AN ARCHAEOLOGICAL WATCHING BRIEF (2015–2016) FORMER SWAN HUNTER SHIPYARD, STATION ROAD, WALLSEND NORTH TYNESIDE, TYNE AND WEAR

JANUARY 2017

PRE-CONSTRUCT ARCHAEOLOGY

An Archaeological Watching Brief:
Former Swan Hunter Site, Station Road,
Wallsend, North Tyneside, Tyne and Wear

National Grid Reference: NZ 430145 566060

Site Code: SRN 15

Commissioning Client on behalf of North Tyneside Council:

Kier Group
7 Merchants Court
Koppers Way
Monkton Business Park South
Hebburn
NE31 2EX

Tel 0191 428 7000

Contractor:

Pre-Construct Archaeology Limited
Northern Office
Unit N19a Tursdale Business Park
Durham
DH6 5PG

Tel: 0191 377 1111

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THE FORMER SWAN HUNTER SITE, STATION ROAD, WALLSEND, NORTH TYNESIDE, TYNE AND WEAR

WATCHING BRIEF (2015–2016) REPORT

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Task	*Name*	*Signature*	*Date*
Text prepared by:	Danni-Louise Parker		August to December 2016
Text checked by:	Jennifer Proctor	J Proctor	January 2017
Graphics prepared by:	Jennifer Simonson		August to December 2016
Graphics checked by:	Josephine Brown	Josephine Brown	
Project Manager sign-off:	Jennifer Proctor	J Proctor	30 January 2017

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Pre-Construct Archaeology Limited
North Regional Office
Unit N19a Tursdale Business Park
Durham
DH6 5PG

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1. NON-TECHNICAL SUMMARY

1.1 An archaeological monitoring and recording exercise was conducted in association with the redevelopment of the former Swan Hunter shipyard and adjacent land on the north bank of the River Tyne in Wallsend, North Tyneside, Tyne and Wear. The shipyard site is irregular in shape covering a total of *c.* 20 ha, centred at National Grid Reference NZ 430530 565910. The main portion of the site, to the south, was formerly occupied by the shipyard but is now largely vacant since its closure in 2007 and acquisition by the Local Planning Authority (LPA), North Tyneside Council.

1.2 The shipyard site is considered to lie within an area with particular potential for Roman period archaeological remains since its north-westernmost portion lies within the Buffer Zone of the Hadrian's Wall component of the transnational Frontiers of the Roman Empire World Heritage Site (WHS). The former shipyard lies immediately to the south-east of the Roman fort at Wallsend (Segedunum), a section of Hadrian's Wall (known as the 'Branch Wall') ran between the fort and the Tyne across the site, and the western portion of the site encompassed part of the extramural civilian settlement (*vicus*) which developed within the area between the fort and the river, to the west of the Branch Wall.

1.3 In addition to the potential for Roman remains, the site was considered highly likely to contain remains of industrial era activity, most notably deposits and structures associated with the use of the site as a shipyard from the 19th-century to the modern period, the development of which is documented on historic mapping.

1.4 A series of trenches associated with installation of sewerage works and redevelopment of the former Swan Hunter site (central National Grid Reference NZ 430145 566060) were monitored during the archaeological investigation. Trench 1 involved the installation of a foul sewerage pipe; Trench 2, a surface water pipe; and Trenches 3 and 4 were associated with the installation of electrical cables. This report details the results of the archaeological monitoring work during the installation of these services.

1.5 All of the trenches were located within a strip of land in the central part of the former shipyard, extending from the entrance of the shipyard at the southern end of Station Road south-eastwards towards the River Tyne. Trenches 1 and 2 were located in alignment with Station Road extending south-east towards the River Tyne. This area lies south-east of the Roman fort and within the presumed course of a section of the Branch Wall. An archaeological evaluation carried out by Pre-Construct Archaeology Limited in July–August 2013 included two evaluation trenches sited across the Branch Wall revealing foreshore deposits, ballast materials and 19th-century industrial era activity demonstrating substantial land development during the use of the site as a shipyard. Trench 1 measured *c.* 117.50m NW–SE and was 1.80m and

up to 5.50m deep. Trench 2, located adjacent to the east and also 1.80m wide, measured c. 212.25m NW–SE and up to 4.50m deep. Trench 3 was located adjacent to the west boundary of the modern sewage pumping station constructed within the last 10 years and measured c. 45.80m NW–SE by 1.50m wide and up to 0.76m deep. Trench 4, 1.50m wide and up to 1m deep, was located to the rear of the former shipyard's entrance continuing onto the southern end of Station Road and though the entrance of the former shipyard. A series of eight short trenches up to 23m in length, 1.80m wide and 4.50m deep were excavated at right-angles across Trenches 1 and 2.

1.6 Trench 3, located adjacent to the modern sewage pumping station adjacent and to the east of the northern end of Trench 2, measured *c*. 45.80m NW–SE by 1.50m wide and up to 0.76m deep. Trench 4, which was 0.50m wide and up to 1m deep, was located external to the entranceway of the former shipyard and offices, running NE–SW for a distance of 11m, turning at right-angles to run through the entrance and into the former shipyard for a distance of *c*. 42.50m, then turning at right-angles to run north-east for a further 26m

1.7 The archaeological work identified three phases of activity (Phases 1-3). Phase 1 comprises a 19th-century brick structure, industrial ballast material and subsequent levelling and consolidation deposits associated with the reclamation of the foreshore and narrowing of the river channel. Phase 2 represents early 20th-century industrial era activity including ground levelling and consolidation deposits and part of a railway track. Phase 3 represents 20th-century and modern era activity.

2. INTRODUCTION

2.1 General Background

2.1.1 A programme of archaeological monitoring and recording ('watching brief') was undertaken for a major scheme of works involving the installation of new sewerage systems and electrical cables in association with the redevelopment of the former Swan Hunter shipyard (Figures 1 & 2). The work was commissioned by Kier Ltd on behalf of North Tyneside Council and undertaken by Pre-Construct Archaeology Limited (PCA) intermittently from October 2015 to April 2016. Previous work involving Swan Hunter's shipyard and adjacent land included archaeological evaluation of the former shipyard undertaken by PCA in two phases in 2013 and 2014 (PCA 2014), test pits to establish the location of existing services, followed by a second phase of watching brief in August 2014 (PCA 2015).

2.1.2 The archaeological potential for the site is primarily for the Roman period, since it lies immediately to the south and east of the Roman fort at Wallsend (Segedunum). The easternmost section of Hadrian's Wall (known as the 'Branch Wall') ran across the site between the fort and the Tyne, and the western portion of the site encompasses part of the area of the extramural civilian settlement which developed between the fort and the river, to west of the Branch Wall (Hodgson 2003, 10) (Figure 3). The majority of the area of the Roman fort is a scheduled monument, while the site itself partly lies within the Buffer Zone of the Hadrian's Wall component of the transnational Frontiers of the Roman Empire World Heritage Site (WHS), which includes the Antonine Wall in Scotland and the German Limes (information from the MAGIC and UNESCO/World Heritage Convention websites). The site is, therefore, associated with archaeological remains of national and international importance.

2.1.3 In addition to its Roman potential, the site was considered highly likely to contain archaeological remains of industrial era activity, most notably derived from its use as a shipyard from the 19th century to the modern period.

2.1.4 At the time of writing, the Site Archive, comprising written, drawn and photographic records, is housed at the Northern Office of PCA, Unit N19a Tursdale Business Park, Durham, DH6 5PG. When complete, the Site Archive will be deposited with the Tyne and Wear Museums and Archives at Arbeia, South Shields, Tyne and Wear under the site code SRN 15. The Online Access to the Index of Archaeological Investigations (OASIS) reference number for the project is: preconst1-249739

2.2 Site Location and Description

2.2.1 The area formerly occupied by the Swan Hunter shipyard is located on the north bank of the River Tyne off Station Road, Wallsend, North Tyneside, Tyne and Wear

(centred at National Grid Reference NZ 430530 565910). The site is of irregular shape covering *c.* 20 ha.

2.2.2 The former shipyard is mostly occupied by the concrete hardstanding of the former shipyard deck, with an area of waste ground to the extreme west and Carville Works forming the majority of the easternmost part of this portion of the site. The surviving former office and administration buildings of the shipyard occupy an upper terrace crossing the northern part of the main portion of the site, skirted to the north by the Hadrian's Cycleway. From this elevated terrace, delimited for the most part by a shuttered retaining 'wall', there is a significant drop of several metres down to the shipyard deck or, to the east, buildings overlooking the deck.

2.2.3 All of the trenches monitored during the 2015–2016 phase of watching brief were located within a strip of land in the central part of the former shipyard, extending from the entrance of the shipyard at the southern end of Station Road south-eastwards towards the River Tyne (Figure 2).

2.3 Geology and Topography

2.3.1 The solid geology of the area of the site comprises sandstone bedrock of the Seventy Fathom Post Member. The drift geology of the area is formed by Devensian Till (boulder clay) overlain by alluvial soils of the River Tyne (information from the British Geological Survey website).

2.3.2 The Hadrianic fort of Segedunum was situated on an elevated spur of land, which at the time of construction lay at *c.* 29m above sea level and was defined by stream valleys to the east and west (Hodgson 2003, 11). The ground fell away sharply from the southern edge of the fort to the shoreline which in the Roman period, before alteration of the river channel and land reclamation, is estimated to have lain 100m from the south-east corner of the fort and 160m from the south-west corner. The original deep water channel of the River Tyne is thought to have been situated near to the north bank in the Wallsend area, beneath the area formerly occupied by the Swan Hunter site. Groyning works in the early nineteenth century moved the channel southwards and much of the area developed as the shipyard was reclaimed from the tidal mud flats created by the shifting of the channel.

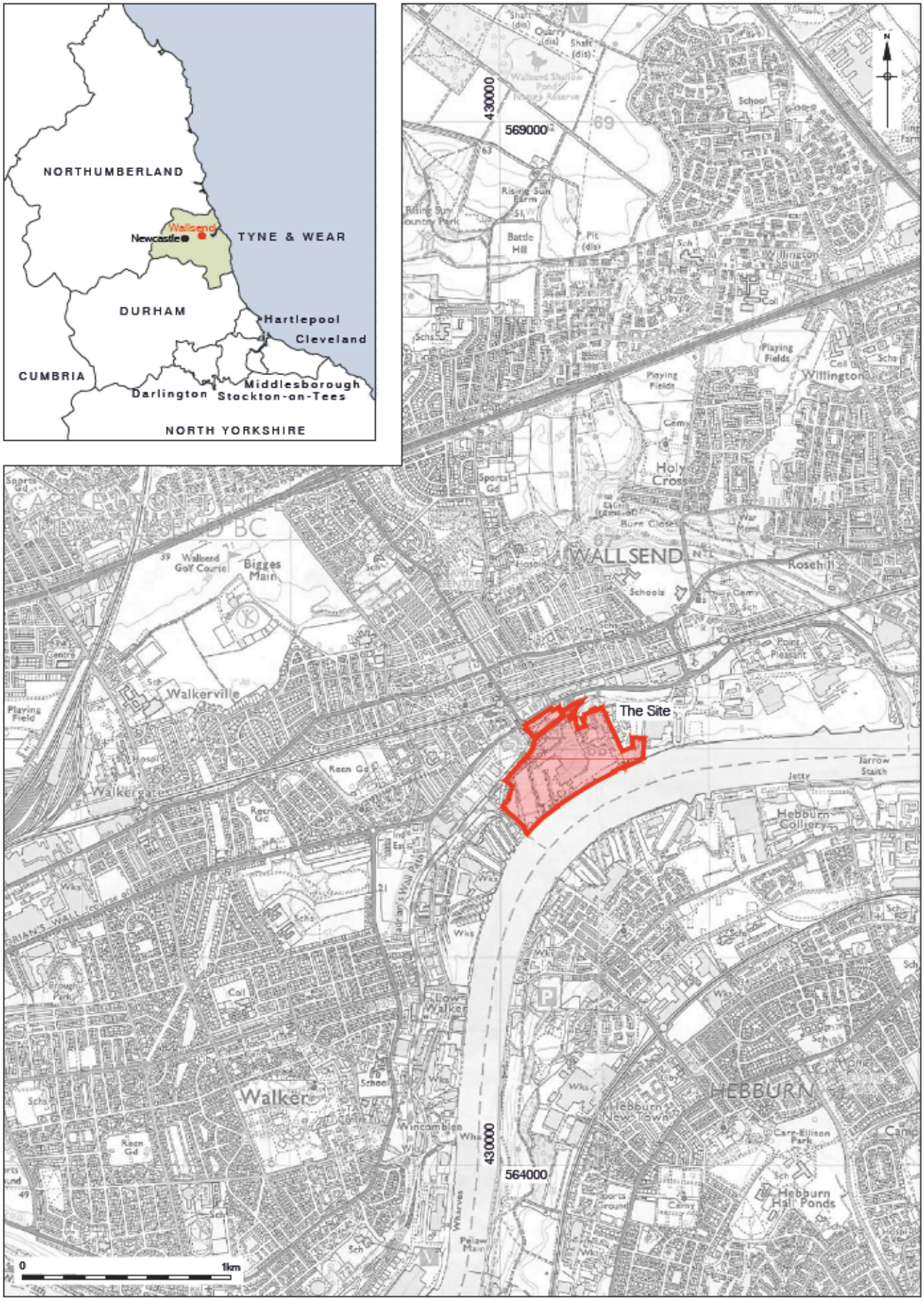

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Figure 1
Site Location
1:2,000,000 & 1:25,000 at A4

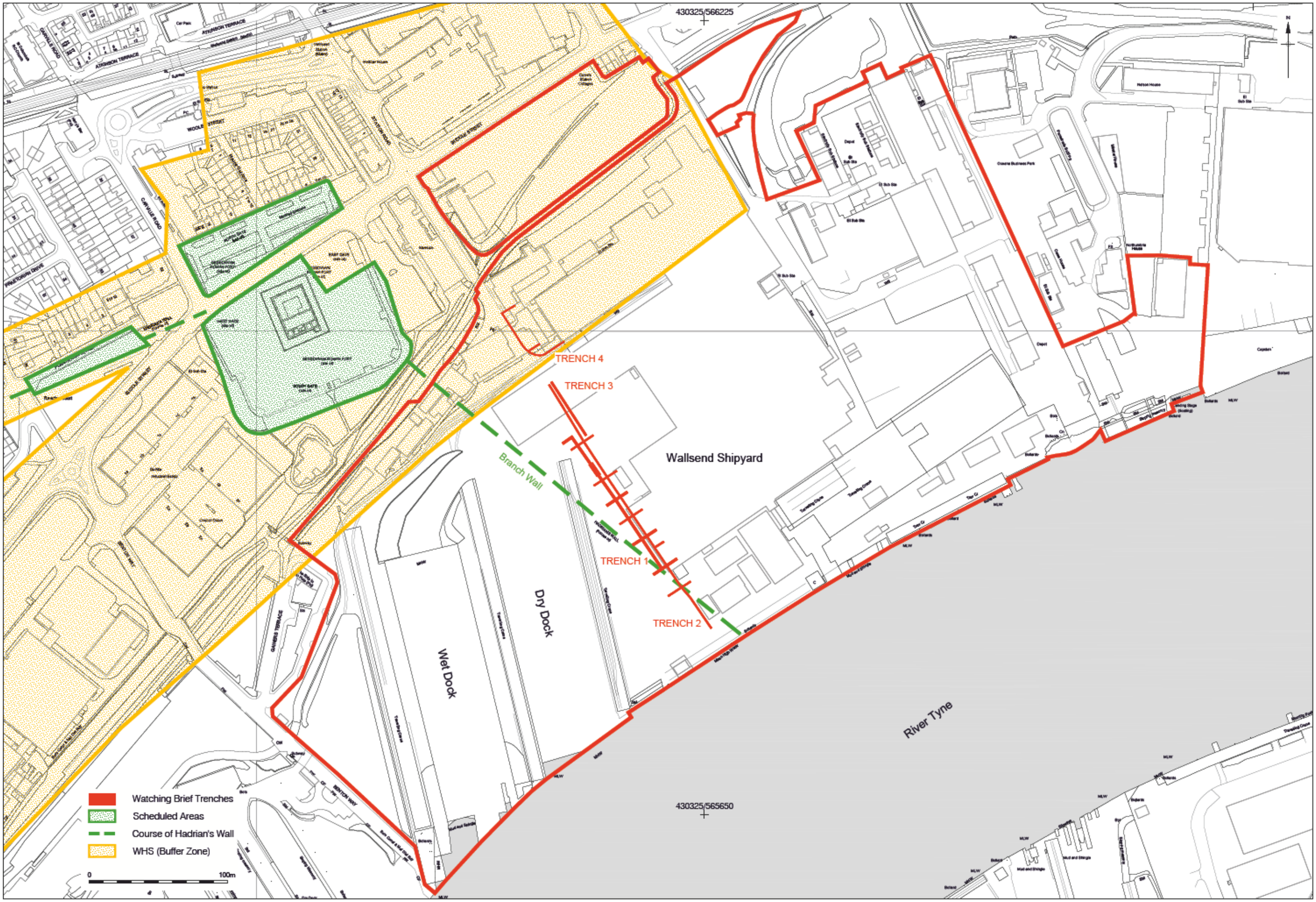

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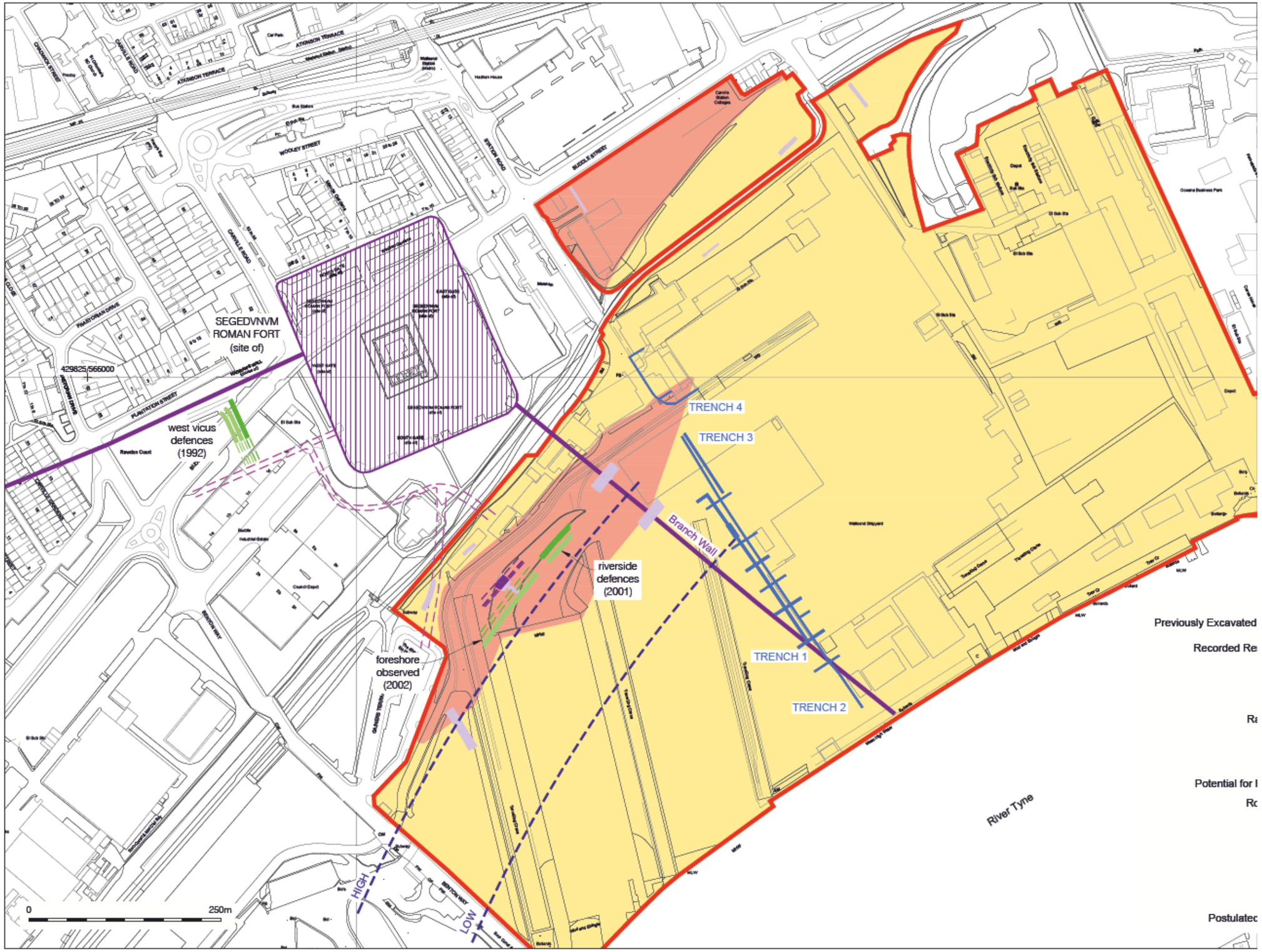
Figure 2
Detailed Site and Trench Location
1:2,500 at A3



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Initial Archaeologica
(showing Roman remains recor

2.4 Archaeological and Historical Background

Prehistoric

2.4.1 A small assemblage of Late Mesolithic struck flint has been recovered as residual material during excavations undertaken at Segedunum fort. A number of pieces had evidently been rejuvenated from earlier struck flakes suggesting that Early Mesolithic or even Late Upper Palaeolithic material was discarded in the area (Waddington in Hodgson 2003, 35).

2.4.2 Excavations undertaken at Wallsend have demonstrated that, prior to the construction of the Roman fort, an extensive area was being used for agricultural purposes. Much of the area occupied by the fort was covered with cord-rig cultivation, represented by extensive areas of ridge and furrows and plough marks (Hodgson 2003, 13). Plough marks were recorded running on many different alignments suggesting that the agricultural activity had taken place over a considerable length of time and there was evidence to demonstrate that some of these fields were still in use immediately prior to the building of the fort.

2.4.3 Excavations in 1993 to the north-east of the fort did not find any trace of pre-Roman agriculture, but a fragment of Bronze Age or Iron Age pottery recovered from a Roman gully provides further evidence for prehistoric activity in the area (Griffiths 1993, 26).

2.4.4 The location of the settlement associated with this recorded agricultural activity remains to be identified, but it is thought most likely to have been situated under the northern part or to the north of the fort.

Roman

2.4.5 The Hadrianic fort of Segedunum was situated on an elevated spur of land, which at the time of construction lay at *c*. 29m above sea level and was defined by stream valleys to the east and west (Hodgson 2003, 11). The ground fell away sharply from the southern edge of the fort to the shoreline which in the Roman period, before alteration of the river channel and land reclamation, is estimated to have lain 100m from the south-east corner of the fort and 160m from the south-west corner. The 1.64 acre Hadrianic fort accommodated a cavalry unit and, in the second half of the second century AD, the timber barracks were rebuilt in stone (Hodgson 2009, 69). In the third century AD, the barracks were again rebuilt, their plan rearranged to reflect a major reorganization of the garrison. Little is known of fourth-century AD occupation of the fort as agricultural and industrial activity has resulted in the destruction of much of the upper levels, but it certainly continued to be occupied into the late fourth century AD.

2.4.6 The easternmost section of Hadrian's Wall, running between the south-eastern corner of the fort and the river and generally known as the Branch Wall, was first noted in

1709 by Robert Smith and features in many other antiquarian accounts. These accounts indicate that it was at least 180m long and continued across the foreshore and into the river beyond the low tide mark (Bidwell 2009, 72). The Branch Wall was fronted to the north-east by a large defensive ditch which continued as the main inner ditch around the eastern and northern sides of the fort. The only recorded evidence for this ditch fronting the Branch Wall was a segment adjacent to the fort excavated in 1929. In this area the ditch was 6.40m wide with a 7m wide berm between ditch and Wall. It is generally presumed that the ditch continued downslope to the shoreline (Hodgson 2003, 19).

2.4.7 The Branch Wall was observed in several locations between 1884 and 1997 and its line, as observed in 1903 within the Swan Hunter site, is marked with a panel of re-used Wall stones and a plaque (Speed 2007, 2). The foundation of the wall in the river is recorded as having been dismantled in 1800 as it was obstructing vessels associated with the growing material of collieries along the Tyne (Speed 2007, 2). Part of the Wall footings are exposed on the south side of the Hadrian Cycleway, running up the slope from the current site boundary towards the fort and a substantial section of Wall up to six courses high has been rebuilt at the top of the slope using material recovered from the area developed as the 'Engineering Office' in 1903.

2.4.8 In 2000, part of the Branch Wall close to the south-east corner of the fort was exposed for a distance of 12m and consolidated for permanent display. It was built on 1.70–1.80m wide foundations (the same width as the foundations of the fort wall) indicating that it was built as an extension to the fort and not to the same specification as Hadrian's Wall (Bidwell 2009, 72–73). At the southern end of the exposed length, the foundation comprised a clay and rubble raft which supported a mortared wall 3.10m wide. Mortared stones survived above the east side of the foundations, but these were tilted forward indicating that the wall had collapsed.

2.4.9 The extramural civilian settlement attached to Segedunum fort was located in the area between the fort and the river, to the west of the Branch Wall. There have been antiquarian accounts of archaeological remains in this area since the eighteenth century. In the first half of the nineteenth century, a bath house, burials and a possible temple were reported to have been seen in the area immediately to the north-west of the Dry Dock. The well-preserved remains of part of the bath house were identified in 2014 as part of the Wall Quest community project beneath the basement of the demolished Ship in the Hole pub on Gainers Terrace, a short distance beyond the western limit of the shipyard. It is assumed that a riverside landing place or quay would have been located south of the fort (Hodgson 2009, 71).

2.4.10 Roman activity has also been recorded to the north-east of the fort, where excavations in 1993 revealed a series of gullies interpreted as drainage channels or plot boundaries associated with cultivation of the land (Griffiths 1993). Large quarry

pits were also encountered in the vicinity. The gullies and pits contained a significant quantity of Roman material dating from the second to early fourth century AD. It is considered most likely that this area of cultivated land was situated to the north of the line of Hadrian's Wall due to the lack of available land in the area to the south; the Tyne ran immediately to the south of the vicus and land to the west of the fort seems to have been occupied by temples (Griffiths 1993, 33). Areas of agricultural land were associated with the frontier forts, so that some supplies could be acquired close at hand.

2.4.11 Also to the north-east of the fort, the evaluation carried out by PCA in 2013 revealed a substantial, though horizontally truncated, ditch in Trench 8 which was 3.25m wide and was probably aligned east-west. This potentially represents a roadside ditch situated on the northern side of the road which ran eastwards from the east gate of the fort, or alternatively may represent a field boundary associated with agricultural activity recorded during earlier excavations to the north.

Post-Medieval

2.4.12 Little is known about this part of North Tyneside from the period between the end of Roman occupation and the eighteenth century. The earliest surviving maps demonstrate that by the eighteenth century the riverside was occupied by open fields.

2.4.13 Wallsend Colliery was established in the late eighteenth century with an exploratory shaft sunk in 1777 on the upper valley side of Tyne, to the immediate west of the Roman fort, in an area known as 'Wall Laws'. By the time of the first edition of the Ordnance Survey map in *c.* 1860, Wallsend Colliery was served by a waggonway which crossed the area now occupied by the Dry Dock and ran to Heaton Staithes on the river. This waggonway branched from the Gosforth and Kenton Waggonway, which served Bigges Main Colliery further to the north-west and ran to Coxlodge Staithes following the line of what is now Benton Way, immediately to the west of the Swan Hunter site. An early timber version of this waggonway, dating to the eighteenth century, was recorded in the summer of 2013 during work in the former Neptune shipyard, off Benton Way, immediately to the west of the former Swan Hunter site.

Early Modern Industrial and Modern

2.4.14 The original deep water channel of the River Tyne is thought to have been situated near to the north bank in the Wallsend area, beneath the area now occupied by the former Swan Hunter site. Groyning works in the early nineteenth century moved the channel southwards and much of the area developed as the existing shipyard was reclaimed from the tidal mud flats outlined in the early nineteenth century Ordnance Survey map published in 1864 (Figure 4).

2.4.15 Wallsend Chemical Works were established in the mid nineteenth century in the area that was to become occupied by the north-central part of the former Swan Hunter yard (Figure 4).

2.4.16 Coulson, Cooke and Co. opened a shipyard on the Swan Hunter site in 1873 and this was taken over by C.S. Swan in 1874. Following his death in 1879, the firm was acquired by G.B. Hunter and became Swan and Hunter (Figure 5). The firm took over the adjacent Schlesinger, Davis and Co. yard in 1897 and further expansion took place to the north in 1903 when Swan Hunter merged with Wigham Richardson to tender for the construction of the Mauretania. Associated with this expansion was major development works including terracing of the northern part of the main portion of the current site visible in the Ordnance Survey map published in 1921 (Figure 6, Plate A, B & C – refer to Figure 7 for historic plate location, appendix 3).

2.4.17 In 1966, Swan Hunter and Wigham Richardson merged with Smith's Dock Co. to form Associated Shipbuilders, later to become Swan Hunter Group, and in 1977 the company was nationalised (Plate D). The firm went on to build amongst other ships for the Royal Navy, HMS Ark Royal (Plate E, F & G). After having been privatised again in the 1980s, the firm eventually closed in 2007 and the land occupied by the shipyard was sold to North Tyneside Council in 2009.

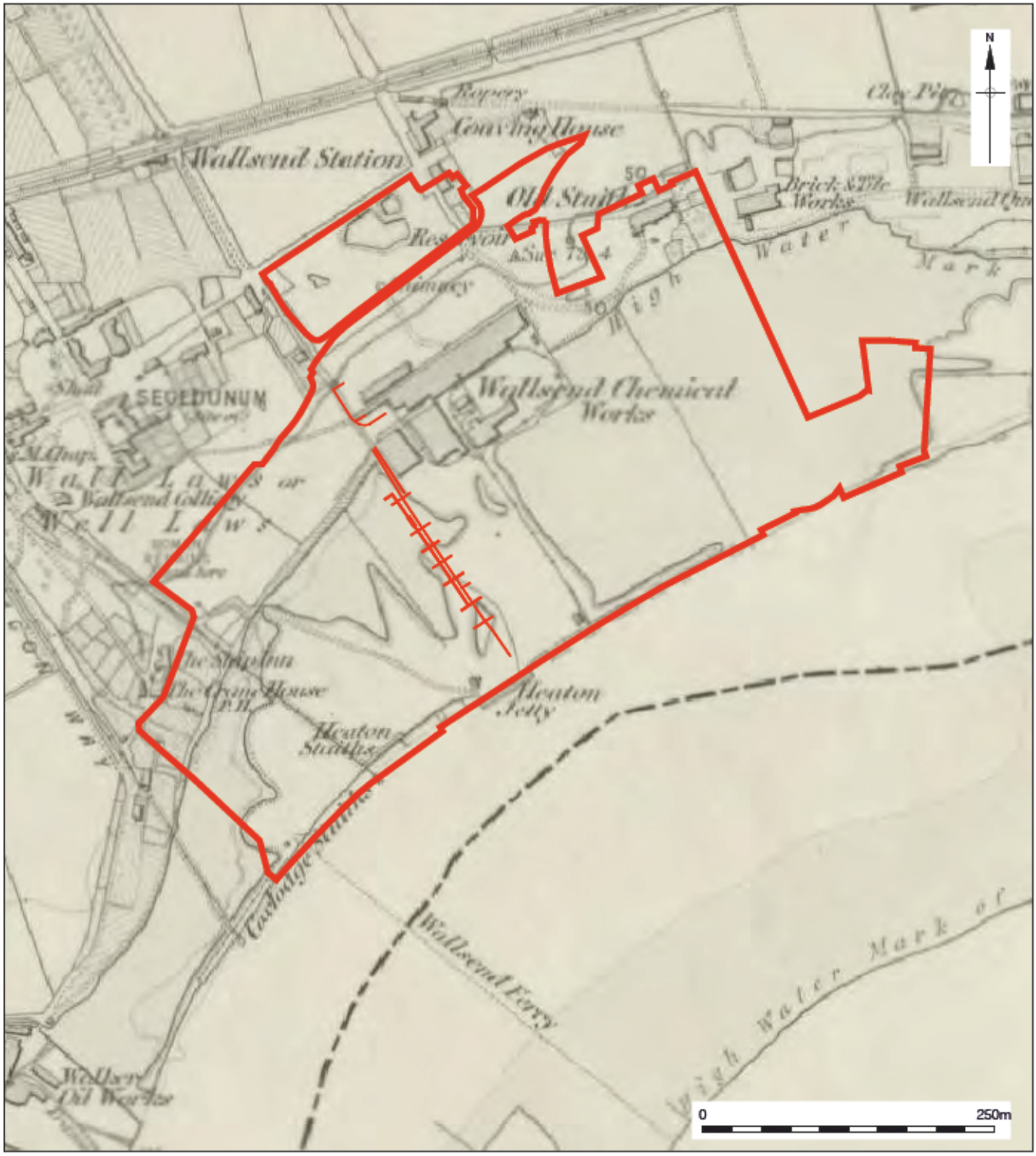

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Figure 4
1864 Ordnance Survey Map
1:5,000 at A4

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Figure 5
1899 Ordnance Survey Map
1:5,000 at A4

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Figure 6
1921 Ordnance Survey Map
1:5,000 at A4

3. PROJECT AIMS AND RESEARCH OBJECTIVES

3.1 The principal aim of the archaeological monitoring was to allow the identification and preservation by record of any archaeological deposits, artefacts or ecofacts uncovered during the excavation of the trenches.

3.2 Additional aims of the project were:

- to identify and record any archaeological deposits, structures or built fabric;
- to determine the extent, condition, character, significance and date of any encountered or exposed archaeological remains;
- to accurately record the location and stratigraphy of areas excavated during groundworks;
- to recover artefacts disturbed by the site works;
- to prepare a comprehensive record and report of archaeological observations during the site work.

4. ARCHAEOLOGICAL METHODOLOGY

4.1 Fieldwork

4.1.1 The watching brief was undertaken during October 2015-March/April 2016. The work was undertaken in compliance with the relevant guidance document of the Institute for Archaeologists (CIfA) (CIfA 2014); PCA is a CIfA-Registered Organisation.

4.1.2 Archaeological structures and deposits were examined, hand cleaned and recorded to an appropriate level and in accordance with the methodology set out in *Fieldwork Induction Manual. Operations Manual I* (PCA 2009) and *Archaeological Site Manual, Third Edition* (Museum of London 1994). A photographic record of the work was compiled.

4.1.3 All of the trenches monitored during the 2015–2016 phase of watching brief were located within a strip of land in the central part of the former shipyard, extending from the entrance of the shipyard at the southern end of Station Road south-eastwards towards the River Tyne (Figure 2). Trench 1 measured *c*. 117.50m NW–SE and was 1.80m wide and up to 5.50m deep. Trench 2, located adjacent to the east and also 1.80m wide measured *c*. 212.25m NW–SE and up to 4.50m deep. A series of eight short trenches up to 23m in length, 1.80m wide and 4.50m deep were excavated at right-angles across Trenches 1 and 2. Trench 3, located adjacent to the modern sewage pumping station adjacent and to the east of the northern end of Trench 2, measured *c*. 45.80m NW–SE by 1.50m wide and up to 0.76m deep. Trench 4, which was 0.50m wide and up to 1m deep, was located external to the entranceway of the former shipyard and offices, running NE–SW for a distance of 11m, turning at right-angles to run through the entrance and into the former shipyard for a distance of *c*. 42.50m, then turning at right-angles to run north-east for a further 26m.

4.1.4 Trenches 1 and 2 were machined intermittently between the placement and backfilling of shoring boxes, which resulted in the numbering of boxes for record purposes when cross-referencing during post-excavation. Trenches 1 and 2 were recorded to scale when possible as health and safety restraints restricted entry into the shoring boxes. Trench 3 and 4 were machined continuously and were recorded to scale as entry into the trench was possible.

4.2 Post-excavation

4.2.1 No artefacts or ecofacts were recovered during the watching brief and no suitable archaeological deposits were encountered to warrant the recovery of bulk samples for palaeoenvironmental material.

4.2.2 The complete Site Archive will be packaged for long-term curation. In preparing the Site Archive for deposition, all relevant standards and guidelines documents referenced in the Archaeological Archives Forum guidelines document (Brown, 2007)

will be adhered to, in particular a well-established United Kingdom Institute for Conservation (UKIC) document (Walker, UKIC, 1990) and a more recent CIfA publication (CIfA 2008b). The depositional requirements of the receiving body, in this case Tyne and Wear Archives and Museums, will be fulfilled.

5. RESULTS

During the watching brief, separate stratigraphic entities were assigned unique and individual 'context' numbers, which are indicated in the following text as, for example [123]. The archaeological sequence is described below for each trench in turn. Natural sub-stratum was not exposed in any of the trenches hence phasing starting from the nineteenth century industrial era. Refer to Figure 8 & 9 for section and photographic plate location map (1-15) and Trench 1 plan.

5.1 Trench 1

Phase 1: 19th-Century Industrial

5.1.1 The earliest deposits encountered in Trench 1 comprised substantial sand 'ballast' deposits [110] and [109] which were exposed along the trench for a maximum distance of 103m NW-SE (Figure 10). The combined maximum exposed thickness of these deposits was *c.* 2.60m, with the uppermost material encountered at maximum and minimum depths below ground level of *c.* 4.80m at the north-western extent of the trench and *c.* 1.30m at the south-eastern end of the trench, respectively. These deposits are interpreted as representing episodes of dumping undertaken during the 19th century, this activity associated with the reclamation of the foreshore and narrowing of the river channel.

5.1.2 Overlying the uppermost 'ballast' deposit [109], four deposits, [143], [114], [108], and [138], were recorded with a combined maximum thickness of 3.40m. The earliest of these deposits comprised firm clayey ash [143] up to 1.70m thick which was overlain by firm clay [114] up to 0.85m thick. In turn, the clay deposit [114] was overlain by a rubble deposit [143] up to 1.70m thick and compact sand [138]. These deposits overlying the looser ballast material represent levelling and consolidation activity prior to the 19th-century development of the site.

5.1.3 Brick structure [140] was partially exposed in section within the central portion of Trench 1 (Box 30, figure 11) for a distance of *c.* 2.90m NE-SW and was at least 2.65m high, encountered at a depth of 2m below present ground level. It survived at least fifteen courses high built in red brick (*c.* 230mm x 110mm x 80mm), bonded by light grey lime mortar. This structure was directly overlain by 20th-century levelling and consolidation deposit [137] and is likely to date to the 19th century. Due to the limited exposure of this structure, its interpretation is unclear; it may form part of a building as depicted on the 1898 Ordnance Survey map or alternatively part of a manhole structure.

Phase 2: 20th-Century Industrial

5.1.4 The earliest Phase 2 activity encountered in Trench 1 comprised three levelling and consolidation deposits [116], [123] and [137]. Compact silty clay deposits, [123] and [116], recorded at the north-west extent of the trench (Box 11, figure 11) were

exposed for a maximum distance of 3.10m NE-SW with a combined thickness of at least 1.90m. The uppermost deposit was encountered at a depth of *c*. 0.10m below present ground level. A compact rubble deposit [137] was exposed in the central portion of the trench (Box 23 & 24, figure 8) for a maximum distance of 7.40m NE-SW and was at least 2.70m thick, encountered at a depth of *c*. 2m below present ground level. These deposits are interpreted as ground levelling and consolidation deposits associated with the reorganisation and modernisation of Swan Hunters shipyard during the 20th century.

5.1.5 A brick culvert [118], recorded within narrow construction cut [117], truncated levelling and consolidation deposit [116]. This was exposed for a distance of *c*. 1.40m NE-SW and survived up to *c*. 1m high to at least eight courses of red brick (*c*. 230mm x 105mm x 80mm), bonded by concrete mortar. The culvert probably served as a storm drain and contained a NW-SE aligned salt-glazed pipe [122].

5.1.6 At the south-eastern extent of Trench 1 (Box 16, figure 10), a brick culvert [244] was recorded in section within narrow construction cut [127], truncating Phase 1 levelling and consolidation deposit [108]. The culvert was built in red brick (*c*. 230mm x 105mm x 80mm) bonded by concrete mortar and was *c*. 1m wide and exposed to a depth of 3.70m. This culvert represents part of a larger complex of drainage structures across the site associated with the buildings that occupied the former shipyard in the 20th-century industrial period (Plate 1).

5.1.7 Located at the central portion of Trench 1, part of a NW-SE aligned railway track was exposed for a distance of at least 10.40m, encountered at a depth of *c*. 0.50m below present ground level (Figure 9, Plates 2–3). The exposed portion of track comprised eleven timber sleepers [124] (average size 2000mm x 250mm x 150mm) that support two flat-bottomed vignole rails [125] set *c*. 1.30m apart (One of the vignole rails was removed during excavation, therefore not visible in plan or photographs). The timber sleepers were imbedded within a 0.35m-thick compact stone ballast [126]. Within this portion of the site railway tracks are depicted on various Ordnance Survey maps from the late 19th century to the 20th century. The ballast material for this railway track directly overlay Phase 1 19th-century levelling and consolidation layer [108]. A railway track first appears in this location on the 1916 Ordnance Survey map (PCA 2014, figure 13). This formed part of an extensive system of railway sidings associated with the shipyard, which led from staithes on the river to the railway which ran between Low Walker and Wallsend Colliery and whose line is fossilised in the landscape as Hadrian's Cycleway which borders the former shipyard area to the north (see 1921 Ordnance Survey map, Figure 6)

Phase 3: Modern

5.1.8 Drainage structures comprising brick culverts, [144] and [146], a modern construction cut [136] and two service trenches, [129] and [134], were recorded truncating Phase 1

19th-century levelling and consolidation deposit [108] with the exception of brick culvert [146] which truncated the Phase 2 railway track [125] (Plate 4).

5.1.9 At the north-western end of Trench 1, directly overlaying Phase 1 ballast [108], a *c.* 0.60m thick sand and gravel consolidation deposit [107] for a concrete surface [112] was exposed for a maximum distance of 42.30m NW-SE. The concrete surface [112] was 0.40m thick and had a four converging iron flat-bottomed vignole rails [113] imbedded within it (Plate 5). The concrete surface and associated rails form part of a larger complex of rail tracks as depicted on various 20th-century Ordnance Survey maps. The rails and concrete surface in turn were overlain by *c.* 0.10m thick tarmac surface [106].

5.1.10 Modern rubble deposits [105], [142] and [145] were recorded across Trench 1 with a maximum combined thickness of 0.90m. These deposits overlay the aforementioned 20th-century structures and represent modern levelling and consolidation deposits.

5.1.11 A drainage feature [130] and manhole construction cut [104] were recorded truncating the modern levelling deposit [105]. The construction cut [104] was backfilled with sand and crushed stone [103], [102] and [101]. At the base of the trench, concrete structure [111] was recorded and probably represents a cap for a drain associated with the manhole. A further construction cut [119] for a manhole was recorded truncating Phase 2 service [122].

5.1.12 The uppermost deposit recorded across Trench 1 comprised a *c.* 0.30m concrete surface [100] with steel-mesh reinforcing, forming the former shipyard deck.

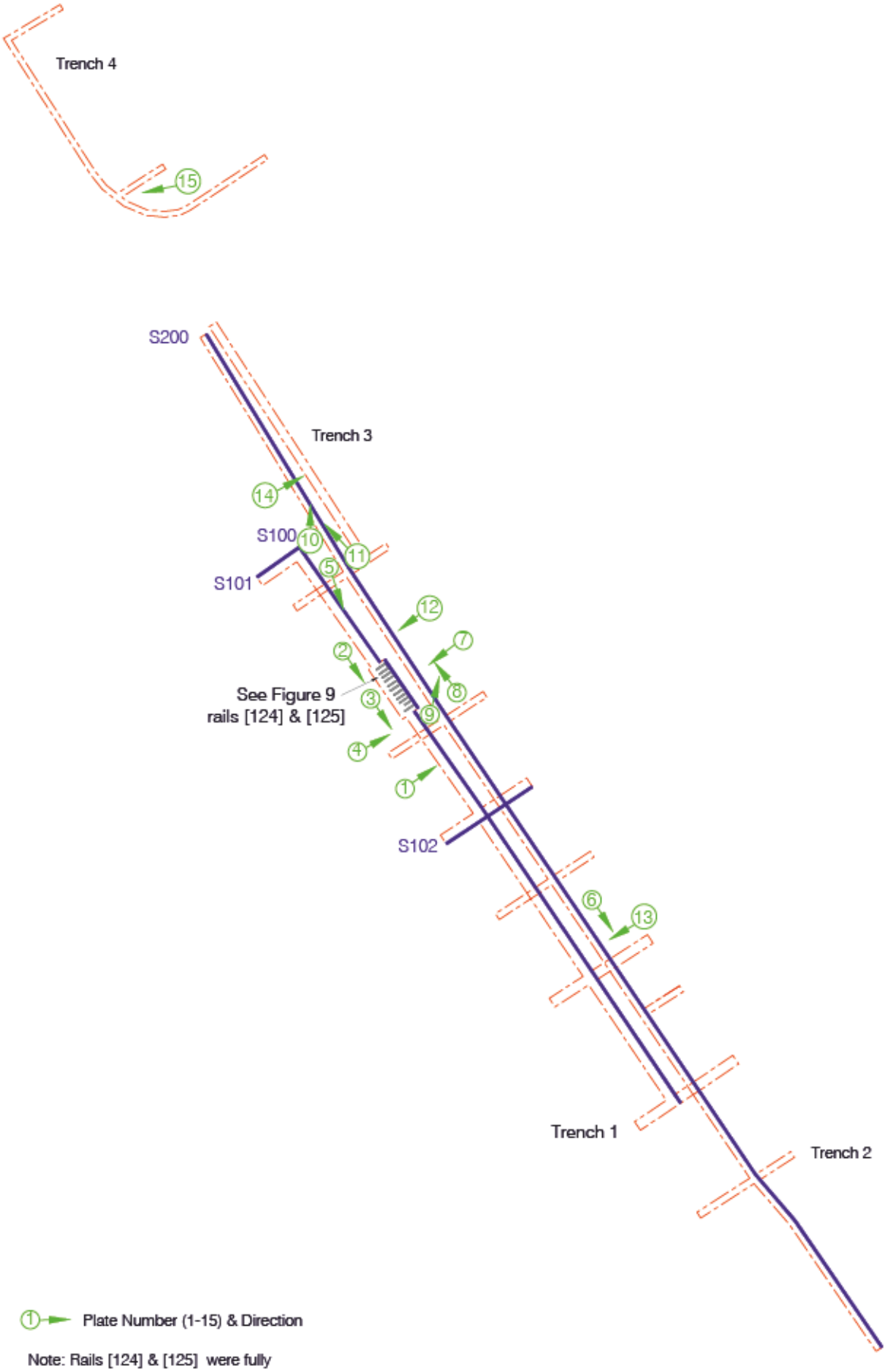


Figure 8
Trench Plan showing Sections and Plate Location
1:1,000 at A4

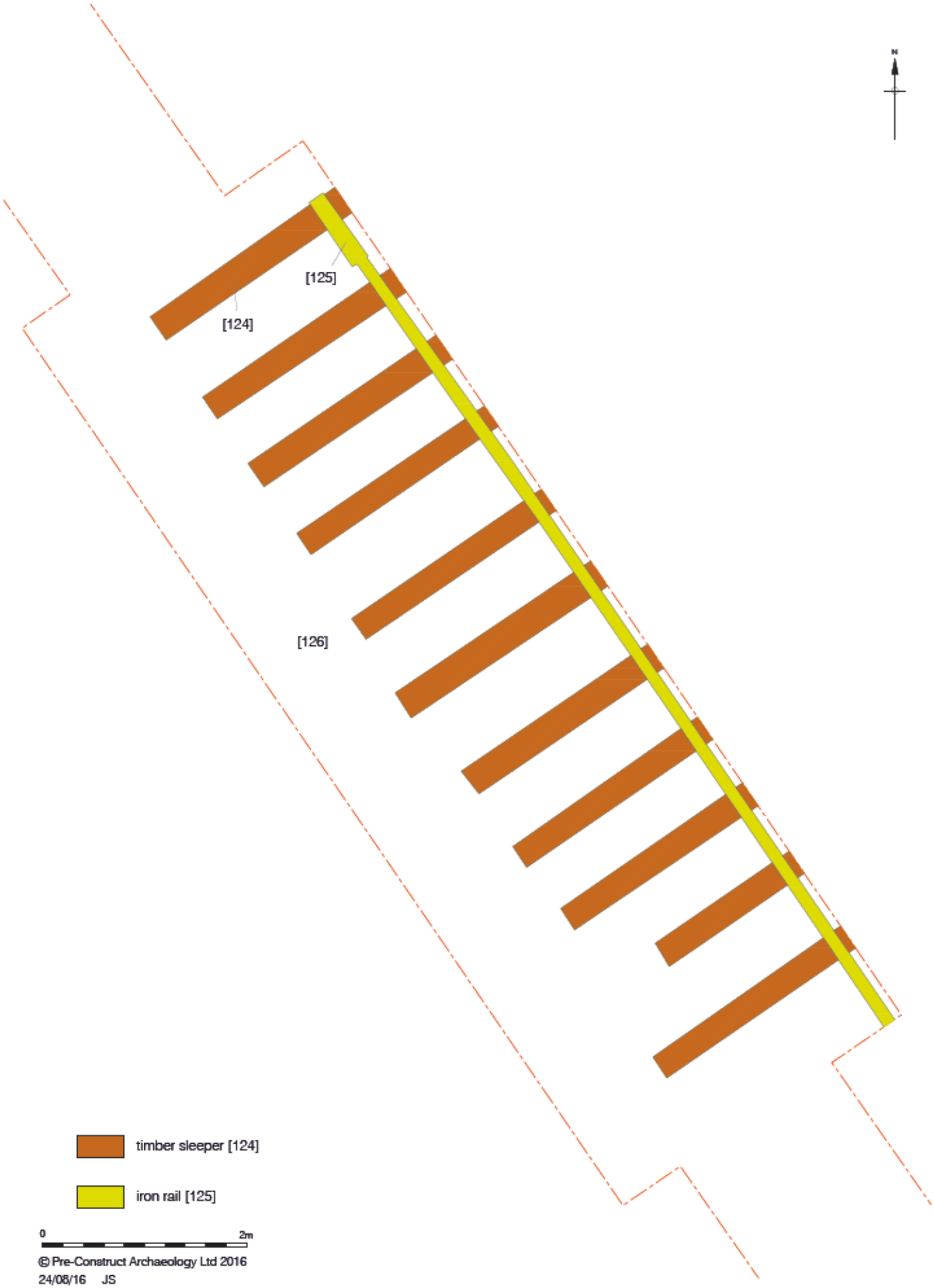
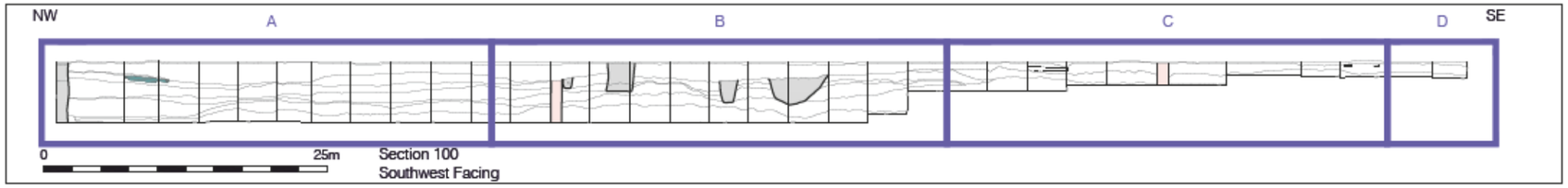
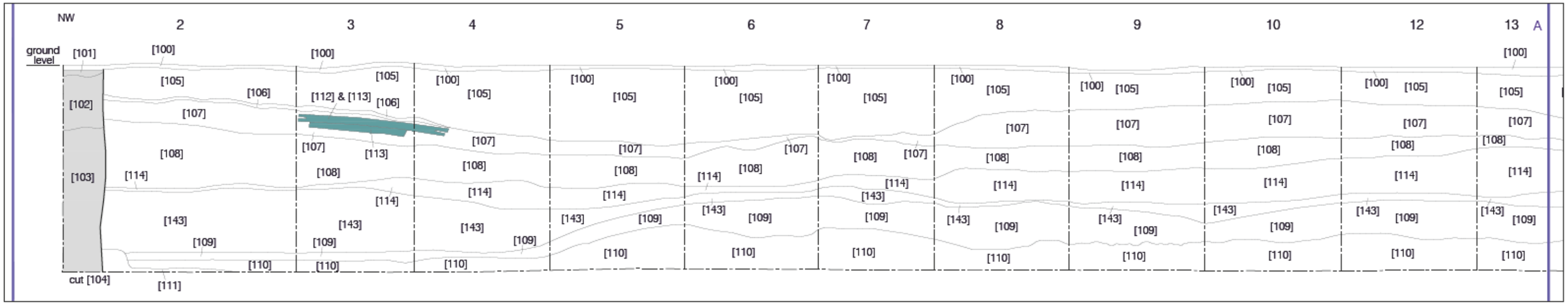
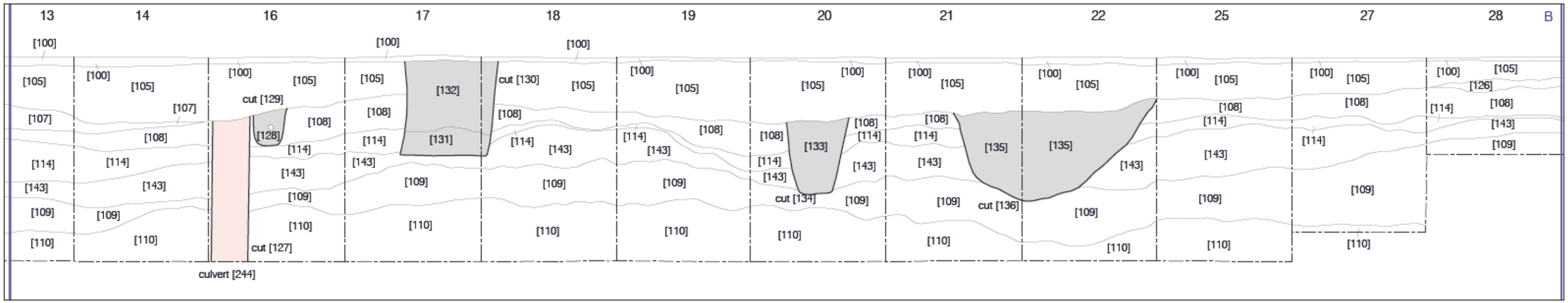
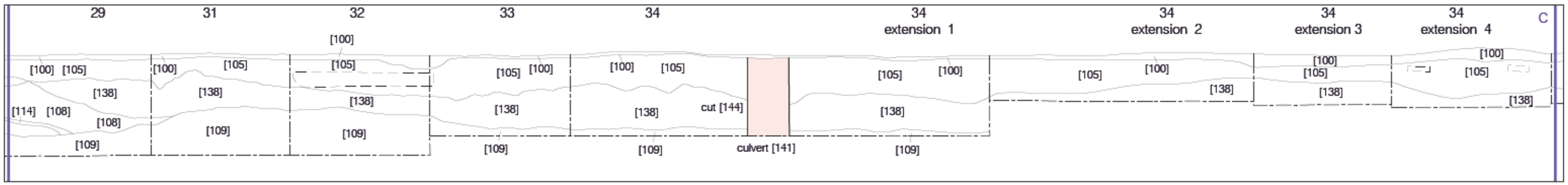


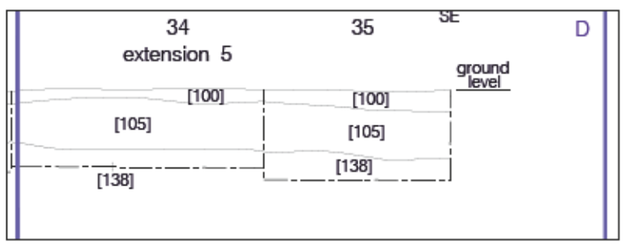
Figure 9
Plan of Rails in Trench 1
1:50 at A4











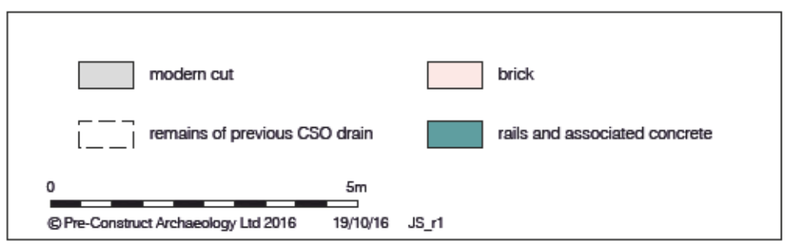
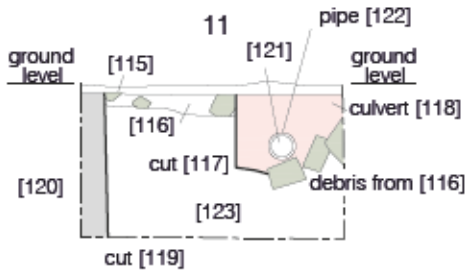
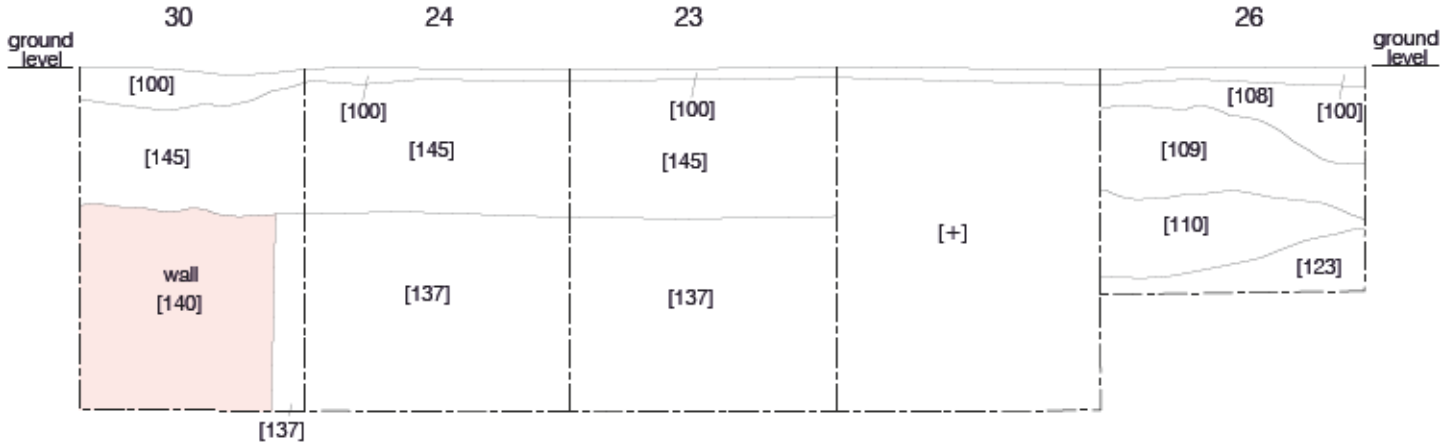


Figure 10
Trench 1; Section 100
1:500 & 1:100 at A3



Section 101
Trench 1
Southeast Facing



Section 102
Trench 1
Southeast Facing

modern cut
sandstone
brick
0
5m

23/08/16 JS

Figure 11
Trench 1; Sections 101 & 102
1:100 at A4

5.2 Trench 2

Phase 1: 19th-Century Industrial

5.2.1 The earliest deposits encountered in Trench 2 comprised substantial sand 'ballast' deposits [207], [257], [231] and clay infill [272]. Ballast deposit [207] was exposed at a depth of *c.* 2.10m below ground level along the trench for a maximum distance of *c.* 76.90m NW-SE with a maximum exposed thickness *c.* 2.40m. Deposit [257] was exposed *c.* 2m below ground level for a maximum distance *c.* 49.20m NW-SE with an exposed maximum thickness *c.* 2.40m along the northern portion of Trench 2. Ballast deposit [231] was exposed at a depth of *c.* 3.10m below ground level for an exposed maximum distance of *c.* 16.50m E-W and maximum exposed thickness *c.* 0.45m at the southern portion of Trench 2. These sand deposits may possibly represent the same episode of deposition, but as they varied in colour due to probable shipyard contaminants, they have been recorded as separate deposits. A firm brown clay deposit [272] was exposed at a depth of *c.* 1.05m below ground level for an exposed maximum distance of *c.* 6.10m east–west and maximum exposed thickness of 1.30m in the northern portion of Trench 2. These deposits are interpreted as representing dumping associated with the reclamation of the foreshore and narrowing of the river channel undertaken in the 19th-century.

5.2.2 Overlying ballast deposit [231] in a southern side trench, was a *c.* 1.80m thick compact demolition rubble deposit [281], recorded for a distance of *c.* 16.50m. Deposit [281] was in turn overlain by various substantial rubble and ballast deposits [283], [232], [279], [280], [229], [284], and [228] in which tip lines deposited from the south-west were clearly visible (Plate 62). Deposit [283] comprised compact crushed red brick and rubble *c.* 2.40m thick recorded for a maximum distance of *c.* 9m east–west in the southern portion of Trench 2. The ballast deposits [232], [279], [280], [229], [284] and [228] had a combined maximum exposed vertical thickness of *c.* 2.40m. The earliest of these deposits comprised compact gravel [232] with an exposed maximum thickness of *c.* 3.35m overlain by compact mid yellow sand [279] up to *c.* 1.85m thick. In turn sand deposit [279] was overlain by up to *c.* 0.50m thick compact mid brown sand [280] which was then overlain by loose gravel [229] *c.* 0.80m thick. Gravel deposit [229] was overlain by compact mid brown sand [284] *c.* 0.40m thick which in turn was overlain by *c.* 0.80m thick crushed rubble [228]. These rubble and ballast deposits probably represent levelling and consolidation activity prior to the 19th-century development of the site.

5.2.3 Sand ballast deposit [207], (outlined in 5.2.1), was overlain by various rubble and ballast material deposits, [240] exposed in central side trench and [250], [206], [233] exposed in main NW-SE trench. Deposit [240] comprised compact demolition rubble *c.* 2m thick recorded for a distance of *c.* 6.10m east–west in the central portion of Trench 2. Deposit [250] comprised loosely compacted demolition debris and was

exposed for a maximum distance of *c.* 5.10m NW-SE and thickness of *c.* 3.20m at the southern portion of Trench 2. Deposit [206] comprised loosely compacted black sand recorded for a maximum distance of *c.* 9.60m NW-SE with a thickness of *c.* 0.60m. Deposit [233] comprised a compact charcoal layer *c.* 1m thick recorded for a distance of *c.* 6m NW-SE. These deposits probably represent 19th-century levelling and consolidation layers.

5.2.4 Sand deposit [206] and charcoal layer [233] were overlain by *c.* 2.70m thick, loose brown sand [205] recorded for a maximum distance of *c.* 61.90m along Trench 2. The sand deposit [205] was in turn partially overlain by a *c.* 1.80m thick loose black sand deposit [204] recorded for a maximum distance of *c.* 10m NE-SW in the southern portion of Trench 2. Sand deposit [204] was overlain by loose sand and gravel deposit [203] recorded for a distance of *c.* 7.50m and thickness of *c.* 0.30m. These deposits were interpreted as 'ballast' deposits probably representing consolidation and levelling activity prior to the 19th-century development of the site.

5.2.5 Sand ballast deposit [257] (outlined in 5.2.1) was overlain by *c.* 0.70m thick compact crushed red brick and rubble deposit [268] recorded for an exposed maximum distance of *c.* 3m in a central side trench. Rubble deposit [268] and clay deposit [272] were overlain by a sandy silt demolition rubble [256] exposed for maximum distance of *c.* 26.30m and thickness of *c.* 1.90m. The rubble deposit [256] was overlain by a hard clay layer [255] *c.* 18.80m in maximum distance followed by a silty sand demolition rubble [254] *c.* 18.20m in maximum distance with a combined thickness of *c.* 1.80m. These deposits were interpreted as levelling and consolidation activity associated with the 19th-century redevelopment of the site.

Phase 2: 20th-Century Industrial

5.2.6 The earliest Phase 2 activity encountered in Trench 2 comprised compact demolition levelling deposit [253] *c.* 180m thick, exposed for a maximum distance of *c.* 36.30m NE-SW in the northern portion of Trench 2, at a depth of *c.* 0.70m below ground level. The is interpreted as a ground levelling and consolidation deposit associated with the reorganisation and modernisation of Swan Hunters shipyard during the 20th century. Levelling deposit [253] was truncated by construction cut [265] associated with structures [263], [261] and [264] and building construction cut [291].

5.2.7 Construction cut [265] was recorded for a distance of *c.* 5.50m NE-SW and for a depth of *c.* 1.40m. Structure [263] consisted of a concrete floor recorded for a maximum distance of *c.* 4.5m in NE-SW with a maximum width of *c.* 1.80m (Box 39 & 40, Figure 12). The concrete structure was imbedded with four possible iron flat-bottomed vignole rails or alternatively iron beam structures. Two walls [261] and [264] were constructed upon concrete floor structure [263]. Wall [261] was built from seventeen courses of red brick (*c.* 230mm x 105mm x 80mm), bonded by concrete mortar, orientated WNW-ESE. The wall served as part of a chamber that was

backfilled with loose 'winston' stone [267]. Wall [264] was also built from red brick (*c.* 230mm x 105mm x 80mm) and concrete mortar exposed for a distance of *c.* 2.90m NE-SW and depth of *c.* 1.30m (Plates 7-9). The wall is likely to have been part of one of the many buildings that once occupied Swan Hunter shipyard as depicted on various Ordnance Survey maps of the 20th-century. The construction cut [265] was backfilled with loose yellow sand [266] *c.* 0.80m thick.

5.2.8 A concrete and metal structure [290] was recorded within construction cut [291] for a distance of *c.* 6.90m and exposed depth of *c.* 3.10m in the northern portion of Trench 2 (Plates 10-11). This concrete and metal structure is interpreted as a footing for a building foundation. Buildings are visible within this area on OS maps dating from the 20th-century.

5.2.9 An iron flat-bottomed vignole rail [258] was exposed for a distance of *c.* 10.80m NE-SW in section in the northern portion of Trench 2 (Plate 7 & 12). The rail [258] was support by twenty-one creosote treated timber sleepers [259] measuring an average 0.25m in width and 0.15m in thickness. The timbers [259] lay on a compact brown ballast material [260] exposed for a distance of *c.* 10.60m NE-SW, *c.* 0.10m thick. Within the northern portion of the site, railway tracks are depicted on various Ordnance Survey maps from the late 19th-century to the 20th-century. The ballast material for this railway track directly overlay Phase 2 20th-century wall structures [261] and [264], the rails therefore are likely to be of early 20th-century date as depicted on the 1938 Ordnance Survey map.

Phase 3: Modern

5.2.10 Several modern structures including services [288] and floor surfaces [270], [269] and sub-base [271], truncated or overly Phase 2 rubble consolidation and levelling deposit [253] in the northern portion of Trench 2. Service pipe and loose sand backfill [287] recorded within construction cut [288] truncated rubble consolidation layer [253]. A tarmac floor surface [271] and its sandstone sub-base was exposed for a distance of *c.* 14m NE-SW with a combined thickness of *c.* 0.60m. A concrete floor surface [269] was also exposed for a distance of *c.* 6m NE-SW with a recorded thickness of *c.* 0.30m. These structures are interpreted as possible modern floor surfaces of Swan Hunter Shipyard.

5.2.11 In the southern portion of Trench 2, two construction cuts [226] and [227] were exposed truncating Phase 1 19th-century consolidation and levelling deposits. Construction cut [226], backfilled with sand [224] and demolition rubble [282] with a combined thickness of *c.* 1.40m, truncated consolidation layer [283]. Construction cut [227], backfilled with *c.* 0.40m thick concrete and stone [223], truncated consolidation layer [228]. These construction cuts and associated fills are tentatively interpreted as possible building foundations or possible previously removed service piping.

5.2.12 In the central portion of Trench 2, Phase 1 19th-century consolidation layer was truncated by modern cut [278] and its loose sand backfill [230]. The function of this cut is unknown but could possibly be associated with the building foundations or services of the building that were once on the shipyard during the 20th-century. Directly overlying the construction cut [278] and backfill [230] was a compact demolition and levelling deposit [289] *c*. 0.70m thick exposed for a maximum distance of *c*. 7m.

5.2.13 Many modern construction cuts [237], [221], [235], [239] and [242] truncated Phase 1 sand ballast layer [205] in the central portion of Trench 2. Two concrete pillars up to *c*. 0.90m thick [236] and [234] were exposed in construction cuts [237] and [235]. As the two concrete pillars were relatively close to one another, it is likely that they are foundation pillars from the same building. Two concrete foundations [220] and [238] were recorded with construction cuts [221] and [239]. A 0.80m thick concrete foundation [220] was exposed for a maximum distance of *c*. 11.20m and *c*. 1.70m thick concrete foundation [238] was exposed for a maximum distance of *c*. 4.20m. A concrete manhole with dolomite backfill [242] was recorded within construction cut [243] and served as piping for the 20th-century buildings. The area where these construction cuts and structures are located is within the part of the Swan Hunter's shipyard that was reorganised and modernised during the early 20th century.

5.2.14 Overlying the building foundation structures and Phase 1 19th-century sand ballast material [203] was a *c*. 1.90m thick loose rubble demolition levelling deposit [202] exposed for a maximum distance of *c*. 49.50m NE-SW across the southern and central portion of Trench 2.

5.2.15 A modern construction cut [251] and its brown silty sand backfill [252] from a previously removed manhole truncated Phase 1 19th-century demolition levelling deposit [250] in the southern portion of Trench 2. A modern construction cut [209] containing compact rubble of crushed red brick and concrete from removed services was exposed for a maximum distance of *c*. 2m and depth of *c*. 3.60m truncating Phase 1, 19th-century ballast consolidation layer [250] and modern levelling deposit [202] in the southern portion of Trench 2.

5.2.16 Modern levelling deposit [202] was truncated by many modern features including constructions cuts [209], [211], [215], [217], [219] and [249], services [213] and a railway line [247]. Concrete capping [212] recorded within construction cut [213] was exposed for maximum distance of *c*. 2m and depth of *c*. 0.74m in the southern portion of Trench 2. A construction cut [249] backfilled with compact rubble [248] was exposed for a maximum distance of *c*. 5.35m and depth of *c*. 4.20m in the central portion of Trench 2. The construction cut [249] may possibly relate to the construction of one of the many buildings visible on Ordnance Survey maps within the central portion of site or alternatively be the remnants of a removed manhole drain.

5.2.17 Modern construction cuts [209], [211], [215], [217] and [219] are of varied length and depth but each contains a compact rubble backfill of crushed concrete and red brick [208], [210], [214], [216] and [218]. The interpretation of these construction cuts is unclear but they may possible represent remnants of old services or building supports associated with the shipyard buildings once removed.

5.2.18 A compact ballast material [246] and timber sleepers [245] were recorded within construction cut [247] for an exposed distance of *c*. 18.30m NE-SW and depth of *c*. 0.60m in the section of Trench 2 (Plate 13). The compact ballast material [246] supported timber sleepers measuring 0.25 X 0.15m, which in turn may have possible supported iron flat-bottomed vignole rails, this however is unknown as the sleepers were only exposed in section.

5.2.19 The construction cuts, timber sleepers, rails, services, road surfaces and brick structures were overlain by a *c*. 0.60m thick loose rubble layer [201] exposed for a distance of *c*. 166m NE-SW along Trench 2. This rubble deposit [201] represents a modern levelling and ground consolidation layer of the shipyard which in turn was truncated by a modern service pipe and rubble backfill [285] recorded within construction cut [286].

5.2.20 In the northern portion of Trench 2, a compact crushed red brick demolition rubble [276] was exposed for a length *c*. 3m and depth of 0.90m. The demolition rubble [276] acted as a sub-base for concrete surface [275] recorded *c*. 3m in distance and up to *c* 0.10m in thickness. The concrete surface [275] was in turn overlain by compact rubble levelling deposit [274] exposed for a distance of *c*. 3m and thickness of *c*. 2.74m. The rubble levelling deposit [274] acted as a sub-base for a modern tarmac road surface [273] exposed for a distance of *c*. 3m with a thickness up to *c*. 0.10m.

5.2.21 The uppermost deposit recorded in Trench 2 was the indurated concrete road surface [200] reinforced with steel-meshing forming the current floor surface of the shipyard extending across the full extent of Trench 2 with an average thickness of *c*. 0.30m.

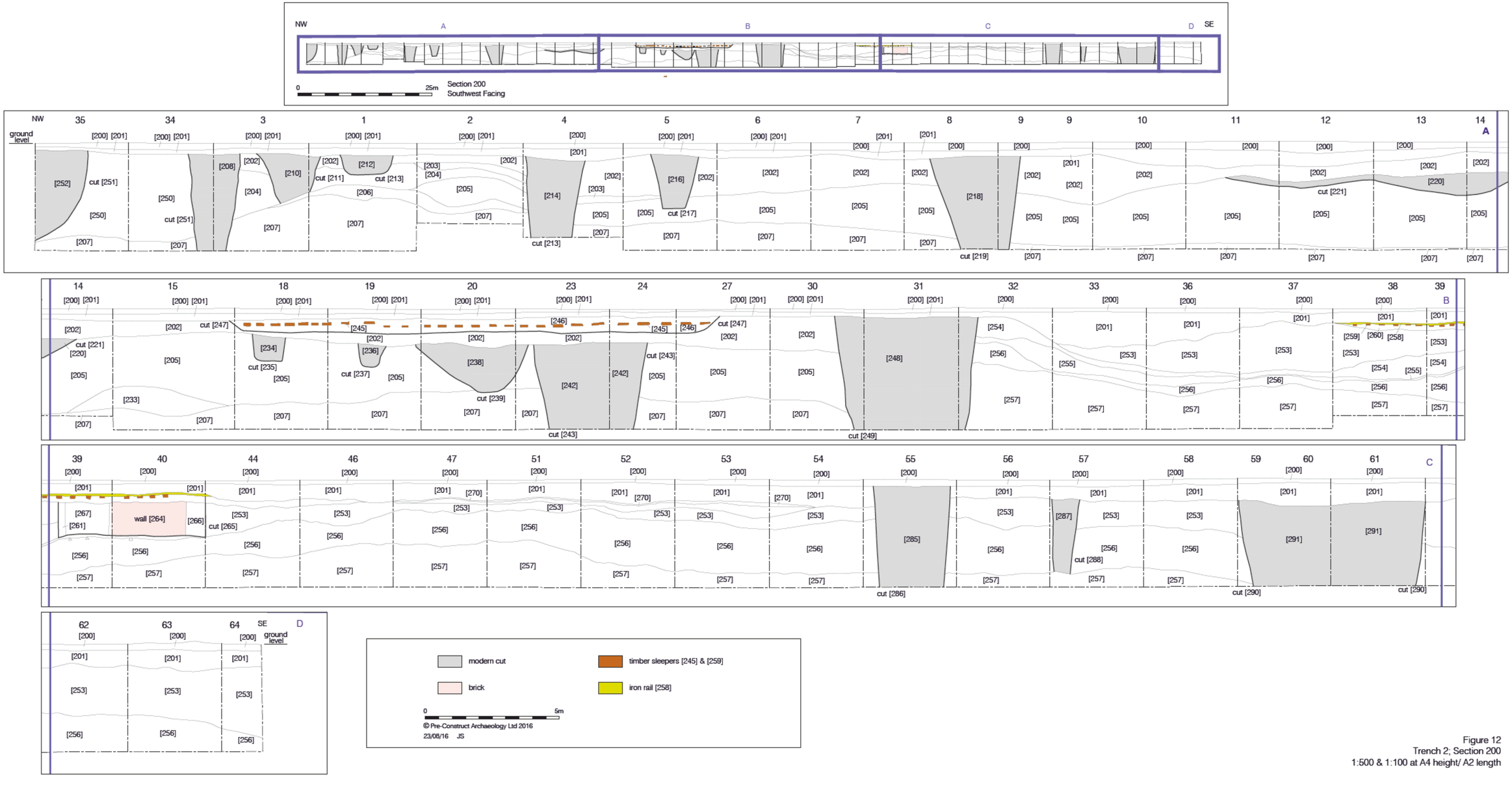


Figure 12
Trench 2; Section 200
1:500 & 1:100 at A4 height/ A2 length

5.3 Trench 3

Phase 1: 19th-Century Industrial

5.3.1 The earliest deposit recorded in Trench 3 was sand ballast [303] exposed for a maximum thickness of 0.36m and distance of 9.50m NW-SE at a depth of 0.42m below ground level. The ballast material possibly represents a 19th-century ground consolidation layer of the former shipyard.

Phase 2: 20th-Century Industrial

5.3.2 Overlying ballast material [303] was a 0.44m thick demolition levelling deposit [302] extending NW-SE for 18.22m. This deposit was interpreted as a dumping or levelling deposit during the redevelopment and modernisation of the shipyard in the 20th-century.

5.3.3 A sandstone 0.20m thick floor surface [309] measuring 1.20m in length was recorded in the northern extent of Trench 3, truncating demolition levelling deposit [302]. The structure, only visible in section, was interpreted as a floor surface of the former shipyard dating to the twentieth century.

5.3.4 A concrete pipe housing structure [301] measuring 1.50m NW-SE in width and exposed to a maximum depth of 0.60m, was discovered adjacent to floor surface [309] truncating demolition deposit [302] (Plate 14). The structure may be an example of many passageways built to accommodate services such as air, oxygen and electricity, which ran under the shipyard's buildings during the twentieth century.

Phase 3: Modern

5.3.5 A modern dolomite levelling deposit [306] measuring 7.06m in length and 0.28m in depth, overlay demolition deposit [302] to the south of the trench. The dolomite deposit [306] was truncated by construction cuts [304] and [307]. Construction cut [304] was exposed for a length of 6.02m NW-SE and maximum depth of 0.56m filled by black demolition rubble [305] is tentatively interpreted as a construction feature associated with the modern sewerage pump adjacent to Trench 3. Construction cut [307], filled by dolomite [308], was exposed for a length of 9.02m and maximum depth of 0.58m was also associated with the construction of the modern sewerage pumping station.

5.3.6 The uppermost deposit recorded across Trench 3 comprised a substantial concrete surface with steel-mesh reinforcing [300] *c.* 0.26m thick, forming the current former shipyard deck.

5.4 Trench 4

No deposits or features were discovered or recorded dating to the 19th-century in Trench 4.

Phase 2: 20th-Century Industrial

5.4.1 Twentieth century industrial era activity and modern deposits were encountered in Trench 4. The earliest deposits, [406], [405] and [404], were layers of sand, coal and sandy clay with a combined exposed thickness of 0.60m. These deposits were interpreted as ground levelling deposits associated with the reorganisation and modernisation of the shipyard in the 20th-century. Deposit [404] was truncated by construction cut [402] for a concrete pillar footing backfilled with sand [403]. The combined exposed dimensions of the concrete footing and backfill were recorded as 0.60m in depth, 1m in width and 3.70m in length NE-SW The concrete pillar footing dates to the 20th century and was associated with the modernisation of the former shipyard office building.

5.4.2 A concrete pillar footing, 1m wide and 0.30m thick [410], also associated with the former shipyard office building, was recorded in Trench 4 adjacent to the shipyard office building, at the southern end of Station Road. The concrete structure was overlain by a 0.30m thick, silty sand deposit [409]. This deposit is interpreted as a ground levelling layer for the sandstone structure above [407]. The sandstone structure [407] is interpreted as a 20th-century stone-sett road surface of the former shipyard.

5.4.3 A concrete base, [419], measuring 1.60m in length, 1.08m in width, with an exposed thickness of 0.37m, was discovered in association with a possible 20th-century floor surface. Above the concrete base was a stone wall façade structure, [418], 0.88m in length and 0.30m in width, associated with a brick wall [417]. The brick wall was L-shaped in plan, comprising two remaining courses in a header-stretcher-header formation with overall dimensions spanning 1.54m in length and 0.20m in depth and width. The wall structure surrounded a ceramic mosaic tile floor surface and its 0.22m thick concrete sub-base [416]. The individual ceramic mosaic tiles measured 16mm square, forming an overall floor surface 1.60m in length and 0.88m wide. The floor surface [416] and its associated walls, stone façade [417] and concrete base [419], are interpreted as a possible 20th-century floor surface in the location of an entranceway into a former building (Plate 15).

Phase 3: Modern

5.4.4 Deposits [414] and [412], comprising clay and demolition rubble with a combined exposed thickness of *c.* 0.80m, were recorded *c.* 0.20m below ground level in the northernmost extent of Trench 4. These deposits are interpreted as modern ground levelling deposits. Deposit [412] was truncated by the installation of a gas mains pipe

[420], with an exposed length of *c*. 0.30m and depth of *c*. 0.80m and an electrical cable [421], with an exposed length of *c*. 0.94m and depth of *c*. 0.80m. Modern demolition rubbles, [415] and dolomite deposits, [413] backfill the construction cuts of the gas mains pipe and electrical cable.

5.4.5 The uppermost deposits of Trench 4 included the current road surfaces of tarmac [408] and concrete flagstones [401], [411].

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PCA Credits

Fieldwork: Danni-Louise Parker (Supervisor), Scott J. Vance, Dave Green, Lucy-Anne Robinson

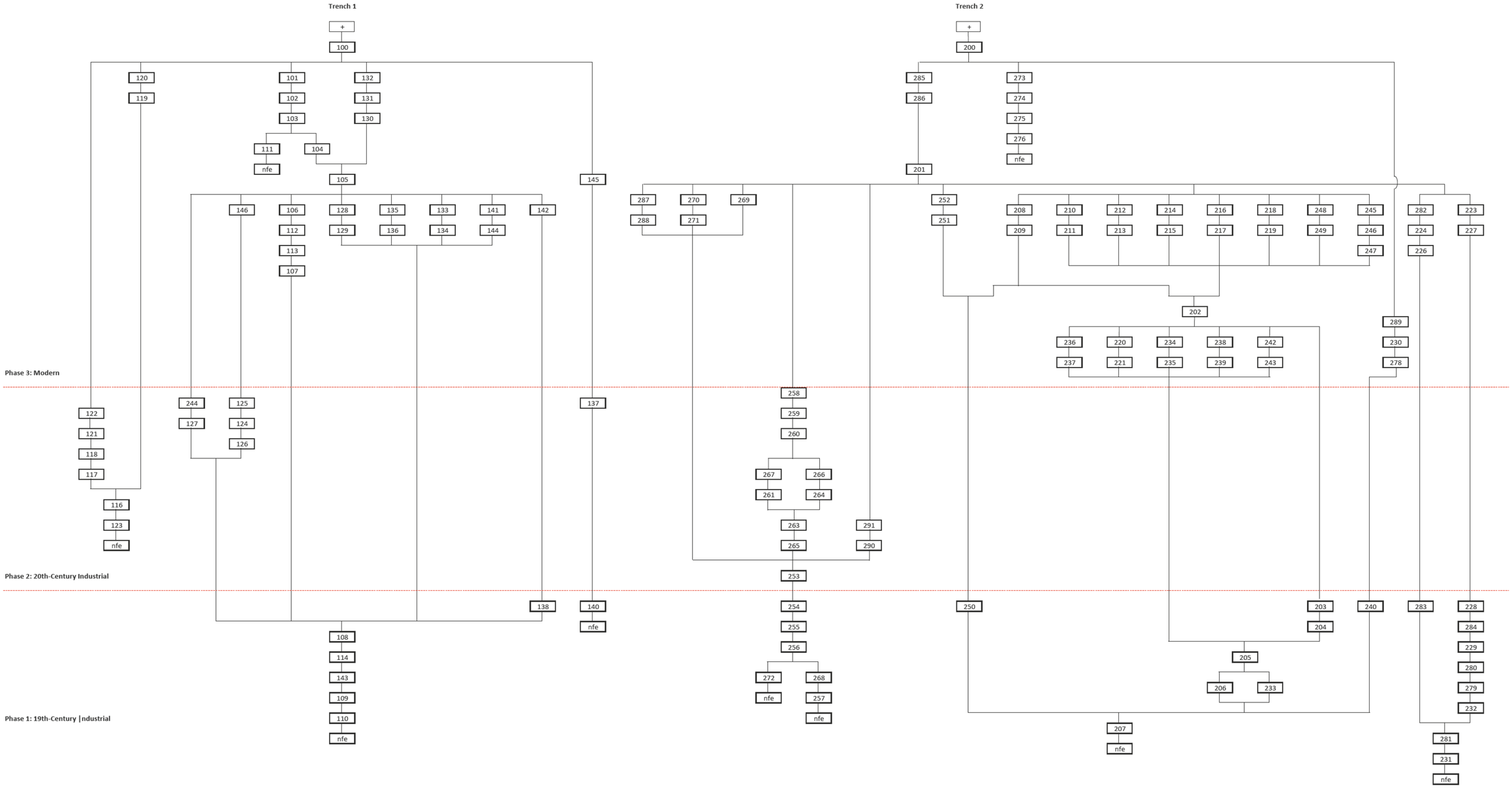
Project Manager: Jennifer Proctor

Report: Danni-Louise Parker, Aaron Goode

CAD: Jennifer Simonson

APPENDIX 1

Stratigraphic Matrices


Trench 1
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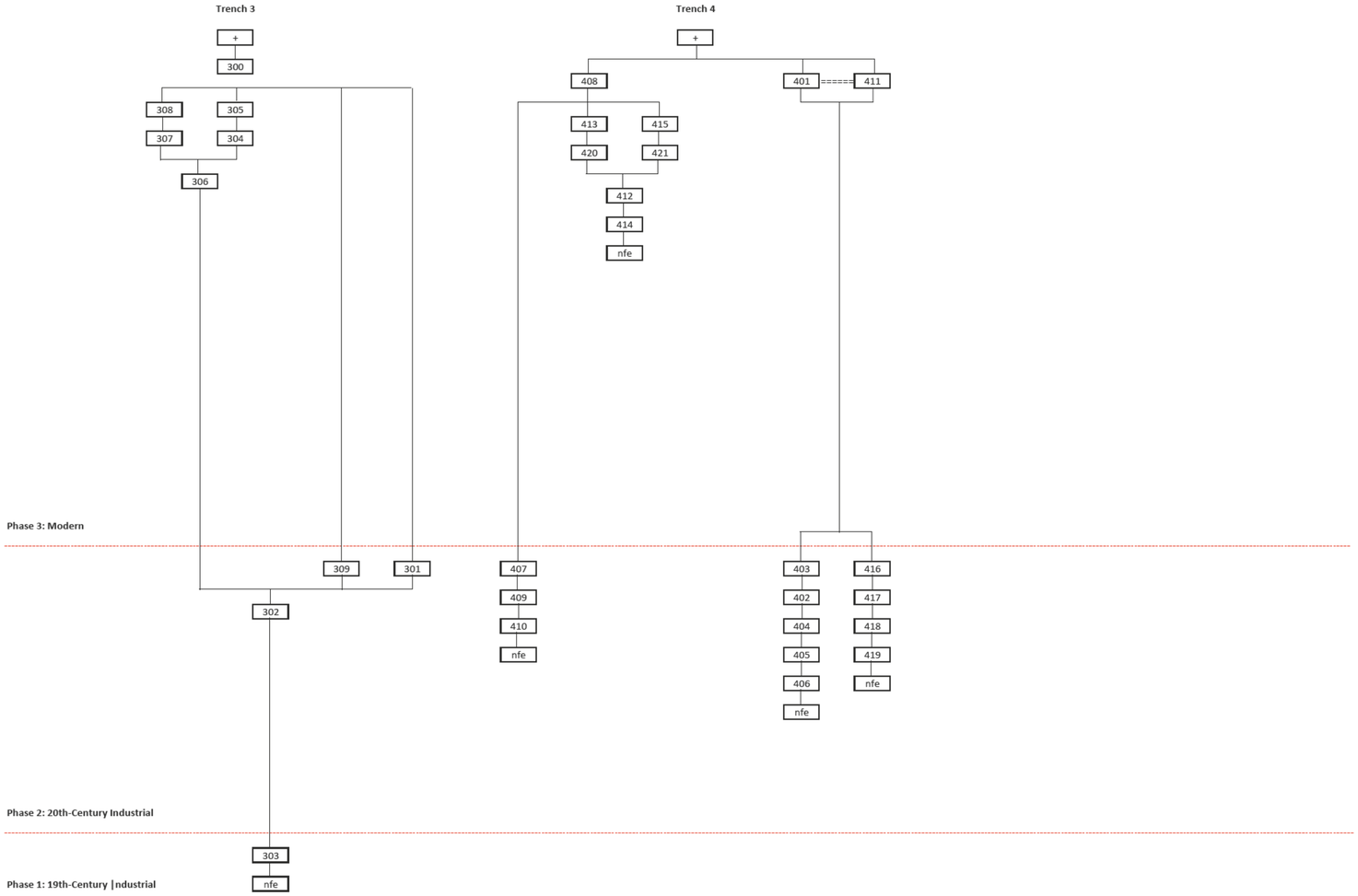
Phase 3: Modern
Phase 2: 20th-Century Industrial
Phase 1: 19th-Century |ndustrial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Phase 3: Modern
Phase 2: 20th-Century Industrial
Phase 1: 19th-Century |ndustrial

APPENDIX 2

Context Index

SRN15 CONTEXT INDEX

Context	*Trench*	*Phase*	*Type 1*	*Type 2*	*Interpretation*
100	Trench 1	1	Deposit	Layer	Light grey modern concrete road surface
101	Trench 1	3	Deposit	Fill	Light yellow dolomite backfill of manhole drain cut [104]
102	Trench 1	3	Deposit	Fill	Light grey sand backfill of manhole drain cut [104]
103	Trench 1	3	Deposit	Fill	Grey sand backfill of manhole drain cut [104]
104	Trench 1	3	Cut	Manhole	Construction cut for modern manhole drain
105	Trench 1	3	Deposit	Layer	Light grey modern demolition ground levelling deposit
106	Trench 1	3	Deposit	Layer	Modern tarmac road surface
107	Trench 1	3	Deposit	Layer	Sand and gravel ballast layer for rail lines [113]
108	Trench 1	1	Deposit	Layer	Demolition consolidation layer
109	Trench 1	1	Deposit	Layer	Demolition levelling deposit
110	Trench 1	1	Deposit	Layer	Dark sand levelling deposit
111	Trench 1	3	Deposit	Structure	Light grey concrete - possible pipe capping
112	Trench 1	3	Deposit	Structure	Concrete encasing 20th century rail lines
113	Trench 1	3	Deposit	Rails	20th century vignole rails
114	Trench 1	1	Deposit	Layer	Clay levelling deposits
115	VOID				
116	Trench 1	2	Deposit	Layer	Demolition levelling deposit
117	Trench 1	2	Cut	Culvert	Construction cut for brick culvert drain [118]
118	Trench 1	2	Deposit	Culvert	20th century brick culvert drains
119	Trench 1	3	Cut	Manhole	Construction cut for modern manhole drain
120	Trench 1	3	Deposit	Fill	Dolomite backfill of modern manhole construction cut [119]
121	Trench 1	2	Cut	Culvert	Construction cut through 20th century culvert drain [118]
122	Trench 1	2	Deposit	Pipe	Salt-glazed ceramic pipe
123	Trench 1	2	Deposit	Layer	silty clay ground levelling deposit
124	Trench 1	2	Deposit	Timber	20th century timber sleepers
125	Trench 1	2	Deposit	Rails	20th century vignole rails
126	Trench 1	2	Deposit	Layer	Ballast material for rails [125]
127	Trench 1	2	Cut	Culvert	Construction cut for culvert drain
128	Trench 1	3	Deposit	Fill	Modern demolition backfill of drainage pipe
129	Trench 1	3	Cut	Pipe	Construction cut of modern drainage pipe
130	Trench 1	3	Cut	Pipe	Construction cut of modern drainage pipe
131	Trench 1	3	Deposit	Fill	Concrete casing and pipe of modern drainage system cut [130]
132	Trench 1	3	Deposit	Fill	Demolition rubble backfill of modern drainage pipe cut [130]
133	Trench 1	3	Deposit	Fill	Modern concrete capping and drainage pipe fill of construction cut [134]
134	Trench 1	3	Cut	Pipe	Construction cut of modern drainage pipe
135	Trench 1	3	Deposit	Fill	Demolition rubble backfill of possible modern manhole drain cut [136]
136	Trench 1	3	Cut	Manhole	Construction cut of possible modern manhole drain
137	Trench 1	2	Deposit	Layer	Demolition levelling deposit
138	Trench 1	1	Deposit	Layer	Compact sand levelling deposit
139	VOID				
140	Trench 1	1	Deposit	Masonry	19th century brick wall
141	Trench 1	3	Deposit	Masonry	20th century brick culvert drain
142	Trench 1	3	Deposit	Layer	modern demolition levelling deposit
143	Trench 1	1	Deposit	Layer	19th century demolition ground levelling deposit
144	Trench 1	3	Cut	Culvert	Construction cut of modern brick culvert drain [141]
145	Trench 1	3	Deposit	Fill	Demolition backfill of construction cut [139] for brick wall structure [140]
146	Trench 1	3	Deposit	Masonry	modern brick culvert drain
200	Trench 2	3	Deposit	Layer	Modern concrete road surface
201	Trench 2	3	Deposit	Layer	Modern rubble levelling deposit
202	Trench 2	3	Deposit	Layer	Modern Rubble levelling deposit
203	Trench 2	1	Deposit	Layer	19th century ballast levelling deposit
204	Trench 2	1	Deposit	Layer	19th century sand ballast levelling deposit
205	Trench 2	1	Deposit	Layer	19th century sand ballast levelling deposit
206	Trench 2	1	Deposit	Layer	19th century sand ballast levelling deposit
207	Trench 2	1	Deposit	Layer	19th century sand ballast levelling deposit

SRN15 CONTEXT INDEX

Context	*Trench*	*Phase*	*Type 1*	*Type 2*	*Interpretation*
208	Trench 2	3	Deposit	Fill	Modern crushed concrete and red brick backfill of construction cut [209]
209	Trench 2	3	Cut	Cut	Modern construction cut [209]
210	Trench 2	3	Deposit	Fill	Modern crushed concrete and red brick backfill of construction cut [211]
211	Trench 2	3	Cut	Cut	Modern construction cut [211]
212	Trench 2	3	Deposit	Fill	Modern services concrete capping within cut [213]
213	Trench 2	3	Cut	Cut	Modern service construction cut [213]
214	Trench 2	3	Deposit	Fill	Modern crushed concrete and red brick backfill of construction cut [215]
215	Trench 2	3	Cut	Cut	Modern construction cut [215]
216	Trench 2	3	Deposit	Fill	Modern crushed concrete and red brick backfill of construction cut [217]
217	Trench 2	3	Cut	Cut	Modern construction cut [217]
218	Trench 2	3	Deposit	Fill	Modern crushed concrete and red brick backfill of construction cut [219]
219	Trench 2	3	Cut	Cut	Modern construction cut [219]
220	Trench 2	3	Deposit	Fill	Modern concrete foundation within construction cut [221]
221	Trench 2	3	Cut	Cut	Construction cut for concrete foundation [221]
222	VOID				
223	Trench 2	3	Deposit	Fill	Modern concrete and stone backfill of construction cut [227]
224	Trench 2	3	Deposit	Fill	Modern sand backfill of construction cut [226]
225	VOID				
226	Trench 2	3	Cut	Cut	Possible construction cut for a modern building [226]
227	Trench 2	3	Cut	Cut	Possible construction cut for a modern building [227]
228	Trench 2	1	Deposit	Layer	19th century rubble deposit [228]
229	Trench 2	1	Deposit	Layer	19th century loose gravel deposit [229]
230	Trench 2	3	Deposit	Fill	Sand backfill of modern construction cut [230]
231	Trench 2	1	Deposit	Layer	19th century ballast levelling deposit
232	Trench 2	1	Deposit	Layer	19th century ballast levelling deposit
233	Trench 2	1	Deposit	Layer	19th century ballast levelling deposit
234	Trench 2	3	Deposit	Fill	Modern concrete pillar foundation within construction cut [235]
235	Trench 2	3	Cut	Cut	Modern construction cut [235] for building foundation concrete pillar
236	Trench 2	3	Deposit	Fill	Modern concrete pillar foundation within construction cut [237]
237	Trench 2	3	Cut	Cut	Modern construction cut [237] for building foundation concrete pillar
238	Trench 2	3	Deposit	Fill	Modern concrete foundation within construction cut [239]
239	Trench 2	3	Cut	Cut	Modern construction cut [239] for possible concrete building foundation
240	Trench 2	1	Deposit	Layer	19th century demolition rubble layer
241	VOID				
242	Trench 2	3	Deposit	Fill	Modern concrete manhole and dolomite backfill within construction cut [243]
243	Trench 2	3	Cut	Cut	Modern construction cut for manhole services
244	Trench 2	2	Deposit	Structure	20th century brick drain culvert [244]
245	Trench 2	3	Deposit	Timber	Modern timber sleepers [245]
246	Trench 2	3	Deposit	Fill	Modern ballast material [246]
247	Trench 2	3	Cut	Cut	Construction cut [247] for modern timber sleepers [245]
248	Trench 2	3	Deposit	Fill	Modern rubble backfill of construction cut [249]
249	Trench 2	3	Cut	Cut	Construction cut of a possible building foundation
250	Trench 2	1	Deposit	Layer	19th century demolition levelling deposit [250]
251	Trench 2	3	Cut	Cut	Modern construction cut for manhole services [251]
252	Trench 2	3	Deposit	Fill	Fill of modern manhole construction cut [251]
253	Trench 2	2	Deposit	Layer	20th century demolition levelling deposit [253]
254	Trench 2	1	Deposit	Layer	19th century demolition rubble layer [254]
255	Trench 2	1	Deposit	Layer	19th century clay consolidation layer [255]
256	Trench 2	1	Deposit	Layer	19th century demolition rubble layer [256]
257	Trench 2	1	Deposit	Layer	19th century sand ballast layer [257]
258	Trench 2	2	Deposit	Rail	20th century iron flat bottomed vignole rail [258]
259	Trench 2	2	Deposit	Timber	20th century timber sleepers [259]

SRN15 CONTEXT INDEX

Context	*Trench*	*Phase*	*Type 1*	*Type 2*	*Interpretation*
260	Trench 2	2	Deposit	Layer	20th century ballast material [260]
261	Trench 2	2	Deposit	Masonry	20th century wall structure [261]
262	VOID				
263	Trench 2	2	Deposit	Structure	20th century concrete floor structure [263]
264	Trench 2	2	Deposit	Masonry	20th century wall structure [264] within construction cut [265]
265	Trench 2	2	Cut	Cut	20th century construction cut for concrete floor structure [263] and walls [261] and [264]
266	Trench 2	2	Deposit	Fill	20th century sand backfill of construction cut [265]
267	Trench 2	2	Deposit	Fill	20th century 'Winston' stone backfill associated with wall structure [261]
268	Trench 2	2	Deposit	Layer	Rubble demolition levelling deposit [268]
269	Trench 2	3	Deposit	Structure	Modern concrete floor surface [269]
270	Trench 2	3	Deposit	Structure	Modern tarmac floor surface [270]
271	Trench 2	3	Deposit	Structure	Modern brick sub-base [271] for tarmac floor surface [270]
272	Trench 2	1	Deposit	Layer	19th century clay infill [272]
273	Trench 2	3	Deposit	Structure	Modern tarmac road surface [273]
274	Trench 2	3	Deposit	Layer	Rubble levelling deposit for tarmac road surface [273]
275	Trench 2	3	Deposit	Structure	Modern concrete floor surface [275]
276	Trench 2	3	Deposit	Layer	Demolition sub-base for concrete floor surface [275]
277	VOID				
278	Trench 2	3	Cut	Cut	Modern construction cut [278]
279	Trench 2	1	Deposit	Layer	19th century sand ballast deposit
280	Trench 2	1	Deposit	Layer	19th century sand ballast deposit
281	Trench 2	1	Deposit	Layer	19th century demolition rubble consolidation layer
282	Trench 2	3	Deposit	Fill	Demolition rubble backfill of possible modern building construction cut [226]
283	Trench 2	1	Deposit	Layer	19th century rubble consolidation deposit [283]
284	Trench 2	1	Deposit	Layer	19th century sand ballast deposit [284]
285	Trench 2	3	Deposit	Fill	Modern rubble backfill of service construction cut [286]
286	Trench 2	3	Cut	Cut	Modern construction cut for services [286]
287	Trench 2	3	Deposit	Fill	Sand backfill of construction cut for modern services [288]
288	Trench 2	3	Cut	Cut	Construction cut for modern services [288]
289	Trench 2	3	Deposit	Layer	Modern levelling deposit [289]
300	Trench 3	3	Deposit	Layer	Modern current concrete road surface
301	Trench 3	2	Deposit	Masonry	Concrete housing for pipes
302	Trench 3	2	Deposit	Layer	20th century ground levelling deposit
303	Trench 3	1	Deposit	Layer	Sand ballast levelling material
304	Trench 3	3	Cut	Cut	Possible construction cut for modern pumping station
305	Trench 3	3	Deposit	Fill	Demolition backfill of construction cut [304]
306	Trench 3	3	Deposit	Layer	Dolomite levelling deposit
307	Trench 3	3	Cut	Cut	Construction cut of modern pumping station
308	Trench 3	3	Deposit	Fill	Dolomite fill of modern construction cut [307] of pumping station
309	Trench 3	2	Deposit	Masonry	20th century sandstone floor surface
401	Trench 4	3	Deposits	Layer	Current concrete flagstone surface and sand sub-base - the same as [411]
402	Trench 4	2	Cut	Cut	Construction cut for concrete pillar footing [403]
403	Trench 4	2	Deposit	Fill	Concrete pillar footing and backfill of construction cut [402]
404	Trench 4	2	Deposit	Layer	sandy clay ground levelling deposit
405	Trench 4	2	Deposit	Layer	Black coal dump levelling deposit
406	Trench 4	2	Deposit	Layer	Compact sand and concrete debris levelling deposit
407	Trench 4	2	Deposit	Masonry	20th century sandstone floor surface
408	Trench 4	3	Deposit	Layer	Current modern tarmac road surface
409	Trench 4	2	Deposit	Layer	20th century sand levelling deposit for sandstone floor surface [407]
410	Trench 4	2	Deposit	Structure	20th century concrete pillar footings
411	Trench 4	3	Deposit	Layer	Current modern concrete flagstone floor surface - the same as [401]
412	Trench 4	3	Deposit	Layer	Demolition/tarmac rubble levelling deposit

SRN15 CONTEXT INDEX

Context	*Trench*	*Phase*	*Type 1*	*Type 2*	*Interpretation*
413	Trench 4	3	Deposit	Fill	Modern dolomite backfill of construction cut [420] for gas pipe services
414	Trench 4	3	Deposit	Layer	Modern clay demolition ground levelling deposit
415	Trench 4	3	Deposit	Fill	Modern demolition backfill of modern construction cut [421] for electrical cable
416	Trench 4	2	Deposit	Masonry	20th century ceramic mosaic tile floor surface for entranceway
417	Trench 4	2	Deposit	Masonry	20th century brick wall
418	Trench 4	2	Deposit	Masonry	20th century stone wall façade for brick wall [417]
419	Trench 4	2	Deposit	Structure	20th century concrete base structure for stone wall façade [418] and mosaic tile floor surface entranceway [416]
420	Trench 4	3	Cut	Cut	Construction cut for modern gas pipe
421	Trench 4	3	Cut	Cut	Construction cut for modern electrical cables

APPENDIX 3

Historic and Photographic Plates

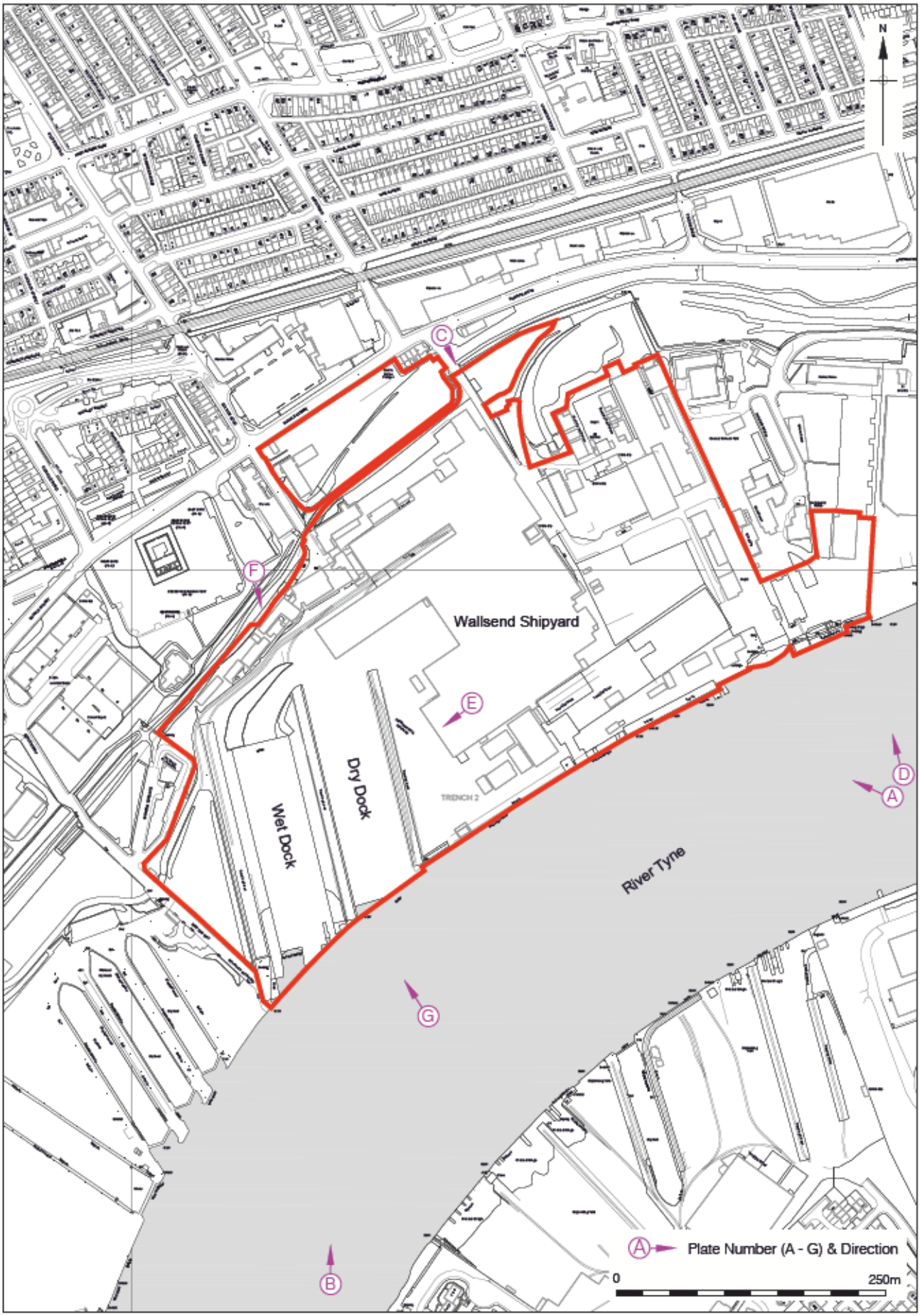

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Figure 7
Historic Plate Location
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Historic Photograph Plates A-G

Plate A: Historic photograph of Swan, Hunter & Wigham Richardson Ltd, Wallsend, 1947

Plate B: Historic photograph of shipyards in Wallsend, 1947

Plate C: Historic photograph of shipyards in Wallsend, 1946

Plate D: Wallsend slipway & engineering company overtaken by Swan Hunters before nationalised in 1977

Plate E: Historic photographic showing the construction of the HMS Ark Royal

Plate F: Historic photograph showing cranes at Swan Hunter shipyard

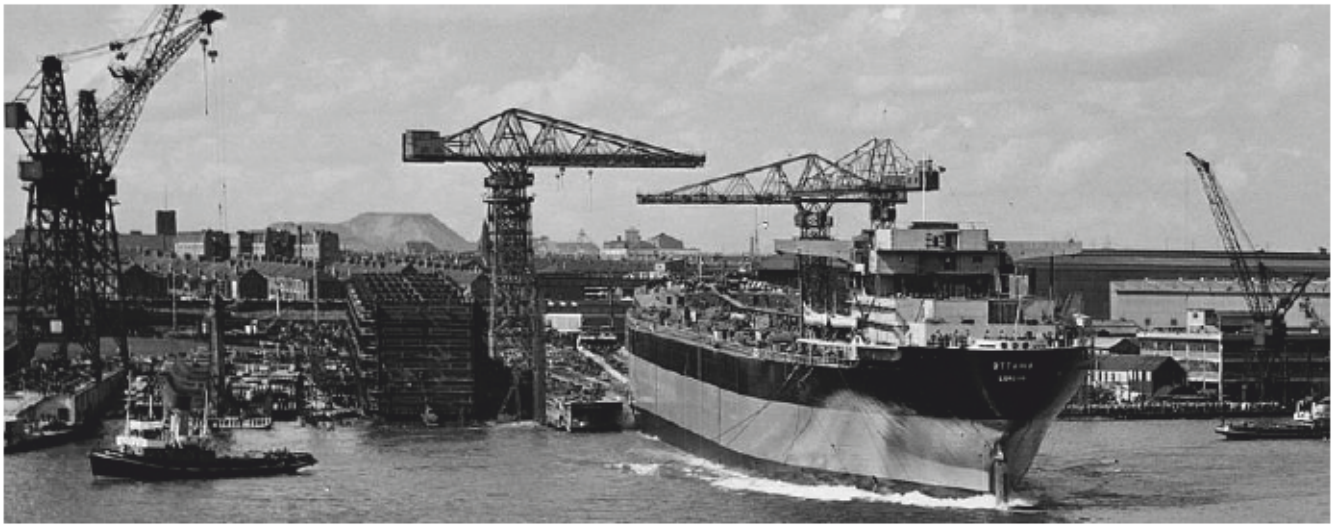

Plate G: Historic photograph of Swan, Hunter & Wigham Richardson Ltd shipyard, 1964

Photographic Plates 1-15

Plate 1: Trench 1, North section of SW facing section, showing brick culvert drain [244] (scale 1m)

Plate 2: South-east facing view of timber sleepers [124] and vignole rails [125] in central portion of Trench 1 (scale 1m)

Plate 3: South-east facing view of timber sleepers [124] and vignole rails [125] in central portion of Trench 1 (scale 1m)

Plate 4: Trench 1, north-east facing view of brick culvert [146] (scale 1m)

Plate 5: SSE facing view of 20th-century rails [113] imbedded in concrete in the central portion of Trench 1 (scale 1m)

Plate 6: Trench 2, north-west facing section of Trench 2, southern portion, showing deposit tip lines (scale 1m)

Plate 7: Trench 2, south-west facing section view of concrete floor and rails structure [263] and walls [261] and [264] and rails with timbers [289] and [259] (scale 1m)

Plate 8: Trench 2, NNW view of walls [261] and [264] with 'Winston' stone backfill [267] (scale 1m)

Plate 9: Trench 2, north facing view of concrete floor structure and rails [263] (scale 1m)

Plate 10: North-west facing view of 20th-century building footing structure [290] in the northern section of Trench 2 (scale 1m)

Plate 11: North-west facing view of 20th-century building footing structure [290] in the northern portion of Trench 2 (scale 1m)

Plate 12: South-west facing view of 20th-century vignole rails [258] and timbers [259] in the northern extent of Trench 2 (scale 1m)

Plate 13: South-west facing section showing timber sleepers [245] in the central part of Trench 2 (scale 1m)

Plate 14: North-east facing view of concrete pipe housing in the northern extent of Trench 3 (scale 1m)

Plate 15: WSW facing view of 20th-century mosaic tile floor entranceway [416] and wall [417] in Trench 4 (scale 0.5m)

PCA

PCA SOUTH
UNIT 54
BROCKLEY CROSS BUSINESS CENTRE
96 ENDWELL ROAD
BROCKLEY
LONDON SE4 2PD
TEL: 020 7732 3925 / 020 7639 9091
FAX: 020 7639 9588
EMAIL: info@pre-construct.com

PCA NORTH
UNIT 19A
TURSDALE BUSINESS PARK
DURHAM DH6 5PG
TEL: 0191 377 1111
FAX: 0191 377 0101
EMAIL: info.north@pre- construct.com

PCA CENTRAL
THE GRANARY, RECTORY FARM
BREWERY ROAD, PAMPISFORD
CAMBRIDGESHIRE CB22 3EN
TEL: 01223 845 522
FAX: 01223 845 522
EMAIL: info.central@pre- construct.com

PCA WEST
BLOCK 4
CHILCOMB HOUSE
CHILCOMB LANE
WINCHESTER
HAMPSHIRE SO23 8RB
TEL: 01962 849 549
EMAIL: info.west@pre- construct.com

PCA MIDLANDS
17-19 KETTERING RD
LITTLE BOWDEN
MARKET HARBOROUGH
LEICESTERSHIRE LE16 8AN
TEL: 01858 468 333
EMAIL: info.midlands@pre-construct.com