



Knowsley Street Railway Station, Bury, Greater Manchester

Final Excavation Report



Oxford Archaeology North

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Ask Property Development Ltd

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Prepared by: Sean McPhillips
Position: Project Officer
Date: May 2008

Checked by: Ian Miller
Position: Senior Project Manager
Date: June 2008

Signed.....

Approved by: Alan Lupton
Position: Operations Manager
Date: June 2008

Signed.....

Oxford Archaeology North

Storey Institute
Meeting House Lane
Lancaster
LA1 1TF
t: (0044) 01524 848666
f: (0044) 01524 848606

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Janus House
Osney Mead
Oxford
OX2 0EA
t: (0044) 01865 263800
f: (0044) 01865 793496

w: www.oxfordarch.co.uk
e: info@oxfordarch.co.uk

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SUMMARY

Ask Property Development Ltd has proposed a scheme of development (planning application 47200) on the site of a former railway station on Knowsley Street, Bury (centred on SD 8031 1039). The station was built by the Lancashire and Yorkshire Railway Company in 1848, and acted as the main intermediary stop on a line between Bolton and Heywood. The station originally comprised a passenger facility with a wooden station house, and a large goods yard. Throughout the 19th century, the station expanded gradually, including the erection of several large warehouses within the goods yard.

In July 2007, an archaeological evaluation of the passenger station was carried out by Pre-Construct Archaeology, and comprised the excavation of five targeted trenches. This programme of work was intended to establish the presence or absence of any buried remains, assess their significance, and inform an appropriate scheme of further investigation to mitigate the ultimate loss of the remains during the redevelopment of the site. The evaluation revealed that extensive buried remains survived *in-situ* at a shallow depth across the area for redevelopment. Consequently, the Greater Manchester Archaeological Unit, in its capacity as archaeological advisors to Bury Metropolitan Council Planning Department, recommended that a programme of further excavation was implemented to provide a detailed record of the buried remains. In accordance with this recommendation, Cre8 Management, acting on behalf of Ask Property Development Ltd, commissioned Oxford Archaeology North (OA North) to undertake the excavation. This was carried in August 2007, and culminated in a public viewing day during early September.

The area subject to archaeological excavation had until recently been used as a car park since the closure of the railway line and demolition of the station in 1971. The position of the car park corresponded with the area formerly occupied by the passenger station, including the 'Up' platform and associated buildings, and sidings and assorted outbuildings to the rear of the platform buildings. The excavation revealed well-preserved remains pertaining to the development of the station and, in accordance with the archaeological condition attached to planning consent for redevelopment, provided a detailed record of the buried remains in advance of their ultimate destruction.

On completion of the archaeological fieldwork, an assessment of the dataset generated from the excavation was carried out, which assessed the potential for further analysis with regard to the project's research aims. The process corresponded to the objectives laid out in the guidance document *Management of Archaeological Projects* 2nd edition (MAP 2; English Heritage 1991), and concluded that the dataset had little potential for further detailed analysis, although the results merited a short publication in an appropriate journal. Accordingly, a paper that summarises the key findings from the project has been prepared for publication in the *Industrial Archaeology Review*. In addition, an information panel that celebrates the town's railway heritage, and provides an historical account of the Knowsley Street Station, has been produced for permanent installation on the site.

ACKNOWLEDGEMENTS

Oxford Archaeology North (OA North) would like to express thanks to Rachel Morse and David Hoare of Hyder Consulting UK Ltd, acting on behalf of Cre8 Management, for supporting the project. Thanks are also due to Norman Redhead, the Greater Manchester County Archaeologist, for his advice and support. Further thanks are expressed to Bury Metropolitan Borough Council, particularly Mick Nightingale, the Conservation Officer, and Dave Marno, the Principal Planning Officer. Thanks are also expressed to the staff at the Greater Manchester County Record Office in Manchester, for facilitating access and reproduction of the available railway engineering plans. OA North is especially grateful to Graham Revers, David Flood, and their colleagues at the East Lancashire Railway at Bolton Street Station in Bury, for their continued support, information and attendance at the public open day in September 2007. The project was funded entirely by Ask Property Development Ltd.

The excavations were directed by Sean McPhillips, assisted by Alex Beben, Elizabeth Murray, Clare Riley, Samantha Walsh, and Kieren Power. The report was written by Sean McPhillips and Ian Miller, and the illustrations were prepared by Marie Rowland. The report was edited by Ian Miller, who was also responsible for project management.

1. INTRODUCTION

1.1 CIRCUMSTANCES OF PROJECT

- 1.1.1 Ask Property Development Ltd has recently submitted a planning application (reference number 47200) to Bury Metropolitan Borough Council for a mixed-use development on a 1.5-hectares site situated on the eastern side of Knowsley Street in Bury, Greater Manchester. The southern portion of the application area is the site of a 19th-century railway station, which was demolished in 1971 and the land redeveloped as a car park. The archaeological significance of the former railway station was highlighted in a desk-based assessment of the site prepared in 2005 by Pre-Construct Archaeology (PCA 2005), which concluded that there was moderate to high potential for buried archaeological remains of the station to survive *in-situ*.
- 1.1.2 In consideration of the desk-based assessment, the Greater Manchester Archaeological Unit (GMAU), in its capacity as archaeological advisor to the Local Planning Authority of Bury Metropolitan Borough Council, advised that an evaluation should be carried out in advance of development to establish the presence or absence of any buried remains, and their significance. In accordance with this recommendation, Pre-Construct Archaeology was commissioned by Ask Property Development Ltd to carry out a programme of targeted trial trenching across the site of the former station in June and July 2007. Well-preserved remains of the station buildings and associated goods yard were revealed. Design proposals for the new development do not allow for the retention of the buried remains, which will ultimately be destroyed. In order to mitigate the impact upon the archaeological resource, it was recommended that a detailed record of the buried remains should be compiled in advance of construction work.
- 1.1.3 In July 2007, Oxford Archaeological North (OA North) was invited by Hyder Consulting UK Ltd, acting on behalf of Cre8 Management Ltd and Ask Property Development Ltd, to submit a costed project design to carry out the required archaeological excavation. This allowed for the excavation of a large U-shaped trench, which was targeted upon the principal station buildings. Following the formal acceptance of this project design, and its approval by the GMAU, OA North was commissioned by Ask Property Development Ltd to undertake the excavation. This was carried out in August 2007, and culminated with a public viewing day in September 2007.

1.2 SITE LOCATION AND TOPOGRAPHY

- 1.2.1 The application site is situated on the eastern side of Knowsley Street, which lies on the southern fringe of Bury town centre (centred on NGR SD 8031 1039). The site comprises a rectangular block of land bounded to the north by Angouleme Way, to the west by Knowsley Street, and by railway lines to the east and south (Fig 1). The northern part of the overall site was landscaped in the late 20th century, and for the most part comprises an open grassed area that slopes down to the south-east; Knowsley Street lies at a height of approximately 95m above Ordnance Datum (aOD), falling to a height of 86-7m aOD along the southern and eastern boundaries. The slope terminates at the modern Metrolink railway lines, which form the eastern boundary of the application site. The southern part of the site was until recently used as a car park, occupying an area of level land at the foot of the slope.
- 1.2.2 The car park covers *c* 3400m², of which 2163 m² was subject to archaeological excavation. The car park is bounded to the west and north by the high masonry revetment walls of the bridge carrying Knowsley Street across the lines of the East Lancashire Railway, and the access incline to the car park from Knowsley Street. The southern boundary of the application site is formed by the railway line, which runs along an inclined embankment at this point to allow the track to pass over the Metrolink railway lines.



Plate 1: Recent aerial view of the study area, prior to the excavation

1.3 GEOLOGY

- 1.3.1 The site is located on Lower Coal Measure sandstone, with overlying glacial clays and gravels forming the predominant drift geology of the Quaternary Age. The deposits generally comprise both cohesive and granular lithologies ranging from sandy-gravels to sandy-gravelly clay. These drift deposits are underlain by Westphalian Coal Measures of the Carboniferous. They comprise cyclic sequences of sandstone, siltstone, mudstone with ironstones, seat rocks and well-developed coal seams (Tonks 1931).

2. METHODOLOGY

2.1 INTRODUCTION

2.1.1 The fieldwork undertaken followed the method statement detailed in the approved project design (*Appendix 1*), and was consistent with the relevant standards and procedures provided by the Institute of Field Archaeologists, and their code of conduct.

2.2 EXCAVATION

2.2.1 The modern surface was removed using a mechanical excavator fitted with a toothless ditching bucket operating under archaeological supervision. The same machine was then used to carefully define the extent of any surviving walls, foundations and other remains, after which all excavation was undertaken manually.

2.2.2 All information was recorded stratigraphically on OA North *pro-forma* recording sheets with accompanying plans and sections drawn at an appropriate scale. A photographic record, both of individual contexts and overall site shots from standard view points, was undertaken with digital and 35mm cameras on archivable black-and-white print film as well as colour transparency; all frames included a visible, graduated metric scale.

2.2.3 The precise location of the trenches, and the position of all archaeological structures encountered, was surveyed by EDM tacheometry using a total station linked to a pen computer data logger. This process generated scaled plans and sections within AutoCAD, which were then subject to manual survey enhancement. The drawings were generated at an accuracy appropriate for 1:20 scale, and all information was tied in to Ordnance Datum.

2.3 FINDS

2.3.1 A programme of artefact recovery was carried out in accordance with best practice (following current Institute of Field Archaeologists guidelines), and subject to expert advice in order to minimise deterioration. Artefacts were principally collected by hand from deposits, and all categories of material type were retrieved without exception. All finds recovered during the investigation were lifted, cleaned, bagged and boxed in accordance with the United Kingdom Institute for Conservation (UKIC) *First Aid For Finds* (1998) and the recipient museum's guidelines. The finds have been analysed by an OA North in-house specialist, and are briefly discussed in *Section 4.5*.

2.4 ARCHIVE

- 2.4.1 A full professional archive has been compiled in accordance with the project design (*Appendix 1*), and with the current UKIC (1990) and English Heritage (1991) guidelines. The paper, material, and digital archive will be deposited with the Bury Museum Archive within six months of completion of the project, while a copy of this final excavation report will be submitted to the Greater Manchester Historic Environment Record (HER). Copies of the report will also be forwarded to Bury Art Gallery, Museum and Archives, Bury Metropolitan Borough Council Planning Department and Conservation Officer, and Bury Transport Museum.

3. BACKGROUND

3.1 HISTORICAL BACKGROUND

- 3.1.1 **Introduction:** a summary historical and archaeological background of Bury is presented in order to place the results obtained from the archaeological excavation into a wider context. The early periods of the town's history are largely omitted here, as they are of little direct consequence to the present study area. The historical background has been compiled largely from secondary sources and the sequence of available historic maps.
- 3.1.2 **Early origins of Bury:** the earliest known human activity within Bury dates to the Bronze Age, and comprises a pair of collared urns and an associated dagger from Bury Grammar School, and another collared urn to the south of St Mary's (Farrer and Brownbill 1911). There is no evidence for settlement subsequently until after the Norman Conquest. The earliest documentary reference to Bury occurs in a charter of 1189, and St Mary's church dates from the 12th century, although it was largely rebuilt in the 19th century (Dobb 1970). Bury's market, first mentioned in 1440, is likely to have been the focus of settlement, but excavations have demonstrated the presence of medieval iron working in the eastern side of the town centre. Recent archaeological excavations on the eastern side of the town, however, have demonstrated that the area bounded by Rochdale Road and Butcher Lane was largely agricultural land during the medieval period (OA North 2008).
- 3.1.3 **Post-medieval Bury:** Bury was a small market town throughout the post-medieval period, but provided a focus for settlement in the upper Irwell valley, and had an established wool spinning and weaving industry. The town benefited greatly from the rapid growth of the textile industries in Lancashire during the 18th century; the beginning of the rise of the cotton industry in Bury can be traced to 1773, when the Peel family established Brooksbottom Mill calico printing works (McNeil and Nevell 2000, 24). The town was also favoured as a stop-over point for travellers from Manchester on their way to Clitheroe, Skipton and other destinations, and a cluster of coaching inns, hostleries and alehouses occupied the town's market place. Destinations such as Liverpool and Hull were served from Bury, and a regular service ran twice-weekly between Bury and Manchester (Dodd 1970).
- 3.1.4 The town's transport infrastructure received a considerable boost with the completion of the Manchester, Bolton and Bury Canal in 1797, which provided a link to Manchester, and to Liverpool via the Bridgewater Canal. The canal greatly facilitated the transport of bulk goods, stimulating further expansion of the town; Aikin (1795, 266) noted that Bury had 2090 inhabitants in 1773, but by 1801 the population of Bury had risen to 9,152.
- 3.1.5 During the second half of the 19th century, Bury saw large-scale urban and industrial development, reflecting the growth of Lancashire as a textile-manufacturing region of international repute; by 1901, the town's population

had soared to 58,029. A key component of this growth was the arrival of the railways, and Bury developed an important role in the regional railway network, reinforcing its historical reputation as a local transport hub.

- 3.1.6 The first railway station in Bury was built on Bolton Road by the East Lancashire Railway Company in 1846, who opened a line up the Irwell valley as far as Rawtenstall (Whishaw 1842). This led to the establishment of the company's headquarters in Bury, and in 1856 the Buckley Wells Locomotive Works for the company (McNeil and Nevell 2000, 25). The second railway line in Bury was opened by the Lancashire and Yorkshire Railway Company on 1st May 1848. This ran between Bolton and Rochdale, with a connection to Manchester, providing Bury with connections to the nation's network (Marshall 1969).

3.2 THE RAILWAY COMPANIES

- 3.2.1 The development of the railways in the region was a complex process involving the founding and amalgamation of numerous companies. The East Lancashire Railway (ELR) was formed in 1845 by amalgamation of the Manchester, Bury and Rossendale Railway, and the Blackburn, Burnley, Accrington and Colne Extension Railway. At the time of the inaugural journey of the ELR in September 1846, the company's station on Bolton Street in Bury was still a building site, and it was not completed until 1847. At that date, the Liverpool and Bury Railway had been striking through Bury from west to east, and proposed to open a new station on John Street (later Knowsley Street).
- 3.2.2 In 1846, however, the Liverpool and Bury Railway amalgamated with the Manchester and Leeds Railway, a larger company which had opened a trans-Pennine line between the two towns in 1841 (Wells 2006). The Manchester, Bolton and Bury Canal was also amalgamated, and in July 1847 the ensemble restyled itself the Lancashire and Yorkshire Railway (LYR). The LYR expanded rapidly, amalgamating with the East Lancashire Railway in August 1859, and becoming one of the largest railway companies in the country (Nock 1969). In 1897, the LYR absorbed the West Lancashire Railway, consolidating its monopoly of Lancashire's railways. The LYR was noted for its trans-Pennine expresses, linking Manchester and Liverpool with Leeds, Bradford and York, and provided the critical link to the mineral wealth of Yorkshire. The Company also had considerable shipping interests on the north-west coast and North Sea, owning 28 vessels (Wells 2006). This was coupled with an immense freight business, an extensive commuter network, and holiday traffic to Blackpool and other destinations around Morecambe Bay. At its peak in the 1920s, the railway operated 291 passenger stations on 601 route miles of track, and handled some 27 million tonnes of goods traffic and carried 93 million passengers annually (Marshall 1970).
- 3.2.3 On 1st January 1922, however, the LYR amalgamated with the London and North Western Railway (LNWR), although this became part of the London Midland and Scottish Railway (LMS) under the 1923 grouping. Nationalisation followed in 1948, followed by a period of rationalisation and modernisation.

3.3 KNOWSLEY STREET STATION

3.3.1 The earliest detailed plan of Bury is provided by Benson's 'Map of the Town of Bury', produced in 1845, which shows the study area as largely undeveloped land on the south-eastern fringe of the town. Duke Street is shown running north-west/south-east through the site, although the absence of any buildings along this road suggests that it may have been speculative. The next available survey of the area is that carried out by the Ordnance Survey (OS) in 1844-7, and engraved in 1850 (Plate 2). This map similarly depicts the site of the station as largely undeveloped, although the ELR line and Bolton Street station is shown to the north-west. The map was, however, superseded almost as soon as it had been published by a revised edition of 1851 (Plate 3), which shows Knowsley Street station had been built by that date.



Plate 2: Extract from the Ordnance Survey Old Series 6": 1 mile map, engraved in 1850

3.3.2 Knowsley Street station formed the main intermediary stop on the LYR line between Heywood and Bolton, which was completed in April 1848 (*Manchester Guardian* 1848). The LYR Company had commenced work on Knowsley Street station in 1847, on the site established originally by the Liverpool and Bury Railway Company in 1845, although it was not opened to the public until November 1848 (Wells 2006, 8). It was referred to as Bury Low Level, due to its position on a route that passed beneath the ELR line between Clifton Junction and Rawtenstall (by an Act of July 1845, the two routes were prevented from intersecting on the level), with the station buildings set at a lower level to the surrounding land. The east/west route of the LYR and the north/south line of the ELR were, however, linked via a 'steeply graded and curved connection', known as the Bury East Fork. This

was located between Bolton Street and Knowsley Street stations (Plate 3), and was opened to traffic in November 1848 (Mason 1975).

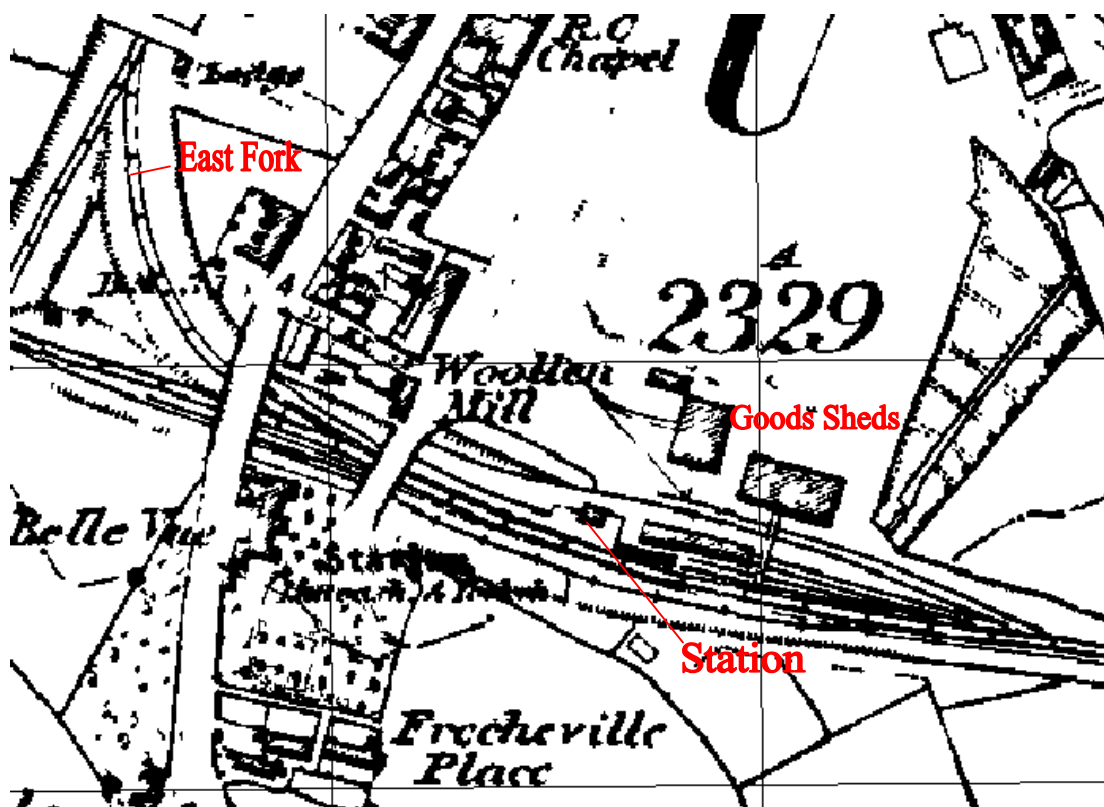


Plate 3: Extract from the Ordnance Survey 6": 1 mile map, 1851

3.3.3 The station had two platforms, one served by an 'Up' line (on the north side of the tracks, and taking trains south-eastwards to Manchester), the other platform served by a 'Down' line (south of the tracks and taking trains westwards to Bolton). A small booking office was attached to the Up platform, which was accessed from Knowsley Street via a sloping track; an entry in the LYR Company Executive Minutes, dated 8th March 1848, mentions that a Mr G Thomson had been contracted to build a wooden station house, at a total cost of £240 (Wells 2006). The southern edge of the access track was bounded by a stone wall, mounted on a high retaining wall, which encompassed the station yard. The 'Down' platform was of an island form, as it was passed on the southern side by two goods lines. The platform was accessible initially only by crossing the main passenger lines, and thus both platforms were of a low height (Plate 4). The Ordnance Survey map of 1851 shows three larger buildings to the north-east of the passenger station, presumably representing elements of the goods yard infrastructure. A new bridge to carry Knowsley Street over the railway lines was also built in 1848. An early view of the bridge and part of the station is captured on an engraving dated c 1850 (Plate 4). The station buildings are seemingly of a fairly grand design, although they were almost certainly less architecturally impressive.



Plate 4: Artist's impression of Knowsley Street bridge and station, c 1850

- 3.3.4 Between 1866 and 1888, the station was known officially as 'Market Place', although contemporary accounts refer to it simply as Bury Knowsley Street (eg *Middleton Albion* 1871). The station enjoyed a lavish service of through trains to Liverpool, Wigan and the Lancashire coast, and the route was also used heavily by trans-Pennine traffic avoiding Manchester (Nock 1969).
- 3.3.5 During the later 19th century and the early 20th century, Knowsley Street station was remodelled and expanded in response to both the passenger and freight demands of Bury. The Ordnance Survey map of 1893 shows the extension of the buildings along each platform, and new buildings erected along the eastern elevation of Knowsley Street bridge. The goods yard is also shown to have expanded considerably, and an abattoir had been built to the north (Plate 5), reflecting the importance of livestock traffic on the railway.

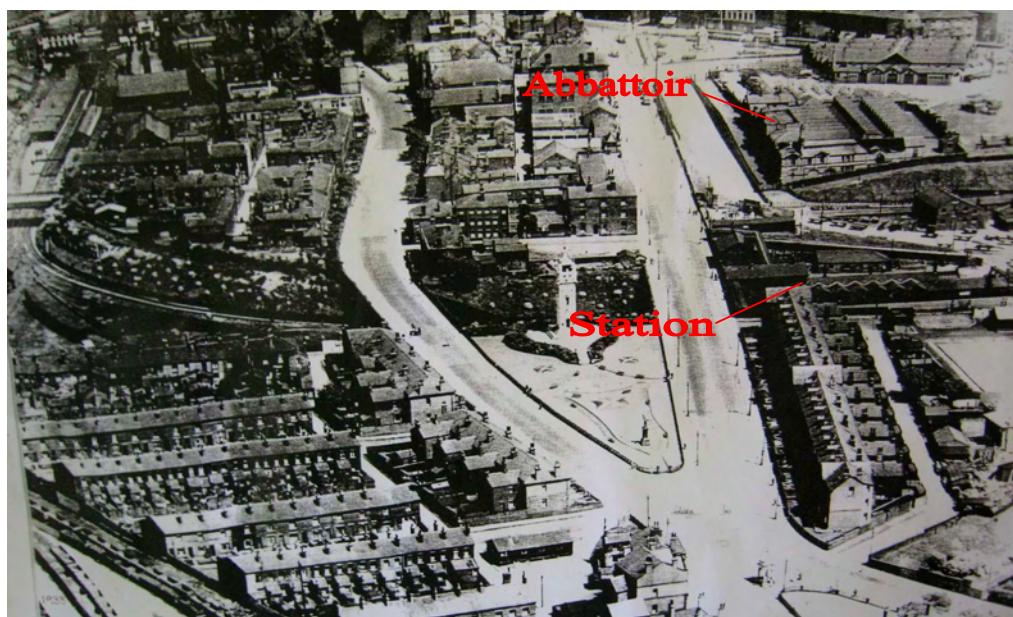


Plate 5: Aerial view of Bury in 1933, showing the station and abattoir to the north

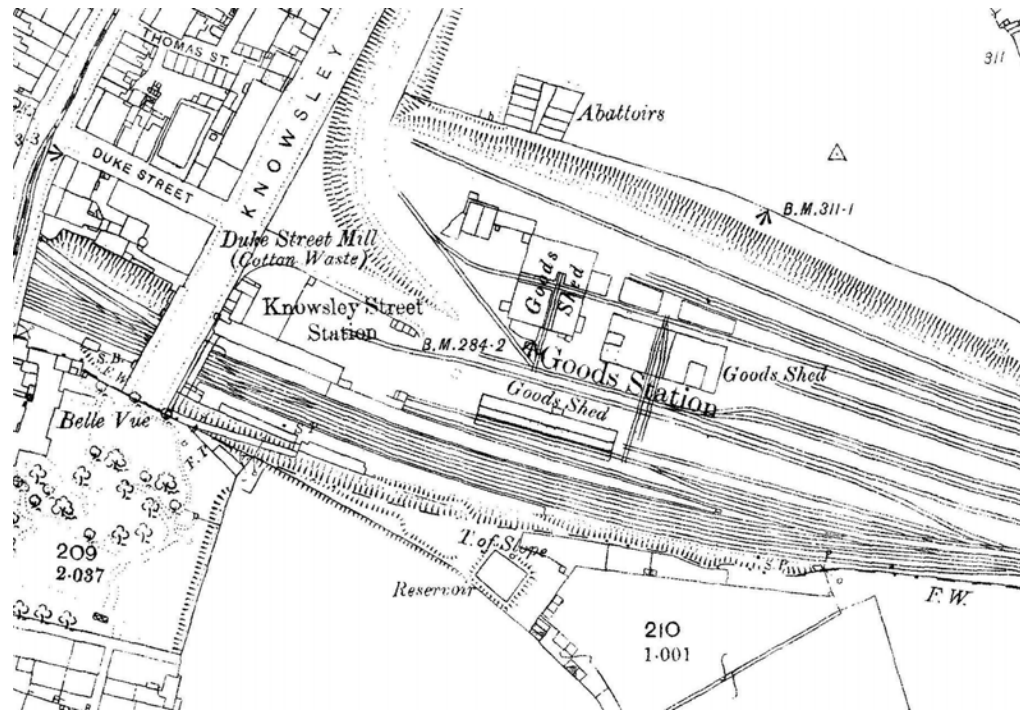


Plate 6: Extract from the Ordnance Survey First Edition 1:2500 map, published in 1893

3.3.6 The level of detail of the station complex shown on the Ordnance Survey map of 1893 (Plate 6) is enhanced by a series of engineering plans drawn up between 1893 and 1944, which provide an invaluable resource detailing elements of the site's development. A plan from 1893, for instance, provides detailed proposals for improved access to the 'Down' platform, together with some remodelling of the passenger facilities on the platform (Plate 7).

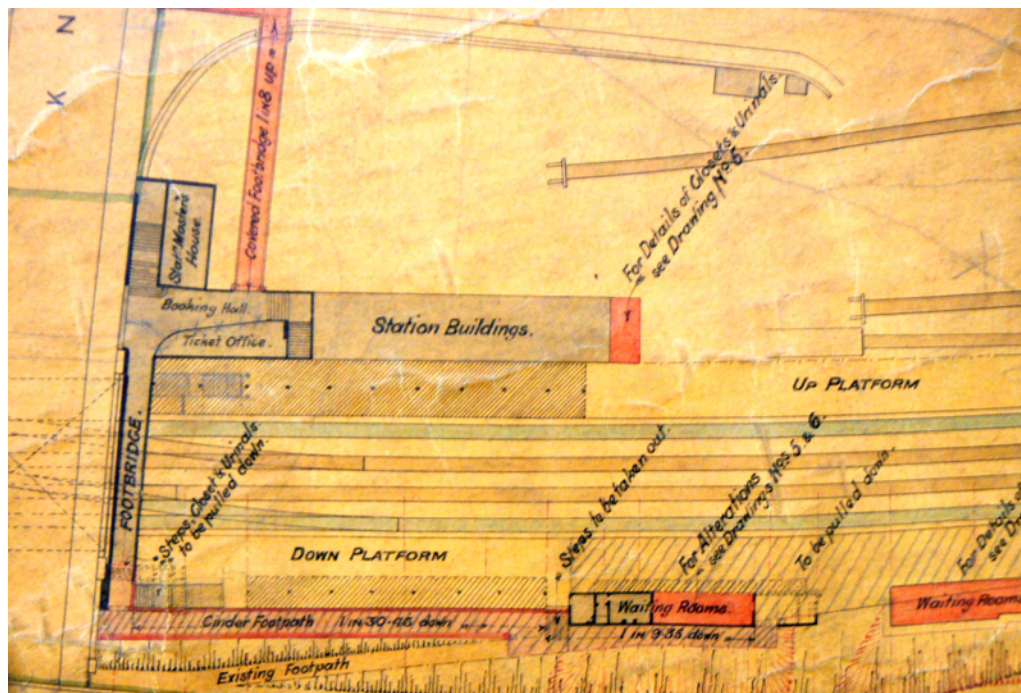


Plate 7: LYR plan of 1893 (reproduced courtesy of the Greater Manchester Record Office), showing proposed new access to the 'Down' platform (A19/4/290)

3.3.7 The passenger station was accessed via a booking hall at street level (Plate 8), opposite the Town Hall, with steps descending to the 'Up' platform and the ticket office, and a covered footbridge, erected in c 1893, to the 'Down' platform. A covered inclined L-shaped gangway suitable for wheeled conveyances provided access to the booking hall from further north along Knowsley Street. The 'Up' platform housed the main amenities for passengers, including the left luggage office, parcels office and toilet facilities; both platforms had waiting rooms. Canopies were erected on the passenger platforms in at least three different stages. By the 1890s, the length of the 'Up' platform had been increased to 230 yards, extending eastwards to a long, narrow goods shed, the two structures divided by a goods siding.



Plate 8: The entrance to the booking hall from Knowsley Street in the 1950s

3.3.8 The goods facilities at Knowsley Street were amongst the largest in the region, handling a considerable volume of trade, and reflecting the importance of transport to the economic growth of Bury (Wells 2006). The goods yard could be accessed via a long ramp that ran parallel to Knowsley Street from Kay Gardens, or via a steeper approach from Knowsley Street opposite the town hall. Extensive cattle wagon sidings were in place by 1899, with pens to provide temporary accommodation to cattle arriving for the Bury Corporation Abattoir, immediately to the north of the station. The boundary of the goods yard, and its attendant warehouses and sheds, extending to the east of the passenger terminal, as far as Heywood Street South, Market Street Bridge spanning the widened yard by a set of four arches. The layout of the goods yard at this time is shown on Ordnance Survey mapping, and several engineering plans dating to the early 1900s (Plate 9). The volume of goods traffic using the line by this time was a major factor in a decision by the LYR to construct another connecting line to the Manchester to Bury line at Buckley Wells. Known as the Bury Connecting Line, or the Bury Loop, it opened to goods traffic in November 1898, and was approved for passenger traffic in July 1899 (Marshall 1970, 70). It ran to the south of Knowsley Street station, enabling heavy goods traffic from Yorkshire and elsewhere to reach Salford and Manchester without the need to reverse at Windsor Bridge Junction.

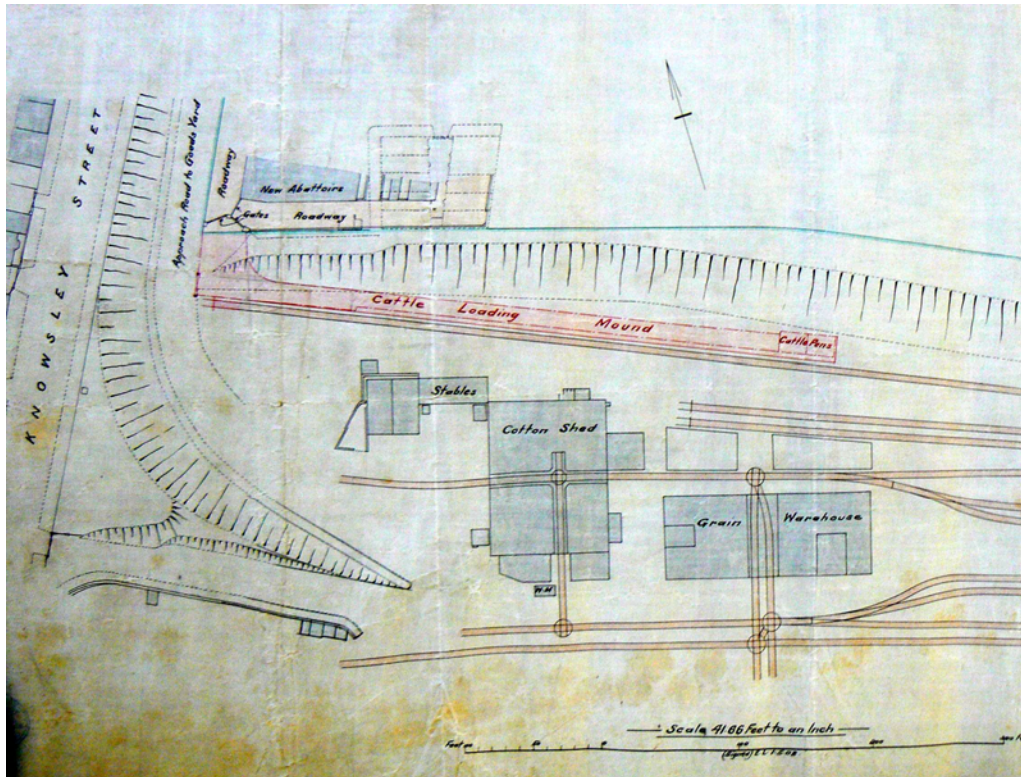


Plate 9: Lyr plan of 1902 (reproduced courtesy of the Greater Manchester Record Office), showing the goods yard infrastructure (A19/4/556)

3.3.9 The sequence of available plans show further expansion to the station complex during the early 20th century, with several additional buildings constructed within the station yard the goods area, and more lines laid to the west of the goods station. The narrow goods shed at the eastern end of the 'Up' platform was replaced in c 1912 by a large brick cotton warehouse (Plate 10), the building notable for having a 40 ton electric overhead crane. By this date, the station approach road from Knowsley Street was in use to access the goods yard.

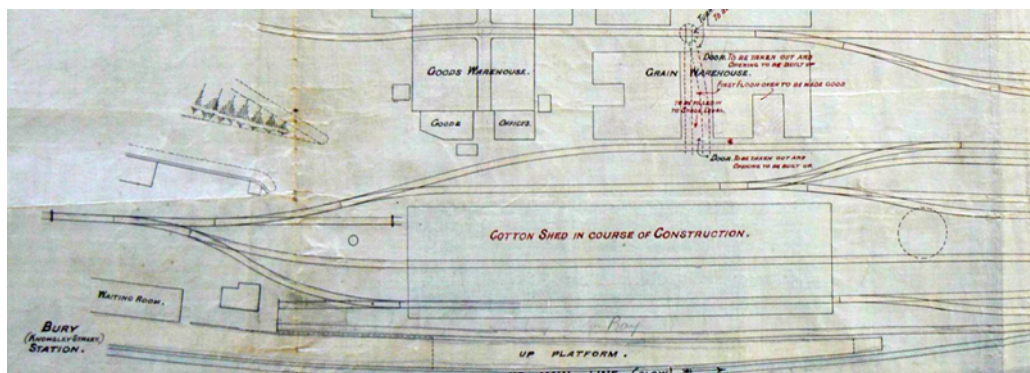


Plate 10: Lyr plan of 1912 (reproduced courtesy of the Greater Manchester Record Office), showing the proposed cotton shed (A19/4/270)

3.3.10 The station continued to develop following the Lyr amalgamation with the LMS Railway Company in 1922-3, and particularly the goods yard. This is seen clearly on the LMS railway plans drawn up in the 1930s (Plate 11) and 1940s (Plate 12), which show the proposed layout and function of some of the station buildings and goods warehouses.

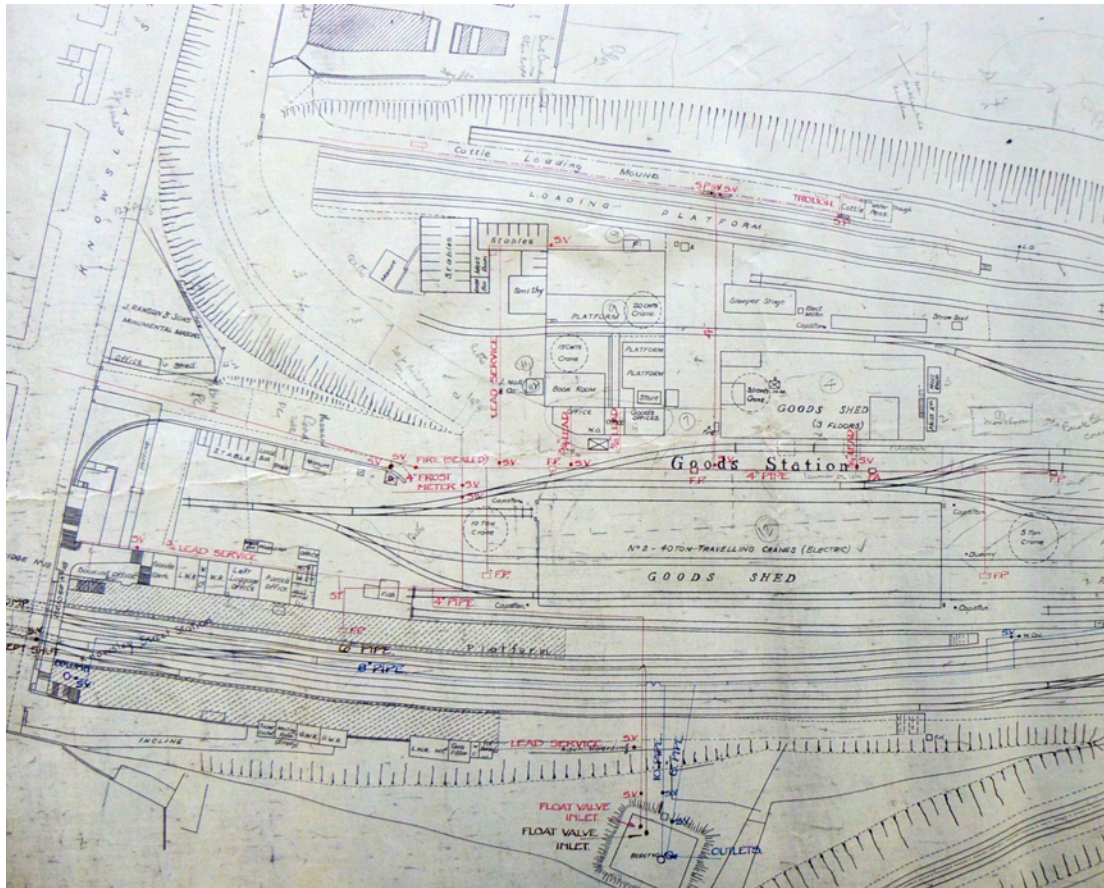


Plate 11: LMS railway plan of 1936 (reproduced courtesy of the Greater Manchester Record Office), showing the layout of the station buildings (A19/4/780)

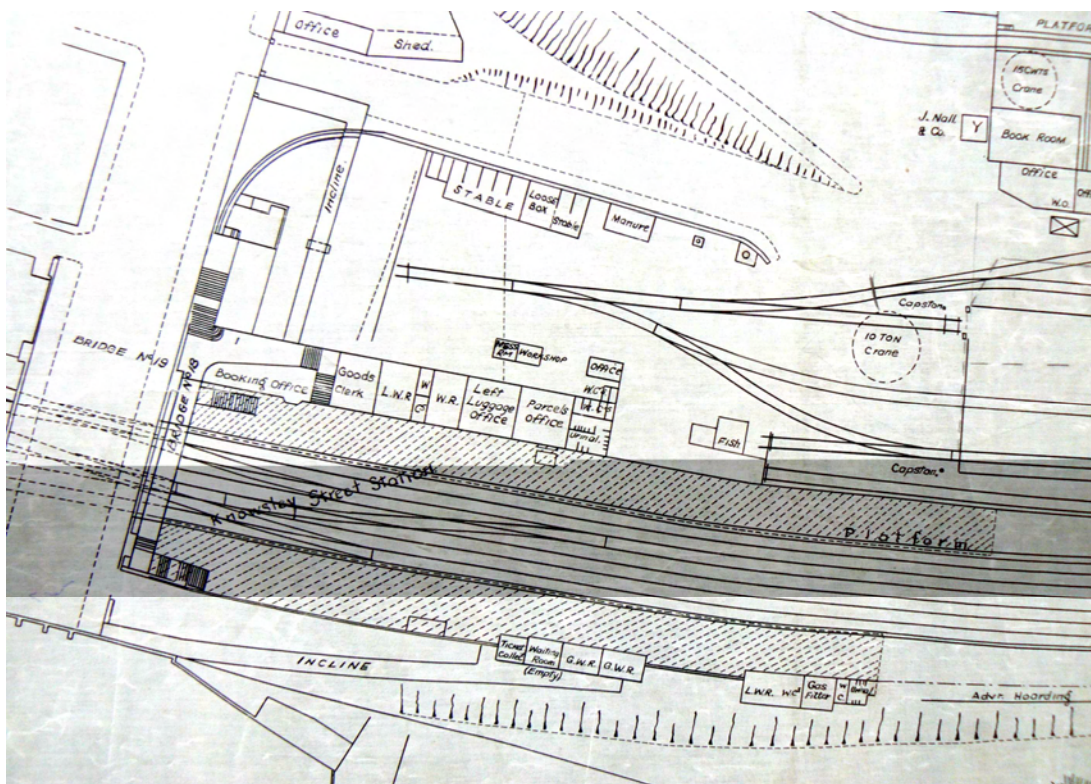


Plate 12: LMS railway plan of 1944 (reproduced courtesy of the Greater Manchester Record Office), showing the layout of the station buildings (A19/4/601)

3.3.11 In the early 1960s, Richard Beeching's report on the *Reshaping of British Railways* was published, which recommended a radical overhaul of the national network and wholesale closures of its loss-making branches and duplicate routes. Consequently, in April 1967, the goods depot and yard at Knowsley Street were closed, although passenger services continued. However, despite the efforts of local campaigners, the station was de-staffed and became an unmanned rail halt in September 1969. The line was closed in 1970, and the abandoned Knowsley Street station was finally demolished and levelled in April 1971 after 123 years of service (Flood 2008, 13). Since then the site has remained as open land, with the area subject to archaeological excavation being in use as a car park in recent times.



Plate 13: View along the 'Up' platform looking towards Knowsley Street in the 1950s (Bury Archive Service)

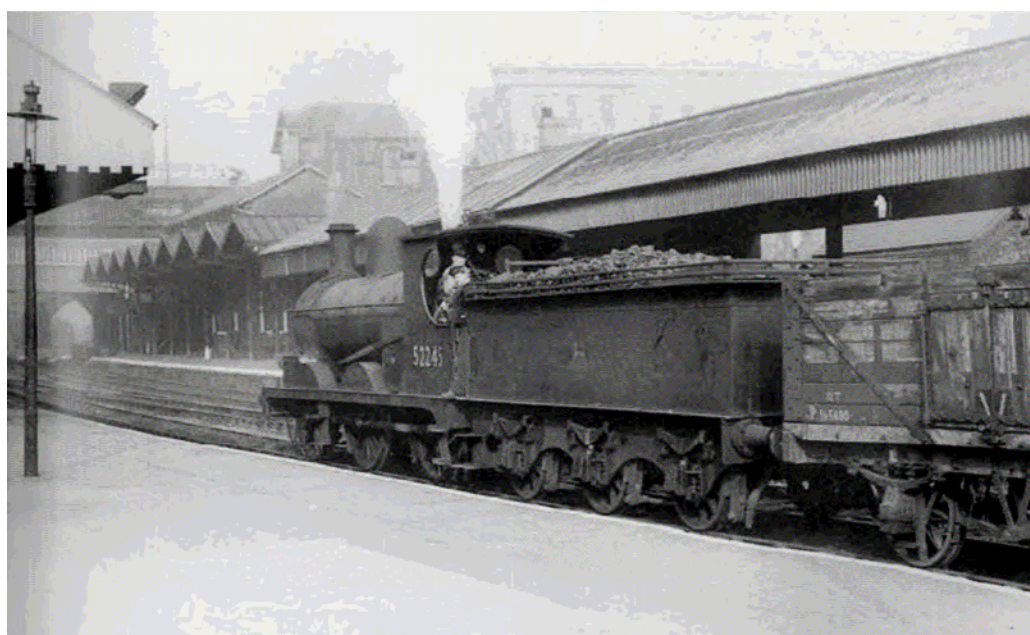


Plate 14: Knowsley Street station in September 1953, showing a gas light on the 'Down' platform, and the station canopies (Bury Archive Service)



Plate 15: Disassembling the platform canopies on the 'Up' platform in the summer of 1970, by which date the buildings on the 'Down' platform had been partially demolished (Bury Archive Service)



Plate 16: Looking south-east along the 'Up' platform in October 1970, during the station's final week in service. Note the absence of the platform canopies (Bury Archive Service)



Plate 17: The abandoned and derelict station in 1971, shortly before demolition (Bury Archive Service)

4. EXCAVATION RESULTS

4.1 INTRODUCTION

4.1.1 This section presents the results obtained from the archaeological excavation. In total, 2163m² across the site of the former station, and specifically the passenger terminal and associated buildings on the 'Up' platform, was subject to detailed excavation (Fig 2). This exposed well-preserved structural remains pertaining to the development of the station, although the railway lines and track bed had evidently been removed completely during the 1970s. The surviving remains were recorded at a depth varying between 0.20m to 1.39m beneath the level of the modern car park surface (87.02m aOD).

4.1.2 For ease of a coherent site narrative, the results have been compiled in chronological order. In total, three principal periods of the site's development has been recognised (Phase 1 to 3), based on the results of the excavation, coupled with the available documentary evidence. The first phase (Phase 1) represents the initial construction of the station in the mid-19th century with a wooden station house. By 1891, the station had expanded and incorporated an array of amenities (Phase 2), and an extensive good yard that subsumed the land directly north and east of the passenger station. Phase 3 represents the decline and closure of the station in the late 20th century, and its ultimate demolition.

4.2 PHASE 1 (1848 - 66)

4.2.1 The natural geology comprised yellow-brown sandy-clay diffused with sandy gravel (*I13*), which was exposed at a depth of 0.60m beneath the modern ground surface. The natural geology was sealed by a black ash deposit (*I93*), which formed an interface between the clay and levelling material beneath timber surface *I26*.

4.2.2 The original layout of the station comprised a wooden station house, a small ticket office and two platforms. Each platform was low in height, measuring 2ft 6" (0.76m) above track level, with no bridged access, other than across the main lines. Access to the 'Up' platform was afforded via John Street by a sloping path, and accompanied by a high stone retaining wall, which encompassed the station yard.

4.2.3 Few, if any, archaeological remains of the wooden station house survived, although a surface of large, evenly laid oak timbers (*I26*) was possibly contemporary with its construction (Plate 18). The timber surface extended along the northern side of the 'Up' platform (Fig 3), and was sealed beneath a surface of rectangular cobble setts (*I25*; *Phase 2, below*). The surface measured 6m long by 2.65m wide, and comprised at least 23 closely positioned east/west-aligned oak timbers, each measuring between 0.10m and 0.15m thick. Some of the timbers were housed within tenon-jointed flat timbers, which were aligned north/south along the eastern and western edges

of the surface for an overall distance of 6m. Further traces of these timbers were visible to the south-east, surviving as impressions within the make-up layers beneath the timbers. The make-up layer largely comprised fuel waste and ballast. This raised the possibility that the remains represented track bed make-up, although the close proximity of each timber and lack of rail housing cradle joints discounts this theory. However, the upper surface of many of the timbers showed signs of wear, represented by shallow indentations, which may have resulted from the effect human feet. With this in mind, the surface perhaps represented a passageway associated with access onto the platform or the original station building, although no structural evidence of the building survived. Conversely, it is possible that the timbers had been laid to provide a solid foundation for the overlying cobble sett surface (*I25*; Phase 2).



Plate 18: Timber surface I26, possibly representing the earliest phase of the station, overlain by a surface of cobble setts (I25)

4.3 PHASE 2 (1866- 1940s)

4.3.1 The station appears to have undergone piecemeal expansion and development throughout this phase, which included the erection of platform canopies and buildings along each platform, a Station Master's house (*I42*), and a stable block (*I79*) at the eastern area of the station. Both platforms were also extended during this period, with additional buildings erected along the 'Up' platform (*I78*). By 1893, access to the 'Down' platform was afforded via a covered footbridge over the tracks from the 'Up' platform, and by a sloping path from Knowsley Street. Other improvements during this period included the laying of a flagged yard (*I36*) surrounding the southern side of the Station Master's house, and the laying of cobble setts (*I25*) along the eastern side of the 'Up' platform buildings, which sealed timber surface *I26* (Fig 3).

4.3.2 '*Up*' platform (*I78*): although much of the original surface along the northern part of the platform had been removed during its demolition in 1971, elements of a stone kerb observed beneath the modern fence line represented the vestiges of the platform edge (Plate 19). In addition, a large part of the platform surface (*I78*) survived *in-situ* at its south-eastern end (Fig 4), although the extended section of the platform was not exposed during the excavation. Other remains included the foundations of canopy piers (*I88*), representing an important development of roof design used in the construction of station platform structures.

4.3.3 The platform edge comprised chamfered sandstone blocks (*I90*), each measuring 1m long by 0.20m high (Plate 19). The blocks survived for a distance of 23m along the north-western area of the site, protruding some 0.28m into the excavation area. The blocks were supported by the remains of three seven-course high brick piers (*I91*), set 4m apart and extending 0.64m east/west along the edge of excavation (Fig 4). The space between the piers was filled with large amounts of fuel waste, recorded at a depth of 1.5m, serving as ballast. A detailed drawing of the platform wall dated 1893 shows that the track beds were located 2ft 6" beneath the platform kerb.



Plate 19: Stone blocks (*I90*) forming the eastern kerb of the 'Up' platform

4.3.4 A small area of flagstones survived along the northern part of the platform, close to the entrances into some of the station buildings (Fig 4), although for the most part the northern flagged section was fragmentary, having been removed after the station closed in 1970. However, a 13m long section along the southern part of the platform survived *in-situ* (Plate 20). The flags each measured on average 0.80m long by 0.45m wide, and were laid in a regular pattern. They had been laid a mixed bedding of black-grey ash and demolition debris comprising gravel and bricks, which had a maximum thickness of 1.2m above the natural geology.



Plate 20: View looking south along the remnants of the 'Up' Platform

- 4.3.5 The natural clay geology was cut by seven columns of stone and brick construction, representing the remains of the foundations (*I88*) for the canopies along the northern part of the platform. The foundations were positioned 10m apart, and comprised square-shaped brick bases, each measuring 0.50m² and surviving to a height of 1.3m (Plate 21). Each brick base retained a 0.48m² sandstone cap, measuring 0.25m thick, which contained a 0.28m diameter hole housing an iron pipe, which provided a conduit for rainwater from the canopy to a drain beneath the foundation. No canopy supports were present within the flags at the southern end of the platform.



Plate 21: Remains of a roof canopy pier support *I88*

- 4.3.6 **Platform buildings:** the well-preserved foundations of station buildings erected during the late 19th century were exposed during the excavation (Plate 22), including the footbridge/building foundation (*I38*), ticket office (*I27*), goods clerk office (*I44*), ladies waiting room (LWR) and WC (*I50* and *I52*), general waiting room (WR; *I55*), left luggage office (*I57*), parcel office (*I60*), and a men's toilet block (*I64*). All of the rooms were bordered by a three-skin wide brick wall (*I03*) with sandstone foundations, which formed the eastern wall of the building along the northern part of the platform. The western side of the building was bordered by a similar wall (*I23*).
- 4.3.7 The foundations of a rectangular-shaped building (*I38*), aligned east/west, was exposed along the north-western end of the excavated area (Plate 23). The position of building *I38* corresponds with the Porter's Office shown on historical plans. It measured 6.35m by 3.4m, and comprised four contiguous walls (*I03*, *I23*, *I28* and *I40*), each measuring between three and four bricks wide. The walls comprised hand-made, mould-thrown bricks, each measuring 225mm by 100mm by 70mm, and bonded in light yellowish-grey mortar that contained frequent charcoal and lime inclusions. The office was divided by a two-brick wide partition (*I39*), thus forming two rooms. The southernmost room contained a brick structure measuring 1.9m by 1.1m, which projected 0.45m from the north side of wall *I28*. This possibly formed part of a pedestal or structural support beneath the staircase and footbridge entering the booking hall.



Plate 22: View along the foundations of buildings on the 'Up' Platform



Plate 23: Foundation of building 138, used as the Porter's Office in the early 1900s

- 4.3.8 A LYR engineering plan of 1893 and Goad's insurance plan of 1900 indicate the Booking Hall and Ticket Office to have been a two-storey structure (Plate 7). The Booking Hall was on the first floor, and was accessed directly from Knowsley Street (Plate 8), with steps providing the route down to the 'Up' platform. The Booking Hall was also accessed via an L-shaped covered footbridge of wood and iron construction that passed to the rear of the Station Master's house. The 'Down' platform was accessed via another footbridge from the Booking Hall. The Ticket Office was situated on the 'Up' platform, beneath the Booking Hall and the steps at platform level. This layout is consistent with that shown on the successive engineering plans of 1936 and 1944.
- 4.3.9 The foundations of the Ticket Office (*127*) and the steps onto the platform were exposed during the excavation (Plate 24). The building measured 13.5m by 7.2m wide, contained within walls *103*, *123*, *128* and *135* (Fig 4). Each wall had a two-course high sandstone block foundation, which were generally four or five bricks thick, consistent with a load-bearing structure.



Plate 24: Excavated foundations of the Ticket Office on the 'Up' platform

- 4.3.10 Entrance into the Ticket Office was afforded via the north-eastern side of the building at ground floor level, represented by the remains of a 1.46m long stone lintel laid across the surface of wall *103*. The building was divided along its entire length by a three-brick wide partition (*131*), which had been cut into the natural geology. A further four east/west-aligned partitions butted wall *131*, which provided a ground floor layout of six sub-divided rooms of varying size. Two rooms, each measuring 3.60m by 3.10m, were located along the western side of the building, with similar-sized rooms located along the eastern side. An additional two smaller rooms each measuring 1.3m wide were located along the eastern wing, and a 2.4m wide room along the western wing, each positioned beneath the staircase leading from the Booking Hall. The foundation of a bay window (*130*), projecting 0.60m from wall *123*, possibly

represented the platform side ticket office window. It measured 2.08m long, with angled walls bridging to the outer wall, providing a width of 1.02m.

- 4.3.11 Few internal features survived within the Ticket Office, although the remains of a stone-flagged floor (**I36**) was exposed in the north-eastern room. The surface survived over a distance of 5m by 2.0m, and the flagstones had an average dimension of 0.72m by 0.58m, laid above a bedding layer of compacted dark brown sandy-silt. Other features included two rectangular-shaped brick structures located within two rooms along the western side of the building. The structures were angled between the eastern corner of each room, keyed into wall **I31**, and probably represented the remains of fireplaces. Each measured 1.40m by 0.60m, and contained internal chambers filled with gravel and rubble. At some stage during the late 20th century, the booking hall suffered a fire (Alan Taylor pers comm). Evidence of this was represented by scorching across the inner elevations within the central room along the western side of the building. Although the extent of the fire on this occasion is uncertain, evidence of possible fire damage was identified within the Left Luggage Office.
- 4.3.12 The Goods Clerk Office (**I44**) is shown on the 1936 and 1944 railway engineering plans as a rectangular-shaped room, measuring some 6m by 5m. It would seem that at some stage that the room was sub-divided by a north/south-aligned, one-brick thick wall across the centre of the room, although this had been destroyed by the installation of a large modern concrete man-hole (Phase 3). Entrance to the Goods Clerk Office was afforded via the platform, represented by the remains of a stone door jamb. No floor survived in the room, although large amounts of fuel waste and loose gravel was exposed above the natural geology across the room, presumably representing a bedding layer for the floor. This had been disturbed by the installation of modern drains, which connected to the man-hole.
- 4.3.13 The modern drains had also largely destroyed the room's southern wall (**I48**), the remnants of which survived as a 0.48m wide footprint. The vestiges of a possible fireplace (**I49**) were exposed in the northern face of the wall, represented by a 1.3m long structure, measuring two bricks wide and projecting 0.9m from wall **I48**. The room is marked on an engineering plan of 1936 as the 'Ladies Waiting Room' (**I50**). The dimensions of the room were identical to that recorded for the Goods Clerk Office, although no visible entrance to the room survived. It would seem that at some stage the room was sub-divided by a one-skin wide partition, traces of which were seen clearly in the form of scars in the southern elevation of wall **I03**. The room's southern wall (**I51**) measured 0.5m wide and survived to a height of 0.70m, comprising six courses of brick bonded with red speckled lime mortar, laid in an English Garden wall bond with a row of headers at its foundation. Wall 151 separated the Ladies Waiting Room from the Water Closet. No floor or internal features survived, although it is likely that the room had contained a fireplace.
- 4.3.14 The 'Water Closet' shown on the 1936 plan probably pertains to the Ladies' Rest Room (**I52**) attached to the Waiting Room. It comprised a narrow room, measuring 2.56m wide, which had been divided by a two-skin wide brick partition (**I54**). The southern wall of the room (**I53**) measured 0.47m wide,

and survived to a height of seven brick courses, laid in an unusual bond of various patterns of header and stretcher bricks laid side on. The foundations comprised stone blocks (Plate 25), which were bonded to the foundation beneath wall **123** in the south-western corner of the room, suggesting a wall of fairly substantial, load-bearing capacity. The blocks beneath wall **153** were well dressed, each measuring 0.57m long and 0.30m in depth, protruding 0.10m beneath the base of the bricks.



Plate 25: The southern wall (**153**) of the Water Closet, showing stone block foundation

- 4.3.15 The ‘General Waiting Room’ (**155**), shown on the 1936 plan, was of a similar size and shape to the Ladies Waiting Room. However, archaeological evidence has indicated that the room had been remodelled subsequently, implying that it had served a different function in the later 20th century. These alterations were likely to have taken place as a result of modification to the Left Luggage and Parcels Office. Room **155** measured 6m by 2.1m, with a two-skin wide (0.23m) brick partition (**156**) forming the southern wall. Traces of burnt timbers were retained *in-situ* within the upper surface of the wall, and along the southern wall (**158**) of the Left Luggage Office, suggesting a fire may have occurred in both rooms.
- 4.3.16 The layout of the room (**157**) in the area marked on the 1936 plan as the ‘Left Luggage Office’ had similarly been remodelled during the later 20th century. The surviving dimension of the room was identical to the General Waiting Room. The southern wall (**158**) survived to a height of 12 courses (0.90m), laid on top of the natural geology. The upper surface was covered with a layer of bitumen, bonded to a course of flagstones located along the southern edge of wall **158**. The flagstones measured 0.80m by 0.30m, and possibly represented the remains of an entrance into the room.



Plate 26: Structure **159** in the Left Luggage Office

- 4.3.17 A brick structure (**159**) situated to the immediate north of the flagstones possibly represented the foundation remains of a fireplace (Plate 26). The structure survived to a height of 1m and measured 1.83m long, projecting 0.90m into the room. It was surrounded on three sides by two-brick wide walls, and a one-brick wide wall along its southern edge, forming an interior cavity measuring 0.39m wide. All of the component bricks were bonded with light grey lime speckled mortar. Another single-skin wall had been inserted along the southern edge of the partition, forming a smaller cavity at the rear, although this had been in-filled with brick rubble. This was sealed partially at the eastern edge by a 0.42m wide square brick column. A similar-sized scar of another column was visible along the western side of the structure. If the columns had been intact, they would have created a recess above the brick rubble infill, thus creating foundations for a large fire surround. It is therefore possible that the fireplace had been intended to heat the original waiting room prior to its modification. A passenger recalls the ‘freezing winter of 1962-3 awaiting the 5pm Jubilee on a Saturday, of bitterly cold afternoons, seeking warmth in the waiting room complete with oak table and roaring fire’ (M Crossley pers comm).
- 4.3.18 The excavated remains of the Parcel Office measured 9m by 6m, forming a room that was larger than that shown on the 1936 plan, indicating it to have been remodelled. Few remains that could be firmly ascribed to the original layout of the Parcel Office survived, although evidence for an entrance was identified in the north-west corner of the room. This comprised a 1.3m long by 0.24m wide door jamb, composed of two courses of stone, with each block measuring between 0.05 and 0.07m thick.
- 4.3.19 The remodelled layout of the Parcel Office incorporated a larger room (**160**), aligned north/south. Excavation demonstrated that the foundations for this

room survived largely intact, except for the southern wall, which had been destroyed entirely by the insertion of a modern sewer pipe. In addition, a smaller room (**121**) abutted the southern side of wall **158**. Room **121** measured 6.8m by 2m, aligned north/south, and comprised three contiguous walls (**161**, **162** and **163**). Each wall was two-bricks thick, and incorporated a mixture of hand-made and machine-cut bricks, bonded with pale red mortar. The western wall (**161**) survived to a height of nine courses (0.60m) above a single step brick foundation. The western elevation of the wall retained two rectangular drain sockets, each measuring 0.30m by 0.20m and set 3m apart, which survived in the western elevation. No internal features survived, although several flagstones located along the southern side of wall **158** seemingly represented an original floor level. The entire room was filled with brick rubble and burnt material.

- 4.3.20 The foundations of a rectangular-shaped room (**164**) were exposed along the southern side of the Parcels Office, the position of which corresponded to a men's toilet block shown on the 1936 and 1944 engineering plans. The toilet block measured 7m by 6m, and had originally contained four cubicles along the eastern wall (**103**), each measuring 1.9m by 1.28m, and two rows of urinals along the southern and western walls; the urinals had been removed subsequently, during its conversion to a ladies toilet block (4.4.2 below).



Plate 27: Foundations of the toilet block shown on the 1944 engineering plan

- 4.3.21 Access into the toilet block was gained from the north-western corner, via a 1.3m wide sandstone threshold, which was bordered by the remains of a curving brick screen wall. No internal floor survived, although the foundations of several partitions were exposed (Plate 27). Wall **165** extended east/west across the toilet block, abutting the northern (**170**) and southern (**166**) walls, and bordering the western side of the cubicles. The wall survived to a height of two courses with a single brick step foundation, and comprised red frogged bricks bonded with dark grey-black speckled mortar. A similar north/south-aligned partition projected 1.2m into the room from wall **170**, serving as a second screen wall.

- 4.3.22 **Station Master's house:** the Station Master's house is first shown on a LYR engineering plan dated 1893, which shows it as a rectangular-shaped building attached to the north-eastern edge of the booking hall, aligned east/west across the northern part of the station. The Station Master's house was originally three storeys in height, as shown on Goad's insurance plan of 1900, with the upper storey above Knowsley Street; it also contained a cellar (Plate 28). It was separated from the street by a stepped gangway leading to the footbridge over the platforms. Cartographic evidence indicates that the building was extended to the north-west between 1893 and 1940, thus forming a new room on the ground floor. The excavated footprint of the building measured 10m by 4.65m, with the extension measuring an additional 5.5m (Fig 5).
- 4.3.23 The excavated remains included a cellar (**100**), passage **114**, room **108**, and a probable extension (**143**) attached along the northern side of **108**. The southern wall (**101**) of the building was three-bricks wide, and the western wall (**103**) was four-bricks wide. The northern wall (**105/109**) was only partially exposed. Ground floor access into the building was afforded via the west wall (**103**), represented by a sandstone block door jamb.



Plate 28: Excavated remains of the Station Master's house

- 4.3.24 Cellar **100** measured 4.65m long by 3.89m wide, and comprised whitewashed brick walls **101**, **103** **105**, and **106**, and a stone-flagged floor (**107**). The walls comprised hand-made bricks, each measuring 240mm by 120mm by 70mm, laid in English Garden Wall bond and set in soft, grey lime mortar (Fig 6). Access to the cellar was afforded via a doorway located in the western corner of the room (Fig 6). The remains of a cellar light window, measuring 1.11m by 0.81m and 0.43m deep, were identified in the centre of the south-eastern wall **101** (Fig 7). It comprised a sandstone slab, bordered by a one-skin wide blocking wall, thus creating a 0.12m ledge inside the room. The narrow wall in turn bordered a stone flagged drain some 0.40m above the ledge, which drew water away from the cellar. A 0.25m² drain was located in the centre of the flagged floor.
- 4.3.25 The remains of a fireplace (**104**) survived within the south-western wall (**103**), and a stone foundation that possibly housed a water boiler was located in the north-eastern corner of the room. The material that had been backfilled in the cellar during demolition included a mangle, a gas brazier, and fragments of 19th- and 20th-century kitchenware pottery. The cellar also contained 1m long chains fixed at regular intervals along the inside elevation of each wall, some 0.60m above the floor.
- 4.3.26 A 2.14m wide passage (**114**) was located along the eastern edge of cellar **100**, between **100** and room **108**. The sides of the passage were formed by walls **106** and **112**, which were each two-bricks thick. A 1m long by 0.50m wide, brick-lined hollow structure (**147**) oriented north/south, was located to the south of room **114**, which may have provided support for the base of a stairwell along the outside of the building
- 4.3.27 The eastern part of the building, measuring 4m² (room **108**), did not incorporate a cellar. No floor survived in the room, with natural sandy-clay exposed at a depth of 0.38m beneath the upper surviving course of the eastern external wall (**110**). Wall **110** was three-bricks wide, and was keyed into wall **103**. The northern wall (**109**) measured two-bricks (0.40m) wide, and survived to a height of 0.38m. The remains of a probable fireplace, represented by two narrow brick piers each measuring 0.30m wide and set 1.2m apart, projecting 0.60m from the wall, survived in south-facing elevation.
- 4.3.28 A flagged floor surface (**175**), located east of room **108**, possibly formed the internal ground floor surface of an extension to the Station Master's house. Each flagstone measured on average 0.80m long by 0.60m wide, and were laid onto the natural sandy-gravel geology. They were bordered on three sides by brick walls (**110**, **145** and **146**) constructed from a mixture of hand-made and frogged bricks married with compacted grey-white mortar, which enclosed an area measuring 5.40m long 4.55m. Its southern wall (**146**) butted the eastern edge of wall **101/111**. It is therefore probable that this part of the building (**143**) represented an extension to the property undertaken sometime between the early to mid-20th century. Entrance to the room was probably accessed via the southern wall (**146**), and whilst no remains of a doorway survived, several flags were positioned across a 1.2m gap in the wall at ground floor wall level, suggesting its general locality.

- 4.3.29 **Stables (179):** a row of buildings against the eastern revetment wall of the station is shown on railway engineering plans from at least 1893, and are identified as a stable block. This is also shown on historical maps to have been expanded during the mid-20th century across a row of smaller structures.
- 4.3.30 The excavated remains of the stable block (179) comprised a large building measuring 18.6m by 7.45m, with additional structures situated at the northern (180) and southern (181) ends of the main block (Fig 8). The walls comprised machine-pressed bricks, and had a single-brick step foundation. The main block was divided into three rooms of varying size (Plate 29). The largest room, occupying the northern side of the building, measured 10m long by at least 3.8m, although the eastern wall was not exposed. The southern part of the building contained two smaller rooms, each measuring 3.5m by 3.12m.



Plate 29: The excavated remains of stable block 179

- 4.3.31 The earliest phase of construction was observed within the largest room, which contained a wooden floor (184). The floor comprised two rows of 15 re-used railway sleepers, each measuring 1.8m by 0.25m, which were laid

east/west and set onto a 0.25m thick bedding layer of ash and clinker. The sleepers continued beneath the foundation level of the western wall, indicating that they predated the wall, and were presumably associated with an earlier building. Floor **184** was overlaid subsequently with concrete (**183**), which served as a bedding for a cobble set surface (**182**), representing the later ground floor level of the southern rooms in the building.

- 4.3.32 The remains of other wooden sleepers were exposed to the north (**180**) and south (**181**) of the main block, recorded at a similar depth as floor **184**. The sleepers within northern room **180** extended 5m up to the eastern and western limits of excavation, and 2.75m north/south, and overlay a brick-lined culvert that contained a ceramic drain. No evidence of the smaller building attached to the main stable block shown on the 1944 LYR engineering plan survived, suggesting it had been removed sometime between the mid- to late 20th century.
- 4.3.33 The surviving sleepers within room **181** were recorded over a distance of 2m by 1m, and were aligned north/south (Fig 8). This part of the stables had been altered systematically with few wall alignments surviving, although part of a brick-lined culvert (**187**) sealed beneath two sleepers at the southern end of the room, suggested contemporary construction as the floors in **179** and **180**. The culvert was contained within walls **185**, **186**, and **141**, each measuring two-bricks thick, made from a mixture of hand-made and machine-pressed bricks.
- 4.3.34 **Yard areas:** a flagstone surface (**136**), surviving across an area measuring 4.8m by 2.5m, was exposed between the southern side of the cellar **100** and the eastern side of wall **103**. Each flagstone measured 1m by 0.8m, and had been evenly laid on a bedding layer of ash and cinders.
- 4.3.35 Cobble surface **125** extended north/south over a distance of at least 8m long by 3m wide, forming a corridor to the rear of the platform buildings. The cobbles abutted the southern edge of flagstone surface **136**. It is probable that the surface continued further south, although it may have been laid to provide passenger access to the waiting rooms. The cobbles comprised irregularly laid square and rectangular cut blocks measuring between 0.15m² to 0.20m² and 0.20m by 0.10m to 0.30 by 0.15m.

4.4 PHASE 3 (LATE 1940S - PRESENT DAY)

- 4.4.1 It would seem that there was little development of the station during the post-war period, although some building work was undertaken, including the conversion of the men's toilets to ladies toilets (**164**), and the construction of a new men's toilet block (**168**). The station finally closed in 1970, and its tracks removed in October of that year. The derelict buildings were finally demolished in 1971, and the site was resurfaced with tarmac and eventually used as a car park.
- 4.4.2 At some stage during the later 20th century, block **164** had been extended 2.4m south and converted into a ladies toilet block with the removal of the urinals and a further two cubicles installed along the eastern wall (Plate 30).

The dimensions of the extended toilet block measured 7m by 6m. All of the new walls comprised machine-pressed bricks, and were three-bricks wide, attached to the southern edges of walls **123** in the west, and **103** in the east. The southern edges of these walls were keyed into a new external wall (**167**) which survived to a height of nine courses (0.9m) above a single-brick step foundation. Access into this new section was connected internally via wall **166**. The upper surviving courses of the walls were butted by a floor surface comprising a mixture of concrete (**120**) and wooden parquet (**119**).



Plate 30: Extension of (former men's block) ladies and gentlemen's toilets

- 4.4.3 The extension to the ladies toilets coincided with the construction of a new men's toilet block (**168**), which measured 7m by 5m (Fig 9). The complete footprint of the block survived, and comprised three external walls (**172**, **173** and **174**) two single-brick thick partitions (**169** and **122**) serving as screen walls. Access from the platform was via a doorway at the north-western corner. The urinals were located along the southern and western walls, represented by *in-situ* stone gullies. A row of five concrete floored cubicles, each measuring 2m by 1.3m, were located along the eastern side of the room, abutting wall (**174**). The sinks had been located along eastern side of the screen wall.
- 4.4.4 Following the demolition of the station buildings in 1971, a cobbled courtyard (**192**), comprising rectangular granite blocks measuring between 0.15m to 0.20m long and 0.08m to 0.10m wide, was laid across the eastern and southern parts of the site. The courtyard sealed a layer of demolition material, which contained several items relating to the station, including the 'Up' platform departure sign (Plate 31), and part of a distance signal point (Plate 32). The natural clay geology was exposed by excavation at a depth of 0.58m beneath the cobbles.

5. CONTENTS OF THE ARCHIVE

5.1 STRUCTURAL AND STRATIGRAPHIC DATA

5.1.1 **Quantification:** the context record generated by the excavation (*Appendix 2*) can be sub-divided in broad chronological terms as follows:

Phase 1 (1848-1866)	4
Phase 2 (1866-1940s)	63
Phase 3 (Late 1940s - present day)	26
Total stratified contexts	93

5.1.2 The archive of primary field drawings and photographs comprises the following:

Multiple context plans	20
Single context plans	5
Sections	1
Monochrome contact	200
Colour slides	122
Digital images	382

5.2 THE ARTEFACTS

5.2.1 The excavation produced only a few artefacts, and these were derived entirely from recent demolition deposits, and of little archaeological value. The most interesting objects were recovered from the backfilled material within the Station Master's house, and included a gas cooker dating to the 1950s (Plate 33), and fragments of an Acme mangle of a similar date (Plate 34). These artefacts were recorded on site, but were not retained.

5.2.2 A small group of finds was recovered from demolition material **137**, in the Booking Office (**127**). This included fragments of pottery, clay tobacco pipe, buttons, and part of a ceramic fuse box. The pottery comprised two fragments of a light brown stoneware ginger beer bottle, bearing the trademark 'M Pomfrey', a firm based in Bury, and a dark brown-glazed red earthenware tea pot lid. The assemblage of clay tobacco pipes comprised 22 fragments, mostly represented by stems of varying sizes, although at least five identifiable bowls were present. Of these, two bowls were decorated with foliage along the moulded seam, a style typical of the 19th-century pipe-makers in Manchester (Jung 2003). A metal button and a small plastic dress button were both of a probable 20th-century date. Of interest was a heavily patinated copper penny dating to 1799, minted during the reign of George III. The coin was recovered from the bedding material beneath the 'Up' platform flags along the eastern side of the platform buildings.

5.2.3 The remainder of the finds assemblage included a 'Train Departures' sign (Plate 31), and part of the distance signal arm (Plate 32). The latter was composed of pressed steel, indicating it to have been of a late date.



Plate 31: 'Up' platform departure sign



Plate 32: Distance signal arm recovered from a demolition deposit



Plate 33: Gas cooker from the backfill of the Station Master's house



Plate 34: Fragment of a mangle from the backfill of the Station Master's house

6. CURATION AND CONSERVATION

6.1 RECIPIENT MUSEUM

6.1.1 Bury Museum has been nominated as the ultimate repository for the finds:

Bury Art Gallery, Museum and Archives
Moss Street
Bury
BL9 0DR
Tel: 0161 253 5878

6.1.2 Arrangements were made with the museum prior to the commencement of the excavations for the deposition of the complete site archive, and the museum curator has acknowledged her willingness to accept the archive.

6.2 CONSERVATION

6.2.1 There are no conservation requirements.

6.3 STORAGE

6.3.1 The complete project archive, which will include written records, plans, black and white and colour photographs, and artefacts, will be prepared for long-term storage following the guidelines set out in *Environmental standards for the permanent storage of excavated material from archaeological sites* (UKIC 1984, Conservation Guidelines 3), and *Guidelines for the preparation of excavation archives for long-term storage* (Walker 1990).

6.4 DISSEMINATION

6.4.1 The complete results obtained from the archaeological investigation at Knowsley Street railway station are incorporated in this final excavation report. In addition to Ask Property Development Ltd, copies of the report will be forwarded to Bury Art Gallery, Museum and Archives, Bury Metropolitan Borough Council Planning Department and Conservation Officer, the Greater Manchester Historic Environment Record, Bury Transport Museum, and the East Lancashire Railway.

6.4.2 In order to disseminate the results obtained from the archaeological investigation to a national audience, a summary of the key findings has been synthesised into a short academic paper, which has been offered for publication in the *Industrial Archaeology Review*, the journal of the Association for Industrial Archaeology. A synopsis of this publication paper is presented in *Section 8*, below.

6.4.3 An illustrated historical account of the station, including data and photographs generated during the archaeological excavation, has also been presented in the

Spring 2008 edition of *ELR News*, the magazine of the East Lancashire Railway Preservation Society. This publication has a wide readership in the Bury area, and will disseminate news of the archaeological excavation to the local railway interest groups.

- 6.4.4 In addition, text and illustrations have been produced for incorporation on an information board. This is to be installed permanently on the site to commemorate the heritage and archaeology of the former station.

7. DISCUSSION

7.1 INTRODUCTION

7.1.1 In 1961, a campaign to save from demolition the Euston Arch, an iconic monument of the Railway Age, was a significant factor in the development of Industrial Archaeology as a distinct discipline (Hudson 1976). Despite being unsuccessful in its primary objective, the campaign resulted in a widespread recognition of railway structures as an immense archaeological resource (Morriss 1999, 10). The loss of a considerable part of the nation's 19th-century railway infrastructure a result of industrial decline and the implementation of Richard Beeching's recommendations in the 1960s has, to an extent, been counteracted by the publication of countless illustrated historical accounts of former railways, and the emergence of numerous local railway interest groups. However, very few detailed archaeological investigations of former railway buildings have been carried out and, as highlighted in the current *Archaeological Research Framework for the North West*, there is an urgent need to record structural remains from the industrial and modern periods as a research initiative (Newman and McNeil 2007).

7.1.2 The excavation of Knowsley Street station was the first archaeological excavation of a 19th-century railway station to have been carried out in the region, and as such can be considered as a site type for the development of a LYR passenger station, based on the results obtained from the excavation and associated research. The excavation has also provided a valuable opportunity to study an important element of Bury's rich transport heritage, and allow the local population to view and appreciate this resource.

7.2 IMPACT AND SIGNIFICANCE OF THE RAILWAYS

7.2.1 The introduction of the railway 'must surely be esteemed one of the greatest blessings ever conferred on the human race' (Whishaw 1842). The development of railways certainly proved to be a major factor of the economy of Victorian England, and brought immense changes to the size and layout of towns and transformed the architecture of industrialising rural areas (Gwyn 2002, 16). The birth of the railway infrastructure in the North West may be traced to 15 September 1830, 'perhaps the most remarkable day in Lancashire's history', when a railway was opened between the expanding cities of Liverpool and Manchester (Aspin 1995, 23). This provided an alternate transport system to the congested and expensive canal and river navigations (Greene 2002, 26), and stimulated the industrial development of manufacturing towns throughout Lancashire by providing a cheap and rapid means of transporting raw materials and finished products across the country. The transportation of goods was particularly important to the LYR, which was noted for 'offering every facility for the transmission of coal and other articles to Liverpool, Bury, Manchester and other towns' (Mannex 1854, 586).

- 7.2.2 The railways also provided a cheap form of transport for passengers and, following the Acts of 1844 (that led to the ‘Parliamentary’ trains) and 1883 (the ‘Cheap Trains Act’), offering for poor people the first opportunity to travel any real distance; travel was no longer the prerogative of the rich (Morris 1999, 9). One important consequence was the growth of commuting, with the resultant development of the suburbs and satellite towns.
- 7.2.3 Railways themselves grew into large-scale industries. Firstly, large numbers of people were employed in their construction; in 1847-8, approximately 1,000,000 men were employed directly or indirectly in railway construction (Holland 1976, 110). Locomotive sheds and coaling facilities, and manufacturing works capable of building and repairing locomotives and rolling stock, were also crucial to the railways. The LYR had its own locomotive and rolling stock workshops, initially at Miles Platting and Newton Heath in Manchester, and latterly at Horwich (Turton 1962). One of the oldest surviving railway workshops, however, is the Buckley Wells locomotive works in Bury, opened by the ELR in 1856, and is now designated a Grade II Listed Building (McNeil and Nevell 2000, 27).
- 7.2.4 The Buckley Wells locomotive works was designed to replace a small engine shed/locomotive works, known at the Bury Engine Shed, which was considered by the ELR as ‘unsatisfactory’. This early engine works had been built by the ELR in the 1840s for its engines working on the line between Manchester, Bury and Rawtenstall, and comprised a simple timber building alongside the ‘Up’ line at Buckley Wells. The new locomotive works was erected adjacent to the Bury Engine Shed, and comprised a boiler-maker’s shop, smithy, brass foundry, offices, stores, and engine house (Wells 2006, 12). The works was extended during the 1860s, following the take-over of the ELR by the LYR, and further alterations were carried out during the 1870s. Bury Engine Shed was also rebuilt during the 1870s, and the original timber structure was replaced by a brick-built building. The locomotive works were closed at the end of 1887, as a direct result of the new facility at Horwich opening (*Railway Times* 1888), and Buckley Wells became a carriage repair and maintenance works. In 1914-5, the works was remodelled again to an electric car depot, which served the rolling stock in use on the Manchester to Bury line (Wells 2006, 12).
- 7.2.5 Another important element of railway infrastructure was the goods warehouse, and notable examples of these structures survive across the region (Ashmore 1969). These include the Liverpool Road Station Warehouse in Manchester, built in 1830, which has the accolade of being the first railway warehouse in the world (Taylor *et al* 2002, 17). The LYR prided itself on its freight services, and attempted to ensure that they were adapted to suit the particular requirements of the districts it served, typified by the special warehouses that were built at numerous stations (Coates and Waters 1971, 5). Knowsley Street station, as the largest goods yard in Bury, had several large warehouses, including the grain warehouse and the cotton warehouse of 1912 (A19/4/270), although these have all been demolished. The Castlecroft Warehouse in Bury, however, still survives. This was built in 1848 by the East Lancashire Railway, and presently houses the Bury Transport Museum.

7.3 STATION ARCHITECTURE AND LAYOUT

- 7.3.1 The development of the railway system ushered in a new type of architecture. In broad terms, the design of passenger stations presented engineers and architects with considerable problems, largely as there were no precedents; the station was entirely a new invention of the railways, as the concept of a special and specific place at which passengers could purchase tickets, await their transport, and get on board was alien to coach and wagon passengers (Morriss 1999, 110). Hence, the layout of stations was peculiar to the nature of railways themselves and represented a response to a specific challenge (Cossons 1975, 393). The essential components of a passenger terminal, comprising a booking office, waiting rooms and a sheltered platform, were incorporated in Manchester's Liverpool Road station of 1830, which has the distinction of being the oldest surviving station in the world (McNeil and Newman 2006, 175). Most stations built subsequently, including Knowsley Street, provided these basic facilities, although the architectural styles chosen for the buildings and structures that housed them varied enormously between different companies (Morriss 1999, 117). The evidence obtained from the excavation has also indicated that the architectural style of Knowsley Street station also varied slightly over time, the greatest evolution perhaps being from the documented wooden station buildings to those of brick construction with stone foundation, and latterly entirely brick-built structures.
- 7.3.2 Intermediate stations such as Knowsley Street were of every conceivable variety and style (Ashmore 1969, 195). The architecture of some station buildings in the mid-19th century favoured a neo-classical style, such as those at Huddersfield (designed by JP Pritchett, and erected in 1847-50), Stoke-on-Trent (designed by RA Stent), and Monkwearmouth (designed by J Dobson, 1848). Tudor-style architecture was applied at Shrewsbury and, most notably, at Carlisle Citadel station in 1847 (designed by Sir William Tite), whilst a Jacobean style was applied to numerous smaller stations, such as Maldon in Essex and Stone in Staffordshire (Cossons 1975, 396). Knowsley Street station, however, conformed to vernacular railway architecture, which was characteristic of the LYR (Nock 1969).
- 7.3.3 Knowsley Street station was certainly not as impressive architecturally as the ELR station on Bolton Street in Bury, which comprised a three-storey office building with a stone plinth and elaborate classical treatment in stone of windows and doorways, reflecting the importance of the building to the town (Ashmore 1969, 196). However, this station also provided the company offices for the ELR, and their standard layout of stations comprised a simple, single-storey range of buildings, including a booking office, waiting rooms, station master's office, porters' room, and a small waiting room on the opposite platform. The restored station at Ramsbottom provides a typical example of 19th-century ELR station (Plate 35), although the platform canopies were only recently installed, having been relocated from Atherton and Castleton stations (East Lancashire Railway Preservation Society 2008, 76).



Plate 35: The restored Ramsbottom station on the East Lancashire Railway

- 7.3.4 Many stations built during the mid-19th century had only a single platform for both up and down trains, as it was considered by some railway companies undesirable for passengers to have to cross the lines. The Liverpool Road station and the original Victoria station of 1844 in Manchester, together with Reading and Slough (designed by IK Brunel), Cambridge (1847), Huddersfield (1847-50), and Francis Thompson's stations at Derby and Chester (1847 and 1848 respectively) are all examples of this type (Cossons 1975, 395). The Great Western Railway in particular was noted for often installing platforms on one side of the station, sometimes with separate buildings for trains running in different directions (Morriss 1999, 114). Knowsley Street station, however, had two platforms from its inception, although passengers were required initially to cross the lines to reach the 'Down' platform. By the second half of the 19th century, however, it had become common to have more platforms, including bay platforms that might be used for goods traffic. This was certainly the case at Knowsley Street station (Plate 36), which is shown to have adopted bay platforms by the late 19th century, reflecting the importance of the goods yard.
- 7.3.5 The Station Master's house often formed an important part of the station structure (Ashmore 1969, 197). These were frequently two-storey structures, with the first floor providing living accommodation for the station master and his family, above the ticket office and waiting room (Morriss 1999, 120). The relatively large size of the three-storey station master's house at Knowsley Street reflects the position of the station below street level. This highlights the significant engineering challenges presented by the construction of the station, and the extent of the earth-moving works that were required.
- 7.3.6 The masonry arch bridge that carried Knowsley Street across the railway was characteristic of its period; the type persisted until the 1860s and 1870s, when fabricated girders began to be used extensively, and by the end of the 19th century almost all bridges were being built in wrought iron or steel (Cossons 1975, 384-5).



*Plate 36: The bay platform between the 'Up' platform and the goods shed in the 1950s
(Bury Archive Service)*

7.4 SIGNIFICANCE OF KNOWSLEY STREET STATION

- 7.4.1 Like many towns in Central Lancashire, Bury saw rapid industrialisation from the late 18th century, particularly as the textile industry developed. The influx of other industries, including paper making, tanning, forging and engineering necessitated a robust transport infrastructure. The significance of railway building in the national economy at this time was such that the railway industry could be regarded as a major factor in determining the cyclic movements of the economy (Cossons 1975, 375-6). Hanson (1969) argued that 'to estimate the effect of the railway upon the social and economic life of a town such as Bury...would be extremely difficult'. Indeed, it would be impossible to quantify the impact of Knowsley Street station on Bury, although there can be little doubt that it was a significant factor in the economic development of the town during the later 19th century.
- 7.4.2 Knowsley Street station was completed in 1848, the peak year in the enormous boom in railway building when 1,253 miles of track were opened. Documentary evidence has indicated that the original station building was of wooden construction. Other stations, including the former Manchester Central, were similarly equipped with temporary wooden buildings that were intended for use until something more substantial could be erected. Some railway companies, such as the Garstang and Knott End Railway, never accumulated sufficient capital to build anything other than wooden and corrugated-iron shacks, although larger companies such as the LNWR opted for wooden buildings in the later 19th century, such as Droylsden (Ashmore 1969, 195-6).
- 7.4.3 From 1874, the LYR acknowledged that capital investment was required urgently in the form of new carriages, locomotives, facilities and, above all,

new and improved stations. A long catalogue of new works was carried out between 1880 and the turn of the century, including the reconstruction of Manchester Victoria, Liverpool Exchange, Blackburn and Bradford Exchange stations (Nock 1969, 41). The piecemeal remodelling of Knowsley Street station is implicit from the sequence of available railway engineering plans from 1893, coupled with the evidence obtained from the excavation.

8. PUBLICATION SYNOPSIS

8.1 INTRODUCTION

8.1.1 A text has been prepared suitable for publication as a journal article in the *Industrial Archaeology Review*. The text will be supported by a number of graphics, comprising drawings and photographs to illustrate the evidence, and, where appropriate, interpretative phase drawings. The article aims to present a high degree of integration between the structural/stratigraphical history of the site, and the documentary evidence. The following section represents a breakdown of the publication paper.

8.2 OUTLINE SYNOPSIS

1. Introduction

- 1.1 Site location
- 1.2 Circumstances of project

2. Background

- 2.1 Short history of the development of transport infrastructure in Bury
- 2.2 Summary history of the Lancashire and Yorkshire Railway, and other railway companies
- 2.3 Development of Knowsley Street station

3. The Archaeological Investigation

- 3.1 Brief description of the structures encountered during the archaeological investigation

4. Discussion

- 4.1 Chronological and technological discussion
- 4.2 Thematic context

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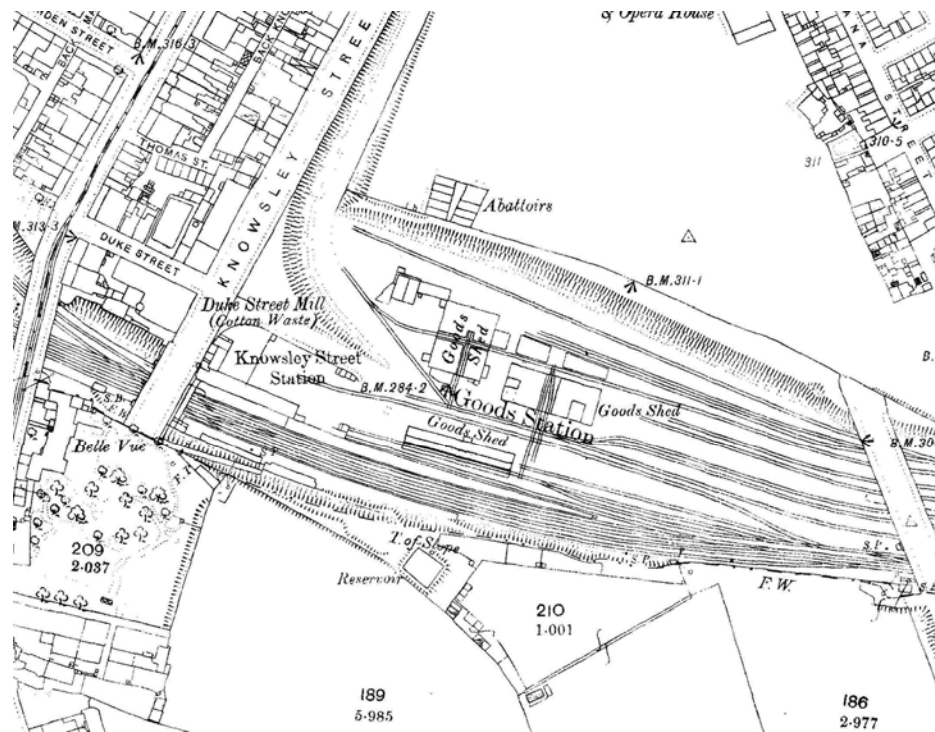
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APPENDIX 1: PROJECT DESIGN

July 2007

Oxford
Archaeology
North**KNOWSLEY STREET STATION,
KNOWSLEY STREET,
BURY,
GREATER MANCHESTER**

Extract from the Ordnance Survey map of 1893

**ARCHAEOLOGICAL EXCAVATION:
WRITTEN SCHEME OF INVESTIGATION*****Proposals***

The following written scheme of investigation is offered in response to a request from Rachel Morse, of Hyder Consulting, for an archaeological excavation in advance of the proposed development of land at Knowsley Street, Bury, Greater Manchester.

1. BACKGROUND

1.1 CIRCUMSTANCES OF PROJECT

1.1.1 In November 2006, Ask Property Development LLP submitted a planning application (reference number 47200) to Bury Metropolitan Borough Council for mixed-use development of a site off Knowsley Street, Bury (centred on SD 8031 1039). The site covers some 1.5 hectares, and comprises a roughly rectangular block of land bounded to the north by Angouleme Way, by Knowsley Street to the west, and by railway lines to the east and south. After 1848, the site was occupied by the Knowsley Street Railway Station, which was expanded and remodelled in several episodes until 1970, when it finally closed as was demolished.

1.1.2 In order to secure archaeological interests, the Assistant County Archaeologist for Greater Manchester recommended that a condition be placed on the planning permission, which allowed for an archaeological study of the application site in advance of development. In the first instance, an archaeological desk-based assessment of the Scheme Area was carried out by Pre-Construct Archaeology, which concluded that the site had moderate-high potential for post-medieval remains, particularly the remains of the Knowsley Street Station. Following on from the desk-based assessment, a programme of archaeological evaluation was carried out, which confirmed that considerable buried remains of the former station survived across the site. These remains included elements of the former station buildings and goods yard, which were revealed to be well preserved.

1.1.3 Given the results obtained from the evaluation, the Assistant County Archaeologist recommended that a further programme of archaeological investigation be carried out in advance of development in order to ensure that a full mitigation record was compiled of the buried remains in advance of their ultimate loss. This written scheme of investigation is for the required programme of archaeological works, and has been formulated to meet the requirements of the Assistant County Archaeologist for Greater Manchester, and has been designed to allow for the final release of the planning condition.

1.2 OXFORD ARCHAEOLOGY

1.2.1 Oxford Archaeology has over 30 years of experience in professional archaeology, and can provide a professional and cost effective service. We are the largest employer of archaeologists in the country (we currently have more than 200 members of staff) and can thus deploy considerable resources with extensive experience to deal with any archaeological obligations you or your clients may have. We have offices in Lancaster and Oxford, trading as Oxford Archaeology North (OA North), and Oxford Archaeology (OA) respectively, enabling us to provide a truly nationwide service. Watching briefs, evaluations and excavations have taken place within the planning process, to fulfil the requirements of clients and planning authorities, to very rigorous timetables. OA is an Institute of Field Archaeologists Registered Organisation (No 17),

and is thus bound by the IFA's Code of Conduct and required to apply the IFA's quality standards.

- 1.2.2 Given the geographical location of Bury, it is intended to co-ordinate the project from our northern office in Lancaster, though the project team will use the most appropriate resources from both offices. Between our two offices our company has unrivalled experience of working on post-medieval and industrial sites, and is recognised as one of the leading archaeological units in the country with regard to dealing with industrial archaeological projects. OA North has considerable experience of the assessment, evaluation and excavation of sites of all periods, and has particular experience of industrial archaeology in the North West having undertaken in recent years excavation, survey, building recording and post-excavation projects in both urban and rural environments. Most recently, OA North has been engaged in a series of excavations between Derby Street and Butcher Lane in Bury, a short distance to the east of the present Scheme Area.

2. AIMS AND OBJECTIVES

2.1 ACADEMIC AIMS

- 2.1.1 The main research aim of the investigation, given the commercial nature of the development, will be to expose and record the surviving remains pertaining to the former railway station in the car park area forming the southernmost portion of the Scheme Area, and generate a complete record of the key elements of the complex.

2.2 OBJECTIVES

- 2.2.1 The following programme has been designed to preserve by record any archaeological deposits or features that may be present that will be impacted on by the proposed development. The work will be undertaken in order to mitigate the impact of the development on any archaeological remains. The information will be finally disseminated through the deposition of the archive at Bury Museum, a final report at the Sites and Monuments Record, and at publication level. The work will be carried out in line with current IFA guidelines, and in line with the IFA Code of Conduct.
- 2.2.2 **Archaeological Excavation:** to excavate a single U-shaped trench, with a total area of some 1,250m² (Figure 1), which will be targeted upon the principal station buildings.
- 2.2.3 **Post-Excavation and Report Production:** the site records, finds and any samples from the excavation programme outlined below will form a checked and ordered site archive as outlined in the English Heritage guideline document *Management of Archaeological Projects* (2nd edition, 1991b) (hereafter MAP 2). Following compilation of the project archive a report will be produced. This report will make recommendations for further analysis and publication of the results, as appropriate.

- 2.2.4 **Archive Deposition:** the results of the excavation will form the basis of a full archive to professional standards, in accordance with current English Heritage guidelines (*ibid*) and the *Guidelines for the Preparation of Excavation Archives for Long Term Storage* (UKIC 1990). The project archive represents the collation and indexing of all the data and material gathered during the course of the project. The deposition of a properly ordered and indexed project archive in an appropriate repository is considered an essential and integral element of all archaeological projects by the IFA in that organisation's code of conduct.
- 2.2.5 **Dissemination:** the results obtained from the excavation will be disseminated to the wider public via publication and the production of a permanent information board that will be installed on site.

3. METHOD STATEMENT

- 3.1 The following work programme is submitted in line with the aims and objectives summarised above. As an initial stage in the programme of works, the area for archaeological investigation, including the part of the site that will be used for spoil stockpiling, will be fenced off using Herras-type fencing. A CAT-Scan of the site will be carried out to locate any services present within the excavation area, and welfare facilities will be delivered.

3.2 FIELDWORK

- 3.2.1 Excavation of the uppermost levels of modern overburden/demolition material will be undertaken by a machine fitted with a toothless ditching bucket to the top of the first significant archaeological level. It is envisaged that a 15-tonne tracked excavator will be employed for this purpose. The work will be supervised closely by a suitably experienced archaeologist. Spoil from the excavation will be stored in a stockpile at the eastern end of the site; for the purposes of this WSI it has been assumed that there will not be a requirement to remove spoil from site, although this can be arranged as a contingency.
- 3.2.2 Machine excavation will then be used to define carefully the extent of any surviving structures and other remains. Thereafter, structural remains will be cleaned manually to define their extent, nature, form and function. It is anticipated that excavation will proceed below a depth of 1.2m.
- 3.2.3 All information identified in the course of the site works will be recorded stratigraphically, using a system adapted from that used by the Centre for Archaeology Service of English Heritage. Results of the excavation will be recorded on *pro-forma* context sheets, and will be accompanied with sufficient pictorial record (plans, sections and both black and white and colour photographs) to identify and illustrate individual features. Primary records will be available for inspection at all times.
- 3.2.4 A full and detailed photographic record of individual contexts will be maintained and similarly general views from standard view points of the overall site at all stages of the evaluation will be generated. Photography will be undertaken using 35mm cameras on archivable black and white print film

as well as colour transparency, and all frames will include a visible, graduated metric scale. Extensive use of digital photography will also be undertaken throughout the course of the fieldwork for presentation purposes. Photograph records will be maintained on special photographic *pro-forma* sheets.

- 3.2.5 The precise location of the excavation trench, and the position of all archaeological structures encountered, will be surveyed by EDM tacheometry using a total station linked to a pen computer data logger. This process will generate scaled plans within AutoCAD software, which will then be subject to manual survey enhancement, as appropriate. The drawings will be generated at an accuracy appropriate for 1:20 scale, but can be output at any scale required. Sections will be manually drafted as appropriate at a scale of 1:10. All information will be tied in to Ordnance Datum.
- 3.2.6 Human remains are not expected to be present, but if they are found they will, if possible, be left *in situ* covered and protected. If removal is necessary, then the relevant Home Office permission will be sought, and the removal of such remains will be carried out with due care and sensitivity as required by the *Burials Act 1857*.
- 3.2.7 Any gold and silver artefacts recovered during the course of the excavation will be removed to a safe place and reported to the local Coroner according to the procedures relating to the Treasure Act, 1996.
- 3.2.8 ***Finds policy:*** finds recovery and sampling programmes will be in accordance with best practice (following current Institute of Field Archaeologists guidelines) and subject to expert advice in order to minimise deterioration. OA has close contact with Ancient Monuments Laboratory staff at the University of Durham and, in addition, employs in-house artefact and palaeoecology specialists, with considerable expertise in the investigation, excavation, and finds management of sites of all periods and types, who are readily available for consultation. Finds storage during fieldwork and any site archive preparation will follow professional guidelines (UKIC). Emergency access to conservation facilities is maintained by OA North with the Department of Archaeology, the University of Durham. Samples will also be collected for technological, pedological and chronological analysis as appropriate.
- 3.2.9 ***Open Day:*** during the final stages of the excavation, a public open day will be held, allowing the general public to view the excavated remains. This will be held on a Saturday.

3.3 HEALTH AND SAFETY

- 3.3.1 OA North provides a Health and Safety Statement for all projects and maintains a Safety Policy. All site procedures are in accordance with the guidance set out in the Health and Safety Manual compiled by the Standing Conference of Archaeological Unit Managers (3rd Edition, 1997). OA North will liaise with the Client to ensure all current and relevant health and safety regulations are met. OA North will provide the appropriate welfare facilities for all staff on site.

- 3.3.2 A risk assessment will be completed in advance of any on-site works. Contaminated ground is not anticipated, although OA North staff will be equipped with the appropriate PPE, including disposable overalls and gloves, and welfare facilities including a washing facility will also be provided.
- 3.3.3 OA North has professional indemnity to a value of £2,000,000, employer's liability cover to a value of £10,000,000 and public liability to a value of £15,000,000. Written details of insurance cover can be provided if required.
- 3.3.4 Normal OA North working hours are between 9.00 am and 5.00 pm, Monday to Friday, though adjustments to hours may be made to maximise daylight working time in winter and to meet travel requirements. It is not normal practice for OA North staff to be asked to work weekends or bank holidays and should the Client require such time to be worked during the course of a project a contract variation to cover additional costs will be necessary. This does not include the requirement for a public open day, which is proposed for a Saturday.

3.4 OTHER MATTERS

- 3.4.1 OA North will provide all necessary plant, machinery, tools and attendance to complete the programme of fieldwork. 3.4.2 Access to the site will be arranged via the Client.
- 3.4.3 The Client is asked to provide OA North with information relating to the position of live services on the site. OA North will use a cable detecting tool in advance of any machine excavation.

3.5 POST-EXCAVATION AND REPORT PRODUCTION

- 3.5.1 **Post-Excavation:** following completion of the fieldwork, the results will be collated and the site archive completed in accordance with English Heritage's guideline document *MAP 2*, Appendix 3. Additionally, an appraisal of the available primary and secondary documentary sources pertaining to the site will be undertaken in order to set the results of the excavation into context, and facilitate an assessment of their significance. A post-excavation assessment of the archive and the resource implications of the potential further analysis will be undertaken. The stratigraphic data and the finds assemblage will be quantified and assessed, and the technological samples processed and a brief assessment of their potential for further analysis made. The proposed programme anticipates the production of a final publication report.
- 3.5.2 **Analysis:** a provisional programme of post-excavation analysis is anticipated. The extent of the programme, however, can only be reliably established on completion of the post-excavation-assessment report. The proposed programme anticipates both analysis of the site stratigraphy and the artefactual/ecofactual evidence leading to the production of a final report.
- 3.5.3 **Publication:** it is anticipated that the results of the excavation will be worthy of publication, although the precise format of any such publication will necessarily await completion of the fieldwork stage. One option, however,

may be to incorporate the results in an occasional paper that is planned to present the results obtained from the excavation of post-medieval and industrial remains elsewhere in Bury. These excavations would cumulatively provide a comprehensive overview of the development of the town since c 1750 in an easily accessible format.

- 3.5.4 **Archive:** the results of the fieldwork will form the basis of a full archive to professional standards, in accordance with current English Heritage guidelines (MAP 2) and the *Guidelines for the Preparation of Excavation Archives for Long Term Storage* (UKIC 1990). The project archive represents the collation and indexing of all the data and material gathered during the course of the project. The deposition of a properly ordered and indexed project archive in an appropriate repository is considered an essential and integral element of all archaeological projects by the IFA in that organisation's code of conduct.
- 3.5.5 The paper and finds archive for the archaeological work undertaken at the site will be deposited with the Bury Museum, as this is the nearest museum which meets Museums' and Galleries' Commission criteria for the long term storage of archaeological material (MGC 1992). This archive can be provided in the English Heritage Centre for Archaeology format, both as a printed document and on computer disks as ASCii files (as appropriate). The archive will be deposited with the Manchester Museum within six months of the completion of the fieldwork.
- 3.5.6 Except for items subject to the Treasure Act, all artefacts found during the course of the project will be donated to the receiving museum.
- 3.5.7 A synthesis (in the form of the index to the archive and a copy of the publication report) will be deposited with the Greater Manchester Sites and Monuments Record. A copy of the index to the archive will also be available for deposition in the National Archaeological Record in London.
- 3.5.8 **Information Panel:** it is anticipated that an information panel that celebrates the town's railway heritage, and provides an historical account of the Knowsley Street Station, will be produced and installed on site.
- 3.5.8 **Confidentiality:** the final report is designed as a document for the specific use of the Client, and should be treated as such; it is not suitable for publication as an academic report, or otherwise, without amendment or revision. Any requirement to revise or reorder the material for submission or presentation to third parties beyond the project brief and project design, or for any other explicit purpose, can be fulfilled, but will require separate discussion and funding.

4. WORK TIMETABLE

- 4.1 A five week period should be allowed to excavate and record the excavation area.
- 4.2 An assessment report will be submitted within six months of the completion of the fieldwork.

- 4.3 OA North can execute projects at very short notice once an agreement has been signed with the Client.

5. STAFFING PROPOSALS

- 5.1 The project will be under the overall charge of **Ian Miller BA** (OA North Project Manager) to whom all correspondence should be addressed. Ian has considerable experience and particular research interests in Industrial Archaeology and, amongst numerous other projects, was involved in the excavation recording, analysis and publication of the Netherhall blast furnace site in Maryport, Cumbria, the excavation, recording and publication of work at the Jersey Street Glass Works in Manchester, and the excavation and survey of the Murrays' Mills in Manchester.
- 5.2 The excavation will be undertaken by **Sean McPhillips BA** (OA North Project Officer). Sean is an highly experienced field archaeologist, who has a particular interest in Industrial Archaeology, and especially that of Greater Manchester. Sean recently directed the archaeological investigations in Bury.
- 5.3 Sean will be assisted by a core team of five technicians during the excavation, although additional staff may be recruited as required following the initial machine clearance of the site.
- 5.4 Assessment of any finds from the excavation will be undertaken by OA North's in-house finds specialist **Christine Howard-Davis BA** (OA North Finds Manager). Christine has extensive knowledge of all finds of all periods from archaeological sites in northern England, and is a recognised expert in the analysis of glasswork.
- 5.5 Any requirement for conservation work will be undertaken by **Jennifer Jones**, the AML contract conservator based at the University of Durham. Jennifer is a nationally-recognised specialist in conservation, and is readily available to provide advice on the treatment of any delicate finds recovered from the evaluation.

6. MONITORING

- 6.1 Monitoring meetings will be established with the Client and the archaeological curator at the outset of the project. Monitoring of the project will be undertaken by the Greater Manchester Assistant County Archaeologist, and the Bury Conservation Officer, who will be afforded access to the site at all times.
- 6.2 OA North will ensure that any significant results are brought to the attention of the Client and the Assistant County Archaeologist as soon as is practically possible. Resources have been allocated to allow for a site visit by special interest groups, which include the Bury Archaeological Society.

APPENDIX 2: CONTEXT LIST

Context	Description	Phase
100	Cellar beneath Station Master's house	2
101/111	East/west aligned southern external wall of Station Master's house	2
102	Window light within wall 101	2
103	North/south-aligned western external wall of platform buildings	2
104	Fireplace within cellar 100	2
105	Northern external wall of Station Master's house	2
106/117	Eastern wall of cellar 100	2
107	Flagstone floor of cellar 100	2
108	Eastern ground floor room of Station Master's house	2
109	Northern external wall of room 108 (same as 105)	2
110	North/south-aligned wall between rooms 108 and 143	2
112/115	North/south-aligned wall of room 108	2
113	Sandy-gravel deposit across the base of room 108	1
114	Passageway between rooms 100 and 108 within Station Master's house	2
116	East/west-aligned wall (same as 101 and 111)	2
118	Sandy gravel across the base of 114	1
119	Parquet floor within toilet block room 164	3
120	Concrete floor of ladies toilet block 164	3
121	Rectangular-shaped room within room 160	2
122	North/south-aligned screen wall within room 168	3
123	Western external wall of platform buildings	2
124	South wall of Parcel Office 160 (same as wall 170)	2
125	Cobble sets surface bordering the eastern side of the platform buildings	2
126	Timber structure beneath cobble surface 125	1
127	Booking Office/Ticket Hall	2
128	East/west-aligned external wall at the northern end of 127	2
129	East/west-aligned partition within the western side of 127	2
130	Bay ticket office window within 127	2
131	North/south-aligned partition dividing the interior of 127	2
132	East/west-aligned partition at the north-western end of 127	2
133	East/west-aligned partition along the eastern side of 127	2
134	East/west-aligned partition along the south-eastern side of 127	2
135	East/west-aligned external wall at the southern end of 127	2
136	Flagstone floor surface butting the eastern side of 103 and cellar 100	2
137	Cleaning/demolition layer within the north-western room of 127	3
138	Building attached to the western side of the Station Master's house	2
139	East/west-aligned partition dividing 138	2
140	Northern external wall of building 138	2
141	Southern brick wall of small structure within room 181	2
142	Station Master's house	2
143	Eastern extension to the Station Master's house	2/3
144	Goods Clerk office as seen on the 1936 LYR plan	2
145	Eastern brick wall of room 143 (same as wall 177)	3
146	Southern external wall of room 143 (same as wall 176)	3

147	Brick-lined structure (coal pit?) at the rear of cellar 100	2
148	Southern wall of room 144	2
149	Possible fireplace attached to wall 148 within room 144	2
150	Ladies waiting room (shown as LWR on 1936 LYR plan)	2
151	Southern wall of room 150	2
152	WC attached to the Ladies Waiting Room as on the 1936 LYR plan	2
153	Southern wall of room 152	2
154	Partition within room 152	2
155	Waiting Room (shown as WR on 1936 LYR plan)	2
156	Southern wall of room 155	2
157	Left Luggage Office as shown on 1936 LYR plan	2
158	Southern wall of room 157	2
159	Fireplace within room 157	2
160	Parcel office (position as shown on 1936 LYR plan)	2
161	Western wall of structure 121 within room 160	2/3
162	Eastern wall of structure 121 within room 160	2/3
163	Southern wall of structure 121 within room 160	2/3
164	Toilet block (originally shown as men's toilets on 1936 plan)	2/3
165	Partition bordering row of five cubicles within room 164	2
166	Southern external wall of room 164	2
167	New southern external wall of extended toilet block 164	3
168	Men's toilet block	3
169	Screen wall south of the doorway within room 168	3
170	Northern wall of men's toilets within room 164	2
171	Rectangular-shaped brick structure (fireplace?) within room 164	2/3
172	Western external wall of room 168	3
173	Southern external wall of room 168	3
174	Eastern external wall of room 168	3
175	Flagged floor surface within room 143	2/3
176	East/west-aligned southern wall of room 143 (same as wall 146)	2/3
177	Eastern external wall of room 143 (same as wall 145)	2/3
178	'Up' platform	2
179	Stable block	2/3
180	Room located at the northern end of stable block 179	2/3
181	Room located at the southern end of stable block 179	2/3
182	Cobble set floor surface above concrete 183	3
183	Concrete foundation layer above wooden floor 184	3
184	Wooden floor within stables 179	2
185	North-east/south-west-aligned brick wall sealing culvert 187	2
186	East/west-aligned wall butting the north-eastern edge of wall 185	2
187	Brick-lined culvert within room 181	2
188	Canopy pier support for the roof along the 'Up' platform	2
189	'Up' platform flag	2
190	'Up' platform kerb	2
191	Brick walls beneath 190	2
192	Cobble set courtyard along the southern area of the site	3
193	Black ash deposit between natural gravel 113 and structure 126	1

ILLUSTRATIONS

Figures

- Figure 1: Site location
- Figure 2: Site excavation plan, showing three phases of development, superimposed onto the LYR engineering plan produced in 1936 (A19/4/780)
- Figure 3: Phase 1 excavation plan, showing extent of wooden structure **126** beneath surface **125**
- Figure 4: Phase 2 excavation plan, showing buildings on the 'Up' platform
- Figure 5: Phase 2 excavation plan showing the development of Station Master's house, building **138**, and courtyard
- Figure 6: Phase 2 excavation plan, showing Stable Block **179**
- Figure 7: Phase 3 excavation plan, showing Gents Toilets
- Figure 8: Elevations 1 and 2 of Room **100**
- Figure 9: Elevations 3 and 4 of Room **100**

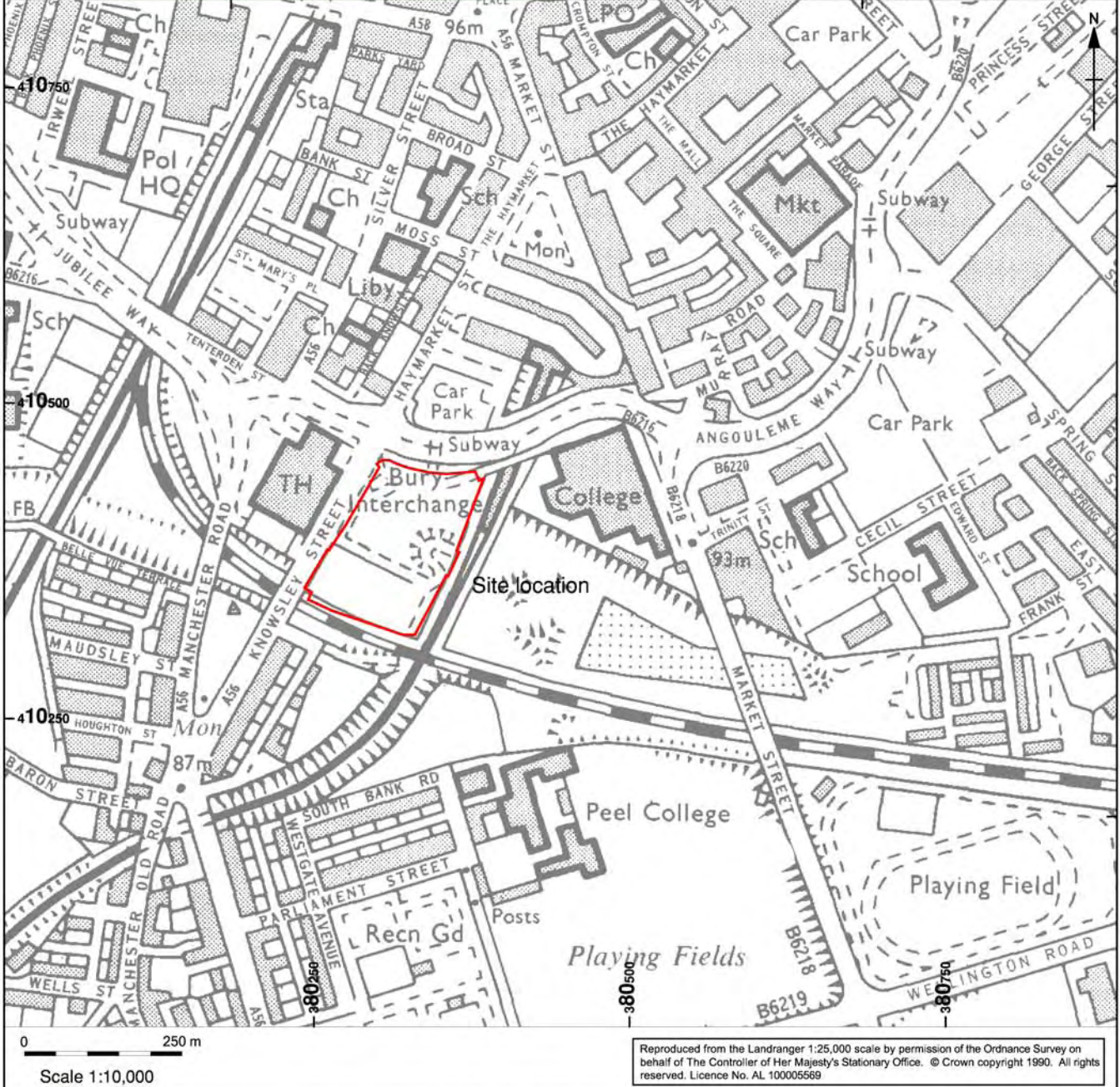


Figure 1: Site Location

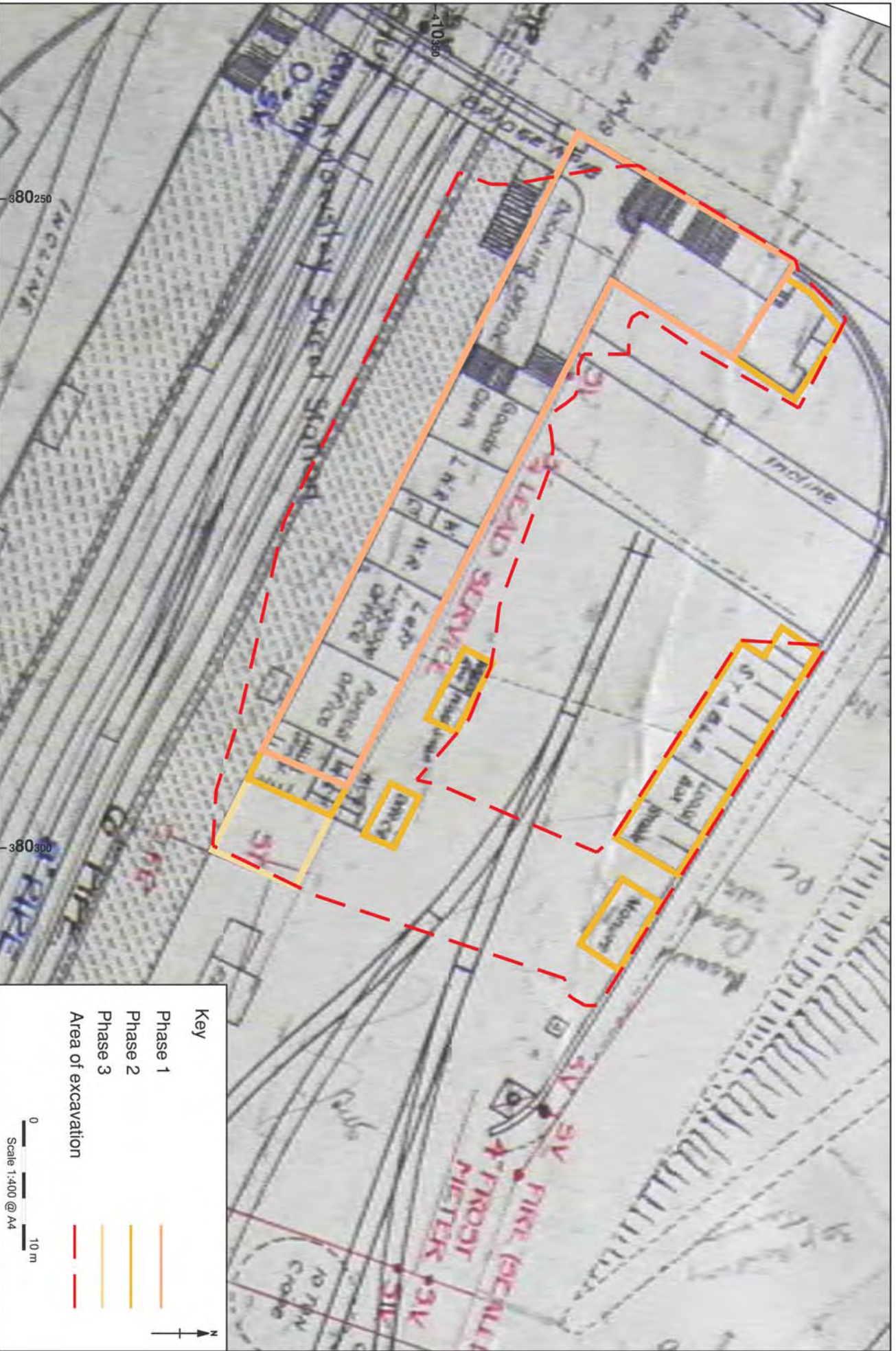


Figure 2: Site excavation plan, showing three phases of development, superimposed on a LYR engineering plan produced in 1936

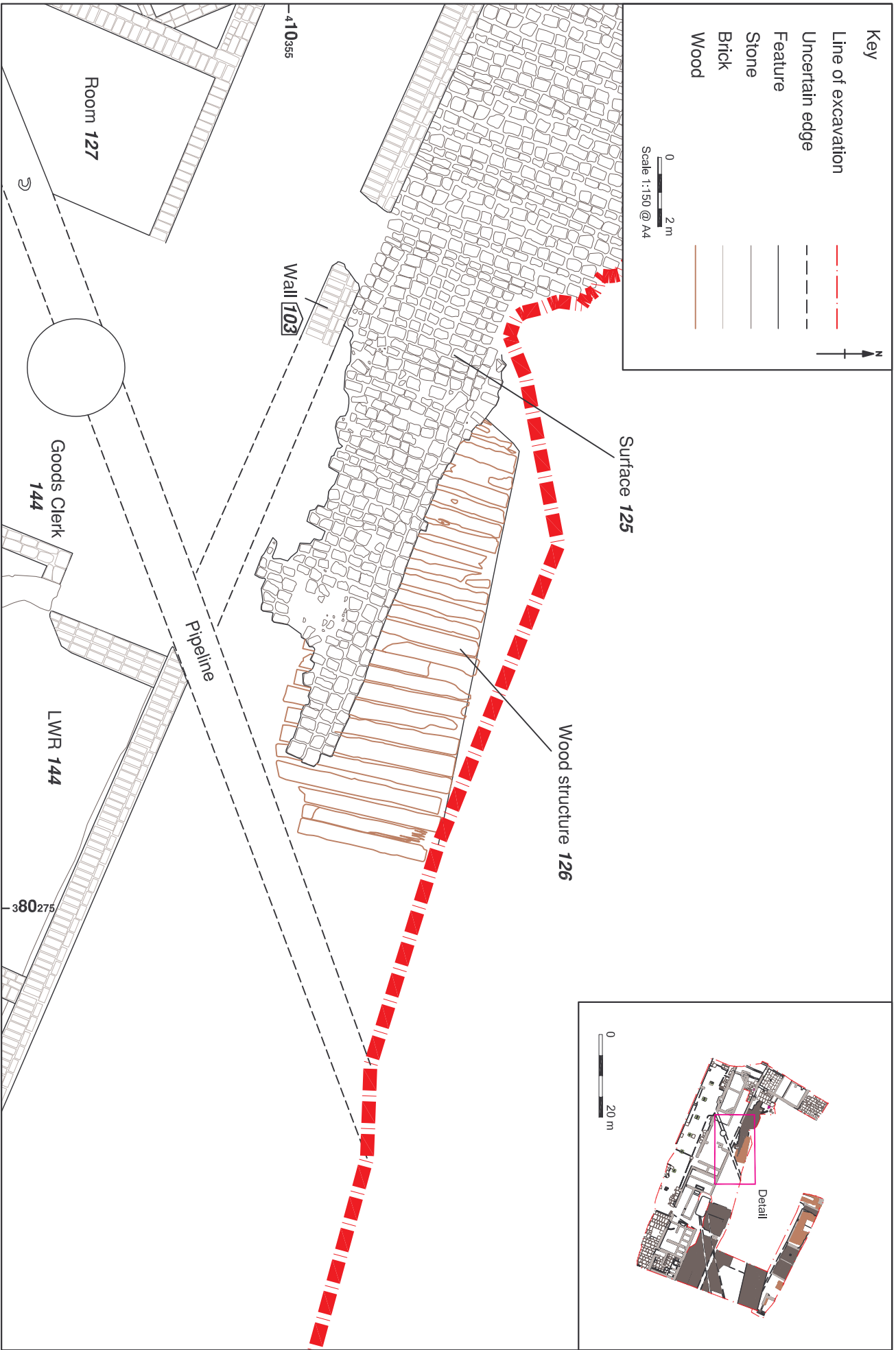
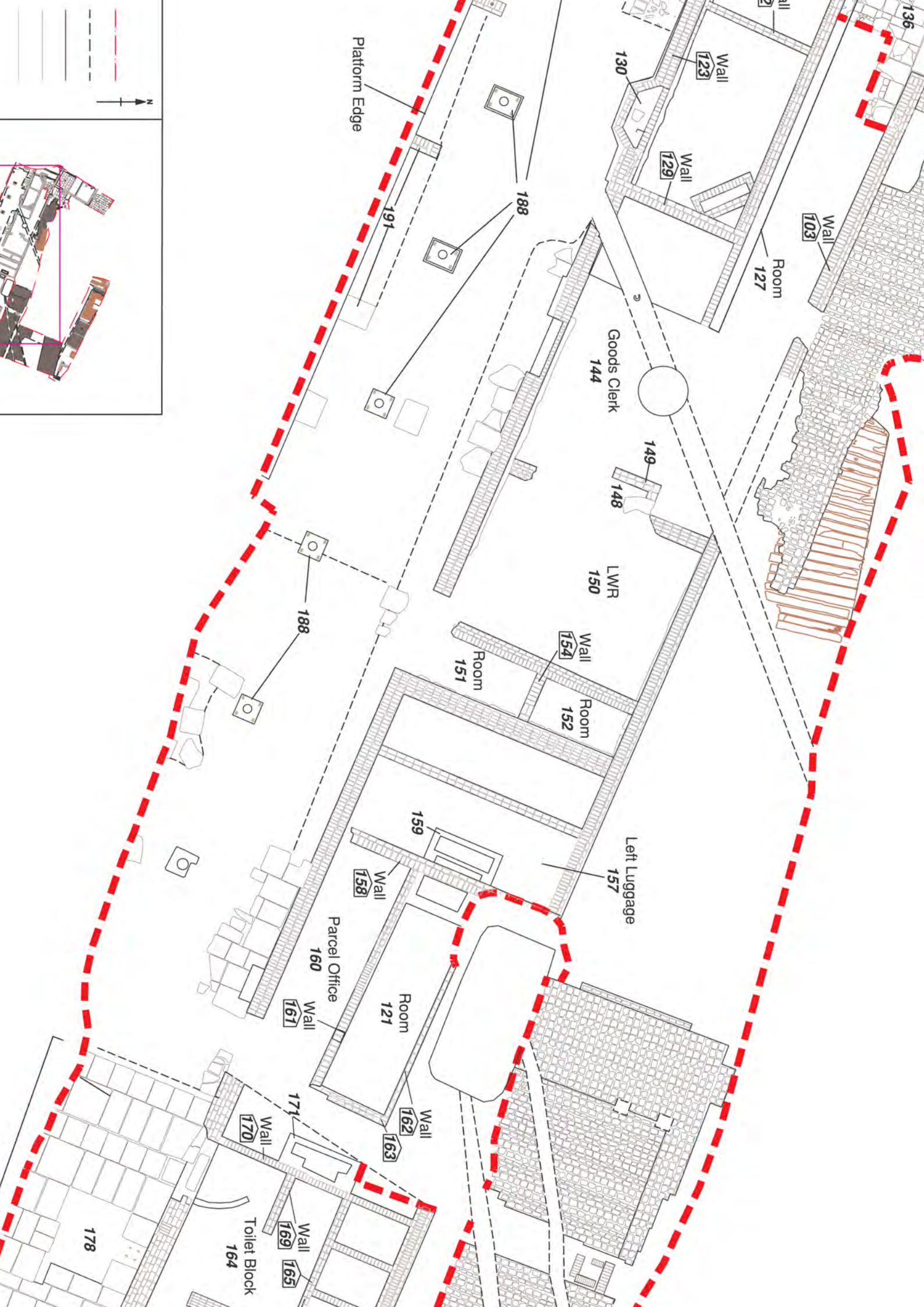


Figure 3: Phase 1, showing extent of wooden structure 126 beneath surface 125



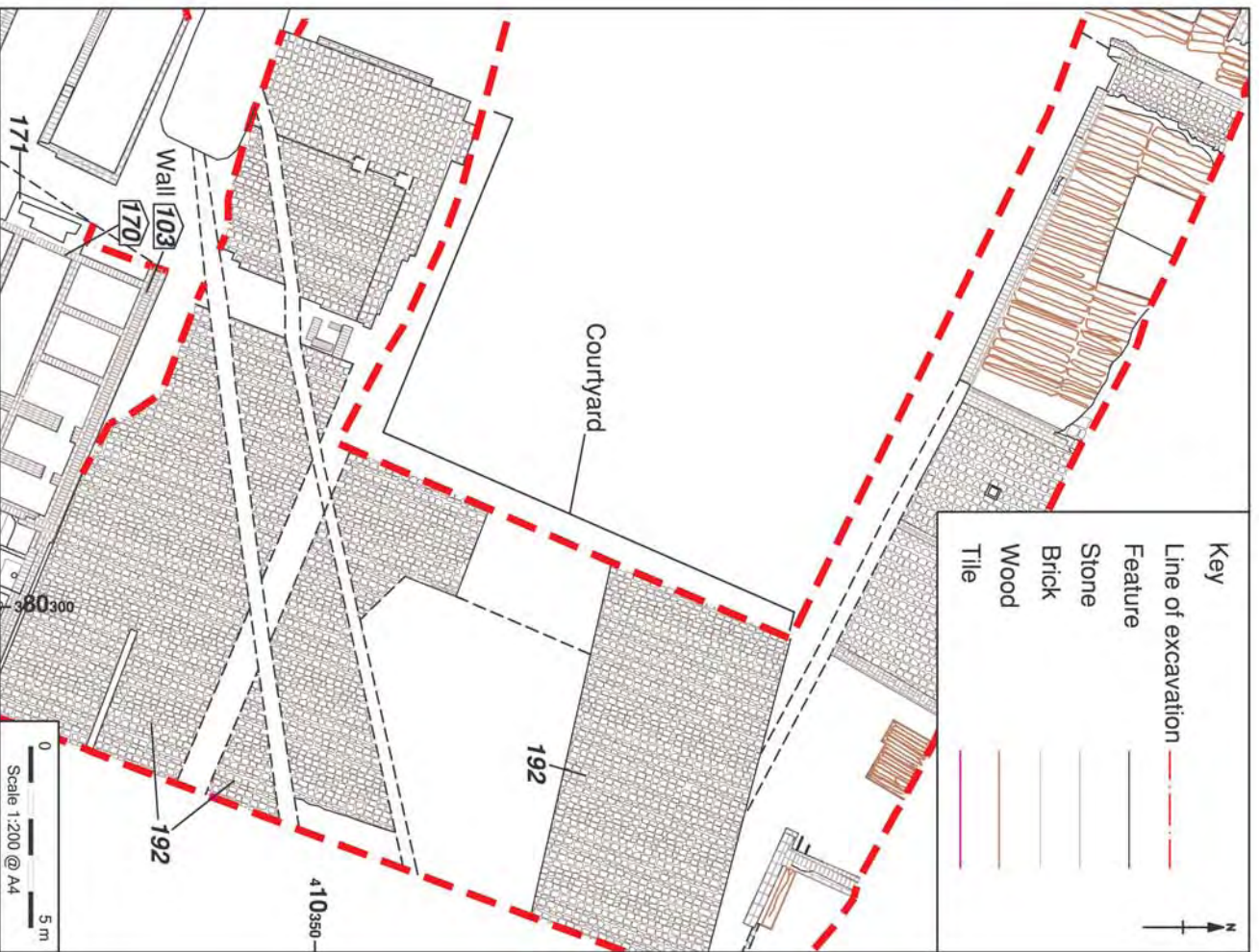
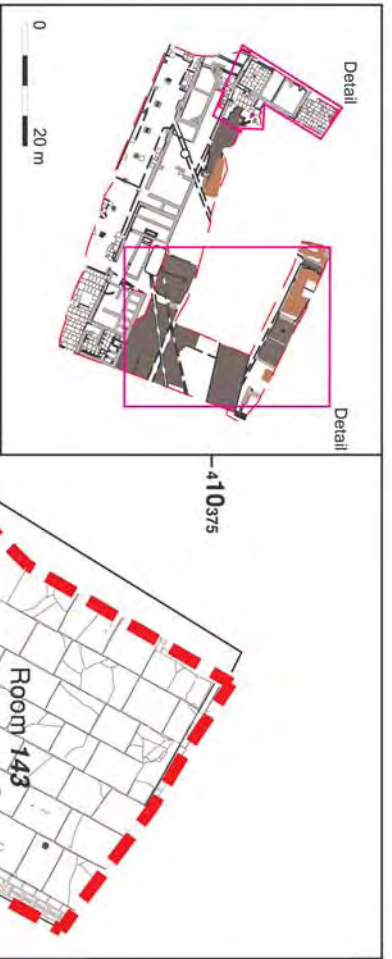


Figure 5: Phase 2 excavation plan, showing the development of the Station Master's house, building 138, and courtyard



Key

- Line of excavation ————
- Uncertain edge - - - - -
- Feature ————
- Stone ————
- Brick ————
- Wood ————

0 2 m
Scale 1:150 @ A4

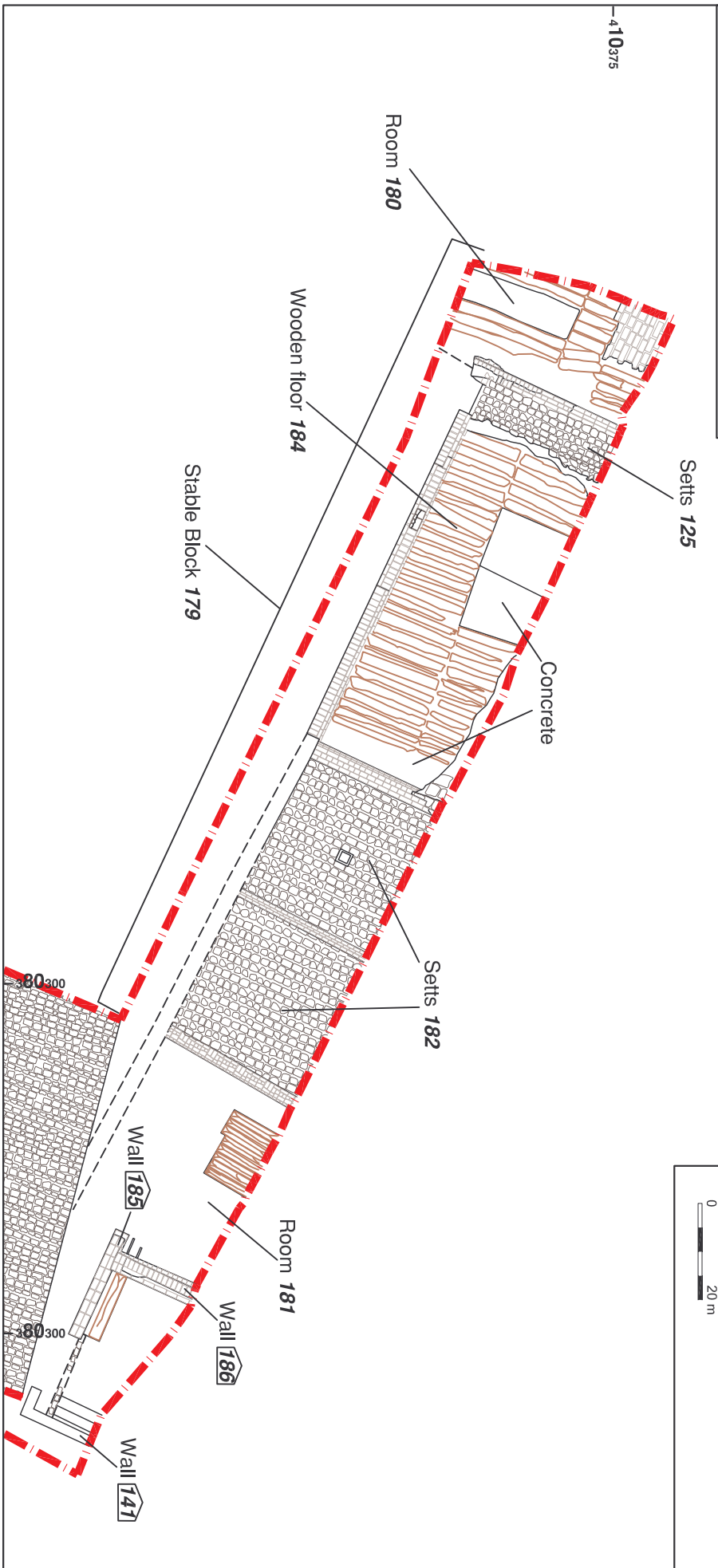


Figure 6: Phase 2 excavation plan showing Stable Block



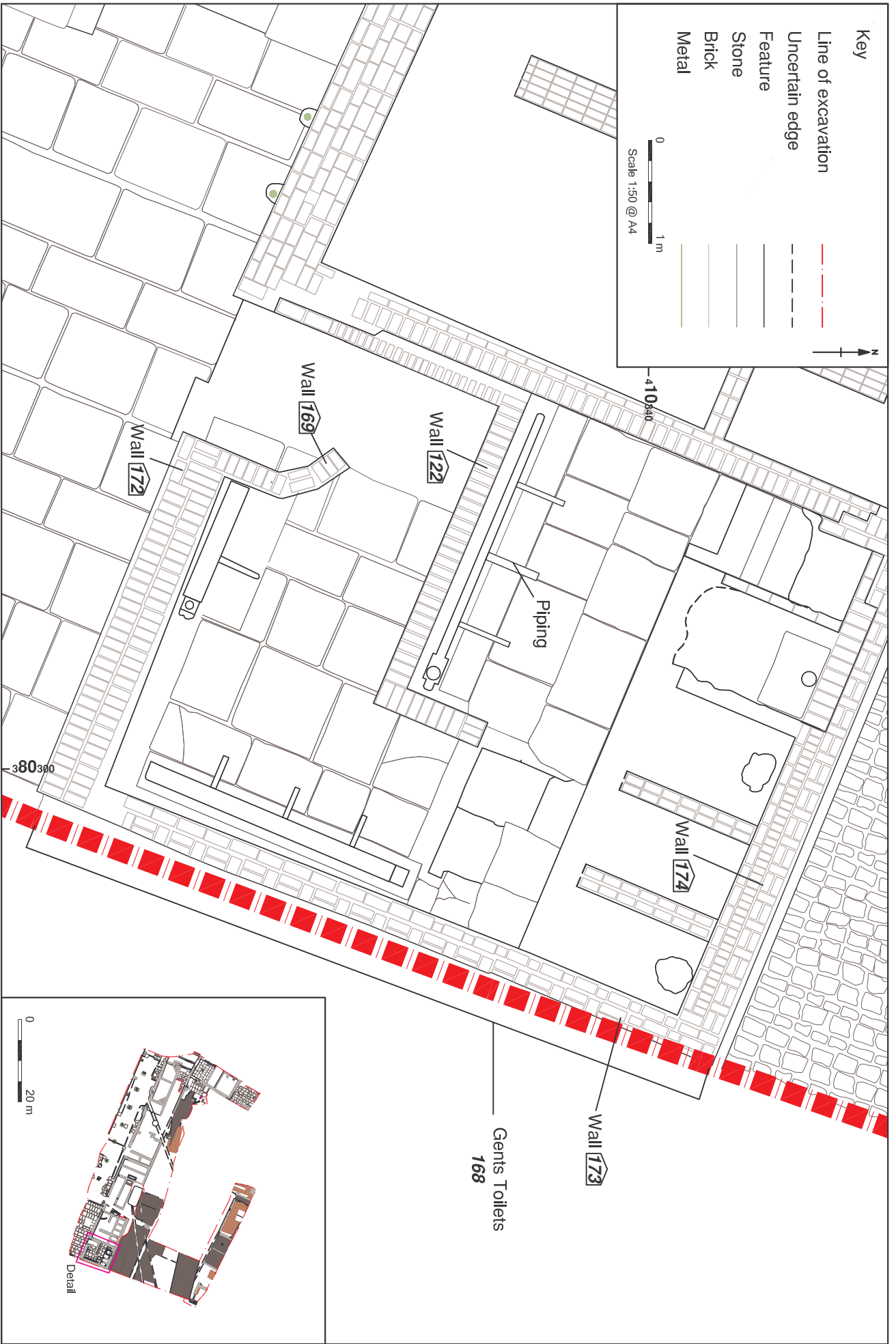
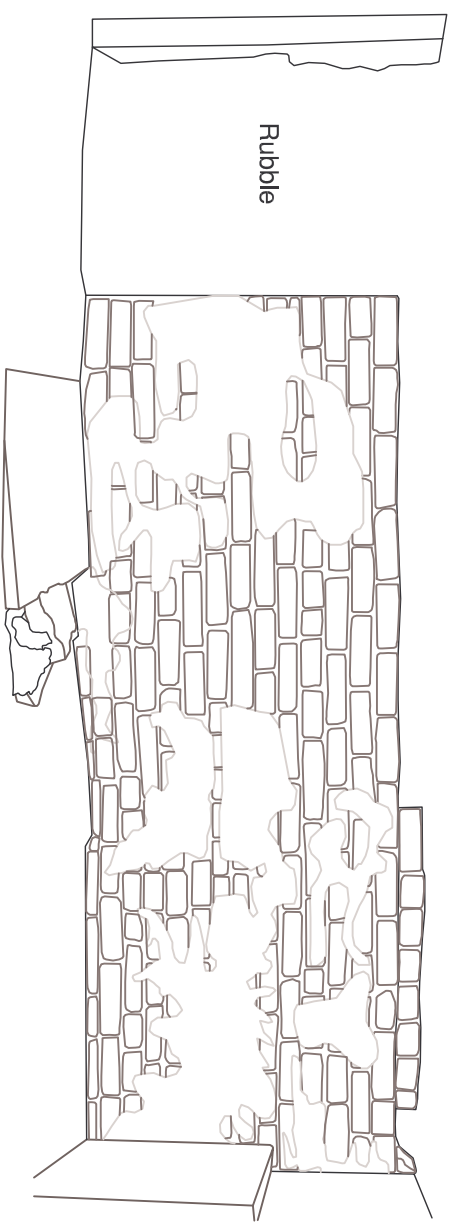
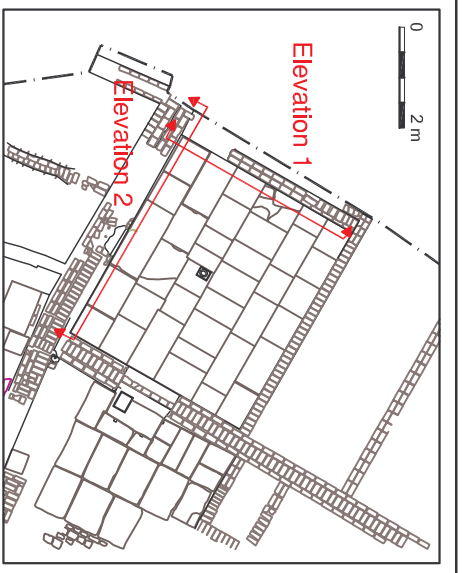
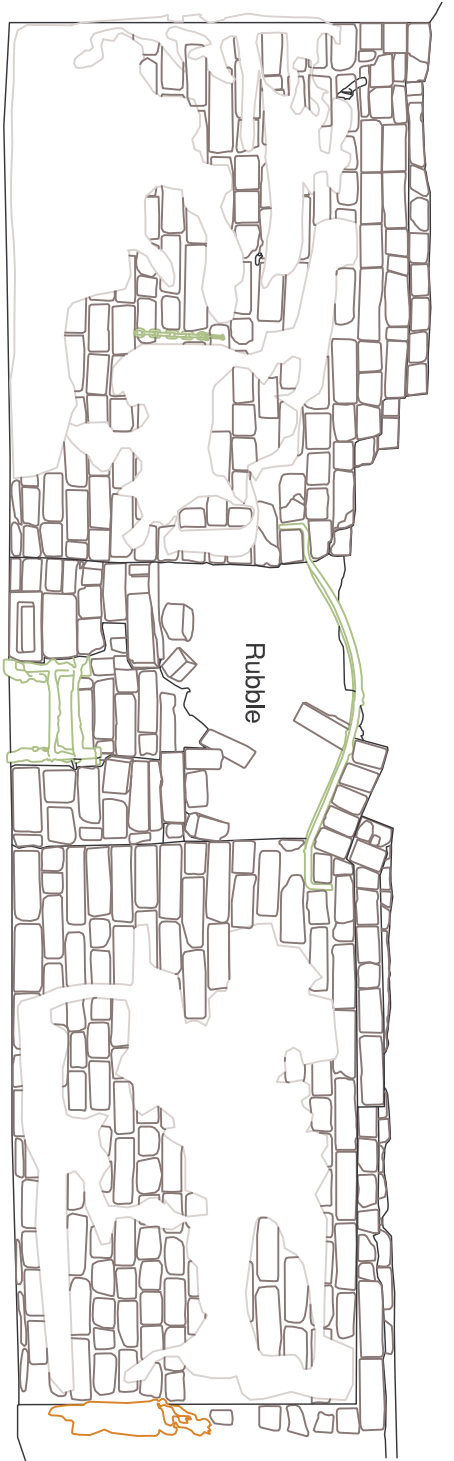


Figure 7: Phase 3 excavation plan, showing Gents Toilets



Elevation 1 : South-east-facing interior wall



Elevation 2: North-east-facing interior wall

Key

Feature

Brick

Stone

Plaster

Metal

Wood

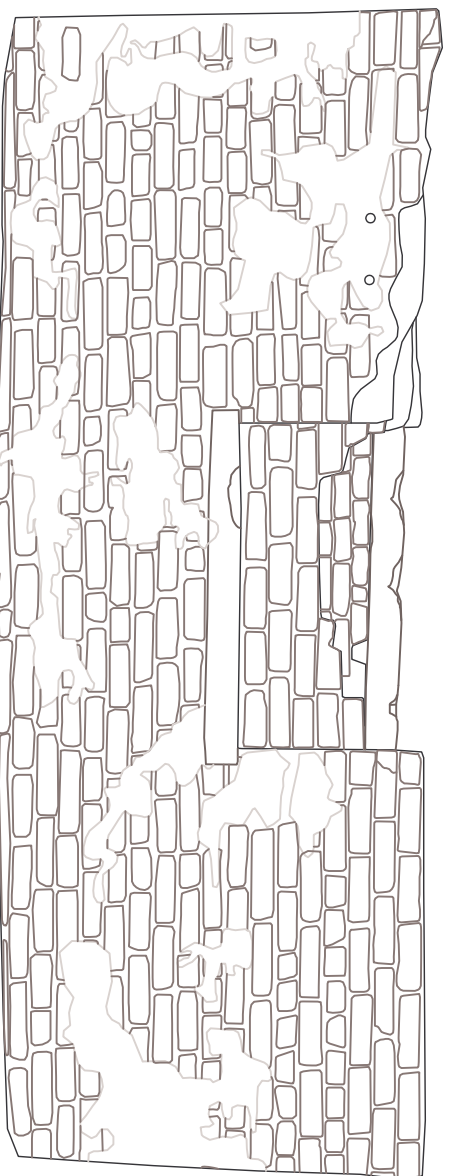
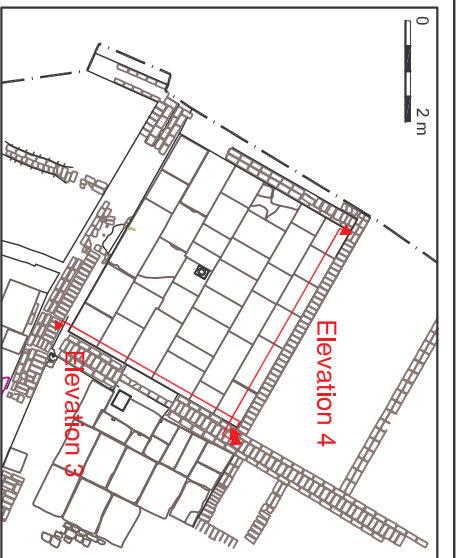
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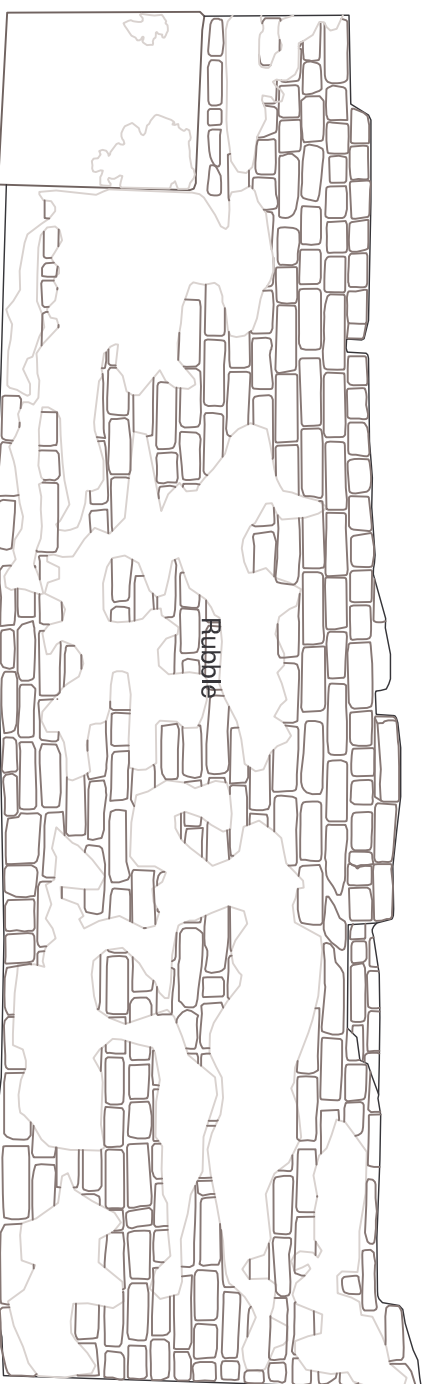
N

Figure 8: Elevations 1 and 2 of Room 100





Elevation 3: North-west-facing interior wall



Elevation 4: South-west-facing interior wall

Key

Feature ———

Brick ———

Stone ———

Plaster ———

0 0.5 m

Scale 1:25 @ A4

N

Figure 9: Elevations 3 and 4 of Room 100

