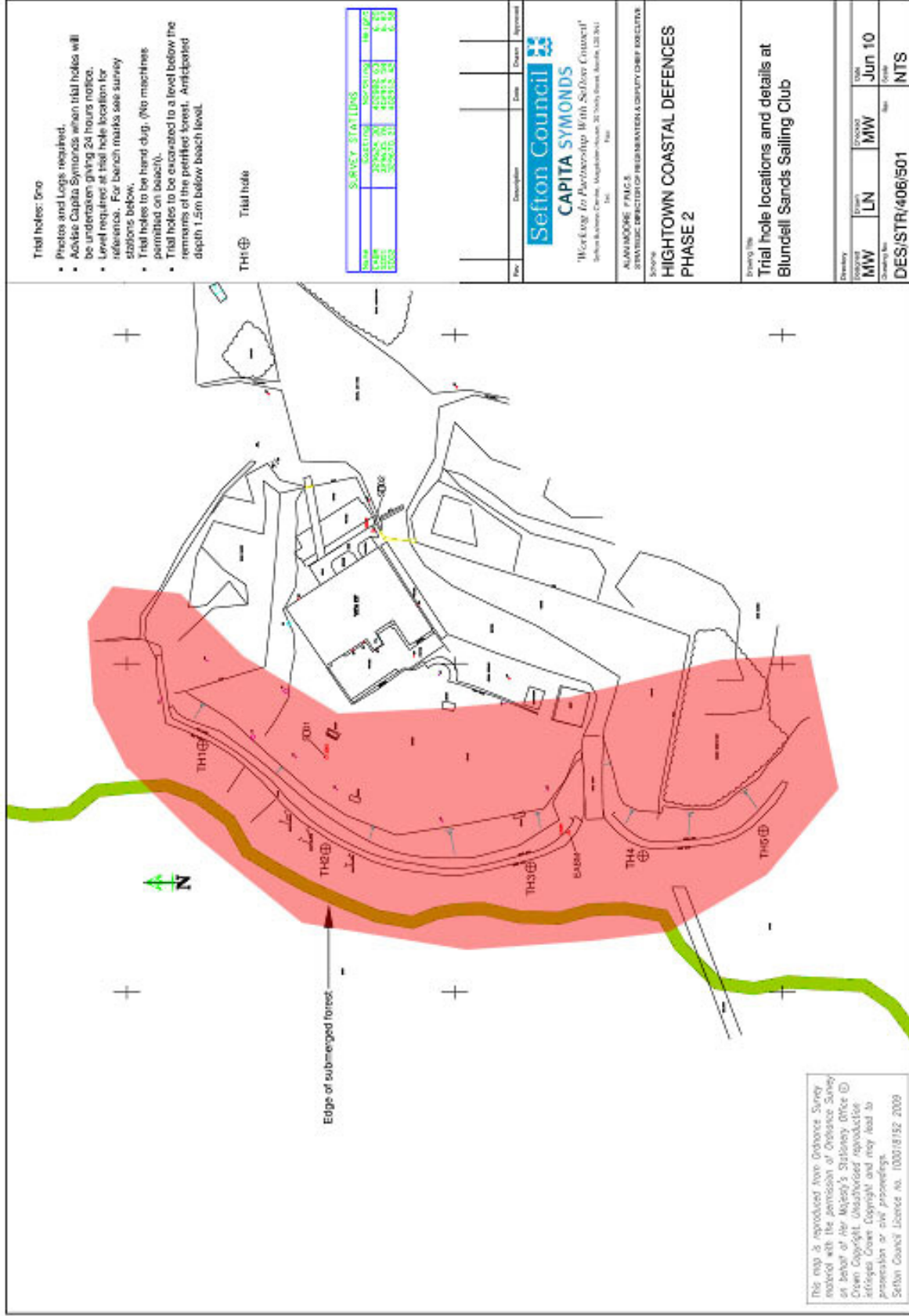


Fig. 1. Site location and approximate extent of area covered by the Watching Brief (red).