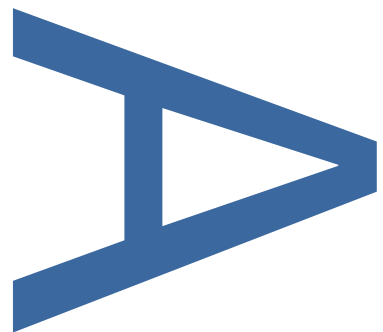
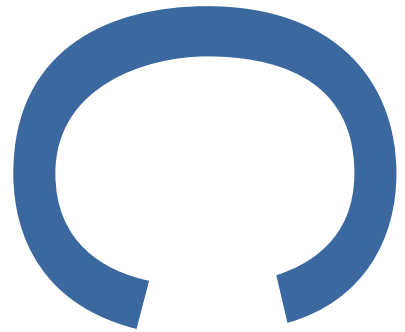


**BUILT HERITAGE RECORDING OF
EMBANKMENT WEST,
SALFORD,
GREATER MANCHESTER,
M3 7AE**



PCA REPORT NO: R12489

JUNE 2019

PRE-CONSTRUCT ARCHAEOLOGY

Built Heritage Recording of Embankment West, Salford, Greater Manchester M3 7AE

Researched and written by Guy Thompson and Adam Garwood

Site Code: EMW17

Project Manager: Charlotte Matthews

Client: Select Property Group

Central National Grid Reference: SJ 83647 98802

Contractor:

Pre-Construct Archaeology Limited

Unit 54, Brockley Cross Business Centre

96 Endwell Road, Brockley

London SE4 2PD

Tel: 020 7732 3925

Fax: 020 7732 7896

Email: cmatthews@pre-construct.com

Web: www.pre-construct.com

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Salford,
Greater Manchester
M3 7AE

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Graphics Prepared by:	Mark Roughley		06/06/2019
Graphics Checked by:	Hayley Baxter	Hayley Baxter	06/06/2019
Project Manager Sign-off:	Charlotte Matthews	Charlotte Matthews	06/06/2019

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Pre-Construct Archaeology Ltd
Unit 54
Brockley Cross Business Centre
96 Endwell Road
London
SE4 2PD

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1 NON-TECHNICAL SUMMARY

- 1.1.1 Pre-Construct Archaeology Limited was commissioned by Select Property Group to undertake a built heritage survey targeting a complex of Victorian railway viaducts scheduled for demolition as part of a proposed redevelopment of the former Manchester Exchange Station, Embankment West, Salford, Greater Manchester. This report focuses upon historic structures which form the Western Embankment and supplements an earlier built heritage survey, carried out in 2014, which recorded the corresponding railway viaducts to the east of Greengate (Thompson & Garwood 2014). The brick-built vaults of Embankment West and the ramped access from Chapel Street, namely Salford Approach, were constructed during the second half of the 19th century, built to support the Manchester Exchange Station and raise the track to the same level as the earlier London and North Western Railway LNWR railway line (built by the Liverpool and Manchester Railway in 1844).
- 1.1.2 The Embankment West site lies adjacent to and between the Cathedral Conservation Area, located to the south and east, and the Flat Iron Conservation Area, to the south-west. The railway viaduct and retaining walls at the junction of Greengate and Chapel Street to the east of Embankment West are designated as Grade II listed structures.
- 1.1.3 Planning permission (15/66621/FULEIA) has been granted for the comprehensive development of the Embankment Greengate site. The built heritage recording was carried out in response to planning conditions imposed by the Local Planning Authority, Salford City Council, and on the advice of Norman Redhead of the Greater Manchester Archaeological Advisory Service (GMAAS), heritage advisor to Salford City Council.
- 1.1.4 Documentary research has shown that the Exchange viaduct was constructed by a local building firm, Messrs Robert Neill & Sons to the designs of the LNWR resident architect and engineer, Francis Stevenson. Initial works commenced by September 1880 and early drawings of the arches show the extent and complexity of the proposed viaduct, designed to support the full weight of the station buildings, platforms and tracks above. The construction of the station buildings, carried out by the same contractor, Neill & Sons, appears to have continued throughout 1883, to be completed the following year, when the Exchange Station partially opened for passenger traffic on the 30th June 1884. A major programme of improvements was carried out in the early 1890s, when the railway company was forced to address a number of serious shortcomings in the original station design. By the mid-1890s a number of the arches on each side of Greengate were in commercial use. Bombing during the Second World War seriously damaged the station buildings and the train shed roof. The station was closed in 1969 and the train shed roof was finally demolished in 1982.
- 1.1.5 The Embankment West survey recorded ten of the seventeen north-south aligned vaulted arches and three east-west internal roadways. The vaults are substantial constructions built in local red brick. The external appearance of plain brickwork is much simpler than the corresponding embankment to the east (recently demolished) which was 'faced' along its more visible Chapel Street elevation and the Cab Road retaining wall using red sandstone ashlar blocks. This use of better-quality materials for its outward appearance may well reflect the status of the two halves, with the western embankment employed in a more utilitarian/industrial role. Internally, however, the two differ little, the vaults are plain and functional exhibiting no embellishment apart from stone quoins and keys to the arches and the practical use of bull-nose bricks to internal angles. The style of the arches are a combination of two popular styles of the 19th century, using Romanesque vaults crossed by internal roadways built with pointed two-centred Gothic arches. Together this complex of tall arches and vaults give the viaduct the appearance of a medieval undercroft and perhaps is a reflection of the regard in which Victorian architects and engineers placed upon the railway infrastructure and its architecture.

2 INTRODUCTION

2.1 Background

- 2.1.1 Pre-Construct Archaeology Limited was commissioned by Select Property Group to undertake a built heritage survey targeting a complex of Victorian railway viaducts scheduled for demolition as part of a proposed redevelopment of the former Manchester Exchange Station, Embankment West, Salford, Greater Manchester (**Figures 1, 2A and 2B**). This report focuses upon historic structures which form Embankment West and supplements an earlier built heritage survey, carried out in 2014, which recorded the corresponding railway viaducts to the east of Greengate (Thompson & Garwood 2014). The brick-built vaults of Embankment West and the ramped access from Chapel Street, namely Salford Approach, were constructed during the second half of the 19th century, built to support the Manchester Exchange Station and raise the track to the same level as the earlier London and North Western Railway LNWR railway line (built by the Liverpool and Manchester Railway in 1844).
- 2.1.2 The built heritage recording was carried out in accordance with a Written Scheme of Investigation (Matthews, 2016), which was agreed in advance of works by Norman Redhead, Heritage Management Director of the Greater Manchester Archaeological Advisory Service (GMAAS), advisor to the Local Planning Authority (City of Salford) on heritage matters. The recording was also undertaken in accordance with National Planning Policy Guidance, specifically National Planning Policy Framework (NPPF) (2012) and the Local Planning Authority's policy towards built heritage and archaeology.

2.2 Site Location

- 2.2.1 The Site is centred on Ordnance Survey National Grid Reference SJ 83647 98802 and is situated within central Manchester close to Manchester Cathedral, to the north and west of the River Irwell and under the administration of Salford City Council (**Figure 1**).
- 2.2.2 The development Site comprises an irregular shaped elevated embankment (c.9m above street level). It is bounded by a road known as Greengate to the east, buildings fronting onto Chapel Street to the south and the main active railway line into Manchester Victoria Station along its northern boundary (but outside the development envelope; **Figures 2A and 2B**). The former Exchange Railway Station was constructed on this raised podium between 1880-1883 mainly to the east of Greengate (**Figure 11**). The ramped Salford Approach rises in elevation up to the 'podium' level (level of the former station buildings) along the southern side of the embankment and from its junction with Chapel Street to the west (**Figures 2A, 2B, 23 and 24; Plates 24 and 25**). Access from the Salford Approach to the site of the former Exchange Station buildings, east of Greengate, is no longer possible following the removal of the former Greengate bridge (built parallel with the Grade II listed Stephenson Bridge) formerly spanning Greengate (**Plates 13 and 14**). Vehicular access to the podium level is presently available only via the former Cab Road, which circumvents a new build high-rise office development, rising from the site of the former eastern embankment.
- 2.2.3 The majority of the Embankment West Site, at ground floor level (Lower Level or development Level 0; **Figures 2A and 23**), comprises an extensive complex of interconnected railway arches or vaults built to support the former Exchange Station and raise the track to the same level as earlier London and North Western Railway LNWR railway line (built by the Liverpool and Manchester Railway in 1844). The development does not accommodate the full extent of the western embankment, part of which remains in the ownership of Network Rail but does comprise the easternmost two thirds of the structure, from Vault 1 in the east to Vault 20/17 to the west (**Figures 2A and 23**).
- 2.2.4 Presently access into this 'lower level' is through an arched opening (Vault 13), below the Salford Approach and from Chapel Street (**Figures 2A and 23; Plate 22**),

although historically the principal ingress into the vaults and to a pair of axial (east-west) roadways, was best achieved from Greengate (**Figures 2A, 13 and 23; Plates 13, 14, 16 and 18**). Latterly the main body of vaults were put to use as car parking and were devoid of internal structures, apart from some partitioning of the bays, although the arches below the Salford Approach had been converted to accommodate a number of small workshops and garage repairs businesses.

2.3 Designations

- 2.3.1 The Site lies just to the west of the Cathedral Conservation Area and just to the east of the Flat Iron Conservation Area. The railway viaduct and retaining walls at the junction of Greengate and Chapel Street just to the east of the Site are designated as Grade II listed structures. The list description (UID 471543) is as follows:

'Railway viaduct and retaining walls at junction with Greengate. Two railway bridges and linking retaining wall forming bridge abutments. c.1840. Ashlar and cast-iron. Raking retaining wall divided by rusticated piers into bays with archways with stressed voussoirs on Chapel Street and return to Greengate. Above the cornice the piers also divide the plain parapet. Low relief carved coat of arms of the City of Salford over archway on Greengate return. The wall carries railway viaduct and links 2 bridges, over Greengate and Chapel Street, for which it forms the abutments. Bridge decks carried on transverse iron beams, with cast-iron parapets, solid panels with simple moulded decoration over Greengate, traceried openwork over Chapel Street.' (Listing NGR: SJ8375198807).

- 2.3.2 The Cab Road Bridge, part of which has been removed as part of the Greengate development to the east, forms part of the 1884 extension to the original 1844 George Stephenson Bridge over the River Irwell. The latter was built at the same time as the Manchester Victoria Station for the Manchester and Leeds Railway Co. The original bridge was extended southwards in 1884 by the London and North Western Railway (LNWR) when the Manchester Exchange Station was opened and again (to the south once more) in the late 1920s when platform No. 3 of the Exchange Station was joined with Victoria's platform No. 11.

- 2.3.3 The Listed Building description for the Stephenson Bridge (that part in Salford District) reads:

Grade II Railway Bridge, 1844 and 1884, by George Stephenson.

MATERIALS: Cast iron, masonry and brick. The 1844 bridge has two cast iron arches carrying the railway line over Victoria Street, supported by masonry abutments, with brick arches between the two main spans on the north side. A later addition on the south side is of plate-girder construction with a cast iron parapet.

EXTERIOR: The north side (1844 bridge) has abutments to either side of the road span and on the eastern side of the river span, in plain rusticated ashlar, with a large deep niche with keyed round arch on either side. Between the road and the river, the two spans are linked by three brick arches with ashlar dressings, carrying a brick and stone parapet. The road span is a cast iron arch decorated on the side with cast iron strips forming lozenges, and carrying a cast iron parapet with pilasters and raised panels. The river span is of similar construction, with stone facings and carrying a plain iron parapet.

The south side (1884 bridge) is a plate girder construction over both road and river, supported by a masonry wall alongside the station to the east. To the west is a matching abutment to those on the north face (rebuilt to match the original), and in the centre between the two spans is a matching double abutment with a short length of stone walling between, carrying a stone parapet. The two abutment pillars are at different heights to accommodate the variations in ground level between the road and river. The road span has a parapet in cast iron with raised and fielded panels, every third one containing a rosette, and with small lion heads at intervals along the top. The river span has a plain iron parapet with the girder construction visible below.

The two sections of bridge (1844 and 1884) follow slightly different tracks as they

cross the river, with the later section diverging slightly to the south to make a shorter crossing of the river. There is no space between the two sections from above. The platform of the former Exchange Station survives as an extension from the western end of Victoria Station, running over both road and river to the car park that now occupies the former station. Traces of the former superstructure are visible in the tarmac surface and along the parapet. Part of the bridge lies within Manchester District.

HISTORY: Victoria Station was the western terminus of the Manchester & Leeds Railway Company's trans-Pennine line, constructed in 1844 and designed by George Stephenson. A bridge across Victoria Street to carry this line was built at the same time and is the earliest of the three bridges entering the station. Several terminus stations were built in Manchester, already a thriving and growing city when the railways arrived, and efforts to link them led to a complex situation of stations and tracks as the network evolved. In or around 1864 a second bridge was constructed immediately to the north of the 1844 bridge, connecting the line to Bolton and Wigan developed by the Lancashire and Yorkshire Railway Company. By the 1880s Victoria Station had grown to become one of the largest passenger stations in the country. Manchester Exchange Station, to the west of Victoria Station on the other side of the River Irwell, was opened in 1884 to deal with some of the interconnection problems of the network, and the 1844 bridge was widened at the same time to provide access between the two stations. This linkage formed what was the longest passenger platform in Europe, part of which was carried on the bridge and extended through the original 1844 section of Victoria Station, with a canopy over the platform and track.

The Exchange Station, which was severely damaged by bombing during the Second World War, was closed in 1969, and the 1893 bridge became redundant in 1992-4 when the new Arena was built into the north side of Victoria Station, closing off the east side of the former track. The platform on the 1844 bridge also became redundant when Exchange Station closed, and the train shed roof was demolished in 1982. The canopy survived until 1994, and the platform still survives over the bridge with some traces of the former canopy (Tom Wray; Manchester Victoria Station, 2004)'.

3 PLANNING BACKGROUND

3.1 Introduction

- 3.1.1 National legislation and guidance relating to the protection of historic buildings and structures within planning regulations is defined by the provisions of the *Town and Country Planning Act 1990*. In addition, local planning authorities are responsible for the protection of the historic environment within the planning system and policies for the historic environment are included in relevant regional and local plans.

3.2 Legislation and Planning Guidance

- 3.2.1 Statutory protection for historically important buildings and structures is derived from the *Planning (Listed and Conservation Areas) Act 1990*. Guidance on the approach of the planning authorities to development and historic buildings, conservation areas, historic parks and gardens and other elements of the historic environment is provided by the National Planning Policy Framework (NPPF).
- 3.2.2 Historic buildings are protected through the statutory systems for listing historic buildings and designating conservation areas. Listing is undertaken by the Secretary of State; designation of conservation areas and locally listed buildings is the responsibility of local planning authorities. The historic environment is protected through the development control system and, in the case of historic buildings and conservation areas, through the complementary systems of listed building and conservation area control.
- 3.2.3 Planning application (15/66621/FULEIA) has been granted by Salford City Council for 'Demolition of existing structures and erection of three-interconnected residential buildings at ground plus 12 storeys, 25 storeys and 33 storeys, with ancillary commercial units at ground floor level (use classes A1, A2, A3 and A4), residents amenity spaces and associated works, including access and landscaping at Embankment West Off Salford Approach And New Kings Head Yard Chapel Street Salford.'
- 3.2.4 An archaeological condition attached to the planning permission states:
- 3.2.5 'No development shall take place until the applicant or their agents or successors in title has secured the implementation of a programme of archaeological works. The works are to be undertaken in accordance with a Written Scheme of Investigation (WSI) submitted to and approved in writing by Salford Planning Authority. The WSI shall cover the following:
1. A phased programme and methodology of investigation and recording to include:
Detailed historical analysis
A level 3 historic building survey of railway structures and features affected by the scheme
An evaluation of below-ground archaeological remains
Where merited by the evaluation, targeted archaeological excavation
 2. A programme for post investigation assessment to include:
Analysis of the site investigation records and finds
Production of a final report on the significance of the archaeological and historical interest represented.
 3. Deposition of the final report with the Greater Manchester Historic Environment Record.
 4. An agreed scheme for disseminating the results to the local and wider community.
 5. Provision for archive deposition of the report and records of the site investigation.

6. Nomination of a competent person or persons/organisation to undertake the works set out within the approved WSI.

Reason: In accordance with NPPF Section 12, Paragraph 141 - To record and advance understanding of heritage assets impacted on by the development and to make information about the archaeological heritage interest publicly accessible.

- 3.2.6 The condition was requested by Norman Redhead, Heritage Management Director at Greater Manchester Archaeological Advisory Service. In a letter dated 23 February 2016 he advised Salford City Council that 'GMAAS...recommend that the railway heritage is recorded to complement the work done on the east side of Greengate for the Embankment development. This relates to the remains of Exchange Station and the viaduct arches'.

4 METHODOLOGY

4.1 Aims and Objectives

4.1.1 The aim of the built heritage recording was to provide an Historic England Level 3 record of the structures that will be impacted by the proposed development. The purpose of the project is to clarify the development and use of the Exchange site and to compile a final record of the viaducts and related structures, to chart their historic and structural development, and record the historic fabric, current spatial relationships and any original fixtures and fittings which will be lost through the completion of the development. The aim is to provide a better understanding of the buildings and structures, to compile a lasting record and to analyze and disseminate the results.

4.2 Documentary Research

4.2.1 A search of relevant primary sources was carried out at The National Archives in Kew and the Salford Local History Library. The results of historical research are provided in Section 5 of this report and discussed within the conclusions.

4.3 On-Site Recording

4.3.1 The built heritage recording was carried out from 20th to 22nd November 2017, following an initial soft strip and the removal of hazardous materials. A laser scan of the brick vaults was carried out by the JESSOP Consultancy during the week ending the 24th November 2017. Section drawings (**Figures 21** and **22**) of the vaults were generated from the laser scans (**Figures 18** to **20**), while architects/surveyors drawings, checked on site for accuracy, were annotated and redrafted to form the main illustrative component of the report (**Figures 2A, 2B, 23** and **24**).

4.3.2 A photographic survey including high resolution colour digital photography was carried out to record key features, internal spaces, fixtures and fittings, as well as the external elevations of the embankment. A selection of photographs has been included in this report (**Plates 13** to **70**). **Figures 23** and **24** show the location and direction of these photographs.

4.4 Project Archive

4.4.1 The project archive is currently held at the offices of Pre-Construct Archaeology Limited in Brockley, London, under the site code EMW17. It is anticipated that the archive (copies of the report, drawings and photographs) will be lodged with the Manchester Museum of Science and Industry. This report will be submitted to the Client, the Greater Manchester Archaeological Advisory Service (GMAAS), the Greater Manchester Historic Environment Record (GMHER) and the Salford City Council.

4.5 Guidance

4.5.1 All works were undertaken in accordance with standards set out in:

- ClfA (2014) *Standard and guidance for the archaeological investigation and recording of standing buildings or structures*
- English Heritage (now Historic England) (2005) *The presentation of historic building survey in CAD*
- Historic England (2016) *Understanding Historic Buildings: A Guide to Good Recording Practice*

5 HISTORICAL BACKGROUND

5.1 Introduction

- 5.1.1 The London and North Western Railway was formally incorporated by Parliamentary Act in July 1846. The establishment of the company was the outcome of the amalgamation of a number of regional companies, including the London and Birmingham Railway, the Manchester and Birmingham Railway and the Grand Junction Railway. Less than a year before the merger that created the London and North Western, the Grand Junction had joined with the Liverpool and Manchester Railway, which operated passenger services between Crown Street Station in Liverpool and Liverpool Road Station in Manchester. In 1844 the Liverpool and Manchester Railway opened a new junction line from the latter station to the Manchester and Leeds Railway's (later the Lancashire and Yorkshire Railway; LYR) new Victoria Station at Hunt's Bank, near Manchester Cathedral. An undated watercolour shows the railway bridge carrying this line over Greengate before the Exchange Station was built (**Figure 4**) and the 1849 Ordnance Survey map shows the same railway line with an 'engine house' to the south (**Figure 3**).
- 5.1.2 Victoria Station was extremely busy from the outset, and in February 1858 the LNWR proposed that it be enlarged. Although little came of that idea, by the beginning of the 1860s both the London and North Western and the Lancashire and Yorkshire agreed that the existing station was incapable of accommodating growing passenger numbers. In November 1860 the LYR applied for powers to build a new railway on a viaduct adjacent (on the north side) to the existing viaduct from Salford to Victoria and to enlarge the station. The LNWR objected to the proposals, arguing that the station should be rebuilt in its entirety. Other objectors included Salford Corporation, which quickly dropped its opposition when the LYR offered it £25,000 to spend on improvements in the Borough (Wray, 2004: 30). Powers to build the new railway and enlarge the existing station at Victoria were granted to the LYR in June 1861. The new line and station extension opened to the public at the beginning of August 1865 (*ibid*: 34).

5.2 Proposals for the enlargement of Manchester Victoria Station 1876

- 5.2.1 Despite the enlargement of the station in the mid-1860s, pressure to further extend Victoria was growing by the early 1870s (*ibid*: 36). With relations between the LYR and the LNWR at a low point, the possibility of establishing a new station at an alternative location nearby was discussed by the principal officers of the latter company at Euston in December 1876 (TNA RAIL 410/108 No. 40457, 15/12/1876). The following July the Board of the London and North Western Railway instructed its solicitors to prepare a Parliamentary Bill for widening the company's lines west of Manchester to Ordsall Lane and for improving its stations at Manchester Victoria and London Road (TNA RAIL 410/109 No. 41927 (3), 20/07/1877). The proximity of the River Irwell to the existing station prompted the London and North Western to seek a site for the new station on the opposite bank to Victoria in Salford.
- 5.2.2 Responsibility for the design of the new station was given to the London and North Western's Chief Engineer, William Baker, who submitted what was described as an 'amended plan' to the Special Committee of the company in early October 1877 (TNA RAIL 410/109 No. 42386, 11/10/1877). The company submitted a version of this plan to Parliament the following year (Wray, 2004: 59). The Parliamentary plan depicted a slightly different layout to that eventually built, showing the railway from Victoria crossing the Irwell via a new bridge to the south of the actual route chosen (**Figure 5**). Similarly the projected route of the new approach road to the station from Manchester ran east of and parallel to Victoria Bridge Street, cutting through the buildings between the latter street and Chapel Street, before curving northwards a short distance to the east of Greengate to the new station. Having approved Baker's scheme, the Special Committee instructed the company's land agents to make arrangements for the purchase of the land that lay in the path of the station, road and

viaduct (*ibid*).

5.3 Negotiations with local authorities, 1877-1881

- 5.3.1 Negotiations between the railway company and the local authorities of Manchester and Salford regarding the construction of the new station began shortly after Baker prepared his initial plan. In November 1877 the London and North Western gave notice of an application for powers to purchase approximately 11 acres of land to the south of the railway viaduct in Salford bounded by Chapel Street, Greengate and Victoria Bridge Street, in addition to widening the railway viaduct as far as Ordsall Lane (*Proceedings of Salford Council*, 1877-8: 159; Wray, 2004: 60). The proposals themselves were bundled into an omnibus bill titled "A Bill for empowering the LNWR Company to make new Railways and widen portions of existing Railways and execute other work, and to acquire additional land in the Counties of Buckinghamshire, Warwickshire, Chester and Lancaster" (*Proceedings of Salford Council*, 1877-8: 78).
- 5.3.2 Negotiations with the Manchester Corporation appear to have been relatively straightforward. Given that the railway company proposed to build the new station in Salford, the principal impact upon Manchester was the proposed approach road from Victoria Street on the Manchester side of the River Irwell, which was welcomed by the Corporation (**Figure 5**). The preamble of the draft Parliamentary bill for the works stated that an agreement had been made with the Corporation of Manchester concerning the 'Victoria Station improvements' before April 1878 (TNA RAIL 410/110 No. 43639, 12/04/1878).
- 5.3.3 Although the Corporation had consented willingly to the 1878 bill, in 1881 it insisted that the approach to the station from Victoria Street (Cathedral Approach) should be widened from 54' as specified on the original plans to 60' (TNA RAIL 410/114 No. 49887(2), 05/05/1881). The Corporation also proposed that the works should incorporate the diversion of the River Irk in order to form a "better junction" with the Irwell, which would probably have entailed substantial costs (*ibid*). The LNWR was amenable to the proposal to widen the approach road and instructed Francis Stevenson (William Baker's successor as Chief Engineer) to amend his plans accordingly in mid-July (*ibid*: No. 50371, 15/07/1881). Fortunately the proposal to divert the Irk was discarded in favour of a plan to widen a stretch of the river on the Salford side beyond Victoria Bridge in connection with the new approach to the station (*ibid*: No. 49991, 20/05/1881; No. 51037, 03/11/1881). At the beginning of November 1881 the railway company agreed to the widening an area of 337 square yards of the river on the Salford side between Victoria and Salford Bridges, the work to be carried out by the company and part-funded by the Manchester Corporation (to the tune of £5,000) and the remainder by the LNWR (*ibid*: No. 51037, 03/11/1881; No. 51324, 16/12/1881; TNA RAIL 410/315 No. 23231, 16/11/1881).
- 5.3.4 Discussions with Salford Corporation were less straightforward than those with Manchester and took longer to complete. At a meeting held on 6th February 1878 the Corporation voted to oppose the railway company's draft Parliamentary Bill (*Proceedings of Salford Council*, 1877-8: 78). Following the vote, the council set up a sub-committee charged with opposing the bill, which spent the months that followed preparing a lengthy petition against it (*ibid*: 159, 196). The petition complained *inter alia* about the effect of the arches carrying the viaduct upon the residents, the streets and on local businesses, as well as about the corresponding impact of the station upon the surrounding area (*ibid*: 159). The petitioners demanded the right to control the height, elevations and sanitary arrangements of the proposed station buildings and also objected to the proposed river crossing from Manchester, which they claimed represented "an unnecessary interference with Chapel Street" (*ibid*). They also asked why, given that Salford was expected to give up so much of its territory to accommodate the viaduct and station, the railway company proposed to provide access to it from Manchester only (*ibid*). The latter was the crux of the Corporation's case against the bill, and its representatives sought to use it to gain concessions from the railway company. Chief amongst these was the provision of an additional

approach to the station from Salford itself, which the Corporation offered to build, provided that the railway company contributed substantially towards the cost of construction (*ibid*: 196). Despite the Corporation raising the value of its contribution to the cost of the proposed road, the railway company repeatedly declined to incorporate it in the Bill. The company's intransigence prompted the Corporation to oppose the bill when it came before the Select Committee of the House of Lords charged with reviewing it that June. This continuing opposition prompted the railway company to insert a clause in the bill "to the effect that the company shall, before they open the new station, make and complete a new road, terminating in front of the same, according to plans and sections to be agreed upon...and that the road shall, when completed be forever maintained and repaired by the company" (*ibid*). Having thus succeeded in its principal objective, the Corporation congratulated itself on having secured "the thoroughly convenient access which will now be available to the extended railway accommodation of the company from the most populous parts of the Borough" (*ibid*).

- 5.3.5 In August 1878 Christopher Moorhouse, Town Clerk of Salford, wrote to the railway company's solicitors regarding the purchase of land required for the improved approach; in response William Baker was "instructed at once" to prepare a detailed plan of the new station for the corporation (TNA RAIL 410/111 No. 44448, 23/08/1878). Baker's plan had yet to be supplied by the following March, when it was reported that the council was pressing for plans of the proposed approach road (TNA RAIL 410/112 No. 45404, 06/03/1879).
- 5.3.6 The most likely reason for the failure of the railway company to provide plans of the new station to the Corporation was the sudden death of William Baker on 20th December 1878 at the age of 62 (Reed, 1996: 127). Shortly after the Corporation requested the plans at the beginning of March 1879, Baker's successor Francis Stevenson (1827-1902) was instructed to submit plans of the proposed station 'enlargement' for inspection by the Special Committee of the LNWR (TNA RAIL 410/112 No. 45564, 03/04/1879). It is not clear whether Stevenson's drawings were significantly different from those of his predecessor, although they must have included the additional approach road from the Salford side. Having reviewed the drawings at the beginning of April, the committee instructed Stevenson to send a tracing of the new street approach to the Town Clerk of Salford (*ibid*). Three weeks later the solicitor acting for the LNWR was asked to send a further tracing to the Town Clerk, this one showing "the point of connection of the new street at Salford with the Company's new Station Yard" (*ibid*: No. 45652, 25/04/1879). At the same time Stevenson was informed that the street and the yard were to be separated by a gate, "so as to preserve the Company's sole ownership of the Station Yard" (*ibid*). Stevenson was also instructed to draw up detailed plans of the proposed works in order that they could be advertised to potential contractors (*ibid*).
- 5.3.7 Although the railway company was happy with the layout of the proposed approach road, certain concerns expressed by the Salford Corporation were yet to be resolved. Stevenson met with a sub-committee of the Corporation to discuss the proposed approach road to the new station in early October 1879 (TNA RAIL 410/113 No. 46467 09/10/1879). Stevenson's plans evidently satisfied the committee, and at a meeting of council at the end of the month it was moved "that the plan of the approach to the intended station of the LNWR in Chapel Street, now submitted, be approved" (*Proceedings of Salford Council, 1878-9*: 349).

5.4 The acquisition of property on the site of the proposed station, 1877-1880

- 5.4.1 The London and North Western had already instructed its agents to acquire land on the site earmarked for the development of the new station and widened viaduct before it sought Parliamentary powers for their development. In mid-March 1877 a Mr Wood (presumably a land agent in the employ of the railway company) informed the LNWR Special Committee of the purchase of three properties in Salford, covering an area of 9,488 [square] yards for a total outlay of £107,444 (TNA RAIL 410/108 No. 41110, 16/03/1877). The largest of these plots encompassed an area of 7,666

[square] yards acquired from a Mr Brooks for £99,658, and freehold plots of 422 [square] yards and 1,400 [square] yards from a Mr Howell and Harter's Trustees respectively (*ibid*).

- 5.4.2 In mid-October 1877 the railway company's agents reported the purchase from Messrs Goodman and others of a property described as "the old Woollen Cloth Hall" for £26,500 (TNA RAIL 410/110 No. 42461, 19/10/1877). Although railway company minutes did not specify which of the old cloth halls in the Greengate area the purchase concerned, the property was substantial, a half share of which (1098 square yards) remained in the possession of the Salford Corporation after the sale of the remainder (*ibid*). At the time of purchase the hall was occupied by tenants, whose lease was not due to expire until 1880 (*ibid*: No. 43409, 22/02/1878). This was no great inconvenience to Baker, who estimated that the railway company would not need to gain possession of the property until after that date. It was however decided that at the expiration of these and other tenancy agreements, new tenancies would be subject to a short notice period of three months (*ibid*: No. 43408).
- 5.4.3 The building in question was the cloth hall at nos. 1, 3 and 5 Victoria Bridge Street, which was in the occupation of a firm of agricultural and horticultural engineers that traded as F and W Richmond (**Figure 3**; *Slater's Royal National Commercial Directory*, 1877-8: 226). Opened at some point between 1819 and 1824, the hall was built over three storeys and stood directly in the path of the approach road to the new station proposed by Baker in 1877 (**Figure 5**; Arrowsmith, 1996: 42).
- 5.4.4 Having decided to build the station approach from Victoria Street to the west of the route originally envisaged by Baker, the cloth hall was no longer threatened with demolition. In November 1879 a proposal was considered to convert "the old Cloth Hall near Victoria Station" into a hotel, with provision in the "space below" for shops, or alternatively "building an hotel on the upper level" (TNA RAIL 410/113 No. 46804 21/11/1879). This idea had been abandoned by the following August (1880), when the railway company's officers were instructed to complete the purchase of the Salford Corporation's half share in the freehold of the building (TNA RAIL 410/113 No. 48440 20/08/1880). This share in this property comprised 1,098 square yards of "land and buildings between the old Cloth Hall and the River Irwell", the freehold of which was acquired by the LNWR in January 1881 for £3,950 (TNA RAIL 410/314 No. 22566, 19/01/1881). A directory of 1883 confirmed that Messrs F and W Richmond continued trading from their premises in Victoria Bridge Street for a while after their acquisition by the railway company, although the company had moved by 1886 (*Slater's Royal National Commercial Directory*, 1883: 48, 248; *Slater's Royal National Commercial Directory*, 1886: 265).
- 5.4.5 Confusingly, a second 'old cloth hall' in the vicinity of the proposed new station was occupied by a firm which shared the name 'Richmond'; this was Richmond & Chandler, agricultural implement makers who traded from Richmond Square, Miller Street, which stood on the site earmarked for the future station (*Slater's Royal National Commercial Directory*, 1877-8: 149). The hall stood at the rear of the Spread Eagle public house (Chapel Street), and had opened in 1814 as the 'New Yorkshire Cloth Hall' (**Figure 3**; Arrowsmith, 1996: 41). Richmond & Chandler's works were subsequently demolished and the occupants displaced to make way for the new station.
- 5.4.6 The railway company's agents continued to purchase land for the new station and approach road throughout the remainder of the 1870s. In mid-January 1878 a meeting of the Special Committee heard that a Mr W. Hull acting for the company had acquired land to the value of £16,572.10.8 at Liverpool Road goods station and at Victoria for the enlargement of both stations (TNA RAIL 410/110 No. 43170, 18/01/1878). Seven months later the same committee was informed that the company had acquired a freehold property comprising nos. 16 and 18 Greengate together with ten houses in a courtyard to the rear from a Mr Joynson for an outlay of £3,800 (TNA RAIL 410/111 No. 44558a, 23/08/1878). A contemporary directory indicates that at the time of purchase no. 16 was occupied by a pawnbroker named William Taylor,

whilst the property next door housed the premises of a clothes dealer called Thomas Lomas; the courtyard to the rear is likely to have been Ravald's Court (*Slater's Royal National Commercial Directory*, 1877-8: 109). Although Taylor subsequently moved, both no.18 Greengate and Ravald's Court were listed in a directory of 1879 (*Slater's Royal National Commercial Directory*, 1879: 110). Further purchases of land required for the new station to the value of £31,650 were announced in January 1879 (TNA RAIL 410/112 No. 45119, 17/01/1879).

- 5.4.7 In mid-October 1879 the Special Committee of the LNWR instructed that Mr Hull proceed with the purchase of Colliers' Foundry, despite the leaseholders demanding a 'large sum' for the lease of the premises (TNA RAIL 410/113 No. 46575 17/10/1879). The latter property was the iron works at the east end of Chapel Street adjacent to the River Irwell, the lease of which was held by a long-established firm of machine tool manufacturers which traded under the name William Collier & Co (**Figure 3**; *Slater's Royal National Commercial Directory*, 1879: 43).
- 5.4.8 By the beginning of November 1879 the railway company had gained possession of a sufficient proportion of the site of the station and approaches to instruct its agents Messrs Wood and Hull to proceed with clearing the ground, under the direction of Francis Stevenson (TNA RAIL 410/113 No. 46692 06/11/1879). Meanwhile the company continued to acquire property in the area, and it was announced in January 1880 that the development of the station would not proceed until the remainder of the land had been acquired (TNA RAIL 410/113 No. 47075 16/01/1880). It seems that Stevenson kept to the timetable drawn up by the late William Baker, so it was decided that the railway company did not need to gain possession of Richmond's Works until after Lady Day (25th March) 1881 (TNA RAIL 410/113 No. 47730 16/04/1880).
- 5.4.9 The railway company continued to purchase land for both the new station and the widened lines throughout the course of 1880 and into early 1881. During the autumn of 1880 the company set about buying up the manufactories in Miller Street, which stood in the path of the new station and lines from Victoria (**Figure 3**). In October the company's agents completed a deal to acquire 904 square yards of freehold land and buildings from one Edward Wadsworth, the proprietor of an organ factory in Miller Street (TNA RAIL 410/314 No. 22284, 20/10/1880; *Slater's Royal National Commercial Directory*, 1879: 151). The following month the railway company purchased the site next door, comprising 1,846 $\frac{1}{3}$ square yards of land in the possession of Richmond & Chandler for £17,250 (TNA RAIL 410/314 No. 22369, 17/11/1880). Richmond & Chandler's claim for a leasehold interest in the works in Miller Street was settled by the London and North Western a little under a year later (TNA RAIL 410/315 No. 23171, 19/10/1881). At the same time that it acquired the above premises, the railway company also purchased the Spread Eagle Hotel in Chapel Street, comprising 620 square yards of 'building land' including Spread Eagle Yard, which abutted the rear of Richmond & Chandler's premises (*ibid*).

5.5 The closure of Miller Street and the construction of Salford Approach

- 5.5.1 Having gained possession of the major part of the land necessary to develop the new station and to widen the viaduct to Ordsall Lane, the London and North Western turned to the closure of Miller Street and the truncation of Harding Street.
- 5.5.2 In mid-November 1880 the company instructed Francis Stevenson to discuss the future of Miller Street with the Salford Corporation, in the light of a proposal by the latter in a draft local bill to shut a portion of the street (TNA RAIL 410/114 No.48922, 19/11/1880). The railway company welcomed the proposed closure of at least part of the street, which had it remained open would have been covered over in order to accommodate the station. Stevenson was asked to discuss the possibility of absorbing the closed section of the road for the station, and "the building of a portion of the station on pillars over a slip of Company land" which was to be given up "for the widening of the road in continuation of Chapel Street"; the latter presumably a reference to increasing the width of Salford Approach from that originally specified by Stevenson (*ibid*).

5.5.3 Although the outcome of Stevenson's discussion with the Council is not known, the latter appears to have sought to gain some financial advantage from the railway company's willingness to close Miller Street. The minutes of the LNWR noted that the following July Christopher Moorhouse (Town Clerk of Salford) wrote to the London and North Western with a suggestion that the Council would agree to the closure of the street in return for a payment of £4,000, "with an intimation that the Corporation would [additionally] require the company to pay for the site and soil of Briercliffe Street and a part of Harding Street" (TNA RAIL 410/114 No.50314, 15/07/1881). The railway company rejected the proposal, following which the Corporation dropped its demand for additional payments for streets not yet absorbed by the railway (*ibid*: No. 50549, 19/08/1881). Even though the LNWR agreed to pay the amount demanded by the Corporation, railway company records suggest that negotiations continued into the early months of 1882, possibly a result of complications caused by the purchase of certain properties jointly by the two bodies in order to facilitate the construction of Salford Approach (TNA RAIL 410/115 No. 51434, 12/01/1882; No. 51528, 20/01/1882).

5.6 The construction of the new station, 1880-1884

5.6.1 Having estimated that the 'extension' of Victoria Station would cost in the region of £106,600 to complete, the London and North Western invited contractors to tender for the works as early as the summer of 1880 (TNA RAIL 410/314 No. 22180, 18/08/1880). In mid-August the company awarded the contract to carry out the works to Messrs Robert Neill & Sons for £93,400 (*ibid*).¹ By September 27,000 square yards of the site had been cleared for development (Wray, 2004: 60). Less than three months after Neill & Sons won the station contract, Stevenson was instructed to invite contractors to tender for the widening of the lines to Ordsall Lane, the cost of which he estimated to be in the region of £48,500 (TNA RAIL 410/115: No. 22360, 17/11/1880). The tenders for the works were opened the following April, when it was decided to award the contract to Messrs Holmes & King of Liverpool, who quoted a figure of £43,997 (*ibid*: No. 22747, 12/04/1881).

5.6.2 Although a substantial number of contract drawings of the new station are held by The National Archives at Kew, the majority are dated to December 1882 and later, with only one bearing an earlier date (TNA RAIL 410/2106 Dwg No. 6, 03/09/1880). Signed by Francis Stevenson and countersigned by Robert Neill & Sons on 3rd September 1880, the drawing shows a section of a 'roadway under arches' and details of a cast iron drain grating and a cast iron cover of a down pipe (**Figure 5**). The roadway was simply constructed of regular stone setts bedded in sand over a layer of cement concrete. This figure represents the only surviving drawing from Neill's 1880 contract held by The National Archives and confirms that the company built the arches of the future Exchange Station.

5.6.3 Fortunately the Network Rail Records Group at York has in its possession a set of drawings relating to the contract for the construction of the arches (**Figures 7 and 8**). These comprise three plans and a number of sections of the arches as built by 1884, which probably represent a set of record drawings retained by the Engineer's department of the LNWR. The drawings reveal the complexity of the structure, with the weight of the station buildings, platforms and tracks above borne by north-south aligned arches braced by east-west orientated cross-walls at the east and west sides of the structure (Wilson, 2011: 10). The route of the original cab road is also shown, running in a tight curve from the raised station forecourt at the junction of Salford and Cathedral Approaches, descending under the new railway viaduct carrying the tracks to the through platforms, before ascending towards the cab stand located between

¹ Robert Neill & Sons advertised themselves as "joiners and builders, contractors, stonemasons and timber merchants", trading from offices in Sherborne Street, Strangeways, with timber yards in Edward Street, Clarence Street and Broughton Lane (*Slater's Royal National Commercial Directory*, 1879: 279). The company was run by Robert Neill senior and his son Robert junior, both of whom lived in some comfort in the prosperous suburb of Higher Broughton (*ibid*). In 1884 the company was awarded a contract to extend Victoria Station (Wray, 2004: 51)

through-platforms 4 and 5 (shown as platforms 3 and 4 on **Figure 11**). The outside (east) edge of the cab road was bounded by a new river wall between Salford Bridge and the new railway viaduct to the north. Construction of this wall also appears to have formed part of Neill's contract. A handwritten note appended to the original drawings indicates that excavations for the new wall commenced on 7th September 1881, the first stones of which were laid one week later. Despite a series of interruptions and delays, including construction being halted by a faulty pump, the brickwork was completed on 17th March 1882.

- 5.6.4 The minutes of the London and North Western say little regarding the construction of the arches, suggesting that the works probably proceeded without major incident other than the delays to the construction of the river wall. The contract was approaching completion by the end of June 1882, when Messrs Neill asked Francis Stevenson for permission "to proceed with the additional works at this station not under contract, at their schedule of prices at which they are currently carrying out similar work under contract at this place" (TNA RAIL 410/315 No. 23836, 19/06/1882). The railway company declined this offer, resolving instead to place the works out to tender (TNA RAIL 410/316 No. 24007, 18/10/1882). Contractors were then invited to bid for "the construction of the Victoria Station roofing and works in connection therewith" (*ibid*). Of the nine tenders received by mid-October, the lowest price was quoted by Messrs S & W Meadows of Stockport; however the contract was awarded to Robert Neill & Sons for £31,261, £3,739 less than Stevenson had originally estimated (*ibid*).²
- 5.6.5 Less than a month after tenders were opened for the construction of the station roof, the Special Committee of the London and North Western received 23 tenders for the construction of the buildings of the new station (*ibid*: No. 24076 15/11/1882). The contract for these works was won by Robert Neill & Sons, doubtless on the strength of the work already carried out by the company. The winning bid was worth £23,209 (*ibid*). Three sets of drawings from this contract are held by The National Archives: an unsigned set of plans and sections of the main building presumably retained as internal company records (TNA RAIL 410/2110; not illustrated); a full set of 24 plans, sections and elevations of the platform buildings, the main block and the 'circular wing' signed-off by Francis Stevenson and Robert Neill and dated 1st December 1882 (TNA RAIL 410/2106; **Figure 9**) and a set of sections and elevations of the main block also signed-off by the architect and the contractor (TNA RAIL 410/1133; **Figure 10**). A hand written note indicates that the latter drawings were copies retained by the Engineer's office in October 1883. All of these drawings identified the as-yet nameless station as an extension of Manchester Victoria.
- 5.6.6 Construction of the station buildings by Neill & Sons appears to have taken place throughout the first half of 1883, presumably running concurrently with the erection of the trainshed roof by the same contractors. In June 1883 the Special Committee of the LNWR submitted a recommendation to the General and Traffic Committee that the new station should be called the 'Royal Exchange Station' (TNA RAIL 410/186 No. 36500, 13/06/1883). For reasons unknown the latter committee dropped the 'Royal' prefix and recommended that the name 'Exchange Station' should be adopted (*ibid*). A photograph taken in the late 19th century (**Plate 1c**) shows the Exchange Station with its name on the entrance to Cathedral Approach, while the station buildings are not named and the central clock has not been set on the façade. A later photograph (**Plate 2**) shows both the clock and the station name on the station buildings.
- 5.6.7 When completed the station had two terminus platforms (nos 1 and 2), at the east end of which stood the booking office, construction of which formed part of Robert Neill & Sons 1882 contract (**Figure 9**; **Plates 1a** and **1b**). Four tracks terminated at the buffer stops; two outermost passenger lines, separated by two engine release

²A copy of an architectural contract drawing of the station roof dated 1884 is held by the Manchester Libraries, Information and Archives (ref: GB124.A19/4/73). This archive was closed to the public during the preparation of this report

roads. The Ordnance Survey map of 1888 (**Figure 11**) depicts two through platforms (nos 3 and 4) and platform 2 with a long narrow platform. Platforms 3 and 4 shared a wide island platform, separated by the cab stand. The footbridge that provided pedestrian access from platforms 1 and 2 to platforms 3 and 4 was originally accessed at its south-east end by two splayed northeast-southwest aligned flights of steps, the configuration dictated by the proximity of the north end of the 'circular wing' of station buildings (**Figure 11; Plate 1a**). Subsequently the platforms were renumbered, with platform 3 sharing the long narrow platform with platform 2 and former platforms 3 and 4 renumbered as platforms 4 and 5, respectively. The platform renumbering may have come about as a result of the 1891-2 alterations.

- 5.6.8 During the spring of 1884 the railway company set about installing the telegraphic and telephonic circuits at the station, providing telephone connections between the east and west junction boxes and the intermediate north and south Inspector's Officers (TNA 410/187 No. 37371, 19/03/1884). Telephonic connections were established between the junction boxes and Manchester, Warrington, Bolton and Wigan, whilst a separate telephone circuit was established between the London Road and Exchange Stations (*ibid*). The telegraph office was based on the ground floor of the 'circular wing'; other rooms on this floor included the first and second class ladies' waiting rooms, gentlemen's waiting room, left luggage office, and the station master's office (TNA RAIL 410/2106 dwg. 3; **Figure 9; Plates 1a and 1b**).

5.7 The Exchange Station in operation, 1884-1885

- 5.7.1 The Exchange Station opened partially to passenger traffic on 30th June 1884. The station remained incomplete, its entrance blocked by timber hoardings until a day or two before opening (Wray, 2004: 61). The glazed portico that stood before the front elevation had yet to be installed, the contract drawings having only been produced a month earlier (TNA RAIL 410/2107). In its place stood a temporary passenger shelter (Wray, 2004: 61). A set of elevations and sections through the columns and roof over the cab drive was dated 15th March 1884, suggesting that this part of the station too had yet to be completed (*ibid*). The footbridge that provided passenger access from platforms 1 and 2 to platforms 3 and 4 was not yet ready for use, so a temporary wooden one was built in its place (*ibid*).
- 5.7.2 The construction of the interchange between Salford and Cathedral Approaches in front of the forecourt of the new station did not pass without incident. According to a recent account of the history of Victoria Station "an extraordinary mistake was revealed" when the time came to join the two roads with another, as the contractors discovered that there was a difference in levels between the two of "several feet" (Wray, 2004: 61). The problem must have been resolved locally as it does not appear to have been recorded in the minutes of the various Board Committees of the LNWR.
- 5.7.3 The new station operated initially as a satellite of the London and North Western's facilities at the Lancashire and Yorkshire's Victoria Station, which continued to handle parcels traffic until the following year (TNA RAIL 410/188 No. 39072, 18/11/1885). Stevenson's 1880/1884 basement plan indicates that arches 3F and 3H were set up to handle parcels by the latter date (**Figure 7**). Towards the end of September 1884 the Post Office Mail Messengers department, previously based at Victoria, was transferred to offices at the new Exchange Station (TNA RAIL 410/188 No. 39762, 18/08/1886).
- 5.7.4 The LNWR was continuing to fit out offices in the new station buildings in November 1884, when fixtures and fittings including window blinds, floor coverings, chairs and stools were ordered to be supplied (TNA 410/187 No. 38062, 19/11/1884). The telegraph office (located on the ground floor of the 'circular wing' at the east end of the main station buildings) had evidently been operating for a number of months by December, when it was reported that the Deputy Telegraph Clerk, a Mr Parsonage, had absconded to New York having fraudulently drawn the salary of his colleague John Craig, the Relief Clerk (*ibid*: No. 38141, 17/12/1884). The railway company magnanimously resolved to pay the latter the amount purloined by his erstwhile colleague.

- 5.7.5 The majority of the staff required to man the new station had transferred from Victoria to the Exchange by July 1885, when the latter became fully operational. In addition to existing personnel, the LNWR took on a further 25 employees at the Exchange, including an additional inspector, ticket examiner, nine porters, two signalmen, one waiting room attendant and a lavatory attendant (TNA RAIL 410/188 No. 39072, 18/11/1885). A detailed large scale plan of the completed station was published by the Ordnance Survey in 1888 (**Figure 11**).
- 5.7.6 The contract drawings of the arches discussed elsewhere in this report indicate that the enclosure of arches 5F, 5H, 7F and 7H to create beer cellars and kitchens serving the refreshment rooms above had been completed by November 1884 (**Figures 7 and 8**). This suggests that an undated set of plans and sections showing the construction of these basement rooms probably dated to the period between the completion of the arches and the opening of the station. Whilst these rooms were occupied by the railway company itself, the occupiers of the arches during the earliest years of the station's existence are not known.
- 5.7.7 By the mid-1890s a number of the arches to the east of Greengate were in the possession of brewers and associated trades; including John Smith's Tadcaster Brewery Co. Ltd, a firm of yeast merchants named Risk Harvey & Co, and a wine and spirit merchant who traded as James Johnson & Co (*Slater's Manchester & Salford Directory*, 1895: 81). The presence of these companies indicates that the arches were primarily used for bottle storage, in a manner similar to the vast Bass bottle store that occupied the undercroft of St Pancras Station in London (1867). By 1903 John Smith had left the Exchange arches, to be succeeded by the London and Burton-on-Trent based brewer, Truman, Hanbury, Buxton & Co (*Slater's Manchester, Salford and Suburban Directory*, 1903: 103). Other occupants at the time included The United Yeast Co. Ltd (yeast merchants), James Hartley & Co (mill furnishers) and James Johnson & Co (*ibid*). Within six years the arches housed bottle stores belonging to Truman, Hanbury & Buxton, James Johnson and the Edinburgh brewer William McEwan & Co Ltd, in addition to a manufacturer of 'extract of beef' trading as David (Corneille) & Co, and L.F. Harvey & Co, a firm of 'motor car agents' (*Slater's Manchester & Salford Directory*, 1895: 81).
- 5.7.8 The Exchange Station only acquired its distinctive gates after a directive of February 1886, when the Board approved plans to create an enclosure which used at least two gates that had previously been destined for use at Liverpool Lime Street station (TNA RAIL 410/28 No. 5159, 21/06/1884).
- 5.8 Construction of the new cab road and bridge and the enlargement of Exchange Station, 1886-c.1895**
- 5.8.1 A major programme of improvements was launched in the late 1880s, when the railway company was forced to address a number of serious shortcomings in the original station design. Chief amongst these were the inadequate access arrangements, which had been the cause of congestion around the station entrance since the station opened three years earlier. The extent of the problem was exposed the previous year during the Royal Jubilee Exhibition held at Old Trafford, when traffic at both the Exchange and London Road stations was particularly heavy (TNA RAIL 410/189 No. 40959, 14/12/1887).
- 5.8.2 In order to resolve the congestion problem at the Exchange Station, Sir Richard Moon Bt, the long-serving Chairman of the London and North Western, authorised Francis Stevenson to prepare plans for "an additional roadway from the end of the station to the Chapel Street Bridge" in August 1887 (TNA RAIL 410/119 No. 1727, 04/08/1887). Nine weeks later Stevenson reported that he had submitted a plan to "make a communication between the station approach road and the bridge carrying Chapel Street over the River Irwell" to the Engineer of the Borough of Salford, Arthur Jacob (*ibid*: No. 1804, 13/10/1887). Stevenson proposed to extend the bridge at the junctions of Chapel and Victoria Street, creating a new approach to the cab stand serving the northern platforms, which would replace the awkward curve of the original cab road leading from the station entrance. Jacob intimated that his employers would

be prepared to authorise the proposed works, providing that the railway company agreed to construct a staircase from Greengate to the Exchange Station Approach on land owned by the Corporation (*ibid*). This proved to be something of a false start, and over the course of the following winter and spring the LNWR and the Corporation failed to agree to cost and precise route of the new approach road (*ibid*: No. 1805, 13/10/1887). Despite the railway company's willingness to build the Greengate steps, the approach road from Chapel Street remained the subject of negotiations between the two bodies until the autumn of 1888 (*ibid*: No. 2138, 12/04/1888; No. 2480, 11/10/1888). The apparent reluctance of Salford Corporation to authorise the proposed new approach is understandable given the extent of alterations required to its own property: in order to incorporate the rebuilt approach it would be necessary to rebuild Salford Bridge. However both parties eventually reached agreement and preliminary works were under way by the autumn of 1890. The completed approach and line of the new cab road can be seen on the LNWR station plan of 1896 reproduced here as **Figures 12** and **13** (see **Plates 1b** and **2**).³

- 5.8.3 The inadequacies of the original station design were not confined to passenger and vehicle access arrangements. By the end of the decade all sorts of flaws had become apparent; including such faults as the failure to provide access between the upper level and the Carriage Staff mess-room on the lower level, which obliged the men to use the hydraulic lamp hoists to travel between them. Although the latter was resolved by the insertion of an iron spiral staircase, more substantial failings necessitated more extensive action (TNA RAIL 410/190 No. 42493, 19/06/1889). In January 1891 it was decided to build a new booking office for passengers joining trains on platforms 3 and 4 on completion of the new bridge (TNA RAIL 410/191 No. 44019, 14/01/1891).
- 5.8.4 The construction of the new road approach allowed the company to construct a larger deck for the upper level of the station, necessitating the demolition of the existing parapet and the erection of new arches and external wall supporting the new buildings over the original (now redundant) cab road. This in turn permitted the enlargement of the facilities located in the 'circular wing' at the north-east end of the 1882-3 station buildings, the size of which had been circumscribed by the original cab road. It was therefore decided to demolish these buildings and erect in their place an elegant two-storey range containing spacious ladies waiting rooms and WCs for first, second and third class passengers, a new gentlemen's waiting room, station master's and telegraph offices and a greatly enlarged lost luggage office on the ground floor, with offices over. The construction of the new east wing created additional circulation space for passengers in front of the booking office, and permitted the replacement of the splayed steps to the footbridge with a single northwest-southeast oriented stair (compare **Figures 11** and **12**; **Plates 1a** and **8a**).
- 5.8.5 A set of contract drawings of the new extension dated 1st May 1891 is held by The National Archives (TNA RAIL 410/2108). The drawings were countersigned by a representative of Robert Neil & Sons, indicating that the company that built the original station was also contracted to build the extension. The retaining wall at the north-east end of the deck supporting the extended east wing was finally completed in 1893 (Wray, 2004: 112).

5.9 The Exchange Station in the early 20th century, 1900-c.1930

- 5.9.1 Despite the comprehensive enlargement of the station in the first half of the 1890s, contemporary accounts suggest that early 20th century passengers held a generally unfavourable opinion of the Exchange. A report written in 1905 criticised it both as a terminus and as a through station, although its author did concede that a number of modifications made since construction, such as the realignment of the cab exit, had improved conditions somewhat (Wray, 2004: 112). The biggest problem was the failure of the LNWR and the LYR to establish an adequate passenger connection

³ Manchester Libraries, Information and Archives holds a drawing of the approach road dated 1892 (ref: GB124.A19/LNW/1/204). Unfortunately this archive was closed to the public when the present research was being undertaken

between the Exchange and Victoria stations, prompting the author of the 1905 report to suggest that had relations between the two companies been better in the past, then the station would probably have never been built in its existing form (*ibid*).

- 5.9.2 The London and North Western contemplated further enlarging and improving the Exchange Station on a number of occasions during the first two decades of the 20th century. In 1903 proposals to enlarge and widen the station at its west end were approved by the company (*ibid*: 113). In mid-October that year the board authorised the purchase of property necessary to allow the enlargement to take place, and the following month resolved to include powers to widen the station in a forthcoming Parliamentary bill (TNA RAIL 410/38 No. 19441, 16/10/1903; No. 19495, 05/11/1903). The scheme would have necessitated the acquisition of Sacred Trinity Church in Chapel Street, to which Salford Corporation objected (Wray, 2004: 113). Towards the end of the year the Board of the railway company authorised the expenditure of £950 towards the purchase of land from the Corporation for the purpose of “widening Chapel Street”, although Council opposition ensured that the proposed station enlargement never took place (TNA RAIL 410/38 No. 19585, 18/12/1903).
- 5.9.3 Ten years later proposals to improve the surroundings of the approach to the station from Manchester Cathedral were published (Wray, 2004: 113). Neither of these somewhat fanciful schemes came to fruition, although the railway company did authorise the expenditure of £1,070 to construct a new parcels office at the Exchange Station towards the end of the same year (TNA RAIL 410/42 No. 25647, 19/12/1913).
- 5.9.4 In the aftermath of the First World War and the lifting of Government control of the railway companies, Parliament discussed the amalgamation of the railways into larger regional groups based upon area monopolies. Initially seven regional groups were envisaged, with the LNWR, the Midland and the LYR forming the nucleus of a proposed north-western group (Reed, 1996: 215). The proposals formed the basis for the 1921 Railways Act, which established the mechanism by which grouping would take place by the beginning of July 1923. However the close working relationship that had built up between the LNWR and the LYR over recent years encouraged the two companies to amalgamate more than a year before grouping, establishing a new and somewhat short-lived London and North Western Railway (*ibid*: 223). Shortly before the new company was formed on 12th January 1922, the two companies announced that the Exchange and Victoria Stations would also be joined into a single entity. This was to be achieved by extending Platform 11 of Victoria Station westwards to join Platform 3 of Exchange (Wray, 2004: 115). The resulting platform, which was 2,238’ in length and could accommodate three trains simultaneously, was the longest in Europe and opened to passengers in April 1929, by which date the old LNWR had been subsumed into the new London, Midland and Scottish Railway (LMS) (*ibid*). In order to protect passengers from the elements, the length of the platform was covered and a screen erected along its north side. At the same time signalling arrangements for both stations were comprehensively upgraded (TNA ZLIB 7/38). An Ordnance Survey map of 1933 shows the Exchange as it appeared after the union of the two stations (**Figure 14**).

5.10 The Exchange Station during the Second World War, 1939-1945

- 5.10.1 As the prospect of war with Germany became a near-certainty in the aftermath of the Munich crisis of September 1938, officials from the Ministry of Transport met with representatives of the Big Four railway companies the following month to discuss arrangements that the latter needed to make for the protection of property and personnel in the event of war. The following year the Government introduced legislation which compelled employers to implement Air Raid Precaution (ARP) measures to protect resources against attack from the air. The Civil Defence Act 1939 allowed public utility and public transport undertakings to claim grants against expenditure incurred by the construction of shelters and other ARP measures completed before the end of September 1939, or on those that were under construction by that date.
- 5.10.2 During the night of Sunday/Monday 22nd/23rd December 1940 Manchester and

Salford were heavily bombed by the Luftwaffe. High explosive and incendiary bombs severely damaged the 1880s and 1890s station offices, as well as falling on the trainshed roof (**Plate 3**). The buffer stops between platforms 1 and 2 were also destroyed.⁴ The 70' span at the east end of the roof collapsed when bombs demolished one of the 21" cast iron columns that supported it (Wray, 2004: 122; **Plates 5 and 6**). A bus sheltering under the bridge carrying the lines and platforms over Greengate was destroyed by a bomb that penetrated the station deck (**Plate 4**).

- 5.10.3 Following the raid the bridge over Greengate was rebuilt, while the damaged platforms were repaired with pre-cast concrete slabs. The demolished cast iron column was replaced with a steel-plated stanchion, although the roof covering was not reinstated until after the war ended (Plates 7 to 9).⁵ A temporary booking office was built in 1941 and the bomb-damaged buffer stops were reinstated in 1942 or later. Although still standing after the raid, the station offices were deemed unsafe and pulled down by the Fire Brigade apart from the north wall of the station buildings which was retained as the south wall of the trainshed and formed a brick frontage (**Figures 15 and 16; Plates 7 to 12**). A temporary entrance and exit was created to allow passengers to use the station; the entrance used in the early 21st century was reinstated three months after the raid (Wray, 2004: *ibid*).
- 5.10.4 Although extensive temporary repairs were carried out during wartime in order to return the station to use, it was not until the war ended that the damaged trainshed roof could be repaired. A set of LMS drawings of the new roof covering and the replacement trusses dated 1944-7 is held by Manchester Libraries, Information and Archives (ref: GB124.A19/LNW/1/285). Although it was not possible to consult these records, it is likely that the replacement roof was constructed of similar materials to the bomb-damaged roof of the Eastern Transit Shed at the LNER Goods Station at King's Cross. The specification for the latter roof called for the replacement of the original timber trusses by steel trusses fabricated from rolled steel angles joined by gusset-plates, while the part-glazed roof covering was replaced with a combination of corrugated asbestos cement sheets and patent glazing (Thompson *et al*, 2011: 31). An Ordnance Survey map of the station published in the early 1950s shows the post-war appearance of the station (**Figure 15**).

5.11 The Exchange Station after Nationalisation, 1948-present

- 5.11.1 The Big Four railway companies were nationalised with effect from 1st January 1948, the Exchange Station passing into the control of the London Midland Region of the newly established British Railways. The years of austerity that followed the end of the Second World War saw expenditure on railway infrastructure fall, and it was not until the mid-1950s that the British Transport Commission (BTC) unveiled a 15-year plan to modernise and re-equip British Railways. The drive to eliminate steam traction in the London Midland Region saw the introduction of the first diesel-multiple unit (DMU) services from the Exchange, followed in 1960 by new six-coach DMUs that ran the Liverpool to Hull Trans-Pennine service.
- 5.11.2 Although all four of Manchester's passenger termini survived the cuts in Dr Richard Beeching's 1963 review of national rail capacity (the 'Reshaping of British Railways'), by the middle of the decade the British Railways Board was keen to reduce excess capacity in the city. As early as March 1967 the Board had decided to concentrate services from the Exchange at nearby Victoria, thus rendering the former surplus to requirements (TNA AN 169/1059, 30/03/1967). Preliminary discussions with Manchester City Council regarding the fate of the station began that spring, during which proposals to release platforms 1-3 at Exchange and 1-5 at Victoria were revealed. Both parties agreed that land at the Exchange could be developed for

⁴ Manchester Libraries, Information and Archives hold two LMS plans of the reconstruction of the buffer stops dated 1942 (ref: GB124.A19/LNW/1/288). It was not possible to consult this record as the archive was closed to the public when the present research was being undertaken

⁵ Manchester Libraries, Information and Archives hold an LMS record regarding the reinstatement of the roof dated 1943 (ref: GB124.A19/4/883). It was not possible to consult this record as the archive was closed to the public when the present research was being undertaken

offices, “although it was appreciated that the existing vault construction would create problems” (TNA AN 169/1059, 13/04/1967). British Rail was keen to generate a sufficient return from the redevelopment of the station in order to finance the station improvement scheme at the two surviving termini (Victoria and Piccadilly/London Road), whilst Manchester City Council was eager to develop the site and remove the ‘eyesore’ of the station frontage (**Plate 8b**).

- 5.11.3 In January 1968, Barbara Castle, then Minister of Transport agreed with BRB (British Railways Board) proposals to give advance notice of the closure of the station in accordance with Section 54 of the 1962 Transport Act (TNA MT 124/1158, 02/01/1968). Notice of the proposed closure was published in local and national newspapers on Friday 19th January, prompting the Manchester Evening News to invite readers to visualise the site of the station occupied by homes, shops, car parking, a motel and “a fine new entry to Manchester and Salford” (*ibid*, M.E.N. ‘New city gateway or doomed station?’, 19/01/1968). Formal notice of closure was published on 8th June 1968, with the station itself scheduled to shut to passengers on 5th May the following year (*ibid*, 08/06/1968).
- 5.11.4 The British Railways Board was approached by a number of parties interested in the acquisition of the site during this period, including the General Post Office (GPO) and Salford Corporation (TNA AN 169/1059, 13/11/1967, 01/03/1968). Key to the redevelopment of the site was the retention or otherwise of the arches, which would in turn depend upon the use envisaged for the site in the future. An equally important consideration was British Railways’ insistence on retaining the through platforms for use at night for newspaper and GPO traffic, creating an effective constraint upon the more ambitious proposals for development (*ibid*, 11/07/1968). In February 1969 C.H.W. Barnes, the District Estate Surveyor of the London Midland Region, asked his counterpart at the BRB to consider “the possibility of using the station approaches for car parking and of extending this into the half of the train hall comprising the concourse and platforms 1, 2 and 3” (*ibid*, 25/02/1969). Less than two months later Barnes announced that British Railways was seeking planning permission for the adaptation of the train hall site to car parking (*ibid*, 18/04/1969). The question of the best means of creating a level parking area over the former platforms was also considered. Two options were envisaged: either the removal of the rails, sleepers and ballast and the filling of the track beds with hard core to platform level, followed by a layer of concrete to form a level parking platform, or alternatively the removal of the platforms down to track level and the formation of a ramp down from the concourse entrance in order to reduce loading on the arches (*ibid*).
- 5.11.5 The station closed to passengers as scheduled on 5th May 1969. The tracks were lifted from platforms 1 and 2 and the space infilled and covered, following which the area was used for car parking (**Figure 16**). Platforms 3, 4 and 5 were retained, as was the train-shed roof over the north side of the former station. The roof provided cover for parked cars for more than a decade after the closure of the station, although it was finally removed in the early 1980s (**Figure 17**). A series of photographs showing the surviving structure shortly before the removal of the roof is reproduced here as **Plates 10 to 12**. The remaining tracks through platforms 3, 4 and 5 were not lifted until 1993, although the disused platforms were retained.

6 DESCRIPTION OF THE STRUCTURES

6.1 Introduction

6.1.1 The following descriptive text is based upon objective information gathered at the time of the survey (week ending 24th November 2017) and focuses upon the former railway viaduct that currently forms Embankment West, latterly mainly used as a car park accessed from Chapel Street. Interpretations of use and phasing of the structures are drawn from the on-site analysis of the historic fabric and from documentary information.

6.1.2 For ease of reference Chapel Street is referred to as south (not south-east), and Greengate as east (not north-east). The upper car park area, formerly the site of the station buildings and platforms, is referred to as the podium level, while the lower level of car parking, within the vaults, is referred to as the viaduct. The majority of the vaults within the lower level area are referenced using the historic vault numbering system (1-20) depicted on the LNWR plan of 1896 (**Figure 13**) and (in some instances) by surviving cast-iron plaques fixed to the viaduct walls (see **Plates 34** and **35**).

6.2 External Description

6.2.1 Internally the layout of the viaduct is relatively uniform and symmetrical, laid out in a grid-like floor plan of north-south aligned vaults crossed, to the east of the entrance (vault 13), by two principal and one secondary roadway and by three principal roadways to the west of that entry (**Figure 2A** and **23**). The area surveyed comprised ten of a total of seventeen vaults that form Embankment West. The vaults are aligned north to south and are numbered sequentially, rising in value from east to west (either odd or even numbers from 1 to 20). The vaults (1-20) are crossed by two principal internal roadways (A and B), each orientated east-west, perpendicular across the vaults and aligning with large entrance openings built into the eastern flank wall of the embankment to Greengate. A similar, but much narrower east-west thoroughfare (C), which also aligns with an entrance into Greengate, traverses the vaults to the south of Roadway (B), while further north and west, and outside the survey area, is another east-west Roadway (D) linking vaults 16-30. The vaults each side of the Roadway (A) are sequentially numbered, with odd numbers (1-19) to the south of the roadway and even numbers (2-20) to the north. The numbered vaults to the south of Roadway (B) are also followed by an identifying letter (C) or (B) relating to the section of vault on each side of the narrower thoroughfare (C). A single vault directly north of Roadway (B), is annotated as (1A) while the northernmost vaults (4-18) are all similarly followed by the letter (A). Present-day access into the lower level lies approximately central to the southern facing Chapel Street elevation and in Vault 13.

6.2.2 The internal floor level of the viaduct broadly corresponds with street level to the south and east. The floor treatments varied considerably comprising either modern screed or asphalt surfaces or original granite setts. Where recent archaeological investigation works had been carried out, excavation showed that in many cases the granite setts underlay the modern floors above.

6.2.3 A departure from the typical grid-form open vaulting was present at the eastern end of the viaducts and adjacent to Greengate. This comprised a series of three shorter enclosed vaults (1, 1A and 2) which correspond in size and character to similar vaults (2D and 2E) previously surveyed within the Embankment East (Greengate) site (**Figure 13**).

6.2.4 The east facing elevation to Greengate (**Plates 13** and **14**), formerly sheltered below the bridges carrying the Salford Approach and mainline over Greengate, was broadly identical in character to the corresponding west facing elevation (to Greengate), photographed as part of the previous Greengate survey of 2015. Much of the elevation was faced using white glazed bricks laid in English bond, from street level up to the level of stone corbelling along the former bridge soffit. This wall was interrupted by three full height, double width door openings and also pierced by three

port-hole style windows openings, set at three-quarter wall height and turned using red sandstone dressings (**Plate 19**). The door openings use bull-nosed jambs and include an open, ventilating light above the door lintel, secured by a 'grate' of vertical iron bars (**Plates 15 and 16**). The surviving tall, two-leaf, centre-meeting doors (south and central) are softwood ledge and batten plank doors, hung off heavy wrought-iron strap hinges, which incorporate a smaller pedestrian door at street level. The central pair of doors still retains a cast-iron plaque bearing the vault numbering (1B to 21B and 1C to 21C; **Plate 17**) alluding to those to the south side of Roadway (B). The original doors to the northernmost door opening (to Roadway C) has been lost and replaced with a modern wrought-iron gate (**Plate 18**). The three port-hole light/ventilators (to vaults 1, 1A and 2) still retain their sandstone dressings and cast-iron spider-web grills (**Plate 19**). Notably the paneled cast-iron bridge parapet, originally bordering the Salford Approach as it crossed over Greengate (formerly further south), has been re-used and relocated to its present location alongside the listed railway bridge (**Plate 13**), following the removal of the Salford Approach/Greengate bridge (post 2015).

- 6.2.5 Arched openings to the south elevation below the Salford Approach have either been part blocked mainly using blue brickwork (mainly those to the east of the site entrance from Chapel Street; **Plates 20 to 22**) or were, until recently, rented out for business use (to the west of the same entry; **Plate 23**).
- 6.2.6 There are corresponding arched openings in the southern elevation, above the road level of the Salford Approach, which accordingly decrease in height due to the incline of the Salford Approach as it rises in elevation from west to east (**Plates 24 to 26**).
- 6.2.7 The Salford Approach, when viewed from street level is built using red brick laid in English Bond with wide arched openings (to the vaults) built with brick arches of five on-edge, courses (**Plates 20 to 23**). The wall rises to a simple over-sailing stone coping and wrought-iron railing which follows the southern edge of the approach. Some of the lower arches to the west of the access (13) have been adapted for business use (**Plate 23**), enclosing the openings with part-glazed frontages or have latterly been fully bricked-up. Those to the east no longer demonstrate any evidence of former use, simply part blocked (up to head height level) mainly using blue engineering brickwork (**Plate 22**).
- 6.2.8 The arches, which open onto the ramp of Salford Approach, are similarly built using the same style and character of brickwork (**Plates 24 to 26**). They have also been blocked-in (at the base) using blue engineering bricks below lightweight studwork panels (**Plate 26**). The parapet wall (to the podium level) comprises two distinctly different builds, with a simple red brick parapet and plain coping to the west, similar in character with the brickwork below, and a more elaborate parapet to the east, incorporating York stone bands and copings, finer faced, lighter brickwork and rusticated piers (**Plate 27**).
- 6.2.9 The remaining Manchester Exchange Station buildings were demolished in 1982. At the time of this survey, the podium level was mainly in use as a contractors' car-park (**Plate 29**), with vehicular access only possible via the former Cab Road (to the north-east) as the Salford Approach had been blocked off. In line with its later use for car parking, the podium level was mainly surfaced in modern asphalt, although two east-west aligned 'bands' of interrupted and damaged paving, some with areas of granite kerbing, were visible and may represent the remains of former platforms (**Plate 30**). The podium level to the south is bounded by a considerable three brick (thick) parapet wall described above (**Plates 27 and 28**).

6.3 Internal (Lower Level) Descriptions

General

- 6.3.1 The area surveyed broadly comprised ten of a total of seventeen north-south orientated brick-built vaults that form Embankment West. Internally the layout of the viaduct is relatively uniform and symmetrical, laid out in a grid-like floor plan of north-south aligned vaults crossed by two wider principal roadways (A and B) and one

narrower secondary roadway (C) (**Figure 2A** and **23**; **Plates 31** to **34**). The three perpendicular roadways each align with large door openings built into the eastern flank elevation which formerly provided access into the viaducts from Greengate (**Plates 13** and **14**). The vaults were numbered sequentially, rising in value from east to west, from 1 to 19/20 within the survey area, but otherwise 1 to 30 in total.

- 6.3.2 The vaults each side of the Roadway (A) are sequentially numbered, with odd numbers (1 to 19) to the south of the roadway and even numbers (2 to 20) to the north (**Figures 2A** and **23**). The numbered vaults to the south of Roadway (B) are also followed by an identifying letter (C) or (B) relating to the section of vault on each side of the narrower thoroughfare (C). A pair of vaults at the eastern end and immediately north of Roadway (B), are annotated as (1 and 1A) while a similar vault at the east end and to the north of Roadway (A) is marked as (2). The vaults to the north of Roadway (A) and within the site are numbered (4 to 20). They are 'double length' with the northern sections, which lay outside the Site followed by the letter (A). The southern vaults (2 to 20) within the Site, will be demolished up to and along a line of truncation close to their mid-point. The southernmost vaults (with a C identifier) project below and support the Salford Approach.
- 6.3.3 The majority of the brick vaulting was remarkably consistent throughout the building with few structural deviations. Although slight changes in character and misalignment of some of the vaulting, specifically the northern vaults (followed by A), appear to relate to an earlier structural phase. These northern vaults, as stated above, lie outside and to the north of the Site boundary, still carrying the live railway line into Manchester Victoria station.
- 6.3.4 The brickwork that comprised the principal walls was very uniform, and where original, comprised large, smooth faced red bricks, measuring 220-230mm x 105-110mm x 70-75mm, laid in English Bond and set using a firm grey mortar or Portland cement. The vaulted ceilings were built using the same bricks although they were laid on-edge, as quarter-lap stretcher courses, most likely using a form or similar device. Typically the angles to the arch jambs and openings used hard wearing blue, bull-nosed engineering bricks and where original openings or recesses were present, the brickwork accordingly used queen closers.
- 6.3.5 The north-south aligned 'barrel' vaulting was rounded and Romanesque in profile (**Figure 21**), while the cross-arches of the three roadways (A-C) were formed using pointed, two-centred arches, more akin to a Gothic style (**Figure 22**; **Plates 31** to **34**). The barrel vaulting typically comprised two widths, a wider vault of c.10.1m in width (west of vault 5) and narrower vaults measuring 8.78-8.8m in width at the eastern end (vaults 1-5) (**Figure 21**). The two larger roadways (A and B) measured between 6-6.06m in width (**Plates 31** and **32**) while the narrower southern roadway (C), was about half that width at c.3.2m (**Plates 33** and **34**). The arch soffits of the latter, where they connect with the barrel vaulting, were dressed using stone quoining and sprang from high-compressive sandstone pads incorporated into the brickwork at the arch springing point. A sandstone keystone was also used at the apex of each cross-arch. The use of classical Romanesque and Gothic arches furnished the viaduct with an ecclesiastical quality used in medieval church architecture and a treatment that compares with that used for the equivalent vaults within the eastern embankment.
- 6.3.6 The vaulting is described starting from the east side (Greengate) moving west. A number of these vaults are still numbered using the original cast-iron plaques, which are typically set high on the wall at the base of the arch or at the end of the wall facing into the roadway (**Plates 34** and **35**).

Vaults 1, 1A, 2 & 1B, 1C

- 6.3.7 Vault 1/1A was located along the eastern flank wall of the embankment, between the two main roadways A and B and adjacent to the two gated entrances from Greengate, the central gate (to B) still retaining reference numbering 1B-21B, 1C to 21C (south leaf) and 1A (north leaf) (**Figures 2A** and **23**). This vault broadly corresponds with a similar vault within the eastern embankment (2E/2D; **Figure 13**),

both vaults narrowing to one end due to the dis-alignment of Greengate.

- 6.3.8 In contrast to the more typical open vaulting of the viaduct, the vaults (1 and 1A) are smaller and accessed via a tall arched opening central to its walls (**Figure 21; Plate 35**). These two spaces (1 and 1A) could be entered from the south from roadway B through a tall semi-circular headed arch opening built with a four-course, blue brick-on-edge arch with bullnose intrados and jambs. A similar arch is used for the opening in the dividing wall between 1 and 1A (**Plate 36**) and for the arched opening to the north and onto roadway A. A cast iron plaque reading 1A is set into the wall above the arch and faces onto roadway B. The wall up to the top of the arch head is painted (probably originally lime-washed), a feature common to the rest of the vaults within the embankment, the paint line also corresponding with the spring line of the vaults (i.e. to the top of the vertical elevations). The floor of vaults (1 and 1A) and the roadways were covered with granite setts, laid in regular courses, either north-south (roadways) or east-west at half lap (**Plates 35 and 36**). The two vaults are broadly identical in character, although 1A is lit from the east side by a bulls-eye window opening turned in brick-on-edge, while the corresponding bulls-eye window to 1 (**Plate 14**) lies behind a brick encasement, central to the east wall (**Plate 37**). It is not clear why this opening was sealed off, the brickwork has a very similar appearance to that of the vault structure and may have acted like a flue to provide internal ventilation. The cast-iron rainwater drainage pipes from the podium level above were housed within vertical recess built into the flank wall. Vault 2 was built to the same structural characteristics as described for those above, using the same style of arched opening and lit from the east side by a comparable bulls-eye opening (**Plate 19**). The vault was empty of internal features and latterly used to store inflammables.
- 6.3.9 The tall two leaf doors to roadway B were robust softwood ledge and batten doors hung from heavy wrought-iron strap hinges (**Plate 16**). They extended up only to the level of the base of the arch, just below the springing point, leaving the top of the arch open for light and ventilation, but secured by a screen of vertical iron-railings. The northern leaf incorporated a pedestrian opening below the central rail. This style of door was also used for the opening to the south, to roadway C, which also incorporated a small access door and retained a central pivoting locking bar (**Plates 15 and 39**).
- 6.3.10 Vaults 1B and 1C were sited to the south side of roadway B and either side of roadway C, vault 1B to the north and 1C to the south (**Figures 2A and 23; Plate 39**). The former was of typical construction built with a wide semi-circular arch. The southern end of the vault was however lower in height, by at least five courses of brick, and at a height level with vault 1C south of the roadway and therefore relates with the structure of the Salford Approach above (**Plate 38**). Vault 1C is a short length of arch adjacent to the southern entrance, whose south facing opening (to Chapel Street) had been part blocked up, using brickwork, built up to the level of the arch springing line (**Plate 20**). Thereafter the upper part of the arch was filled internally using sheets of cavity wall insulation fixed into a modern sub-structure that backed up to a modern corrugated iron cladding to the exterior. The blocking brickwork was secondary built flush with the exterior wall line and using pale red machine-made bricks laid in Flemish/Stretcher Bond. Internally the brickwork was strengthened using brick pilasters. A small blockwork office building had been built into the eastern side of the vault and an even smaller brick WC just inside, west of the roadway doors (**Plate 38**). Where the roadway and the vaults converged shaped stone quoins were used to form the angles of the arch ribs, while high compressive stone blocks or pads were built into the top of the walls to provide a more substantial base for the arches to spring from (**Plate 39**).
- Vaults 3, 3B, 3C and 4***
- 6.3.11 Vault 3 lay on the north side of Roadway B and vaults 3B and 3C lay on each side of Roadway C (**Figures 2A and 23**). Vault 4 lay to the north of Roadway A, crossed by the demolition line for two thirds of its length (i.e. the southern two thirds to be demolished). Vault 3 is a standard north-south vault, open to both ends with granite

sett flooring, laid east-west in half lap (**Plate 40**). Vault 3B showed the same change in height as described for (1B), although in this case the difference was greater (up to nine courses), demonstrating the gradual decline, westwards, of the Salford Approach (**Plate 41**). The shorter length of the vault that comprises 3C was also blocked up using brickwork at its southern end, up to two-thirds wall height. The opening above was infilled using translucent fibre-glass panels. The opening to Roadway C (between vaults 3B and 3C) was built with a pointed arch, dressed stone quoins and block stone key. An archaeological investigation in this area had removed the original floor covering.

- 6.3.12 Vault 4 to the north of Roadway A was also standard north-south aligned semi-circular vault contemporary with vault 3 and 3B to the south (**Plate 42**). Archaeological investigations within this vault had reduced the floor levels along three-quarters of its length, revealing that it had been latterly resurfaced using modern concrete laid directly over the top of the granite setts.
- 6.3.13 Views to the north look towards Vault 4A, which is clearly out of alignment with the vaults to the south, offset by 1.75m to the west and 3.07m to the east. It represents the earlier, original phase of viaduct serving Victoria Station, built in 1844. Though outside the remit of these works, a brief inspection showed a similar style of construction for vaults 6A, 8A, 10A, 12A and 14A. The intervening dividing walls between these vaults were pierced by a pair of connecting arched openings (**Figures 2A and 23; Plates 43 and 47**), latterly blocked and the arch for each vault sprung from stone 'plates' running the length of the vault. The 1849 Ordnance Survey map (**Figure 3**) shows an 'Engine Shed' above vaults 4A, 6A, 8A, 10A, 12A and 14A.

Vaults 5, 5B, 5C and 6

- 6.3.14 Due to the regularity in the design of the viaduct, the character of vaults 5, 5B and 5C was very similar to that already described for vaults 3, 3B and 3C (**Figures 2A and 23**). Vault 5B showed a continuation of the change in height as described above, while the shorter length of vault that comprised 5C was also blocked up using brickwork at its southern end, up to the level of the arch springing point (**Plate 45**). A cast iron plaque reading 5C was attached to the east wall of the vault just south of the opening to Roadway C, while a large circular opening, presumably a vent or chute, was central to the arch above 5C. Again, excavations in this area and vault 5 to 6 had reduced the floor levels showing that the setts were re-laid in bitumen and onto made-ground overlying former buildings (**Plate 44**). Whilst the eastern flank wall to vault 6 was off set to the west of the earlier viaduct (6A) the western wall did align and thereafter the alignment of vaults (to the west) did fully correspond (**Figures 2A and 23; Plate 47**). Evidence of an internal wall as well as a straight joint dividing vaults 6 from 6A remained at the junction of the two (**Plates 46 and 47**).

Vaults 7, 7B, 7C and 8

- 6.3.15 There were no significant changes to the character of these vaults if compared with that described above (**Figures 2A and 23**). Vault 7B illustrated the change in height between the viaduct and the Salford Approach road and its progressive reduction, the difference between the two a full sixteen courses, ten courses of brickwork over a six course brick-on-edge arch (**Plate 49**). Vault 7C included the same circular ventilator/chute in the arch ceiling (**Plate 50**) and a cast iron plaque reading 7C attached to the east wall (**Plates 33 and 34**). The floor of both vaults 7B and 7C were covered using granite setts, although vault 7 had been screed over (**Plate 48**). The northern vault 8 was built to align with 8A (**Plate 51**), the latter showing the same arrangement of paired cross-arches in the flank walls.

Vaults 9, 9B, 9C and 10

- 6.3.16 Vaults 9B and 9C are the first to show the road-bed of the Salford Approach, level with the base of a shallow arched opening built over the change in ceiling height previously described. Typically, the arch (to 9B) is built with six courses of brick-on-edge (**Plate 53**) and the upper opening (onto Salford Approach) incorporating a dwarf wall along its base. Vault 9B had been separated off from Roadway B by the addition

of a brick wall, built in red brick in cement mortar, up to half height, while vault 9C, slightly lower in height (than the adjacent vault 7C) was blocked-in to the south side. Access into vaults 10 and 10A was restricted but both as well as vault 9 were typical in their construction (**Plates 52 and 54**).

Vaults 11, 11B, 11C and 12

- 6.3.17 Vaults 11B and 11C had been latterly separated off from Roadway (B) by the insertion of a half-height brick wall, now demolished (**Plate 56**). Views south towards 11B and 11C look towards a similar arrangement as described for 9B and 9C, with a high, smaller arch at the Salford Approach level above the vault below, the former increasing in size as the later decreases (**Plate 26**). The closing wall to 11C (south) was built using recent brickwork laid as stretcher bond up to the level of the springing point. The western opening of Roadway C had also been blocked in using brickwork, but laid flush with the wall line in vault 13, so creating a recess to 11B/11C. This wall was added to isolate vault 13, as it was used as the main vehicular access into the viaduct from the Chapel Street level. Vault 11 (**Plate 55**) had been segregated from the main thoroughfares at both ends, although both walls now demolished, while Vaults 12 and 12A followed the same standard construction as described above (**Plate 57**).

Vaults 13, 14 and 14A

- 6.3.18 Vaults 13, 14 and 14A marked a departure from the repetitive, uniform layout of the viaduct east of 13 (**Figures 2A and 23**). Vault 13, a double depth vault, extending northwards as far as Roadway B, provided the main vehicular access from Chapel Street and formed a conduit to connect with all three east-west roadways. The southern roadway (C) was isolated from the entrance, its openings bricked in, along both sides of the vault (**Plate 58**). Internal passage to the west, to vaults 13B and 15 was restricted by a pair of large softwood plank and batten doors (**Plate 60**), very similar to those used fronting onto Greengate. They were hung off large wrought-iron strap hinges fixed into a 19th century timber boarded stud wall built into the arched opening of Roadway B. The doors included a pedestrian opening below the level of the mid-rail and were latterly painted with signage reading 'Lees Motors, High Class Motor Body Repairs'. The southern end of vault 13 was similar in appearance to 11C and vaults 13 (north) and 14 both standard semi-circular vaults (**Plate 59**). Another deviation from the norm occurred in 14A where a narrower vault (measuring 4.68m wide) and biased to the east side was present (**Plate 61**). It was within the line of the earlier viaduct, sharing some common structural features and therefore part of the 1844 works.

Vaults 13B, 13C, 15 and 16

- 6.3.19 Vault 13C lay below the line of the Salford Approach and had latterly been segregated off from the main body of the viaduct and re-purposed as a small business/retail outlet (**Plates 62 and 63**). The rear (south) wall (to 13B) comprised lightweight stud walling, while the shop front elevation to Chapel Street, was part-glazed and built off of a brickwork dwarf wall. The interior, mainly the vaulted ceiling had been clad with synthetic (plastic) cladding material and the floor screed over. A modern office range built around a softwood frame had been built along the west side of the vault. The pointed arch, typical of the southern roadway C, extended for only half the height of the vault, and was blocked to the east side. The structure of vault 13B was similar to that described for 11C, although the upper opening was larger (in height) (**Plate 62**), while vault 15 was standard in its appearance (**Plate 64**). Vault 16 like 15 was an open-ended vault while 16A terminated with a closing wall and connecting brick vault angled to the north-north-east (**Figures 2A and 23; Plate 65**). At the junction of vault 16 and 16A, another east-west Roadway (D), exclusive to these western vaults, commenced. It extended from vault 16 westwards to vault 30 articulating with another main entrance along the south wall of the viaduct and off Harding Street (**Figure 2**).

Vaults 15B, 17 and 18

- 6.3.20 The vaults below the Salford Approach used in retail and equivalent to 15C and 17C were not accessible, their arched openings into the viaduct (north side) bricked up (**Plates 66** and **69**). Vaults 15B and 17 together form one large vault, lit from the south side by the opening onto the Salford Approach (**Plate 66**). The northern end of the vault (to Roadway A) had been historically closed using a full height timber stud wall, covered in vertical boarding and access to both was only possible from the east side, as the corresponding opening, and westward continuation of Roadway B, had been blocked using brickwork, of a type similar to the vault (**Figures 2A** and **23**). At the time of the survey this area was the focus of an archaeological excavation and accordingly the floor surfaces within the vault had been removed although areas of granite setts still survived around the edges of the floor. These setts overlay 19th century made ground and the foundation walls of preceding buildings which once occupied the site (**Figure 3**). Vault 18 lay to the north of Roadway A and was a continuation of, and the same as, vault 17 (**Plate 67**). It was unremarkable in that it did not include any features out of the ordinary, although the next vault to the north, 18A, which lay outside the survey area, did incorporate a large square-section brick built 'flue' (**Plates 67** and **68**) marked on the 1880-4 plan (**Figure 7**) as 'chimney'. This plan also labels vaults 13B and 15B as a 'gas factory'.

Vaults 17B, 19D, 20 and 20A (Plate 69-70)

- 6.3.21 These vaults lay at the western extreme of the survey area, the truncation line following the western flank wall of vaults 17B, 19D (to the south) and 20, 20A (to the north). For simplicity the central vault is referred to as 19D and the northernmost vault 20A, although these numbers do not correlate with the number sequence shown on the historic LNWR map (**Figure 13**). Vaults 17B and 19D essentially form a single vault crossed by two roadways (A and B). The southern roadway (B) had been blocked up using brickwork along both east (17) and west (to 19A) sides, the brickwork built flush with the east face of the vault (**Figures 2A** and **23**). The northern roadway (A) was only blocked on its west side as it crossed (19D), Both vaults were partly illuminated from the south by an arched opening onto the Salford Approach road (**Plate 69**). This lay above another wide arch which provided structural support to the Salford Approach road and via a central door opening, access into a shallow vault below the Salford Approach road, latterly bricked up to the front and in storage use. Views north from 19D look towards vaults 20 and 20A, both typical semi-circular vaults crossed mid-point by roadway (D) (**Plate 70**). The roadway opening from the east side was a later rebuilding using a simple lintel construction below a blockwork infill, while the ceilings to both vaults were clad using corrugated plastic sheeting secured to battens.

7 CONCLUSION

- 7.1.1 Documentary evidence has shown that the Exchange Station viaducts were constructed by a local building firm, Messrs Robert Neill & Sons to the designs of the London and North Western Railway (LNWR) architect and engineer, Francis Stevenson. Initial works commenced by September 1880 and drawings of the arches show the extent and complexity of the proposed viaduct, designed to support the full weight of the station buildings, platforms and tracks above. The construction of the viaduct was completed, without delay, by June 1882, while the station buildings, built by the same contractor, Neill & Sons, continued throughout 1883, to be completed the following year, when the Exchange Station partially opened for passenger traffic on 30th June 1884.
- 7.1.2 The Embankment West vaults are substantial constructions built using locally manufactured red brick. The external appearance of plain brickwork is much simpler than the corresponding embankment to the east (recently demolished) which was 'faced' along its more visible Chapel Street elevation and the Cab Road retaining wall using red sandstone ashlar blocks, to the level of the upper deck/podium. This use of better-quality materials for its outward appearance may well reflect the status of the two halves, with the western embankment employed, as suggested above, in a more utilitarian/industrial role. Internally, however, the two differ little, the vaults are plain and functional exhibiting no embellishment apart from stone quoins and keys to the arches and the practical use of bull-nose bricks to internal angles. The style of the arches are a combination of two popular but seldom compatible, styles of the 19th century, using Romanesque vaults, synonymous with classical style, crossed by internal roadways built with pointed two-centred Gothic arches. Together this complex of tall arches and vaults give the viaduct the appearance of a medieval undercroft and perhaps is a reflection of the regard in which Victorian architects and engineers placed upon the railway infrastructure and its architecture.
- 7.1.3 The Exchange Station initially operated as a satellite to LNWR's facilities at Manchester Victoria, which continued to handle parcel traffic until 1884. Stevenson's 1880/1884 basement plan indicates that arches in the adjacent embankment (east of Greengate) were set up to handle parcels by the latter date. Towards the end of September 1884 the Post Office Mail Messengers department, previously based at Victoria, was transferred to offices at the new Exchange Station.
- 7.1.4 By the mid-1890s a number of the arches east of Greengate were in use by local businesses, principally brewers and associated trades suggesting the arches were put to use for bottle storage. The arches to the west of Greengate were most likely employed in similar uses, although their detachment from the main station buildings (further to the east) likely precluded the provision of victuals to the station concourse. The 1880-4 plan (**Figure 7**) shows an altogether different use, with the western arches (13b and 15B) utilised as a 'gas factory' with 17B set aside for an 'engine and boiler house'. No evidence of either had survived the building's later reuses, apart from an exhaust outlet or flue cut through the vaulted ceiling over vaults 17B/19D (**Plate 69**) and the chimney stack in 18A (**Plate 68**), which, though relatively distant, appears on the 1880-4 plan (**Figure 7**) to be connected by a sub-surface flue. A series of circular chutes central to the top of vaults 3C to 11C and along the southern side of the Salford Approach road may represent coal drops, thus providing the raw materials to extract coal gas and to power the adjacent engine and boiler house.
- 7.1.5 The analysis of the historic fabric has shown that the original layout of ten (of seventeen) bays of north-south aligned vaulted arches, crossed by three (of four) east-west internal roadways has remained little altered to this day. Changes which have taken place have mainly been directed towards simply blocking off the ends of the vaults using lightweight internal walls, most of which had since been demolished or enclosing the vaults, west of the entrance and below the Salford Approach to form business premises. External alterations were mainly focused upon the blocking or re-blocking of the arches along the south elevation and a re-construction of the parapet

wall at podium level. Despite these changes very little evidence portraying former use, in the form of fixtures, fittings or decorative schemes have survived. Some examples of original doors, principally within two of the three main openings to Greengate, remain as do examples of original cast-iron spider web ventilation grates (also to Greengate) and the inconsistent survival of cast iron vault identification plates and granite sett flooring. The scope of the survey area did not include the western vaults 19 to 30, or those vaults adjoining to the north side, followed by the identification letter A. With reference to the latter and in particular vaults 4A to 14A, they were not built at the same time as the core of the vaults which formed the embankment and were clearly out of alignment at their east end (**Figures 2A and 23**). The vaults were also dissimilar structurally, incorporating paired cross arches in their flank elevations and a continuous stone 'plate' or lintel at the base of the vault from which the arches sprang. The vaults align with the historic railway bridge over Greengate (shown on a watercolour painted before the Exchange Station was built; **Figure 4**) and on the Ordnance Survey map of 1849 (**Figure 3**). The latter shows that these vaults supported an 'engine house'. The bridge still carries the live railway into Manchester Victoria. The bridge and railway line were built in 1844 as part of the original viaduct, which to the east incorporates the George Stephenson Bridge spanning the River Irwell, serving Manchester Victoria further to the east.

- 7.1.6 This built heritage survey complements an existing survey of the embankment and associated structures east of Greengate carried out prior to its redevelopment (Thompson & Garwood 2014).

8 ACKNOWLEDGEMENTS

- 8.1.1 Pre-Construct Archaeology Limited would like to thank Select Property Group for commissioning the project. Thanks are given to the staff of The National Archives in Kew and the Salford Local History Library for their help and assistance. The collaborative role of Norman Redhead, Heritage Management Director of the Greater Manchester Archaeological Advisory Service (GMAAS), is gratefully acknowledged. The JESSOP Consultancy, particularly Marcus Abbott and his staff are thanked for carrying out the laser scan and preparing section drawings.
- 8.1.2 The project was managed for Pre-Construct Archaeology Limited by Charlotte Matthews. Guy Thompson carried out the documentary research while Adam Garwood undertook the built heritage recording assisted by Strephon Duckering. Guy wrote the Historical Background section of this report while Adam compiled the rest of the report. Mark Roughley prepared the illustrations.

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Manchester & Salford Official Handbook for 1881

Manchester & Salford Official Handbook for 1883

APPENDIX 1: OASIS FORM

OASIS ID: preconst1-349424

Project details

Project name	Built Heritage Recording at Embankment West, Salford, Greater Manchester M3 7AE
Short description of the project	Pre-Construct Archaeology was commissioned to undertake a built heritage survey targeting Embankment West, a complex of Victorian railway viaducts scheduled for demolition as part of a wider redevelopment of the former Manchester Exchange Station, Salford, Greater Manchester and supplements an earlier survey, carried out in 2014, which recorded the railway viaducts to the east of Greengate. The brick-built vaults of Embankment West and the Salford Approach road were built by Messrs Robert Neill and Sons to the designs of the London and North Western Railway (LNWR) architect Francis Stevenson between 1880-1884, to support the Manchester Exchange Station and raise the track to the same level as the earlier London and North Western Railway LNWR railway line (built by the Liverpool and Manchester Railway in 1844). The survey recorded ten of the seventeen north-south aligned vaulted arches and three east-west internal roadways.
Project dates	Start: 20-11-2017 End: 22-11-2017
Previous/future work	No / Not known
Any associated project reference codes	EMW17 - Sitecode
Type of project	Building Recording
Site status	None
Monument type	VIADUCT Post Medieval
Methods & techniques	""Measured Survey"", ""Photographic Survey"", ""Survey/Recording Of Fabric/Structure""
Prompt	Planning condition

Project location

Country	England
Site location	GREATER MANCHESTER SALFORD SALFORD Embankment West, Salford, Greater Manchester
Postcode	M3 7AE
Site coordinates	SJ 83647 98802 53.485428455603 -2.246470185162 53 29 07 N 002 14 47 W Point

Project creators

Name of Organisation	Pre-Construct Archaeology Limited
Project brief originator	Greater Manchester Archaeological Advisory Service
Project design originator	Charlotte Matthews

Project director/manager	Charlotte Matthews
Project supervisor	Adam Garwood
Type of sponsor/funding body	Private developer
Name of sponsor/funding body	Select Property Group

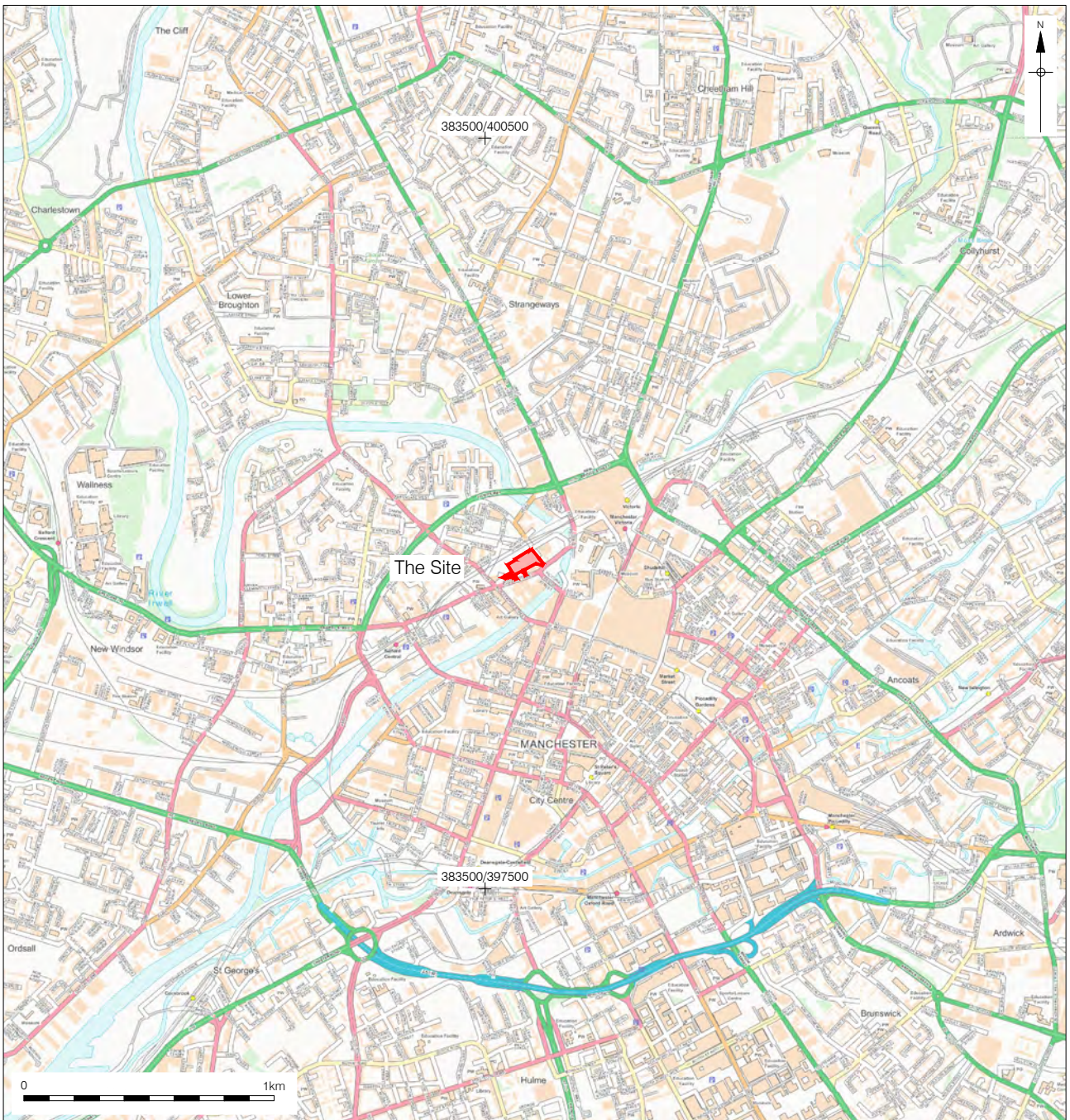
Project archives

Physical Archive Exists?	No
Digital Archive recipient	Manchester Museum of Science and Industry
Digital Media available	"Images raster / digital photography", "Survey", "Text"
Paper Archive Exists?	No

Project bibliography 1

Publication type	Grey literature (unpublished document/manuscript)
Title	Built Heritage Recording at Embankment West, Salford, Greater Manchester M3 7AE
Author(s)/Editor(s)	Thompson, G. and Garwood, A.
Other bibliographic details	PCA Report Number: R12489
Date	2019
Issuer or publisher	Pre-Construct Archaeology Limited
Place of issue or publication	London Office
Description	A4 PDF

Entered by	Charlotte Matthews (cmatthews@pre-construct.com)
Entered on	6 June 2019

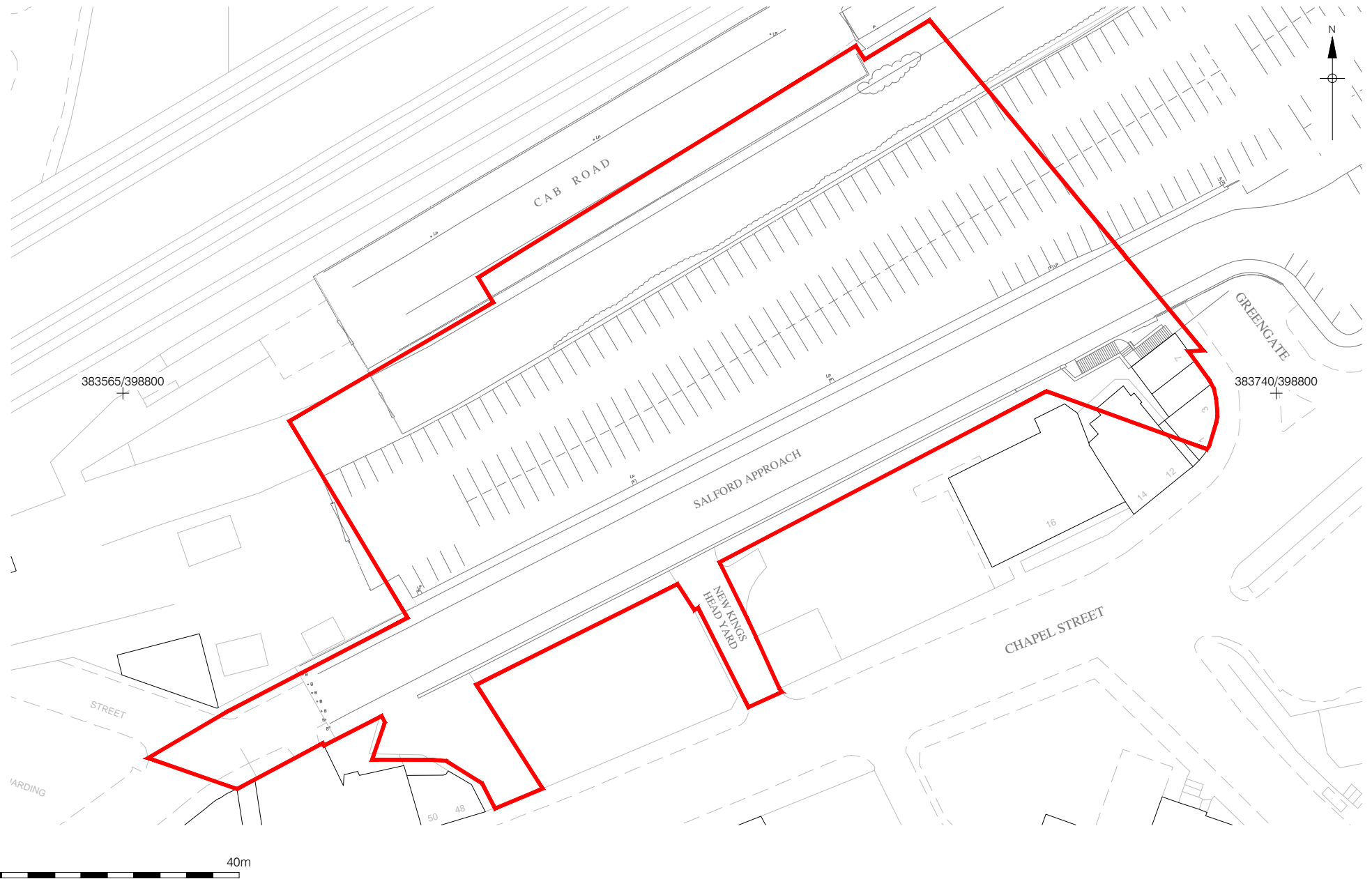


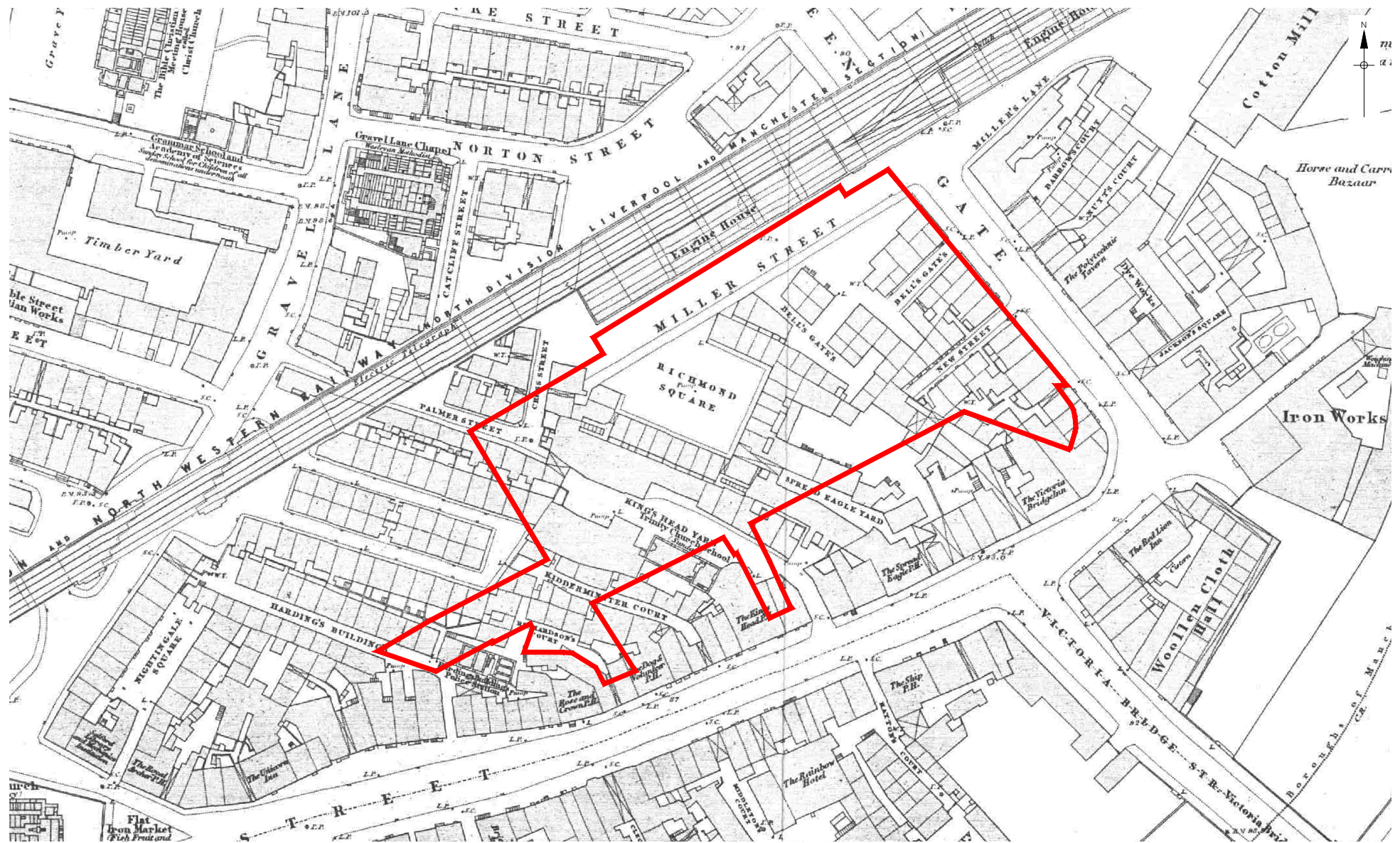
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- Earlier viaduct of c. 1840



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Figure 2A
Annotated Floor Plan of Lower Level/Level 0
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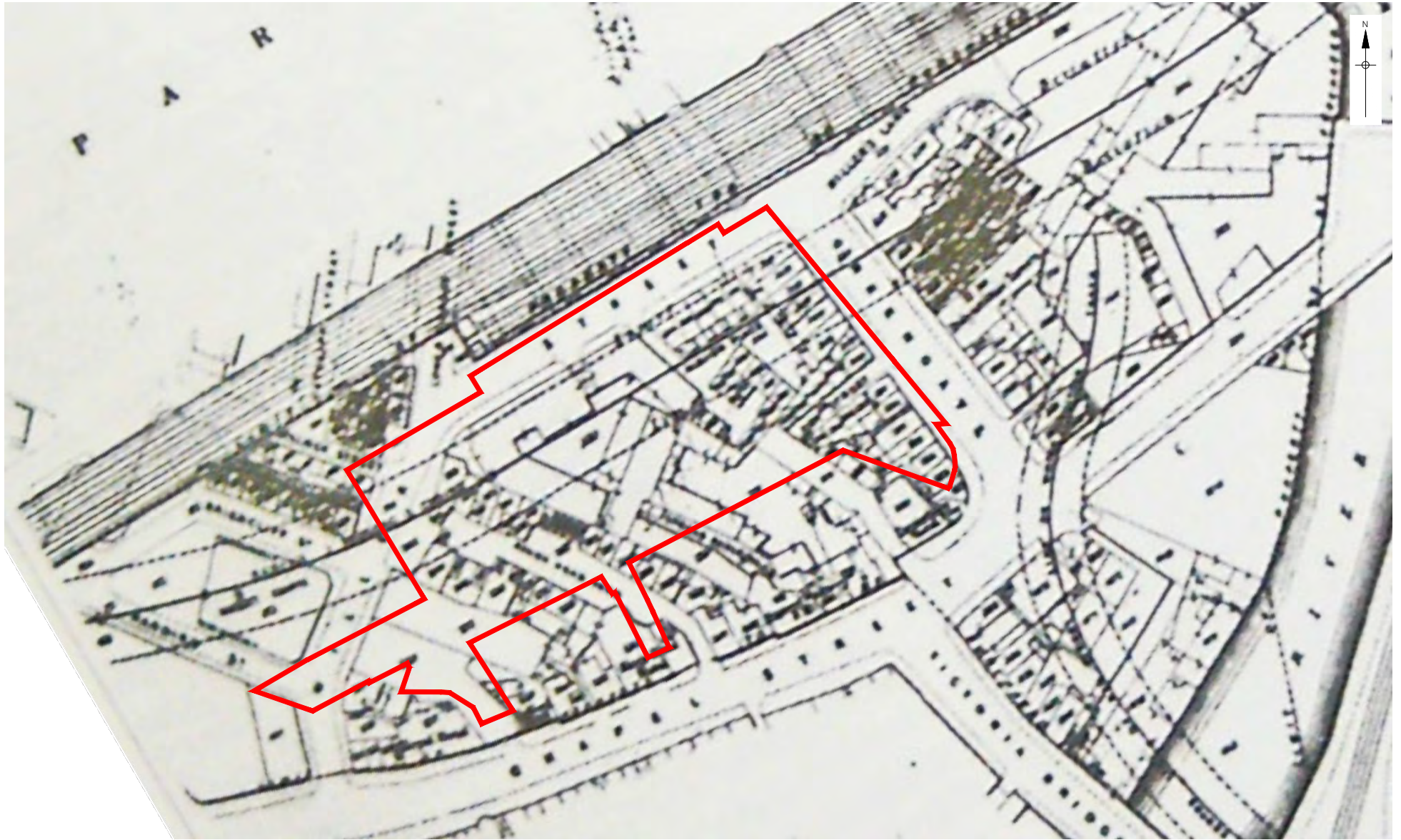




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Figure 3
First Edition Ordnance Survey map, 1849
1:1,250 at A4





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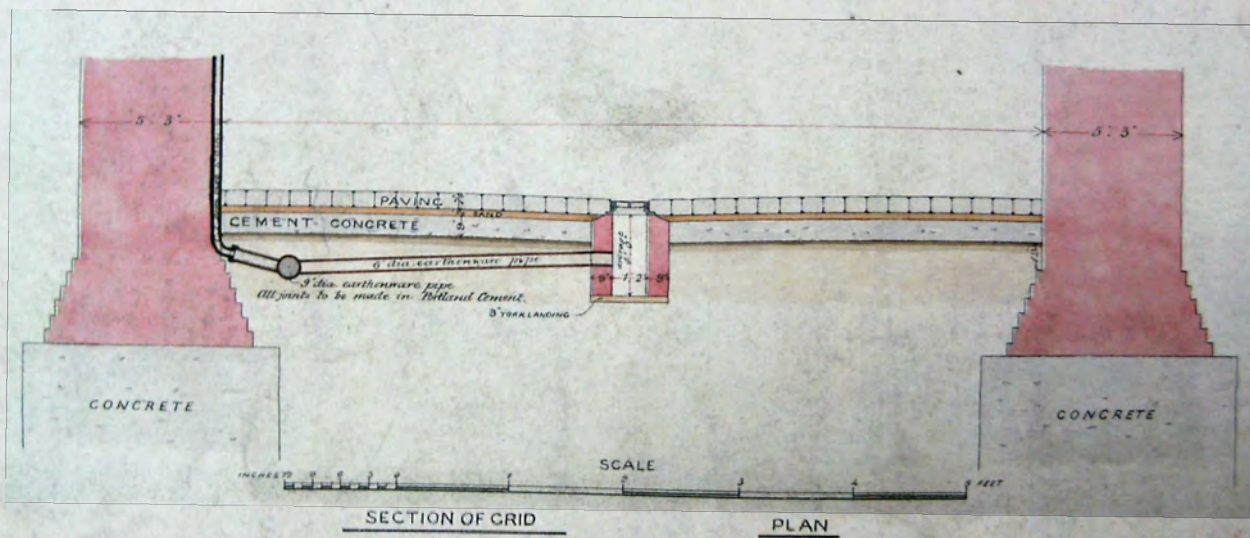
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09/05/19 MR

Figure 5
LNWR Parliamentary Plan, 1877
Approx. 1:1,250 at A4

DETAILS OF PAVING &c.

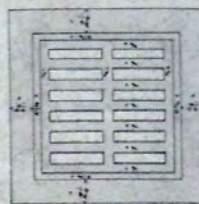
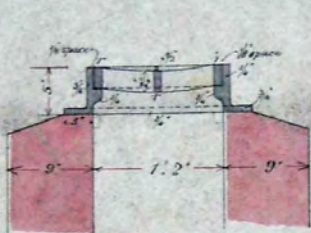
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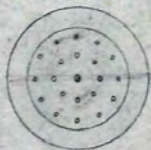
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PLAN



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Rd Mill Lane
Letchworth*

PLAN

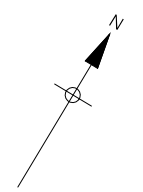


CAST IRON COVER TO DOWN PIPES.

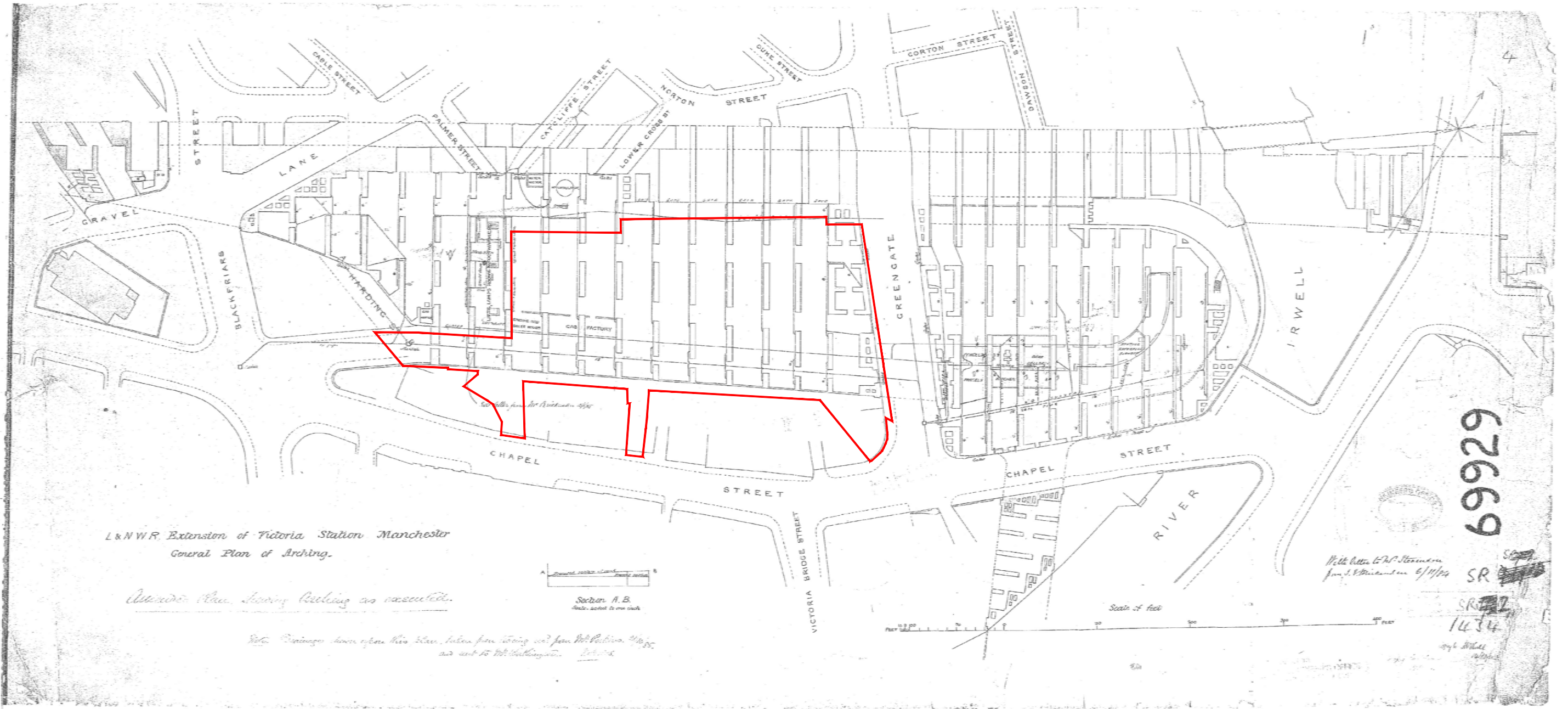
SECTION

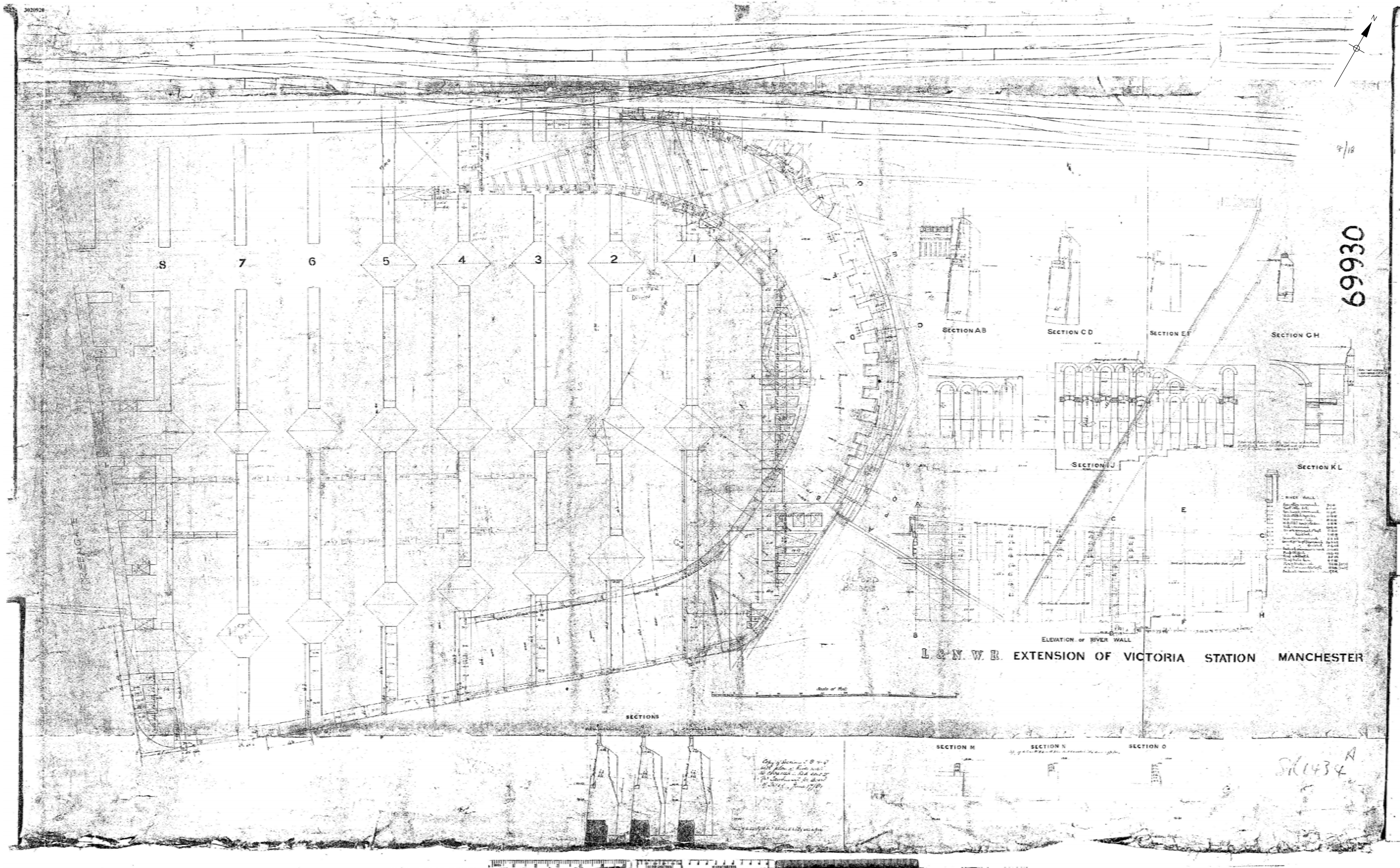


0 4 12 Feet
0 2 4 Metres



3020919





0 25m

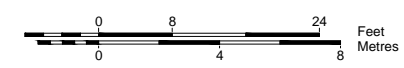
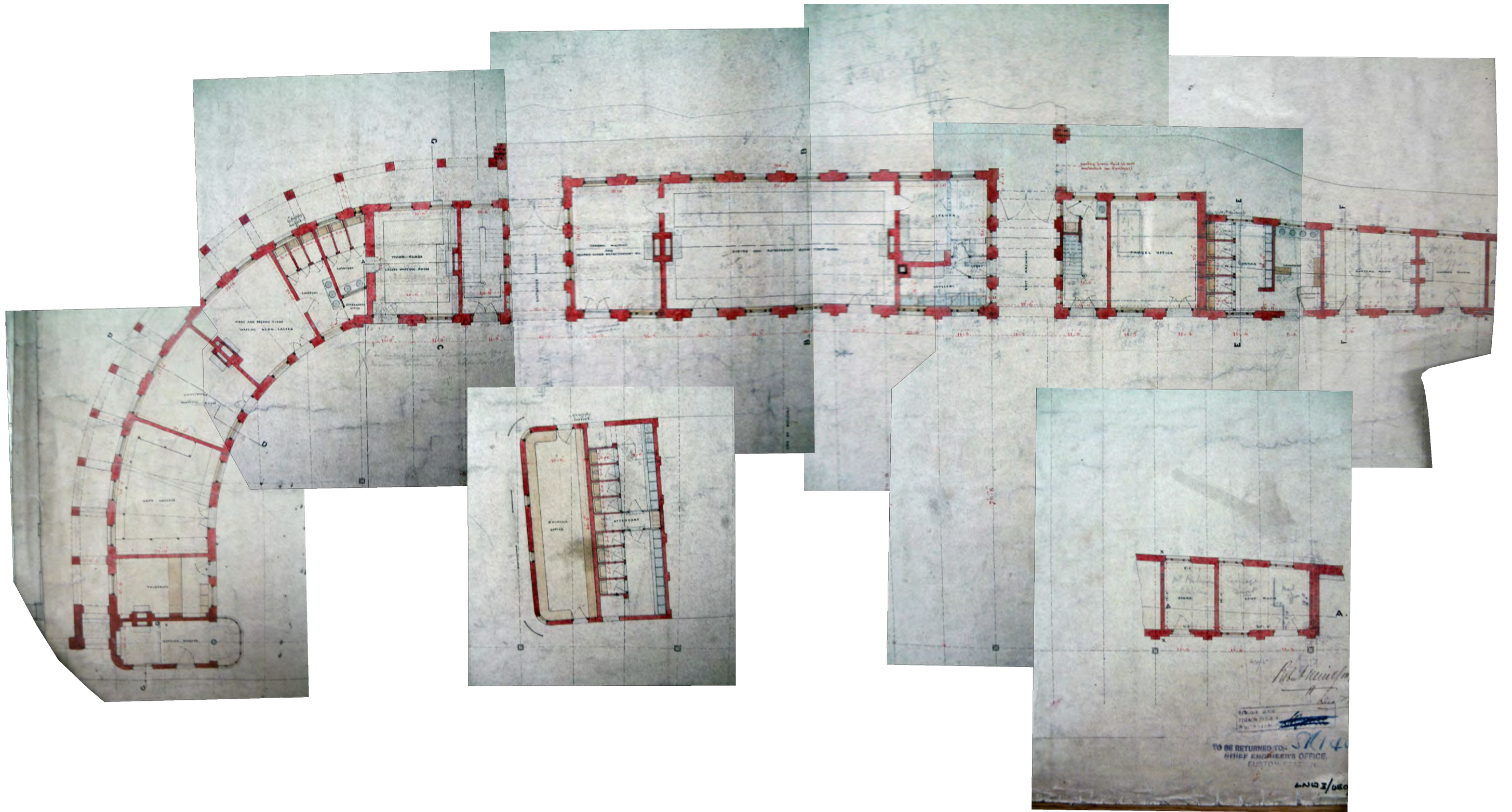
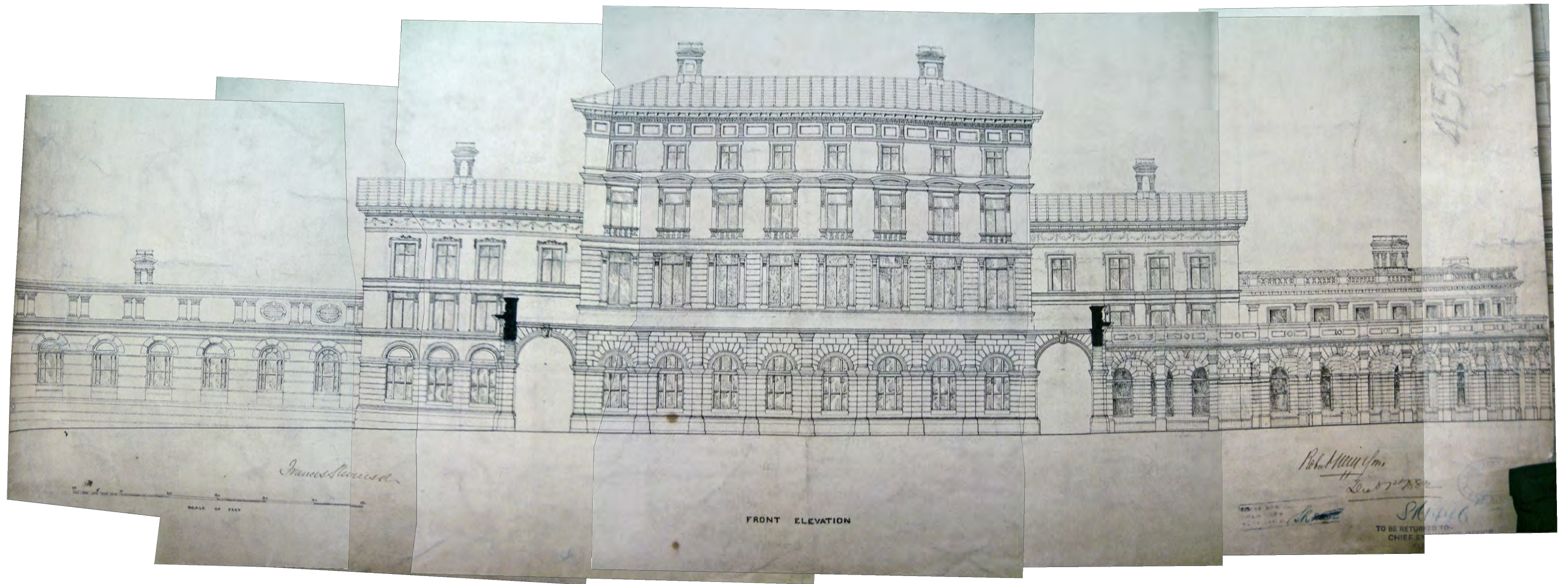


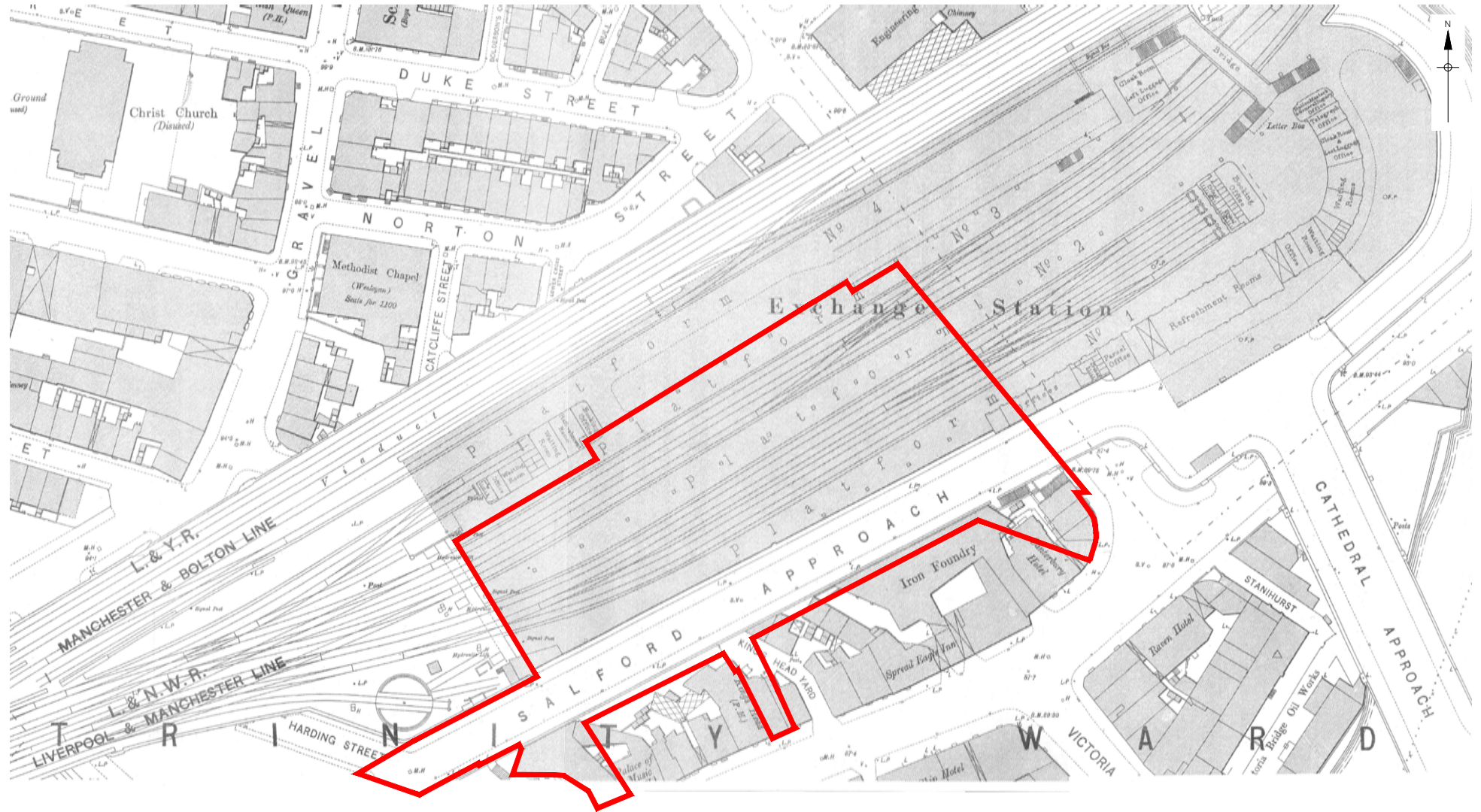
Figure 9
Contract Drawing: Ground floor plan, 1882
Approx. 1:250 at A3



0 8 24 Feet
0 4 8 Metres

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09/05/19 MR

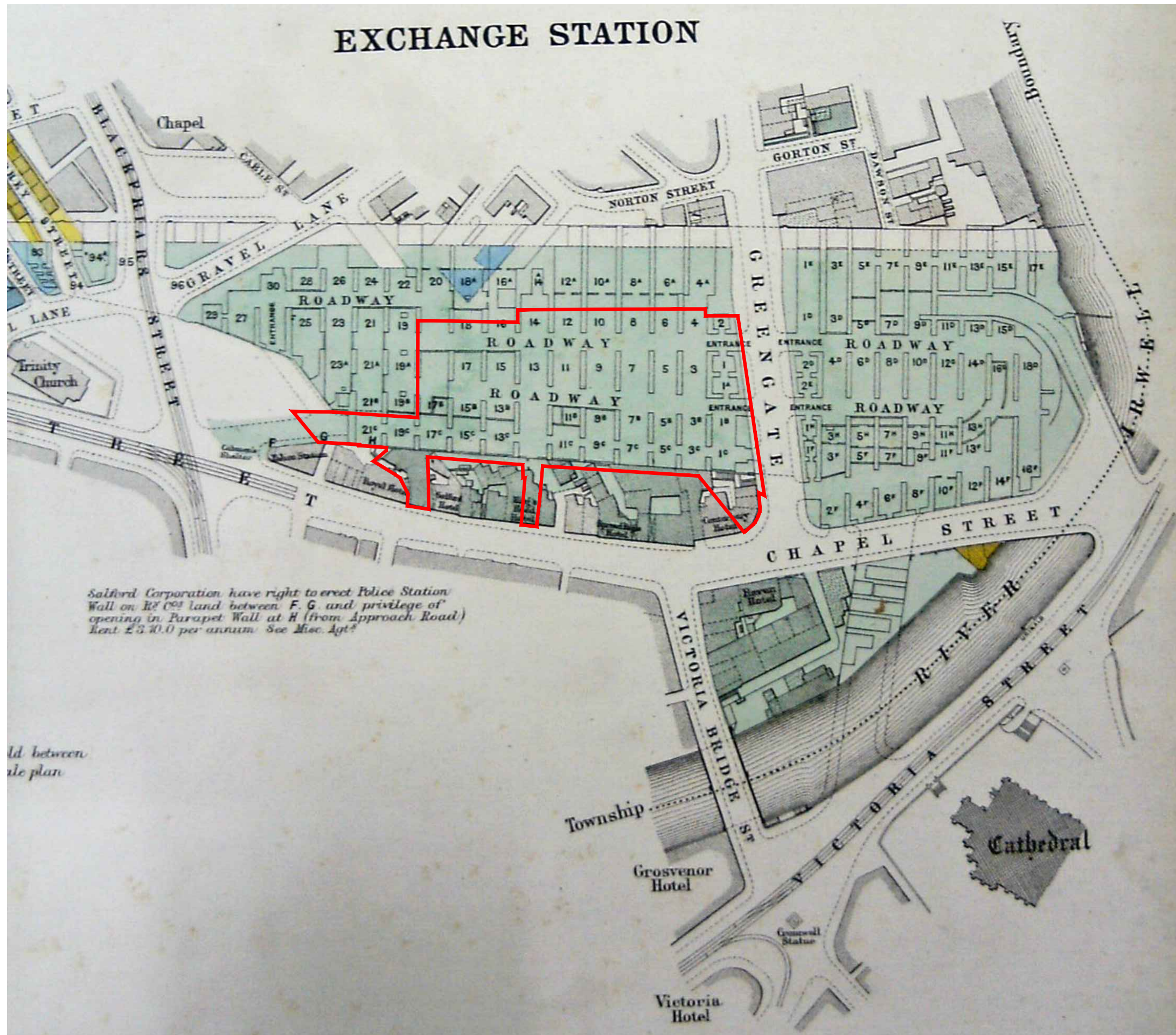
Figure 10
Station Buildings: Front elevation, 1883
Approx. 1:250 at A3

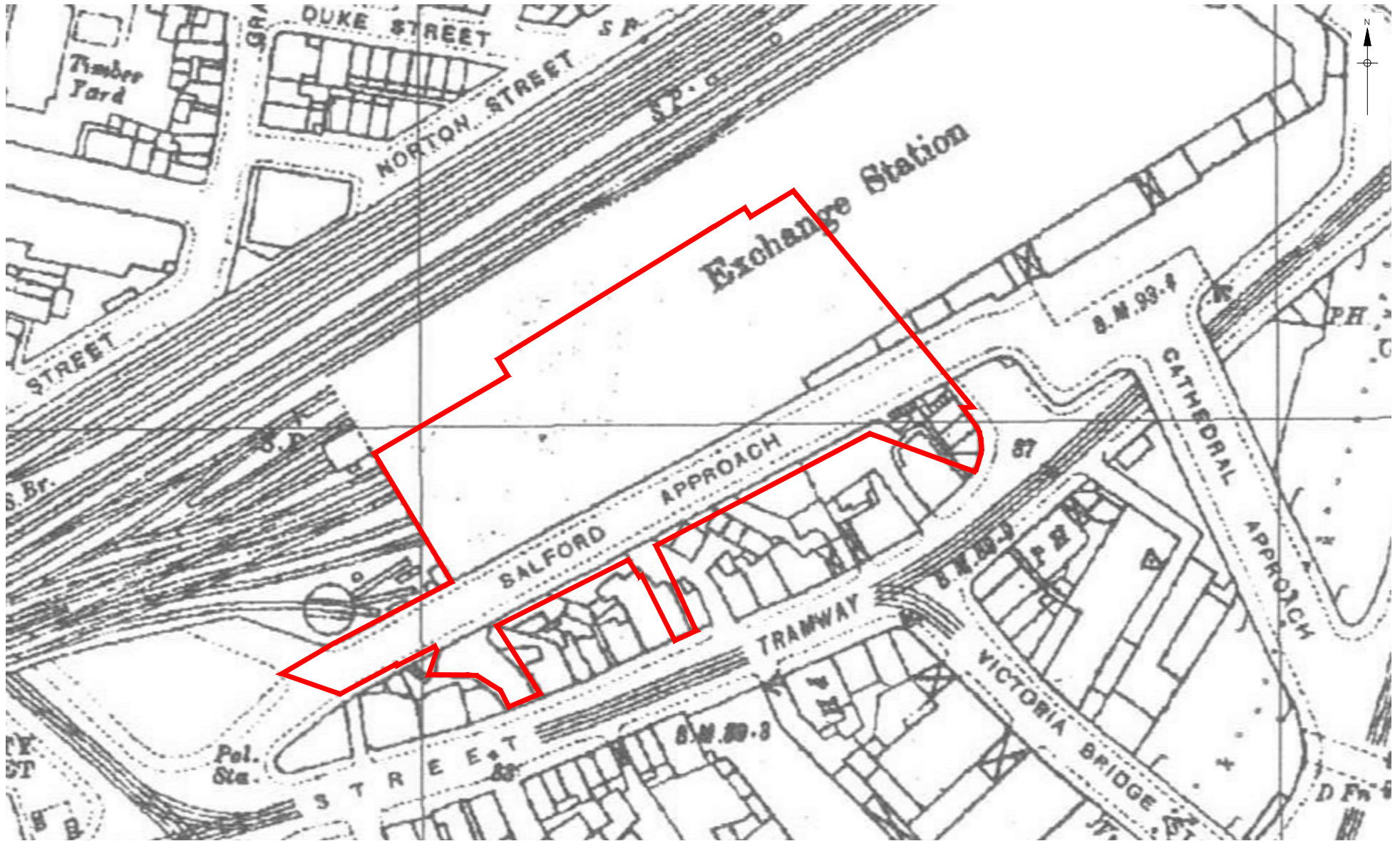


0 50m

Figure 11
Second Edition Ordnance Survey map, 1888
1:1,250 at A4

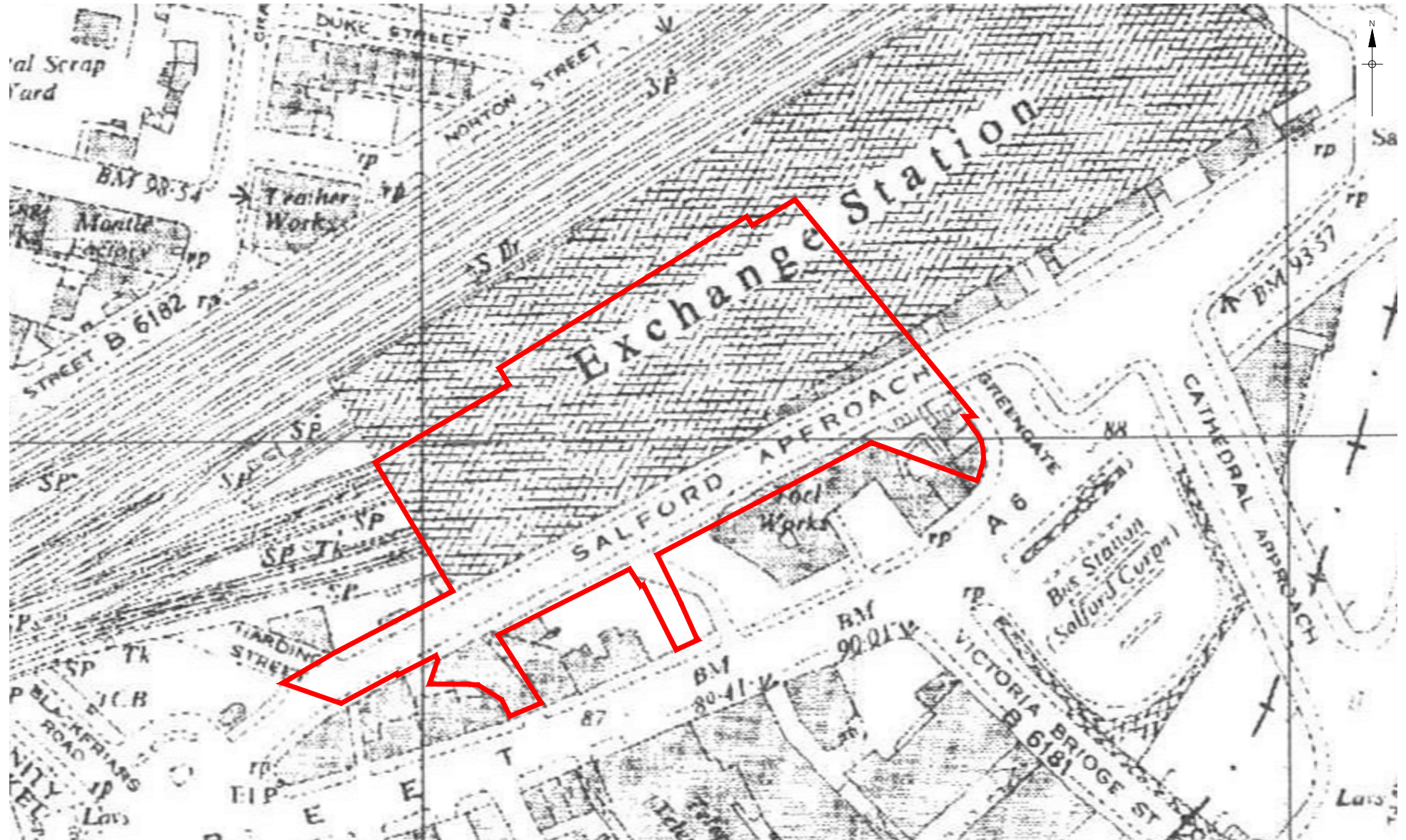
EXCHANGE STATION





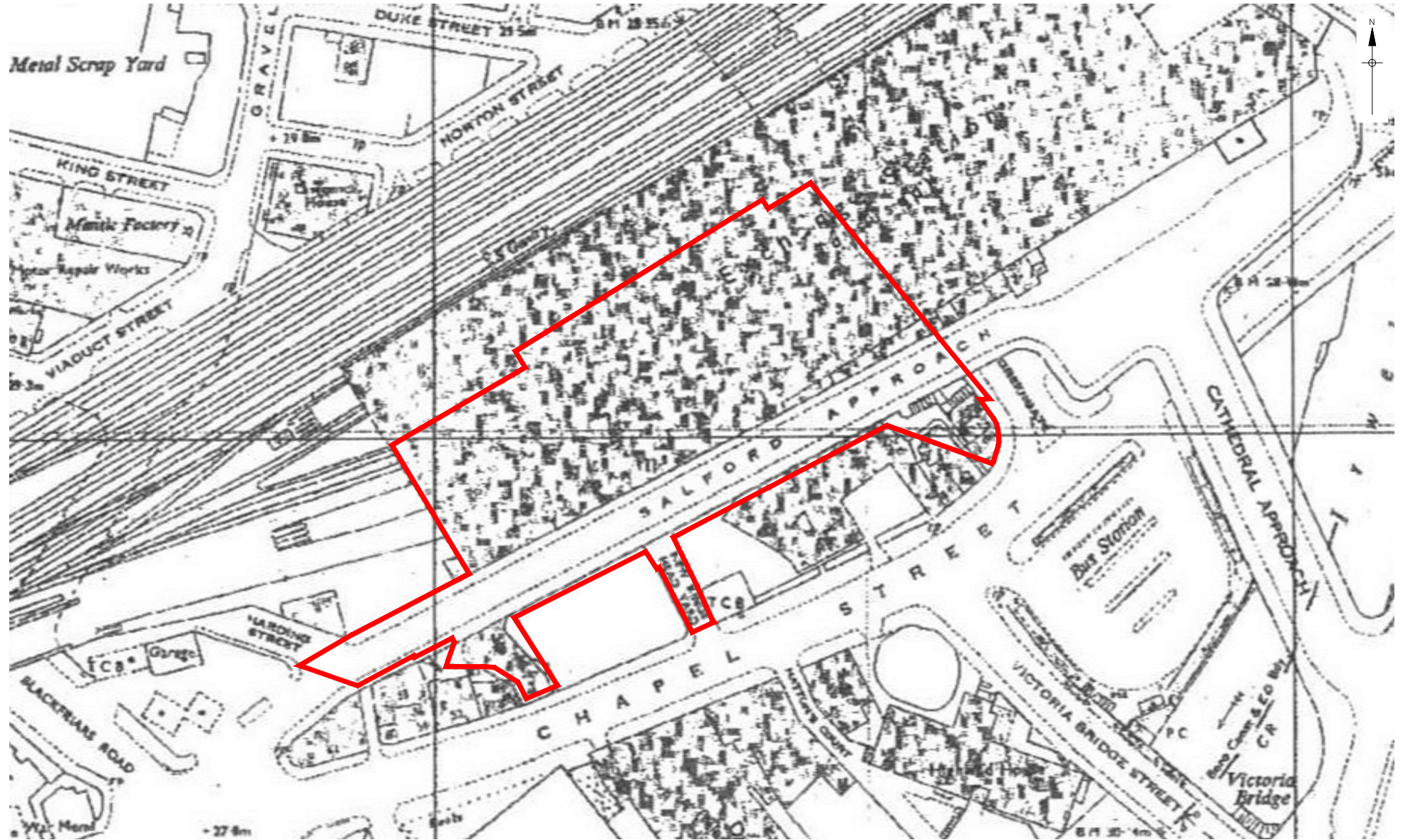
0 50m

Figure 14
Ordnance Survey map, 1933
1:1,250 at A4



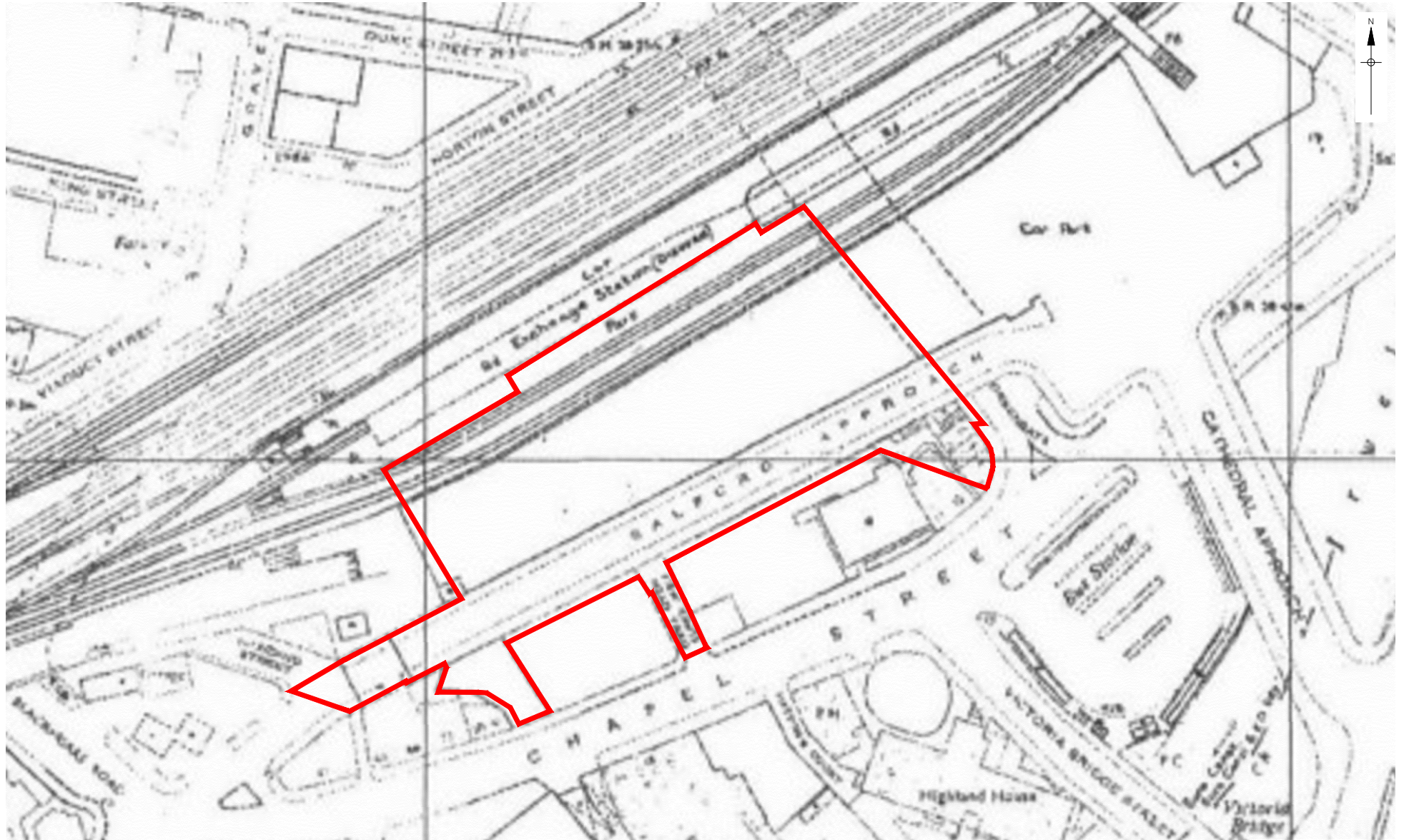
0 50m

Figure 15
Ordnance Survey map, 1951-52
1:1,250 at A4



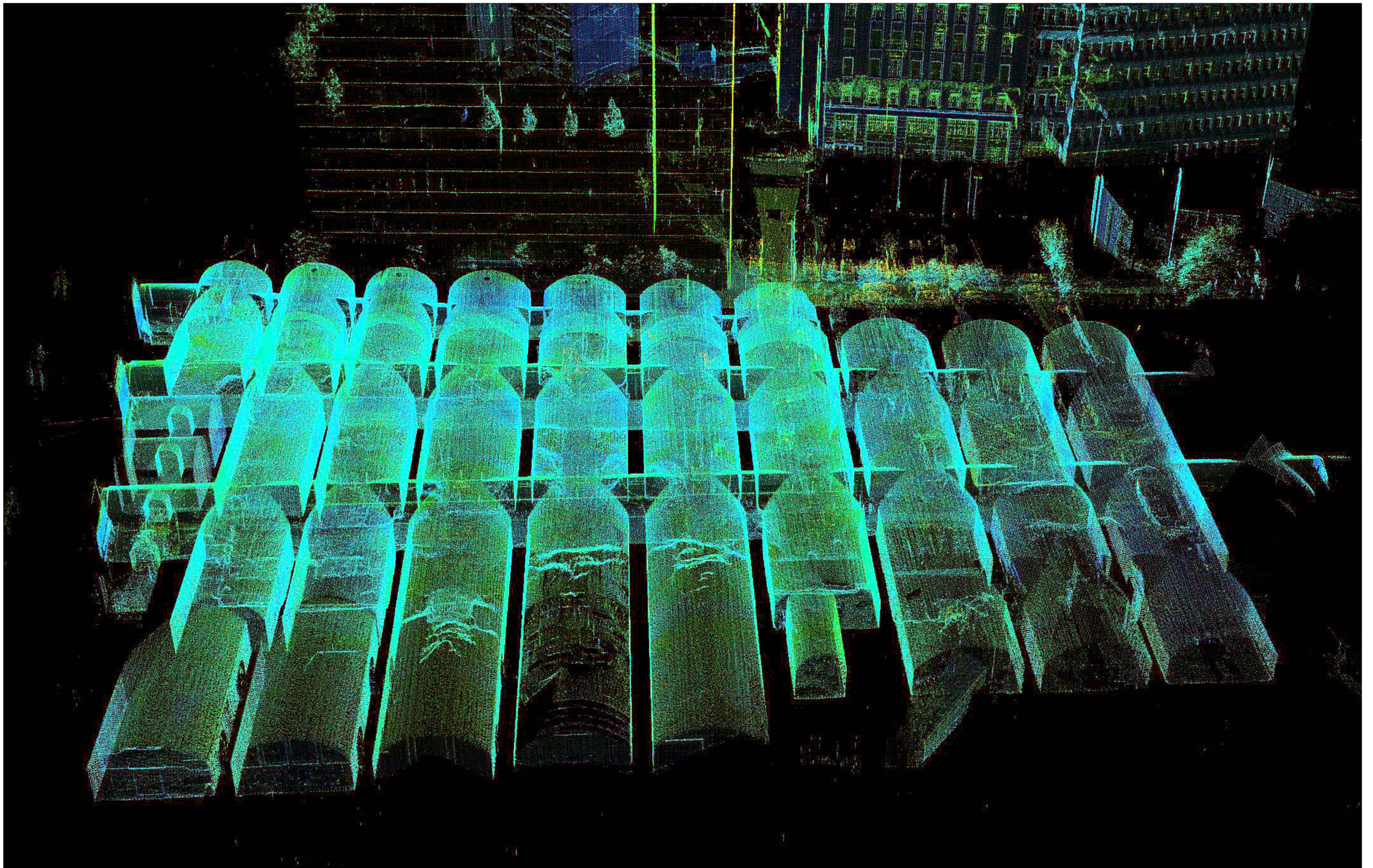
0 50m

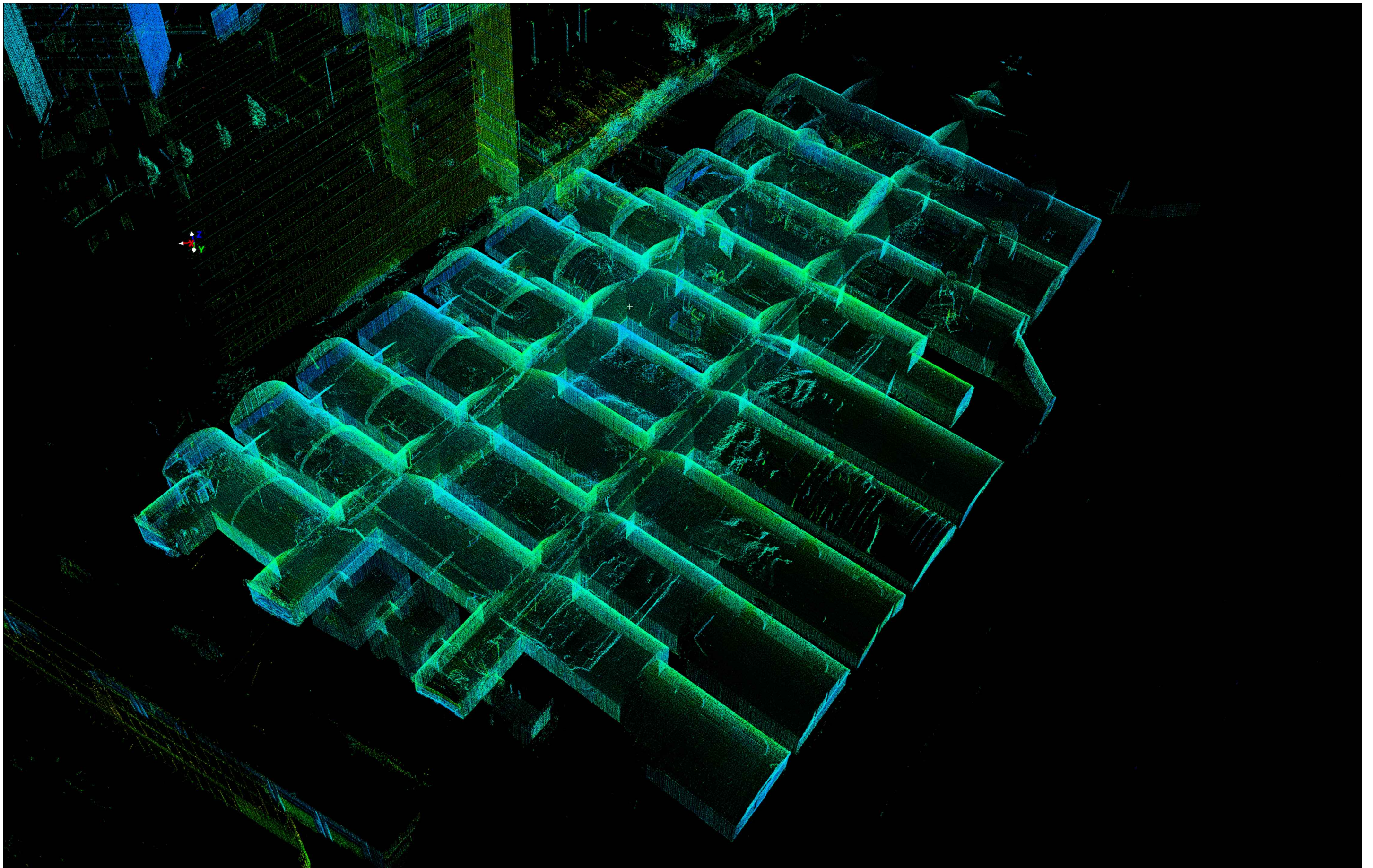
Figure 16
Ordnance Survey map, 1978-87
1:1,250 at A4

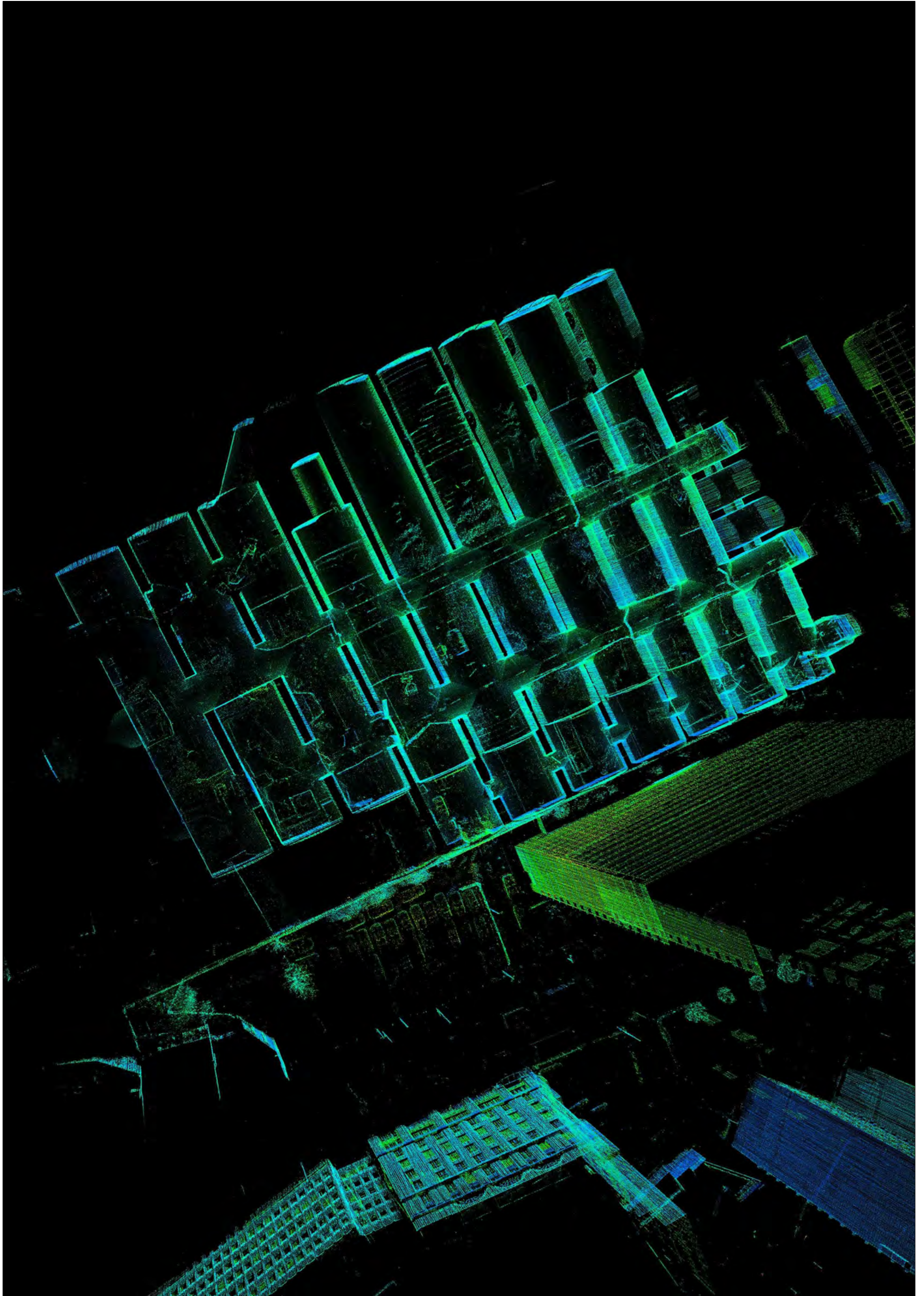


0 50m

Figure 17
Ordnance Survey map, 1985-90
1:1,250 at A4

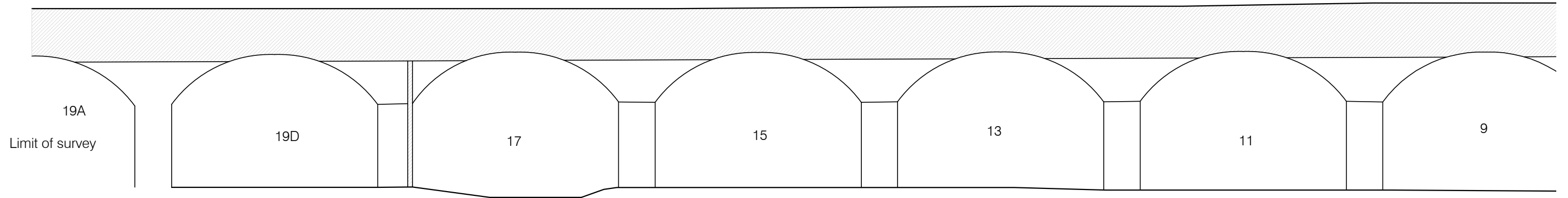






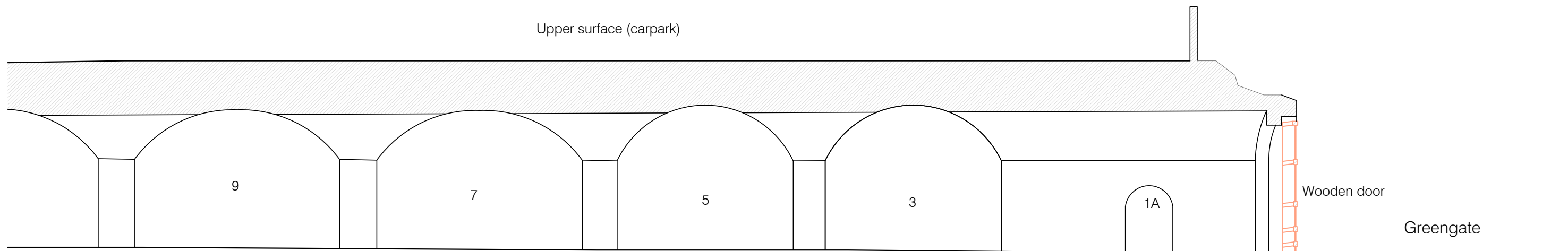
West

Upper surface (carpark)



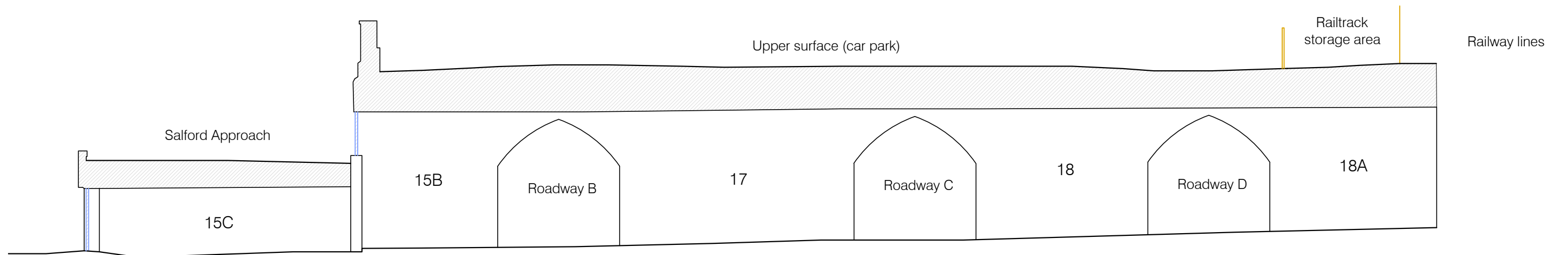
East

Upper surface (carpark)



South

North





0 20m

Figure 23
Annotated Floor Plan of Lower Level/Level 0 showing Plate Locations and Directions
1:500 at A3

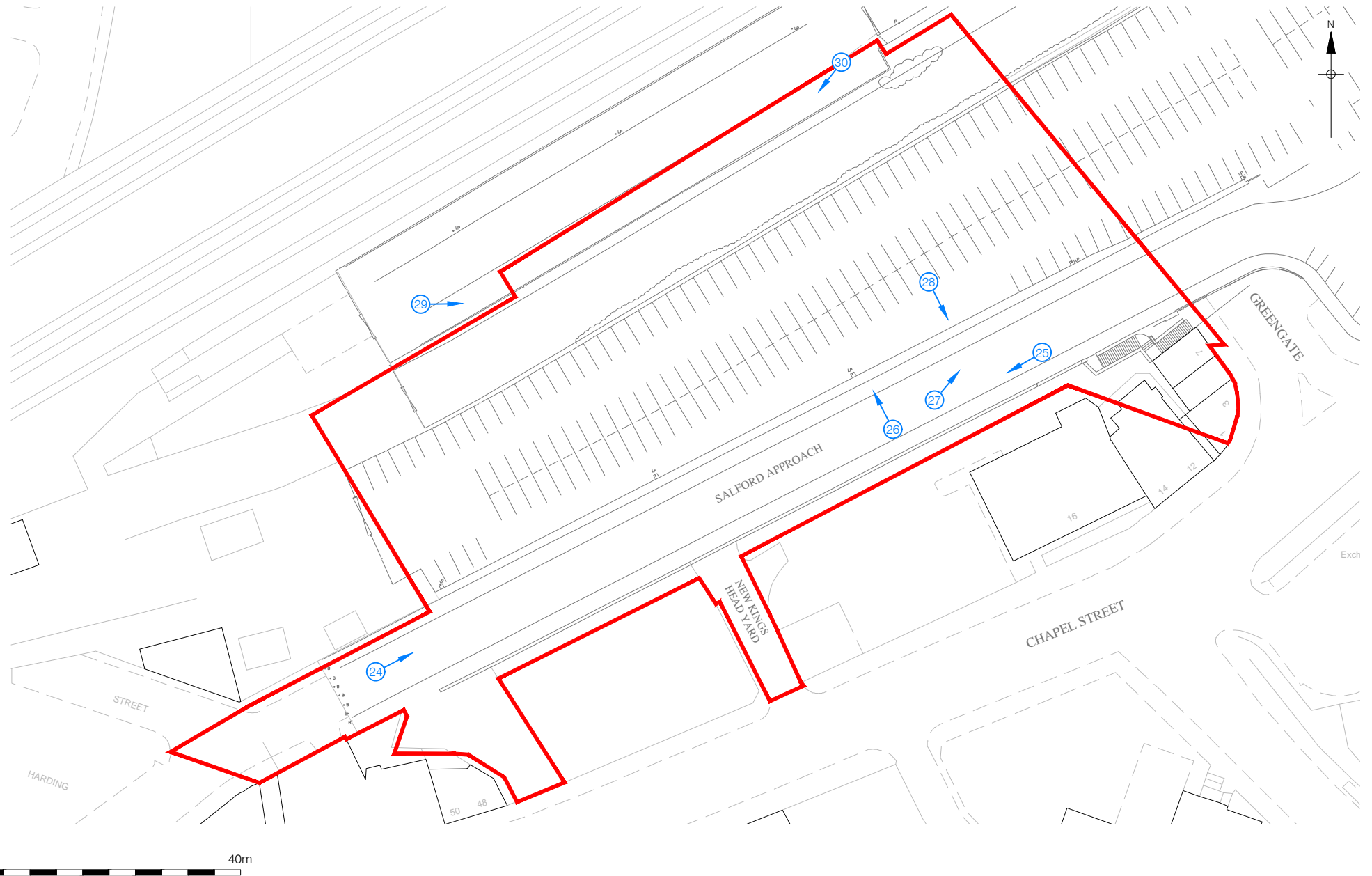


Figure 24
Plan of Podium Level showing Plate Locations and Directions
1:800 at A4



Plate 1a: Photograph of Manchester Exchange Station taken between 1884 and 1891 showing the splayed pedestrian footbridge and the curved 1880s east wing (right), looking north © Disused Stations



Plate 1b: Photograph of Manchester Exchange Station taken between 1884 and 1891 showing the curved 1880s east wing (left), looking south © National Railway Museum



Plate 1c: Late 19th century photograph of Manchester Exchange Station from the south end of Cathedral Approach © Manchester Libraries, Information and Archives



Plate 2: Manchester Exchange Station viewed from Victoria Street, c.1910 © Manchester Libraries, Information and Archives



Plate 3: Manchester Exchange Station on fire during the air raid of 22/23 December 1940 (from Hardy *et al*, 1986)



Plate 4: Bus on Greengate destroyed by bomb during the air raid of 22/23 December 1940 (from Hardy *et al*, 1986)



Plate 5: The bomb-damaged east end of the station roof following the air raid of 22/23 December 1940 (from Hardy *et al*, 1986)



Plate 6: The partially destroyed east end of the station roof, c.1941 (from Hardy *et al*, 1986)



Plate 7: View of bomb damage at Exchange Station, 1941 © Manchester Libraries, Information and Archives



Plate 8a: Exchange Station main hall and entrance to Platform 1, 1957 © Manchester Libraries, Information and Archives



Plate 8b: Rebuilt trainshed roof at Manchester Exchange Station in 1968 Photo by T A Fletcher © Disused Stations



Plate 9: Car park at Exchange Station, c.1980 © Manchester Libraries, Information and Archives



Plate 10: Platforms 3, 4 and 5 looking west from footbridge, c.1981 ©Salford Local History Library



Plate 11: Rebuilt trussed roof over platforms 3, 4 and 5, c.1981, looking west ©Salford Local History Library



Plate 12: Interior of trainshed from north end of footbridge, c.1981, looking south-west ©Salford Local History Library



Plate 13 Elevation to Greengate after removal of the railway bridge, looking north-west



Plate 14 Elevation to Greengate, looking south



Plate 15 Southern entrance (C) into Embankment West from Greengate



Plate 16 Central entrance (B) into Embankment West from Greengate



Plate 17 Original alpha-numeric reference plate (central doors)



Plate 18 Northern entrance (A) showing replacement iron railings



Plate 19 Example of port-hole opening in Greengate elevation



Plate 20 Blocked vault in south elevation and modern stair to podium level



Plate 21 Blocked vaults (below Salford Approach) looking south-west



Plate 22 Blocked vaults (below Salford Approach) looking north-east from entrance (13)



Plate 23 Vaults (below Salford Approach), west of entrance (13), converted to business use



Plate 24 Salford Approach Road looking north-east along its length



Plate 25 Salford Approach Road looking south-west back towards Chapel Street



Plate 26 Detail of vault 11B arch and parapet wall to podium level, looking north



Plate 27 Parapet wall to podium level



Plate 28 Parapet wall from podium level



Plate 29 Podium level looking south-east



Plate 30 Podium level looking south-west, showing remnants of kerb and paving



Plate 31 Roadway (A) looking east



Plate 32 Roadway (A) looking west



Plate 33 Roadway (C) looking east



Plate 34 Detail of cast-iron alpha-numeric plaques (Roadway C)



Plate 35 Vault 1A looking north to vault 2



Plate 36 Vault 1 looking south to vault 1A and Roadway (B)



Plate 37 Vault 1 looking south-east



Plate 38 Vault 1B looking south towards 1C



Plate 39 Entrance to Roadway (C)



Plate 40 Vault 3 looking north



Plate 41 Vaults 3B and 3C looking south



Plate 42 Vault 4A, looking south to vaults 4 and 3, showing dis-alignment



Plate 43 Vault 4A, cross-arches



Plate 44 Vaults 5 and 6 looking north (showing archaeological excavation)



Plate 45 Vaults 5B and 5C looking south



Plate 46 Vaults 6 and 6A looking north



Plate 47 Vault 6A looking south to vaults 6, 5B and 5C



Plate 48 Vault 7 looking north



Plate 49 Vaults 7B and 7C looking south



Plate 50 Detail of vent/chute in arch ceiling of vault 7C



Plate 51 Vaults 8 and 8A looking north



Plate 52 Vault 9 looking north



Plate 53 Vaults 9B and 9C looking south



Plate 54 Vaults 10 and 10A looking north



Plate 55 Vault 11 looking north



Plate 56 Vaults 11B and 11C looking south



Plate 57 Vaults 12 and 12A looking north



Plate 58 Entrance, Vault 13 looking south



Plate 59 Vault 13 looking north towards vaults 14 and 14A



Plate 60 Vault 13, workshop door looking west



Plate 61 Vaults 14 and 14A looking north



Plate 62 Vault 13B looking south



Plate 63 Vault 13C looking south-west



Plate 64 Vault 15 looking north



Plate 65 Vaults 16 and 16A looking north



Plate 66 Vaults 17 and 15B looking south, showing archaeological excavation in progress



Plate 67 Vaults 18 and 18A looking north



Plate 68 Vault 18A looking north-east



Plate 69 Vaults 19D and 17B looking south



Plate 70 Vaults 20 and 20A looking north

PCA

PCA CAMBRIDGE

THE GRANARY, RECTORY FARM
BREWERY ROAD, PAMPISFORD
CAMBRIDGESHIRE CB22 3EN
t: 01223 845 522

e: cambridge@pre-construct.com

PCA DURHAM

THE ROPE WORKS, BROADWOOD VIEW
CHESTER-LE-STREET
DURHAM DH3 3AF
t: 0191 377 1111

e: durham@pre-construct.com

PCA LONDON

UNIT 54, BROCKLEY CROSS BUSINESS CENTRE
96 ENDWELL ROAD, BROCKLEY
LONDON SE4 2PD
t: 020 7732 3925

e: london@pre-construct.com

PCA NEWARK

OFFICE 8, ROEWOOD COURTYARD
WINKBURN, NEWARK
NOTTINGHAMSHIRE NG22 8PG
t: 01636 370 410

e: newark@pre-construct.com

PCA NORWICH

QUARRY WORKS, DEREHAM ROAD
HONINGHAM
NORWICH NR9 5AP
T: 01603 863 108

e: norwich@pre-construct.com

PCA WARWICK

UNIT 9, THE MILL, MILL LANE
LITTLE SHREWLEY, WARWICK
WARWICKSHIRE CV35 7HN
t: 01926 485 490

e: warwick@pre-construct.com

PCA WINCHESTER

5 RED DEER COURT, ELM ROAD
WINCHESTER
HAMPSHIRE SO22 5LX
t: 01962 849 549

e: winchester@pre-construct.com

