

## IV: The River Dee, Roodee Cop and the Workhouse: Recent Excavations

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by Blair S. Poole

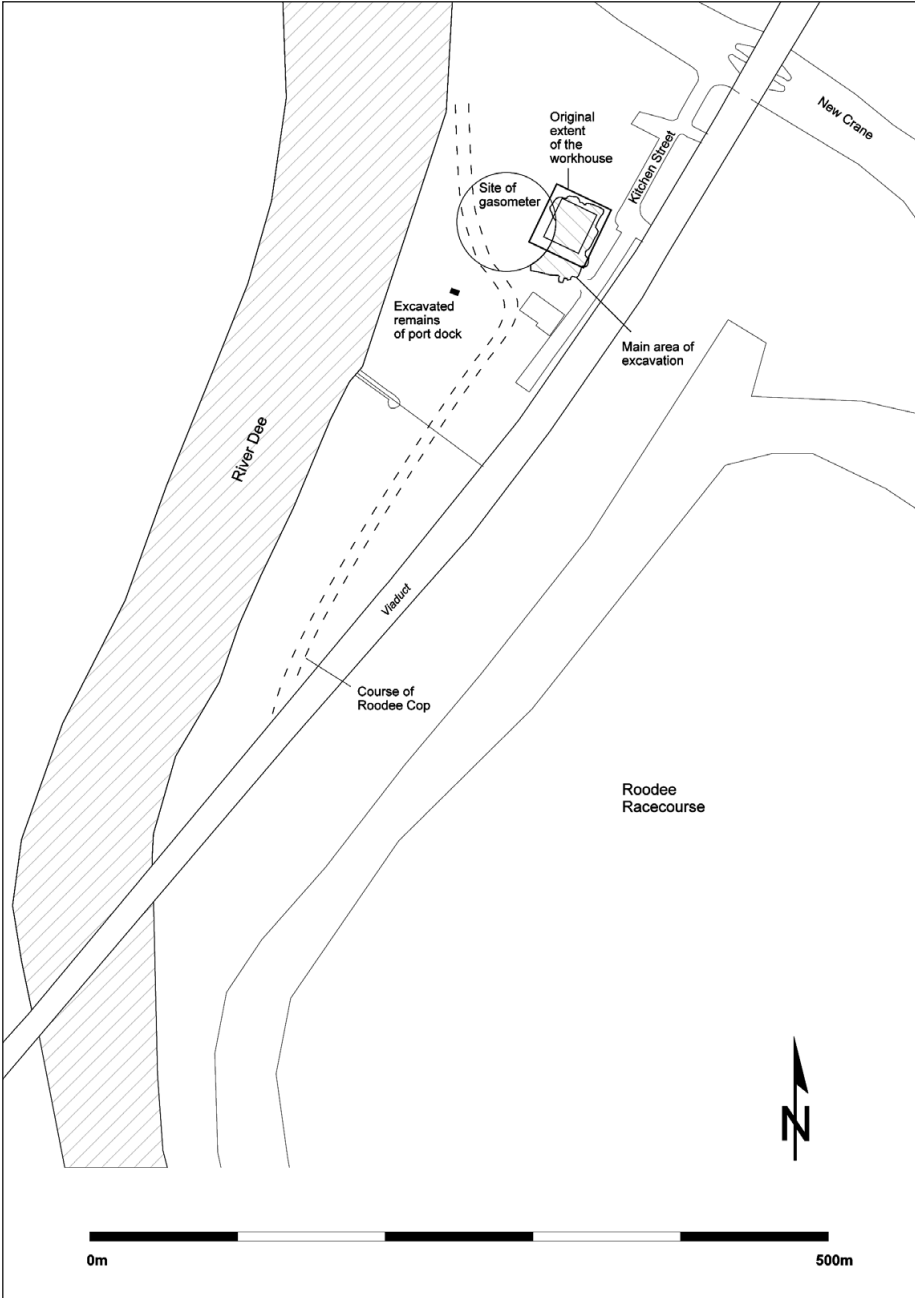
Between 2001 and 2005 L-P: Archaeology investigated a series of sites in the old port and Roodee areas of Chester, extending from the Grosvenor Bridge in the south to the Cop Recreational Ground at Sealand Road in the north. These investigations have contributed significant information about the changing course of the River Dee, the city's attempts to control the flooding at the port and Roodee areas and the construction of port installations. In addition, considerable light has been shed on the structural remains of Chester's first workhouse, which lay adjacent to the port.

### Introduction

**A**s part of the regeneration of the old port, L-P: Archaeology undertook four investigations (Pack 2004; Poole & Constable 2004; Poole 2005a; Poole 2005b). The most extensive of these was carried out for David McLean Homes on the site of the gasworks and former workhouse, Kitchen Street (Poole & Constable 2004), and follows an evaluation of the area carried out by Gifford (Owen 2003). This report is principally concerned with the investigation of the gasworks/workhouse site. The investigation of the site by L-P: Archaeology consisted of a large trench, 43m by 54m, in which extensive remains of the workhouse were revealed beneath modern concrete, with an extension to the south across the flood defensive bank known as the Cop. Other areas were monitored under watching brief conditions (Ill. IV.1).

### *Depositional sequences pre-dating the workhouse and the Cop*

Map depictions of Chester by Braun & Hogenberg (1581) and Speed (c.1610) suggested that this site lay in the former course of the River Dee. This view was confirmed by excavation. A sondage, 3.5m by 2.2m and 1.7m deep (equating to 2.75m above Ordnance Datum), was excavated within the courtyard area of the workhouse (Ills IV.1 and IV.5). It revealed a series of silting deposits associated with the River Dee underlying a make up deposit and topsoil (Jordan 2004, 7–8). The upper deposit (202), a light brown silty sand 0.2m thick, containing humified organic matter and fine root pores, was the remnant of the topsoil pre-dating the construction of the workhouse. Beneath this deposit was a light brown silty sand (203), 0.6m thick, which contained visible laminations indicative of natural silts seen *in-situ* at several locations in the old port area (*ibid*, 8). This deposit was sealed by a 0.4m thick deposit of light brown, unstructured silty sand (204). Its lack of structure may be due to slumping caused by saturation. The lowest deposit (205) identified in the sondage was



III. IV.1: Site plan showing area of excavation and workhouse

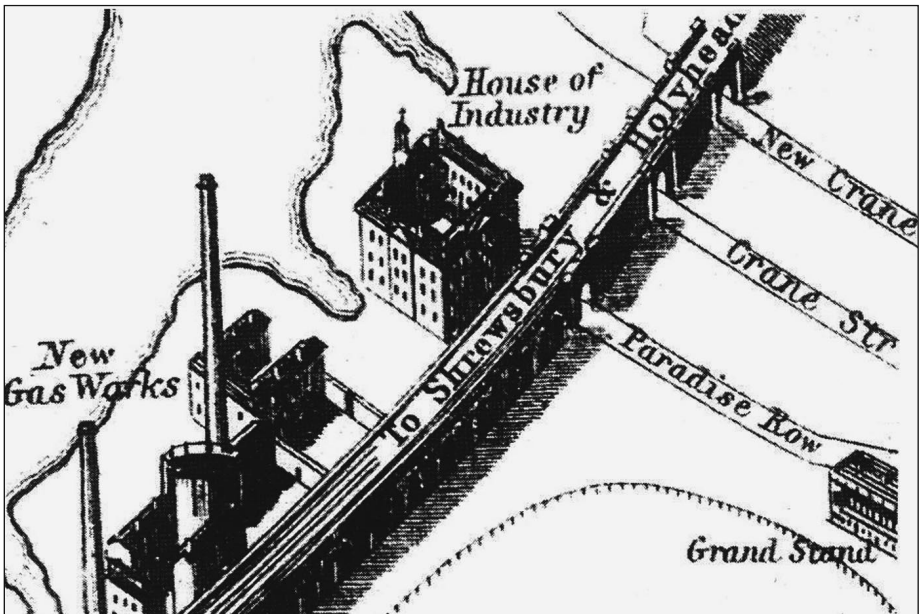
another river silt and comprised a mid grey to blue silt with well defined silty laminae and mid brown mottles.

### The workhouse

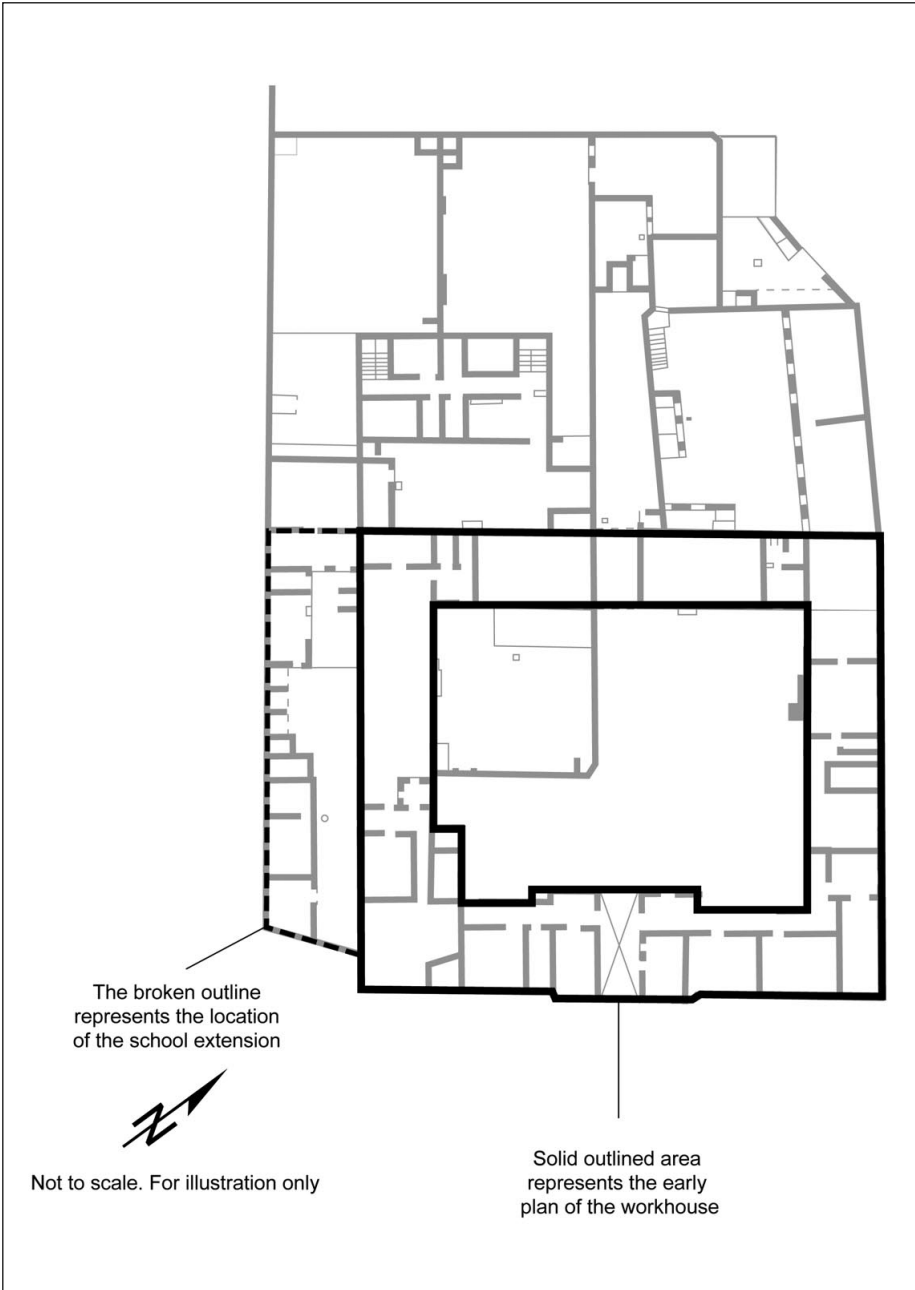
#### *A structural consideration from documentary sources*

The workhouse, or ‘house of industry’, dates to 1758–1759. Catherall and Prichard’s three-dimensional map of the city (c.1860) indicates that the building was an imposing three-storey structure of four wings around a central courtyard with a cupola over the rear wing (Ill. IV.2). John McGahey’s aerial view of Chester from 1855 on the other hand shows the workhouse as a two-storey, three-winged building with a central entranceway leading off Kitchen Street (McGahey 1855). The accuracy of McGahey’s depiction of the structure is clearly questionable as its layout does not agree with all other mapped depictions and the excavated evidence.

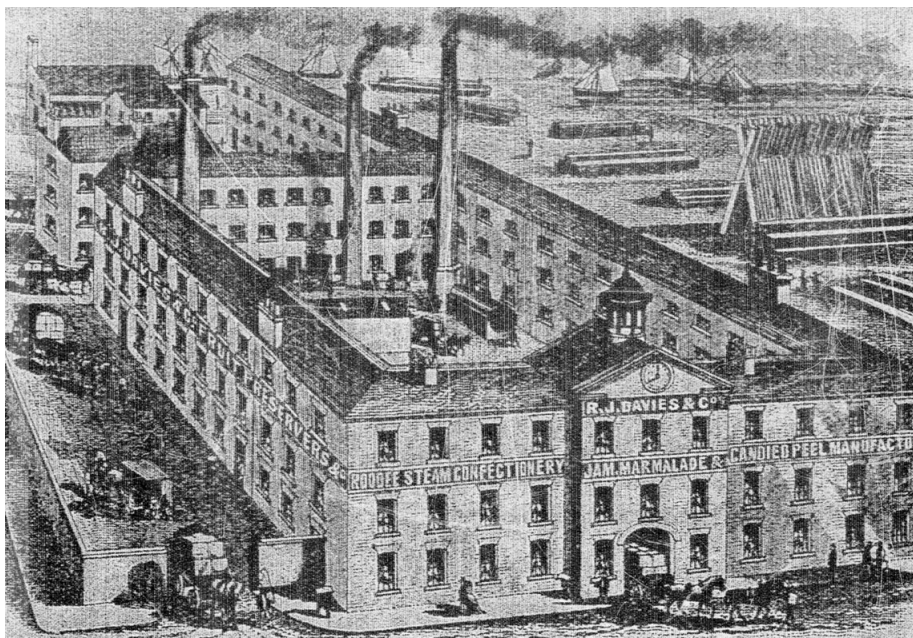
Construction of Chester’s workhouse at the Roodee is thought to have started in March 1758 (Lewis 1998–99, 51). An examination of the vouchers and receipts for the work, held at Cheshire Record Office, shows the speedy progress in building this structure. Lewis attributes the building to the brick maker Richard Venables who received two payments in March and April 1758 for overseeing the work (1998–99, 51). The April payment indicates that this is for his attendance on site to oversee the labourers one week prior to the foundations being started (CRO: TAV 2/42). The initial setting out for the site began early in March with the construction of a crane and the building of a saw pit (*ibid*). Deliveries of bricks to the site started in March 1758 (*ibid*). The centring of the arches are known to have been framed on 13 May and the base of the first and second floors were reached on



Ill. IV.2: Catherall & Prichard c.1860. Pictorial plan of Chester



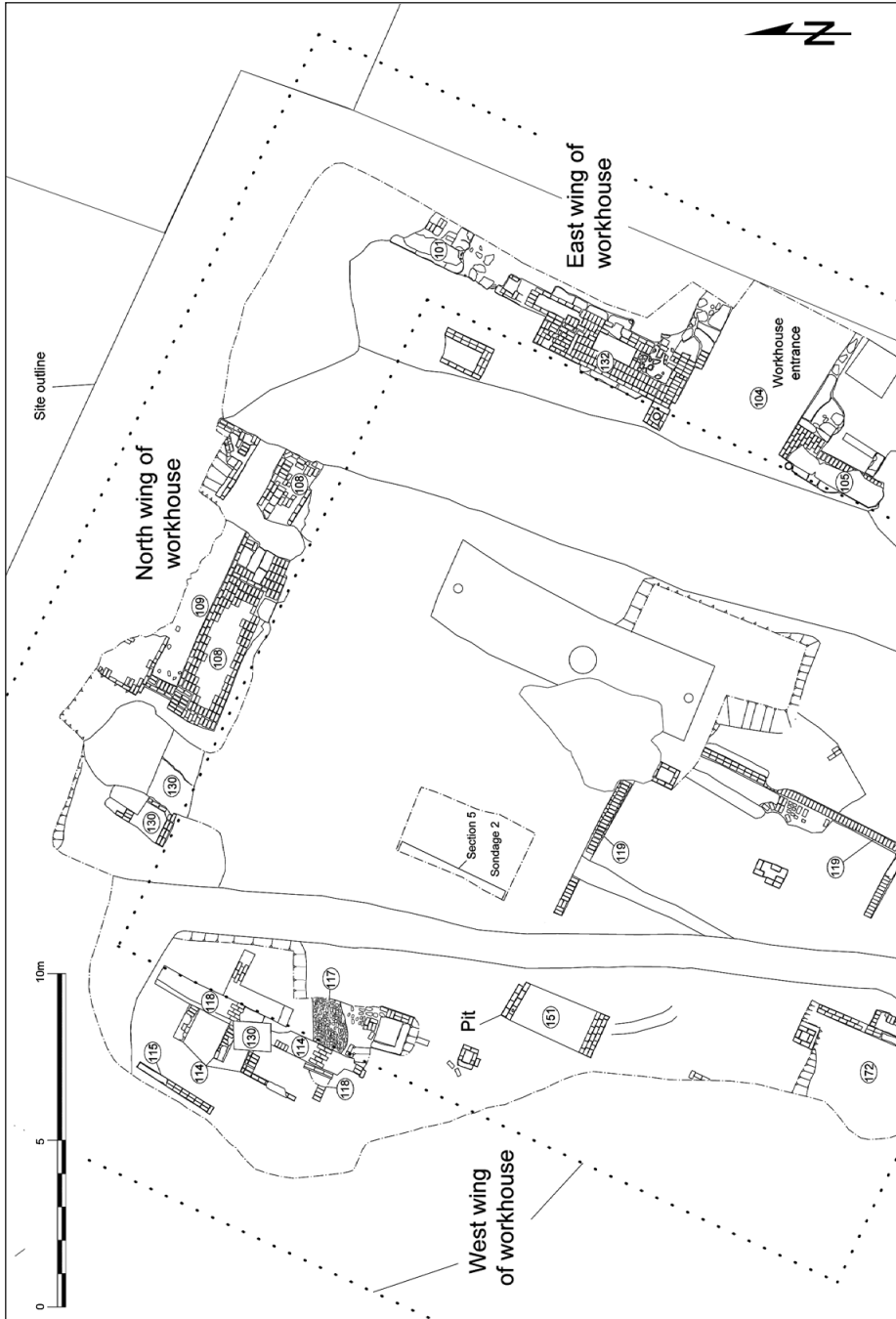
III. IV.3: Layout of Roodee workhouse on 1875 Ordnance Survey map



Ill. IV.4: Representation of the workhouse buildings as R J Davies & Co fruit preservers (reproduced with kind permission of Mr J Lindop)

20 May and 17 June 1758. With the delivery of the timber for the roof, windows and doors in September that same year, it can be assumed that the brick part of the building was broadly complete by this date (CRO: TAV 2/43). This delivery comprised planking and joists for the floors, twenty-five double purlin trusses and twenty-eight single purlin trusses (*ibid*). The order also included eight transom door frames, which contain a light window over the door. In addition, a wide range of windows were ordered including thirty-nine four-light transom windows, two six-light transom windows, four three-light windows, ninety-six two-light windows and six one-light windows (CRO: TAV 2/42). Within the list of timberwork recorded was the framing for a six-sided cupola with cornice, base and moulded imposts (*ibid*). Deliveries of bricks continued into 1759, which indicates that the construction of internal walling, chimneys and other features was an ongoing process (CRO: TAV 2/43). Two and a half hundred weight of flagstones were delivered in February 1759, most probably for the ground floors of the building as the main body of the courtyard is recorded as being cobbled (*ibid*). The final delivery of carpentry items in July 1759 indicates the completion of the building could be around this time. This delivery included three types of door, two-panel, six-panel and plain doors, as well as gates for the east front and two trap doors (*ibid*). Two round boards were delivered thought to be for use as clock faces (*ibid*).

In 1819 additional buildings were constructed next to the workhouse, including an asylum for pauper lunatics (Lewis 2003, 153). In 1821 a warm bath was built and in 1823 a school for fifty infant paupers was constructed (Hemingway 1831, 193). The Ordnance Survey map of 1875 shows the layout of the whole complex and from this plan it would appear that the school extension adjoined the south wing of the original workhouse building (Ill. IV.3).



III. IV.5: Excavation plan of the workhouse. Dotted line represents the extent of the workhouse as shown on the 1875 Ordnance Survey map

### *The later use of the workhouse*

In the late 1870s the residents of the workhouse were moved to the new workhouse in Hoole Lane (Lewis 2005, 54). By 1878 RJ Davies & Co. wholesale and export confectioners had moved into the workhouse building and converted it to a preserve and confectionery business (J Lindop *pers comm*; Kelly's trade directory for 1878). A pictorial representation of the building at this time is shown in Ill. IV.4. By 1890 trade directories indicate that the building had been sold to Williams Preserves. The Ordnance Survey map of 1898 records the building as the Chester Preserving Works. The building continued to operate as a preserve factory until 1908, when the works are said to have been destroyed by fire (Poole & Constable 2004). The 1910 Ordnance Survey map of Chester shows the plot as vacant. Following the factory's demise a large gasometer was constructed on the northern section of the site, which is shown on the 1938 Ordnance Survey map. The installation of the gasometer, the large associated concrete platform and the many service pipes running over the site were found to have severely damaged what remained of the workhouse.

### *The excavation*

Despite the damage caused by the gasworks parts of the ground floor layout of the workhouse survived, with preservation being best in the north eastern part of the site. The main body of the workhouse comprised four distinct wings around a central, rectangular, divided courtyard. The remains of these will be described in turn.

#### *North wing (Ill. IV.5)*

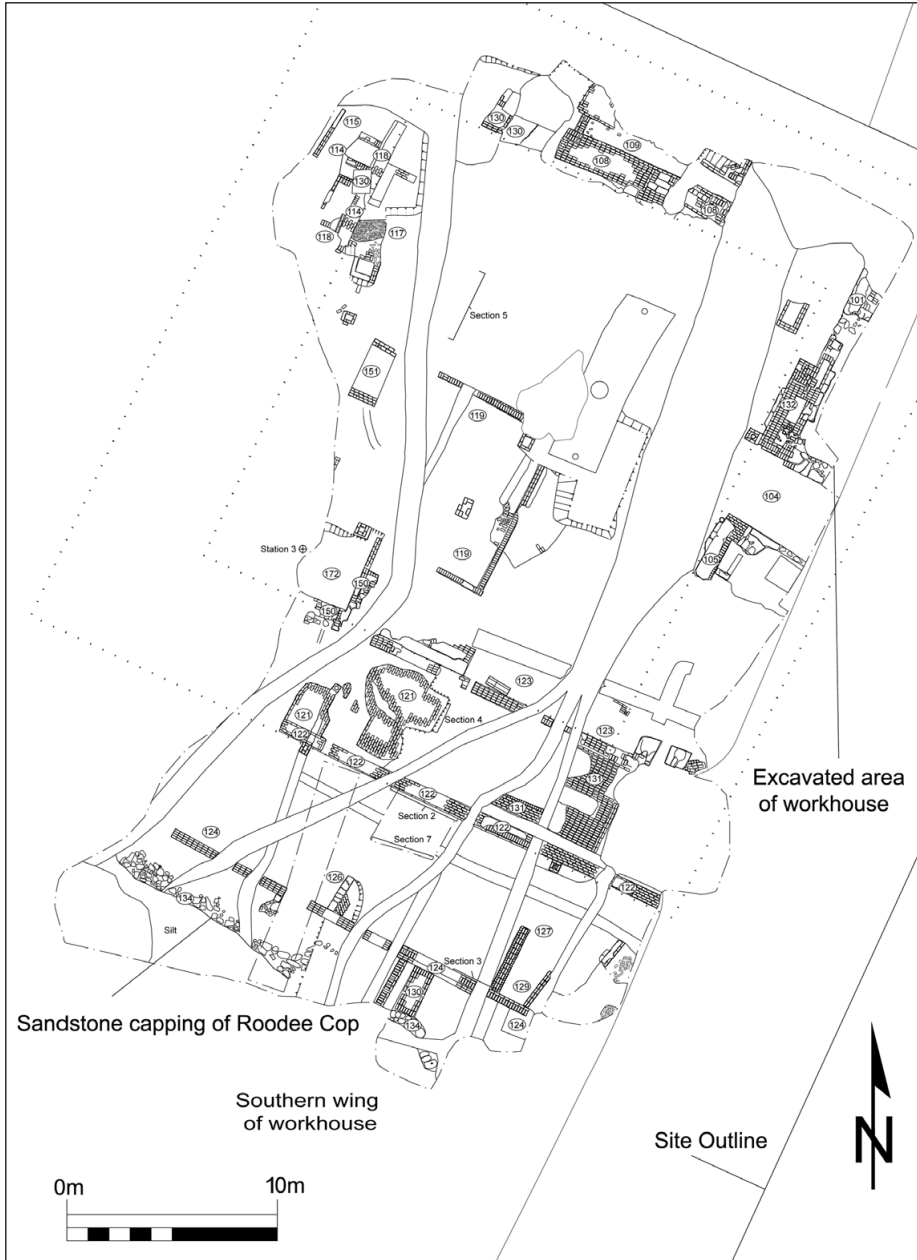
Part of a brick floor was revealed that consisted of hand-made orange bricks laid out in stretcher courses and set in a light grey mortar. Cutting through the centre of the floor was a channel of a probable drain, running east–west, in the same orientation as the wing. It was filled with a brown sandy silt (108).

#### *West wing (Ill. IV.5)*

Only the northern part of this wing had survived. A small length of the sandstone foundations of the outer wall of the wing (116) was uncovered. The foundations had cut through alluvial silts (152) to a depth of approximately 2m, equating to 4.2m above Ordnance Datum. To the south east a part of the eastern side of the wing was revealed. The remains of the inner wall of the wing (114), adjacent to the courtyard, consisted of a brick-built wall of hand-made bricks, three courses in height, bonded with a light grey mortar, surmounting sandstone foundations. The base of the brick walling/top of the sandstone foundations occurred at 5.7m above Ordnance Datum. Abutting this wall, at right angles, were a series of narrower brick walls marking the internal partitions within the wing (also recorded as (114)). Cutting through one of these partitions were the remains of a salt-glazed drain. A further internal brick-built partition (115), running parallel with the inner and outer walls of the wing, was found. All these walls also cut through alluvial silts (152).

#### *East wing (Ill. IV.6)*

Excavation of the northern part of this wing revealed the large sandstone block foundations of the inner wall, surmounted by a wall of hand-made bricks bonded with a light grey sandy mortar (101). To the south of this wall was a brick floor laid in stretcher courses (132). A loose brick infill was seen to fill voids, or damaged areas, in the floor relating to the demolition



III. IV.6: Excavation plan of the workhouse. Dotted line represents the extent of the workhouse as shown on the 1875 Ordnance Survey map



of the workhouse, with brick infill deposited to level the site. The southern extent of this floor coincided with the northern wall defining the entrance way into the courtyard off Paradise Street/Kitchen Street. This wall (also recorded as (101)) was built of brick on a sandstone foundation and was of a similar construction to the corresponding wall to the south (105). The entrance passage was 3.5m wide, within which a black sandy silt (104) had accumulated.

#### *South wing (Ills IV.7 and IV.8)*

Walls (122) and (123) formed the inner and outer walls of this wing. Like the main structural walls reported above, they were brick-built (standing up to five courses high) and overlay sandstone block footings, cutting a light yellow grey re-deposited alluvial silt (154). Wall (122) was recorded in section to reveal the foundation, extending 1.5m below the lowest course of brick, equating to 3.9m above Ordnance Datum. The lowest course of the foundation was slightly offset from the main line of the wall and several blocks employed in the construction displayed tooling marks. Several ceramic drains had been inserted through these walls. Areas of brick flooring, (121) and (131), were revealed. Within floor (121) an area 0.45m wide had been renewed. This alteration and the insertion of the drains date to the late nineteenth/early twentieth century when the workhouse was used for the production of confectionery and preserves.

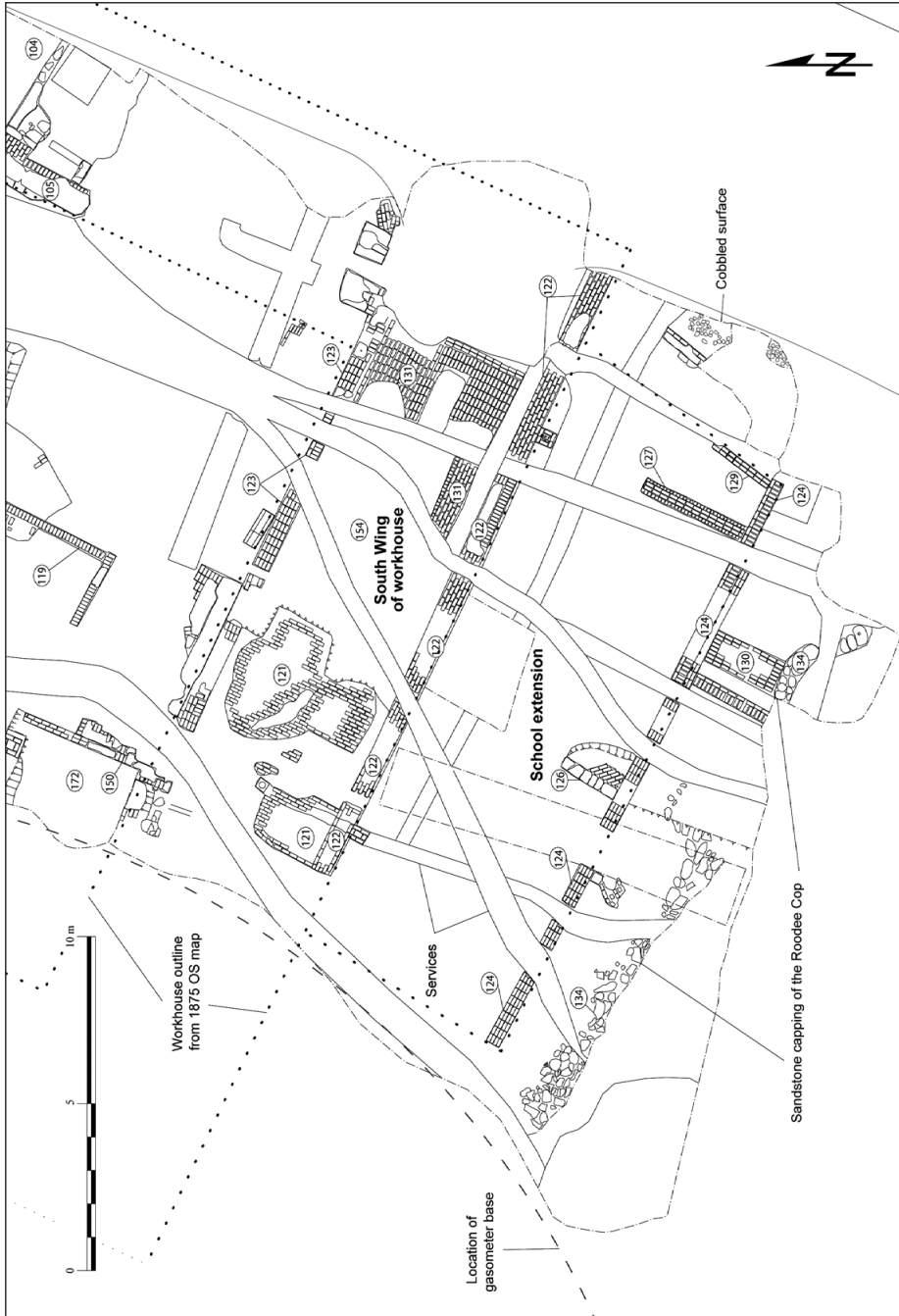
#### *Courtyard (Ills IV.5, IV.6 and IV.7)*

Two principal features were examined in the courtyard: the remains of a structure (119) and a brick-edged pit (150). Structure (119) occupied the south western part of the quadrangle. Three walls, surviving discontinuously, were identified as belonging to this structure and consisted of hand-made bricks bonded with a grey sandy mortar. The remaining extent of the structure measured 8.5m north-south and 10m east-west. A small rectangular area of brick flooring (151) lay adjacent to the east-west wall. This structure formed an enclosure and is depicted on the 1875 Ordnance Survey map.

Within this enclosure and located next to the southern wall of the main building was pit (150). On initial inspection it was thought to be a cess pit, but when the fill, an orange yellow sandy silt (172), was analysed it was found to contain significant quantities of clinker and coal fragments (Badcock 2004). Apart from the surface found within structure (119), the only other surface discovered within the courtyard was a small area of cobbles, 1m by 1.5m in extent, next to the western wing. These cobbles overlay an alluvial silt (152).

#### *Southern extension (Ill. IV.7)*

The southern extension, about 7m wide, directly abutted the outer wall of the southern wing. The southern extent of the building was defined by a brick-built wall (124). The bricks were laid in stretcher courses bonded with a yellow grey coarse mortar and survived to five courses in height. The wall had no foundations having been built directly onto the underlying alluvial silt (136), suggesting that it was a rather insubstantial, and possibly a lean-to, construction. Adjoining this wall were several partitions: (126) a sandstone capped brick wall, associated with a brick floor (125); and brick-built walls, (127) and (129), which were keyed into wall (124). The eastern end of the building was marked by brick wall (197) next to which lay a small area of cobbles (128) overlying alluvial silt (136). This cobbled area appears to relate to the nineteenth century street frontage of the building.



III. IV.7: Excavation plan of the workhouse

## The Cop flood defences

### *Historical background*

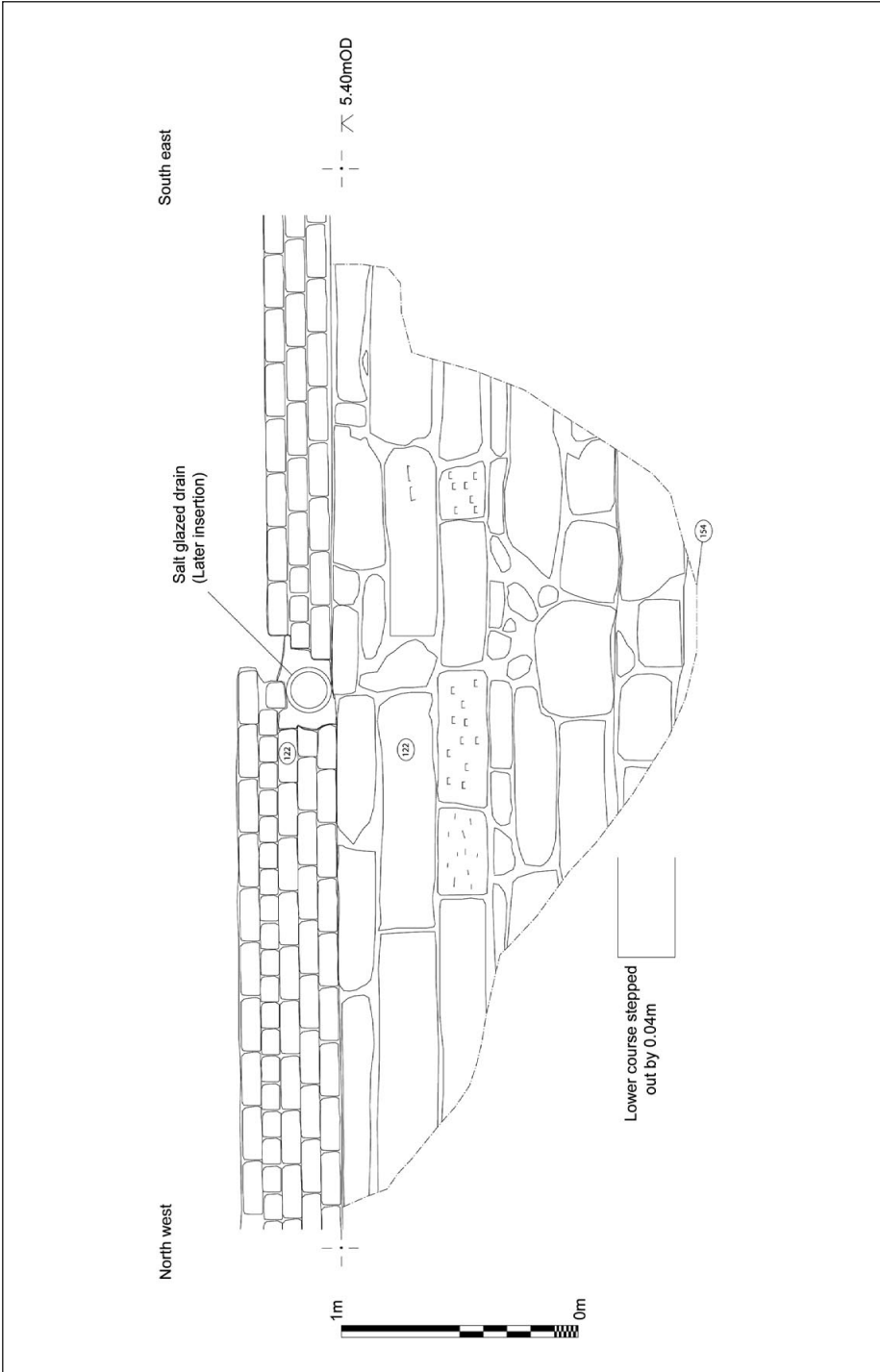
The Cop flood defence banks were erected in the early eighteenth century to protect the area of the Roodee and New Crane Street from flooding by the River Dee. A section of part of this defensive scheme survives as an upstanding earthwork in the Cop Recreation Ground, off New Crane Street, and takes the form of a large grass covered earthen mound rising approximately 2m above the present pavement level.

The Cop was initially constructed between 1706 and 1710, when there appeared to be a growing concern to protect the Roodee area from flooding from the River Dee. A combination of the assembly books and Murengers' accounts give a clear documentary account of the development of the Cop around the Roodee and extending northwards to the old port area.

Around 1705 it was the responsibility of the Mayor and Justices to devise a plan for an effective method of defending the Roodee from floods, or 'Copping of the Roodee against floods and tydes' as stated in the Murengers' accounts (CRO: ZMUV 1/1-76). In October 1706 it was decided that a bank was to be raised in a convenient part of the Roodee and trees were to be planted on it in an attempt to hold the soil in place (*ibid*). Between 1707 and 1708 the city walls underwent a series of renovations and the Murengers' accounts indicate that any funds remaining were to go towards fencing the Roodee Cop to further protect the area (*ibid*). A total of £287 was spent by the city on the Copping of the Roodee by 1711 and it is thought that this phase of works met with some success; in 1711 John Bentley was paying a yearly rent of £110 for the grazing rights to the Roodee. This indicates that flooding was not as great a problem as it had once been. Part of the leasing condition for the area was that the city was to keep the Cop in good repair. It would therefore appear that the major construction work on the first phase of the embankment was complete by 1711. In 1721, following the destruction of part of the Cop by flooding, it was rebuilt and faced with stone.

In May 1773 the Justices of the Peace and treasurers undertook a viewing of the Roodee Cop and reported on the confining of the river to preserve Chester's workhouse and the Roodee from flooding and tides. The timing of the visit may indicate that spring tides were starting to become a problem again by this point. It could be that the trees planted on the bank had begun to slip and the silt bund was being eroded slightly, allowing more water to penetrate the defence. In 1774, Mr Troughton, the overseer of the workhouse, was instructed to raise the ground around the building to prevent tidal overflows. By 1789 a new flood defence bank to the west of the workhouse had been constructed, abutting the original line of the Cop to the south of the workhouse (Hunter & Weston 1789). In March 1796 a petition from the residents of Paradise Row and Kitchen Street claimed that they suffered damage each year from the spring tides overflowing the bank of the Roodee Cop, suggesting that the new flood defence adjacent to the workhouse and protecting Paradise Row was not working as well as it should have been.

By the time of Wood's map of 1833, the Cop is only shown as an ephemeral earthwork south of the iron foundry, and by 1872, the Ordnance Survey map (published 1875) only shows the Roodee Cop as an earthwork embankment to the south of the railway viaduct. The 1910 Ordnance Survey map of Chester shows a change in the form of the Cop around



III. IV.8: Elevation of the workhouse foundation

the Roodee Racecourse. The earthwork is only seen to continue a short distance south of the viaduct, at which point what appears to be a solid wall can be seen enclosing the Roodee.

#### *The excavation*

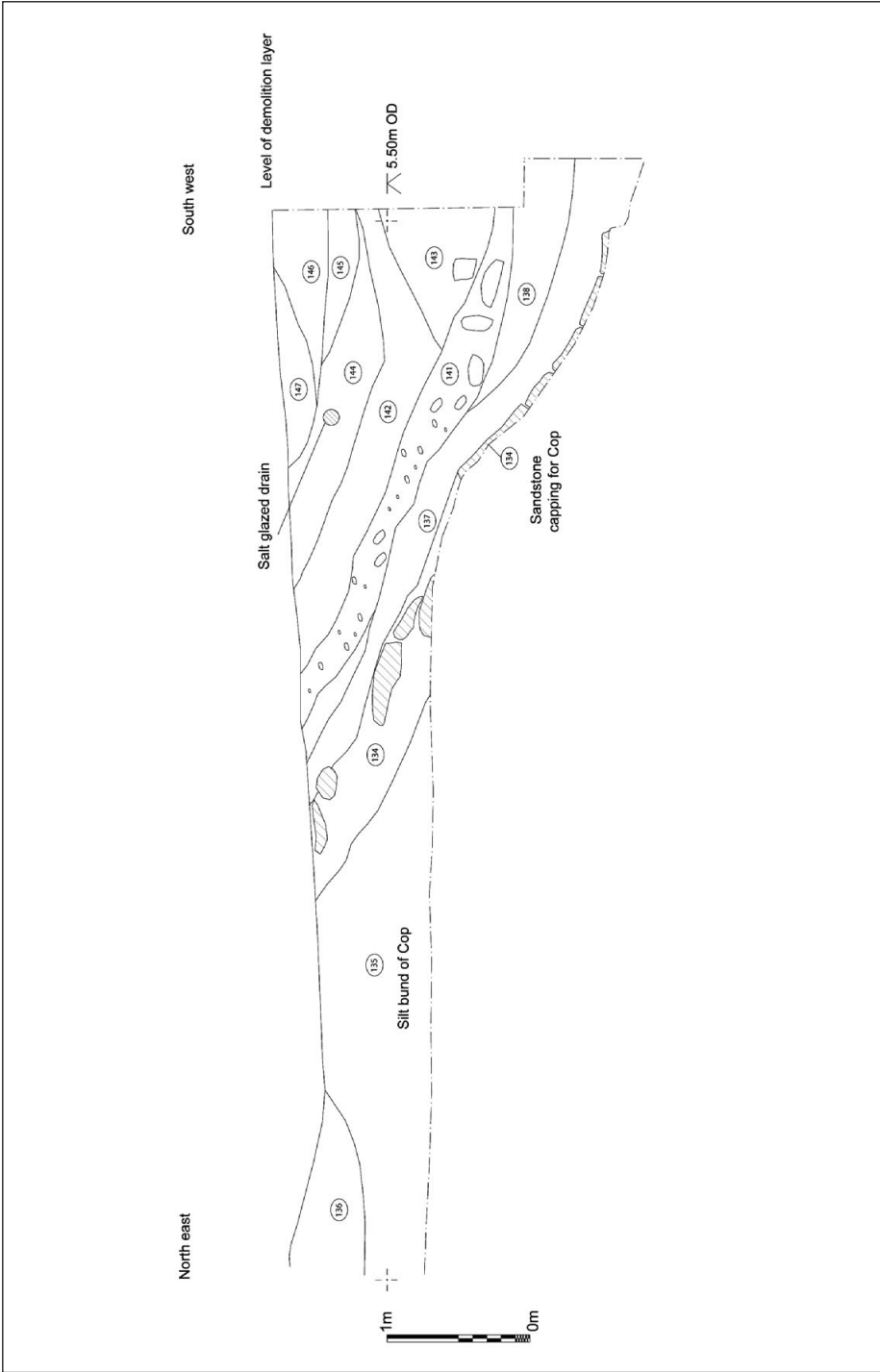
A section of the Cop, forming part of the later re-alignment around the workhouse, was identified to the south of the building, running roughly southeast–northwest (Ills IV.1, IV.6, IV.7 and IV.9). The uppermost part of the south face had been capped with large, irregular, sandstone block fragments (134). These sandstone blocks were roughly shaped and of varying size, between 0.4m and 0.6m in length, and lay directly on an earthen bank, or bund, approximately 3m in height with steep sloping sides. This earthwork was composed of light brown redeposited silty sand with varied laminations indicative of flooding activity (135). Root activity identified within indicates that the mound had a turf layer covering it, if only for a short period of time. Below this deposit, at a depth of 5.50m above Ordnance Datum, a series of three naturally deposited layers were encountered: a silty sand with distinct laminations (199) indicative of flooding activity; beneath which was a further, but unlaminated, silty sand (200); and at the base of the trench, at a depth of 3m above Ordnance Datum was a mid grey coloured sandy clay loam (201), which is likely to have been laid down during the migration of the River Dee prior to the construction of the Cop. The upper part of layer (201) shows evidence that it was once an exposed surface; however, the shell inclusion and laminations of the lower part of the deposit indicate that it was formed within a flowing water environment.

The course of the Cop immediately to the south of the workhouse is known from historic mapping, but its investigation was not possible because of disturbance caused by the building of the later gasworks. However, a 2m square and 2m deep evaluation trench at SJ 39690 65885 (17m to the south of the railway viaduct) excavated as part of an extensive evaluation for a new walkway around the Roodee Racecourse, was successful in identifying this earthwork. It consisted of a layer of yellow silty sand, 1.6m thick, sealed by modern topsoil. It appeared to be composed of redeposited material, rather than *in-situ* riverine silts, and hence was similar in character to layer (135) on the workhouse/gasworks site (Poole 2005b). To the south/south east of this evaluation trench, a sandstone riverside wall constructed in the nineteenth century appears to follow the line of the Cop. It is likely that this wall has removed much of the former flood defence bank.

#### *A port dock*

Located to the west of the site, to the southwest of the workhouse, a small portion of a sandstone dock was uncovered (Ills IV.10 and IV.11). This comprised a large block sandstone wall with associated walkway and timber posts. The dock was positioned within a narrow inlet first shown on Hunter & Weston's map of 1789, which matches the location of a small inlet apparent on the first and second edition Ordnance Survey maps (published in 1875 and 1899, respectively). A possible path is shown on Stockdale's map (1796) linking the inlet to the iron foundry, which would suggest that the inlet was intended as the dock for the foundry.

The dock wall (179) was excavated to a depth of 1.8m (equating to 2.6m above Ordnance Datum). The north facing elevation of this wall had been finished to a high standard, implying that this was a face of the wall to be displayed. Tooling could be seen on the blocks,



III. IV.9: Section through the Cop

which had been squared off to an approximate size of 0.7m by 0.2m. A small walkway (181), approximately 1m wide and constructed of sandstone fragments, ran alongside wall (179) where a lower sandstone wall (180) continued down into the natural silt layer. The lower sandstone wall was constructed of the same material as the upper wall (179) and extended down approximately 0.65m below the walkway. This was built into the natural alluvial silt deposit (183) at the base of the trench. Two upright timbers (162) had been driven through the alluvial silt (183) into the underlying silty clay (184) and appear to be mooring posts. Alongside, two timber sleepers ran under the walkway, through the lower wall (180) to support the walkway. The form of the dock and the deposition of silt within it would suggest that boats could sail into the area at high tide, secured to the mooring posts, and at low tide the boats would be left on the dry silt bed.

### The finds

The majority of the finds from the workhouse were recovered from context (133), the general clearance layer, which overlay most of the site. As the workhouse building burned down in the early twentieth century, the demolition and infill prior to the construction of the gas yard all date to this period. Due to the lack of activity on the site prior to the building of the workhouse, there were limited finds pre-dating the workhouse. All the artefacts recovered during the excavations have been deposited with The Grosvenor Museum, Chester.

### *Glass and pottery relating to the confectionery works*

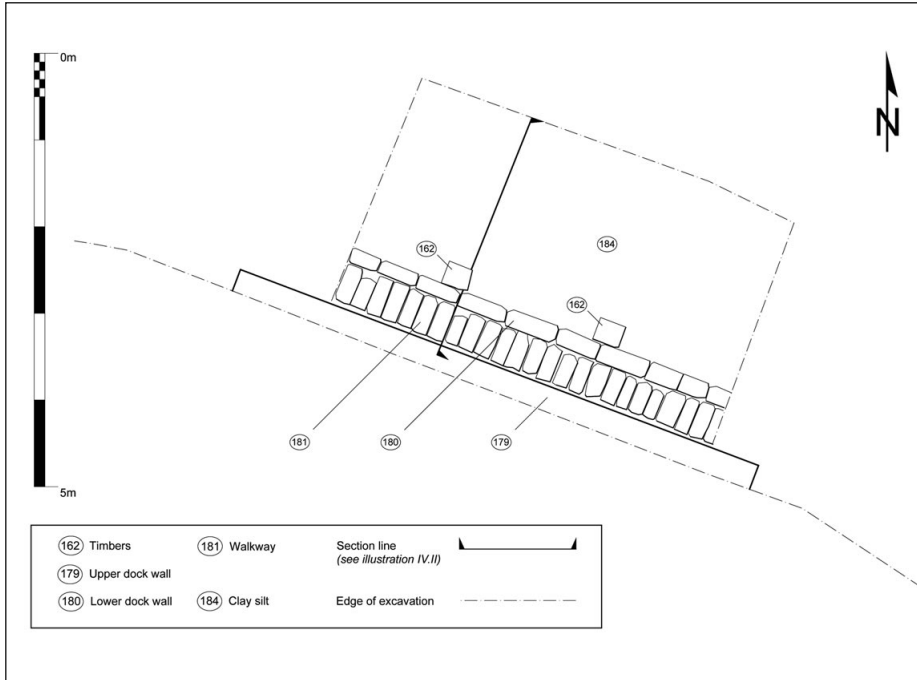
#### *Jar lids*

The most common find from the workhouse excavation, and on the neighbouring site to the north along the banks of the River Dee, were glass jar lids with indented tops and a wide flange (Ills IV.12 and IV.13). The indentation in the top of the lid allowed the rim to stand proud. The bases of the lids consisted of a dropped insert, which would fit within the neck of a suitable jar. A pontil scar, a scar left after the removal of excess material after moulding, could be seen at the centre of all of the bases of the lids and a mould scar could be seen running around the widest part of the flange.

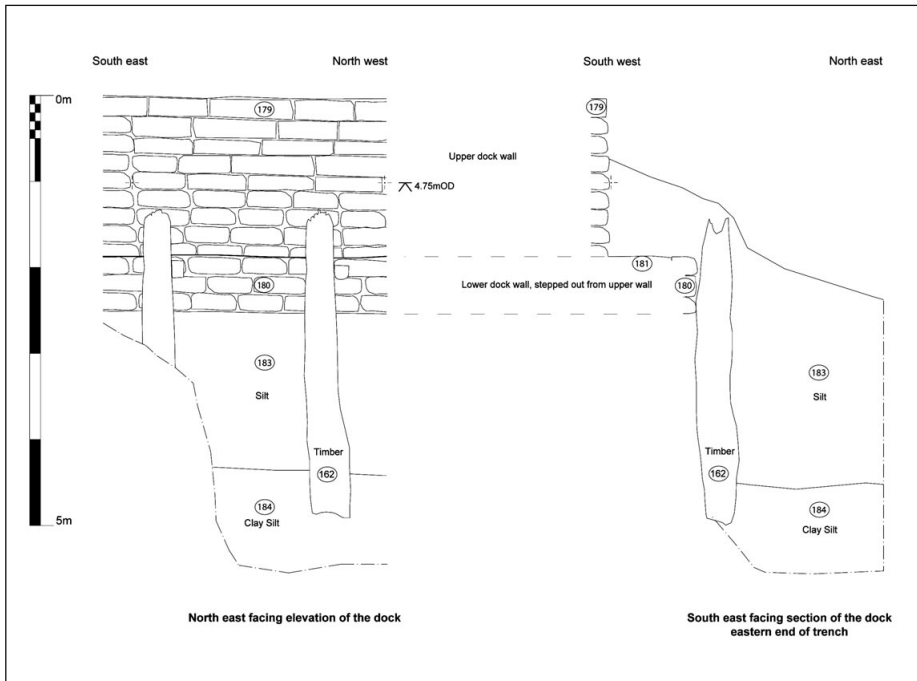
Fourteen lids were marked around their upper rim with the maker's name or intended confectionery supplier, for example Cannington Shaw & Co. (Ill. IV.13). Eight were unmarked. Context (120) contained lids from all the identified manufacturers. Table IV.1 lists the manufacturers from this context and the diameter of lids produced. It was common for manufacturers to sell their product to retailers who would later sell it on under their own product name. It is possible that these jars contained jam, the most likely product of the factory (*Lindop pers comm*). It is possible that the various lid and jar manufacturers represented in this sample indicate supplies of jars to different vendors of the final product.

<i>Manufacturer</i>	<i>Lid Diameter</i>
Canning Shaw & Co, St Helens	Between 46mm and 60mm
Nuttall & Co, St Helens	60mm
John Kilner, Wakefield	60mm
Barnsley Glassworks	60mm
THB	60mm

Table IV.1: Glass lid manufacturers identified in context (120)



III. IV.10: Plan of dock



III. IV.11: Elevation and section of dock





III. IV.12: Sample of jar lids



III. IV.13: Lid of jar with manufacturer's name

*Jars*

Two jars were found in context (133). The first was the base of a cream earthenware jar inscribed: Buy Faulder & Co's 'Silver Pan Preserves & Marmalade' (Ill. IV.14). This jar had a series of vertical incisions around its body, which were also seen to be present on another body sherd from the same context. This second sherd was from the rim of a jar indicating that the jars were of a straight sided cylindrical type with a smooth rim above the vertical incisions.

A base fragment of an earthenware cylindrical vessel of grey fabric was also found in context (133). This sherd had a thick white glaze on the internal and external surfaces. Context (133) also contained two fragments of glass jar, including a base, most probably moulded. A nearly complete green glass bottle with the neck missing was also recovered from context (133). This bottle had 'Northgate Brewery Chester' on its body. One almost complete glass jar was found in context (133) of straight sided cylindrical form with no decoration or marking. The upper section of the rim had broken off, although one of the 46mm diameter lids could be seen to fit its neck.

*Architectural fragments*

A ceramic water spout was recovered from context (133), the later demolition spread across the site. It measured 310mm by 115mm by 160mm and was produced by Ducketts of Burnley. The exposed face has a brown glaze and is decorated with flowers and leaves, the water spout representing the stem for the flowers (Ill. IV.15). Due to the nature of the context it is not clear if this came from the later workhouse remodelling, although it is unlikely that such a decorative item would have been included in the workhouse.



Ill. IV.14: Base of jar with manufacturer's name

*Pottery*

In total, forty-seven fragments of domestic pottery were recovered from context (133), the later demolition layer. They are all of post-medieval date, characteristic of eighteenth and nineteenth century material. Nineteen sherds of brown glazed ceramic of a form typical of the eighteenth century were recovered as were a series of white glazed ceramics and blue and white glazed printed pottery. (See Table IV.2).

*Animal bone and shell*

Nine fragments of animal bone were recovered from contexts (133), (137) and (153), including long bones of sheep/goat and cattle, part of the lower leg of a young horse and fragments of burnt fowl bone. Two fragmented oyster shells were recovered from context (133).

*Iron*

One fragmentary iron fitting was found in context (133). It comprised a broken plate with two pins or rivets. It is not known what this plate was associated with.

*Clay tobacco pipes*

Thirteen fragments of pipe stem and two almost complete bowls were recovered from contexts (133), (137) and (153). Context (133) produced five undecorated stem fragments and one decorated stem fragment. The decoration consists of a roller stamped design of



III. IV.15: Architectural water spout from Roodee workhouse excavation

Context	Material	Inclusions	Sherds	Form	Date
111	Brown glazed body sherd with fine cream fabric	Small grey stone inclusions	2	Small vessel/cup	17th–19th century
112	Brown glazed body sherd with fine red fabric and horizontal yellow striped decoration	Small white flecks	1	Small vessel/cup	17th–18th century
133	Earthenware rim sherd with geometric decoration	None	1	Plate	18th–19th century
133	Brown glazed body sherds with pink to red fabric	Small white stone	3	Vessel/jar	17th–18th century
133	Earthenware teapot spout	None	1	Teapot spout	18th–19th century
133	Brown glazed exterior with white glazed interior body sherd, fine red fabric	None	1	Cup	17th–18th century
133	White glazed rim sherd with red colouring along the edge of the rim, smooth white fabric	None	1	Bowl	18th–19th century
133	Base sherd of white glazed material of smooth grey fabric	None	2	Jar	18th–19th century
133	Earthenware body and base sherd with smooth cream fabric	None	2	Cup	18th–19th century
133	Earthenware body and rim sherds with smooth cream fabric	None	4	Plate	18th–19th century
133	Rim and base sherds of blue and white transfer-printed ceramic with willow and hibiscus design	None	3	Round fluted dessert dish	18th–19th century
133	Brown glazed body sherds with pink to red smooth fabric and yellow banding design	Small yellow flecks	9	Dish/plate	17th–18th century
133	Brown glazed body sherds with red to pink fabric	Small yellow flecks and grey stone	5	Jar/vessel	17th–18th century
133	Earthenware base, body and rim sherds with vertical incised lines running from base to rim	None	4	Preserve jar	18th–19th century
137	Brown glazed rim sherd with fine grey fabric	Small white flecks	1	Wide-necked vessel	17th–19th century
137	Brown glazed body sherd with fine pink fabric	Small white flecks and grey stone	3	Small vessel/cup	17th–18th century
137	Light brown to yellow glazed body sherd with fine cream fabric	Small black flecks	1	Vessel/cup	17th–19th century
137	White bone china with partial fragments of orange and black decoration	None	1	Cup	18th–19th century
137	Earthenware, white body and rim sherds	None	3	Plate	18th–19th century

Table IV.2: Ceramic finds from contexts (111), (112), (133) and (137)

flowers and tendrils (Rutter & Davey 1980, 188, fig 62 no. 113). The same stem also has an oval stamp containing masonic emblems, square and compass and the initials 'RG', suggesting a date of c.1760–1790 (Rutter & Davey 1980, 150, fig 54 no. 1). Two undecorated pipe bowls were also recovered from context (133). These are of low quality forms 95 and 96 respectively (Rutter & Davey 1980, 223), and dated to between 1750 and 1840.

Context (137) produced a single decorated stem fragment with a worn depiction of the Prince of Wales feathers dating to c.1740–1760 (Rutter & Davey 1980, 150, fig 54 no. 3). Context (153) produced four undecorated stem fragments and two decorated stem fragments. The first was decorated with impressed spirals along the stem, with the second decorated with two horizontal bands of small indentations.

### Conclusion

The archaeological investigations have revealed a great deal of information regarding the shifting nature of the River Dee, flood defences and the form of some of the port installations. In addition to this, remains of Chester's first workhouse, adjacent to the port, were excavated. Evidence from the archaeological work shows that the river has migrated several hundred metres to the south of its previous location. A section of the eighteenth century Cop flood defence was excavated and evidence of tree planting and stone coping was found, which appear to have been used to stabilise the embankment. The port installation could be seen to be a substantial sandstone structure with narrow walkway and timber mooring posts. The presence of this dock adjacent to the Iron Works, suggests that its principal purpose was to serve these works.

Uncovering the eighteenth century workhouse revealed firm evidence for the original floor plan and subsequent extensions, such as a small school and asylum. Finds recovered from the site gave a clear indication of its final use as a preserve factory. It is interesting to note that historic research indicates that this factory was known to employ predominately Welsh staff. The owners, from Ruthin, often employed Welsh speaking people (Lindop *pers comm*).

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