



# **MANN ISLAND, LIVERPOOL, Merseyside**

## **Archaeological Evaluation Report**

**Oxford Archaeology North**



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British Waterways and  
Galliford Try**

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## SUMMARY

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A programme of archaeological works was required in advance of the potential construction of a retail development at Mann Island, within the city centre of Liverpool (centred at NGR SJ 3403 9008), formulated to meet the requirements of the Merseyside Archaeologist. The work was commissioned by British Waterways and Neptune Developments Ltd and facilitated by Galliford Try. The work was undertaken in July and August 2006 over a two week period by staff from OA North.

The city centre area of Liverpool is renowned for containing a very important assemblage of dockland, municipal, religious and associated sites. It is anticipated that the results of the archaeological investigation will inform a wider understanding of the area and contribute to a greater understanding of one of the most recent areas to be awarded World Heritage Site status. The proposed area of development has been assessed as having a moderate negative impact on the buried remains of a number of features including the former Manchester Dock.

The main aims of the work were to establish the presence or absence of archaeological remains within the identified area and to determine the extent, condition, nature, character, quality and date of any archaeological remains present. To this end, four trenches were excavated: Trenches 1, 3A, 3B and 4. Trench 1 examined the extent of Manchester Dock and possible warehouse remains; Trenches 3A and 3B examined the date, nature and the level of survival of remains associated with Novia Scotia / Mann Island, and Trench 4, sited east of George's Passage, adjacent to the former harbour masters office, determined activity in this locale.

The evaluation demonstrated that there were the surviving remains of Manchester Dock, which had been built out from the foreshore with the land being reclaimed initially by 1753 and further extended in 1765. The evaluation also revealed the associated quayside and warehouse structures adjacent to Irwell Street, in Trench 1. The walls survived to varying heights with the Manchester Dock east wall being about 0.1m below the present ground surface. Manchester Dock was constructed of large pink sandstone blocks, well dressed and built in an ashlar manner. This was particularly notable on the west dock face, where four types of mason's marks were also identified. The rear face of the wall demonstrated the use of both pink sandstone and the more brittle yellow sandstone blocks.

Trenches 3A and 3B, within the twentieth century building along the east side of Irwell Street, demonstrated the survival of a succession of earlier floor surfaces, both internal and external, of both brick, cobble and modern materials. There were also reasonably substantial walls surviving with evidence of yellow sandstone walls pre-dating the brick walls. These evidently related to pre-existing buildings in this location.

The early properties along the western side of what was Bird Street, where Trench 4 was located, were in existence by 1753. By 1765 the properties along the eastern side of Irwell Street (Nova Scotia) had also been developed and formed the quayside to the Mersey, prior to the construction of Manchester Dock. The properties along Bird Street were then demolished in 1879-86 to make way for a pumping and ventilation station for the Mersey Railway Tunnel, the remains of which were uncovered in the south-west corner of Trench 4. A sequence of sett surfaces were uncovered, overlying made ground, which respected the street boundaries associated with Bird Street.

It is recommended that a programme of mitigation recording be undertaken in advance of and during the proposed development works. This would entail open area excavation in areas of greatest archaeological potential and a watching brief in areas of reduced potential.

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At Galliford Try thanks are due to Ian Gregory for his essential on site support and help. Chris, Jimmy and Nigel should also be thanked for their diligence while working alongside the archaeologists. Glyn Owen also provided essential assistance throughout the duration of the project. Bullens provided the plant hire and Andy was the exemplary machine operator. We would also like to thank Sarah-Jane Farr, the Merseyside Archaeological Officer, for providing information at short notice and support throughout the excavation.

The evaluation and excavation work was undertaken by Vix Hughes with the assistance of Chris Healey, Andy Lane, Caroline Raynor, Simon Gibson, Jason Clarke and Neil Wearing. The report was compiled by Vix Hughes; and the drawings were produced by Anne Dunkley. The finds report was compiled by Jo Dawson of Greenlane Archaeology. The report was edited by Jamie Quartermaine who was also responsible for overall project management.

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## 1. INTRODUCTION

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### 1.1 CIRCUMSTANCES OF THE PROJECT

- 1.1.1 Neptune Developments Ltd, British Waterways and Galliford Try requested that Oxford Archaeology North undertake a programme of archaeological evaluation trenches in advance of potential construction in the area of Mann Island, within the city centre of Liverpool (centred at NGR SJ 3403 9008). A project design was formulated to meet the requirements of the Merseyside Archaeologist and the work was undertaken in conjunction with British Waterways, Wardell Armstrong and Galliford Try and effectively formed a continuation of the work undertaken as part of the Liverpool Canal Link project (OA North 2006).
- 1.1.2 The primary aims of the excavation were to establish the location, construction method and level of preservation of the eastern wall of the Manchester Dock as well as investigating potential surviving warehouse and civic buildings associated with the dock wall. The information supplemented that acquired as part of the Liverpool Canal Link project carried out on behalf of British Waterways (*ibid*).
- 1.1.3 The area of works lies within the centre of Liverpool (Figure 1) and adjacent to the dockland area (Albert and Canning Docks) and lies within the extent of the Maritime Mercantile City of Liverpool World Heritage Site. The Maritime Mercantile City of Liverpool was granted World Heritage Site status (WHS) in 2004. Within the WHS area the buried archaeological deposits are regarded as “*a nationally significant resource*”, which is “*highly fragile and vulnerable to damage and destruction*” (LCC 2003).
- 1.1.4 The area has been the subject of a series of desk-based assessments, which have identified the existence of the Liverpool Old Dock (MacLeod 1982; Philpott 1999) (Fig 2). This was the world's first commercial enclosed wet dock, constructed between 1709 and 1715-6, which enabled the expansion of Liverpool as a port and, as such, represents a very important part of the city's maritime history. Within less than 85 years it had generated such prosperity that it had become too small to accommodate the maritime traffic, and was superseded by the construction of further docks extending out into the river channel. Excavation work has been ongoing in relation to the Old Dock, the surrounding Chavasse Park and the more recent Liverpool Canal Link since 2001 (LUAU 2001; OA North 2006; OA North forthcoming).

### 1.2 LOCATION AND TOPOGRAPHICAL SETTING

- 1.2.1 The potential development involves an area of land south of Mann Island, straddling Irwell Street, and west of The Strand. It lies at c6.25m AOD. Much of the area consists of either open areas of road, car park or access points, or buildings related to the Mercedes and Porsche Garages which are now disused. Along its eastern edge next to the Strand the area again comprising car parking and the disused Media House building.



### 1.3 PHYSICAL BACKGROUND

- 1.3.1 The geology of this part of Liverpool consists of drift deposits of Boulder Clay in the area of Canning Place and Strand Street on the edge of the Pool, with narrow bands of alluvium along the coastal margins and within the Pool itself. The solid geology consists of Pebble Beds and Upper Mottled Sandstone (Philpott 1999).

### 1.4 HISTORICAL BACKGROUND

- 1.4.1 **Medieval Liverpool (1066-1500):** the establishment of the town of Liverpool is well documented. The name '*Liuerpol*' was first mentioned in a charter of 1190-4, with the town forming a part of the hundred of West Derby (Nicholson 1981). In 1207, a further charter was granted by King John which effectively elevated the settlement from a fishing and farming village to a royal borough. Between the granting of this charter and 1296, the population of the town had increased from 150 families to 168. The town then consisted of seven streets, the names of which are mentioned in documents from about 1300. These streets survive in the modern plan of the town, though they have been much widened. Important buildings were constructed throughout this period, including the castle, the Chapel of St Mary del Key, St Nicholas, and the Tower (*op cit*, 7).
- 1.4.2 The town was positioned next to the Pool, a prominent topographical feature and natural inlet; the place-name 'Liverpool' being derived from the Pool. The Pool lay south of a ridge of sandstone, overlain by boulder clay, and the ancient shore-line was along the line of The Strand. It was a natural tidal inlet or creek fed by streams arising further north, and was nearly 1.5km long at high tide (Stewart-Brown 1932, 88). The study area includes the major part of the mouth of this former tidal creek.
- 1.4.3 The Pool is believed to have formed an important part in the town's life and in its maritime trade, acting as an area where cargoes would have been unloaded, and ships built and repaired. However, no medieval records survive relating to the use of the Pool (Stewart-Brown 1932, 89).
- 1.4.4 **Post-Medieval Expansion (1540-1710):** in the 1660s a major Liverpool landowner, Sir Edward Moore, refers to the importance of the Pool for future shipping, writing '*if ever the Pool be cut navigable*', indicating that it was not suitable at that time (Stewart-Brown 1932, 90). By the turn of the eighteenth century, the Pool was probably shallow and unusable by anything other than relatively small ships, particularly as between the Haymarket and the site of the Old Dock there was a fall of only five feet (Stewart-Brown 1932, 105).
- 1.4.5 Until the construction of the Old Dock, ships on the Mersey had a number of difficulties to contend with in order to unload their cargoes. The tidal range of the river (at 30') was exceptionally large, and rendered ships incredibly unstable in a river that was already dangerous from strong under-currents, sand spits and strong north-westerly winds (MacLeod 1982, 3). In the sixteenth century, the only form of protection for ships was a jetty or break-water at the mouth of the '*old haven*' (*ibid*). Nevertheless, the shipping was constantly plagued by freak tides and storms, which could smash ships and lose precious cargo; a particularly violent storm in 1561 destroyed the breakwater, with catastrophic implications for trade. The mayor ordered the council to provide funds for an immediate replacement, and ordered one man from every house in every street to go and work on '*the new haven*' (MacLeod 1982, 4).

- 1.4.6 With the demise of Chester's trade through the silting of the Dee by the late 1600s, Liverpool's trade began to rise in prominence, although, due to its problems, it faced competition from ships anchoring in the relatively safer waters of the Sloyne on the Cheshire side (MacLeod 1982, 4). Shipping traffic was increasing in the area and the ports were becoming overcrowded. The sizes of ships were also increasing as transatlantic shipping became common, and incidents of rubbish tipping into the harbour also aggravated the problems of space (*op cit*, 6). The upsurge of the ship-building trade on the water's edge also exacerbated the problems (*ibid*).
- 1.4.7 **The Old Dock (1710-1826) (Figs 2-3):** the limitation of the Pool brought increasing demand for better accommodation for ships. In 1707, the scheme was finally mooted for an enclosed wet dock, and in November 1708, the Town Council formally requested the two MPs to commission an appropriate person to 'draw a plan of the intended dock' (Ritchie-Noakes 1984). In 1709, the first Dock Act was passed, empowering the Mayor, Aldermen, Bailiffs, and Common Council as the trustees of the dock and allowing them to levy dock dues on ships entering the harbour.
- 1.4.8 The corporation gave a large piece of land forming the mouth of the Old Pool at the bottom of Pool Lane (later South Castle Street) for its construction, covering some four acres, called the 'old' or 'lower pool' (MacLeod 1982, 10). The construction of the dock was not without financial difficulties; the scheme was financed on the back of heavy borrowing, no one made a profit on the dock construction, and it was not fully finished until seven years after the act of 1709 (*Op cit*, 9). The man appointed to build the dock, Thomas Steers, began work in May 1710. It is thought that he had been the chief engineer of the Howland Dock at Rotherhithe on the Thames, and the principal assistant of George Sorrocold, who had first agreed to help construct the dock (the Howland Dock, one of the first wet docks, was not, however, a commercial dock, but used for the fitting of ships after they had been launched).
- 1.4.9 The construction of the dock was a formidable task, particularly as it was built entirely by hand; the building work had to be undertaken in a sea-lake whose coffer-dam was constantly hammered by tidal currents, and from water flowing down into the Pool from the streams off the high ground of Mosslake (MacLeod 1982, 12). It ultimately took seven years to complete and was '*roughly rectangular, aligned east/west, with some 3½ acres of water area and a tidal entrance basin*' (Picton 1873).
- 1.4.10 The opening of the dock at Liverpool occurred 53 years ahead of the first commercial wet dock at Bristol, 63 years ahead of the example at Hull, and almost 100 years prior to the establishment of London's first commercial wet dock, which opened in 1802 (Macleod 1982, 1). The dock was completed in 1716 but had been opened the previous year. One of the major advance of the new dock was that ships could now unload in one and a half days, rather than the 12 to 14 days which it had previously taken, reducing the cost of handling cargo compared to other ports (MacLeod 1982, 13).
- 1.4.11 The impact of the opening of the Old Dock was immense; Chester, Bristol and London are all documented to have lost significant trade throughout the eighteenth century as a result of its opening (MacLeod 1982, 14). Liverpool developed into a major city of commerce, particularly in the valuable commodity of tobacco, and became the second greatest seaport in the kingdom; the number of seamen working

from the port trebled, the number of ships it owned trebled, and the tonnage of ships entering the port increased by a factor of ten (*ibid*). The city was well-placed to carry out trade with Ireland and the continent, which began to occur increasingly with the demise of Chester's trade (*op cit*, 2). The position of the port meant that Liverpool was convenient for the slave trade, forming the apex of the slave trading triangle between Africa and the West Indies and North America; by 1792, the port possessed over half of the English slave trade, having taken the lead from Bristol and London, and just under half of the European slave trade traffic (*ibid*). With the decline of slavery in the early 1800s (the last slave-ship leaving the port in 1807 – *ibid*), Liverpool began exploitation of the next commercial venture – the cotton industry. Liverpool became an important source for cotton, located as it was adjacent to the cotton and textile mills of Lancashire; raw cotton was imported and manufactured produce was exported in equal measure. The prominence of the town led to Liverpool's continued commercial prosperity and expansion in the eighteenth and nineteenth centuries.

- 1.4.12 Liverpool was the most easily accessible port and had good trading links and was the main port for the raw cotton imports. Lancashire dominated the English cotton industry continuously into the twentieth century and this was partly due to and responsible for Liverpool's ongoing success.
- 1.4.13 The Old Dock did not stand in isolation as there was also a 1½ acre octagonal tidal entrance basin, a graving dock off the north side and a landing stage projecting from the south side of the entrance to the entrance basin which provided short-term berthing and safe access to the dock (Jarvis 1996). The graving dock was superseded by the construction of the Dry Dock (later Canning Dock) in 1740 (Ritchie-Noakes 1984). A second graving dock to replace that destroyed by construction of the Dry Dock was built in 1746 at the north end of the Dry Dock itself (*ibid*). It also seems likely that the northern extent of the Pool were covered over with the later development of Paradise Street, Whitechapel etc (Sharples 2004, 7).
- 1.4.14 The success of the Old Dock and Canning Dock was such a success that it spawned further enclosed docks, including South Dock in 1753 and Salterhouse Dock in 1760 (Jones 1996, 111). George's Dock was built under the 1761 Dock Act that commissioned a dock to be built north of Canning Dock, approximately where the Three Graces stand at present; it was begun in 1762 and completed by 1771. The dock was aligned north / south and covered a three acre area. It was entered from both the north end via George's Basin which was arranged perpendicular to the main dock, and to the south through a small passage connecting it to the Dry Dock, which became the present Canning Dock. To the east of the dock was a warehousing area, which included the impressive Goree Warehouses built in 1793 and rebuilt in 1810 after a fire, before being bombed in 1941. The name reflects the trade links with Goree Island, off Senegal, which was probably the largest slave trading centre on the African coast (now a World Heritage Site) (LCC 2005, 123). The dock was enlarged and repaired in the first quarter of the nineteenth century and the northern entrance closed off in 1871.
- 1.4.15 The dock was closed in 1900 and infilled and the area, known as The Pierhead saw the construction of the Three Graces which consist of the Royal Liver Building of 1908-11 (listed Grade I) at the north end. This building is noted as among the first reinforced concrete frame buildings in the country. South of this is the Cunard

Building built 1913-16 (listed Grade II\*) and at the south end of the three the Port of Liverpool Building of 1907 (listed Grade II\*). All are clad in white Portland stone and form a varied and impressive group.

- 1.4.16 **Manchester Dock:** the Manchester Dock was constructed and opened by 1785-9 for the purpose of harbouring the Mersey Flats, barges and lighters which were flat bottomed barges used for 'lightening' other ships loads or loading and unloading ships that could not be wharfed / docked (Jones 1996). The vessels were mostly transferring coal, corn and cotton between the Manchester area, via the Mersey Irwell Navigation, and international markets. By 1815 the dock was about an acre in size and could apparently contend with the loading and unloading of up to 33 vessels per day. The quayside area of the dock saw numerous sheds and warehouses built immediately adjacent, and partly overhanging, in order to house the goods during transshipment. This was particularly evident later in the nineteenth century when the North Western and Great Western Railway companies became involved, and both leased and built structures specific to their requirements for coal haulage (Anderson 1996). The gradual change in transport systems from canals, to railways to roads led to the decline in the use of Manchester Dock and it was closed in 1928 and infilled by 1936. The dock having become economically unviable it was infilled using spoil from the Mersey Tunnel excavations.
- 1.4.17 **Chester Basin:** the Chester Basin (Fig 11) was constructed between 1785 and 1795 to meet the need for increased moorings for inland vessels with destinations in Cheshire, Lancashire and the Midlands, the latter using the Shropshire Union canal, also opened in 1795. The basin was tidal and measured approximately 2,500 square yards. However, the same shift in transport modes and the obstruction of the ferries arriving at the landing stage just north led to the closure and infilling of the basin at the same time as the Manchester Dock (Jarvis 1996).
- 1.4.18 By 1824 Liverpool had approximately 50 acres of enclosed dock space. The docks at Liverpool had numerous uses, and included serving as stopping points for ferries that ran to places like Chester. They also received goods for use in production in Liverpool itself, which included ground slate coming in from mills near Llandegai to be used at the Herculaneum potteries. The docks also formed a stage in the journey of goods, so that china clay shipped from Charlestown, Cornwall was offloaded and then sent either overland or by canal to potteries in north Staffordshire. Thus Liverpool's success and growth was not only a product of the docks but also its geographical location and the reasonably well integrated transport system of firstly canals and then railways. It was common for raw materials to be shipped to Liverpool then transferred onto Mersey Flats, so that the goods could be taken directly to warehouses in Manchester; this was particularly the case for cotton.
- 1.4.19 **Associated Buildings:** warehouses were present in Liverpool prior to the construction of the Old Dock but flourished after its construction and the increasing amount of trade coming into the city. Warehouses in the eighteenth century were often associated with or attached to the owner's dwelling. The warehouses were often between five and ten storeys in height, with gabled fronts, and long and narrow in plan. Distinctively, they often had a central pulley below the gabled roof and the loading doors for each floor positioned below this (Giles 2004). The same form continued through the nineteenth century as well. Such features are still visible within the central area of Liverpool today and the later warehouses had

further design refinements including loading doors recessed into the walls for better safety. Alongside Irwell Street exist some examples of early twentieth century warehouses; these represent a few surviving buildings of what was once a much more common form.

- 1.4.21 ***Novia Scotia:*** the area referred to as Nova Scotia was in the vicinity of Canning Dock and was an area frequented by the maritime community. As a result, the area contained numerous shops, inns, hostelrys, and workshops, which were demolished to make room for the Irwell Street warehouses in the early twentieth century. Accounts suggest that there may have been 38 dwelling houses of various sizes, accommodating 212 people at about 1770 (Wakefield 1927, 44). In 1790 records (Gore 1790) show that in Nova Scotia there were 17 houses and 15 cellars, occupied by 183 people and in Mann Island there were four houses and three cellars, occupied by 30 people. By the early nineteenth century the area was less salubrious and most of the larger houses had been converted to public houses. The name Nova Scotia is shown as referring to the area west of the southern passage into George's Dock on the map of John Eyes of 1765 (Fig 6) and continues to be shown as such on Horwood's map of 1803 (Fig 7), last appearing on the 1908 Ordnance Survey map (Fig 12) and then is not shown on the Ordnance Survey map of 1927 (Fig 13), by which time significant changes in the layout of the area had taken place.
- 1.4.22 ***Mann Island:*** Mann Island was land reclaimed from the Mersey during the dock expansion period in the mid-eighteenth century and was first referred to as Mann Island in 1785 (Wakefield 1927). On cartographic sources, such as Chadwick's map of 1725 (Fig 4) and Eye's map of 1753 (Fig 5) the area is clearly shown as part of the River Mersey foreshore, although the area to become Nova Scotia is shown as enclosed by 1753 (Fig 5). The area was shown at this date as being occupied by a variety of warehouses and were shown on all subsequent maps until their demolition in 1929 (when the present garage buildings were constructed). The origin of the name for the area is somewhat obscure. It has been attributed to a John Mann who made walking sticks in the area and had suggested that the construction of George's Dock (1762-1771) would make the area an 'island', hence Mann Island (Wakefield 1927, 44). Other accounts suggest he was an oil stone dealer who died in 1784 and that the area was originally known as Mersey Island (Aughton 1993, 220).
- 1.4.23 The tall brick building is the pump house for the Mersey Railway Tunnel and was designed by architects Grayson and Ould's (Sharples 2004, 112). The Mersey Railway Tunnel was begun in 1879 and the system involved two railway lines in the main tunnel and additional tunnels for ventilation and drainage; the railway was officially opened in 1886. The ventilation of the tunnel was dealt with by using four large fans, called Guibal fans in a tunnel connecting the main tunnel to the pumping and ventilation station. However, this system was found to be insufficient to deal with steam locomotives and the line was therefore electrified, making the Mersey Railway the world's first electrified under-water railway (LCC 2005, 141).
- 1.4.24 ***Canals:*** aside from the docks infrastructure, the success of Liverpool was related to the expanding transport network which developed alongside the economic activities associated with the port. The canal systems were the easiest and most economic means of transporting goods during the eighteenth century and by the end of the century there were about 2,000 miles of canalways in Britain (Hadfield 1984). The

Leeds to Liverpool canal was commissioned under the Canal Act of 1770 and the section leading into Liverpool was begun first and completed by 1773. The complete length of the Leeds to Liverpool canal was around 127 miles and this was completed in 1816. Prior to 1846 goods were moved inefficiently from the canal system to and from the dock system using horse-drawn vehicles. After 1846, however, a series of locks connected the canal to Stanley Dock, which was itself opened in 1848; this then allowed the vessels to pass into the rest of the dock system by inefficiently using the Mersey.

1.4.25 **Trams:** as well as water transport the later tram network in Liverpool became another element of Liverpool's infrastructure and provided a means of transport for people to move along the miles of dock fronts, around the city centre and, also to bring people in from the surrounding suburbs to work into the city. Trams were initially wheeled vehicles, guided along routes using either a groove in a series of plates laid down or later along grooved rails set into the road. The earlier trams were horse drawn, then they were of steam, and then ultimately electric trams were developed (Jones 1996, 397). The tram system was electrified between 1898 and 1902 and was then expanded and operated until September 1957 (*ibid*). By the end of 1875, there were approximately 61 miles of tramway lines, with 2894 horses in use pulling the trams and 207 tramcars rolling on the lines (Folkard 1978). The trams provided an easy and efficient route for people to travel into the city from the suburbs to work and reach the dock areas. After the second world war, the city of Liverpool followed the general trend set in many other British cities and abandoned the tram in favour of buses.

1.4.26 **Railways:** railways essentially began due to the need to connect Manchester and Liverpool using a fast and economical transport system. One of the earliest railway companies formed was the Liverpool and Manchester Railway Company, which was initiated in 1826, three years before the Rainhill Trials which was won by Robert Stephenson's *Rocket*. The line between Liverpool and Manchester was opened in 1830 and notably saw the first death by train (of William Huskinson MP) on the inaugural journey. In the first year of business the Liverpool and Manchester Railway transported over 40,000 tons of goods and 11,000 tons of coal and by 1835 this had increased to over 200,000 tons of goods and 116 000 tons of coal (LCC 2005, 139). Throughout the mid nineteenth century numerous other lines and branches became established within and around Liverpool, and several other companies were set up including the London and North Western (1846) and Lancashire and Yorkshire Railways (1855), the Chester and Birkenhead Railway (1841) and the Great Western Railway company in 1835 (GWR) (Anderson 1996). The railways carried raw materials, finished goods and passengers both to work and for leisure, all of which continued to increase in volume and numbers. The GWR company had agents and space at Manchester Dock, which was owned by the Mersey Docks and Harbour Board, and eventually rented from the Board directly, and hired barges when required. The situation then developed with the area around Manchester Dock effectively becoming the GWR depot with warehouses that were specifically constructed for the railway company which it had its own fleet of barges (Anderson 1996). With the decline in use of railway transport and the infilling of Manchester Dock the depot was finally closed in 1960. However, the fine warehouse on the south side of Manchester Dock remains extant and has until very recently (August 2006) been the home of the Merseyside Sites and Monuments

Records, Merseyside Archaeological Unit and part of the National Museums of Liverpool.

## 1.5 ARCHAEOLOGICAL WORKS

- 1.5.1 **Chavasse Park 1970s:** an archaeological investigation took place at the junction of Canning Place and South Castle Street (Fig 2). The work was a rescue excavation undertaken in the angle of Canning Place, Litherland Alley and South Castle Street in 1977 by Robina McNeil on behalf of the Merseyside Archaeological Society, Merseyside County Museums, the Department of the Environment and the University of Liverpool. This revealed a section of the foreshore on the west side of South Castle Street in the angle formed by that road, Canning Place, and Litherland Alley (centred at NGR SJ 3434 9039) (Philpott 1999, 4; Davey and MacNeil 1985).
- 1.5.2 These excavations showed that the Pool at that point contained two major phases of levelling, both of seventeenth century date. Finds included small but well-dated groups of pottery and clay pipes of the seventeenth and early eighteenth century. The 1977 excavation produced evidence for dense nineteenth century housing on the site, some with cellars, but also, more significantly, it located the edge of what was interpreted as the original Pool of Liverpool. Archaeological deposits within the Pool were consistent with infilling by soil, crushed sandstone and stones during the mid seventeenth century (Philpott 1999, 4; Davey and MacNeil 1985).
- 1.5.3 **Dock Road:** A watching brief was undertaken in September 1980 on works concerned with the widening and re-alignment of the Dock Road and the construction of the ring road in Canning Place. Part of the wall of the Old Dock was uncovered and recorded by the Archaeological Survey of Merseyside: '*Severe time constraints prevented major excavation, but a yellow sandstone coping was uncovered, standing on top of a sturdy brick wall*' (Nicholson 1981, 3; Jarvis 1996, 7).
- 1.5.4 **The Old Dock and Chavasse Park 2001-6:** this is the programme of archaeological work that was required as part of the Paradise Street Development Area (PSDA), which is set across the town centre of Liverpool (centred at NGR SJ 3430 9010, Fig 2). The first stage of the investigation was an evaluation undertaken in 2001, which was targeted on the line of the Old Dock (LUAU 2001). The second phase of investigation entailed both an evaluation programme and a large scale excavation concurrently. The main excavation area within Chavasse Park, covered an area of over 3500m<sup>2</sup> and the evaluation trenches covered an area of 3160m<sup>2</sup>.
- 1.5.5 The findings included: surviving remains of the medieval town of Liverpool, the remains of the Pool; the historic quayside, including deposits and structures connected with the Old Dock; other city centre activity, such as market places, residential remains etc; and subsequent nineteenth century activity associated with the New Customs House. It also identified extensive commercial activity associated with the docks comprising industrial buildings, warehouses, dwellings, roads and infrastructure.
- 1.5.6 This second stage of investigation began in March 2004 and continued through to November 2005. The works are considered in respect to five main spatial areas: the Old Dock (OD 04); the Urban Area (CP 04 evaluation); Chavasse Park (CP 04 excavation); the Strand (LT 04) and Outlying Sites (LD 04).

- 1.5.8 The trenching revealed several aspects of the Old Dock construction. Firstly the Old Dock was not cut directly into the Pool clays, instead it was evident that extensive areas were cleared of Pool clays in advance of construction and then the walls were built free-standing, before clay was used to backfill behind the dock wall. The clay used may have been from the Pool, since they were very similar, and could have been stockpiled on site.
- 1.5.9 On the north side of the dock it was found that the rear face of the wall rested on the underlying bedrock and was located along the northern edge of the Pool. Deep excavations uncovered timbers between 4m and 9m long, that were keyed into the wall itself, and which were contemporary with the construction. Some had an iron sheath along one side, presumably for strength, and they were set at right angles to the wall. The timbers were set at regular intervals of 4.5-5m and had additional supporting timbers in each case. A trench in the location of the north-east corner of the dock uncovered the top of the wall and the inner and outer face of the dock were both tightly curved.
- 1.5.10 The Old Dock was backfilled in the early nineteenth century prior to the construction of a large customs house on the site. The construction of this customs house was responsible for parts of the Old Dock wall being removed, and the north-westernmost trench revealed no sign of the wall, reflecting this intensive disturbance. What was demonstrated were the numerous tip deposits from the backfilling, complete with ceramic assemblages contemporary with the construction of the Customs House in 1826. Trenches dug along the east side of the Old Dock found that the Customs House, constructed of massive pink ashlar sandstone blocks, had significantly damaged the upper part of the wall.
- 1.5.11 Aside from the Old Dock, the excavations in Chavasse Park revealed surviving elements of the medieval landscape, along with artefactual material. The work also revealed elements of the urban centre from the time of the Old Dock, and included the street layouts, foundations of both secular and religious buildings, as well as some other elements of the city's infrastructure. Prior to the 1820s these buildings were typically built of a characteristic yellow sandstone; however, subsequently, the trend was to use a red brick and as such provides a simple indicator of dating.
- 1.5.12 Within Chavasse Park the evaluation trenches revealed deep cellars, all of brick construction. The bricks all appeared hand-made and the origin of the structures probably dates from the late eighteenth to mid nineteenth century. In the larger areas examined the cellars were found to truncate areas of soils which produced ceramic assemblages of generally early date, that included numerous sherds of medieval pottery. The soils were probably related to agricultural / horticultural activity, and survived in areas which had never been cellared.
- 1.5.13 The project uncovered several streets that had been redeveloped and covered subsequent to Second World War bombing; the upper levels of these areas comprised sett road surfaces complete with contemporary tram rails. Within Chavasse Park two differently aligned street frontages were revealed. The earlier one was on a square layout that corresponded with Gage's 1836 map town map, while the later alignment had a curving street corner, as shown on the Ordnance Survey map of 1848 (Fig 10). There was also a fundamental change in the size of the streets, as the frontages were pushed back to increase the road width. What the cartographic sources could not demonstrate was the distinct switch from yellow sandstone to red brick for the building material between these two layouts.



- 1.5.14 ***Merseytram and The Strand:*** work near the entrance to Canning and Salthouse docks (Fig 2) revealed sandstone walling used to block the entrance to the Old Dock, which included a block with inverted Roman numerals, that had originally marked depths on a quayside elsewhere. The earlier alignment of Canning Dock wall was also uncovered, which tied in with historic mapping.
- 1.5.15 ***St Paul's Square:*** an evaluation of six trial trenches was undertaken at St Paul's Square (SJ 3390 9066) in 2005 (Fig 2) (OA North 2005a). Archaeological stratigraphy was encountered to a maximum depth of 3m where the natural subsoil was revealed. Structural remains, including sandstone and brick structures, were revealed across the site, with intermittent episodes of disturbance that had a significant impact on the surviving archaeology.
- 1.5.16 A series of yellow and white sandstone ashlar walls were revealed towards the north-east of the site and were thought to be the remains of the foundations of St Paul's Church, which was completed in 1769, and was described as a replica of St Paul's Cathedral, London. Six separate sections of wall were revealed, mostly aligned north-west/south-east, and the rest were north-east/south-west. No burials were found in the churchyard areas, although a deposit of disarticulated human bone has been identified beyond the churchyard. This suggests that there had been a systematic clearance of the site when the church was demolished in 1931, with the removal and reinternment of the burials beyond the church yard.

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## 2. AIMS AND OBJECTIVES

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### 2.1 OBJECTIVES

2.1.1 Previous excavations, evaluations and the assessments have demonstrated that within the docklands of Liverpool there is the potential for archaeological deposits and structures to survive from the post-medieval period. Areas of potentially significant archaeology have been highlighted and such sites have been subject to evaluation.

2.1.2 **Project Design Objectives:** an initial project design (*Appendix 1*) for the work was prepared to inform the development of Mann Island and objectives defined as follows:

- to establish the presence or absence of archaeological remains within the identified area.
- to determine the extent, condition, nature, character, quality and date of any archaeological remains present.
- to establish any ecofactual and environmental potential of archaeological deposits and features.
- to make an assessment of the impact of the scheme on any significant remains or deposits encountered to enable the appropriate level of mitigation recording as proposed in the Environmental Statement
- where possible, implement a programme of mitigation recording in advance of construction works, should this be achievable.

2.1.3 To these ends it was necessary to assess the thickness, depth and depositional history of any significant archaeological structures and/or deposits. Despite the likelihood that the dock structures extend to a depth of 9m, it was proposed to only excavate to a depth of 2-3m. The nature of the main stratigraphical units encountered was characterised in terms of their physical composition (stone, gravel, organic materials etc) and their archaeological formation (primary deposits, secondary deposits etc). This entailed excavation to the top of significant archaeology, together with localised sondages which explored in more detail the archaeological stratigraphy. The work involved the retrieval of all kinds of stratified artefactual evidence (including pottery, brick tile, stone, glass, metal, bone, small finds, etc), and ecofactual and environmental evidence (including animal bone, human bone, plant remains, pollen, peat, charcoal, molluscs, soils etc).

2.1.4 The specific objectives were to be answered by the location of four trenches, as outlined below:

- Trench 1 (10m x 2m) was intended to examine the extent of Manchester Dock and possible warehouse remains.
- Trenches 2 and 3 (20m x 2m) were to examine the date, nature and the level of survival of remains associated with Novia Scotia.
- Trench 4 (20m x 2m) was sited east of George's Passage, adjacent to the former harbour masters office, so as to determine activity in this locale.

## **2.2 VARIATIONS FROM PROJECT DESIGN**

- 2.2.1 The only deviation from the project design was that there should be a trench (Trench 2) located adjacent to the north-west corner of the Mann Island Mercedes Garage; however, preliminary excavation revealed a large number of active services including fibre optic cable bundles within the area of the trench. Discussion with the consulting archaeologist for Wardell Armstrong resulted in this trench being abandoned in favour of a secondary trench within the confines of the Mercedes Garage (Trench 3B). As a consequence Trench 2 was not excavated.

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### 3. METHODOLOGY

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#### 3.1 FIELDWORK INTRODUCTION

- 3.1.1 The evaluation programme investigated the sub-surface potential of the archaeological record. The trenches targeted either the lines of documented docks or associated quayside, and there was a flexibility regarding trench locations to ensure that they located dock walls, where appropriate, or to avoid services. In all instances adjustments to trench location were made in consultation with Wardell Armstrong, British Waterways and the Merseyside Archaeological Officer. The evaluation programme was intended to inform the requirements for any further mitigation.
- 3.1.2 Prior to any ground disturbance the extent of the trenches was appropriately fenced to allow safe working. The areas of work were recorded, by digital photograph prior to any work to help in any required reinstatement after the archaeological investigation. The overburden was excavated by Galliford Try, the lead contractor, who also undertook the reinstatement.
- 3.1.3 Once the trench locations were established the topsoil/surfaces and any obvious overburden deposits were removed mechanically. Machine stripping of trenches was undertaken using a 360° mechanical excavator fitted with an appropriately sized toothless ditching bucket. It was also necessary to use a breaker to remove thick layers of concrete encountered. The work was constantly supervised by a suitably experienced archaeologist. Further machine excavation was then used to define carefully the extent of any surviving walls and other remains. Thereafter, structural remains were cleaned manually to define their extent, nature, form and, where possible, date. Spoil was retained on site and stockpiled at a safe distance from the evaluation trench before being used to backfill the trenches.

#### 3.2 RECORDING METHODOLOGY

- 3.2.1 All elements of the work were recorded in accordance with current English Heritage guidelines (1991) and the best practices formulated by English Heritage's Centre for Archaeology (CfA).
- 3.2.2 **Survey Control:** a series of survey control points was established with respect to a survey control from an earlier survey undertaken on behalf of ARUP; further control stations were installed throughout the duration of the works, as required. Station descriptions were established for each principal new control station.
- 3.2.3 **Planning:** archaeological planning was undertaken using a data-logging total station (Leica) linked into a Penmap computer, utilising AutoCad version R14. All planning data was digitally incorporated into a CAD system in the course of the evaluation and was superimposed with the base survey provided by British Waterways. This process generated scaled plans which were subject to manual survey enhancement. The drawings were generated at an accuracy appropriate for 1:20 scale but can be output at any required scale. A digital adaptation of single context planning was used, where, as appropriate, each entity was ascribed a unique layer allowing all or selective features to be viewed as required.

- 3.2.4 **Context Recording:** archaeological stratigraphy was recorded using *pro-forma* sheets in accordance with those used by English Heritage. Similar object record and photographic record *pro-formas* were used. All written records of survey data, contexts, artefacts and ecofacts were cross-referenced from *pro-forma* record sheets using sequential numbering.
- 3.2.5 The full contextual details were incorporated into a Harris matrix essentially hand-drawn on site for checking purposes but which may be generated using specially designed Arched version 2 matrix generation software.
- 3.2.6 **Photography:** a full and detailed photographic record of individual contexts was maintained and similarly general views from standard view-points of the overall site at all stages of the evaluation were generated. Photography was undertaken using 35mm cameras on archivably black and white print film as well as colour transparency. Extensive use of digital photography was also undertaken throughout the course of the fieldwork for presentation purposes. Photographic records were maintained on special photographic *pro-forma* sheets.

### 3.3 FINDS

- 3.3.1 Finds recovery and sampling programmes were in accordance with current best practice (following IFA and other specialist guidelines) and subject to appropriate expert advice. Oxford Archaeology employs a wide range of in-house finds specialists and palaeoecologists, providing considerable expertise in the investigation, excavation, and finds management of sites of all periods and types, who were readily available for consultation and site visits.
- 3.3.2 In addition, OA North maintains close contact with Ancient Monuments Laboratory Conservators at the Universities of Durham and York, from whom advice and emergency access to conservation facilities was readily available. Finds handling, management and storage during and after fieldwork followed professional guidelines (IFA/UKIC).
- 3.3.3 Artefacts and ecofacts were collected systematically during the mechanical excavation of overburden when significant deposits were encountered. No finds category was neglected in order to provide as full a record as possible, including those relevant to World War II events. Other finds recovered during the removal of overburden were retained only if of significance to the dating and/or interpretation of the site or specific features. Subsequent to the removal of overburden artefacts and ecofacts were collected and handled as per best practice. All material was collected and identified by stratigraphic and spatial units. Hand collection by stratigraphic unit was the principal method of collection.
- 3.3.4 All finds were treated in accordance with OA North standard practice, which is cognisant of IFA and UKIC Guidelines. In general this meant that (where appropriate or safe to do so) finds are washed, dried, marked, bagged and packed in stable conditions; no attempt at conservation has been made unless special circumstances require prompt action. In such a case guidance and/or expertise was sought from a suitably qualified conservator. Animal bone was recovered from stratified deposits only. It was recovered by hand, with no programme of sieving.

### **3.4 ARCHIVE**

- 3.4.1 A full professional archive has been compiled in accordance with OA North standard best practice, and in accordance with current IFA and English Heritage guidelines (1991). The paper archive will be deposited with the Liverpool Record Office (Central Library, William Brown Street, Liverpool, L3 8EW), and the material archive (artefacts and ecofacts: Site Code MI06) will be deposited with National Museums Liverpool.

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## 4. SUMMARY OF THE FIELDWORK RESULTS

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### 4.1 INTRODUCTION

4.1.1 The following chapter details the significant results of the evaluation. Full context descriptions can be found in *Appendix 2* and the complete stratigraphic matrices are given visually in *Appendix 3*. A total of four trenches was excavated, which were numbered 1, 3A, 3B, and 4. Trench 2, which was to be located near the entranceway, and was intended to investigate potential structures or Irwell Street, was not fully excavated due to a substantial number of live services.

### 4.2 TRENCH 1

4.2.1 Trench 1 (Figs 1, 3, 14 and 18) was located to the west of the Mercedes Garage, and south of the Porsche Garage within the proposed Mann Island retail/mixed use site (Plate 1); it was intended to investigate the eastern edge of Manchester Dock and the associated quay side. The trench was excavated using a 12 ton 360° excavator, alternating between a 1.8m ditching bucket and a smaller toothed bucket where required. The trench was aligned north/south, and measured 9.70m by 4.70m; it was excavated to a maximum depth of 2.00m with stepped and battered sides from a depth of 1.00m on the north, south and east-facing section to allow safe entry and egress from the trench.

4.2.2 The trench revealed the eastern Manchester Dock wall and later associated features, which were overlain / surrounded by various backfill and made ground deposits. The eastern wall of the Manchester Dock, **3109**, was a substantial red and yellow sandstone structure, orientated north/south within the limits of the excavation and was the earliest feature identified (Plate 2).

4.2.3 The west-facing elevation of the wall (Fig 18 and Plate 4), was made of pink sandstone and would have probably come from a local quarry (possibly St James Cemetery Quarry behind the Anglican Cathedral), while the remainder of the wall was constructed of yellow sandstone. This pink sandstone is much more robust than the yellow sandstone and, consequently, the west-facing elevation of the wall survives to a much higher standard and the stones are tightly keyed into place with very little evidence of a mortar bond. The better quality of construction reflects that this is the face that was required to be waterproof and also that it would have been on display. The west-facing elevation was a vertical face, and the trench was exposed a wall that was ten courses of sandstone in length, four courses high and three courses wide with average block dimensions of 0.93m by 0.54m (Plates 3 and 4). The lower three courses were all carved with detailed linear tool mark borders and parallel herring bone-style tool marks at a 45° angle across the majority of the face of each block. The tool marks on the lowest course of the wall were abraded and in some places the decorative bordering of the blocks has almost been obliterated. This erosion probably indicates the upper level of the water within the dock while it was in use.

4.2.4 The top course of the west-facing elevation of the dock wall, **3109**, was a later phase of additional construction work carried out on the dock, where small stone blocks were used and niches were added to facilitate the installation of a wooden

platform, **3110**, or temporary sheltered quayside walkway that extended out over the water. This was visible in some of the aerial photographs of the dock (Plate 16), taken by P & P aerial photography prior to the dock's closure; the pictures show that wooden structure, **3110**, was used by the smaller skiff and barge boats, which had shallower draughts, to unload cargo. This upper course does not exhibit the same tool type or attention to aesthetic detail as the lower courses and the block size is not typical of a quayside. It was also slightly out of line with the rest of the wall as the top course over hangs the lower courses by up to 0.10m at the southern end of the trench. This upper course was also the only area on the west elevation of the wall, where any kind of mortar bond was visible; in this case a greyish white lime mortar bond was used.

- 4.2.5 The second course of the wall, from the top, also contained numerous small niches which measured 0.13m in length and 0.06m in width. Some of these contained rotten wood fragments and large iron nails still *in situ*. The presence of the wooden fragments and metal fixings was indicative of the presence of large wooden stays / fenders, probably similar to railway sleepers. These would have been affixed to the western elevation in order to provide a cushion between the wall and the docking boats.
- 4.2.6 The west-facing elevation of the Manchester dock wall also exhibits numerous mason marks (Fig 18; Plate 5), of which four were observed during the course of recording. All were simple geometric shapes which would have been specific to each mason; the fact that there were four individual marks indicate that at least four masons worked the stone blocks that made up the Manchester Dock wall at this point.
- 4.2.7 The reverse face of the dock wall, on the eastern side, consisted mainly of mid-yellow soft sandstone (Plate 2), and was stepped out in three places, which would have strengthened the wall at depth, helping it support the volume of water and the ships moored against it. Each step was on average of 0.60m in width, with each composite block of sandstone measuring, on average 0.85m by 0.60m by 0.45m. A small machine-dug sondage at the southern end of the trench, between the west-facing section and the east-facing elevation of the dock wall, showed that below the third step, the wall continued down as a vertical face. The yellow sandstone steps on the east-facing elevation were crudely hewn by comparison with the west-facing elevation of the wall; however, the herringbone pattern masons tool marks were still visible on the horizontal face of the yellow sandstone blocks.
- 4.2.8 Keyed into wall **3109** was the timber structure, **3110**, mentioned above (Section 4.2.4). This structure represented a later phase of activity within the dock's construction and probably supported the wooden jetties seen in early photographs taken of the docks while they were still in use. The structure, **3110**, comprised three substantial untreated rectangular-shaped oak timbers keyed into wall **3109**, at the northern end of the trench. The two outer timbers were keyed in horizontally, perpendicular to the wall; the northern timber (Timber A) measured 1.8m by 0.17m by 0.4m and was located directly beneath the north niche in the upper course of the dock wall. This timber was pinned in the centre with a large iron bolt measuring 0.05m in diameter. Later activity, probably the backfilling of the dock, has badly damaged this timber and caused its truncation to the west. The southern timber (Timber C) measured 0.85m by 0.17m by 0.35m and was similarly located directly beneath the south niche in the upper course of the dock wall. Also in a fairly poor



state of preservation and partially truncated along its long axis, the full extent of this timber was never observed as it was obscured by the presence of the western trench step. The third, central timber (Timber B), measured 3m by 0.14m by 0.18m and was set into an iron housing bolted to the wall and projected at a 45° angle from the face of **3109**. Attached to this timber were an iron ring and chain and a similar item, an iron chain with a hook (Object 11035) attached, was found adjacent to this, within pink sandstone dock backfill deposit **3111**. Compared to the other two timbers, this one was in a relatively good state of preservation, which was unusual given its position at a higher level within the trench and therefore would have been more prone to damage and truncation by the later construction of warehouses within the area of the dock.

- 4.2.9 A variety of made ground deposits were placed against the east-facing elevation as back fill and related to the construction of the wall. Stratigraphically, the earliest of these deposits was **3112**, a dark-brown, medium compact, heterogeneous silty clay layer which contained large, poorly sorted, fragments of crushed yellow sandstone rock. This deposit was excavated within a sondage at the southern end of the trench against the east-face of the dock wall which was intended to inform the wall's construction. This deposit was observed to a depth of 3m below surface and was at least 1m thick.
- 4.2.10 Overlying this was a loose homogeneous lens of crushed pink sandstone, **3113**, measuring 2m by 0.3m thick and made up of 60% sandstone fragments and 40% pink sand; this sterile layer was a further backfill deposit within the construction cut for the dock wall. Above this was a yellowish-white, compact homogeneous white sand layer with less than 10% small well-sorted grit and sandstone fragments, **3114**. The deposit extended along the length of the trench. This layer was also excavated by machine and appeared to be sterile in terms of artefacts; it was sealed beneath, **3115**, a mid brown compact silty clay layer that contained less than 10% small well sorted sub- rounded pebble inclusions.
- 4.2.11 Overlying **3115** was surface deposit, **3116**, comprising large sub-circular grey cobbles. There was no obvious bond to this surface and instead they were set directly into **3115**, which acted as a bedding layer. The cobble surface **3116** was only visible in the west-facing section but did extend across the entire surface of the trench. This phase of early cobbled surface may have been a quayside surface contemporary with the later stages of use of the Manchester Dock, as the surface exists at the same level as the top of the dock wall. A similar surface, **3220**, was seen in the sections of Trench 3A within the Mercedes Garage warehouse and can therefore potentially be considered to be the same as cobble layer **3116**.
- 4.2.12 Surface **3116** was sealed by a 0.17m thick layer of grey concrete, **3117**, which covered the whole of the trench, and overlying this was **3118**, a 0.06m thick greyish-brown organic silty homogeneous deposit, which represents the bedding layer for surface **3119**. Surface **3119**, was a recent road surface of grey square regular-sized stone setts that extended beyond the limits of the trench, with each individual sett measuring on average 0.2m by 0.11m by 0.12m.
- 4.2.13 The dock fell out of use and was filled-in during the 1930s with crushed pink sandstone **3111**, obtained from the Mersey tunnel risings, as the backfilling of the dock coincided with the main construction phase of the Mersey Tunnels. This fill material was located on the west face of the dock and was excavated by machine to

a depth of 1.40m. This backfill material, **3111**, was a sterile deposit of sub-angular, crushed, friable bedrock material.

- 4.2.14 Overlying the dock infill **3111**, and the road surface **3119**, was a light grey reinforced concrete base, **3120**, which was laid to support structure **3121**, a series of very substantial iron beams orientated east/west (Plate 3). The beams formed a kind of prefabricated metal frame for a later GWR warehouse on the site of the infilled dock. Overlying this was **3122**, a heterogeneous backfill deposit consisting of loose brick demolition material mixed with mortar dust and a light brown sandy soil, which probably represents the demolition phase of the warehouses after they fell out of use.
- 4.2.15 Above this at the top of the sequence was the current carpark surface **3123**, which was made of black tarmac and aggregates.

### 4.3 TRENCH 3A

- 4.3.1 Trench 3A was located in the southern half of the existing Mercedes Garage within the Mann Island site (Figs 1, 15 and 18; Plates 6-8). The trench measured 10.00m by 4.00m and was aligned north/south. Trench 3A was excavated using a 12 ton 360 mechanical excavator alternating between a 1.8m ditching bucket and a toothed bucket where appropriate. The trench was excavated to a maximum depth of 1.80m and was stepped on the north, eastern and southern sections to allow access. The trench was excavated in order to evaluate the survival of any potential structures related to quayside activities in the Nova Scotia area. It revealed a range of made ground and structural components, which were the remains of the warehouses, that would have been contemporary with the dock.
- 4.3.2 Stratigraphically, the earliest context encountered was **3204**, a made ground deposit of medium compact, crushed pink and yellow sandstone bedrock containing 40% large sandstone fragments and 60% sand. It was sterile and homogeneous and represents an early phase of ground reclamation as the shoreline was extended out into the Mersey and the docks were being constructed. Overlying this was **3205**, a pale grey/brown, sterile homogeneous sandy layer containing 25% sub angular stones which also formed part of the made ground. Similarly **3206**, a fine white sandy layer of made ground, sealed these deposits. All three deposits (**3204**, **3205** and **3206**) extended across the full length of the trench
- 4.3.3 Overlying this was **3218**, a compact brown and black clinker and clay layer extending the length of the trench with a thickness of 0.20m. This was overlain by a whitish-yellow sterile sand layer **3219**, which also extended the length of the trench and was in turn overlain by **3207**, a light-brown homogeneous layer of sand. Layer **3218** was also overlain by surface **3208**, comprising very large and substantial igneous sub-rounded grey cobble stones, which may have come from the river. These cobbles were only visible in the east-facing section and were not visible in plan view due to the presence of **3210**, a compacted hard standing surface containing a mixture of soot, clinker and crushed red brick material. A compact layer of fine black coke and clinker, **3209**, was located on the western step and also overlay surface **3208**; it was adjacent to, and butting, sandstone wall **3211**.
- 4.3.4 Structure **3211** was one of the key features in Trench 3A (Plate 6) and comprised a yellow sandstone wall; the stone was probably locally quarried and was similar to that used in east-facing elevation of the Manchester Dock wall. The wall was

heavily truncated by later features, and only a small section still stands to two courses high. This section indicates that it was originally two courses wide; however, rubble within the trench suggests that it may have been a much more substantial wall and it may have extended at least to the southern extent of the trench.

- 4.3.5 Deposit **3212**, represented a small surface of water-rolled sub-oval cobbles bonded with grey concrete mortar that directly butted against sandstone wall **3211**. It extended over a very limited area within the western step of the trench, having been truncated by the construction of **3213**, a red brick wall which was built directly on top of **3211**, and was to the north of **3212**. This surface may have been part of the cobble flooring associated with the earlier warehouses.
- 4.3.6 Structure **3213**, was a red brick wall orientated north/south, and was seen along the east-facing section of the trench. The wall is only one course wide suggesting that it may have been an internal wall but survives to a length of nine courses and a height of eight courses. The bricks are unfrogged, hand-made red bricks with no maker's marks or distinguishing features and were bonded with a lime-rich, buff coloured lime mortar in an English Garden Wall style bond. At the northern end of the trench, the eastern return of the wall is visible but disappears into the south-facing section, where it became indistinguishable from the rubble. It may represent the latest phase of warehousing, prior to the closure of the Manchester Dock.
- 4.3.7 Set against wall **3213**, was a small timber vertical, **3214**, which was added after the wall was built, creating an irregular cut and truncation of the brick wall at the northern end of the trench. The timber appears to be untreated oak with a pointed end, much like a large stake and measured 0.22m in diameter and 0.65m in length. The purpose for this later insertion of a timber feature is unclear, but, given the damage to wall **3213**, it is likely that its installation post-dates the demolition of the wall.
- 4.3.8 Visible in the west-facing section was an extensive deposit, **3221**, identified as part of the build up of made ground, and butts against wall **3213**. The layer was a mid-brown silty clay containing 30% sandstone fragments. Overlying this deposit was a brick floor, **3222**, seen only in the western side of the trench. The bricks were machine made, each measuring 0.24m by 0.11m by 0.07m, and were aligned with their long axis orientated north/south. Above this earlier floor was a 0.13m thick layer of bedding and small cobbles (less than 0.2m diameter), **3220**, which was an intermediary surface, and also overlay sand layer **3207**. A similar surface to **3220**, was seen in Trench 1 (**3116**) and can therefore potentially be considered to be the same as this cobble layer, **3220**.
- 4.3.9 At this point in the stratigraphic sequence the deposits were truncated by the installation of **3215**, a series of services associated with the warehouse structure. These comprised narrow linear lead and iron water pipes which were contained within a rectilinear cut **3216** and were surrounded by a homogeneous brown-yellow sandy silty loose back fill material, **3217**.
- 4.3.10 At the top of the sequence the deposits and services were sealed across the trench by a concrete floor surface, **3223**, which extended over the whole area of the trench with a thickness of 0.17m; surface **3223** was probably created with the construction of the Mercedes Garage warehouse. The upper surface of the trench consisted of

modern ceramic, internal floor tiles, **3224**, which were the existing modern surface within the garage and the latest deposit within Trench 3A.

- 4.3.11 A sondage was excavated in the southern end of the trench after the main phase of excavation was complete, reaching a maximum depth of 4.0m (ie the full reach of the digger). No access was given to the trench during the course of this work due to the depth and the unstable nature of the deposits, therefore no accurate recording could be done. However a substantial Victorian brick culvert orientated east/west was observed in the southern end of the trench at a depth of 2.00m and beneath this were associated deposits of made ground, including at least four layers each approximately 0.25m thick (Plate 8). There was no obvious “natural” pool clay deposits within this sondage and all the ground beneath the culvert appeared to be part of the made ground layers associated with the reclamation of the land around the pool.

#### **4.4 TRENCH 3B**

- 4.4.1 Trench 3B was located in the northern half of the existing Mercedes Benz Garage within the Mann Island Complex (Figs 1 and 16, Plates 9-12). The trench was 9.7m in length and 4.3m in width and orientated north/south. It was excavated to an average depth of 1.8m overall, with a maximum depth of 3.10m occurring in the sondage at the northern end of the trench after the main phase of excavation was completed. The trench was stepped on the north, south, east and west sides to allow ease of entry and egress and to conform to health and safety regulations when digging to a depth of greater than 1.2m.
- 4.4.2 The trench contained numerous made ground deposits including; **3250**, a uniform clay deposit observed at the base of the trench (Plate 11), which appears to be one of a series of tip lines and indicates backfilling of the Mersey as part of the ground reclamation. Contemporary with this deposit was a reddish brown clayey deposit, **3247**, and a deposit of crushed homogeneous sterile, yellow sandstone, **3248** (revealed in a small sondage); both also deposited as part of the land reclamation. Overlying these deposits was a mid-yellowish-brown sand layer, **3246**, that was extensive in area and 0.25m thick and represents the uppermost levelling layer in the sequence.
- 4.4.3 Also overlying deposit **3248** was a brown/orange granular, sandy deposit, **3249**, which may have derived from a marine origin and been re-deposited. Above this was a sequence of deposits including **3245**, **3244**, **3243** and **3242**, which were all made ground deposits of redeposited mainly sterile geological material. These were located in the east-facing section directly beneath a yellow sandstone wall foundation, **3241**.
- 4.4.4 Structure **3241**, was orientated north/south and seen in the observed in the east - facing section of the trench. It was at least 9.7m in length and was 0.26m thick; the average dimension of each block was 0.85m by 0.26m by 0.30m. There was no mortar bond between the stones and it is not possible to tell what type of coursing or construction was used as only one linear course of the wall survives. The eastern faces of the stones had herring bone tool marks suggesting that they may once have been visible above ground. The stone was a friable mid-yellow sandstone and similar to the yellow sandstone material associated with the earlier dock building

seen elsewhere in the Liverpool Dockland area. This material has probably been locally sourced.

- 4.4.5 Directly overlying this was a later brick wall, **3234**, orientated along exactly the same alignment as **3241**, and made of hand-made bricks; it extended the length of the trench (10.00m) and occupied the majority of the east-facing section. The wall was 0.60m in width with an average brick dimension of 0.22m by 0.17m by 0.07m; it was constructed using the English Garden Wall bond and had a buff coloured lime-rich mortar. The northern end of the wall was keyed into an eastern return, **3237**, and the two were clearly contemporary.
- 4.4.6 Butting walls **3234 / 3237** was an extensive red brick floor surface, **3235** (Plate 10), made of alternating regular patterns of header and stretcher bricks which were set into the underlying deposits without a bond or clearly defined bedding layer. This floor surface respects walls **3234 / 3237** and was therefore contemporary with them although constructed immediately after. These various elements formed part of the same warehouse structure, which was contemporary with the Manchester Dock. This warehouse floor surface had clearly suffered a great deal of wear and tear and the bordered brick edges of the floor had been replaced in section using timber material, **3236** and **3238**, which were possibly recycled railway sleepers or stays from the dock itself.
- 4.4.7 The floor, **3235**, was in an excellent state of preservation aside from an intrusive and irregular-shaped cut **3239**, located in the south-west corner of the trench. This cut was filled with a medium, compact brown silty clay soil, **3251**, mixed with large yellow sandstone fragments. A small sondage was excavated within this cut to ascertain its purpose; however, no services or other associated activities were observed within the sondage section so the purpose of this cut remains unknown.
- 4.4.8 Sealing the intrusion, **3239**, was a layer of semi-ordered brick rubble, **3233**, where bricks had been stacked in some degree of order, albeit without a bond, along the eastern section to provide a level bedding surface for a later brick floor, **3240**. This later floor was also constructed of hand-made red bricks with no obvious mortar bond, aligned in a pattern of alternating headers and stretchers, surrounded by a stretcher border. This represents the latest phase of warehousing prior to the construction of the current building. Directly overlying this was **3232**, a modern grey concrete, internal floor which was the floor of the existing structure.

## 4.5 TRENCH 4

- 4.5.1 Trench 4 was located in the open area that was a car park at the rear / west of the now disused Media House, lying at the corner of Mann Island and the Strand (Figs 1 and 17, Plates 13-15). The trench measured 16.8m by 4.3m and was aligned north/south; it was excavated using a 12 ton 360° mechanical excavator alternating between a 1.8m ditching bucket and a toothed bucket where appropriate. The trench was excavated to a maximum depth of 2.5m and stepped on all sides to allow access.
- 4.5.2 Stratigraphically, the earliest context encountered was, a mid-red sandy layer, **3253**, containing finely crushed sandstone, which was observed at the base of the sondage excavated at the bottom of the trench. Overlying this was a pale-grey sandy layer, **3252**, which was in turn overlain by a 1m thick layer of mid-brownish-grey rubble

- 3227.** The layers represent makeup material that was deposited in order to produce a level stable area on which to build.
- 4.5.3 Truncating the uppermost makeup layer, **3227**, was an inserted service, the cut of which, **3231**, was aligned north/south and was filled with a cast iron pipe and a mixed mid-brown clayey silt, **3230**. Overlying this was a layer of setts, **3202**, forming an extensive surface across the entire trench area (Plate 14). The setts appeared to be of granite and were in two sections; to the south their long axis was aligned east/west and to the north the alignment was slightly north-east/south-west and had a single line of north-west/south-east setts marking the line of a drain. The variation in layout probably indicates a spatial change either a pathway arrangement around a corner/entrance or perhaps a subtle phase in the floor surface, although one was not detectably later than the other. In the northern part of the trench the setts were overlain by the remains of a later brick wall, **3203**, which was aligned north/south, measured 3m by 0.3m and survived to only two courses (0.2m). The bricks appeared to be hand-made, were unfrosted and had a pale lime-rich mortar bonding them to each other and the underlying sett surface, **3202**. Respecting, and therefore deposited after, wall **3203**'s construction was a deposit of clinker-rich material, **3255**, consistent with debris from heat related processes and which was often re-used as makeup material. The wall may represent an outbuilding of some form, rather than a substantial structure since the foundations were limited.
- 4.5.4 Also above the setts, **3202**, was an extensive layer, **3226**, of brown material and rubble that was 0.3m thick, which represents the makeup deposited between surfaces. Overlying this layer was a surface of setts which had two elements, **3200** and **3201**, and the overall layout of the setts was somewhat haphazard with groups and areas of differently sized setts aligned in different directions. It was obvious that they were the product of more than one phase of construction, although again which were original and which were repairs was not evident.
- 4.5.5 The setts **3200** and **3201** were truncated by two features **3254** and **3257**. Feature **3254** was the cut for the construction of a brick wall, **3229**, seen in the north-west part of the trench. The wall, **3229**, was made of modern machine-made red brick, built in English Garden Wall and bonded with grey cement. It ran for over 4.5m, extended north beyond the limits of the trench and was of twentieth century date. Cut **3257** was a linear cut, aligned east/west, and which may have been for a service, but none was found in the mixed fill **3256** and any service had possibly been removed. The feature was 4.45m long by 0.85m wide and 1.05m deep.
- 4.5.6 Sealing these two intrusions, **3254** and **3257**, as well as the clinker material **3255** was a layer of 0.1m thick concrete, **3228**. This was in turn sealed by the current external, tarmac surface **3225**.

## 5. FINDS

### 5.1 POTTERY

5.1.1 In total, 21 fragments of pottery were recovered during the evaluation at Mann Island, just over 60% of which were from stratified deposits (*Appendix 4*). The date ranges and estimated dates of the contexts are shown in Table 1, below.

Context number and type	Quantity of pottery fragments	Date range	Estimated context date
Trench 4 Makeup/levelling layer <b>3227</b>	10	Late 17 <sup>th</sup> – 18 <sup>th</sup> century to early 19 <sup>th</sup> century	Late 17 <sup>th</sup> – early 19 <sup>th</sup> century
Trench 3B Makeup/levelling layer <b>3248</b>	2	Late 17 <sup>th</sup> – early 20 <sup>th</sup> century	Late 17 <sup>th</sup> – early 20 <sup>th</sup> century
Trench 3B Makeup/levelling layer <b>3250</b>	1	Late 17 <sup>th</sup> – early 18 <sup>th</sup> century	Late 17 <sup>th</sup> – early 18 <sup>th</sup> century
Unstratified finds <b>3258</b>	8	Late 17 <sup>th</sup> – 18 <sup>th</sup> century? to late 17 <sup>th</sup> – early 20 <sup>th</sup> century	N/A
<b>Total</b>	<b>21</b>		

Table 1: Estimated dates of individual contexts based on the pottery present

5.1.2 In general, the fragments of fineware vessels were more closely dateable than the coarseware vessel fragments in the assemblage. The earliest fineware fabric present was slipware, dated to the late seventeenth to early eighteenth century (see Table 2, below). The remaining finewares were creamware and pearlware, the latter being from a single blue transfer-printed plate base. The coarseware component of the assemblage comprised mainly unglazed red earthenware and black-glazed red earthenware kitchenware vessels such as crocks.

Fabric type	Date range	Quantity
Slipware (fineware)	Late 17 <sup>th</sup> – early 18 <sup>th</sup> century	1
Brown speckled-glazed red earthenware (coarseware)	Late 17 <sup>th</sup> – 18 <sup>th</sup> century	1
Purple-glazed stoneware	Late 17 <sup>th</sup> – 18 <sup>th</sup> century?	2
Black-glazed red earthenware (coarseware)	Late 17 <sup>th</sup> – early 20 <sup>th</sup> century	4
Red earthenware (coarseware)	Late 17 <sup>th</sup> – early 20 <sup>th</sup> century	7
Creamware (fineware)	Mid – late 18 <sup>th</sup> century	1
Pearlware (fineware)	Early 19 <sup>th</sup> century	5

Table 2: Quantities and date ranges of pottery fabric types

## **5.2 THE GLASS**

- 5.2.1 Only one fragment of glass was recovered. It came from a dark olive-green wine bottle, a common post-medieval type, introduced in the later seventeenth century. The fragment was relatively large and unabraded, but in all cases the surfaces were iridescent and laminating as a result of inimical soil conditions. The fragment from context **3258** was of a tall cylindrical form dating to the late eighteenth to early nineteenth century.

## **5.3 THE CLAY PIPE**

- 5.3.1 In all two fragments of clay pipe stem from context **3112** were found. These were relatively small, but unabraded plain stem fragments, the bore suggesting a general nineteenth century or later date.

## **5.4 THE IRONWORK**

- 5.4.1 Ironwork included a large hook and short length of chain from **3111**, three nails and a bone-handled tool from **3111**, and two square-sectioned bolts from **3258**. The former is substantial enough to have been used with a hoist, on a shearlegs or mounted on a building, or a small crane.

## **5.5 THE MARINE MOLLUSCS**

- 5.5.1 Although 16 fragments of marine shell were recovered from the two excavations, they represent only a few valves and even less individual molluscs. Those from **3258** are from native oysters, and those from **3112** were common mussels; both are well known food species, consumed in large quantities in the later nineteenth and earlier twentieth century at all levels in society. In addition, both species are common in the coastal waters of the Irish Sea, and these few examples could as easily represent isolated individuals from the local populations rather than deliberately collected food debris.



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## 6. DISCUSSION OF RESULTS

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### 6.1 INTRODUCTION

- 6.1.1 The four evaluation trenches revealed archaeological remains of varying date and significance. The overall sequence of events, demonstrated by the stratigraphy and nature of the deposits, began with numerous makeup deposits reflecting the reclamation of the foreshore and intended to extend the dock areas outward into the Mersey. These makeup deposits, seen in Trenches 3A, 3B and 4, were varied in colour but were mostly sandy in texture and were probably derived from the estuary environment of the Mersey, perhaps from dredging. From cartographic sources it is evident that the area between Bird Street and Irwell Street had been reclaimed by 1753, and it is presumed that the reclamation involved the large-scale deposition of material along the existing foreshore to produce a stable area.
- 6.1.2 ***Novia Scotia:*** the early properties along the western side of what was Bird Street, where Trench 4 was located, were in existence by 1753, although none of the remains found in Trench 4 were found to date specifically to this period. However, there is a potential relationship between the remains and the early layout, in that the change of direction of setts, demonstrated in context **3202**, do coincide with that of the side street which ran approximately north-east/south-west; it is therefore possible that they dated from this period. The map sequence seems to suggest that the buildings in these two blocks were removed between 1821 and 1836 and that the Harbour Master's Office had by then become established. By 1893 the later pumping and ventilation station for the survey tunnel had been built of which the northern part survives.
- 6.1.3 By 1765 the properties along the western side of Irwell Street (Nova Scotia) had also been developed and formed the quayside to the Mersey, prior to the construction of Manchester Dock. However, to what extent they were formally constructed and occupied is ambiguous. Horwood's map of 1803 (Fig 7) indicates that not all the blocks were fully occupied, with those at the extreme north and south ends being shown as buildings but the central part only outlined. How reliable this level of detail is, remains open to question at this stage. The buildings were used as offices, warehouses and agent's residences in the early part of the nineteenth century (Ritchie-Noakes 1984, 35) and presumably the uses and occupants varied over time until the twentieth century when the buildings were demolished and the current properties built.
- 6.1.4 ***Manchester Dock:*** Manchester Dock itself (completed by 1785) was identified as surviving to full height in Trench 1. Its associated quayside, also included elements of the overhang of the warehouse on the eastern side of Manchester Dock (Figure 7). This was seen as the timber structure, **3110**, that was keyed into the wall and may relate to the earlier structures seen on OS mapping of 1893 (Fig 11) or the later altered warehouse in place by 1908 (Fig 12) and visible on early twentieth century photographs. This type of overhanging warehouse, allowed goods to be directly unloaded from the Mersey Flats and barges, which could then be stored in the warehouse until bought or transferred. The overhead portion of the warehouse was typically of lighter weight materials so that they could be supported by the timber beams. This form of structure can be seen in other locations, such as along canal

routes, for example within the Burnley Weaver's Triangle (OA North 2004) and also in a less substantial form on either side of the adjacent GWR building.

- 6.1.5 The remains of Manchester Dock were seen in Trench 1 and included mason's marks, tooling marks, iron fixtures and niches, as well as evidence of two phases of construction. A large construction cut was probably dug for the stepped, east-facing elevation of the dock wall; however, the trench was not wide enough to locate the edge of any cut.
- 6.1.6 The wall was found to survive to a height of 6.90m AOD and was mostly of large pink sandstone blocks although yellow sandstone was found to have been used in the construction as well. The exclusive use of yellow sandstone has been seen in earlier constructions such as the Old Dock, St. Thomas' Church, the Second Customs House and the foundations of early buildings along Canning Place and South Castle Street (OA North forthcoming). It is possible that the less robust yellow sandstone was either not of good enough quality for the dock face or that there was an insufficient supply of a single stone type. Manchester Dock, and the associated Chester Basin were later constructions (1785-95) than the Old Dock (1709-1715), which was constructed of brick and yellow sandstone capping. The Manchester Dock wall was built with an asymmetrical profile, the rear, construction face demonstrated several steps outward, so that the wall was wider towards the lower portion than at the top. The face of the dock wall, as far as was seen showed it to be vertical, was composed entirely of the more robust pink sandstone and there was variation in erosion showing the watermark. Manchester Dock, having passed in ownership and usage to the GWR (Great Western Railway) in the later nineteenth century, eventually went out of use as road transport became more efficient and economic. At this point it was infilled using the excavated material from the construction of the Mersey Tunnel, which consisted of the crushed pink sandstone.
- 6.1.7 **Mersey Railway Tunnel:** the Mersey Railway Tunnel was begun in 1879 and the system involved two railway lines in the main tunnel and additional tunnels for ventilation and drainage. The railway was officially opened in 1886. The ventilation of the tunnel was dealt with by using four large fans, called Guibal fans in a tunnel connecting the main tunnel to the pumping and ventilation station. However, this system was found to be insufficient and was electrified, making the Mersey Railway the world's first electrified under-water railway (LCC 2005, 141). The remains uncovered in Trench 4 should lie within the south-west corner of what was the pumping and ventilation station, and shown on the second, third and fourth edition OS maps. It is possible that the sett surfaces **3200** and **3201** represent this phase of activity but, given the limited size of the excavation, this was not possible to confirm.

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## 7. IMPACT OF THE DEVELOPMENT

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### 7.1 PRESENCE OF ARCHAEOLOGICAL REMAINS

7.1.1 The evaluation of Trench 1 demonstrated that there are surviving remains of Manchester Dock, completed by 1785, and the associated quayside. Various structures and numerous surfaces of eighteenth to nineteenth century date were also uncovered and these relate to the earlier premises along the eastern side of Irwell Street, as seen in Trenches 3A and 3B. The remains from Trench 4 were more ambiguous in terms of dating but did show a number of surfaces and early reclamation deposits.

### 7.2 CONDITION OF DOCK STRUCTURES

7.2.1 The evaluation aimed to determine the extent, condition, nature, character, quality and date of any archaeological remains present.

7.2.2 The remains of Manchester Dock was seen in Trench 1 and are in a good state of preservation, with clear survival of tool marks, including mason's marks, iron fixtures and niches as well as two phases of construction. The wall was mostly of large pink sandstone blocks although yellow sandstone was found to have been used in the construction as well. The face of the wall, as far as was seen, showed it to be vertical, and there was variation in erosion showing the watermark. The remains are very close to the present ground surface level and will survive to depth.

7.2.3 Trenches 3A and 3B within the twentieth century building along the east side of Irwell Street demonstrated the survival of a succession of earlier floor surfaces, of both brick, cobble and modern materials. There were also reasonably substantial walls with evidence of yellow sandstone walls pre-dating the brick walls, that evidently related to the buildings pre-existing in this location. The early properties, along the western side of what was Bird Street and where Trench 4 was located, were in existence by 1753. By 1765 the properties along the eastern side of Irwell Street (Nova Scotia) had also been developed and formed the quayside to the Mersey, prior to the construction of Manchester Dock. The later phase of red brick walls may date to around 1840 and is based on similar findings of a change in building material and street frontage alignment variations seen at Chavasse Park, dating to between 1836 and 1850 (OA North forthcoming).

### 7.3 ENVIRONMENTAL POTENTIAL

7.3.1 The aims of the evaluation included to establishment of any ecofactual and environmental potential of archaeological deposits and features.

7.3.2 Almost no ecofactual material was retrieved from the deposits encountered. The only material was occasional animal bone fragments and marine shells. However the wholesale nature of the deposits as backfill was such that there was no evidence of domestic rubbish being used and the potential of any ecofactual material from such deposits is minimal.

- 7.3.3 No environmental material was retrieved from the evaluation since no waterlogged or organic rich deposits of any significance were encountered. However since the evaluation did not exceed any more than 3m from the present ground surface it does not preclude the possibility of more significant deposits surviving at depth, with the potential to inform about human activities in the past.

#### **7.4 IMPACT**

- 7.4.1 The main aim of the evaluation was to make an assessment of the impact of the scheme on any significant remains or deposits encountered to enable the appropriate level of mitigation recording as proposed in the Environmental Statement.
- 7.4.2 The proposed development will have a major adverse impact on the structures encountered during the evaluation, including significant sections of Manchester Dock and the area of Nova Scotia and Mann Island along Irwell Street. This includes the remains of previous buildings, associated construction features and quayside remains such as warehouses, sheds and surfaces.

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## 8. RECOMMENDATIONS

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### 8.1 INTRODUCTION

- 8.1.1 The overall objective of the evaluation, in conjunction with the established Environmental Statement prior to the fieldwork was to, where possible, implement a programme of mitigation recording in advance of construction works, should this be achievable.
- 8.1.2 It is recommended that a programme of further archaeological research be carried out linking the documentary archive, in particular photographic evidence, plans of individual properties, trade directory entries with the work already done. Following this a general recommendation is made that a programme of archaeological recording be done prior to and during the construction of any redevelopment in order to preserve by record the remains of significant elements of Liverpool's commercial and mercantile maritime heritage. This would be particularly advised for the properties along Irwell Street. It is anticipated that three differing levels of recording should be employed commensurate upon where the excavation is being undertaken.

### 8.2 WATCHING BRIEF

- 8.2.1 Within areas of low archaeological potential, typically within the backfill of the infilled Manchester Dock, and Chester Basin, as well as in the areas of the former George's Passage (including swing bridges), a watching brief should be undertaken during any bulk excavations and work in these areas; this would investigate the potential for buried components, and record the stratigraphy of the backfill. Significant discoveries would require rapid recording by a larger team.

### 8.3 QUAYSIDE RECORDING

- 8.3.1 There are areas of greater archaeological potential, typically between and around the perimeters of the former Manchester Dock where there is the potential for quayside commercial structures. In particular, this would include the areas around and include Manchester Dock; it would also include the area around the former Novia Scotia. This will entail a programme of watching brief during bulk-excavated groundworks for the construction works to investigate potential for buried components, and to record the stratigraphy of the backfill. Subject to the identification of significant quayside structures there may be need for a programme of open area excavation to record stripped areas. This will entail hand cleaning, planning and the recovery of artefacts and the taking of bulk environmental samples. The Irwell Street warehouse should also be recorded to English Heritage (English Heritage 2006) level 3 standard.

#### 8.4 DETAILED SURVEY RECORDING

- 8.4.1 There will be a need to record dock walls that are exposed and will include elements of Manchester Dock, and Chester Basin, as well as the site of the Transit Sheds and the Voss Garage facade. Where the walls are exposed they will need to be recorded in advance of the ground works; elsewhere the walls will be exposed by supervised mechanical excavation during the ground works. This process will be subject to a watching brief. Once exposed the walls will be subject to English Heritage level 3 recording, which will entail the production of a full mitigation record of the structure, providing a photographic record, fully drawn record and a written account.
- 8.4.2 **Conclusions:** it is considered that through the implementation of the proposed archaeological recording measures will be successful in mitigating the loss of elements of historic and archaeological resource. This will reduce the significance of the impacts upon heritage features within the application area from major in significance to moderate. The detailed archaeological information gained as a result of the recording measures will have a beneficial residual impact as it will add greatly to the understanding of the historical development of the Liverpool Waterfront.

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## APPENDIX 1: PROJECT DESIGN

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**Oxford  
Archaeology  
North**

**July 2006**

**MANN ISLAND,  
LIVERPOOL,**

**ARCHAEOLOGICAL EVALUATION PROJECT DESIGN**

### ***Proposals***

*The following project design is offered as a methodology for works subject to archaeological evaluation, to be carried out at Mann Island on behalf of British Waterways.*

## 1. BACKGROUND

### 1.1.1 CIRCUMSTANCES OF PROJECT

- 1.1.2 This project design defines the overall strategy and methodology for an archaeological evaluation in advance of construction works at Mann Island, within the city centre of Liverpool (centred at NGR SJ 340 900). The project design has been formulated to meet the requirements of the Merseyside Archaeologist. The work will be undertaken on behalf of British Waterways and Wardell Armstrong.
- 1.1.2 The area of works lies within the centre of Liverpool and includes the dockland area (Albert and Canning Docks); and is adjacent to the Old Dock. The scheme lies within the extent of the Maritime Mercantile City of Liverpool World Heritage Site, more specifically within the areas defined as; Area 1 Pier Head, which includes the Three Graces and Area 2 Albert Dock Conservation Area.

### 1.2 ARCHAEOLOGICAL BACKGROUND

- 1.2.1 The Maritime Mercantile City of Liverpool was recently granted World Heritage Site status (WHS). Within this the buried archaeological deposits are regarded as “*a nationally significant resource*”, which is “*highly fragile and vulnerable to damage and destruction*”. Much of the scheme’s area contains listed structures including large proportions of Canning Dock, and Albert Dock and most crucially among the Listed Buildings are the Retaining Walls of Canning Docks (all Grade II). The general area has been the subject of a series of desk-based assessments, which have identified the existence of the Liverpool Old Dock within it (Adams 2000; Wardell Armstrong 2003). This was the world’s first commercial enclosed wet dock, constructed in 1715, which enabled the expansion of Liverpool as a port, and as such represents a very important part of the city’s maritime history. In less than 85 years it had generated such prosperity that it had become too small to accommodate the maritime traffic, and was superseded by the construction of further docks extending out into the river channel, including the Canning Dock in 1740 and Albert Dock in 1845.
- 1.2.2 **Medieval Liverpool (1066-1500):** the establishment of the town of Liverpool is well documented. The name ‘Liuerpol’ is first mentioned in a charter of 1190-4, the town forming a part of the hundred of West Derby (Nicholson 1981). In 1207, a further charter was granted by King John which effectively elevated the settlement from a fishing and farming village to a royal borough. The town then consisted of seven streets, the names of which are mentioned in documents from about 1300 and include Dale Street and Water Street. These streets survive in the modern plan of the town, though they have been much widened. The original castle was probably built between 1232 and 1237, where the Victoria Monument now stands, and would have been one of the main foci of the medieval town. Important buildings were constructed throughout this period, including the Chapel of St Mary del Key and St Nicholas, and the Tower (Philpott 1999).
- 1.2.3 The town was positioned next to the Pool, a prominent topographical feature and natural inlet, the place-name ‘Liverpool’ being derived from the Pool. The Pool comprises part of a ridge of sandstone covered with Boulder clay, and part of the ancient shore-line, the Strand. It was a natural tidal inlet or creek fed by streams arising further north, and was nearly 1.5km long at high tide (Stewart-Brown 1932, 88). The study area includes the major part of the mouth of this former tidal creek. The Pool would have formed another important focus for the town, providing access for maritime trade, acting as an area where cargoes were unloaded, and ships built and repaired (Stewart-Brown 1932, 89).
- 1.2.4 Recent archaeological excavations, carried out by OA North, within the area of Chavasse Park have demonstrated that identifiable medieval remains do survive within the centre of Liverpool.
- 1.2.5 **Post-Medieval Expansion (1500-1710):** the earliest references to the Pool as an entity date to the seventeenth century; references in the Town Books in the last two decades of that century show that the ‘lower pool’ and the Waterside were indeed used for boat and shipbuilding. References suggest ships were set on stocks on the south and north side of the Pool, and houses were built to assist in shipbuilding (Stewart-Brown 1932, 89-92). In the sixteenth century, the only form of protection for ships was a jetty or break-water at the mouth of the ‘old haven’ (MacLeod 1982, 3). A particularly violent storm in 1561 destroyed the breakwater, with catastrophic implications for trade. The mayor ordered the council to provide funds for an immediate replacement, and ordered one man from every house in every street to go and work on ‘the new haven’ (MacLeod 1982, 4).

- 1.2.6 The earliest encroachments into the Pool itself were undertaken by private landowners from the sixteenth century onwards. Land on the western side of the Pool, held by a series of major landowners, was also reclaimed around this time and records exist of these instances (op cit, 103-4). The main encroachment on the Pool did not begin in earnest until the later seventeenth century, and was particularly prevalent in the first decade of the eighteenth century. The mechanism of reclamation was by granting Pool lands on cheap rentals with the obligation to reclaim adjacent areas (ibid). This form of infilling is recorded in the later seventeenth century in corporation leases, and enclosures were made from 1679-80 onwards on the former Pool belonging to the corporation. Excavations in Chavasse Park in the 1970s revealed clear evidence of infilling along the Pool edge, showing two major phases of levelling, both during the seventeenth century (Davey and MacNeil 1985; Philpott 1999, 4).
- 1.2.7 With the demise of Chester's trade through the silting of the Dee by the late 1600s, Liverpool's trade began to rise in prominence, although, due to its problems, it faced competition from ships anchoring in the relatively safer waters of the Sloyne on the Cheshire side (MacLeod 1982, 4). Prior to the construction of the Old Dock there were several constraints on any further development. They included the large tidal range; the dangerous river conditions which could seriously damage ships and cargoes trying to load or unload; and the, by then, shallow draught of the Pool. The size of ships was also increasing as transatlantic shipping became common, and incidents of rubbish tipping into the harbour also aggravated the problems of space (op cit, 6). The construction of the Old Dock meant that these constraints were overcome and led to the exponential growth of Liverpool.
- 1.2.8 **Later Post-Medieval Activity 1710-1837:** the opening of the dock at Liverpool occurred 53 years ahead of the first commercial wet dock at Bristol, 63 years ahead of an example at Hull, and almost 100 years prior to the establishment of London's first commercial wet dock, which opened in 1802 (MacLeod 1982, 1). The dock was completed in 1716 and meant that ships could unload in one and a half days, rather than the 12 to 14 days which it had previously taken, reducing the cost of handling cargo compared to other ports (MacLeod 1982, 13). The Old Dock was such a success that it spawned further enclosed docks, including Salterhouse Dock in 1760 (Jones 1996, 111). By 1824 Liverpool had approximately 50 acres of enclosed dock space.
- 1.2.9 The impact of the opening of the Old Dock was immense; Chester, Bristol and London are all documented as having lost significant trade throughout the eighteenth century as a result (op cit, 14). Liverpool developed into a major city of commerce, particularly in the valuable commodity of tobacco, and became the second greatest seaport in the kingdom; the number of seamen working from the port trebled, the number of ships it owned trebled, and the tonnage of ships entering the port increased by a factor of ten (ibid). The position of the port meant that Liverpool was convenient for the slave trade, forming the apex of the slave trading triangle between Africa and the West Indies and North America; by 1792, the port possessed over half of the English slave trade, having taken the lead from Bristol and London, and just under half of the European slave trade traffic (ibid).
- 1.2.10 **Victorian to Modern Activity 1837-1945:** with the decline of slavery in the early 1800s, Liverpool began exploitation of the next commercial venture – the cotton industry. Liverpool became an important source for cotton, located as it was adjacent to the cotton and textile mills of Lancashire; raw cotton was imported and manufactured produce was exported in equal measure. The prominence of the town led to Liverpool's continued commercial prosperity and expansion in the eighteenth and nineteenth centuries. This period saw vast changes socially and culturally which are often reflected in the archaeological record. Changes in fashion and the city's increasing affluence meant that building forms and fabrics altered. William Brown Street has a group of magnificent classical buildings including the Liverpool Museum, William Brown Library, Hornby Library, Walker Art Gallery and others. These large, monumental buildings visibly demonstrate Liverpool's prominence by this stage both nationally and internationally. Less visible aspects of the city include the institution of public services such as sewerage, the police service, recreational parks and so on.
- 1.2.11 The most recent historical events which have had an impact on the present day landscape and can already be identified in the archaeological record, were those connected to World War II. In particular for Liverpool the Blitz of 1941, which centred on the docks and commercial heart of Liverpool.

### 1.3 PREVIOUS WORK

- 1.3.1 Previous archaeological work within the proposed development area include assessments have been carried out on Chavasse Park (Philpott 1999) the Old Dock (MacLeod 1982) and the Pier Head (Wardell Armstrong 2003). The only below ground investigations to have taken place, until the recent evaluation of the Old Dock in 2001, were two areas investigated between 1976 and 1977. The 1976 trench (30m x 16m) was located just north of the present Law Courts, revealing a sequence of deposits which included seventeenth century features cut into the geology; eighteenth century market remains; eighteenth century levelling; nineteenth century drainage, and road surfaces. The 1977 trench measured 30.3m x 13.5m and encountered mid-late seventeenth century deposits and a possible revetment wall; eighteenth to nineteenth century drainage features, walls and floors; and twentieth century features and debris. It was noted that while work was being carried out on the Law Courts site in 1977 a well, cutting the geology and containing a good finds assemblage, was uncovered.
- 1.3.2 OA North (formerly Lancaster University Archaeological Unit) undertook a programme of evaluation of the Old Dock, targeting the documented line of the dock edge in 2001 (OA North 2001). Three trenches were excavated on the north side and four trenches on the south side of the dock. In all but one the dock was identified and revealed to be in good condition, with brick-facing and sandstone kerb stones. The maximum depth of this trenching revealed that the wall extended below 6m from the modern surface. Against the northern side of the dock wall organic deposits were discovered but further investigation was prevented because of chemical contamination. More recent investigation in 2004 has revealed further evidence pertaining to the Old Dock
- 1.3.3 As part of the Liverpool Canal Link application, a programme of Ground Penetrating Radar surveys were undertaken at various locations along the Pier Head and were specifically sited to confirm the presence of the dock walls. The results from this survey tentatively identified the presence of the Albert Dock basin, the north wall of Chester Dock and the north wall of Manchester Dock.
- 1.3.4 A major programme of work has been undertaken as part of the Paradise Street development exploring the Quay side and also further explorations of the Old Dock. A further programme of work was undertaken by OA North on the west side of the Strand in advance of the then proposed Merseyside Tramline, which recorded the Old Dock and also substantial elements of Canning Dock. In September and November 2004 two evaluation trenches were opened in an area adjacent to the south-east corner of Canning Dock, where a section of sandstone wall had been identified in an earlier test pit (OA North 2005). The top of the wall was identified at a depth of 1.5m from the surface and although excavation proceeded to a depth of 3.8m below ground level, the bottom of the wall was not reached. The construction date and function of this wall remain enigmatic but could relate to the draining and infilling of the Old Dock prior to the construction of the New Customs House in 1826.
- 1.3.5 A programme of work undertaken in July 2006 by Oxford Archaeology North, as part of advance works for the construction of the Liverpool Canal Link was successful in identifying the remains of the infilled Manchester and Chester Dock, along the proposed new canal alignment to the immediate west and north-west of the current study site.

### 1.4 OXFORD ARCHAEOLOGY NORTH

- 1.4.1 Oxford Archaeology North has over 30 years of experience in professional archaeology, and can provide a professional and cost-effective service. We are the largest employer of archaeologists in the country (we currently have more than 200 members of staff) and can thus deploy considerable resources with extensive experience to deal with any archaeological obligations you or your clients may have. We have offices in Lancaster and Oxford, trading as Oxford Archaeology North (OA North), and Oxford Archaeology (OA) respectively, enabling us to provide a truly nationwide service. OA is an Institute of Field Archaeologists Registered Organisation (No 17), and is thus bound by the IFA's Code of Conduct and required to apply the IFA's quality standards.
- 1.4.2 Given the geographical location of Liverpool, it is intended to co-ordinate the project from our northern office in Lancaster, though the project team will use the most appropriate resources from both offices. Between our two offices our company has unrivalled experience of working on post-medieval sites, and is recognised as one of the leading archaeological units in the country with

regard to dealing with large-scale archaeological projects. OA North has considerable experience of the assessment, evaluation and excavation of sites of all periods, and has particular experience of archaeology in the North West having undertaken in recent years excavation, survey, building recording and post-excavation projects in both urban and rural environments. Watching briefs, evaluations and excavations have taken place within the planning process, to fulfil the requirements of clients and planning authorities, to very rigorous timetables. In particular OA North has been involved in the archaeological investigations at Canning Place, Liverpool, since 2001, and has recently completed the field work of a further phase of evaluation/excavation on the Old Dock, Chavasse park and Canning Dock areas. OA North has in the process of undertaking an evaluation in advance of the Liverpool Canal Link.

## **2. AIMS AND OBJECTIVES**

### **2.1 OBJECTIVES**

2.2.1 Previous excavations, evaluations and the assessments have demonstrated that within the docklands of Liverpool there is the potential for archaeological deposits and structures to survive from the post-medieval period. Areas of potentially significant archaeology have been highlighted and such sites are subject to evaluation. Consequently the objectives of the present project are as follows:

- to establish the presence or absence of archaeological remains within the identified area.
- to determine the extent, condition, nature, character, quality and date of any archaeological remains present.
- To establish any ecofactual and environmental potential of archaeological deposits and features.
- To make an assessment of the impact of the scheme on any significant remains or deposits encountered to enable the appropriate level of mitigation recording.

2.2.2 To these ends it will be necessary to assess the thickness, depth and depositional history of any significant archaeological structures and/or deposits. However, it is anticipated that the dock structures could extend to a depth of 9m, but in this instance it is proposed to only excavate to a depth of 2m. The nature of the main stratigraphical units encountered will be characterised in terms of their physical composition (stone, gravel, organic materials etc) and their archaeological formation (primary deposits, secondary deposits etc). This will entail excavation to the top of significant archaeology, together with localised sondages to explore in more detail the archaeological stratigraphy. The work will involve the collection of all kinds of stratified artefactual evidence (including pottery, brick tile, stone, glass, metal, bone, small finds, industrial residues etc), and ecofactual and environmental evidence (including animal bone, human bone, plant remains, pollen, peat, charcoal, molluscs, soils etc).

## **3. METHOD STATEMENT**

### **3.1 GENERAL**

3.1.1 The evaluation programme will investigate the sub-surface potential of the archaeological record. It is proposed to excavate four trenches, as defined on the attached plan.

- Trench 1 (10m x 2m) will examine the extent of Manchester Dock and possible warehouse remains.
- Trenches 2 and 3 (20m x 2m) will examine the date, nature and the level of survival of remains associated with Novia Scotia
- Trench 4 (20m x 2m) will be sited east of George's Passage, adjacent to the former harbour masters office.

3.1.2 The maximum width of the trenches at their base will be 2m, but the tops of the trenches will be up to 4m width, to allow a 1m step in. The intention is to retain flexibility throughout the project design to allow decisions on the extent of the excavation to be made on site in consultation with British

Waterways and the Merseyside Archaeological Officer as the investigation progresses. The evaluation programme is intended to inform the requirements for any further mitigation.

### 3.2 EVALUATION METHODOLOGY

- 3.2.1 **Fieldwork Methodology:** a program of trenches within the course of the proposed development works, will target areas of archaeological sensitivity and accurately record the location, extent, and character of any surviving archaeological features and/or deposits.
- 3.2.2 Prior to any ground disturbance the extent of the trenches will be appropriately fenced to allow safe working. The areas of work will be recorded, by digital photograph prior to any work to help in any required reinstatement after the archaeological investigation. The overburden will be excavated by Galliford Try the lead contractor, who will also undertake the reinstatement.
- 3.2.3 Once the trench locations have been established the topsoil/surfaces and any obvious overburden deposits will be removed mechanically. Machine stripping of trenches will be undertaken using a 360° mechanical excavator (provided by the main contractor) fitted with an appropriately sized toothless ditching bucket. The work will be constantly supervised by a suitably experienced archaeologist. Machine excavation will then be used to define carefully the extent of any surviving walls and other remains. Thereafter, structural remains will be cleaned manually to define their extent, nature, form and, where possible, date. Spoil will be retained on site and stockpiled at a safe distance from the evaluation trench (a horizontal distance equivalent of the depth of excavation).
- 3.2.4 The advance archaeological recording works will be undertaken to sufficient depth in order to establish the character and where possible preserve by record the archaeological remains. If a depth of greater than 1.2m is required then it is proposed to step in the trenches to reduce the risk of trench collapse.
- 3.2.5 Work may involve cleaning features by hand, using either hoes, shovel scraping, and/or trowels depending on the subsoil conditions and the extent of features. Following this, the accurate recording of all archaeological features and horizons, and any artefacts, identified during observation will take place. Recording will comprise a full description and preliminary classification of features or materials revealed. In normal circumstances, field recording will also include a continual process of analysis, evaluation, and interpretation of the data, in order to establish the necessity for any further more detailed recording that may prove essential.
- 3.2.6 Any significant features will be sample excavated (ie. selected pits and postholes will normally only be half-sectioned, linear features will be subject to no more than a 10% sample, and extensive layers will, where possible, be sampled by partial rather than complete removal). The aim of any manual excavation will be to determine the date, condition, form and function of the archaeological remains, sufficiently to allow a confident interpretation and a realistic record to be produced of any elements to be damaged during the works. It is intended that the exposed sections of walls are recorded as comprehensively as possible, both in plan and elevation, at this stage. Although it is intended that mitigation recording of the principle structures be undertaken as much as possible at this stage it is accepted that in some cases the majority of the recording works will be undertaken during construction. The aim of the exercise is to evaluate and mitigate in key areas which are available for inspection.
- 3.2.7 **Written Record:** archaeological stratigraphy will be recorded using *pro-forma* context sheets which are in accordance with those used by English Heritage. These provide an objective and systematic description of archaeological remains. Similar object record and photographic record *pro-formas* will be used. All written records of survey data, contexts, artefacts and ecofacts will be cross-referenced from *pro-forma* record sheets using sequential numbering. The contextual details will be incorporated into a Harris matrix essentially hand-drawn on site for checking purposes but which is normally generated during the post-excavation phase of the project using specially designed Arched version 2 matrix generation software.
- 3.2.8 **Drawn Record:** any deposits or features will be accurately located, either independently or on drawings provided by the client. The archaeological remains will, where necessary, be planned and vertical sections or elevations produced. This will be done either manually or digitally, depending on circumstances. For example any intricate features will require manually planning but larger, more simplistic areas may be more effectively and rapidly recorded using survey equipment. Any features that require planning will be done so accurately, at appropriate scales (ranging from 1:10 to

- 1:50) and annotated. The structural detail will be recorded using a survey instrument with respect to survey control established by ARUP.
- 3.2.9 **Photographic Record:** a full and detailed photographic record of individual contexts will be maintained and similarly general views from standard view-points of the overall site at all stages of the evaluation will be generated. Photography will be undertaken using 35mm cameras on achievable black and white print film. Extensive use of digital photography will also be undertaken throughout the course of the fieldwork for presentation purposes. Photographic records will be maintained on special photographic *pro-forma* sheets.
- 3.2.10 **Finds Record:** finds recovery and sampling programmes will be in accordance with current best practice (following IFA and other specialist guidelines). All finds will be treated in accordance with OA North standard practice, which is cognisant of IFA and UKIC Guidelines. In general this will mean that (where appropriate or safe to do so) finds are washed, dried, marked, bagged and packed in stable conditions; no attempt at conservation will be made unless special circumstances require prompt action. In such a case guidance and/or expertise will be sought from a suitably qualified conservator.
- 3.2.11 Neither artefacts nor ecofacts will be collected systematically during the mechanical excavation of overburden unless significant deposits, for example pottery or clay tobacco pipe waster dumps, are encountered. Other finds recovered during the removal of overburden will be retained only if of significance to the dating and/or interpretation of the site or specific features.
- 3.2.12 Subsequent to the removal of overburden artefacts and ecofacts will be collected and handled as per best practice. Material will aim to be collected and identified by stratigraphic unit. Hand collection by stratigraphic unit will be the principal method of collection. The material which is envisaged to be collected will include; ceramic objects, animal bone, glass, metal – both as objects and potentially slag.
- 3.2.13 Any waterlogged finds will be treated as necessary to ensure their continued survival. In the case of large deposits of waterlogged environmental material (eg unmodified wood) discussion will be sought with the client and archaeological curator with regard to an appropriate sampling strategy.
- 3.2.14 Any gold and silver artefacts recovered during the course of the excavation will be removed to a safe place and reported to the local Coroner according to the procedures relating to the Treasure Act, 1996/7.
- 3.2.15 The recovery of human remains is not anticipated, but if encountered they will, if possible, be left *in situ* covered and protected. If removal is necessary, then the relevant Home Office permission will be sought, and the removal of such remains will be carried out with due care and sensitivity as required by the *Burials Act 1857*.
- 3.2.16 Environmental samples (bulk samples of 30-40 litres volume, to be sub-sampled at a later stage) will be collected from suitable deposits (i.e. the deposits are reasonably well dated and are from contexts the derivation of which can be understood with a degree of confidence). Samples will be collected for technological, pedological and chronological analysis as appropriate.
- 3.3 OTHER MATTERS: WELFARE AND FACILITIES**
- 3.3.1 Access to the site will be arranged via the client/main contractor. The main contractor for the archaeological works (Galliford Try), will be responsible for the provision of a secure enclosed area for the archaeological work to take place within.
- 3.3.2 The client/main contractor is asked to provide OA North with information relating to the position of live services on the site. Identification of services will be established by the main contractor in advance of any machine excavation. It is hoped that all non-essential services could be either turned off or capped in some fashion.
- 3.3.3 Plant hire and shoring will be provided by (Galliford Try) on behalf OA North, site reinstatement will also be dealt with by (Galliford Try).



### 3.4 HEALTH AND SAFETY

- 3.4.1 The main site contractor (Galliford Try), will have overall responsibility for health and safety on site. However, OA has its own Health and Safety policy and OA will work closely with the main contractor to ensure that safety standards are met. A risk assessment will be prepared by OA North in advance of all stages of field work. All site procedures are in accordance with the guidance set out in the Health and Safety Manual compiled by the Standing Conference of Archaeological Unit Managers (3<sup>rd</sup> Edition, 1997). OA North will liaise with the client/main contractor to ensure all health and safety regulations are met. In instances of confined spaces, competent, trained staff will be used.
- 3.4.2 OA North has professional indemnity to a value of £2,000,000, employer's liability cover to a value of £10,000,000 and public liability to a value of £15,000,000. Written details of insurance cover can be provided if required.
- 3.4.3 Normal OA North working hours are between 9.00 am and 5.00 pm, Monday to Friday, though adjustments to hours may be made to maximise daylight working time in winter and to meet travel requirements. It is not normal practice for OA North staff to be asked to work weekends or bank holidays and should the client require such time to be worked during the course of a project a contract variation to cover additional costs will be necessary.

### 3.5 REPORT PRODUCTION

- 3.5.1 **Archive:** the results of the fieldwork will form the basis of a full archive to professional standards, in accordance with current English Heritage guidelines (*The Management of Archaeological Projects, 2nd edition, 1991*) and the *Guidelines for the Preparation of Excavation Archives for Long Term Storage* (UKIC 1990). The project archive represents the collation and indexing of all the data and material gathered during the course of the project. The deposition of a properly ordered and indexed project archive in an appropriate repository is considered an essential and integral element of all archaeological projects by the IFA in that organisation's code of conduct.
- 3.5.2 The paper and finds archive for the archaeological work undertaken at the site will be deposited with the Liverpool Museum, in accordance with their guidelines, (under accession number Liv.2001.23) as this is the nearest museum which meets Museums' and Galleries' Commission criteria for the long term storage of archaeological material (MGC 1992). This archive can be provided in the English Heritage Centre for Archaeology format, both as hard and digital copy. The archive will be deposited with the Liverpool Museum within six months of the completion of the fieldwork.
- 3.5.3 Except for items subject to the Treasure Act, all artefacts found during the course of the project will be donated to the receiving museum with the permission of the relevant landowners.
- 3.5.4 A synthesis (in the form of the index to the archive and a copy of the publication report) will be deposited with the Merseyside Sites and Monuments Record. A copy of the index to the archive will also be available for deposition in the National Archaeological Record in Swindon/London.
- 3.5.5 **Report:** a short report indicating the main findings of the evaluation will be prepared within two weeks of the completion of all fieldwork. The main purposes of this report will be;
- to outline the results; including a summary of the site's histories, illustrations and a catalogue of artefacts recovered
  - indicate the importance of the remains,
  - aid in the engineering design process,
  - suggest any mitigation measures which may be possible.
- 3.5.6 In addition, three copies of a bound and collated final report will be submitted to the client within ten weeks of the completion of all the fieldwork relating to archaeological work in advance of the proposed tramway. Further copies will be sent to the Merseyside Archaeologist, the Merseyside Sites and Monuments Record, and Liverpool Museum. The final report will include a copy of this project design, and indications of any agreed departure from that design. It will include an historical and archaeological background to the study area, an outline methodology of the investigation, and

present, summarise, assess, and interpret the results of the programme of archaeological works detailed above. The report will also include a complete bibliography of sources from which data has been derived, and a list of further sources identified during the programme of work, but not examined in detail. The report will include a description of the methodology and the results. It will have a list of the finds, and a description of the collective assemblage. Recommendations for any further mitigation works and details of the final deposition of the project archive will also be made.

3.5.7 Illustrative material will include a location map, site map, a trench location map, trench plans, survey maps, and also pertinent photographs. It can be tailored to the specific requests of the client (eg particular scales etc), subject to discussion.

3.5.8 **Confidentiality:** the final report is designed as a document for the specific use of the client, and should be treated as such; it is not suitable for publication as an academic report, or otherwise, without amendment or revision. Any requirement to revise or reorder the material for submission or presentation to third parties beyond the project brief and project design, or for any other explicit purpose, can be fulfilled, but will require separate discussion and funding.

#### 4. STAFFING PROPOSALS

4.1 The project will be under the direct management of **Jamie Quartermaine BA Hons Surv Dip, MIFA** (Project Manager) to whom all correspondence should be addressed.

4.2 It is anticipated that the project would be led by **Vix Hughes** who will be directing the evaluation and reporting elements of the project.

4.3 Assessment of the finds from the evaluation will be undertaken by OA North's in-house finds specialist **Christine Howard-Davis BA, MIFA** (OA North project officer). Christine acts as OA North's in-house finds specialist and has extensive knowledge of all finds of all periods from archaeological sites in northern England. However, she has specialist knowledge regarding Roman glass, metalwork, and leather, the recording and management of waterlogged wood, and most aspects of wetland and environmental archaeology.

4.4 Assessment of any palaeoenvironmental samples which may be taken will be undertaken by **Elizabeth Huckerby MSc** (OA North project officer). Elizabeth has extensive knowledge of the palaeoecology of the North West through her work on the English Heritage-funded North West Wetlands Survey.

#### 5. INSURANCE

5.1 OA North has a professional indemnity cover to a value of £2,000,000; proof of which can be supplied as required.

#### 6. MONITORING

6.1 Monitoring of the project will be undertaken by the Merseyside Archaeologist, Sarah Jane Farr.

6.2 Access to the site for monitoring purposes will be afforded to the Merseyside Archaeologist at all times. Resources have been allocated for at least one site meeting between all interested parties to review the archaeological work.

## APPENDIX 2: CONTEXT LIST

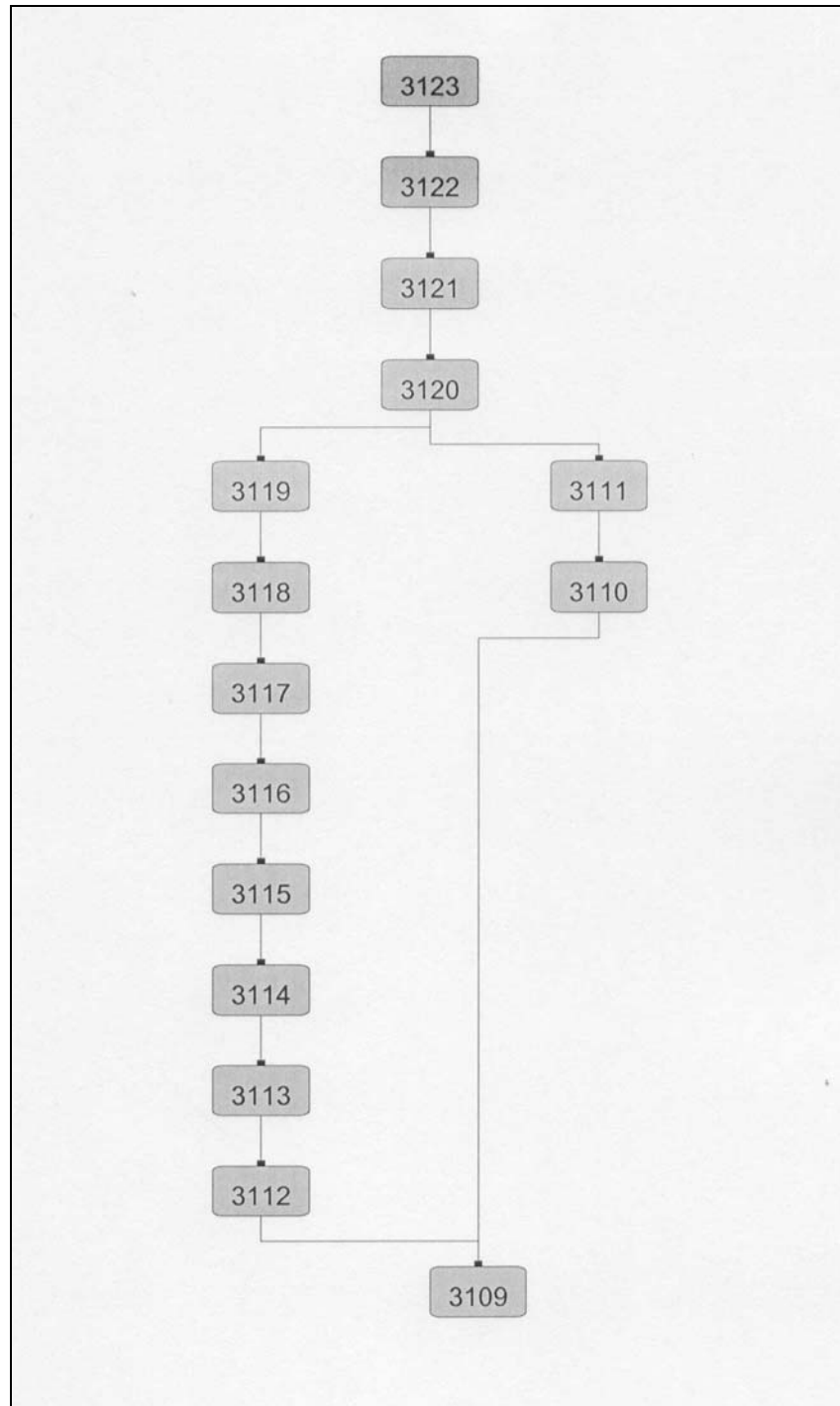
Context Num	Trench	Description
3109	1	Dock wall – Manchester Dock, east wall
3110	1	Timber Structure
3111	1	Layer – pink sandstone dock in fill
3112	1	Layer – brown makeup / levelling
3113	1	Layer – pinkish yellow makeup / levelling
3114	1	Layer – yellow makeup / levelling
3115	1	Layer – brown makeup / levelling
3116	1	Layer – cobble surface
3117	1	Layer – concrete
3118	1	Layer – dark brown makeup / levelling
3119	1	Layer – surface of setts
3120	1	Layer – reinforced concrete
3121	1	Structure – iron girders / beams
3122	1	Layer – brick rubble
3123	1	Layer - tarmac
3200	4	Layer – surface of setts
3201	4	Layer – surface of setts
3202	4	Layer – surface of setts
3203	4	Structure – wall, n/s aligned
3204	3A	Layer – pinkish yellow makeup / levelling
3205	3A	Layer – grey makeup / levelling
3206	3A	Layer – white sand makeup / levelling
3207	3A	Layer – brown makeup / levelling
3208	3A	Layer – probable cobble surface
3209	3A	Layer – clinker makeup / levelling
3210	3A	Layer – black firm makeup / levelling
3211	3A	Structure – yellow sandstone wall
3212	3A	Layer – cobble surface
3213	3A	Structure – red brick wall
3214	3A	Structure – vertical timber
3215	3A	Service – pipe
3216	3A	Cut for service
3217	3A	Backfill in cut 3216
3218	3A	Layer – brown makeup / levelling

3219	3A	Layer – yellow makeup / levelling
3220	3A	Layer – cobbles
3221	3A	Layer – brown makeup / levelling
3222	3A	Layer- brick floor surface
3223	3A	Layer – concrete
3224	3A	Layer – tiled floor surface
3225	3A	Layer - tarmac
3226	4	Layer – brown makeup / levelling
3227	4	Layer – greyish brown makeup / levelling
3228	4	Layer – concrete
3229	4	Structure – red brick wall
3230	4	Backfill in cut 3231
3231	4	Cut for service
3232	3B	Layer – concrete
3233	3B	Layer – greyish brown makeup / levelling
3234	3B	Structure – red brick wall
3235	3B	Layer- brick floor surface
3236	3B	Deposit – horizontal timbers
3237	3B	Structure – red brick wall
3238	3B	Deposit – horizontal timbers
3239	3B	Cut for intrusion
3240	3B	Layer- brick floor surface
3241	3B	Structure – sandstone wall foundation
3242	3B	Layer – brown makeup / levelling
3243	3B	Layer – reddish orange makeup / levelling
3244	3B	Layer – brown makeup / levelling
3245	3B	Layer – grey makeup / levelling
3246	3B	Layer – yellow makeup / levelling
3247	3B	Layer – brown makeup / levelling
3248	3B	Layer – yellow makeup / levelling
3249	3B	Layer – brownish orange makeup / levelling
3250	3B	Layer – reddish brown makeup / levelling
3251	3A	Fill of 3239
3252	4	Layer – grey makeup / levelling
3253	4	Layer – red makeup / levelling
3254	4	Cut for construction of wall 3229
3255	4	Layer – clinker debris
3256	4	Fill of 3257

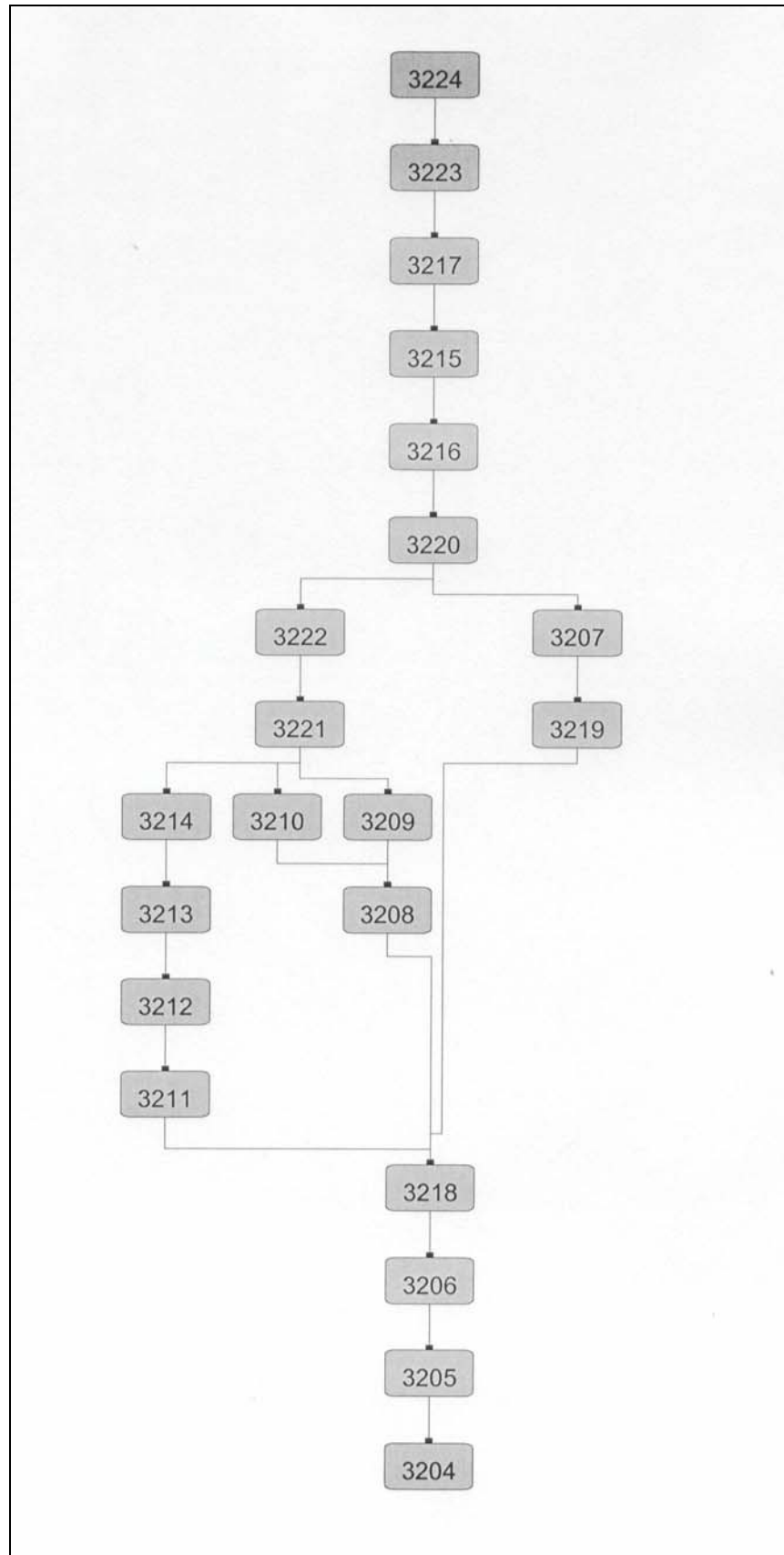
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3257	4	Linear cut for service
3258	1-4	Unstratified

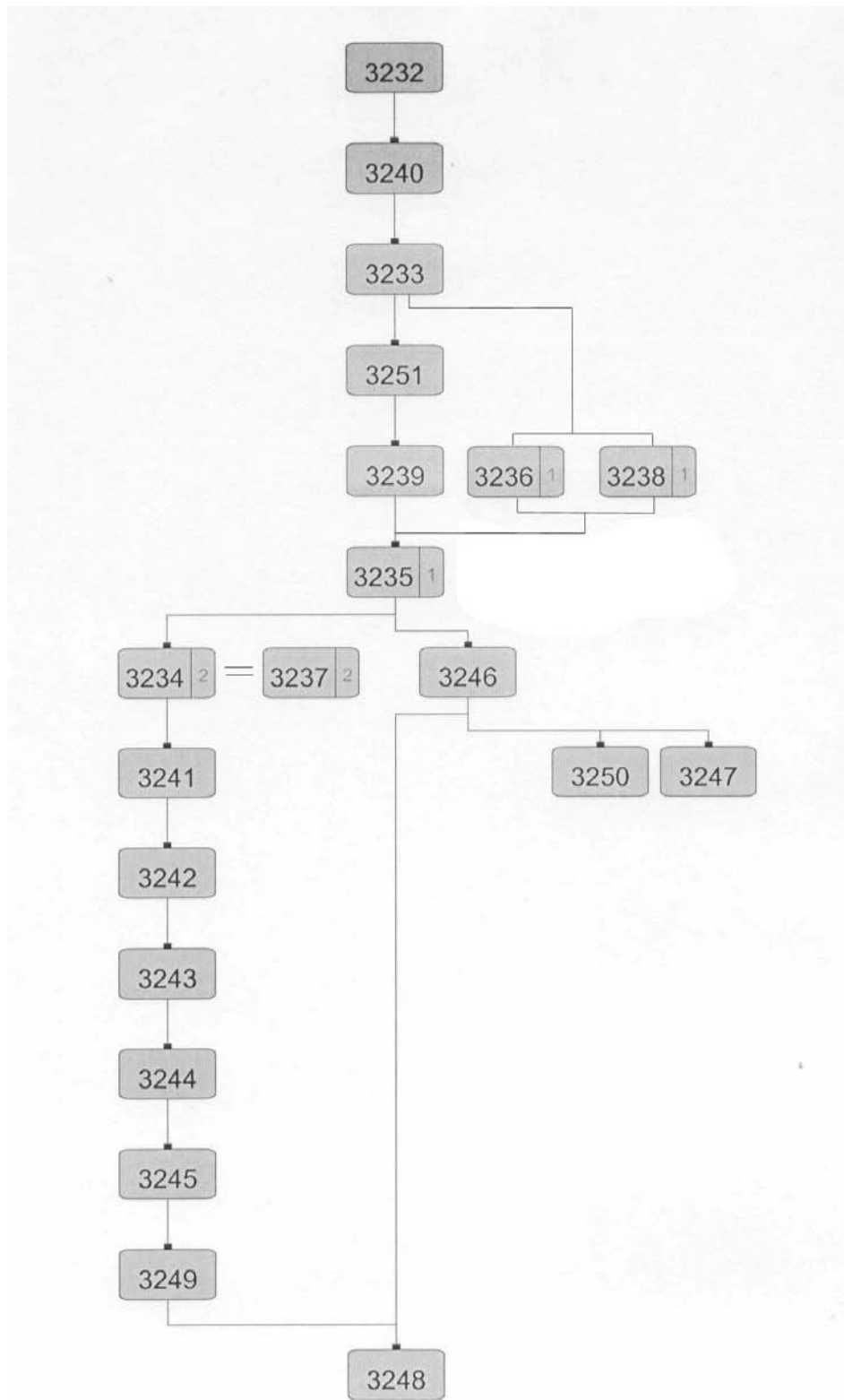
### APPENDIX 3: STRATIGRAPHIC RECORD



Harris matrix showing Trench 1 stratigraphy

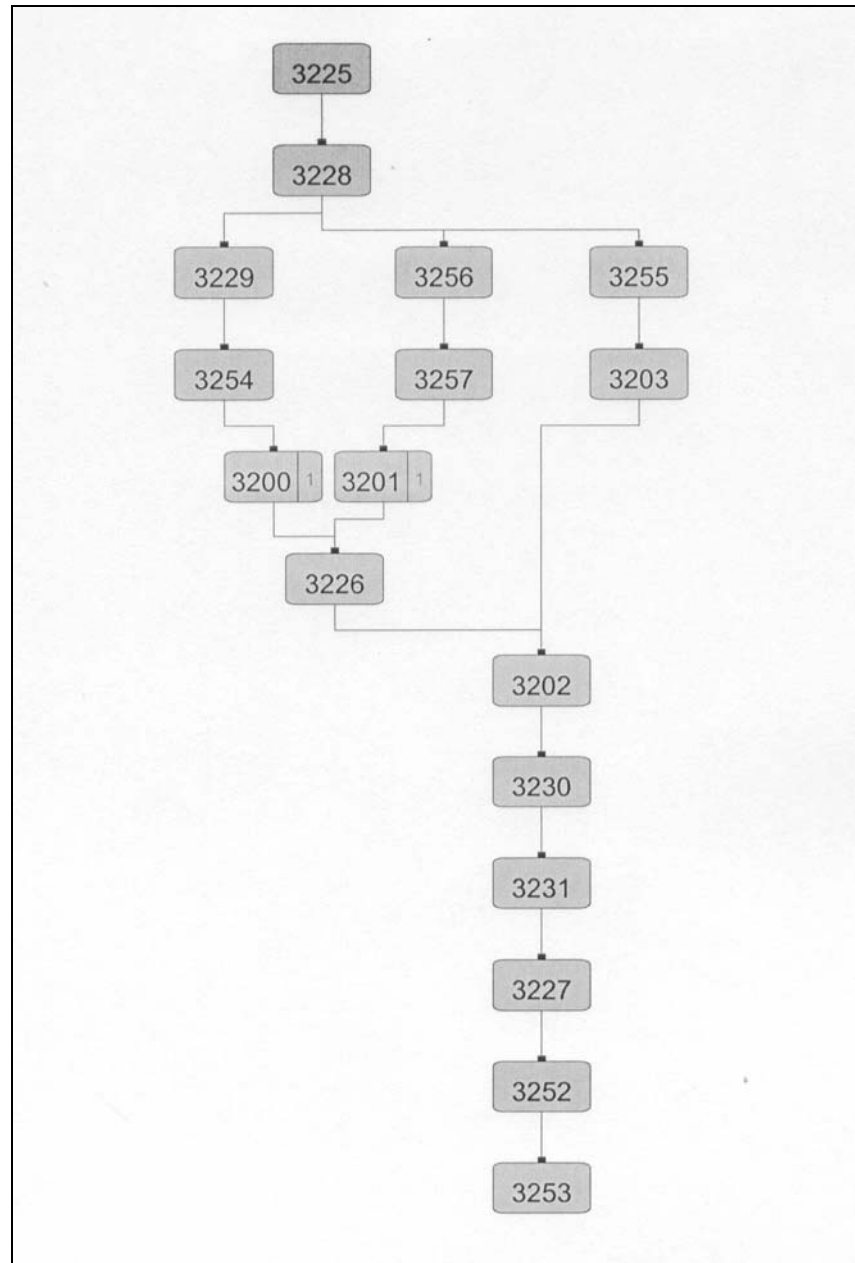


Harris matrix showing Trench 3A stratigraphy



Harris matrix showing Trench 3B stratigraphy





Harris matrix showing Trench 4 stratigraphy

## APPENDIX 4: FINDS CATALOGUE

### POTTERY CATALOGUE

Object record	Context Number	Quantity	Material	Description	Date range
11045	3227	5	Ceramic	Refitting pearlware plate base with blue transfer-printed pattern	Early 19 <sup>th</sup> century
11045	3227	1	Ceramic	Creamware base fragment	Mid – late 18 <sup>th</sup> century
11045	3227	2	Ceramic	Black-glazed red earthenware coarseware – crock rim and cylindrical vessel base	Late 17 <sup>th</sup> – early 20 <sup>th</sup> century
11045	3227	1	Ceramic	Unglazed red earthenware	Late 17 <sup>th</sup> – early 20 <sup>th</sup> century
11045	3227	1	Ceramic	Brown speckled glazed red earthenware coarseware	Late 17 <sup>th</sup> – 18 <sup>th</sup> century
11051	3248	2	Ceramic	Black-glazed red earthenware coarseware	Late 17 <sup>th</sup> – early 20 <sup>th</sup> century
11052	3250	1	Ceramic	Light brown-glazed light orange earthenware plate/dish base with red and white slip-trailed decoration (showing black and yellow beneath glaze)	Late 17 <sup>th</sup> – early 18 <sup>th</sup> century
11047	3258	6	Ceramic	Unglazed red earthenware flower pot (?) fragments, including one large rim from crock or bowl	Late 17 <sup>th</sup> – early 20 <sup>th</sup> century
11047	3258	2	Ceramic	Purple-glazed stoneware, undiagnostic	Late 17 <sup>th</sup> – 18 <sup>th</sup> century?

### CLAY PIPE AND NON-CERAMIC CATALOGUE

Object Number	Context Number	Quantity	Material	Description
11024	3258	1	bone	Cattle/deer metatarsal, worked
11025	3258	1	ceramic	Clay pipe stem, undecorated
11044	3227	1	ceramic	Clay pipe stem, undecorated
11046	3258	1	glass	Moulded bottle neck, dark coloured
11048	3258	2	iron	Square cross sectioned possible nails/bolts, max 130mm
11049	3258	1	mollusc	Oyster shell
11050	3258	3	bone	Rattus sp tibia; large mammal femur; grey lag/goose
11053	3250	1	bone	Cattle metatarsal
11035	3111	1	iron	Hook and chain, large possibly structural
11037	3111	1	glass	Fragment of bottle base, dark coloured
11038	3111	4	iron	3 Square cross sectioned possible nails/bolts, max 100mm long; 1 screw fixture and sheath
11039	3112	16	ceramic	Majority are fragments of large, black internal glazed storage vessel, 1 fragment of stoneware vessel
11040	3112	1	bone	Cow/red deer rib
11041	3112	7	mollusc	Mussel shells

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11042	<b>3112</b>	2	glass	Complete base of bottle possibly blown, dark coloured with opalescence
11043	<b>3112</b>	2	ceramic	Clay pipe stems, undecorated

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 ILLUSTRATIONS
 

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**PLATES**

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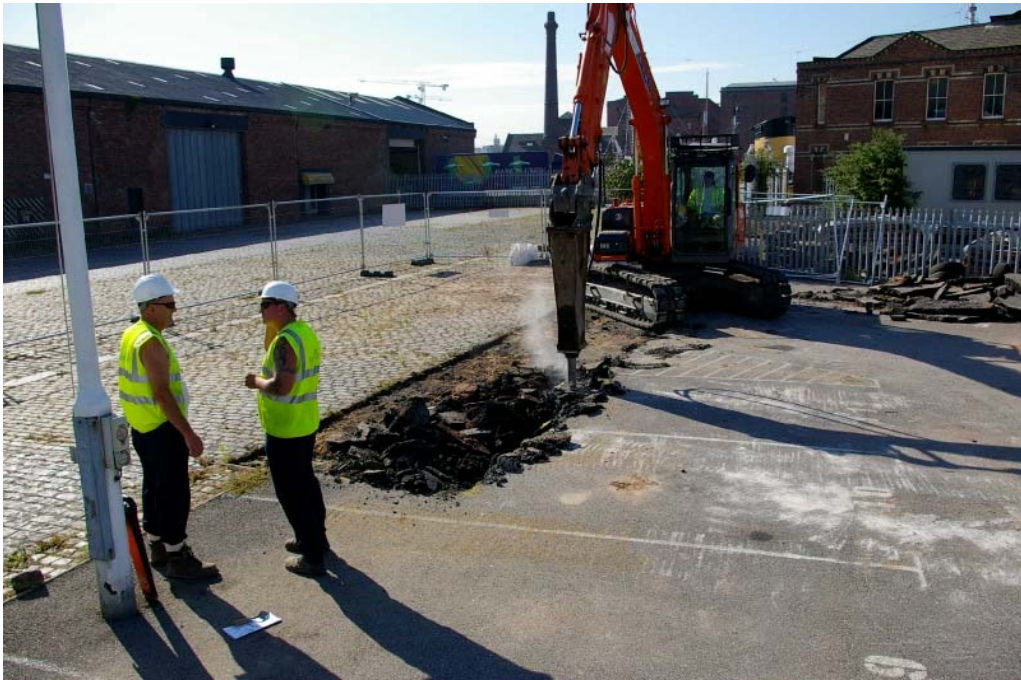


Plate 1: General working view of Trench 1, looking south-east



Plate 2: View of Trench 1 showing the rear eastern face of Manchester Dock wall, **3109**, looking south-west



Plate 3: View of Trench 1 Manchester Dock wall, *3109* and girders *3121*, looking south



Plate 4: View of Trench 1 showing the front western face of Manchester Dock wall, *3109*, with part of the girder structure *3121*, looking east



Plate 5: View of Trench 1 showing a close up of a mason's mark on the western face of Manchester Dock wall, **3109**, looking east



Plate 6: View of Trench 3A showing the western section, including contexts, **3208** cobbles, **3211** yellow sandstone wall and **3213** red brick wall, looking south-west





Plate 7: View of Trench 3A showing the eastern section, looking south-east



Plate 8: View of Trench 3A showing the culvert located in the sondage at the south end of the trench, looking south-east



Plate 9: General working view of Trench 3B, looking west



Plate 10: View of Trench 3B showing brick floor 3235 and wall 3234, looking north



Plate 11: View of Trench 3B showing deposits **3249** and **3250** below brick floor **3235**, looking north



Plate 12: View of Trench 3B showing the makeup and levelling deposits seen in the sondage dug in the southern end of the trench, looking south-east



Plate 13: General working view of Trench 4, looking north



Plate 14: View of Trench 4 showing cobble surface 3202, looking north



Plate 15: View of Trench 4 showing deposits below cobble surface **3202**, looking north



Plate 16: View of Manchester Dock, with overhanging warehouse in 1929, looking east from the dock entrance