

**LUAS  
Archaeological Monitoring  
Final Report**

**Line A**

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**Licence No. 01E0733**

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## ***Preface***

*The opportunity to draw a scalpel across the face of a city and out into its hinterland, probing the scar and poking the surrounding areas of soft tissue is not a pleasure many archaeologists have encountered very often. The monitoring of Luas construction works was effectively a chance to examine a test trench, generally no more than 6m in width and hardly ever more than 3m deep, but one which extended for 14km through the northern city centre and out through the western suburbs through numerous urban and rural archaeological landscapes, terminating at the early Christian centre of Tallaght.*

*Taken together with the results of the several excavations which were undertaken as a focused response to likely truncation of archaeological deposits in a known area of potential (and one or two which were undertaken quickly on new sites), the mitigation strategy undertaken by Margaret Gowen and Company ensured an archaeological presence at all areas where the ground was being reduced, throwing up some surprising insights and suggesting several avenues for future research.*

*One area of particular interest was the evidence for the urban expansion of the city in the seventeenth and early eighteenth centuries; evidence was recorded of the pre-Georgian development of the north-eastern quadrant of the city on what is now Store Street along with structural evidence for seventeenth-century buildings along James's Street to the west of the city. With the trajectory of development now targeting the inner suburbs, the potential for discovering further evidence for this relatively obscure period of the city's occupation should not be underestimated.*

*The physical expansion of the city, or specifically the reclamation measures undertaken along the northern bank of the river from the 1680s was noted in several locations. Christine Baker's excavation on the central median of O'Connell Street provided a snapshot of the brief period when a stone quay wall revetted the reclaimed land and formalised the northern bank of the river, demonstrating that new archaeological discoveries can still be made in city centre areas away from the medieval core.*

*In addition, several Luas-related investigations in the area of the post-medieval manor at Ballymount Great have further advanced Geraldine Stout's initial work and have underlined the continuous occupation of the site from perhaps the late Bronze Age, through to the eighteenth century. The landscape around Ballymount reflects the entire gamut of human settlement in the*

*Dublin region and poses the question whether similar unidentified sites exist in those outer suburbs which are now witnessing intensive development.*

*Another area of potential research has now been taken up by Patrick Ryan: the archaeology of public utilities. In many cases it was found that original timber water conduits from the eighteenth century still survived under the streets; they had been merely pushed aside in the trenches when new services were introduced from the 1860s onwards.*

*It is hoped that the discoveries presented here will within a reasonable period be presented to the public in a more accessible format, perhaps one which can be consulted as the journey is made from Tallaght to the city (or vice versa).*

Franc Myles

## 1 Introduction

- 1.1 This report details the results of archaeological monitoring and investigations arising from the projected and actual impacts of the construction of *Luas* Line A (Fig. 1).
- 1.2 Archaeological investigations undertaken can be divided into three categories: archaeological excavations or test excavations at specific locations along the route; the monitoring of construction works and services diversions; and building inspections and surveys prior to demolition.
- 1.3 Works associated with the 14 km route of Line A (Tallaght to Connolly Station) were monitored under licence number 01E0733. Monitoring works undertaken along the 9 km route of Line B (Sandyford to St. Stephen's Green) were carried out under licence number 01E1185 and are subject to a separate report.
- 1.4 Several major archaeological investigations were undertaken as part of the Line A mitigation. Full reports have in most cases been submitted to the apposite authorities, however, there are several specialist reports still outstanding. Among the major investigations carried out by the writer were the test excavation in St. James's Hospital at the location of the James's stop under licence number 01E0892; a full excavation undertaken along the *Luas* alignment at Tram Street and Phoenix Street under licence number 01E0229; while a new site within the Ballymount Great complex (DU021:015) was excavated under licence 01E0666.

Other major investigations at Ballymount were undertaken by John Ó Néill and Malachy Conway. The final excavation along the route was undertaken by Christine Baker on the central median of O'Connell Street. In addition, several pike heads, probably dating to Robert Emmet's aborted rebellion of 1803 were recovered by the writer from the canal silts underneath Rialto Bridge. These are now in the National Museum, Collins Barracks.

A brief summary of the results of major archaeological investigations is included as part of this report in the apposite locations.

- 1.5 The successful operation of the activities described below has involved considerable consultancy work and innumerable meetings. The writer acknowledges the cooperation and patience of the following:

Ed Bourke, Tom Condit, Chris Corlett, Colm Ryder and Mairéad Weaver of the Department of the Environment, Heritage and Local Government (formerly *Dúchas*, the Heritage Service); Jim Quinlan and Tommy Gallagher of the Railway Procurement Agency; and Sean Thorpe of MVMBNI. I would also like to thank the individual archaeologists who have contributed to this report, especially Peter Kerins who undertook more than his fair share of standing around in the cold, waiting for the machine to arrive.

## 2 Project history

- 2.1 While work on the EIA was being undertaken, the first excavations for the *Luas* at Ballymount Great were carried out by Malachy Conway (97E0316), following on from earlier excavations by Geraldine Stout in 1982 in advance of the construction of the M50 (Stout 1998). Conway's report included a history of Ballymount by Dr Sean Duffy of the Medieval History Department, Trinity College, Dublin. The EIA for Lines A, B and C was subsequently issued in July 1998. They covered all aspects of the known archaeology and built heritage along the routes and the areas where archaeology would potentially be impacted upon arising from construction. The assessments, excavations, building studies and inspections all have their origins in the EIA fieldwork.
- 2.2 In late 1999, some preliminary works took place when engineering test pits were examined by Kevin Weldon at Arran Quay Terrace. Preliminary inspections and assessments were also made by Margaret Gowen of the buildings earmarked for demolition at Arran Quay Terrace at the same time.

In the summer of 2000, the remaining deposits that were to be directly impacted upon through the manor site at Ballymount Great were excavated by John Ó Néill (00E0538). These excavations coincided with the initial works at the Red Cow Depot which were monitored by Peter Kerins and John Ó Néill. A pre-construction condition survey of the standing remains at Ballymount Great was also conducted.

During this period, a desk study on the line of a proposed new road between Bow Street and Church Street, later called Tram Street, was carried out by Dr Annaba Kilfeather. John Ó Néill conducted further investigations at the Tram Street site in autumn 2000 (00E0772). The land take of the track was subsequently excavated by the writer, along with a section of the land take just to the west in Phoenix Street over the spring and early summer of 2001 (01E0229).

In the winter of 2001, a significant break in the nature of the subsoil just to the east of Ballymount was recorded during monitoring and the area was subsequently excavated by the writer (01E0666). Another excavation was undertaken by John Ó Néill in 2002, just to the north of the manor house, in an area where a culvert diversion impacted on the prehistoric enclosure (00E0538 Ext.).

Since the beginning of earthmoving works at the Red Cow Depot, monitoring of service works and construction activity was undertaken at various locations along Line A from Heuston Station to Tallaght. The relocation of services was monitored eastwards from Heuston Station, as far as Benburb Street and at Croppies Acre. Monitoring continued as construction worked eastwards as far as Connolly Station.

The monitoring of sub-surface works associated with an ESB sub-station resulted in the excavation of a series of structural remains and an early quay wall in the central median of O'Connell Street. This work was undertaken by the writer (02E1825) and later Christine Baker (03E0433) in 2002 and 2003, and constituted the final phase of archaeological excavation along the line.

- 2.3 Monitoring and site inspections were carried out by the writer, Abi Cryerhall, Ian Doyle, Bill Frazer, Peter Kerins, Melanie McQuade, Bernice Molloy, John Ó Néill, Linzi Simpson, Kara Ward and Kevin Weldon over various periods and sections of the track. The writer project managed the monitoring and held the monitoring licence.
- 2.4 In addition a number of buildings along Mary's Abbey and Capel Street were inspected and surveyed by Jackie Jordan and John Ó Néill prior to their demolition. Copies of all such reports have been filed with the Irish Architectural Archive.

### 3 Methodology

3.1 The monitoring carried out during the construction phase can be placed into three categories:

- General ground reduction of 600mm-1200mm along the entire corridor of the new track.
- Wide trenching to a maximum depth of 1.6m for the insertion of service ducts for telecommunication cables. The width of the area disturbed during these excavations varied but generally the trenches were dug c.2.5m wide on either side of the track corridor.
- Deep excavations for sewer and water pipes in various locations within and adjacent to the track corridor.

The monitoring is described from the terminus at Connolly Station westwards towards Tallaght in the form of a street gazetteer.

3.2 In many cases the excavations for the new services disturbed older services trenches. The nature and fabric of the older services were recorded during monitoring and particular note was made of the stone and brick-built culverts. Where the trenches were excavated into new ground, the depth of the various strata was recorded and the level of the subsoil, if exposed, was noted.

3.3 The information is collated under the following headings:

- *Historical background* – a brief sketch of the evolution and morphology of each area resulting in its modern streetscape, using cartographic and other sources.
- *Development works* – type and description of disturbance during the construction phase, e.g. maximum depth of trenches.
- *Strata* – tabular description of soil types and categories, including dating of man-made deposits.
- *Archaeological features* – includes structures, deposits and buried natural formations.
- *Reports issued* – a list of licensed excavations, surveys and detailed recording, subject to separate reports, undertaken in advance of, or as the result of the monitoring.

Where more substantial investigations were undertaken, such as on O'Connell Street, Tram Street, Phoenix Street and at Ballymount, the reader is directed to the apposite report.

## 4 Area gazetteer

### 4.1 *Amiens Street and Lower Abbey Street*

#### 4.1.1 *Historical background*

The lands around Amiens Street and the modern Custom House are reclaimed from the slob lands of the Liffey estuary. The area is depicted as such on Bernard de Gomme's 1673 map (Fig. 2) and the nature of the ground described in Gandon's account of the construction of the new Custom House: 'the general texture of the ground was gravel, mixed in some places with a layer of blue clay and sand, under which was a hard strong gravel' (Mulvany, 59). A test pile in 1781 established firm ground at 9 feet below the surface.

Prior to the construction of the Custom House, the area was protected from the sea by a 'quay wall or road... an old embankment made about the year 1725; it was sixty feet on top and badly constructed; the walls of black stone; its foundation laid on the surface of the strand' (*ibid.*, 60). The breakwater was not a huge success as water percolated underneath the embankment and in places through gaps in the masonry.

No sites of archaeological interest have been located in this immediate area. However, de Gomme's map illustrates an eastern route along the strand that probably led to the fishing hamlet of Ballybough at the mouth of the Tolka River. A western approach route leading down to the present area of the Custom House is also marked on de Gomme's map. The route began at Mary's Abbey, ran through the abbey lands and along the present alignment of Lower Abbey Street. Both of these routes may well have been part of an old coastal road leading to Clontarf and beyond.

The reclaimed land was developed after the construction of the North Wall was initiated in 1717. Charles Brooking's 1728 map (Fig. 3) shows the almost completed quay wall and the new road layout on the northern side of the old Strand Road, which was then developed by the city as a widened thoroughfare. Only one small building appeared to occupy the land to the south of the road. The construction of the Custom House in the 1790s caused a change in some of the road alignments and established the form of the present streetscape.

The lands on either side of the street were largely used for industrial activity in the expanding city of the early eighteenth century. Store Street refers to the extensive

stores located at the head of the Old Dock, possibly designed by Gandon (depicted on the 1847 edition of the Ordnance Survey, Fig. 4) and the whole area is now dominated by Michael Scott's *Busáras*.

The *Luas* alignment enters the city centre zone of archaeological potential (DU018:020) at the corner of Store Street and Amiens Street. The closest RMP site was located 45m south of the alignment (DU018:020:505, the sea wall depicted on de Gomme, possibly the wall mentioned by Gandon) and was not impacted upon.

#### 4.1.2 *Development works*

Development in this area included the full range of trenching and ground reduction described in the introduction. In addition, the ramp leading up to Connolly Station (Plate 1) and the extensive vaults below were removed. The deepest excavations occurred in Abbey Street Lower and Store Street, where new pipes were inserted into old brick-built culverts. The depths varied from 4m-5.5m under present ground level.

#### 4.1.3 *Strata*

##### **Store Street**

##### **Re-opened culvert**

<b>0m – 0.1m</b>	Tarmacadam surface
<b>0.1m – 0.3m</b>	Cobbled setts
<b>0.3m – 0.68m</b>	Mortar bedding
<b>0.68m – 2m</b>	Mixed gravel and clay with rubble inclusions –infill
<b>2m - 4.3m</b>	Backfill of culvert; sections not visible behind shoring
<b>4.3m+</b>	Base of culvert; masonry built side walls with capping of red brick; 1.2m in width

##### **Beresford Place/Gardiner Street junction**

##### **New trench**

<b>0m – 0.45m</b>	Road surfaces
<b>0.45m – 2.6m</b>	Mixed clay and stone containing large pockets of rubble infill

##### **Abbey Street Lower**

##### **Re-opened culvert**

<b>0m – 0.65m</b>	Road surfaces
<b>0.65m – 4.5m</b>	Mixed clay and rubble, culvert infill
<b>4.2m – 4.8m</b>	Brick-built culvert (top) with cast-iron pipe insertion; 900mm internal diameter
<b>4.5m -5m</b>	Water-rolled stones, pebbles, sand and gravel, to natural subsoil

#### 4.1.4 *Archaeological features*

The brick-built culverts, dating from the nineteenth century, were the earliest datable features uncovered during the monitoring phase in this area. However, the excavation of a deeper services trench in Store Street, just outside the Garda Station, uncovered the dry stone masonry of a well at 680mm below the surface of the street (Fig. 5).

This particular area was of some interest to the writer as the track take appeared to impact on several buildings depicted on Rocque on the eastern side of Mabbot Lane (now Corporation Street), which were demolished in the 1780s prior to the redevelopment of the area. A T-shaped structure fronted Mabbot Street with out houses and an extensive formal garden to the rear (depicted on Rocque, Fig. 6).

The general area was also the location of the World's End Pottery, established by John Chambers between 1733 and 1735 and more famously the site of Henry Delamain's china manufactory from 1752 (Francis 2000, *passim*). Unfortunately, there was no evidence for any of this activity recorded in the construction trenches on Beresford Place.

The well had a maximum external diameter of 1.75m with an internal diameter of 750mm and was plumbed to a depth of 4.2m where water was encountered, although this was probably the upper level of the collapse. It was constructed from quarried calp limestone, with the individual blocks measuring 300mm by 450mm and up to 200mm in thickness. Occasional brick fragments were introduced into the fabric to fill gaps but they were too small to establish dimensions. They were however hand made and substantially different to the bricks present in the later houses on Gardiner Street. There did not appear to be any mortar in the masonry nor was there any evidence for a capillary pump *in situ*. A cut was not observed.

It would appear the well was located to the south of the return of the building on Mabbot Street, within the yard to the rear. The demolition work carried out in the 1780s appears to have removed all traces of the associated structures and the well itself was presumably truncated at a lower level.

The well is similar in most respects to others excavated by the writer in Smithfield and along the *Luas* alignment on Phoenix Street and it probably held a timber capillary pump which was removed prior to demolition. Until the general introduction

of a piped water supply to the northside of the city in the 1740s, wells such as this one would have constituted the main water supply. Once the piped water supply became generally available, the wells were often used as domestic rubbish receptacles. There was no evidence in this case for rubbish deposition, which would suggest that it was still in use immediately prior to the demolition of the surrounding buildings.

#### 4.1.5 *Reports issued*

*The Vaults, Connolly Station: Architectural Survey*, Jackie Jordan, MGL, 25 October 2004

## 4.2 *O'Connell Street, Middle and Upper Abbey Street*

### 4.2.1 *Historical background*

Abbey Street was built along the line of the route marked on de Gomme's map, leading east from the precincts of St. Mary's Abbey. Archaeological assessments previously undertaken on both sides of the street have recorded reclamation layers from the late medieval period onwards. The area began to experience development towards the middle of the seventeenth century although it is likely that building began in earnest after the construction of a quay wall c.1675.

From then until the opening of Carlisle Bridge in the 1790s, there were rapid and extensive changes within the entire area. By 1728 Brooking's map shows development along both sides of Abbey Street. It also depicts Drogheda Street (now O'Connell Street) linking Abbey Street with development further to the north. Rocque's map of 1756 charts development south of Abbey Street along the new waterfront (Fig. 7). The original masonry quay wall and a number of phases of buildings were uncovered as a result of the monitoring and excavated under licence by the writer and Christine Baker.

The modern streetscape was laid out in the 1790s with the construction of Carlisle Bridge and the extension and widening of Gardiner's Mall, subsequently known as Sackville Mall and then Sackville Street. The area suffered much structural damage in 1916 and again in 1922 and the resulting architectural streetscape dates to the late 1920s.

### 4.2.2 *Development works*

Development in this area included the full range of service trenching and ground reduction described in the introduction. A 3m deep pit measuring approximately 5m by 4m was excavated to examine existing services on the corner of Abbey Street and Liffey Street. An area measuring 30.3m by 8m and 7.2m in depth within the central median of O'Connell Street, south of the Abbey Street junction was also excavated. This area was reduced to accommodate a sub-surface transformer for the power supply.

4.2.3 *Strata***Middle Abbey Street**

Two box trenches opposite No. 51

<b>0m – 0.5m</b>	Modern surfaces and foundations
<b>0.5m – 1.8m</b>	Mixed mottled black/brown clay with stone/rubble and fragmented redbrick inclusions
<b>1.8m – 2.3m+</b>	Greenish gravel/sand and clay with rounded stone inclusions – natural subsoil

**Abbey Street Upper**

Northern footpath trench, south-facing section

<b>0m – 0.6m</b>	Concrete building foundations
<b>0.6m – 1.5m</b>	Mixed brown clay, organics and red brick rubble
<b>1.5m – 2.1m</b>	Grey/brown sand and silt – made-up ground
<b>2.1m – 2.3m+</b>	Mottled yellow/brown stoney clay – natural subsoil

**Abbey Street/Liffey Street junction**

Large services trench

<b>0m - 1.55m</b>	Road surface and rubble formation
<b>1.55m - 2.75m</b>	Black cassy fill with frequent inclusions of post-medieval pottery, marine shell and animal bone
<b>2.75m+</b>	Same as above, slightly siltier, with fewer inclusions

**Abbey Street Upper/Capel Street junction** Old street frontage

<b>0m – 0.7m</b>	Path surface and rubble foundations/infill
<b>0.7m – 2.1m+</b>	Red brick vaulted basement

4.2.4 *Archaeological features***Abbey Street/Liffey Street junction**

Deep excavations on the junction of Abbey Street and Liffey Street exposed up to 2.5m of post-medieval refuse which appears to have been dumped, probably behind a formalised quay wall, in order to build up the ground behind. The material was quite cassy and had a high concentration of silt, suggesting that a certain amount of water had washed through it.

Observed within the material were sherds of mottled ware, North Devon gravel-tempered and gravel-free wares, unidentified sgraffito wares and glass bottle fragments. The apparent absence of tin-glazed earthenwares from the material may suggest a mid seventeenth-century date for its deposition.

The disposal of domestic refuse in seventeenth- and eighteenth-century Dublin was a well organised affair, with a system of scavengers centrally organised, if not

controlled by the city. Although there is some evidence to suggest that the new canals brought material out of the city for manuring purposes (B. Frazer, R. Tobin, *pers. comm.*), archaeological investigations on reclaimed land along the river suggest that significant quantities of material were dumped in an organised fashion as landfill (A. Cryerhall, M. McQuade and C. Walsh, *pers. comm.*).

Evidence recovered from the writer's own excavations along the *Luas* at Tram Street and Phoenix Street identified an area where domestic rubbish was stockpiled during this period before being carted off to the areas under reclamation, such as the strand between Trinity College and Ringsend and here along the North Lotts. The material recorded at the location in question appears to be slightly earlier in date, deposited before the larger reclamation schemes began in the late 1600s.

#### ***O'Connell Street median***

On foot of the monitoring two excavations, under separate licences, were carried out at the site of an ESB sub-station in the central median in O'Connell Street, just south of the junction with Liffey Street.

The first excavation (02E1825), at the southern margin of the sub-station, uncovered the well-preserved remains of a building, possibly depicted on Rocque's map of 1756 (Fig. 8), with a cobbled yard and an external latrine. The main structural elements of the building remain *in situ* and required the redesign of the sub-station to facilitate their preservation. These buildings were probably the last inhabited dwellings before the area was redeveloped to make way for the opening of Carlisle Bridge and the widening of Sackville Street in the 1790s. The redevelopment immediately raised the general ground or habitation level by over 2m; subsequent surfacing has raised it even further so that present surface level is 2.7m higher than the cobbled surface of the mid eighteenth-century.

The second excavation immediately to the north (03E0433) uncovered the remains of a seventeenth-century quay wall (Plate 2) and a possible jetty, as well as a number of structures and a well located north of the quay wall (Fig. 9). There is no cartographical evidence of this section of the quay wall and it must have functioned only briefly between 1675 and the early 1700s. By 1728 it is apparent from Brooking's map that the wall had become redundant and that the river was now contained within a narrower channel to the south.

The archaeological evidence showed that an extensive reclamation layer sealed the wall and the area to the south. A number of walled structures were subsequently erected on the newly reclaimed area. While there was no supporting evidence from the excavations, it is possible that the Lotts, a late seventeenth-century lane north of Bachelor's Walk and intersecting with Abbey Street east of Drogheda Street, was built either on top of the old quay wall or closely respecting its original alignment.

#### ***Abbey Street Lower***

A number of foundation, basement and cellar walls were uncovered here, close to the junction with Capel Street. They represented part of old street frontage erected in the 1670/80s. The wall fabrics consisted of a mixture of masonry and red brick.

#### 4.2.5 *Reports issued*

*O'Connell Street Sub-station Survey*, Licence No. 02E1825, Franc Myles, MGL, in preparation

*O'Connell Street Sub-station Excavation*, License No. 03E0433, Christine Baker, MGL, 23 November 2003

### 4.3 *Capel Street and Mary's Abbey*

#### 4.3.1 *Historical Background*

The *Luas* alignment passes through the lands and precinct of Mary's Abbey, a Cistercian monastery founded in the twelfth century and dissolved in 1539. Part of the Chapter House is preserved in Meetinghouse Lane, just to the north of the alignment and it is possible that other fragments of the primary complex are extant but unrecorded in the immediate vicinity. The Chapter House is well known as the place where Silken Thomas instigated the rebellion of 1534 and is open to the public by appointment. The abbey itself was founded in 1139 (or possibly as early as 1120) by Benedictine monks from Savigny and came under Cistercian rule in 1147. The monks themselves probably came from Chester.

Following the many land grants given to the abbey after the arrival of the Anglo-Normans, its estate covered a large portion of the land north of Liffey, bounded by Church Street, Grangegorman and the road to Drumcondra to the west and north and the Liffey and the Tolka river to the east and south. The main abbey buildings were close to the old Liffey shoreline and gave its name to the present Mary's Abbey and Little Mary Street. The abbey chapter house is preserved but little of the original complex has been found or recorded. *Circa* 1610, Speed's map shows the incomplete circuit of the precinct wall and buildings surviving at that time. It is recorded that the stone from the abbey was used in construction works during the seventeenth century, in particular on the original Essex Bridge, so that by time of Rocque's map (1756) all obvious structural remains were removed from the landscape.

Capel Street was laid out following the construction of Essex bridge (1676-8) and the streetscape has remained little changed since.

#### 4.3.2 *Development works*

Numerous trenches were opened for general and local services in Capel Street and Mary's Abbey. Of particular interest was a deep tunnel excavated over a length of 30m, 4m under the street, accessed from a shaft on Mary's Abbey. The buildings on the southern side of Mary's Abbey from the corner of Capel Street were demolished.

4.3.3 *Strata***Mary's Abbey**

Northern side, road and footpath

<b>0m – 0.4m</b>	Concrete and tarmacadam road surfaces
<b>0.4m – 2.6m</b>	Rubble – red brick, mortar, stone, etc.
<b>2.6m – 2.7m+</b>	Dark yellow/brown friable clay, sterile and possibly re-deposited subsoil

Several basement areas, extending out for 3m from the path edge, were found to be partially backfilled with rubble. The area south of the basement under the street was also filled with loose rubble to 2.6m in depth.

**Basement of 150/1 Capel Street (now demolished)**

Trench 4/5

<b>0m – 2.1m</b>	Basement
<b>2.1m – 2.22m</b>	Mortar formation level
<b>2.22m – 2.45m</b>	Rough gravel, sand and rubble – foundation deposit
<b>2.45m – 2.66m</b>	Friable silt, organic clay with occasional mortar and red brick inclusions
<b>2.66m – 2.8m+</b>	Light green/grey silty clay, with gravel and pebble inclusions. Sterile and containing decayed limestone – possible natural riverine deposit

4.3.4 *Archaeological features***Mary's Abbey and Capel Street**

A series of cellars projecting under the path and roadway on both sides of Mary's Abbey and the junction with Capel Street were exposed and truncated during the excavations. The northern cellars mostly date to the original construction phase of the late seventeenth century on the basis of the hand made brick within the fabric dividing the spaces. The cellars on the southern side appeared to be modern or greatly altered since their original construction.

A number of building surveys were carried out prior to demolition and are subject to separate reports.

**St. Mary's Abbey**

Services works necessitated the tunnelling of a 900mm diameter sewer pipe underneath the track at a depth of 4m over a distance of 30m. The tunnel was accessed from a shaft opposite No. 10 Mary's Abbey and extended to the west as far as the junction with Arran Street East. The operation was not undertaken as a cut and cover exercise due to the depth required. As the tunnelling proceeded to the west, a deep AJ was encountered which was removed. West of the AJ a masonry wall was

encountered for a distance of 22m which was in the process of being removed when the works were inspected by the writer. The rubble was brought out through the shaft and initially inspected by the writer on the surface.

The wall was of rubble calp limestone, quarried into large blocks with typical dimensions of 650mm by 450mm by 250mm. The wall appeared to be approximately 850mm wide and a yellow lime mortar alerted the writer to the possibility that it may be medieval.

The tunnel itself was entered and an inspection made of the wall *in situ* (Plate 3). The base of the tunnel was at 200mm below the lower course of masonry and the southern side of the wall was visible, seemingly unfaced. On initial inspection, the wall appeared to be a possible contender for the southern precinct wall of the abbey. Subsequent research of public utilities annotated on early editions of the Ordnance Survey now suggests that the wall is part of a large Victorian sewer which ran underneath the centre of the street. There remains the possibility however that the sewer builders used an existing structure.

#### 4.3.5 *Reports issued*

*Building Surveys: Luas Line A, 21 and 22-23 Mary's Abbey, 21 and 150/151 Capel St, Dublin 1, Jackie Jordan, MGL, November, 2001*

*Building Survey: 22-23 Capel Street, Dublin 1, Jackie Jordan, MGL, January, 2002*

#### 4.4 *Chancery Street to Church Street*

##### 4.4.1 *Historical background*

The earliest shoreline of the Liffey ran to the north of Chancery Street (de Courcy, *passim*) but by the medieval period the high water mark was probably further south in the area known as The Pill, which consisted of marshy ground and small channels at the confluence of the Bradogue and Liffey rivers. Pill Lane was part of the route connecting Mary's Abbey to Old Bridge/Church Street and probably dates back to at least the twelfth century.

Church Street lies on one of the ancient great routes, the *Slighe Mhidluachra*, leading to Dublin and the site of the earliest ford across the Liffey. The ford may well have been a site for a small settlement, which was probably located just to the south of the route of the *Luas*.

The Pill, east of the King's Inns, remained largely undeveloped up to the later half of the seventeenth century, as depicted on Bernard de Gomme's map of 1673. Extensive reclamation of the area was undertaken by Humphrey Jervis and later, John Davys, in the latter quarter of the seventeenth century and development soon followed. By 1708 Henry Pratt's composite map shows a block of buildings on The Pill (Fig. 10). The latter map is more representative than accurate and it not until Charles Brooking's map, published in 1728, that a more detailed survey of the new buildings is available.

Brooking's map illustrates a familiar street pattern that continued basically unchanged up to the late 1880s when extensive changes were brought about by the extension of the Four Courts, the construction of the new Central Bridewell police station and new court buildings. These changes led to the realignment of roads: the closing of Pill Lane and the opening of Chancery Street.

##### 4.4.2 *Development works*

There was a general ground reduction of 600mm-700mm across the full width of the street. Service trenches for ducting were opened to 1.6m in depth, while those for shafts and pipe trenches were up to 2.1m in depth, in the centre to northern side of the street.

4.4.3 *Strata***Chancery Street** Long trench at western end of street

<b>0m – 0.4m</b>	Tarmacadam
<b>0.4m – 0.6m</b>	Concrete
<b>0.6m – 2.1m</b>	Demolition rubble, with occasional pockets of black organic soil, including 19 <sup>th</sup> century domestic refuse

**Chancery Street** Long trench at eastern end of street

<b>0m – 0.12m</b>	Tarmacadam
<b>0.12m – 0.4m</b>	Concrete
<b>0.4m – 0.65m</b>	Limestone setts
<b>0.65m – 0.8m</b>	Mixed sandy grey clay, with moderate rubble inclusions
<b>0.8m – 2.5m</b>	Dark brown highly organic clay with occasional crushed red brick, mottled soil and stone inclusions. Probably a reclamation deposit from the late 17 <sup>th</sup> or early 18 <sup>th</sup> century

4.4.4 *Archaeological features***Chancery Street**

Chancery Street was created and named during the large-scale development of the area in the late 1880s. This resulted in the closure of Pill Lane and Mountrath Street in order to make way for an extension of the Four Courts. At the same time a block of buildings, seen clearly on the 1847 (Fig. 11) and 1876 editions of the Ordnance Survey, was demolished in order to facilitate the opening of Chancery Street and the realignment of Chancery Place. The northeastern corner of the demolished block of buildings as well as other elements of the old alignment were uncovered and surveyed (Plate 4).

At the junction of Chancery Street, Charles Street and St. Michan's Place the walls and basement areas shown in the survey remain *in situ* as they stand below the present service formation level (1.4m below present ground level). They were subsequently sealed with a layer of lean-mix and now lie under the new service ducts and tram line.

The visible remains surveyed included the foundation and/or basement level of the structures fronting on to Pill Lane and Charles Street. These were comprised of vaulted brick ceilings, an internal partition wall and slab floor, the base of a chimney

stack and associated brick surface, a service opening or light well and a drain outlet in the main wall (Figs. 12 and 13).

#### *External walls*

The external walls were 420mm in width and composed of mixed masonry and brick, bonded with a white lime mortar. The wall faces were variable and were unevenly coursed, with sections of the walling using large quantities of mortar and loose stone and brick. They survived to 800mm in height but their full depth and formation level was not established. The north-facing wall was 10m in length and extended beyond the limits of excavation to the west.

The style of construction changed at the western end of the northern wall from solid masonry/brick to parallel brick courses with a central gap filled with loose organic clay. The latter form of construction could also be seen in the small section of the east-facing wall that was exposed.

#### *Internal partition wall and slab floor*

The remains of an internal wall were noted in section and partly on plan, though it did not appear to extend as far as the external wall. The end of the wall corresponded to the northern limit of a slab floor that abutted the eastern side of the wall.

The partition wall was built from rectangular masonry blocks of variable size and appeared to be well-faced on the eastern side but more roughly faced to the west. There were no brick fillers visible and the mortar bonding was yellowish in colour.

The visible slabbed floor did not extend to the full width of the basement area. It stooped c.1m from the northern external wall in a planned fashion. It did not extend as far as the drain on the eastern side of the building but this may have been the result of the flooring slabs being removed, as there appeared to be disturbance in this area.

The different type/colour of mortar and the absence of brick fillers may well indicate that the partition wall and slab floor were older than the external wall. It is entirely possible that elements of the corner building were rebuilt during the 180-200-year life of the property but the maps do not provide sufficient detail to confirm or deny this possibility.

### *Vaulted ceilings*

There appeared to be a series of gently sprung vaulted ceilings between all the main walls. The vaulting was universally composed of red bricks set down on their sides and bonded with mortar. The vault was 650mm over the floor surface at its highest point.

The area between the ceilings and the floor was filled with rubble and black organic clay. The area above the ceiling was filled with coarse gravel and sealed with tarmacadam prior to the construction of the new road.

### *Chimney breast and brick flooring*

Three walls of a brick structure that probably functioned as a chimney breast for fireplaces on the upper storeys were seen in section. The north-facing wall was 2.1m in length and constructed from evenly coursed red bricks. It was 820mm in height but its base was not established. The return wall on the eastern side was similar in composition, and 180mm or two brick widths in depth. The western return wall was largely demolished except at the base where two courses of brick and masonry survived. The significance of the masonry in the wall, where none can be seen in the other walls, is not obvious.

### *Service or light well?*

The base of a rectangular brick structure abutting the external face of the outer wall measured 1.4m east-west in length and 700mm in width. The floor of the structure was composed of white mortar with pebble and other gritty inclusions.

Elsewhere on Mary's Abbey, where early eighteenth-century buildings remain on the northern terrace, some retain their small light wells leading into the basement. The rectangular structure may well be all that remains from a similar feature in the corner building.

### *Drain*

In the northeastern corner of the building a square pit 600mm wide was constructed abutting the outer walls of the building and set 200mm below the internal floor level. The inner walls of the pit were constructed from well-faced stone slabs and occasional fragments of red brick. The stonework was inserted into a wider cut, which extended parallel to the eastern and into the interior of the building. The cut

and drain were sealed by a distinctive white mortar fill. The base of the square pit or well was not excavated nor was the formation level of the inner pit/well walls determined.

The plan shows a gap in the stonework of the main wall, corresponding to the alignment of the drain cut and eastern wall. This gap was blocked with a rough mix of mortar and brick, over a loose fill. A rectangular slab, similar to those in the wall face, was disturbed at some stage and lay just outside the blocked section of wall.

The gap in the main wall was probably an exit point for an internal open sewer or drain in the basement of the building. The pit/well was located at the point where the drain dropped in level in order to take the waste out of the house. The present sewerage system passes just in front of the uncovered building and it would appear that, despite the many changes over the last 120 years, the system remains on the alignment that was once linked to the demolished block of buildings.

### ***Chancery Street (western end)***

During excavations west of the block of buildings described above, the top of a slightly curving masonry wall was uncovered at 700mm below the present street level and slightly below the formation level of the new track. The remains of the wall were slightly truncated during the present development and more substantially in the course of laying an earlier north-south pipe conduit.

The visible remains of the wall curved slightly from the northeast to the southwest and measured some 480mm in width, 900mm in length (but extending further to the south) and 800mm in height. The wall foundation was not exposed and was at least a further 150mm under the exposed level. The northern end of the wall was badly truncated but appeared to stop, giving way to a large (entrance) slab c.600mm sq. and wider than the wall on both sides.

The wall was composed of slightly rough-faced and rectangular limestone blocks which were variable in size. The wall used a white mortar and appeared not to be rendered on either face.

The limited exposure of the wall and the amount of disturbance makes interpretation problematic. However, its location suggests that it was probably part of the old Four

Courts precinct wall, shown on the first edition of the Ordnance Survey (Fig. 11), pre-dating the development of Chancery Street.

4.4.5 *Reports issued*

No reports were issued relating to this section of the track.

## 4.5 Tram Street, Phoenix Street and Smithfield

### 4.5.1 *Historical background*

This section of the *Luas* line runs more or less along the ancient shoreline of the Liffey (de Courcy, *passim*). The high-water level of the river by the medieval period was probably lower and the lands incorporated into and on the edge of the Viking settlement of Oxmantown to the north. The land was probably used in the later medieval period for fishing and other activities, as recent work by Abi Cryerhall and Alan Hayden just to the south of the tram alignment has indicated.

Speed's 1610 map (Fig. 14) illustrates buildings and a street pattern fronting on to Church Street and an unnamed street, subsequently known as Hammond Lane on the de Gomme map which retains this name to the present day. Speed, however, depicts nothing to the west of Hammond Lane, though it is likely that the streets along this axis were built on an ancient route along the northern shoreline.

Until the middle of the seventeenth century, the area was open commonage known as Oxmantown Green. The city divided the bulk of the area into lots in 1665 and development was quick to follow with the result that by 1672, the present street pattern was firmly established. It would appear that the plots north of what became Phoenix Street were used by the city scavengers from at least the 1680s to stockpile domestic waste prior to its being dumped elsewhere. The general area had been a designated dumping ground for the city from the fifteenth century and this continuity of use is probably not accidental.

### 4.5.2 *Development works*

The creation of Tram Street, linking Smithfield, Bow Street and Church Street involved some demolition of mostly vacant lots. Service trenching for ducting and piping up to a maximum of 2.5m in depth was monitored. Due to the proximity of St. Michan's church to the north, the area between Church Street and Bow Street was archaeologically excavated, as was a smaller area west of Bow Street, just to the north of Phoenix Street. Ground reduction in this area was slightly deeper than elsewhere due to a rise in the ground levels of up to 1.750m, which was removed in its entirety.

4.5.3 *Strata***Bow Street** service trench

<b>0m – 0.2m</b>	Tarmacadam/cobbles
<b>0.2m – 0.4m</b>	Loose gravel backfill – 20 <sup>th</sup> century
<b>0.4m – 1.4m</b>	Loose concrete dry mix
<b>1.4m – 1.60m</b>	Dark grey clay with fragments of animal bone, clay pipes and shattered red brick etc. – late 17 <sup>th</sup> /18 <sup>th</sup> century

**Phoenix Street** trial bore and pipe trench

<b>0m– 0.2m</b>	Tarmacadam
<b>0.2m – 0.6m</b>	Limestone setts and formation material
<b>0.6m – 1.7m</b>	Dark brown friable soil, occasional red brick, marine shell and decayed organic material – made ground
<b>1.7m – 2.5m</b>	Sand/silt alluvial deposit (see archaeological features below)

**Phoenix Street to Hammond Lane** service trench

<b>0m – 0.2m</b>	Tarmacadam
<b>0.2m – 1.0m</b>	Mixed clay and rubble – made ground/infill

**Phoenix Street to Smithfield** service trench

<b>0m – 0.2m</b>	Tarmacadam
<b>0.2m – 0.6m</b>	Mixed clay and rubble – made ground/infill
<b>0.6m – 1.8m</b>	Dark brown garden soil with brick, post-medieval pottery and bone fragments, representing a series of cess pits
<b>1.8m+</b>	Black organic with cattle horn cores, representing the upper medieval levels

4.5.4 *Archaeological features****Phoenix Street alluvial deposit***

The alluvial deposit found in a trench on Phoenix Street was probably the result of tidal and riverine action in or close to the Liffey. It is notable that what appears to be a natural sand deposit remained intact at 1.7m below present ground level while to the north, made-ground was evident at 2.5m below the ground level within the excavated area on Tram Street. Natural deposits were not uncovered in the surrounding area in any of the monitored service trenches, though most of these trenches were no more than 1.5m in depth.

This deposit of alluvial material may signal a slightly raised area within the Liffey before it was confined by the Arran Quay wall in the 1680s. The early shoreline of

the Liffey ran under present day Phoenix Street and the alluvial deposit may be all that survives from this shoreline.

Another possibility is that the deposit is derived from the bed of a small stream that was rerouted as urban development on the north side of the Liffey began to confine the river and reclaim the land. There is no indication of a stream in Speed's early map of Dublin in 1610. However, Bernard de Gomme's map of 1673 has an un-annotated line between Hangman's Lane (now Hammond Lane/Phoenix Street) and the Liffey. This line may indicate a stream and if so, it would have been located in the neighbourhood of the alluvial deposit. Charles Brooking, in 1728, shows that the main streetscape for this area was already laid out with buildings on both sides of Pudding Lane (now called Lincoln Lane) leading down to a walled Arran Quay. With this development the stream would have been buried under the new grounds. There was no evidence of a culvert in the monitored area.

#### ***Phoenix Street/Bow Street basement***

A bore trial-pit *c.*2.3m in diameter and *c.*2.2m deep located at the side of the new *Luas* stop and adjacent to the Tram Street excavation, exposed the corner section of two adjoining masonry walls of a basement or house foundation.

The walls were composed of roughly cut mortar bonded limestone blocks, 350mm in width and standing 750mm at their maximum surviving height. The corner section was completely truncated during the excavation of the trial pit.

The deposit within the northeastern area confined by the walls was composed of rubble with a high mortar and plaster content as well as red brick rubble. The area outside the wall contained rubble with a greater black soil/clay content.

The walls delineate the area of a basement that was later filled in with collapsed demolition rubble. Rocque (1756) shows three terraced buildings at the corner of Phoenix Street/Bow Street at that time (Fig. 15). The walls probably mark the rear basement area between Buildings 2 and 3, with Building 1 being the most easterly.

### ***Excavations at Tram Street and Phoenix Street***

Both sites were excavated by the writer between March and May 2001 in advance of construction. The excavation was undertaken along a strip of ground directly to the south of the new Law Library, the location of both the Hammond Lane and Eagle Foundries, but more recently the premises of Maguire and Patterson's. The excavations uncovered the remains of a nineteenth-century foundry and a paved street dating from the late seventeenth century along with evidence pointing to the area's pre-industrial past as a residential quarter, with pits, soils, walls and property boundaries.

The relatively shallow nature of the ground disturbance involved prior to construction directed the focus on the post-medieval deposits and structures, preserving the earlier deposits *in situ*. Cartographical research indicated the presence of a laneway in the area, initially depicted on Brooking's map of 1728 and later appearing on Rocque (1756), Campbell (1811) and the first two editions of the Ordnance Survey (Plate 5). By the third edition (1907-08), the laneway had been build upon as the Hammond Lane foundry had extended its premises north towards St. Michan's.

The earliest material recorded would appear to be a substantial deposit of post-medieval garden soil, up to 940mm in depth, which was not excavated. This material may well be depicted by default on John Speed's map of 1610, which shows vast areas of the city as blank spaces. Speed depicts houses on the northern side of Hammond Lane and the western side of Church Street, with a blank area to the rear delineated by the precinct wall of St. Michan's. The ceramic evidence suggests that the garden soil relates to these properties, as does a series of refuse pits, one of which was the recut of a late medieval well.

Although the laneway is not depicted on Speed, it is probable that it developed along the rear of the Hammond Lane plots to provide access to the warehouses and industrial units which were developing to the rear of the plots. These were well established by the time of Rocque's survey and are depicted on his 1756 map. An overlay of the excavated walls as surveyed onto the modern Ordnance Survey demonstrates the general level of accuracy achieved by Rocque and his surveyors (Fig. 16).

Forty metres of the laneway were excavated and five individual surfaces were recorded. The earliest metalled surface probably dates from the late seventeenth-century and was orientated slightly more to the southeast than the later surfaces defined by the nineteenth-century walls bordering the lane. Later surfaces can be stratigraphically linked to the rebuilding of the walls and structures bordering the laneway as depicted on the Ordnance Survey and provide good sealed contexts for ceramic finds.

The excavation also investigated the rear of a property fronting onto Bow Lane, located to the south of the laneway. Here a backfilled well has provided a good selection of glass and ceramics from the early to mid eighteenth century. The high quality of the material recovered is matched by the finds taken from a small adjacent area of the cellar return. This area produced an almost complete mottled-ware tankard, a mostly intact onion-type wine bottle, several examples of fine imported tableware and a fragment of what appears to be a sexually explicit wall tile.

This tile (01E229:42:8) is decorated in manganese purple, showing a naked woman reclining and a clothed man standing in a landscape setting (Fig. 17). The manner in which the design is executed resembles that of biblical tiles produced in Holland and England in the later eighteenth century. The tile however, seems to represent a couple about to engage in sexual intercourse and may therefore have a less innocent origin. It is nevertheless incomplete and many naked figures have been depicted in biblical scenes such as Susannah and the elders and indeed the good Samaritan. It is possible therefore that the man is simply standing before the naked figure and that the tile depicts a particular biblical tale.

Another area of the site produced an adult skeleton (Plate 6), which would appear to have been buried in the eighteenth century in a garden depicted on Rocque to the north of the laneway. Although the burial is orientated in a Christian fashion, it is nonetheless located over 25m from the precinct wall of St. Michan's, the nearest consecrated ground.

Excavations at Phoenix Street, to the west of Tram Street, uncovered evidence for organised dumping which appears to have continued for much of the late seventeenth and eighteenth centuries. The dumping was sealed by an extensive cobbled surface, which formed a yard behind the eighteenth-century Dutch Billys on the street front (Plate 7). As is evident below, there is a long history of dumping on the street and the ceramic assemblage increased our understanding of the vast variation of imported wares used in the city over the post medieval period.

#### ***Phoenix Street cess pits***

Monitoring on Phoenix Street of services diversions by *South Midland Construction* resulted in the recording of a large medieval cesspit or series of cesspits. This accords with the documentary sources, which suggest that in the fifteenth century, the area was one of the town's designated dumping-sites. In 1468, it was ordered that

ne persones cast ne ley noo dunke [dung] at noo gatte [Newgate] ne in none other place of the citte, but oonly withoute Hankmans ys lane [Hangman Lane], in the holles and pittes there

(Gilbert 1889-1922, *i*, 329).

Several sherds of medieval pottery were recorded from the trench fill and a large cattle horn was recovered. The pits have survived underneath the street but appear to have been removed by later building behind the street frontages.

#### 4.5.5 *Reports issued*

*Archaeological Appraisal of the proposed new road between Bow Street and Church Street*, Dr. A. Kilfeather, MGL, July 2000

*Archaeological Assessment at Bow Street-Church Street* (License No. 00E0772), John Ó Néill, December, 2000

*Stratigraphical Report Tram Street and Phoenix Street* (Licence No. 01E0229), Franc Myles, MGL, December, 2002

## 4.6 Arran Quay Terrace

### 4.6.1 Historical background

The ancient Liffey shoreline ran along or slightly to the north of Arran Quay Terrace. In the medieval period some of this land on the northern shoreline was reclaimed and the river channel narrowed. Archaeological excavations on Arran and Inns Quay have recorded timber waterfronts and later masonry walls as well as other activity, but no domestic structures from the thirteenth and fourteenth centuries have been located, with the exception of a fragment of a late medieval masonry structure excavated by Abi Cryerhall on Hammond Lane. The western routeway, which still runs parallel to the Liffey and is now being used for the *Luas*, probably came into being during this period.

Speed's map does not illustrate this section of suburbs of Dublin but it appears from both the de Gomme and Pratt maps that settlement was confined to the north of this section of the western route up to the great expansion of the suburb in the early eighteenth century. De Gomme and Pratt show a bowling green on the north side of the present Smithfield/Arran Quay Terrace junction (Fig. 18). By 1728 and Booking's map the present street layout was established and the site of the bowling green had been developed.

### 4.6.2 Development works

All the buildings on the southern side of Arran Quay Terrace were demolished. There was a ground reduction of 600mm as well as service trenching up to 1.3m in depth on the street and 2.1m under the demolished buildings.

### 4.6.3 Strata

#### Arran Quay Terrace

#### service trench

<b>0m – 0.4m</b>	Road surface and sand foundation
<b>0.4m – 0.5m</b>	Crushed redbrick and white mortar
<b>0.5m – 0.7m</b>	Compact grey clay and stone – hardcore
<b>0.7m – 0.9m</b>	Yellow sandy clay (introduced) with metalling – possibly early 17 <sup>th</sup> /18 <sup>th</sup> century road surface. The remains of small stone wall 2 courses high survived in section at the Smithfield end of the trench and possibly marked the edge of the old building frontage
<b>0.9m - 1.1m</b>	Black sandy clay with hand made red brick – pebble, charcoal and shell in fabric
<b>1.1m –1.4m</b>	Brown/grey stony clay – subsoil

**Under demolished terrace** service trenches

Variable profile visible in section

<b>0m – 2m</b>	Basements and wall footings up to 2m below ground level at end of terrace
<b>0m – 1.2m</b>	Mixed layers of garden soil and rubble
<b>1.2m – 2m</b>	Brown/grey clay – subsoil heavily truncated with pits/cuts

4.6.4 *Archaeological features*

A metalled yellow clay surface, at 700mm below present ground level, was disturbed during excavations through the road surface. The presence of poorly fired red brick under the surface probably dates the surface to the late seventeenth or early eighteenth century at the earliest.

Excavations under the demolished terrace disturbed numerous masonry walls fronting on to Smithfield, along the terrace and fronting on to Queen Street. All the buildings associated with these walls, except those at the corner of Queen Street, were demolished many years ago, before the last terraced housing (now demolished) was built.

4.6.5 *Reports issued*

*Arran Quay Terrace: Preliminary Building Survey*, M. Gowen, July 1999

## 4.7 *Benburb Street to Croppies Acre*

### 4.7.1 *Historical background*

Clarke maps the early shoreline of the Liffey as just north of present day Benburb Street. No evidence of surviving medieval deposits has yet been found this far west on the northern shoreline. The medieval commonage and gallows at Oxmantown Green were located to the north of the eastern end of the street. Post medieval development occurred with the construction of the Royal Barracks in 1701-4 (on the land originally allocated to the Duke of Ormond by the City to build his viceregal lodge) and the formalisation of the western end of the routeway as Barrack Street (now Benburb Street). Brooking's map depicts the newly developed streetscape after the construction of the Royal Barracks and this has remained basically unaltered up to the present day. Both Brooking and Rocque show buildings occupying the land in front of the barracks in what is now known as Croppies Acre (Fig. 19). These buildings had gone by the mid-nineteenth century and were replaced by what is described as an *esplanade* in the first edition of the Ordnance Survey and later as a military recreation ground (Fig. 20).

The name Croppies Acre is derived from a mass grave of executed insurgents during and after the 1798 rising. Its precise location has not been found to date though numerous archaeological test excavations have been carried out in the area and despite the fact that its location was described in 1884 by an engineer, Michael Rafter and its dimensions by a Dr. Thomas Willis. On the basis of this information de Courcy mapped the outline of the gravesite (1996, 96). The outlined gravesite lay to the south of the present *Luas* stop.

### 4.7.2 *Development works*

There was general ground reduction of 600mm across the full width of the road between the museum and park walls. Multiple service trenches of up to 2.5m were opened. A further service trench within the grounds of the Croppies Acre was also opened to a maximum depth of 1.3m

4.7.3 *Strata***Croppies Acre** pipe trench

<b>0m - 0.4m</b>	Deposit of red brick rubble
<b>0.4m - 0.7m</b>	Topsoil
<b>0.70m - 1m</b>	Deposit of compact, light brown/grey clay, with a high stone content
<b>1m - 1.2m</b>	Dark black/brown sticky clay, containing moderate amounts of animal bone, post-medieval pottery*, roof tile and glass
<b>1.2m+</b>	Loose brown soil/clay, containing moderate amounts of animal bone, post- medieval pottery*, roof tile and glass

\*Samples taken would suggest a mid/post 18<sup>th</sup> century date; they include sherds of North Devon and Staffordshire wares and porcelain.

**Benburb Street (Museum gate)** east-west pipe trench

<b>0m – 0.4m</b>	Concrete and hardcore foundation
<b>0.4m - 0.5m</b>	Brick line – ESB cable
<b>0.5m – 0.6m</b>	Mixed pebble/gravel/clay –sterile infill
<b>0.6m – 0.75m</b>	Black/purple ash/charcoal spread
<b>0.75m – 0.8m</b>	Light brown pebble/clay –sterile
<b>0.8m – 0.9m</b>	Dark brown pebble/clay – sterile
<b>0.9m - 1m</b>	Fine grey silt – pungent, wet and sterile
<b>1m – 1.1m</b>	Compact metallated surface - sterile

**Benburb Street (abutting Museum wall)** Pylon bore hole No. 4

<b>0m – 0.5m</b>	Modern path and foundations
<b>0.5m – 0.65m</b>	Limestone setts
<b>0.65m – 0.9m</b>	Mixed clay and organic deposit, containing a large quantity of horse-bone*, brown wares and local imitation sgraffito slipware

\*The horse bone probably represents the remains of animals from the cavalry squadron that was based in the Royal (now Collins) Barracks in the 18<sup>th</sup> and 19<sup>th</sup> centuries.

**Benburb Street (mid-Museum wall)** north-south pipe trench

<b>0m – 0.4m</b>	Concrete and hardcore foundation
<b>0.4m - 0.55m</b>	Limestone sett surface
<b>0.55m – 0.8m</b>	Brown gravel/clay –sterile infill
<b>0.8m – 0.9m</b>	Black very stony silt – possible metallated surface
<b>0.9m – 1.25m</b>	Moderately compacted mixed grey gravel and silt – old shoreline. Bedrock outcrop visible at extreme northern end of trench and under the museum wall
<b>1.25m – 1.5m</b>	Light brown gravel gravel/clay – subsoil

**Benburb Street (west end) east-west pipe trench**

<b>0m – 0.3m</b>	Concrete and hardcore foundation
<b>0.3m - 0.6m</b>	Compact brown/grey gravel and clay
<b>0.6m – 0.75m</b>	Demolition rubble - crushed mortar and red brick
<b>0.75m – 1.05m</b>	Compacted friable black silt/clay with crushed red brick inclusions
<b>1.05m – 1.3m</b>	Moderately compacted friable yellow mixed clay/gravel and sand – old shoreline
<b>1.3m – 1.6m</b>	Grey/yellow silt/clay – old shoreline

4.7.4 *Archaeological features****Northern Liffey shoreline***

Evidence of the old northern shoreline of the Liffey was uncovered in various trenches along the western end of Benburb Street. In Trench 3 a rock outcrop at the northern end of the trench and under the wall of the museum gave way to rough angular gravel and clay. The gravel in this deposit was not water-rolled and was probably the result of tidal or flood pressure breaking down the rock outcrop. There was a sharp declination from north to south with boulder clay visible at 1.17m at the northern end but not visible at 1.5m in mid section. In another trench further east water-rolled river gravel was visible at 1.1m below present ground level 6m south of the museum wall dropping to 1.9m below present ground level at 11m.

The old shoreline was buried under systematic dumped layers of demolition rubble that increased in depth from west to east. Within the rubble there was evidence of different post-medieval habitation surfaces and layers. These layers, along with the masonry walls outlined below, may well be all that is left from the eighteenth- or early nineteenth-century buildings that occupied the area before being demolished to make way for an esplanade in the mid nineteenth century.

***Parade Ground cobbled surface***

A surface of limestone setts was truncated during excavations for the electricity pylons. The pylon pits were opened at regular intervals adjacent to the barracks' wall. They are probably a part of the old parade ground that fronted onto the barracks in the late eighteenth century.

### ***Calp limestone structure***

The end of a walled structure was exposed in the southern section of the trench. The northeast corner of the structure was slightly damaged during excavation. This corner was located 80m west of the eastern boundary wall and 6.5m south of the northern boundary.

The top of the walls was extant 400mm under the present ground level and stood at least 800mm in height. The foundation of the walls was not visible at the bottom of the trench. The east-west end wall was 4.7m in length and tied in to the north-south wall at the eastern corner. Because of the slight damage to this corner it was possible to establish that the north-south wall at this side was 1.2m in width.

The walls were constructed from rough-cut bonded calp limestone of variable size. Both the facing and the coursing were uneven. The masonry work was similar to that in the long wall fronting onto Benburb Street from the National Museum.

### ***Culvert***

A culvert was located 1.4m west of the limestone structure and 1.1m under the present ground level. The culvert remains in use and was undamaged during excavation. The redbrick voussoirs visible probably made up a segmented arch over a drain. The culvert is oriented north/south and probably drains directly into the Liffey.

### ***Storm Drain***

A storm drain was located 120m west of the eastern boundary wall. It survived 900mm below the present ground level. The drain was 800mm in depth and 600mm in width and retained about 200mm of silt in its base. The base and lower wall courses were composed of rough-cut calp limestone and probably represent the remains of an earlier drain. At some point in the mid to late twentieth century the drain was renovated with yellow brick along its top courses. The flat arch of the drain was supplied by pre-cast concrete slabs 800mm by 600mm in size.

The drain was directly connected to a manhole and twin grate on Benburb Street. The arch and upper courses of the drain were removed during excavation down to the 1.2m base of the trench, a 12" inch pipe was inserted into the drain and sealed with concrete.

***Manhole and rodding pipe***

A rectangular manhole constructed of evenly coursed red brick was located 13m from the western entrance to the park and was removed during excavation. The manhole housed a rodding pipe for a waste/sewer pipe that ran north-south along the western side of the manhole.

***Limestone wall***

A wall, oriented north-south, was located 10m from the western gate and 3m east of the manhole. The wall was visible in the northern section, but not in the southern section and was only slightly disturbed during excavation. The wall survived 400mm under the present ground level, stood 800mm high and was 1.2m maximum in width. The foundation lay below the level of the trench and the wall was not faced at its exposed southern terminal. The wall was composed of medium to large rough-cut blocks of calp limestone bonded together by mortar. The upper courses were in a state of collapse and only contained by the redbrick demolition rubble on either side.

**4.7.5 *Reports issued***

No reports relating to this section of the track have been issued.

#### 4.8 *Sean Heuston Bridge (King's Bridge), Steeven's Lane, James's Street to James's Hospital*

##### 4.8.1 *Historical background*

Modern day James's Street lies on one of the ancient routes, the *Slidh Mhor*, leading west from the ford over the Liffey. During the medieval period ribbon development along this route extended out as far as the present-day James's Hospital. This area comes within the westernmost tip of the archaeological zone marking the medieval core of Dublin.

The route of the *Luas* lies within the angle between the Liffey and Cammock rivers; an area thought to be the site of one of the ninth-century Viking settlements on the Liffey. Evidence of at least one Viking cemetery site has been unearthed during construction projects from as early as the 1830s. All Viking artefacts to date, however, have come from west of the Cammock (Halpin, 1993, 17).

Strongbow gave lands in Kilmainham to the Order of the Knights Templar in 1175; they opened the first almshouse and hospital in the area, a tradition that has been maintained right up to the present day in James's Hospital.

The construction of Dr. Steeven's Hospital (1713), the James's Gate brewery extension down to the Liffey, which was completed with the construction of a jetty at Victoria Quay (1873), and the Kingsbridge Railway Station (1846/47), completed the main elements of the modern streetscape.

##### 4.8.2 *Development works*

In Steeven's Lane there was general ground reduction of 600mm across the full width of the thoroughfare between the hospital and the brewery. Multiple service trenches of up to 2.5m were also opened. Ground reduction of 600mm was also carried out in James's Street.

The block of buildings containing the Barn Owl licensed premises at the junction of Bow Lane and James's Street was demolished and the basements excavated.

Buildings on the eastern side of the junction of James's Street and the hospital entrance were also demolished. Due to ground contamination in this area the wall footings, which were acting as a conduit for the contaminants were also removed.

#### 4.8.3 *Strata*

##### **Steeven's Lane** composite section from trenching

<b>0m – 0.45m</b>	Tarmacadam, sealing rectangular limestone setts (Plate 4)
<b>0.45m – 1.2m</b>	Very mixed deposit of builders' rubble, gravel, sand and clays, probably resulting from continual disturbance for earlier services

\*Natural clays was visible at c.1.1m below the present ground level to the south but not visible in section from mid-point north in the trenching.

##### **Under the Barn Owl** service trench in area west of basement

<b>0m – 0.6m</b>	Mixed rubble and garden soil with a selection of 19 <sup>th</sup> and 20 <sup>th</sup> century ceramics, glass and other waste material
<b>0.6m – 1.8m</b>	Subsoil; compact mid-brown/green sandy clay with angular stone inclusions

\*Basement walls were visible in section and removed during excavation.

##### **James's Hospital** on street in front of *Luas* stop

<b>0m – 2.80m</b>	Numerous walls, and backfill of basement areas. Ground disturbance throughout excavated area (see below)
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#### 4.8.4 *Archaeological features*

##### ***Steeven's Lane***

The eighteenth-century perimeter walls of St. Patrick's Hospital and Dr. Steeven's Hospital as well as some early pavements connected to the walls were exposed during excavation of services. The base of the wall was not exposed but a later realignment around the northern gate into St. Patrick's Hospital was visible. The present-day alignment is set back further from the kerb, while the old wall foundations continue to exist under the present surface level.

Infill material at the north end of the Lane and around the front on the railway station was largely composed of sterile clays and stone, while the natural level of the ground in this area was not established.

### ***James's Street***

The basement walls of the Barn Owl pub were exposed and largely removed. A small area of soil with archaeological potential was visible in section in the area not disturbed by the basement and other post eighteenth-century activity. No finds were recovered from these soils, however, and their potential was not established.

A timber water pipe dating to the mid eighteenth century was removed from a services trench under the street outside the Barn Owl. It was 3.65m in length, with a diameter of 16 inches and a bore of 10 inches, which had been refitted with a metal pipe. In 1741, the Piped Water Committee of the City Assembly (later to be known as the Committee for Better Supplying the City of Dublin with Piped Water) recommended that the Liffey be tapped at Islandbridge, to relieve pressure from the City Basin (Gilbert, *ix*, 32-33). In 1746 a consignment of timber consisting of 800 to 900 yards of 'good round fir... 10 feet to 14 feet long, 15" to 18" diameter exclusive at the butt end' was awaited from Norway (*ibid.*, 198). The pipe was removed by the contractors before it could be photographed and drawn.

### ***James's Street Bridewell*** (at the hospital entrance)

Numerous basement walls, both stone and brick built, were removed in the excavation for the new station within the grounds of James's Hospital. Particular attention was paid to this area as it was the location of a Bridewell depicted on Rocque (Fig. 21). A 2.7m-wide trench was opened at this location and the opportunity was taken to record the strata and structures exposed.

Stratified below nineteenth-century walls was a mortared stone wall, crossing the trench from north to south. Wall 1 survived to a height of 1.37m (its upper course was recorded at 330mm below the surface of the footpath) and was 680mm in width. The main portion of the wall was composed of mortared, roughly-coursed, medium-sized, flat calp limestone blocks above a base of larger irregular blocks of approximately 300mm-400mm, with intermittent, slightly longer stones running through the width of the wall. Below that again was a basal course over a footing 150mm in height of two courses of mortared, flat, angular calp limestone blocks, with average dimensions of 300mm by 400mm by 60mm.

The face of a mortared stone wall, Wall 2, was visible in the northern baulk and it appeared to form an interior corner with the wall described above (which it resembled

in all aspects) just to the north of the trench. A third wall, Wall 3 was recorded 5.07m east of Wall 1, which it resembled in width and construction.

The walls defined a brick floor composed of hand made bricks of approximately 9 by 6 by 4 inches, bound together in a lime mortar identical to the mortar sampled from the walls.

The particularly well-built nature of the structure and the absence of brick in the walls would suggest that it constituted the local Bridewell, as opposed to a domestic structure. Unfortunately, no finds were recovered to further illuminate the history of the structure.

Attempts to curb crime in the city were initiated by the civil parishes from the early eighteenth century onwards. A system of night watchmen and watch houses was later formalised on a local basis and in areas outside the Liberties of the city (which had their own medieval bridewells), new structures, such as the one on James's Street were built.

The Bridewell presents on Rocque as a T-shaped structure, located outside the precinct wall of the City Workhouse at its northeastern corner (Fig. 21). The walls recorded above were probably internal walls located within the central portion of the building at basement level. The structure survives on the 1847 edition of the Ordnance survey without its eastern wing.

The walls of the three houses located immediately to the east and depicted on Rocque were also recorded in a service trench running alongside the track. The Towl House (*sic.*) depicted on Rocque at the angle of James's Street and Bow Lane was not located, although the track alignment probably came quite close to it.

### ***Earlier features***

Below the Bridewell floor three pits were recorded cutting a dark grey/brown sandy clay, which would appear to have been an archaeological deposit as opposed to subsoil. The pits measured c.500mm-800mm in diameter and were filled with a dark silty clay, mottled with black charcoal patches, no more than 100mm across. The pits were below the required disturbance level and were not excavated.

### ***Test excavations at James's Hospital***

A *Luas* stop serving St. James's Hospital was constructed just inside the main hospital entrance on James's Street. As this was within the RMP designations DU006:050 (James's Hospital) and DU006:017 (Kilmainham), an application was made to test excavate the area of the stop prior to the commencements of the works.

The site was located between the main entrance to the hospital on James's Street and Ewington Lane to the east. It was until recently occupied by a large hospital building in mass concrete, dating from 1934. This replaced a range of hospital buildings that had evolved over this part of the hospital precinct since the middle of the nineteenth century. There were no cellars under the structure, although the concrete foundations were quite substantial.

The area was investigated by mechanically excavating a single non-continuous trench under licence number 01E0892. The trench was opened to 2m over a distance of 58m. It was not possible to open a continuous trench due to the amount of services still on site.

The results of the test excavation demonstrated that the initial 300mm or so of the ground underneath the gravel was still disturbed by the foundations of the 1934 building. Below that was a deposit of garden soil between 400mm and 600mm in depth, which sealed the natural subsoil. Several walls were encountered in the trench along with the remains of a stone vaulted sewer.

#### **4.8.5 *Reports issued***

*Archaeological Assessment: Proposed Luas Stop at St. James's Hospital, Dublin 8, (License No. 01E0892), Franc Myles, MGL.*

#### 4.9 *The Canal Basin, James's Walk and Grand Canal View*

##### 4.9.1 *Historical background*

The *Luas* alignment runs through the grounds of St. James's Hospital and through the grounds of the old City Basin on the eastern flank of the hospital (Plate 8), before exiting along the old course of the Grand Canal at James's Walk.

This area is thought to be along the alignment of the medieval city watercourse (DU018:04301). The first investigations for a city water supply began in 1244. By 1248 a channel at Firhouse, linking the Dodder and Poddle rivers was completed to bolster the supply into the city. However, it was not until 1308 that the engineered water supply was brought across James's Street and delivered into receiving tanks at High Street and Thomas Street. From there it was delivered through timber pipes to selected city locations.

Evidence for the survival of the old watercourse has not been found in this area to date. However, James Ramsey, the City Surveyor, illustrated its alignment in 1719 on a lease map for the Basin. It flowed adjacent to the south-eastern boundary of the Basin, probably along the route established from the early fourteenth century.

The Basin (DU018:04305) was constructed in 1721-1722 by Dublin Corporation on grounds formerly belonging to the city workhouse and covered an area of 1.5ha (Fig. 22). In the rapidly growing city it was soon to prove inadequate and additional supplies were constantly being proposed to the city assembly. Eventually, a reliable supply for the Basin was provided by the recently completed Grand Canal from 1777 and the pressure on the supply was greatly relieved with the completion of the Royal Canal on the northside of the city in the early nineteenth century. The City Basin finally went out of commission following the construction of the new Varrity water scheme in 1869. The corporation filled in the Basin over time but its structural integrity remained intact up to 1965. A local authority housing scheme and a primary school now occupy its site.

The Grand Canal was opened during the 1770s but the Grand Canal Harbour was not completed at James's Street until 1785. With the completion of the harbour the modern street pattern was established. The harbour and the section of the canal as far as the first lock at Suir Road remained in use until 1960 after which it was

progressively filled in. The final section was completely backfilled in 1978 to form a linear park known as James's Walk.

#### 4.9.2 *Development works*

The area of James's Walk was excavated to varying depths for services. The material excavated consisted of modern infill over older canal silt layers. In the Basin/Hospital grounds the construction work was confined mainly within a corridor c.12m in width and involved:

1. The insertion of a 450mm water pipe up to a maximum depth of 3.7m along the same axis as the old eastern perimeter wall of the Hospital. This involved the complete removal of the wall over a 50m extent.
2. The insertion of 100mm ducting and pipes up to 1.6m in depth in the area between the rack corridor and the surviving Basin wall.
3. Ground reduction of between 1.6m-1.8m within the area of the corridor for the track foundation. This involved the removal of an old brick culvert and cast-iron water pipe.

#### 4.9.3 *Strata*

##### **Section 1, West-facing** (Basin Walk)

<b>0m – 0.9m</b>	Mixed brown topsoil with small lenses of refuse and builders' rubble
<b>0.9m – 2m</b>	Green/mid brown clay with occasional red brick and pottery – bank material
<b>2m – 3.1m</b>	Green/brown clay with small fragmented stone and occasional pebbles – natural clay
<b>3.1m – 3.6m</b>	Grey clay with medium cobbles and gravel –subsoil

##### **Section 2, West-facing** (Basin Walk)      c.5m east of above and 2m from the Basin wall

<b>0m – 0.6m</b>	Mixed brown topsoil with small lenses of refuse and builders' rubble
<b>0.6m – 1.7m+</b>	Green-brown clay with small fragmented stone and occasional pebbles – re-deposited subsoil

##### **Section 3, East-facing**      within the hospital grounds

<b>0m – 0.8m</b>	Mid brown/green humic clay with roots and old tree stumps. Introduced topsoil
<b>0.8m – 1.2m</b>	Mottled white/red builders' rubble- mortar, red brick and occasional masonry blocks
<b>1.2m – 1.8m</b>	Black/dark grey cinder/soil, including domestic refuse –

	pottery, marine shell, bone, red brick fragments, etc.
<b>1.8m – 2.1m</b>	Mottled brown and grey soil – stony clay and old topsoil. Probably the old topsoil level at the time the wall was built
<b>2.1m – 3.1m</b>	Green/brown clay with occasional pebbles – natural clay
<b>3.1m – 3.6m</b>	Grey clay with medium cobbles and gravel –subsoil

Sections 1 and 3 were recorded within the same trench, separated by the perimeter wall.

#### 4.9.4 *Archaeological features*

Besides the western side of the old Basin Wall, which was not impacted upon by the construction works, two old boundary walls were uncovered and truncated during excavation.

##### ***Wall 1, western perimeter wall***

The excavation of a new water main trench followed the same alignment as the western side of the old Basin perimeter wall and it was removed along most of its length. The wall survived to a depth of 2.8m below the present ground level. The original wall was higher but was knocked down over a greater part of its length after 1965, before the present development.

The foundation was built into the natural clay and to a height of c.1.80m; it was c.650mm in width. The main wall, 500mm wide and inset on the western side by 120mm-150mm, was built on top of this wider foundation. The rough-cut limestone blocks were of varying sizes up to 350mm in length, with occasional large blocks of up to 500mm.

A section of the eastern wall, c.1.2 in height, was still visible above ground where it abutted the southern section of the perimeter wall. The two walls were not keyed in to each other.

Contemporary illustrations of the eastern perimeter wall on the Brownrigg map (survey date 1799) and the 1887 Ordnance Survey revision would appear to represent the same perimeter wall structure. However, the straight lines of a perimeter wall shown on these maps are not clear on the 1847 Survey.

**Wall 2**

A short section of another masonry wall was exposed c.1.6m east of the main perimeter wall. This wall and its shallow foundation were visible at the eastern side of the pipe trench over a distance of 3.4m. It was 400mm and three courses of stone in height (maximum dimensions) and 320mm in width. Its foundation was cut into the banking material surrounding the Basin Wall. It was composed of rough-cut limestone blocks, generally 150mm-200mm in length.

The remains of this wall were completely removed during the general ground reduction for the track alignment.

**Basin Wall**

The western side of the Basin wall lies just to the east of the new track corridor and remained undisturbed by the construction works.

The east-facing side of the wall stands c.1.2m above ground level in the school grounds. A further 150mm of modern concrete provides a protective capping. A bank of earth abuts the west-facing side of the wall, with only the protective capping visible.

The visible wall was five courses high with some variation along its full length, dependent on the level of the ground. It was composed of rough limestone blocks of varying size that had been re-pointed probably in the 1960s when it was reused as the perimeter wall of the new school yard.

The eastern wall of the school grounds contains many sections of rebuilt block work. The older fabric of the original eastern perimeter wall can be seen amidst the block-work.

**Cobbled surface**

A long narrow stretch of cobbling abuts the western Basin Wall. It measured 26m north-south by 2.1m east-west and sat 1.34m below the concrete capping, at the existing ground level. It appears unlikely that the cobbles indicate the base of the Basin at that level and they are probably part of the new school buildings of the 1960s. A decorative batter around the base of the new buildings uses similar cobbles. The cobbles are water rounded and may derive from the original structure.

### ***Culvert and pipe***

General ground reduction of 1.7m across a c.7m corridor exposed a 600mm brick built culvert and a 400mm cast-iron pipe.

The base of the culvert was set 300mm into the natural clay and was c.2m under the pre-development ground level, where the crown was 700mm below this ground level. To build the culvert at this level would have required the excavation of at least 700mm of topsoil down to natural clay. After construction, a bank of re-deposited clay sealed the culvert.

The cast-iron pipe was slightly to the west of the culvert and inserted 700mm below the old ground level.

### ***Bank***

The presence of a bank abutting the Basin Wall and sloping down to the eastern perimeter wall of the hospital is noted for the first time on the Ordnance Survey in the 1907 Revision of the 1837 Survey and again in the 1948 Revision but not in the 1887 or earlier editions. It is indicated by a series of hachures leading down to the perimeter wall. A walkway or path on top of the Bank is shown in broken line format in 1948.

The presence of a bank is confirmed in the strata noted above in the east facing section (within the hospital grounds) and the two west-facing sections (within the Basin grounds).

There was a suggestion that the bank may have been a retaining bank for the original basin wall and its absence from the earlier maps a matter of convention or omission. The archaeological evidence, however, would appear to support the idea that the bank as it stood prior to the present development was modern and far later than the original Basin.

The bank of green/brown clay that sealed the culvert contained no evidence for a trench cut. Judged from the top of the foundation for the western perimeter wall the pre eighteenth-century ground level appears to have been generally around 1m lower than the modern ground level. The base of the culvert was set a further 1m below this level and into the natural clay. The bank material was largely homogenous with no

hiatus between the old ground level and new material. It was thus deposited after the insertion of the culvert. The Ordnance Survey editions and revisions suggest that this occurred post 1887.

### ***Discussion***

All the main elements described above are recorded in the historical maps and photographs of the area. A comparison of the 1965 and 1973 aerial photographs shows that the structural integrity of the original Basin was maintained and visible until the mid-1960s. Since that time, however, there has been a piecemeal reduction of the old structure; the eastern Basin wall, the front gates and the western perimeter wall have all been demolished or heavily truncated.

The present *Luas* development, while having little impact on the standing remains, removed a large section of the buried western perimeter wall, as well as the culvert and its covering bank. What survives of the Basin, at the time of writing, is the visible and standing remains of sections of the eastern, southern and northern perimeter walls and the southern section of the western Basin wall. Other features, particularly the eastern wall of the Basin, may well lie buried under present ground level.

### ***Rialto Bridge***

Line A extends along that section of the Grand Canal that was backfilled in the 1970s and subsequently utilised as a linear park. Material removed for the *Luas* works consisted of introduced soils which probably originated in a dump. Contractors working under the canal bridge at Rialto discovered five 'spear heads' and other artefacts from the canal silts under the backfilled material. The finds had been removed from their find site and taken into the works compound on Davitt Road and were not examined *in situ* by the writer.

On arrival there, it was established that the artefacts were neither prehistoric nor medieval and appeared to date to the eighteenth century. The contractors had also collected a quantity of late-nineteenth and twentieth-century clay pipe fragments from the same spot, which they identified as being the fill of the old canal, directly underneath Rialto Bridge. Track formation levels were being excavated at a lower level here to avoid conflicting with the level of the bridge soffit (Plate 9).

The section of the Grand Canal at Rialto was opened to traffic in August 1780. The original bridge at Rialto was narrower than the existing one (constructed in the 1930s) and the surviving abutments would suggest that it occupied its eastern half. On examining the find site it was obvious that the artefacts came from a grey layer of silty clay that was immediately over a layer of black silt. As this section of the canal saw continuous use by Guinness barges until 1960, it was subject to regular dredging and it is likely that the deposit of silty clay containing the artefacts was left undisturbed.

The artefacts would therefore appear to have been deposited in the canal, possibly over the western parapet of the original bridge. There are two obvious historical events that may be connected with their deposition. While the major actions of the 1798 rebellion took place outside Dublin, the capital was nonetheless central to the organisation of the rebellion although the rising in the city was stymied by the arrest of most of the members of the Dublin Directory of the United Irishmen. The objects are more likely to be connected with Robert Emmet's rebellion of 1803, where weapons and explosives are recorded as being manufactured in the city. The spectacular failure of the putsch led to the rout of the rebels and the dumping of arms. The fact that the events took place in the Liberties, adjacent to Rialto would lend weight to the assertion that they date from this period.

The artefacts were recovered in a corroded state but retained their sharp points (Plate 10). The hoard consists of five simple socketed pike heads, broadly similar in construction, three with central mid-ribs. There was no evidence for the hooks usually illustrated in depictions of the rebellion. There are fragments of ash surviving in all of the sockets. An iron plaque was recovered with the pike heads, but is probably unconnected. The pike heads and plaque underwent conservation in *ArchCon Laboratories* and have been deposited in the National Museum of Ireland.

#### 4.9.5 *Reports issued*

*Monitoring Report on the Basin Area*, Peter Kerins, MGL

#### 4.10 *Davitt Road*

##### 4.10.1 *Historical background*

Davitt Road is thought to be a relatively modern route associated with the construction of the Grand Canal, dating from c.1755. There are no known archaeological sites along the alignment in this area.

##### 4.10.2 *Development works*

There was a general ground reduction of 600mm for the track. Service diversion and renewals included trenches of up to 2.5m in depth in the present road and off-road margins. Deeper excavation shafts were opened in the grounds of *Good Council GAA Club* (8m maximum) and west of Kilworth Road (8-10m maximum)

##### 4.10.3 *Strata*

Most the trenching was opened close to and in the area disturbed during the construction of the Grand Canal.

##### **Good Council GAA Club** opposite the main gate

<b>0m – 0.4m</b>	Topsoil
<b>0.4m – 2.1m</b>	Brown clay/soil with numerous pits and hollows filled with rubble, broken glass and other domestic/commercial rubbish
<b>2.1m – 8m+</b>	Yellow/green and brown subsoil

##### 4.10.4 *Archaeological features*

The domestic rubbish recorded in the grounds of the Good Council GAA Club dates from when the whole area defined by the canal and the Crumlin Road was a huge refuse tip for the city. The area had previously been used to extract clay for the manufacture of bricks (sometimes referred to as Dolphin's Barn brick) and this activity resulted in the creation of large pits and spoil heaps, connected by a narrow gauge railway system. Dumping ceased on the site from the 1930s onwards when the area was built upon and the Brickfields Park established. No other features of archaeological interest were recorded in this area.

A metal bridge spanning the canal at the second lock was replaced as part of the development and a photographic record of its fabric was taken prior to its dismantling (Plate 11).

4.10.5 *Reports issued*

No reports were issued concerning this section of the alignment.

## 4.11 Naas Road

### 4.11.1 *Historical background*

There is one possible monument recorded along the *Luas* alignment on the Naas Road. The site (DU017:077) is classified as a possible earthwork and probably relates to a roughly rectangular earthwork, visible on the 1935-36 revision of the Ordnance Survey and on earlier editions (Fig. 23). The monument was located just to the north of the Red Cow Inn, but just off the alignment of the *Luas*. The road itself is of relatively modern construction and follows more or less the route of the old coaching road to Naas.

### 4.11.2 *Development works*

There was a general ground reduction of 600mm for the track, which extends along the central median of the road. Service diversion and renewals included trenches of up to 2.5m in depth in the present road and on off-road margins.

### 4.11.3 *Strata*

There were no recorded strata in this area as disturbance from earlier road works generally yielded to natural clay or disturbed road foundations.

### 4.11.4 *Archaeological features*

No features of archaeological interest were recorded along the Naas Road.

### 4.11.5 *Reports issued*

No reports were issued relating to this section of the alignment.

## 4.12 *Ballymount Great to Embankment Road*

### 4.12.1 *Historical background*

The track corridor runs through the *Archaeological Complex* at Ballymount (DU021:015) (Fig. 24) (Plate 12). This complex contains evidence of prehistoric, medieval and post medieval activity of some significance.

Previous excavation within the complex was carried out in the pre-construction phase of the nearby M50 (Geraldine Stout, 1982). Three licensed excavations were also carried out in the pre-construction phase of the *Luas* project.

A large oval enclosure with an internal ditch and bank, identified by aerial photography, was thought to be of Iron Age construction. A large tumulus in the centre of the enclosure has an eighteenth-century folly perched on top of it. The mound itself, however, has not been tested and its antiquity remains uncertain. Fragmentary walls, kilns and associated habitation features testify to the late medieval occupation of the area.

The townland name of Ballymount only appears in the historical record in 1621. Duffy concluded that the name Ballymount is a corruption of the name 'Bellamont', the name given to the area by the titleholder, sir William Parsons, the Surveyor General of Ireland, following a grant of lands by the Crown in 1621. A manor house was built but further plans for its development were disrupted by the disturbances of the 1640s. Indeed, in November 1646 Ballymount was burnt to the ground (Lomas 1905, 334-5). The visible standing walls represent the house and its outbuildings following reoccupation of the manor and its development over the next two centuries.

### 4.12.2 *Development works*

There was a general ground reduction of 600mm for the track. Service diversion and renewals included trenches of up to 2.5m in depth in the present road and off-road margins (Plate 13).

### 4.12.3 *Strata*

There were no recorded strata outside the main areas of excavation as the corridor was located in a disturbed area from earlier road development and the removal of topsoil or concrete generally yielded to natural clay or disturbed road foundations.

There was some evidence recorded for brickfields north and northwest of the Ballymount complex. This took the form of deposits of brick dust spreads over an area of approximately 100m by 150m, however nothing structural was encountered.

#### 4.12.4 *Archaeological features*

##### *Summary of previous excavations*

The initial excavations in 1997 at Ballymount Great (Conway, 1997) opened up a large cutting along the track corridor where it passed through a complex of buildings and a large enclosure investigated previously by Geraldine Stout (Stout, 1998).

The large enclosure (DU021:015/6) is known from aerial photographs, and the track passes through its eastern section. Stout's excavations included three narrow sections across the feature noted in the aerial photographs and identified the enclosure as being present as an inner ditch and outer bank, suggestive of a late prehistoric morphology. Investigations of parts of the interior revealed a small number of undated features. Subsequently, much of the remainder of the ditch was removed during the 1997 excavations.

In 2000, the line of track through the ditch was examined to determine if any portions remained intact and required excavation prior to construction. One small section was removed. Over the course of the three excavations, it seems apparent that the original ditch was re-excavated at some time prior to the ninth/tenth century AD and completely sealed by the thirteenth century AD. This provides circumstantial evidence for a late prehistoric date. Suitable dating samples could not be obtained from the primary fills, which were sterile, apart from some fragments of iron.

Excavations within the complex of buildings known as the manor house complex, or Ballymount Castle (DU021:015/2), took place as part of the 1982 investigations. At that time, work concentrated on the area to the west of the track corridor and revealed a sequence of medieval and post-medieval activity (Stout 1998). In the buildings designated RB1 and RB2, cobbled floors were revealed. The building along the track corridor was investigated further in 1997 and the cobbling was removed to expose earlier features. As formation levels for the track were unavailable in 1997, excavation was discontinued at that level and the areas to the north and south of RB2

were resolved (Conway, 1997). In 2000, further excavation revealed a possible souterrain underlying the south wall of RB2 (Ó Néill, 2001).

### ***Building survey***

As part of the overall mitigation of any construction phase impact at Ballymount Great, a geodetic and condition survey of the manor house complex was undertaken by MGL. This survey provided a record of the present state of the buildings and is to be used to ensure that the structure does not suffer any damage during the construction and operation phases.

The next phase of work at Ballymount was undertaken by the writer. This involved the excavation of features exposed during monitoring to the south of the manor house complex and the excavation of a wall linking two of the buildings within the complex, the level of which was in conflict with the level of the track.

Some further work took place regarding the general condition of the masonry remains and tell-tales were mounted to ensure that any damage caused during construction works would be noted.

### ***01E0666 excavation***

Monitoring of soil clearance in the area of the gate tower was carried out during November and December 2001 and it was found that up to 2m of the upper levels of soil was introduced to the area as a result of ground clearance for the construction of the M50 several years ago. As the area was reduced to the required level, several linear features were evident cutting an archaeological horizon and the natural subsoil. A brief investigation of one of the features established the presence of substantial quantities of North Leinster Cooking Ware along with other sherds of medieval pottery.

The licence number 01E0666 was retrospectively issued and the features along the line of the track were excavated during the week prior to Christmas. The area initially excavated measured 16.4m (north-south) by 7.4m. An adjoining area to the west measuring 26.6m (north-south) by 3m was excavated over the first week in January.

#### 4.12.5 *Medieval phase*

The features excavated related to two distinct phases: the earliest phase, suggested by a series of shallow trenches and gullies, dated to the thirteenth and fourteenth centuries, when this area of the Pale would have been subjected to intensive agricultural processes. Although one of the features was ovoid and initially suggestive of a structure, upon excavation it became more likely that the features were cut to drain off the area (Plate 14). A pit containing cattle horns was suggestive of farmstead activity or tanning, however no other finds were recovered apart from large amounts of locally produced pottery.

#### 4.12.6 *Post medieval phase*

The second phase of activity related to a large field drain that would appear to have been recut as a field boundary. This linear feature extended east-west, the drain component consisting of well positioned limestone rubble constructed along the base of a sharp cut in the subsoil. Several fragments of hand-made brick were recovered from the stones in the drain, suggesting that the feature dated from the period after the destruction of the manor house in 1641. The first edition of the Ordnance Survey depicts the linear extent of the feature as a field boundary and the feature did not survive above ground by the publication of the second edition.

The level of a masonry wall left *in situ*, linking two of the buildings within the manor complex, was deemed to be in conflict with the track formation level. The ground on either side of the wall had been archaeologically excavated to natural subsoil, leaving the wall and its foundation trench intact. The wall was removed mechanically under archaeological supervision and its profile and foundation trench recorded.

Between 280mm and 300mm of masonry remained in the foundation trench, the fill of which contained fragments of red brick, lime mortar and charcoal within a silty clay soil matrix. The wall was constructed from a footing approximately 700mm in thickness. It narrowed to 500mm at ground level from where it maintained a height of 480mm.

On the basis of the fill of the foundation trench, it would appear unlikely that the wall related to the post-medieval period of settlement on the site. It was probably constructed in the late-eighteenth or early-nineteenth centuries as part of the farm yard.

**00E0538 Ext. excavation**

The final phase of archaeological resolution on the site was carried out by John Ó Néill to the north of the manor house complex, where an area measuring a maximum of 30m (north-south) by 20m (east-west) was opened prior to the diversion of a stream as part of the construction works. Three main areas of activity were identified and are described below.

**4.12.7 Main enclosure**

A 4 m wide ditch was identified bisecting the area in a rough northwest-southeast direction. This appears to be the ditched element of the enclosure around the mound from which Ballymount takes its name. The ditch was absent on the eastern side of the cutting, suggesting that an entrance was present here in the area between the mound and a pool to the north (present on the 1st and 2nd edition of the Ordnance Survey, now destroyed). A 15m by 8m area of a compacted iron-rich metallic deposit lay to the north of the ditch. This appears to be a naturally formed layer of iron pan. There was no trace of the outer bank noted in previous excavations by Stout, although the area of iron panning may have formed below a former bank.

**4.12.8 Outside the enclosure (to the north)**

To the north of this deposit the remains of a small burnt mound was noted. All that survived of this feature was an oval pit containing burnt stone and charcoal. This succeeded an earlier rectangular pit and some burnt stone was mixed with the iron pan deposit in the vicinity of the pits.

A 1.5m wide and 1m deep, V-shaped ditch lay just outside the main enclosure ditch, and was also cut through the iron pan deposit. An eleventh-century AD stickpin was recovered from the fill of this feature.

**4.12.9 Within the enclosure**

A series of features were identified within the enclosure. A 2m wide, 1.2m deep V-shaped ditch and a slot trench appear to have been aligned on the entrance through the enclosure ditch. No diagnostic finds were recovered from either feature. A rough surface of sterile yellow clay overlay one end of the V-shaped ditch.

Two features were cut into the yellow clay deposit, a U-shaped ditch and a substantial pit. The ditch produced a sherd of burnt pottery and two flakes of flint. The large pit

produced a thumbnail scraper and other flint flakes, a couple of corroded pieces of iron and some iron slag.

The base of a later furrow truncated a number of the features described above. This produced a single sherd of Dublin-type ware, pieces of slate and some red brick.

### **Conclusion**

As a result of the *Luas*-related excavations carried out within the Ballymount complex, further evidence the multi-period nature of the site has been uncovered. It is summarised in the following table:

<b><i>Bronze Age</i></b>	Evidence of activity included a burnt mound and a possible circular enclosure. Two Bronze Age pins were recovered during the excavations.
<b><i>Iron Age</i></b>	Sections of the enclosing ditch and bank were opened and other associated activity of the Iron Age or Early Christian period were tested and sampled. The results of the <sup>14</sup> C dating are awaited. A geophysical survey was carried out of the area within the enclosure and a number of anomalies identified.
<b><i>Medieval period</i></b>	Both the early and later medieval period were represented though a number of ditches, pits and a lintel drain. Hundreds of sherds of Leinster cooking ware, dating from the 12 <sup>th</sup> -14 <sup>th</sup> century were recovered. The remains of a badly truncated souterrain represented the earliest feature from this period.

More detailed accounts of the new archaeological features recorded are contained in the separate excavation reports listed below.

#### 4.12.10 Reports issued

*Excavation at Ballymount Great*, Licence No. 97E0316, Malachy Conway, MGL, 1998

*Vibration and Impact Report on Structural remains at Ballymount Great, Dublin 22*, Franc Myles, MGL, 29 August 2001

*Report on the Animal Bone from Excavations at Ballymount Dublin 12*, Melanie McQuade, MGL, 6 November, 2001

*Geophysical Survey, Ballymount, County Dublin*, Licence No. 02R029, John Nicholls, MGL, 4 April 2002

*Archaeological Assessment, LRT Line A, Ballymount Great, County Dublin*, Licence No. 00E0538 Ext., John Ó Néill, MGL, 9 August 2002

*Preliminary Stratigraphical Report, Ballymount Great, Dublin 22*, Licence No. 01E0666, Franc Myles, MGL, 20 May 2003

#### 4.13 *Embankment Road to the Square, Tallaght*

##### 4.13.1 *Historical background*

The alignment terminates 200m to the west of the known area of archaeological interest in Tallaght (DU021:037). Though the area around Tallaght is replete with prehistoric and medieval sites there were no RMP sites recorded in any proximity to the *Luas* alignment.

##### 4.13.2 *Development works*

Ground reduction of 600mm was undertaken along the roadway as well as deeper excavations of up to 1.4m for service trenches either side of the track.

##### 4.13.3 *Strata*

There were no recorded strata in this area as topsoil generally yielded to natural clay or disturbed road formation levels.

##### 4.13.4 *Archaeological features*

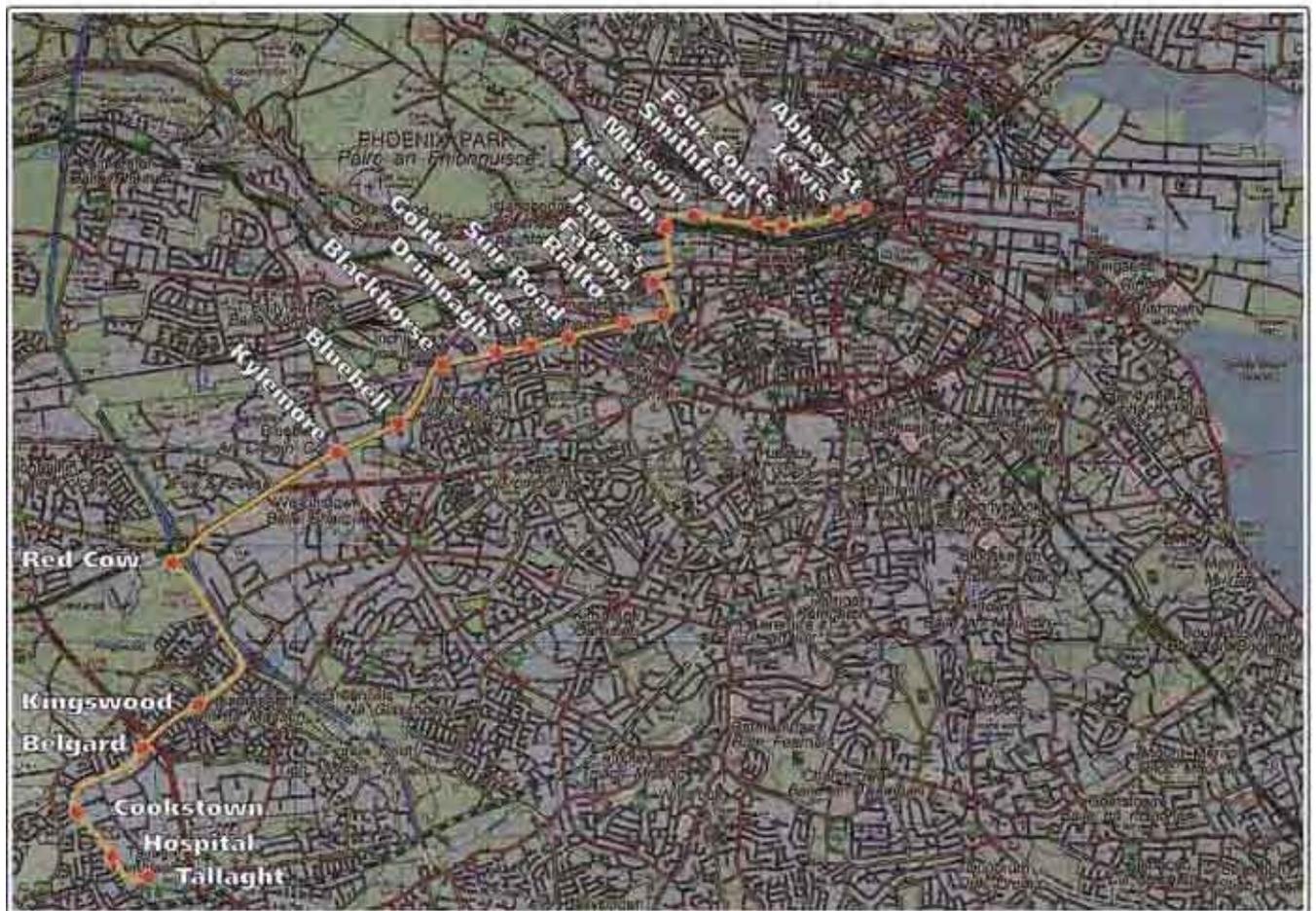
There were no archaeological features recorded over this section of the track alignment.

##### 4.13.5 *Reports issued*

Monitoring along this stretch of the alignment did not generate any reports.

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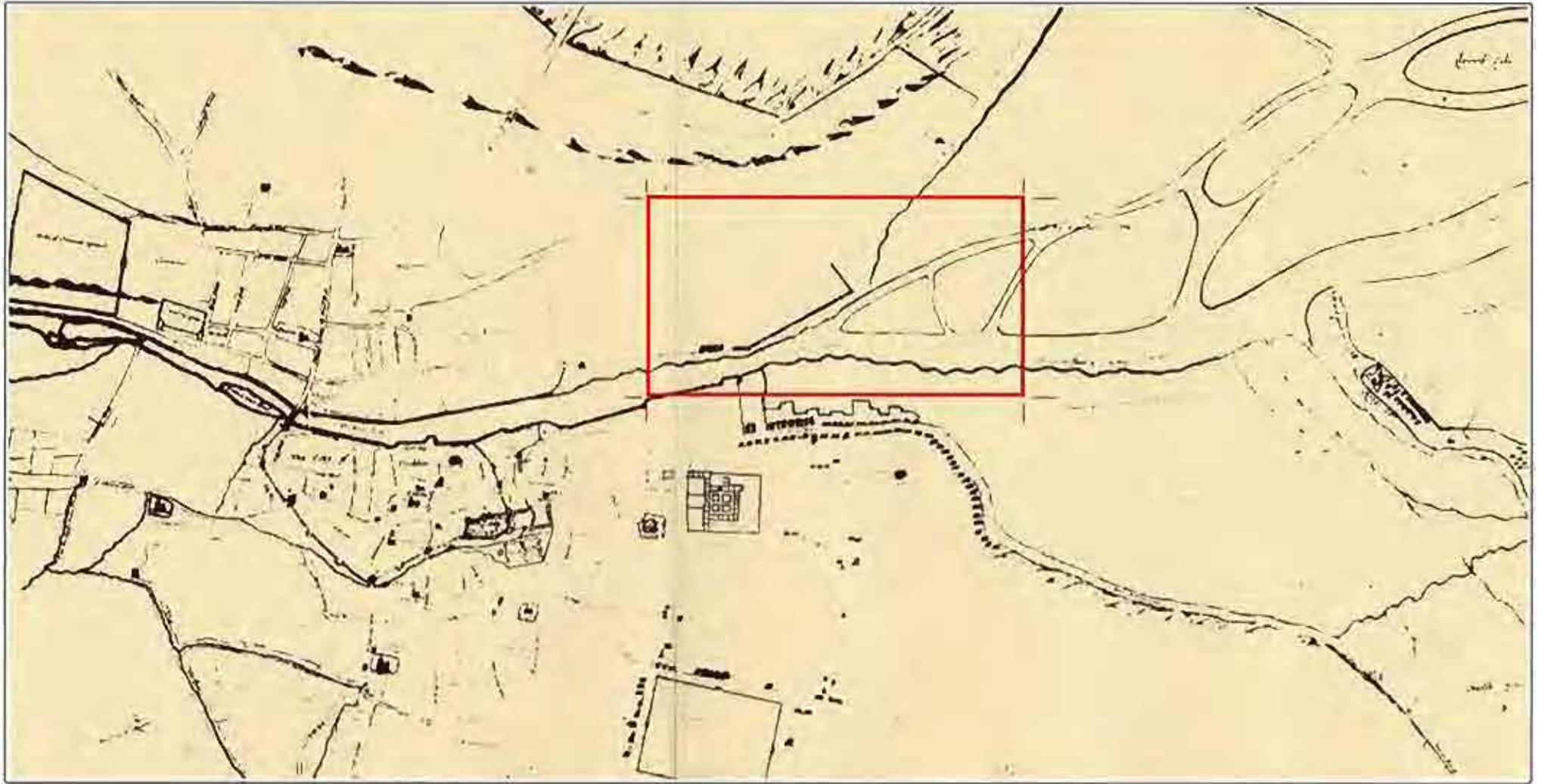
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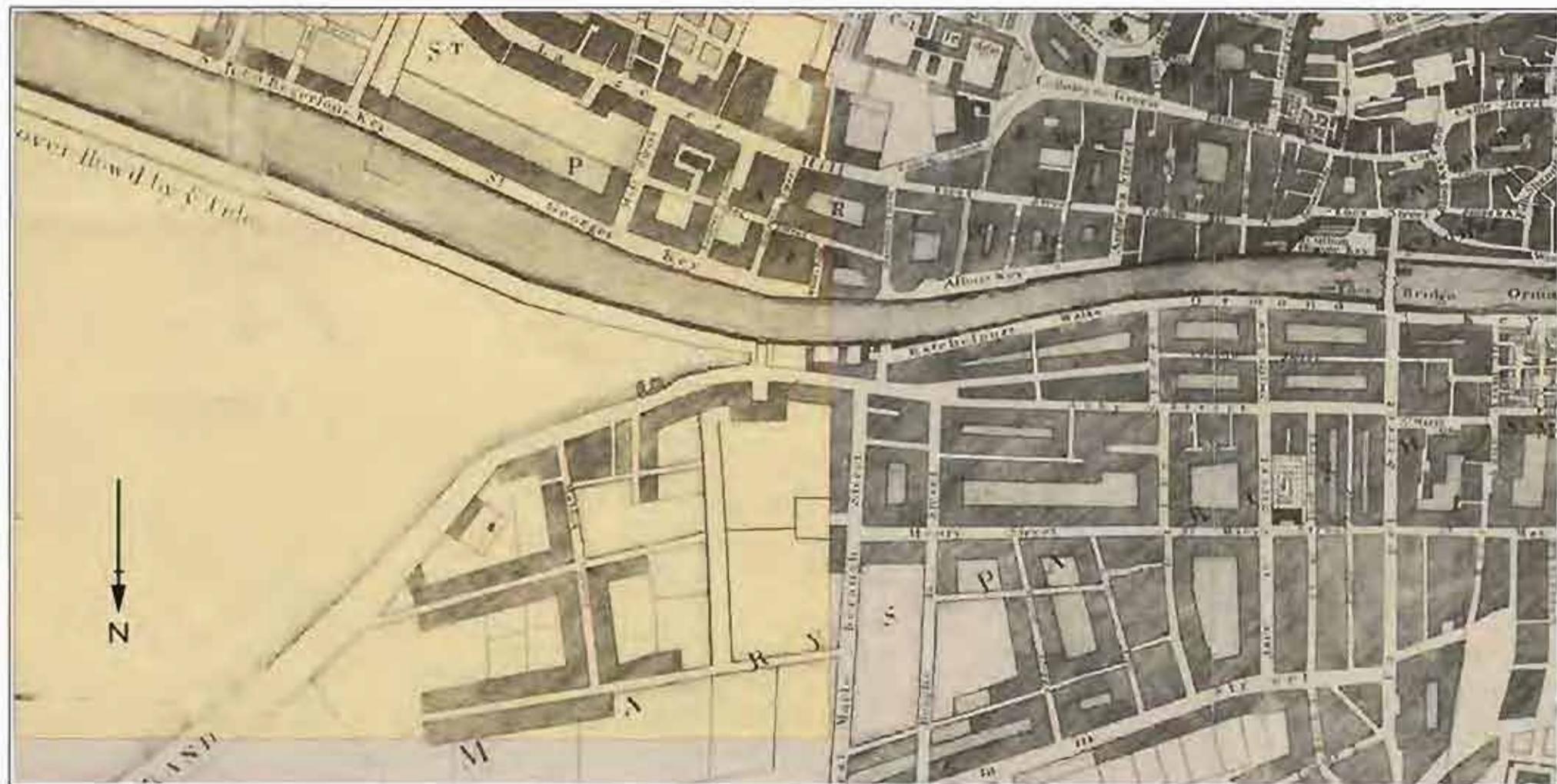
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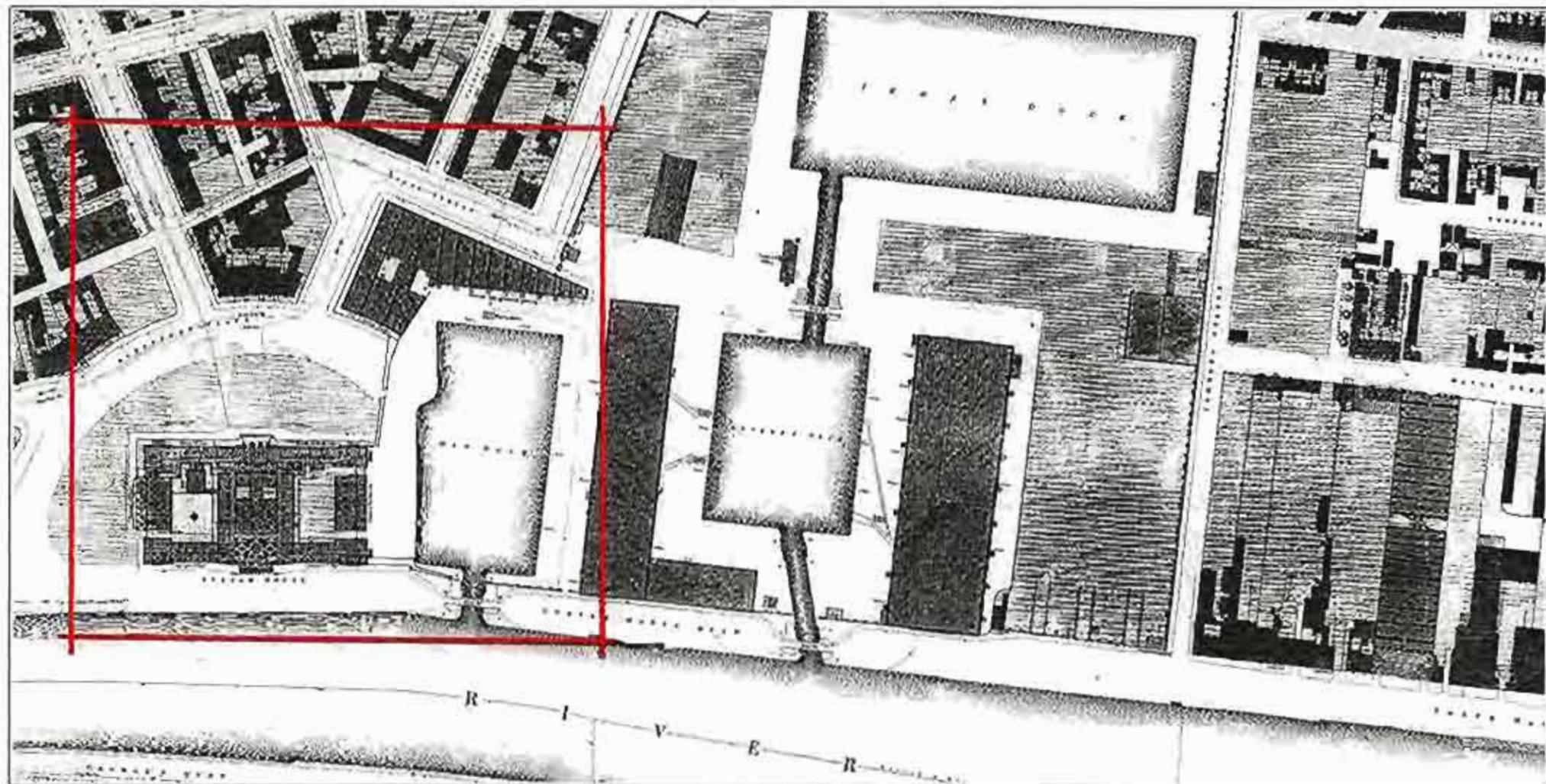
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**Client** RPA  
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**Fig. 1** Line A alignment



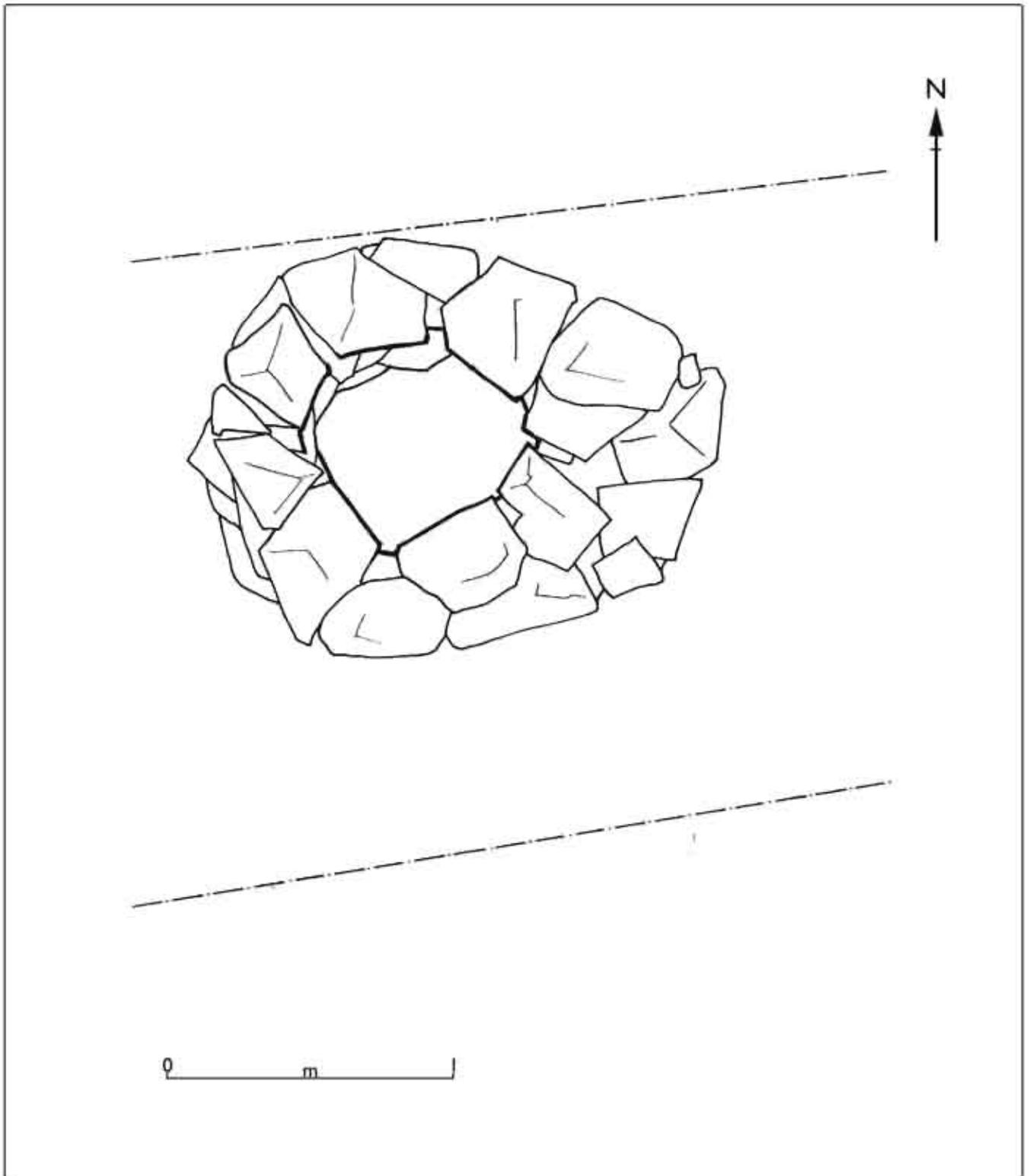
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**Date** 23.05.05  
**Client** RPA  
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**Fig. 2** de Gomme, 1673



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**Date** 23.05.05  
**Client** RPA  
**Scale** Not applicable  
**Fig. 3** Charles Brooking, 1728



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**Date** 23.05.05  
**Client** APA  
**Scale** Not applicable  
**Fig. 4** Ordnance survey map, 1847



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**Scale** Not applicable  
**Fig. 5** Dry stone masonry well, Store  
Street, Dublin 1





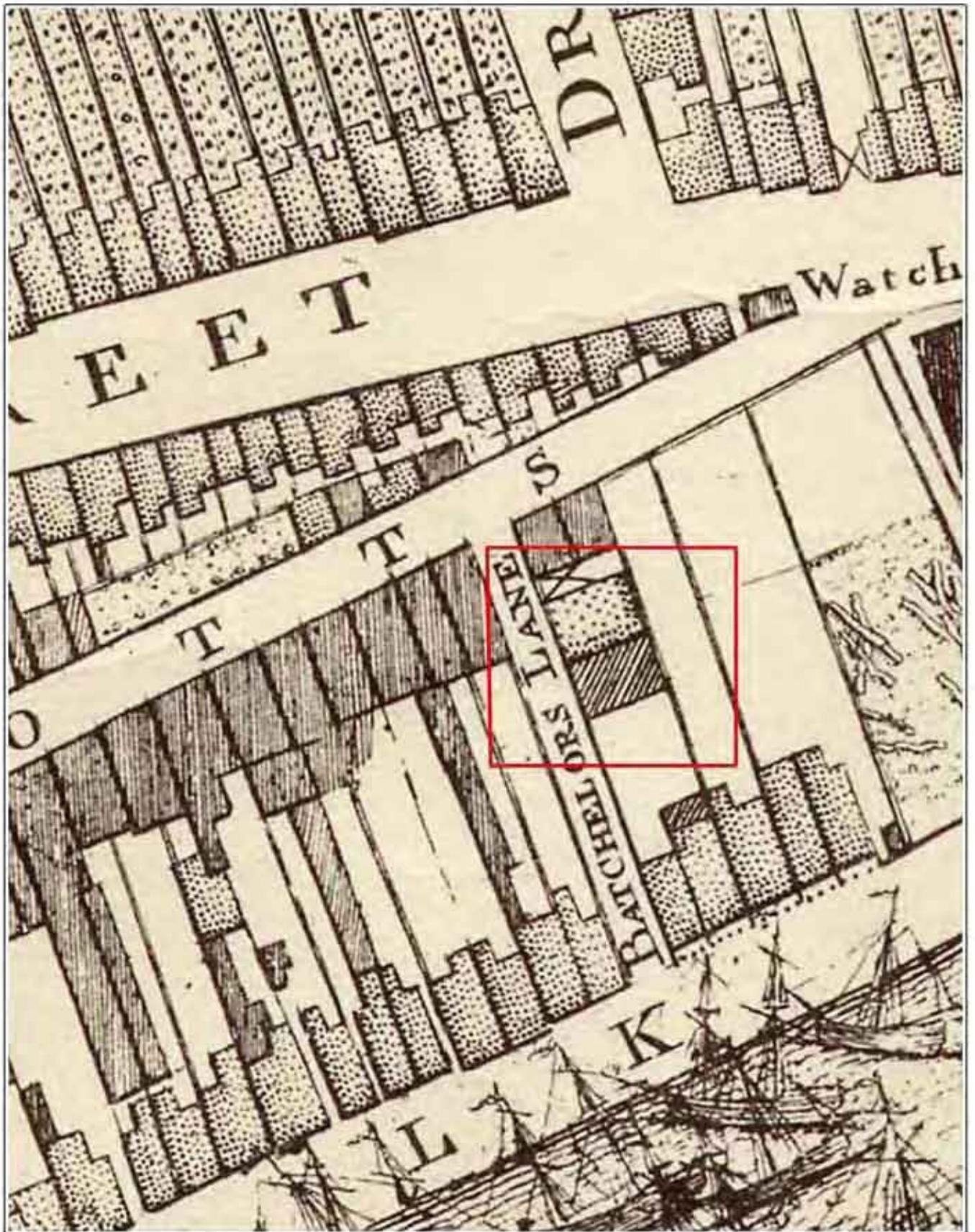


Fig. 8 John Rocque, 1756, detail of structures identified in O'Connell Street median



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**Scale** Not applicable  
**Fig.** 8

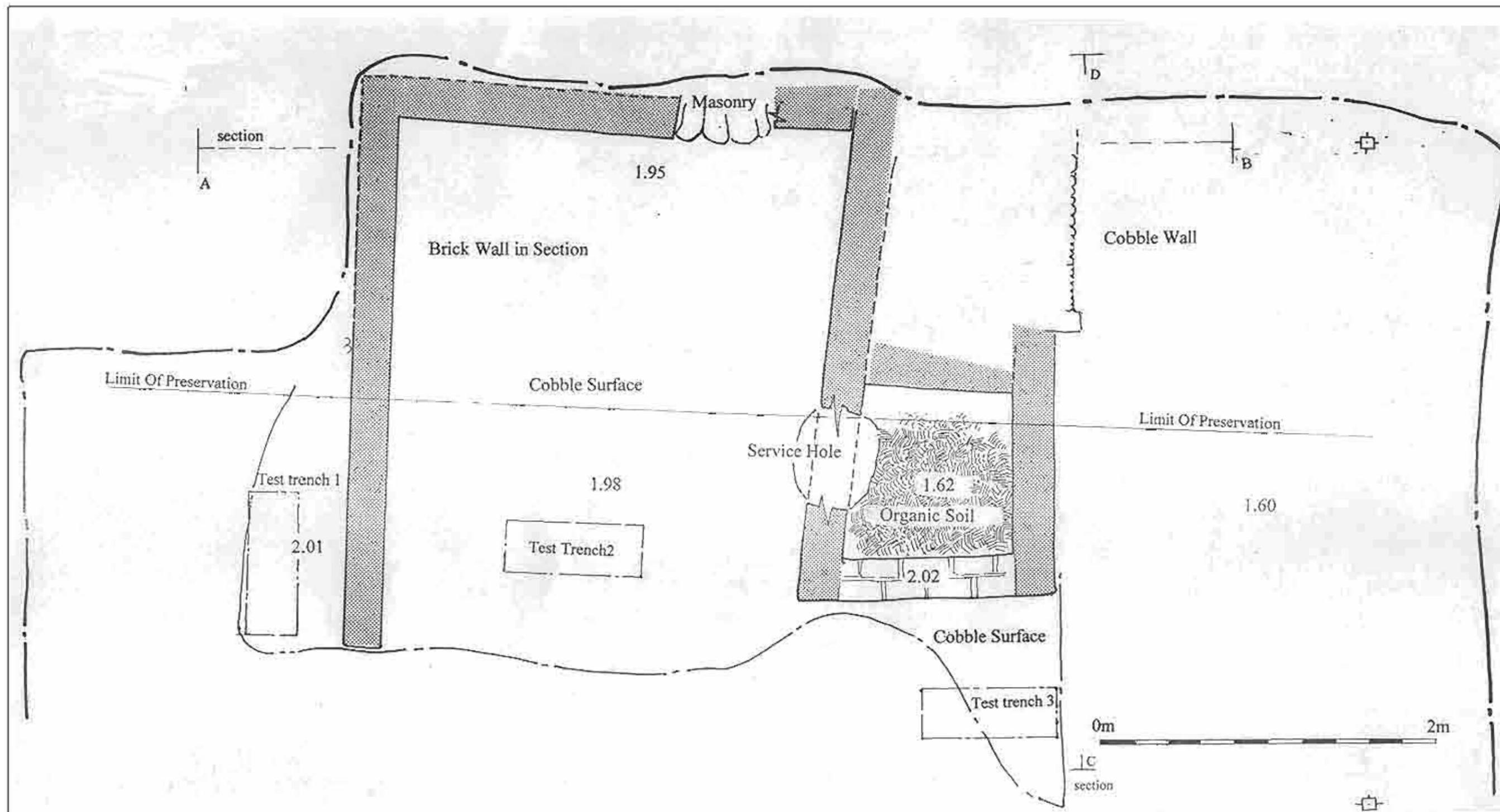
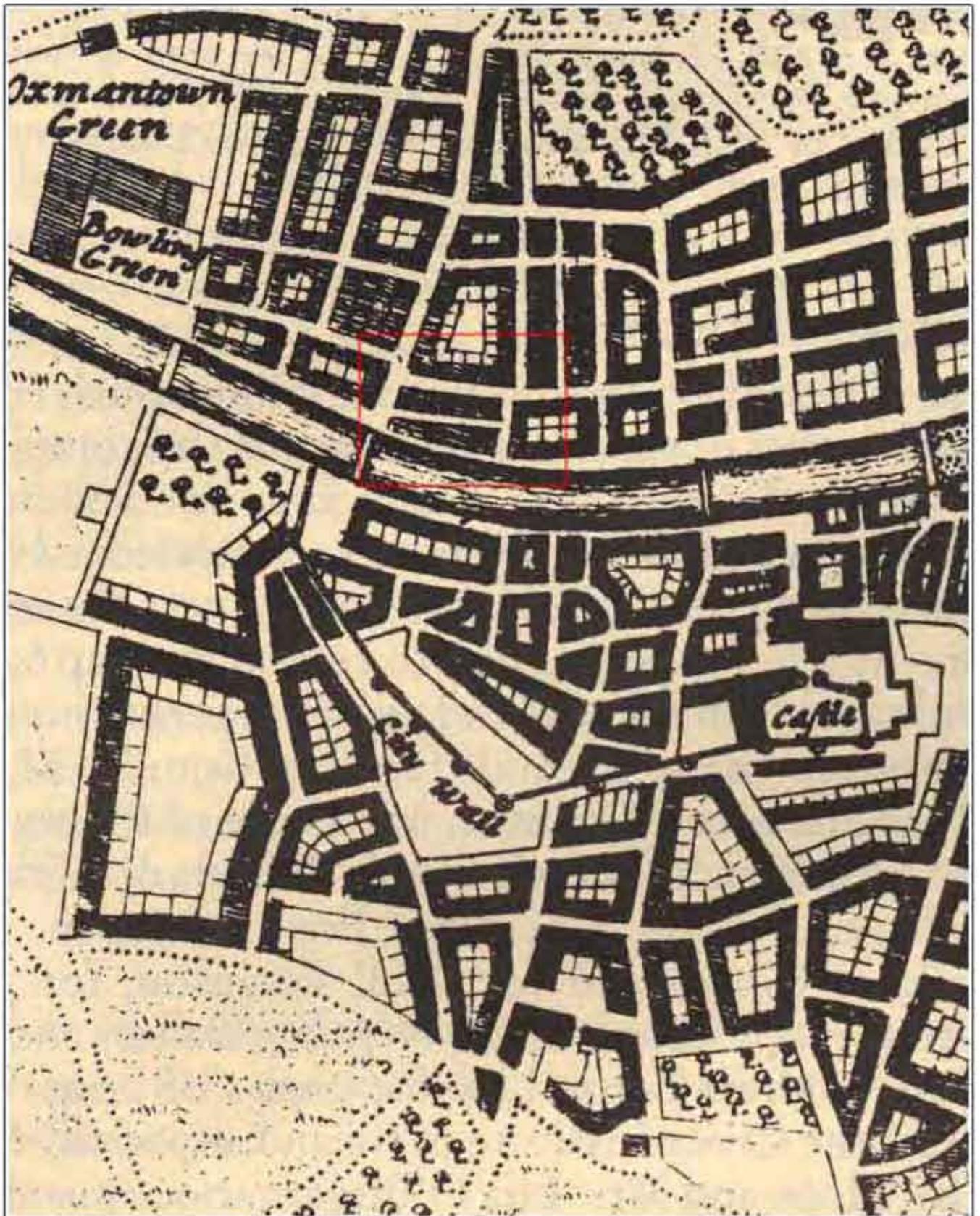
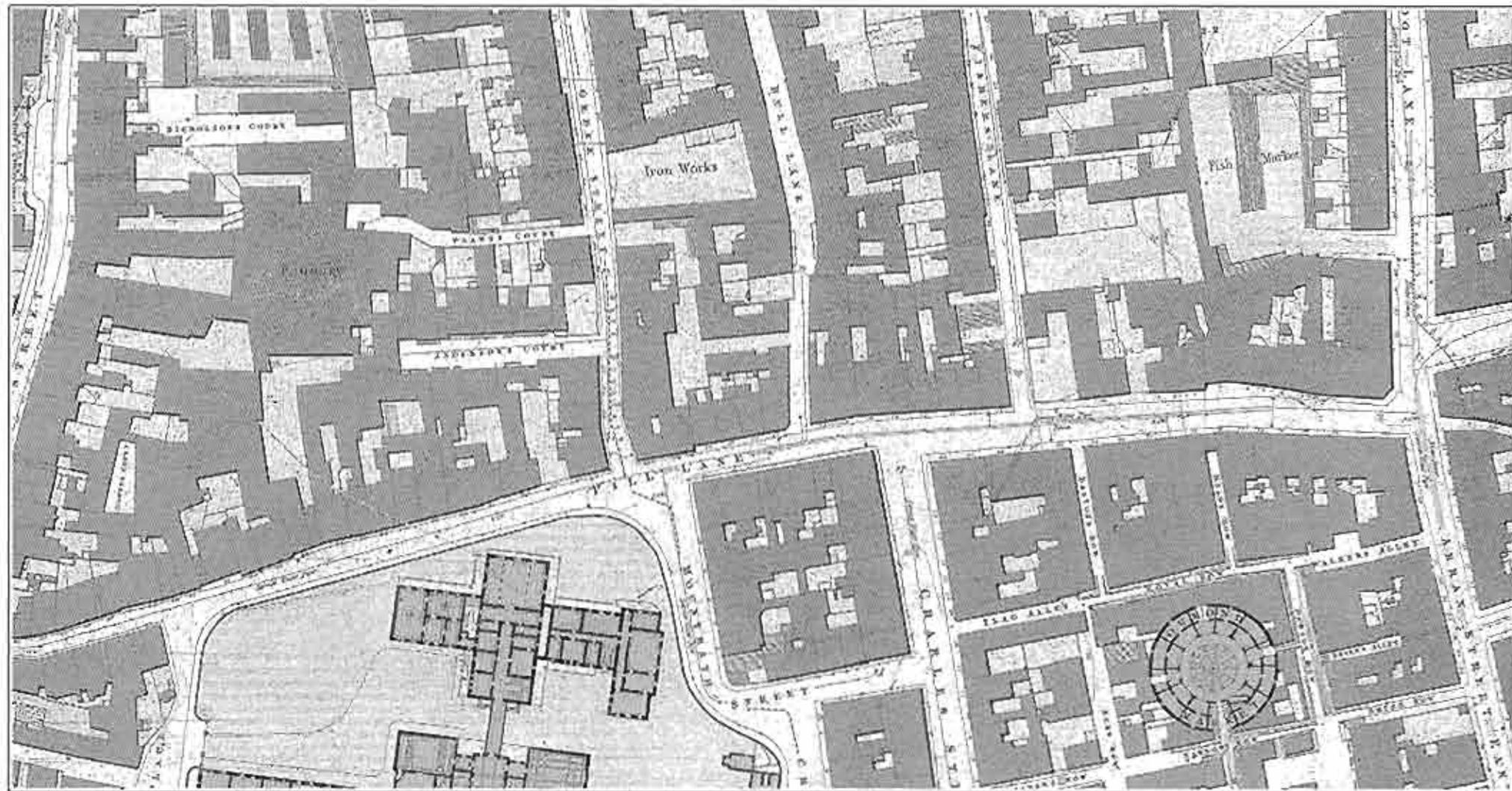


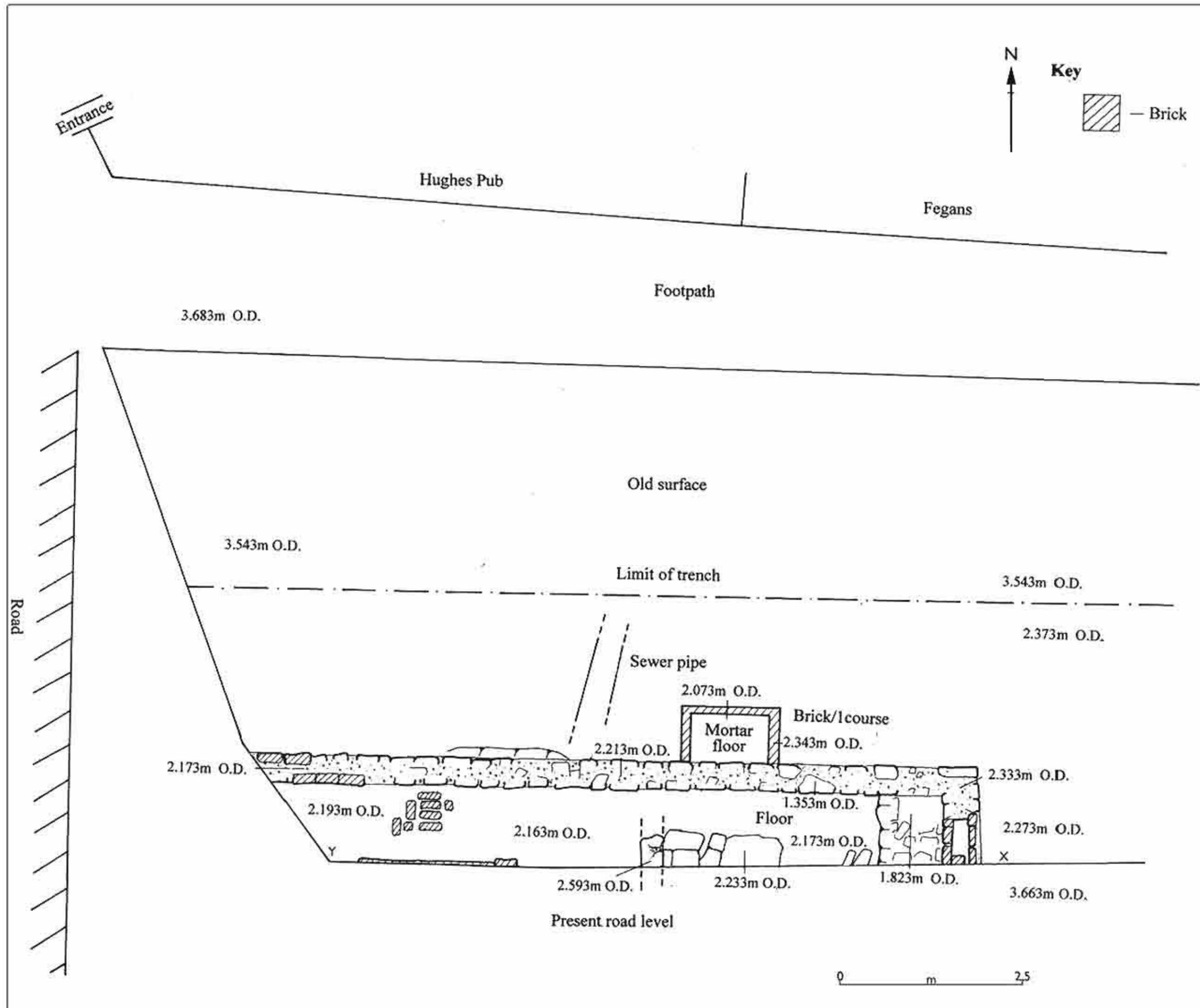
Fig. 9 Excavated features on the O'Connell Street median 10



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**Scale** Not applicable  
**Fig. 10** Henry Pratt, 1708



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**Scale** Not applicable  
**Fig. 11** Ordnance Survey, 1847



Job LRT Line A Monitoring,  
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 Date 23.05.05  
 Client RPA  
 Scale As indicated  
 Fig. 12 Plan of excavated features on  
 Chancery Street

**Key**

- A – Mid -brown sandy- silt with gravel inclusions
- B – Fine grayish-black sand with pebble inclusions
- C – Grey sandy-clay with large gravel inclusions
- D – Rubble
- E – Mortar
- F – Rubble with 60% mortar

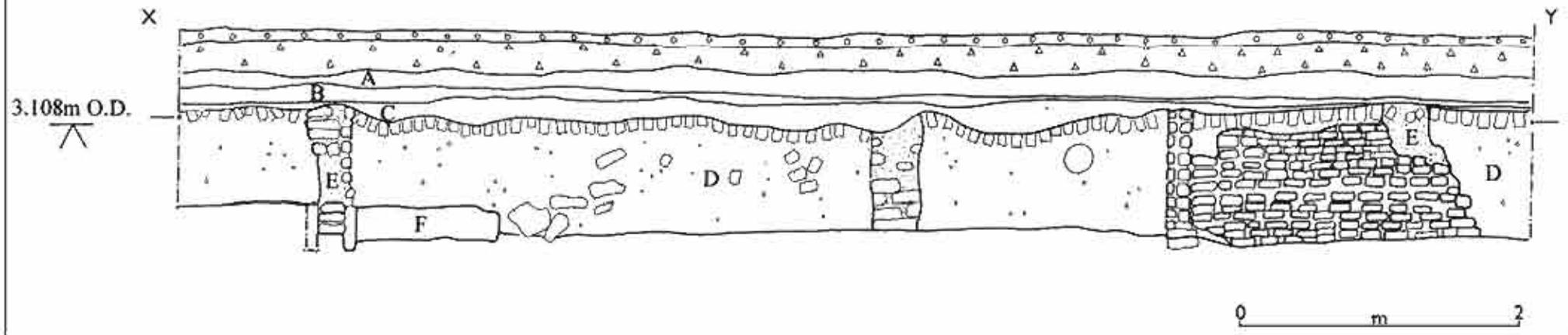
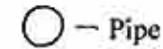
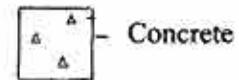
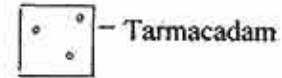
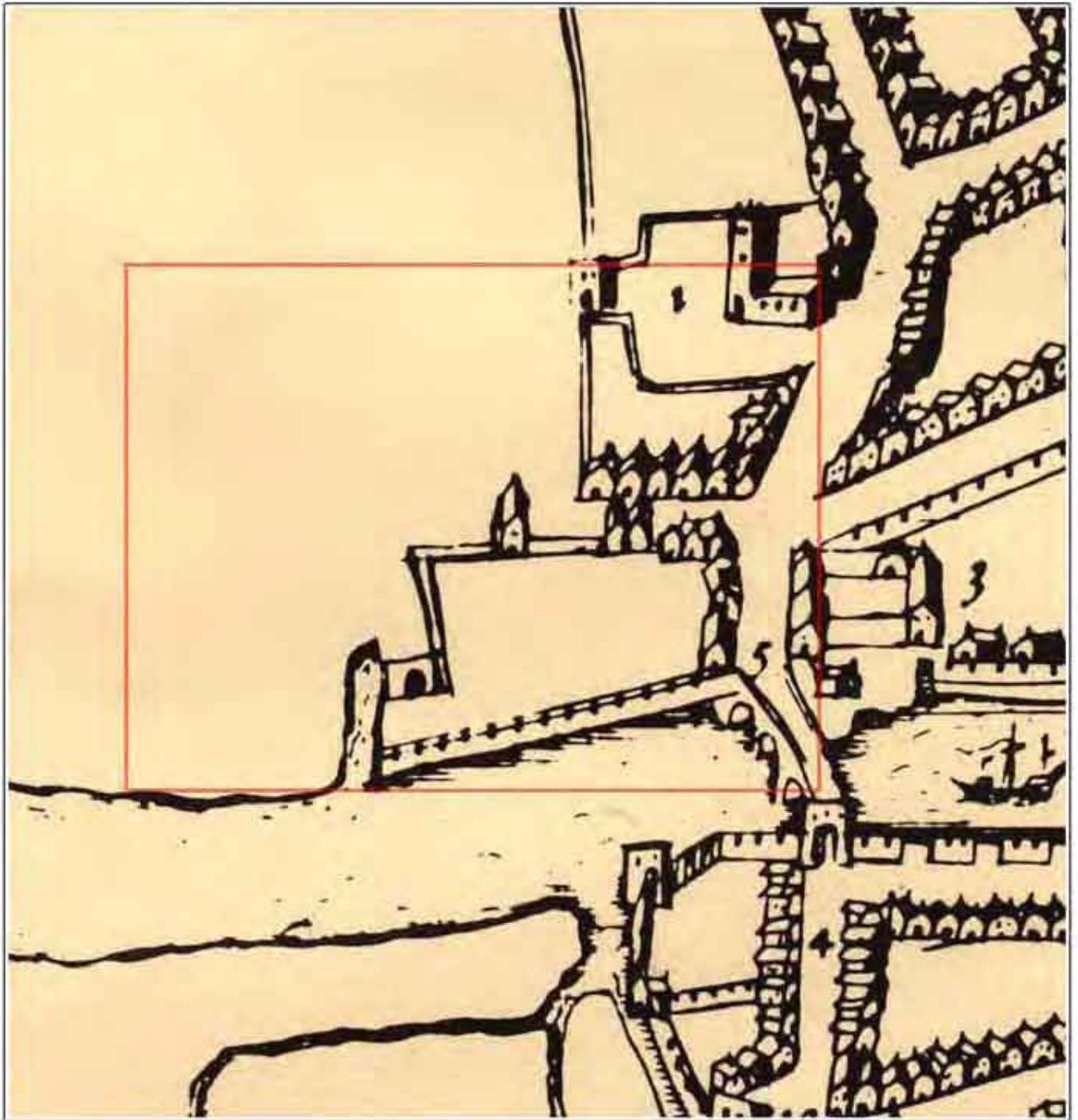


Fig. 13 North-facing section of features excavated on Chancery Street.



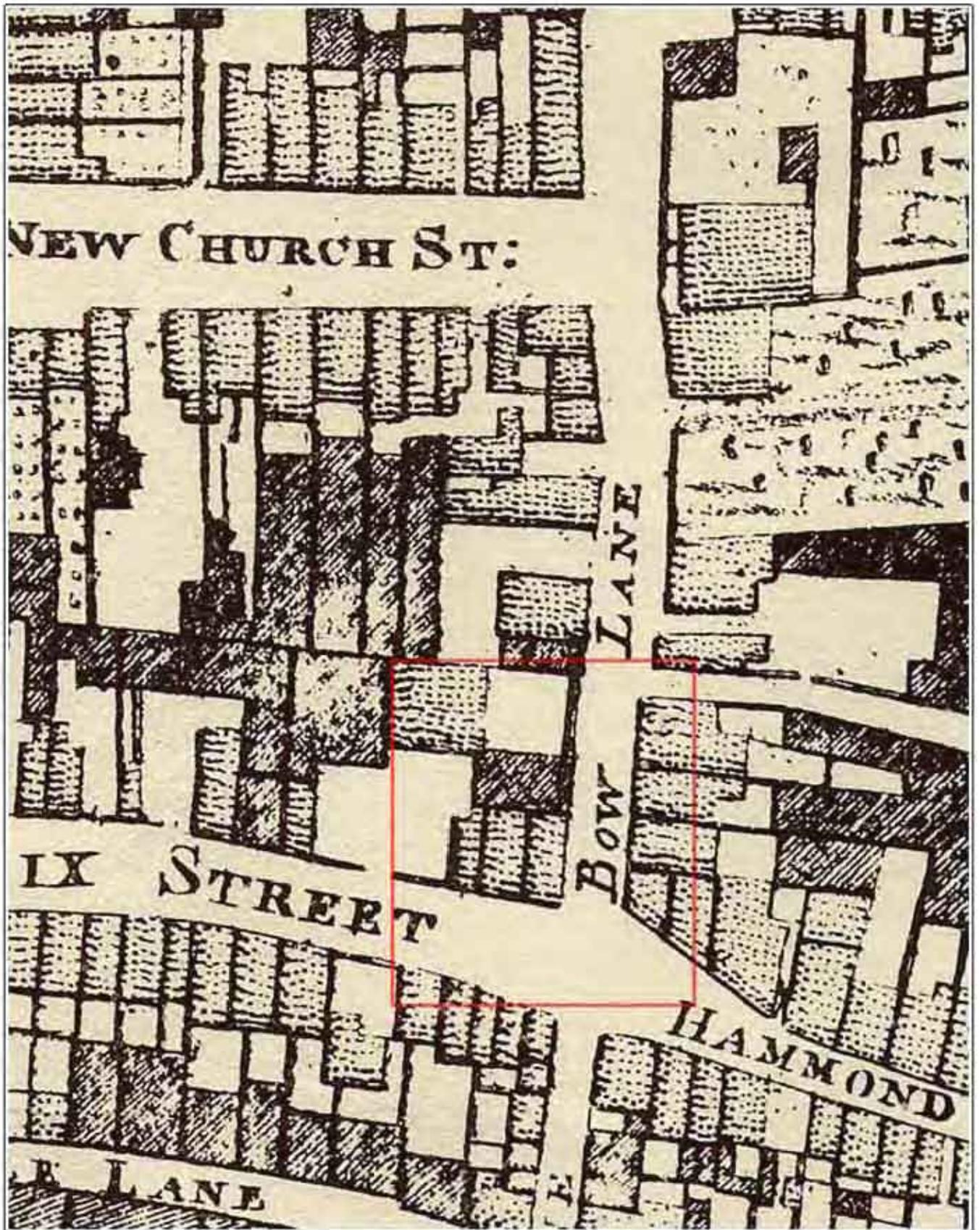
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**Scale** As indicated  
**Fig.** 13



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**Fig. 14** John Speed, 1610



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**Scale** Not applicable  
**Fig. 15** John Rocque, 1756, detail of  
Bow Street/Phoenix Street



REVISIONS	BY	DATE	REV

ARCHAEOLOGICAL LICENCE	01 - E - 0733
PRODUCED BY	L. MURPHY
DATE SURVEYED	2003
DRAWN BY	F. MYLES
DATE DRAWN	30/05/2005

PROJECT	LRT LINE A, MOTORING, DUBLIN
TITLE	EXCAVATED FEATURES ON TRAM ST., PHOENIX ST. OVERLAYED ON ROCQUE 1756
DRAWN	RPA

JOB NO.	99216-e11
DRAWING NO.	99216-01
FILE NO.	Fig. 16
SCALE	1/ @ A3

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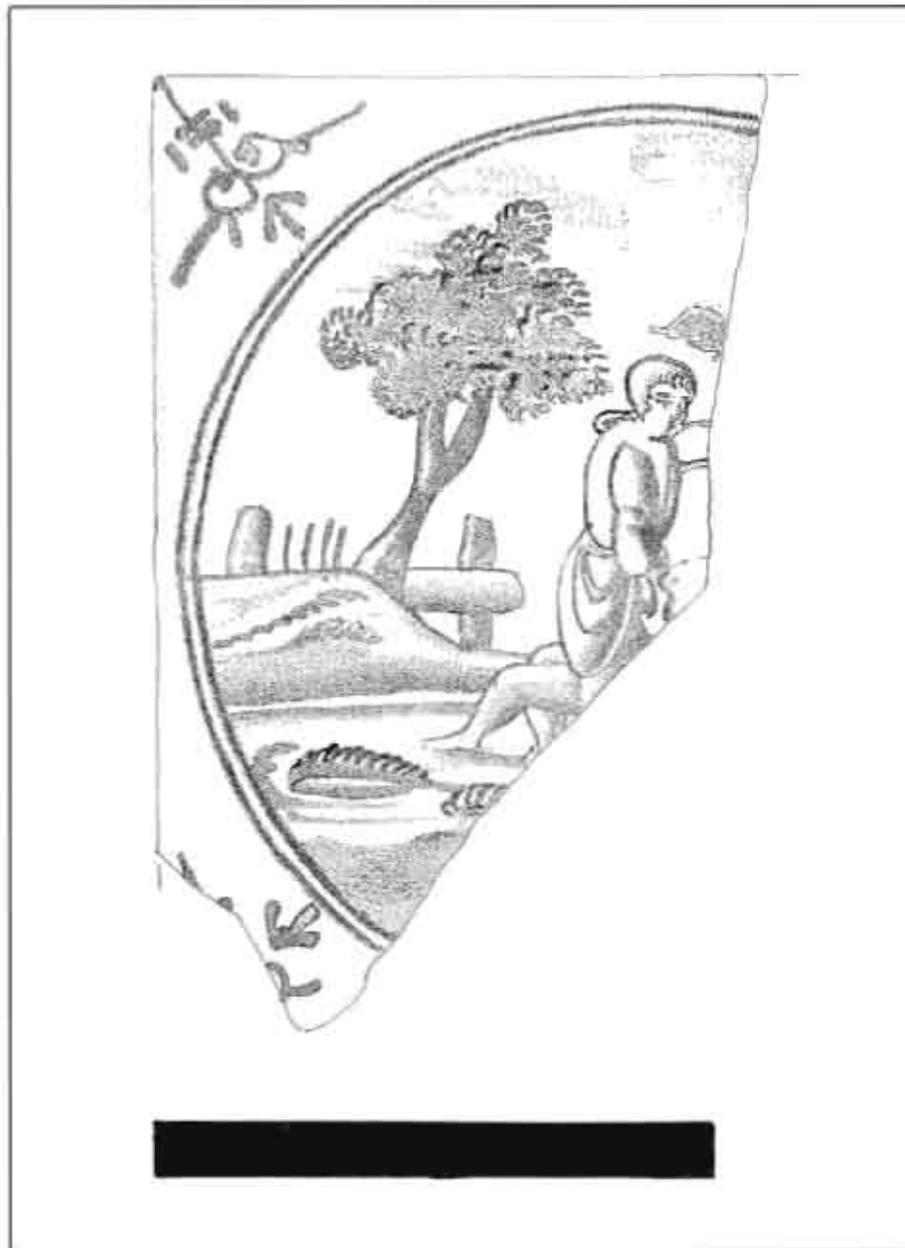
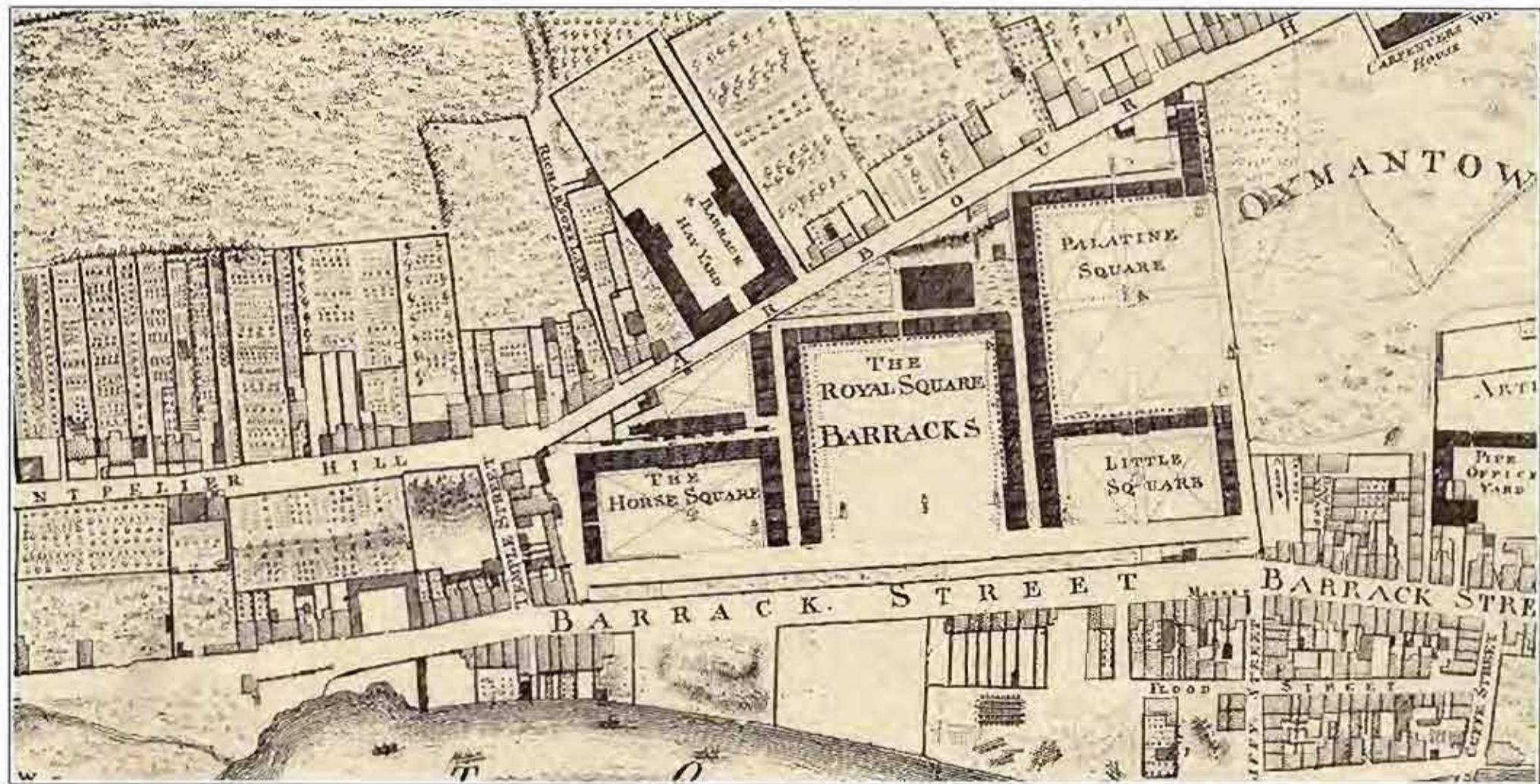


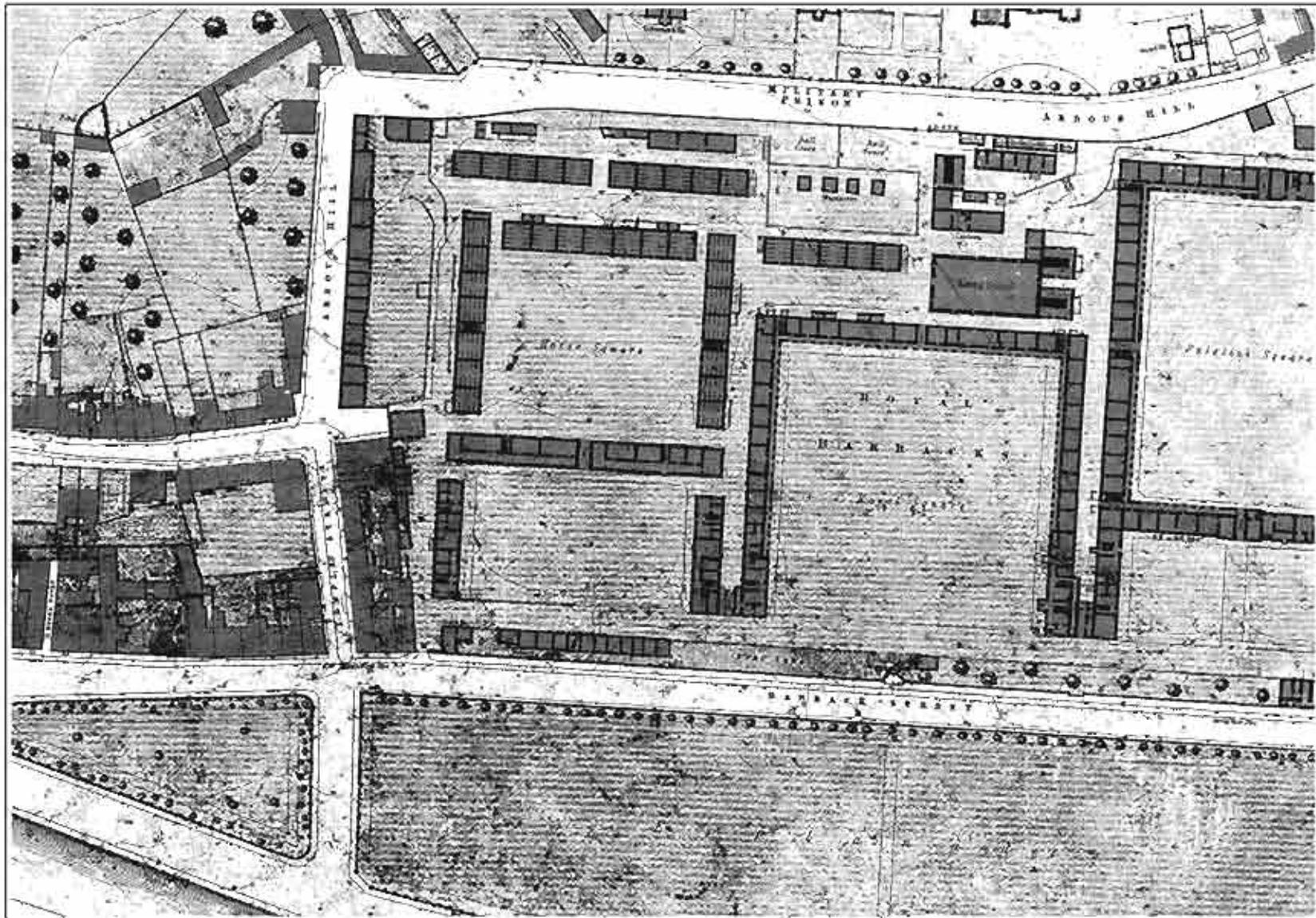
Fig. 17 Tin-glazed earthenware tile from Tram Street (01E229-42:8)



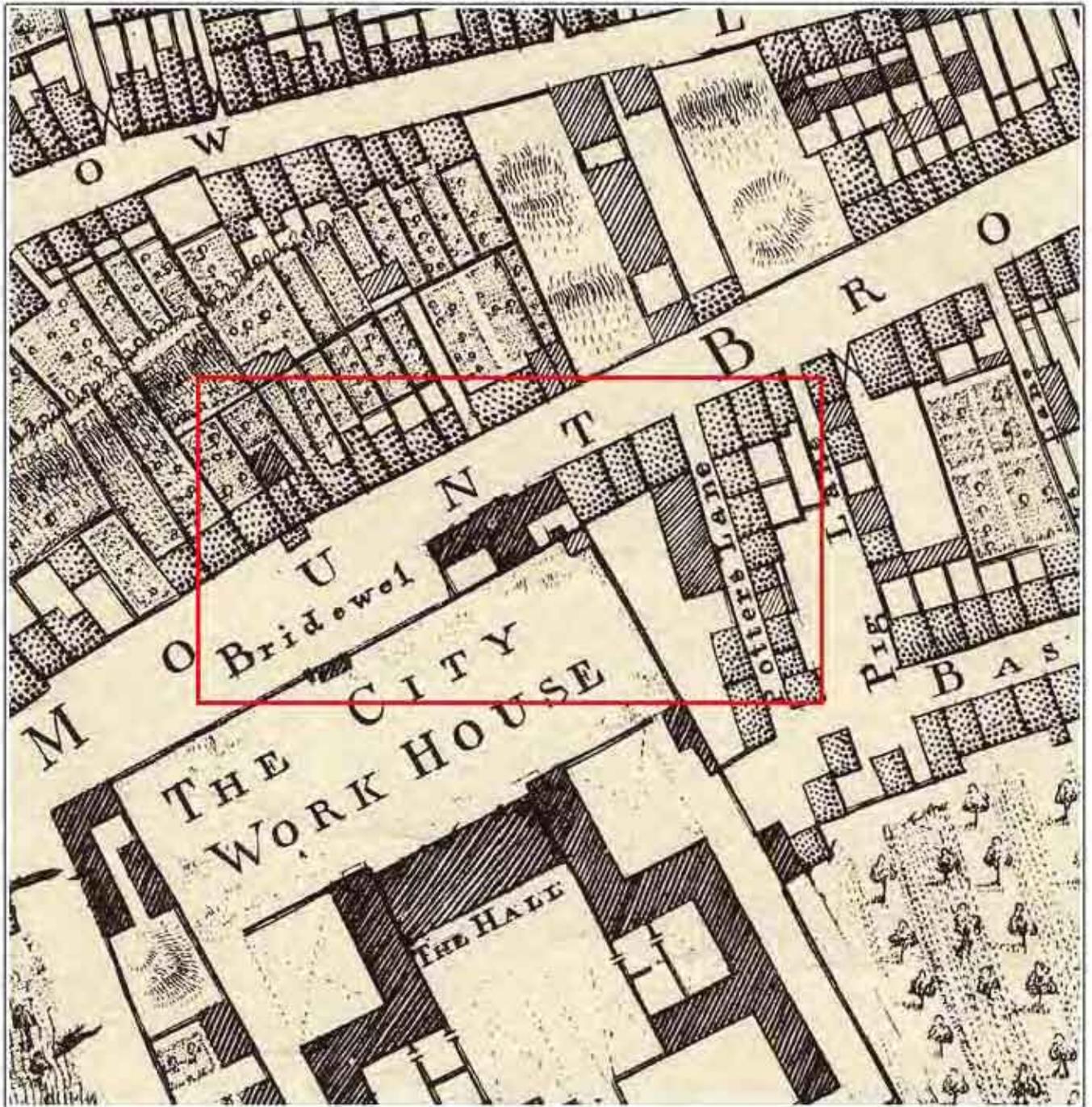
Fig. 18 Bernard de Gomme, 1673, bowling green detail, Smithfield



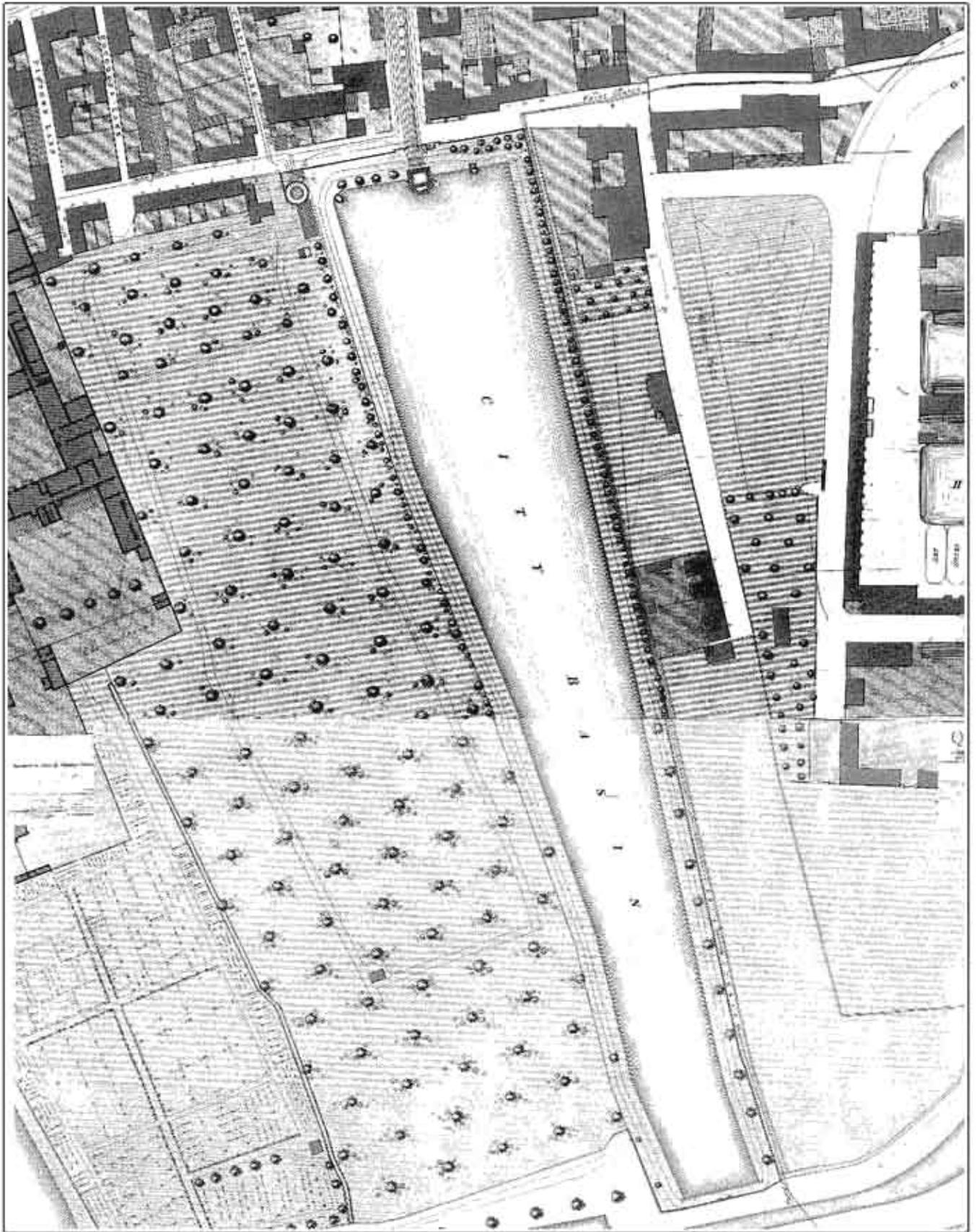
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**Fig. 19** John Rocque, 1756, detail of  
Royal Barracks



**Job** LRT Line A Monitoring,  
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**Ref.** 99216-R11  
**Date** 23.05.05  
**Client** RPA  
**Scale** Not applicable  
**Fig. 20** 1847 Ordnance Survey, sheet  
12, detail of Royal Barracks



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**Fig. 21** John Rocque, 1756, detail of  
James's Street Bridewell



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**Ref.** 99216-R11  
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**Fig. 22** 1847 Ordnance Survey, sheet  
19, detail of City Basin

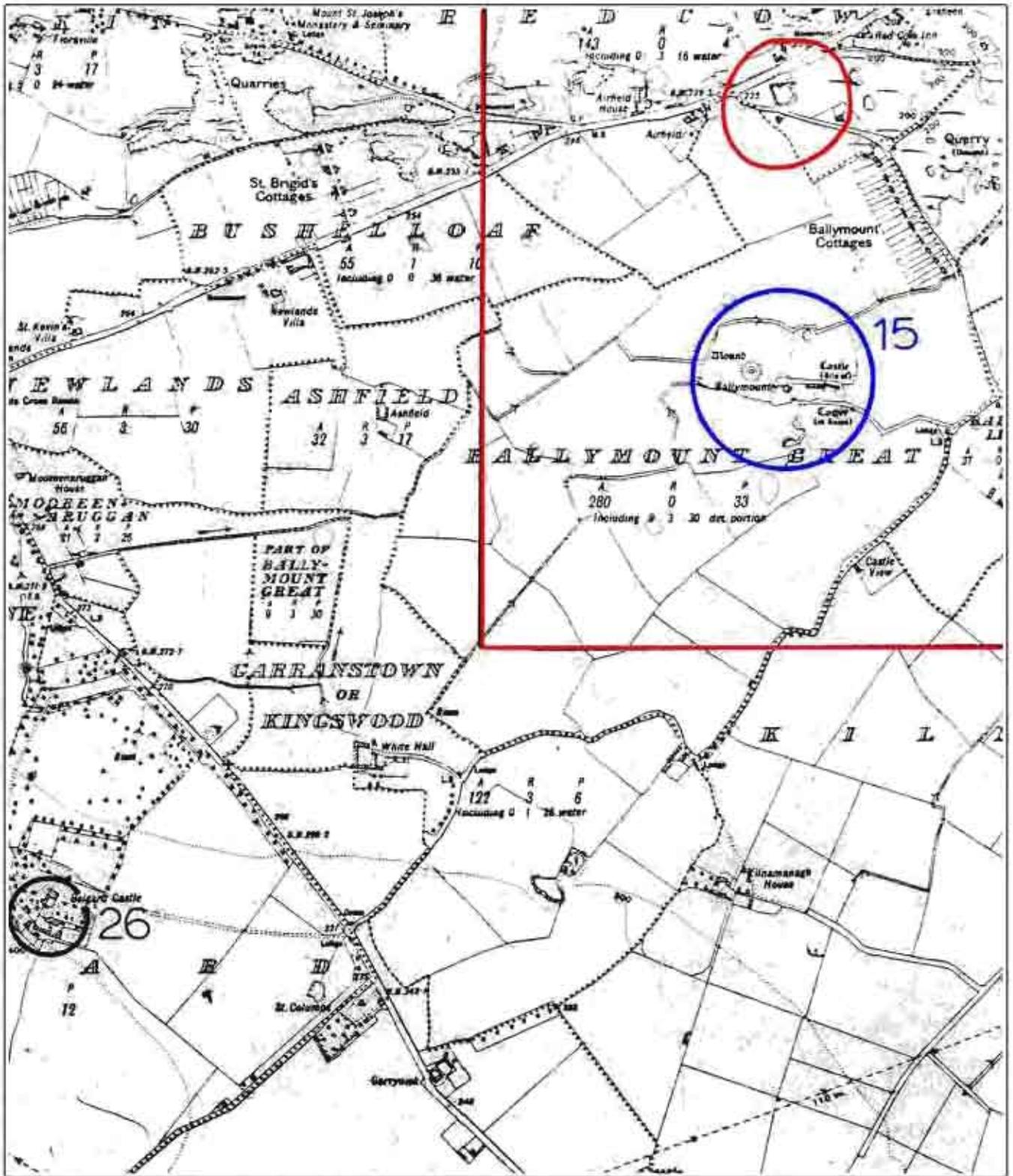


Fig. 23 | 1936 Revision Ordnance Survey, sheet 21, detail of earthwork DU017:077 and Ballymount Great monument complex



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**Fig.** 23

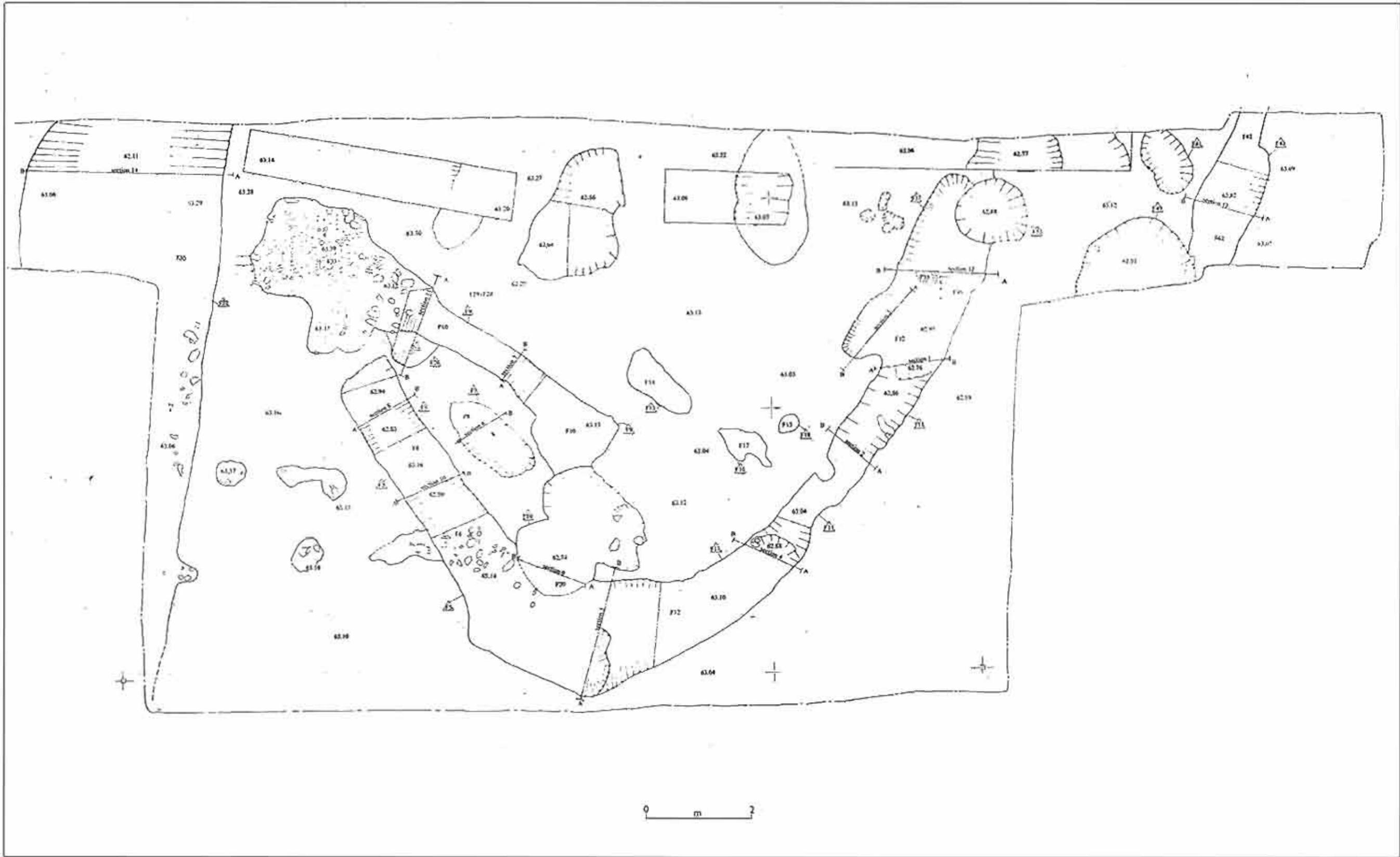




Plate 1 Ramp to Connolly Station



Plate 2 Quay wall excavated under O'Connell Street median



Plate 3 Masonry wall at the end of a sewer pipe under Mary's Abbey



Plate 4 Remains of eighteenth-century houses on Chancery Street demolished in the 1880s



Plate 5 Laneway on Tram Street under excavation



Plate 6 Tram Street skeleton



Plate 7 Eighteenth-century cobbled surface on Phoenix Street, sealing the dumped material



Plate 8 Alignment through City Basin, looking north



Plate 9 Deep excavations at Rialto Bridge



Plate 10 Pike heads from underneath Rialto Bridge



Plate 11 Metal bridge at the second lock, Grand Canal



Plate 12 Track take through manor house ruins at Ballymount Great



Plate 13 Monitoring at Ballymount, with mound behind



Plate 14 Excavated features at Ballymount Great with gatehouse to the rear