

6 ARCHAEOLOGY AND CULTURAL HERITAGE

6.1 BACKGROUND

This section of the ES relates to an archaeological desk-based assessment of land at Widnes which is subject to proposals for development as a regional distribution centre. The assessment was undertaken by Liverpool Museum Field Archaeological Unit in accordance with Liverpool Museum, Field Archaeology Unit's standard procedures for projects of this nature.

No archaeological excavations or field surveys were undertaken as part of this assessment.

6.2 METHODOLOGY

The desk study research consulted the following information sources:

- The Cheshire Sites & Monuments Record.
- Lancashire Record Office.
- Cheshire Record Office.
- Widnes Local Studies Library.
- The internet/world wide web.

Documentary information consulted included:

- Printed and manuscript maps, including estate maps, Tithe maps and Ordnance Survey maps.
- Place and fieldname evidence.
- Aerial photographs.
- Published and unpublished documentary sources.
- Engineering/borehole data as available from the client.

- Geological/soil surveys.

The study also included a walkover of the site.

6.3 BASELINE CONDITIONS

A general review of regional archaeological data sources and significance is presented in *Appendix 6.1* and is not repeated here. The discussion set out within this section of the ES focuses on the development site and immediate surroundings. *Appendix 6.1* should thus also be consulted for a full understanding of the archaeological interest of the area generally.

Previous Archaeological Work in the Study Area

No recent archaeological fieldwork has taken place either in the study area or within the immediate vicinity, though this may at least in part reflect the past apparent dis-interest of archaeologists in investigating the archaeology of the Lancashire lowlands (see *Appendix 6.1*). Consequently the only available evidence for settlement within the study area is documentary and cartographic, supplemented by the site visit.

Documentary, Cartographic & Other Sources

Background

The site lies on the western fringe of modern Widnes, straddling the boundary between the townships of Widnes to the east and Ditton to the west.

The name Widnes is probably of Old English origin meaning the Wide Promontory (*Wid + Ness*) (Mills 1976) taking its name from the headland which still projects into the Mersey to the east of the study area. The town grew largely as a response to the expansion of the chemical industry in the mid-19th century, though Baines (1891, 252) also lists bone manure works, iron foundries, sail cloth making, oil, paint and railway grease works. The chemical industry developed at Widnes

partly because of the availability of raw materials (salt from Cheshire and coal from Lancashire) and partly because of the construction of canals and railways enabling the easy transport of both raw materials and finished products. The manufacture of alkali at Widnes rapidly out competed that at St. Helens because of the lower transport costs at Widnes (Barker & Harris 1993, 342-4) and opposition to the pollution the industry caused at St. Helens (Brooks & Wilson 1986, 7).

Ditton, to the immediate east of the study area, remains a relatively rural area, though the section fronting the Mersey was incorporated into the industrial development from Widnes in the early 20th century and the area has recently seen extensive redevelopment for housing. The place name is also of Old English origin meaning farm or settlement with a ditch (*Dic + Tun*) (Mills 1976).

Early Map and Field-Name Evidence

Ordnance Survey Data from Landmark is presented in *Appendix 14.1*.

Although Lancashire is depicted on many early maps (e.g. Saxton's Map of Lancashire, printed in 1577) none are of a sufficient scale to provide useful detail of the study area. The earliest map to show any useful detail is William Yates's Map of Lancashire (1786) (*Figure 6.3a*) which provides no evidence of any structures within the present site.



Figure 6.3a - Part of W. Yates' Map of Lancashire (1786). Not to scale.

Ditton Mills are shown on the banks of the Ditton Brook and a boathouse for the crossing to Runcorn is shown to the east. Otherwise the present site is shown as devoid of any buildings and Steward's Brook is omitted. Greenwood's Map of Lancashire, dated 1818 (*Figure 6.3b*), shows the area largely unchanged since the Yates survey apart from the road from West Bank to Ditton Mill which runs across the study area.



Figure 6.3b - Part of Greenwood's Map of Lancashire (1818). Not to scale.

Later mapping (see Tithe Map below) shows that this road was never actually constructed. Gilberts 'Map of the Proposed Sankey Brook Navigation Extension' dated 1819 (*Figure 6.3c*) is the first detailed map of the area and shows Widnes Marsh as undeveloped marsh land. George Hennet's 'Map of Lancashire', published in 1830 (*Figure 6.3d*), shows the area after the construction of the St. Helens Canal. Widnes & Ditton marsh are still shown without any buildings. The road to Ditton Mill shown on the Greenwood & Gilbert maps is also omitted.



Figure 6.3d - Part of Hennet's Map of Lancashire (1830). Not to Scale.

The Tithe Map for Widnes (LRO DRB 1/86) which covers the area to Steward's Brook was produced in 1839 but is based upon a survey of 1808 (Figure 6.3e). The present site is shown as a series of large, irregularly shaped fields with curving boundaries. These probably result from gradual enclosure of the marshland. The accompanying apportionment provides details of ownership, tenancy and land use in addition to the acreage of each plot. Details of field names are also given. The present site is listed as salt marsh and no field names are given. The Ditton Tithe Map (LRO DRB 1/123), surveyed in 1844, covers the area to the north-west of the Steward's Brook (Figure 6.3e) and depicts a similar landscape of relatively large, sub-rectangular fields, also reclaimed from the salt marshes. This is the first map to show the Ditton and Steward's Brook meeting at Snipe Head, the earlier maps all appear to show the Steward's Brook flowing into the Mersey slightly to the east. A small area on the west bank of the mouth of the Ditton is actually within Halewood township (Figure 6.3e). The Halewood Tithe Map (LRO DRL 1/32) also produced in 1844, depicts an identical landscape of sub-rectangular fields fronted by marshland on the Mersey shoreline. The line of the proposed road to Widnes (as depicted on the Greenwood map) is shown as 'obsolete' suggesting it was never constructed.

Figure 6.3c - Gilbert's Map of the Proposed Extension of the Sankey Canal (1819). Not to Scale.





Figure 6.3e - Composite of the Tithe Maps for Widnes (LRO DRB 1/86, Dated 1839), Ditton (LRO DRB 1/123, Dated 1844) and Halewood (LRO DRL 1/32 Dated 1844). Not to scale.

The earliest OS coverage of the area is the First Edition 6 inch map published in 1849. This shows the area largely unchanged since the tithe maps apart from the construction of the Liverpool Manchester Railway to the north and the Ditton Brook Iron Works have been established on the west bank of the Ditton Brook. The line of the proposed road to Widnes is still shown and the eastern half of the marsh is named as Hurst's Marsh.

Roper's 'Map of Widnes' surveyed in 1875 (*Figure 6.3f*) covers the study area as far as the boundary with Ditton (*i.e.* Steward's Brook) and shows most of the study area as undeveloped marsh land, unchanged since the Tithe Award. However, industrialisation is shown to begin to encroach upon the northern and western fringes, most notably in the form of the Mathieson & Co. Chemical Works, Widnes Metal Works and the Marsh Alkali Works which are served by a

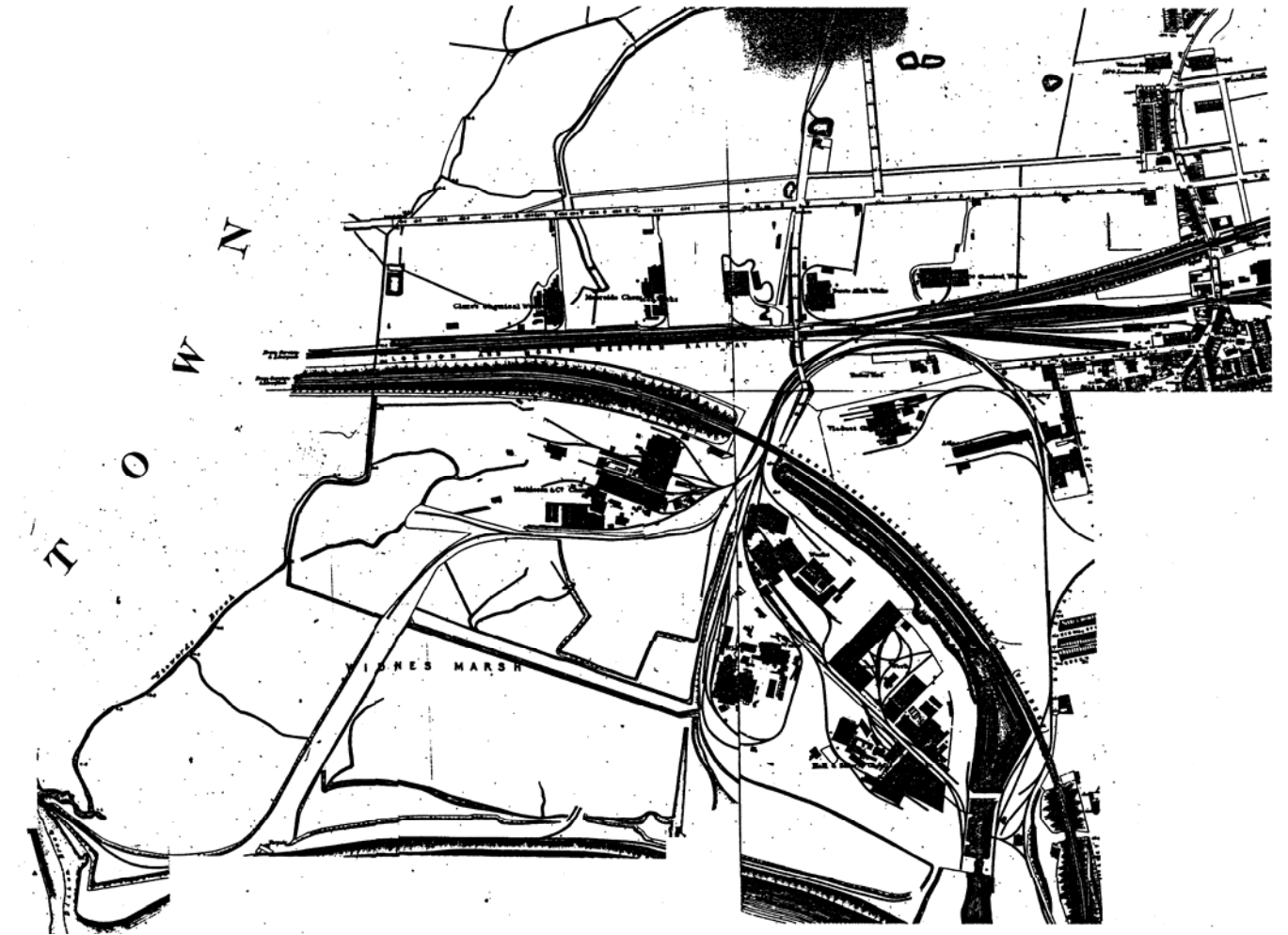


Figure 6.3f - Part of Roper's Map of Widnes (1875). Not to scale.

The First Edition 25 inch Survey published in 1893 and the second edition 6 inch survey published in 1896 show an increase in industrialisation since Roper's survey of *c.* 20 years earlier, particularly on the eastern side of the site where the Mathieson Chemical Works, Satinite Works and Widnes Pottery are situated. Additional sidings have been constructed around the Mathieson Works and an additional branch to the West Bank Dock has been excavated south of the Hall & Shaw Chemical Works. Little change appears throughout the early 20th century, most development

occurring on the fringes of the site as a result of changes in use of some of the smaller properties. This was presumably as a result of the site's use as a disposal area for chemical waste. The biggest change occurs between the production of the 1968 and 1969 editions when the West Bank Dock was filled in and the West Bank Dock Estate constructed on the sites of the former Mathieson works, Satinite works, Widnes Pottery and Hall & Shaw works. A timber yard and sidings have been constructed in the angle between the Ditton and Steward's Brook. Later maps to the present show the expansion of the timber yard (though the sidings have been removed) and additions and alterations to the West Bank Dock Estate.

Existing Sites and Monuments Record (SMR) Data

Information from the Cheshire Sites and Monuments Record is presented in *Appendix 6.1* and the location of the sites is given on *Figure 6.3g*. Most of these lie outside the present site and relate to the industrial history of Widnes, primarily chemical works established from the mid-19th century onwards. Other sites include a timber yard (Site 14), metal works (Site 23) and the Ditton Brook Iron Works (Site 7).

The only sites located within the proposed area are the Ditton Marsh Cement Works (Site 6), Widnes Pottery (Site 26), Satinite Works (Site 24), a cement works (4241/56/0) and 'Craig's Saw Mill (Site 25).

Other sites reflect the areas pre-industrial past and include Ditton Mill (Site 3), first shown on Yates' map and demolished by the production of the 1st Edition 25 inch OS map in 1893 (though its site was marked by the 'Windmill Inn').

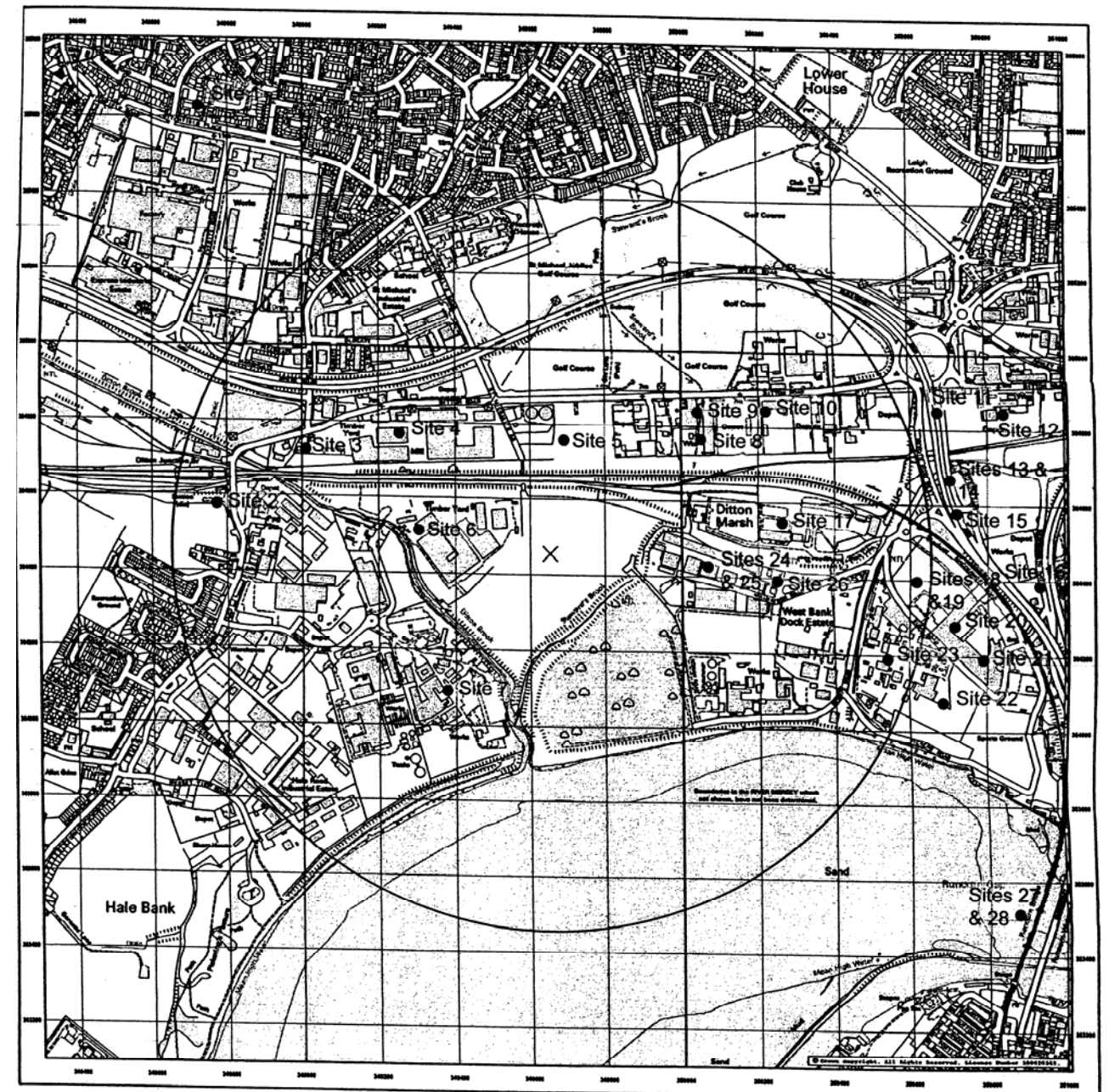


Figure 6.3g - Sites listed on the Cheshire Sites and Monuments Record. Based upon information from the Lancashire Sites and Monuments Record. Not to scale.

Although all of the available evidence suggests that from the end of the Roman occupation to the 19th century the present site was unoccupied marshland, there is a surprisingly large amount of evidence for Roman activity in the area. A Roman coin found '27 feet deep in sand at Runcorn Bridge' (Site 27) and a hoard of twenty lead pigs dated to AD 84-96 and AD 76 (Site 28)

show that at the very least this section of the Mersey was in use for the transport of materials. Further evidence of Roman and medieval activity in the area is provided by finds made during the sinking or an artesian well at Ditton Station in 1881 (Site 2). The stratigraphy consisted of,

'5 feet of dark grey marsh silt....(above) 13 feet of dark brown earth....(over) 16 feet of peaty earth, before a stratum of gravel lying on red sandstone was reached. At 12 feet a medieval jug (12th or 13th century) was found and at 14 feet two Roman second brass coins, one of Domitian, AD 96, the other of Nerva, AD 98. A fragment of Samian ware (2nd century AD pottery imported from Gaul) was found with them. In the peaty earth great quantities of bones and stag's horns occurred with remains of trees. There was also a quantity of black oak timber which had been worked, and which, Mr. Webb informs me, had evidently been used as tanking, for keeping an ancient well open.' Thompson Watkin (1880, 227).

Thompson Watkin speculated that Webb had chanced upon a Roman well, though the description of the deposits closely resembles those excavated at Gate Warth Farm, Warrington (SJ 586 869) in the 1990's. This excavation demonstrated the survival of sequences of flood plain deposits up to 11.00m deep which contained peat, timbers, animal bones and deer antlers (Shimwell, 1996). A radiocarbon date of 2660 +/- 60 BP (calibrated 910-780 BC to 2 sigma) from the base of the main sequence of peats indicates that they began to accumulate during the Late Bronze Age. A timber from the top of the section was dated to 1660 +/- 60 BP (290 AD), dates from another cutting suggested that pollen analysis would cover the Mesolithic/Neolithic transition (D. Shimwell, pers. comm. to J. Collens). Analysis of the animal bones suggested that it was "a casual assemblage, accumulated by the natural processes of riverine deposition." If the deposits at Ditton are indeed a similar assemblage it is possible that they extend into the study area.

A crop mark plotted from an aerial photograph taken in 1945 may indicate a Romano-British farmstead c. 1km to the north of the present site, though unfortunately this has since been built over (Site 1).

No metal detector finds have been reported from the area as a result of the portable antiquities reporting scheme (N. Herepath¹, pers. comm.)

Aerial Photographic Evidence

Given the urban setting of the site no aerial photographs were examined.

Borehole and Test-pit Evidence

The site has been the subject of a number of geotechnical investigations since the late 1980's, summarised in *Table 6.3*.

Table 6.3 - Summarised geotechnical investigations since late 1980s.

Author	Nature of study
WS Atkins (1992)	Desk Study
DTS (1997)	Desk study, Borehole and test-pits
Ironside Farrer (2001)	Desk study
Norwest Holst (1984)	Boreholes, test-pits and concrete probes
Strata Surveys (1988)	Boreholes and test-pits
Strata Surveys (1992)	Boreholes and test-pits
Strata Surveys (1993)	Boreholes and test-pits
Strata Surveys (1995)	Boreholes and test-pits
Strata Surveys (1997a)	Boreholes and test-pits
Strata Surveys (1997b)	Desk Study

In general these reports were concerned with providing data on ground conditions, in particular contamination relating to the site's history as a dumping ground for chemical waste. The test-pits provide little useful archaeological data, being of insufficient depth to penetrate the deposits of chemical waste which are up to 10m thick in places. The boreholes generally penetrate at least to Boulder Clay and consequently provide a much better indication of the likely presence or absence of archaeological deposits.

Nearly all of the boreholes found evidence of a thick layer of alluvium underlying the chemical waste across the site. The descriptions of this deposit vary slightly but in general are very consistent, *i.e.* a soft to firm odorous silty clay with rotting roots and occasionally peaty. This is 2-5

¹ Portable Antiquities Officer for NW Region based at Liverpool Museum.

m thick and usually overlies Boulder Clay at 0 to -4.5 m AOD. Occasional more substantial lenses of peat are also present along with lenses of sand. Figures 6.3h and 6.3i are reproduced from the Norwest Holst (1984) and Strata Surveys (1993) reports and provide a useful summary of conditions across the site.

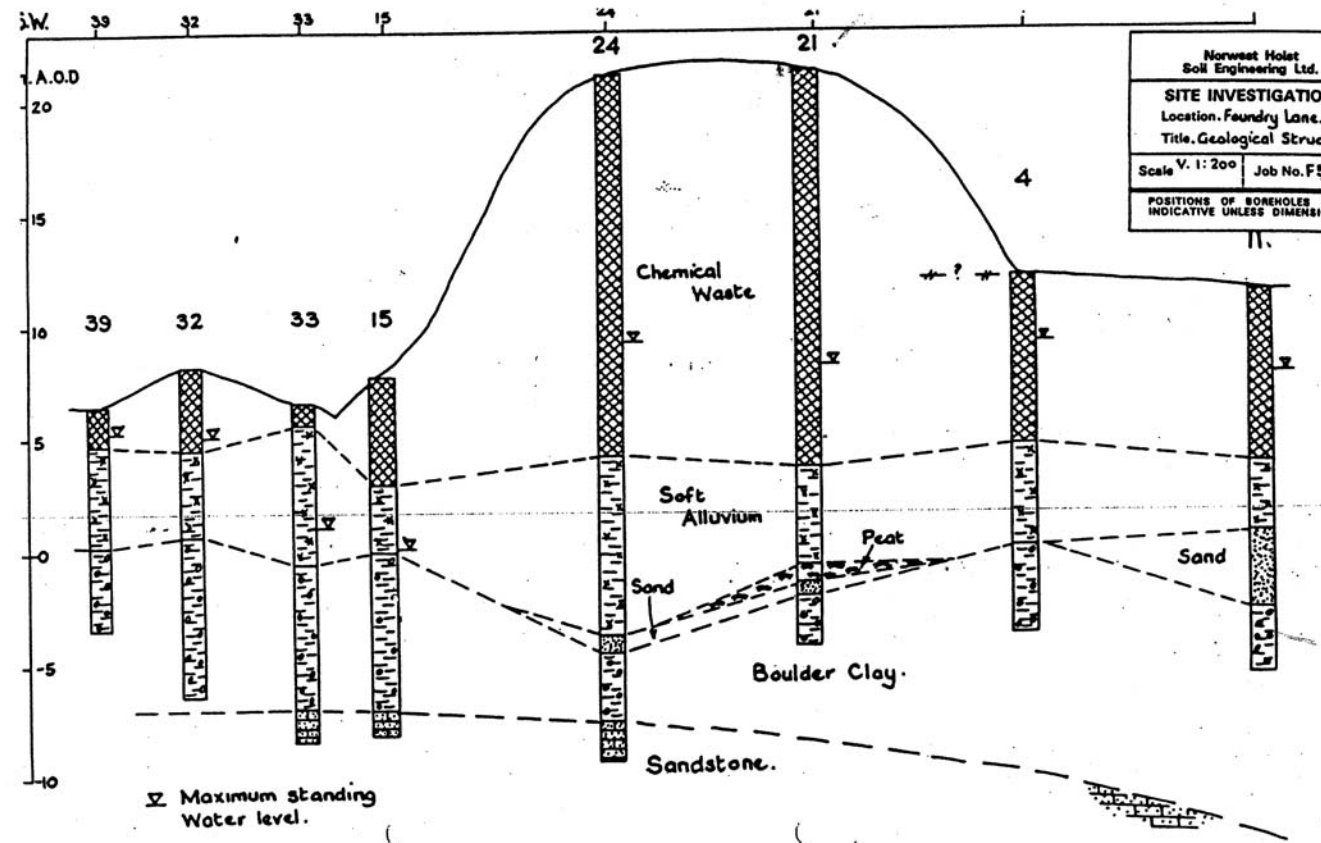


Figure 6.3h - Stratigraphic profile across the site. (Norwest Holst (1984))

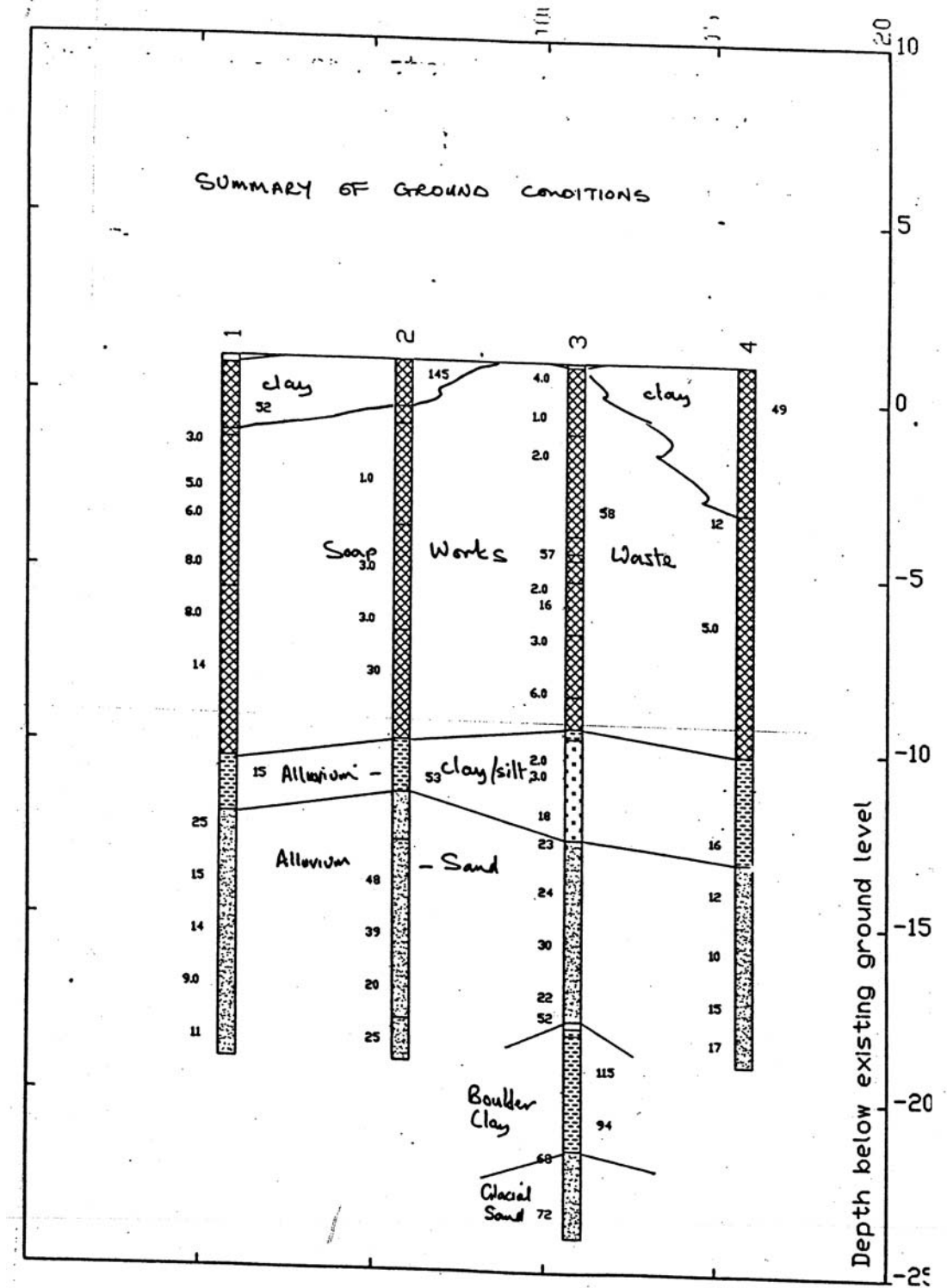


Figure 6.3i - Stratigraphic profile across the site. Strata Surveys (1993)

Boreholes taken for the present scheme have also encountered undisturbed peat horizons (N. Coyne, *pers. comm.*) though detailed locational data was not available at the time of writing. A fuller description of the recent investigation works is presented in *Section 14*.

Site Visit

The site visit was undertaken on the afternoon of Tuesday 29th June 2004. The site is set within an industrial landscape of warehousing and light industrial units served by a road and rail network and is currently occupied by AHC Warehousing, the successor company to the Hutchinson Estate & Dock Company. There is little indication of the topography of the site prior to its industrialisation other than the courses of the Ditton and Steward's Brooks.

In general little survives above ground of the areas' industrial past, with most structures on the site being modern (*i.e.* late 20th century). On the present site the most prominent features are the large mounds of chemical waste, largely alkali waste (*galigu*) derived from the Le Blanc process. One mound lies at the centre of the development, the other lies to the south of Steward's Brook. These have recently been landscaped to form large regular mounds. In archaeological terms the two most significant features are the courses of the Ditton and Steward's Brooks. Both are tidal where they cross the area and the site visit was undertaken at low tide. This exposed the muds and silts in the beds of each, though there is currently no safe access to either.

Summary of the Archaeological Sites Identified Within the Proposed Development

Most of the identifiable sites within the proposed development relate to its industrial development since the late 19th century. However, the majority of these have been demolished and replaced by successive development of the area since 1950 and the area retains little evidence of its industrial heritage. From the mid-19th century much of the area was used for the dumping of chemical waste, which still covers much of the area.

Prior to its industrialisation the area was occupied salt marsh crossed by the Ditton and Steward's Brook and was subject to periodic flooding by the Mersey. Map evidence suggests that the area was not occupied during the medieval and later periods. However, there is significant evidence for the presence of Roman and earlier deposits within the area.

This consists of two elements; firstly the Ditton Brook is very likely to be the route by which tile produced at the tile works at Ochre Brook (a tributary of the Ditton approximately 5km to the north west) was transported to Chester. The site, excavated in 1993 was situated between Tarbock and Speke Boulevard, on the eastern edge of Liverpool close to the M62 Tarbock interchange. The excavation found quantities of Roman roof tile, some of it distorted and wasted, alongside burnt clay and amongst the tiles were a few bearing legionary stamps for the Roman army's 20th legion, based in Chester. There were two different stamps, both of which were found in Chester but not at Holt, the legionary tile factory on the river Dee. One of the Tarbock stamps is the only British tile stamp with a date, the 3rd consulship of Verus in Rome, equivalent to AD 167. This stamp also referred to one Aulus Viducus, who was probably a contractor making tiles for the legion, perhaps for a short period. These were shipped to Chester where they were used to re-roof barracks buildings for the 20th legion after they returned to the fortress from the Antonine wall. There is therefore the possibility that the silts of the Ditton Brook contain remains relating to Roman transport networks.

In addition borehole data suggests that the Roman deposits found during the excavation of a well at Ditton Station (see above), situated close to the north-west corner of the site, may be present within the proposed development. There is the additional possibility that deposits relating to Prehistoric land use also lie deeply buried within the proposed development.

Significance of the Remains

Criteria

Although there are a wide number of methodologies for assessing archaeological significance, the greatest legal standing is associated with the Secretary of State's criteria for the scheduling of ancient monuments, outlined in Annex 4 of PPG16 (Planning Policy Guidance 16: Archaeology and Planning (DoE 1990)). In the following sections the known or possible remains in the study area which may be directly affected by any proposed works are considered using those criteria.

Period

Prior to the late-19th century AD, when the land was first developed for industrial use, the site was an area of tidal salt marsh crossed by the Ditton and Steward's Brooks. However, the western

fringe of the site lies close to the mouths of the Ditton and Steward's Brooks. The Ditton Brook in particular is of significance in that it is very likely to have been the route by which tile produced at the legionary tile works at Ochre Brook was transported to Chester. Estuarine environments such as this are relatively unstable landforms and it is possible that the precise location, nature and extent of the confluence of the Ditton and Steward's Brooks will have altered significantly since Prehistoric times. At present it is impossible to predict the impact of these changes upon any deposits which may have been present. The remaining sites relate to later post-medieval and modern land use and are not considered further here.

Rarity

It has not been possible to assess the rarity value of any archaeological deposits present on this site.

Documentation

From the 18th century to the present, the development of the study area can be traced reasonably well from the cartographic sources. Further details for this and later periods could probably be extrapolated from more detailed research, particularly of primary documentary sources, but are unlikely to modify the outline given in this report. There is no documentation for earlier periods.

Group Value

It has not been possible to establish a group value for this site

Survival/condition

It has not been possible to establish the extent of survival of below-ground archaeological remains within the study area. However, the site is very likely to be waterlogged and any organic remains present, *e.g.* timber, are likely to be well preserved. However, the site's past history as a disposal site for Widnes's chemical industry suggests that any such deposits are likely to be contaminated with alkali and other potential contaminants waste.

Fragility

Any organic deposits are extremely vulnerable to damage during earth moving operations and other groundworks.

Diversity

It has not been possible to establish the likely diversity from the available documentation.

Potential

The site has significant potential for the presence of archaeological deposits dating to the Roman and earlier periods, in particular deposits of peat associated with organic remains such as timber. Finds made in the 19th century suggest that they may also retain evidence for early medieval settlement. In addition these deposits are likely to retain significant material such as pollen relating to the contemporary environment. However, these deposits are deeply buried at depths of at least 3 m below the present ground surface. There is little or no evidence for archaeological deposits from post-Roman periods.

Significance

Despite recent fieldwork the late prehistoric and Romano-British settlement of the region remains poorly understood, in particular in relation to coastal change. The deposits of peat present within the site boundaries could contain significant evidence for these periods. Consequently on the above criteria, the study area contains remains of at least local importance, though it is possible that the deposits of peat discussed above contain evidence of at least regional significance.

6.4 IMPACT OF THE DEVELOPMENT AND PROPOSED MITIGATION

The archaeological impact of redevelopment on a site can be identified as follows.

Direct

This would involve an alteration to the physical condition of the site. The alteration might be either positive or negative. A positive effect might, for example, remove possible threats to its survival *e.g.* causes of erosion. A negative effect would involve damage or destruction to a site. These impacts can be refined by assessing the likely extent of the alteration to the site. There will be a number of excavation works associated with the redevelopment of the site which may provide opportunities for analysis of some of the soils if they are deep enough to extend beyond the horizons influenced by the chemical waste deposits.

Indirect

This would involve an alteration to the setting of a site. Indirect impacts can be positive or negative, *i.e.* they can improve or detract from the appearance, understanding or appreciation of a site. Indirect impacts may be either temporary (*i.e.* lasting during the groundworks or other works for a development) or permanent.

Mitigation

Whilst there is nothing that can be done pro-actively to search for and assess archaeological significant finds on the site in advance of the development works, it is recognised that the development construction phase (earthworks) has the potential to unearth items of interest. As such the LMFAU will maintain a periodic watching brief over the earthworks and investigate any findings of significance that may arise during those works.